Enterprise Products

ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS GP, LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

March 16, 2022

Submitted online via OCD E-Permitting:
https://wwwapps.emnrd.state.nm.us/OCD/OCDPermitting/default.aspx

Mr. Nelson Velez
New Mexico Energy, Minerals & Natural Resources Department – Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

REVIEWED
By Mike Buchanan at 4:37 pm, Aug 28, 2023

Review of the 2020 Supplemental Environmental Site Investigation and Groundwater Monitoring Report for Lateral K-31 Pipeline Release: **Content Satisfactory**
1. Continue to conduct groundwater monitoring on a semi-annual basis.
2. Continue to evaluate MNA and submit Stage 1 AP (unless it has already been submitted to NMOCD).
3. Submit the Stage 2-AP for approval by the NMOCD
4. Continue to submit updates and monitoring reports for 2023 by or no later than April 1, 2024.

RE: ***2020 Supplemental Environmental Site Investigation and Groundwater Monitoring Report***
(Ensolum, February 3, 2022)
Enterprise Field Services, LLC
Lateral K-31 Pipeline Release (12/02/2011)
Rio Arriba Co., NM [S16, T25N R6W (36.393827° N, 107.475065° W)]
OCD RP: 3R-440; Stage 1 AP-129

Dear Mr. Velez:

Enterprise Products Operating LLC (Enterprise), on behalf of Enterprise Field Services LLC, is pleased to submit to the New Mexico (NM) Energy, Minerals & Natural Resources Department (EMNRD) – Oil Conservation Division (OCD) an electronic copy of the above-referenced document, prepared by Ensolum, LLC (Ensolum) and dated February 3, 2022. The subject document is associated with the December 2, 2011 discovery of a release of natural gas and associated pipeline liquids from the Enterprise Lateral K-31 pipeline located in Rio Arriba County at the above-referenced location (the "Site"). The attached document summarizes supplemental environmental site investigation (SESI) activities that occurred in October 2020 and ongoing semi-annual (SA) groundwater monitoring and sampling (GWM&S) activities that occurred at the Site between June 2020 and December 2020 (the "reporting period"). The SESI and GWM&S activities were performed to further define the extent of petroleum hydrocarbon impact and evaluate dissolved-phased hydrocarbon (DPH), or constituents of concern (COC), concentrations in groundwater.

Data presented in the attached report indicate that COC concentrations in excess of the New Mexico EMNRD OCD closure criteria for soil remain at the Site in soil boring/well boring MW-2R. Additionally, data presented in the attached report indicate that DPH or COC concentrations remain below the applicable Water Quality Control Commission (WQCC) Groundwater Quality Standards (GQSs).

Based on information presented in the attached report Enterprise plans to: 1) conduct semi-annual groundwater monitoring and sampling events, 2) complete soil delineation activities proximal to MW-2R, and 3) prepare a Stage 2 Abatement Plan, or proceed "at-risk" with the removal of residual impacted soils.

Enterprise appreciates the Oil Conservation Division's (OCD's) continued assistance and guidance in bringing closure to this Site. Should you have any questions, comments or concerns, or require additional information, please feel free to contact me any time at 713-381-8780, or at gemiller@eprod.com.

Sincerely,

Gregory E. Miller, P.G.
Supervisor, Environmental

Rodney M. Sartor, REM
Sr. Director, Environmental

cc: NM SLO, Santa Fe, NM – Mr. Nick Jaramillo l <njaramillo@slo.state.nm.us>
ec: NMOCD, Santa Fe, NM – Mr. Nelson Velez <Nelson.Velez@state.nm.us>
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Ensolum, Houston, TX – Mr. Marc E. Gentry <MGentry@ensolum.com>

2020 Supplemental Environmental Site Investigation and Groundwater Monitoring Report

Property:

Lateral K-31 (12/02/2011)
SW ¼, S16 T25N R6W
Rio Arriba County, New Mexico

New Mexico EMNRD OCD RP No. 3RP-440
Abatement Plan No. 129

February 3, 2022
Ensolum Project No. 05B1226002

Prepared for:

Enterprise Field Services, LLC
P.O. Box 4324
Houston, Texas 77210-4324
Attn: Mr. Greg E. Miller, P.G.

Prepared by:

Landon Daniell
Staff Geologist

Marc E. Gentry
Principal

ENSOLUM

2020 Supplemental Environmental Site Investigation and Groundwater Monitoring Report Executive Summary

This report documents the 2020 supplemental environmental site investigation and groundwater monitoring activities conducted at the Lateral K-31 (12/02/2011) pipeline release site, referred to hereinafter as the "Site".

The Site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way in the southwest (SW) 1/4 of Section 16, Township 25 North, Range 6 West, in Rio Arriba County, New Mexico.

On December 2, 2011, a release of natural gas and associated liquids from the Lateral K-31 pipeline was discovered at the Site. The pipeline was subsequently repaired. Site assessments conducted by Animas Environmental Services, LLC (AES) during December 2011 and March 2012 identified concentrations of constituents of concern (COCs) in soils and groundwater above the New Mexico Energy, Minerals and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) closure criteria and the New Mexico Water Quality Control Commission (WQCC) Groundwater Quality Standards (GQSs).

During August and September 2012, AES advanced nine additional soil borings, which were subsequently converted into monitoring wells (MW-1 through MW-9) to further evaluate the extent of dissolved phase COCs in groundwater. COCs were not identified in soil above the New Mexico EMNRD OCD closure criteria at these soil boring/monitoring well boring locations. However, COCs were identified in groundwater above the WQCC GQSs. Groundwater monitoring events were conducted by AES during December 2012, June 2013, September 2013, and December 2013 and were subsequently conducted by Apex TITAN, Inc., (Apex). Enterprise retained Apex to perform environmental Site investigation activities between 2016 and 2018. Following a staffing change at Apex in February 2019, Enterprise reassigned management of the project to Ensolum, LLC (Ensolum). During May 2019, Enterprise submitted a *Stage 1 Abatement Plan* for this Site to the New Mexico EMNRD OCD. The New Mexico EMNRD OCD has not responded or approved the plan at this time, and Enterprise has resumed semi-annual groundwater monitoring of the Site.

In October 2020, supplemental environmental site investigation (SESI) activities were implemented at the Site to further define the extent of petroleum hydrocarbon impact. Additionally, groundwater monitoring events were conducted during June and December 2020 to further evaluate groundwater quality over time and monitor COC concentration trends over time at the Site.

Findings based on the SESI and groundwater monitoring activities are as follows:

- During the October 2020 SESI, three soil borings were advanced at the Site, and the soil borings were completed as two-inch diameter monitoring wells. Six soil samples were collected and submitted for analysis. One soil sample collected from soil boring/well boring MW-2R (11'-13') exhibited a total combined total petroleum (TPH) gasoline range organic (GRO) diesel range organics (DRO) and motor oil/lube oil range organics (MRO) concentration above the applicable New Mexico EMNRD OCD soil closure criteria. The remaining soil samples collected from soil borings/well borings did not exhibit COC concentrations above the New Mexico EMNRD OCD closure criteria.

- The groundwater flow direction at the Site is generally towards the north under an approximate average gradient of 0.006 feet per foot (ft/ft).

- The groundwater analytical results for the samples collected from the monitoring wells during the 2020 events do not indicate COC concentrations above the applicable WQCC groundwater quality standards.

- Results from the sampling events at the Site support generally declining COC concentrations in groundwater over time.

Ensolum offers the following recommendations:

- Report the SESI and groundwater monitoring results to the New Mexico EMNRD OCD.
- Conduct semi-annual groundwater monitoring to verify the natural attenuation of COCs in the groundwater.
- Complete soil delineation activities proximal to MW-2R. Prepare a Stage 2 Abatement Plan, or proceed “at-risk” with the removal of residual impacted soils to expedite natural attenuation prior to EMNRD OCD approval of the Stage 1 Abatement Plan.

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ENSOLUM

2020 Supplemental Environmental Site Investigation and Groundwater Monitoring Report

New Mexico EMNRD OCD RP No. 3RP-440
Abatement Plan No. 129

Ensolum Project No. 05B1226002

1.0 INTRODUCTION

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	Lateral K-31 (12/02/2011) (Site)
Location:	36.393827° North, 107.475065° West Southwest (SW) ¼ of Sections 16, Township 25 North, Range 6 West Rio Arriba County, New Mexico
Property:	New Mexico State Land Office (SLO)
Regulatory:	New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

On December 2, 2011, a release of natural gas and associated liquids from the Lateral K-31 pipeline was discovered at the Site. The pipeline was subsequently repaired. An initial site assessment was conducted by Animas Environmental Services, LLC (AES) on December 8, 2011. The assessment included the collection of soil samples from four test holes (TP-1 through TP-4) completed near the release area and a groundwater sample from an existing off-Site monitoring well located south of the release location that was associated with another operator's release site. Constituents of concern (COC) were identified in soils from two of the test holes (TP-3 and TP-4) at concentrations above the New Mexico EMNRD OCD closure criteria. The off-Site groundwater sample did not exhibit COC concentrations above New Mexico Water Quality Control Commission (WQCC) Groundwater Quality Standards (GQSs).

During March 2012, AES advanced 12 soil borings (SB-1 through SB-12) at the Site to further delineate the extent of hydrocarbon affected soil and potentially impacted groundwater. Based on laboratory analytical results of soil and groundwater samples collected from the soil borings, COC concentrations were identified in soil above the New Mexico EMNRD OCD closure criteria and in groundwater above the WQCC GQSs (*Site Investigation Report*, AES, May 16, 2012).

During August and September 2012, AES performed groundwater investigation activities and advanced nine additional soil borings to further evaluate the extent of dissolved phase COCs in groundwater. The soil borings were completed as groundwater monitoring wells (MW-1 through MW-9). COCs were not identified in soil above the New Mexico EMNRD OCD closure criteria at these monitoring well/soil boring locations. However, COCs were identified in groundwater above the WQCC GQSs (*Groundwater Investigation Report*, AES, November 28, 2012).

Groundwater monitoring events were conducted by AES during December 2012, June 2013, September 2013, and December 2013, and subsequently by Apex TITAN, Inc., (Apex). COC concentrations were identified in groundwater above WQCC standards.

During February 2019, Enterprise assigned management of the project to Ensolum, LLC (Ensolum). During March 2019, Enterprise submitted a *Stage 1 Abatement Plan* for this Site to the New Mexico EMNRD OCD (*Stage 1 Abatement Plan*, Ensolum, March 21, 2019). The New Mexico EMNRD OCD has not responded

or approved this plan at this time, and Enterprise has resumed semi-annual groundwater monitoring at the Site.

The Site location is depicted on **Figure 1** of **Appendix A** which was reproduced from a portion of a United States Geological Survey (USGS) 7.5-minute series topographic map. A **Site Vicinity Map**, based on an aerial photograph, is provided as **Figure 2**, and a **Site Map**, which indicates the approximate locations of the monitoring wells and previous soil boring locations in relation to pertinent structures and general Site boundaries, is included as **Figure 3** of **Appendix A**.

1.2 Project Objectives

The objectives of the supplemental environmental site investigation and groundwater monitoring events were to further define the extent of petroleum hydrocarbon impact to soil and groundwater and to evaluate concentrations of COCs in the groundwater at the Site over time.

2.0 SOIL AND GROUNDWATER CLOSURE CRITERIA

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to 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 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 soil closure criteria for the Site. Additionally, the New Mexico EMNRD OCD utilizes the New Mexico WQCC GQS (NMAC 20.6.2 *Ground and Surface Water Protection*) to evaluate groundwater conditions.[1] The following identifies the applicable siting 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). One POD (SJ-00681) was identified in the adjacent Public Land Survey System (PLSS) section. The depth to water for this POD is approximately 80 feet below grade surface (bgs). The monitoring wells installed at the Site are assigned POD number SJ-04311. The average depth to water observed in the on-Site groundwater monitoring wells is 15 feet bgs.

- The Site is not located within 300 feet of a New Mexico EMNRD OCD-defined continuously flowing watercourse or significant watercourse.

- The Site is not located within 200 feet of a lakebed, sinkhole, or playa lake.

- The Site is not located within 300 feet of a permanent residence, school, hospital, institution, or church.

- No springs, or private domestic fresh water wells used by less than five households for domestic or stock watering purposes were identified within 500 feet of the Site.

- No fresh water wells or springs were identified within 1,000 feet of the Site.

[1] NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD has not responded to Enterprise's inquiries regarding which closure standards will apply to sites that predate the 2018 rule change. Therefore, this document reflects the GQSs that were applicable at the time of initial remediation.

- The Site is not located within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to New Mexico Statutes Annotated (NMSA) 1978, Section 3-27-3.

- 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.

- 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.

- The Site is not located within an unstable area.

- Based on information provided by the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) geospatial database, the Site is not located within a 100-year floodplain.

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

Tier I 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)[A]	EPA SW-846 Method 8015	100 mg/kg
BTEX[B]	EPA SW-846 Method 8021 or 8260	50 mg/kg
Benzene	EPA SW-846 Method 8021 or 8260	10 mg/kg

* – Constituent concentrations are in milligrams per kilogram (mg/kg).
[A] – Total Petroleum Hydrocarbons (TPH). Gasoline Range Organics (GRO). Diesel Range Organics (DRO). Motor Oil/Lube Oil Range Organics (MRO).
[B] – Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX).

Cleanup goals for groundwater at the Site include:

WQCC Standards for Groundwater[1]		
Constituent*	Method	Limit
Xylenes	EPA SW-846 Method 8021 or 8260	620 µg/L
Ethylbenzene	EPA SW-846 Method 8021 or 8260	750 µg/L
Toluene	EPA SW-846 Method 8021 or 8260	750 µg/L
Benzene	EPA SW-846 Method 8021 or 8260	10 µg/L

* – Constituent concentrations are in micrograms per liter (µg/L).

[1] NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD has not responded to Enterprise's inquiries regarding which closure standards will apply to sites that predate the 2018 rule change. Therefore, this document reflects the GQSs that were applicable at the time of initial remediation.

3.0 SUPPLEMENTAL ENVIRONMENTAL SITE INVESTIGATION (OCTOBER 2020)

During October 2020, supplemental environmental site investigation (SESI) activities were initiated at the Site. Prior to drilling, the soil boring locations were "daylighted" to approximately six to seven feet bgs utilizing a hydro-excavation vacuum truck. Three soil borings were advanced at the Site by Ensolum. The soil boring/well boring locations were advanced utilizing a hollow-stem auger (HSA) drilling rig. **Figure 4** (**Appendix A**) identifies the approximate soil boring/well sample locations.

3.1 Soil Sampling Program

Soil samples were collected continuously utilizing five-foot core barrel samplers. Samples and drill cuttings were screened for visual and olfactory evidence of petroleum hydrocarbon impact. A field soil headspace analysis was conducted on each available soil sample interval by placing a representative portion of the sample into a plastic Ziplock® bag. The plastic bag was sealed, and the sample allowed to volatilize. The air above the sample, the headspace, was then evaluated using a photoionization detector (PID) capable of detecting VOCs. The PID was calibrated utilizing an isobutylene standard prior to use in the field. PID readings of samples measured from the soil borings ranged from zero parts per million (ppm) to 5,000 ppm (MW-2R @11'-13'). The field screening results are presented on soil boring logs included in **Appendix B**.

During the completion of each soil boring, an Ensolum professional documented the subsurface lithology, color, and moisture content. A continuous profile of the soil column encountered from the ground surface to the boring terminus was prepared. Soil samples from each boring location were visually inspected and classified in general accordance with the Unified Soil Classification System (USCS). The lithologies observed during the advancement of soil borings generally consisted of sandy silt, silty sand, and silty clay. Detailed lithologic descriptions are presented on the soil boring logs included in **Appendix B**.

Up to two soil samples were collected for laboratory analysis from each soil boring. Samples were selected for analysis based on the following:

- The depth interval exhibiting the highest concentration of VOCs based on PID evidence;
- An interval exhibiting visual/olfactory evidence of impairment;
- The capillary fringe zone;
- From a change in lithology; or,
- From the bottom of the boring.

Drill cuttings were transported to the Envirotech landfarm for remediation/disposal. The executed C-138 solid waste acceptance form is provided in **Appendix C**.

All soil samples were collected and placed in laboratory prepared glassware. Sample 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 (HEAL) of Albuquerque, New Mexico, under proper chain-of-custody procedures.

3.2 Soil Laboratory Analytical Program

The soil samples collected during the characterization activities were analyzed for TPH GRO/DRO/MRO utilizing United States (U.S) Environmental Protection Agency (EPA) SW-846 Method# 8015; BTEX utilizing EPA SW-846 Method #8260; and chloride utilizing EPA Method #300.0.

A summary of the analytes, sample type, and US EPA or other approved methods is presented in the following table:

Analytes	Sample Type	No. of Samples	Method
TPH GRO/DRO/MRO	Soil	6	EPA SW-846 8015
BTEX	Soil	6	EPA SW-846 8260
Chloride	Soil	6	EPA 300.0

The soil analytical results for the SESI are included in **Table 1** (**Appendix D**). The executed chain-of-custody forms and laboratory data sheets for the SESI are provided in **Appendix E**.

3.3 Soil Data Evaluation

Ensolum compared the BTEX, TPH, and chloride laboratory analytical results or laboratory practical quantitation limits (PQLs) / reporting limits (RLs) associated with soil samples (MW-2R (11'-13'), MW-2R (15'-17'), MW-10 (6'-8'), MW-10 (10'-12'), MW-11 (7'-9'), and MW-11 (13'-15')) to the New Mexico EMNRD OCD closure criteria. All soil analytical data (both current and historical) collected to date is presented in **Table 1** (**Appendix D**).

- The laboratory analytical result for soil sample MW-2R (11'-13') indicates a benzene concentration of 0.12 mg/kg, which is less than the applicable New Mexico EMNRD OCD closure criteria of 10 mg/kg. The laboratory analytical results for all other soil samples collected from the borings/monitoring wells indicate that 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 mg/kg.

- The laboratory analytical results for soil samples MW-2R (11'-13') and MW-2R (15'-17') indicate total BTEX concentrations of 5.0 mg/kg and 0.12 mg/kg, respectively, which are less than the applicable New Mexico EMNRD OCD closure criteria of 50 mg/kg. The laboratory analytical results for all other soil samples collected from the borings/monitoring wells indicate that 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 result for soil sample MW-2R (11'-13') indicates a total combined TPH GRO/DRO/MRO concentration of 175 mg/kg, which exceeds the applicable New Mexico EMNRD OCD closure criteria of 100 mg/kg. The laboratory analytical result for soil sample MW-2R (15'-17') indicates a combined TPH GRO/DRO/MRO concentration of 7.9 mg/kg, which is less than the applicable New Mexico EMNRD OCD closure criteria of 100 mg/kg. The laboratory analytical results for all other soil samples collected from the borings/monitoring wells indicate total combined TPH GRO/DRO/MRO is not present at concentrations greater than the laboratory PQLs/RLs, which are less than the applicable New Mexico EMNRD OCD closure criteria of 100 mg/kg.

- The laboratory analytical results for soil samples MW-2R (11'-13') and MW-2R (15'-17') indicate chloride concentrations of 120 mg/kg and 70 mg/kg, respectively, which are less than the applicable New Mexico EMNRD OCD closure criteria of 600 mg/kg. The laboratory analytical results for all other soil samples collected from the borings/monitoring wells 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.

3.4 Monitoring Well Installation

The three soil borings were completed as two-inch permanent groundwater monitoring wells. The monitoring wells were completed using the following methodology:

- Installation of 10 feet of two-inch diameter, 0.010-inch machine-slotted polyvinyl chloride (PVC) well screen with a threaded bottom cap;
- Installation of two-inch inside diameter, threaded flush joint PVC riser pipe to above the ground surface;
- Addition of pre-sieved, 10/20 grade, annular silica sand pack from the bottom of the soil boring to one to three feet above the top of the well screen;
- Placement of two or more feet of hydrated bentonite pellets above the sand pack;
- Addition of cement/bentonite slurry to the surface; and,
- Installation of an above-grade, steel-protective riser with an integrated padlock hasp.

The well completion details are presented on the soil boring logs included in **Appendix B**. The monitoring wells were permitted and approved by the New Mexico OSE. The approved permits are provided in **Appendix F**.

4.0 GROUNDWATER MONITORING (JUNE AND DECEMBER 2020)

4.1 Groundwater Sampling Program

Groundwater sampling events were conducted during June and December 2020 by Ensolum. The groundwater sampling program consisted of the collection of one groundwater sample from each of the viable monitoring wells at the Site. Monitoring well MW-3 was not sampled due to an obstruction in the well, and MW-2 was not sampled because the well was apparently destroyed during construction activity in 2014.

The groundwater sampling program consisted of the following:

- Prior to sample collection, Ensolum gauged the depth to fluids in each monitoring well using an interface probe capable of detecting non-aqueous phase liquids (NAPL).

- Monitoring wells were sampled utilizing micro-purge low-flow sampling techniques with dedicated or decontaminated sampling equipment. Following the completion of the micro-purge process, one groundwater sample was collected from each monitoring well.

- Low-flow or low-stress sampling refers to sampling methods that are intended to minimize stress that is imparted to the formation pore water in the immediate vicinity of the well screen. Water level drawdown provides the best indication of the stress imparted by a given flow-rate for a given hydrological situation. Pumping rates on the order of 0.1 to 0.5 liters per minute (L/min) are typically maintained during the low-flow/low-stress sampling activities.

- During low-flow sampling, the groundwater samples are collected from each monitoring well once produced groundwater is consistent in color, clarity, pH, temperature, and conductivity. Measurements are taken every three to five minutes while purging. Purging is considered complete once key parameters (especially pH and conductivity) have stabilized for three consecutive readings.

- Groundwater samples were collected in laboratory supplied containers (pre-preserved by the laboratory with mercuric chloride ($HgCl_2$)). Sample containers were labeled and sealed using the laboratory supplied labels and custody seals and were stored on ice in a cooler. The groundwater

samples were relinquished to the courier for HEAL of Albuquerque, New Mexico under proper chain-of-custody procedures.

4.2 Groundwater Laboratory Analytical Methods

The groundwater samples collected from the monitoring wells during the groundwater sampling events were analyzed for BTEX utilizing U.S EPA SW-846 Method #8260.

A summary of the analytes, sample matrix, number of samples, and EPA-approved analytical method for the two sampling events are presented on the following table.

Analytes	Sample Matrix	No. of Samples (June/December)	EPA Method
BTEX	Groundwater	7/10	SW-846 8260

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

4.3 Groundwater Flow Direction

Each monitoring well has been geospatially surveyed or re-surveyed to determine the top-of-casing (TOC) elevation. Based on gauging data, the groundwater flow direction (gradient) at the Site is generally toward the north under an apparent average gradient of approximately 0.006 feet per foot (ft/ft).

The groundwater elevation data collected during the June 2020 and December 2020 sampling events (as well as historical gauging data) are presented with top-of-casing elevations in **Table 2** (**Appendix D**). Groundwater gradient maps developed for the June 2020 and December 2020 gauging events are included as **Figure 5A** and **5B** (**Appendix A**).

4.4 Groundwater Data Evaluation

Ensolum compared the BTEX laboratory analytical results or laboratory PQLs/RLs associated with the groundwater samples collected from monitoring wells during the June 2020 and December 2020 sampling events to the New Mexico WQCC GQSs[1]. The results of the groundwater sample analyses are summarized in **Table 1** of **Appendix D**. Groundwater Analytical Data maps are provided as **Figures 6A** and **6B** of **Appendix A**.

Monitoring well MW-3 was not sampled during the June 2020 and December 2020 sampling events due to an obstructed well screen/casing. Monitoring well MW-2 was not sampled during these events because the well was not located and is presumed destroyed. The three new monitoring wells (MW-10, MW-11, and MW-2R) that were installed in October 2020 were sampled in December 2020.

June 2020 Sampling Results:

- The analytical results for monitoring wells MW-1 and MW-4 through MW-9 do not indicate benzene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 10 µg/L.[1]

[1] NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD has not responded to Enterprise's inquiries regarding which closure standards will apply to sites that predate the 2018 rule change. Therefore, this document reflects the GQSs that were applicable at the time of initial remediation.

- The analytical results for monitoring wells MW-1 and MW-4 through MW-9 do not indicate toluene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 750 µg/L.[1]

- The analytical result for monitoring well MW-8 indicates an ethylbenzene concentration of 1.3 µg/L, which is below the WQCC GQS of 750 µg/L. The analytical results for the remaining monitoring wells do not indicate ethylbenzene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 750 µg/L.[1]

- The analytical results for monitoring wells MW-1 and MW-4 through MW-9 do not indicate total xylenes concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 620 µg/L.[1]

- There are no data qualifier flags associated with the June 2020 analytical results.

December 2020 Sampling Results:

- The analytical result for monitoring well MW-2R indicates a benzene concentration of 2.1 µg/L, which is below the WQCC GQS of 10 µg/L.[1] The analytical results for the remaining monitoring wells do not indicate benzene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 10 µg/L.[1]

- The analytical results for the monitoring wells do not indicate toluene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 750 µg/L.[1]

- The analytical results for monitoring wells MW-2R and MW-8 indicate ethylbenzene concentrations of 1.2 µg/L and 3.1 µg/L, respectively, which are below the WQCC GQS of 750 µg/L. The analytical results for the remaining monitoring wells do not indicate ethylbenzene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 750 µg/L.[1]

- The analytical result for monitoring well MW-2R indicates a total xylenes concentration of 2.4 µg/L, which is below the WQCC GQS of 10 µg/L.[1] The analytical results for the remaining monitoring wells do not indicate total xylenes concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 620 µg/L.[1]

- There are no data qualifier flags associated with the December 2020 analytical results.

5.0 FINDINGS

Based on the evaluation of the analytical results from the 2020 SESI and groundwater monitoring events, Ensolum presents the following findings:

- Six soil samples were collected and submitted for analysis during the October 2020 SESI. One of the soil samples collected from soil boring/well boring MW-2R exhibited a total combine TPH GRO/DRO/MRO concentration above the applicable New Mexico EMNRD OCD soil closure criteria. All other soil samples collected from soil borings/well borings did not exhibit COC concentrations above the New Mexico EMNRD OCD soil closure criteria.

- The groundwater flow direction at the Site is generally towards the north under an approximate gradient of 0.006 ft/ft.

[1] NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD has not responded to Enterprise's inquiries regarding which closure standards will apply to sites that predate the 2018 rule change. Therefore, this document reflects the GQSs that were applicable at the time of initial remediation.

- The groundwater analytical results for the samples collected from the monitoring wells during the 2020 events do not indicate COC concentrations above the applicable WQCC groundwater quality standards.[1]

- Results from the sampling events at the Site support generally declining COC concentrations in groundwater over time.

6.0 RECOMMENDATIONS

Based on the results of groundwater monitoring activities, Ensolum recommends the following:

- Report the SESI and groundwater monitoring results to the New Mexico EMNRD OCD.

- Conduct semi-annual groundwater monitoring to verify the natural attenuation of COCs in the groundwater.

- Complete soil delineation activities proximal to MW-2R. Prepare a Stage 2 Abatement Plan, or proceed "at-risk" with the removal of residual impacted soils to expedite natural attenuation prior to EMNRD OCD approval of the Stage 1 Abatement Plan.

7.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE

7.1 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). This scope of services was performed in accordance with the scope of work agreed with the client, as detailed in our proposal.

7.2 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 recommendations are based solely upon data available to Ensolum at the time of these services.

7.3 Reliance

This report has been prepared for the exclusive use of Enterprise Products Operating LLC, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the express written authorization of Enterprise Products Operating LLC and

[1] NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD has not responded to Enterprise's inquiries regarding which closure standards will apply to sites that predate the 2018 rule change. Therefore, this document reflects the GQSs that were applicable at the time of initial remediation.

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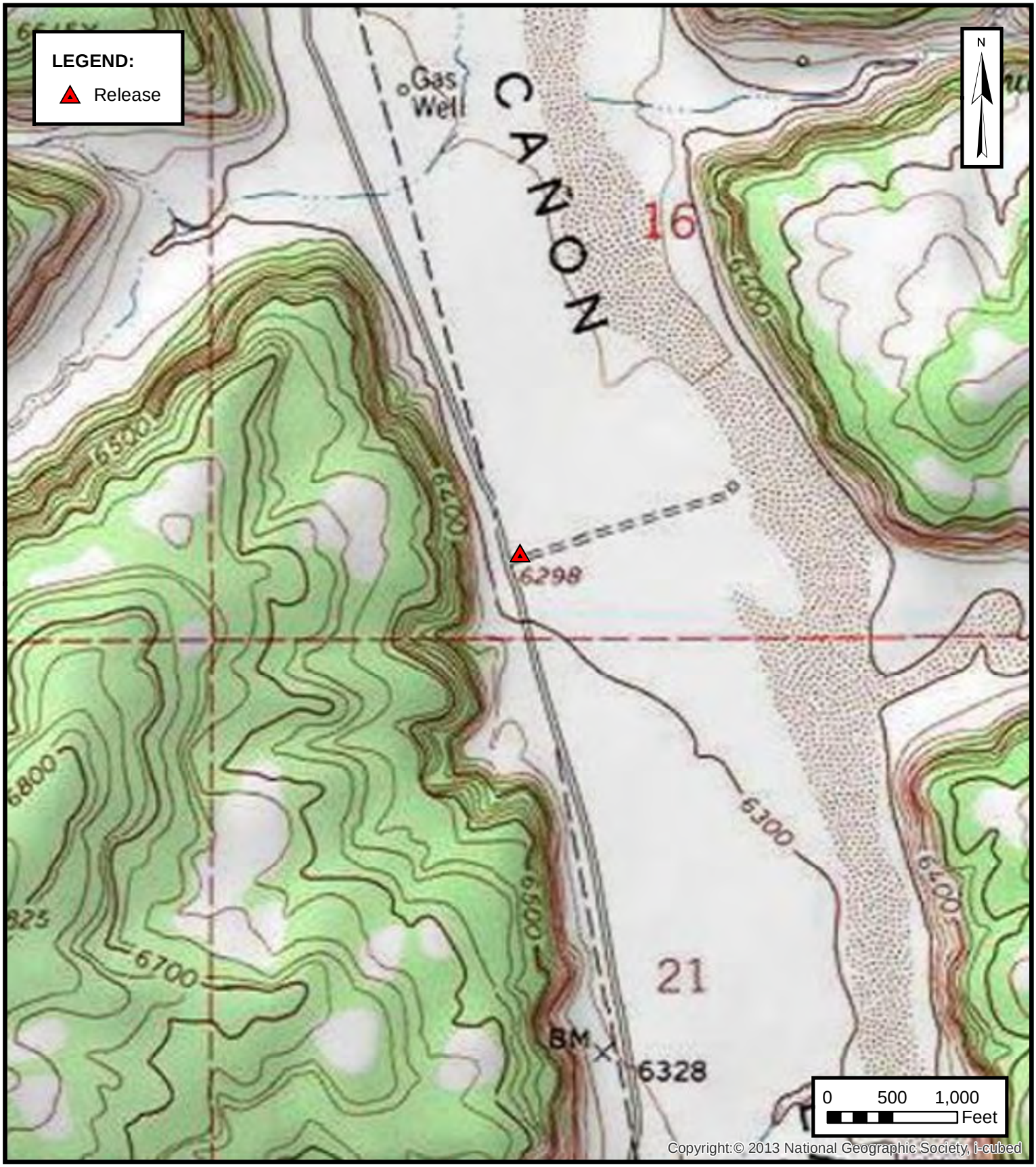
APPENDIX A

Figures



ENSOLUM
Environmental & Hydrogeologic Consultants

TOPOGRAPHIC MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼, S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE

1

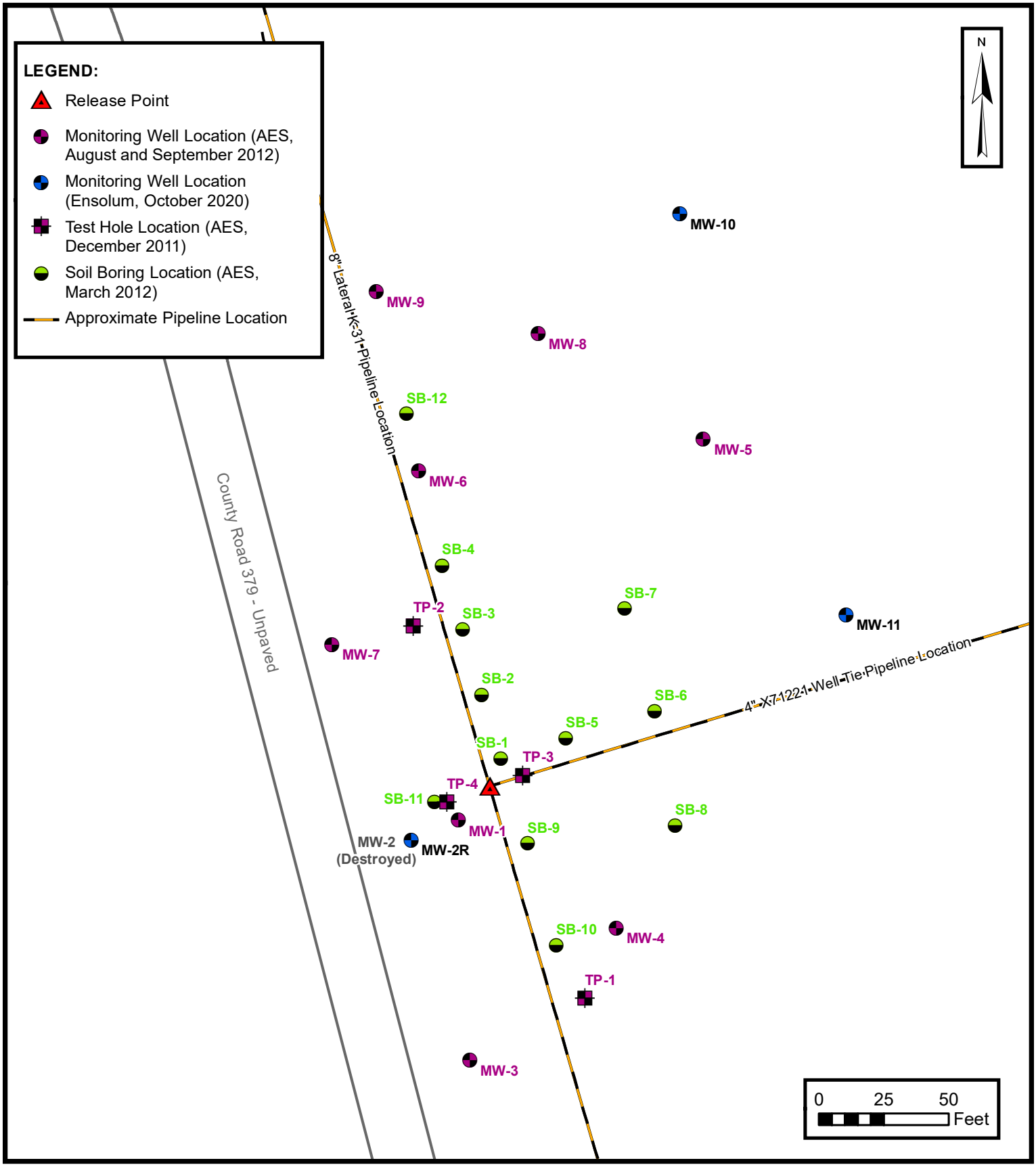
ENSOLUM
Environmental & Hydrogeologic Consultants

SITE VICINITY MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼, S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
2



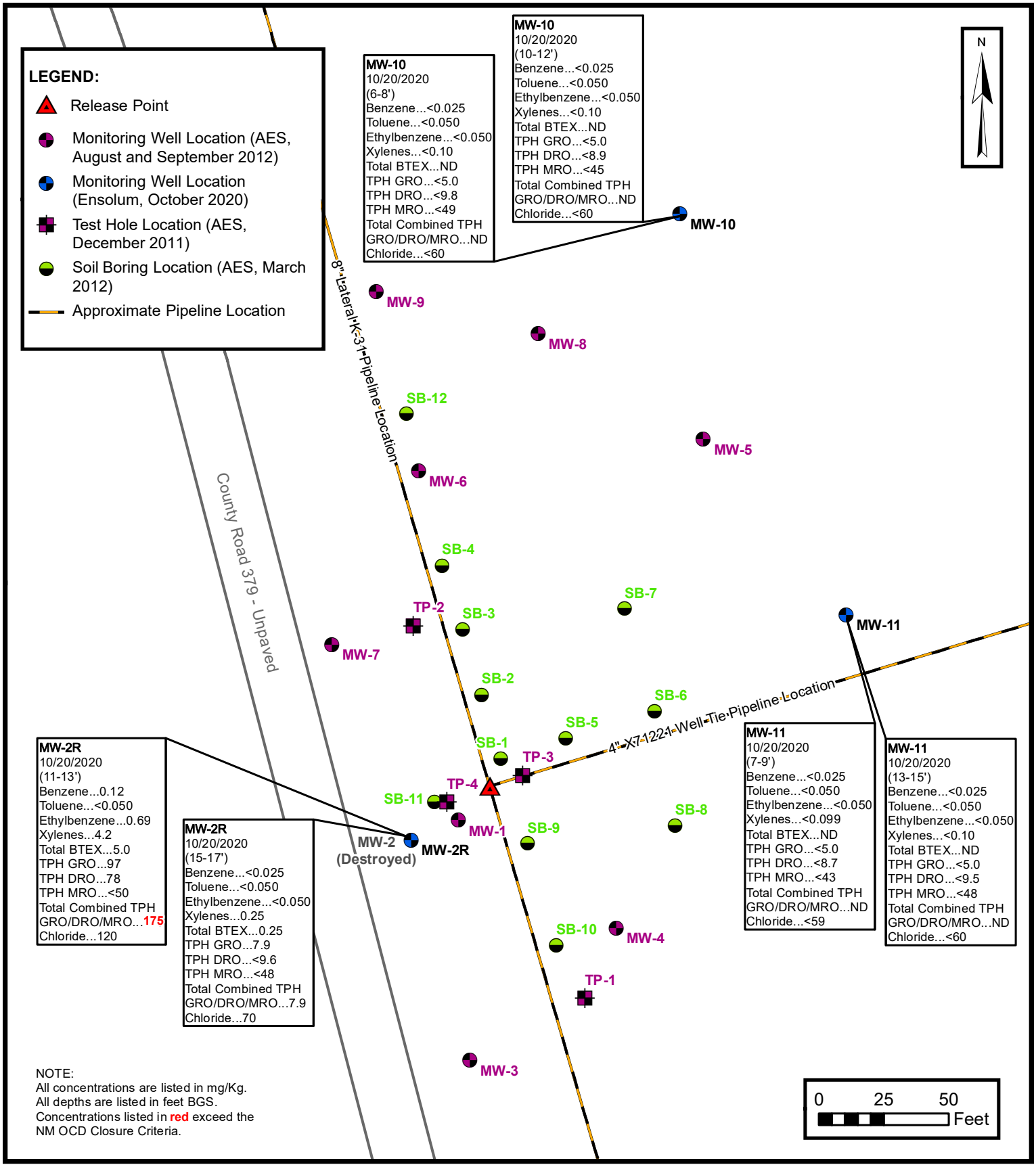
ENSOLUM
Environmental & Hydrogeologic Consultants

SITE MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼, S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
3

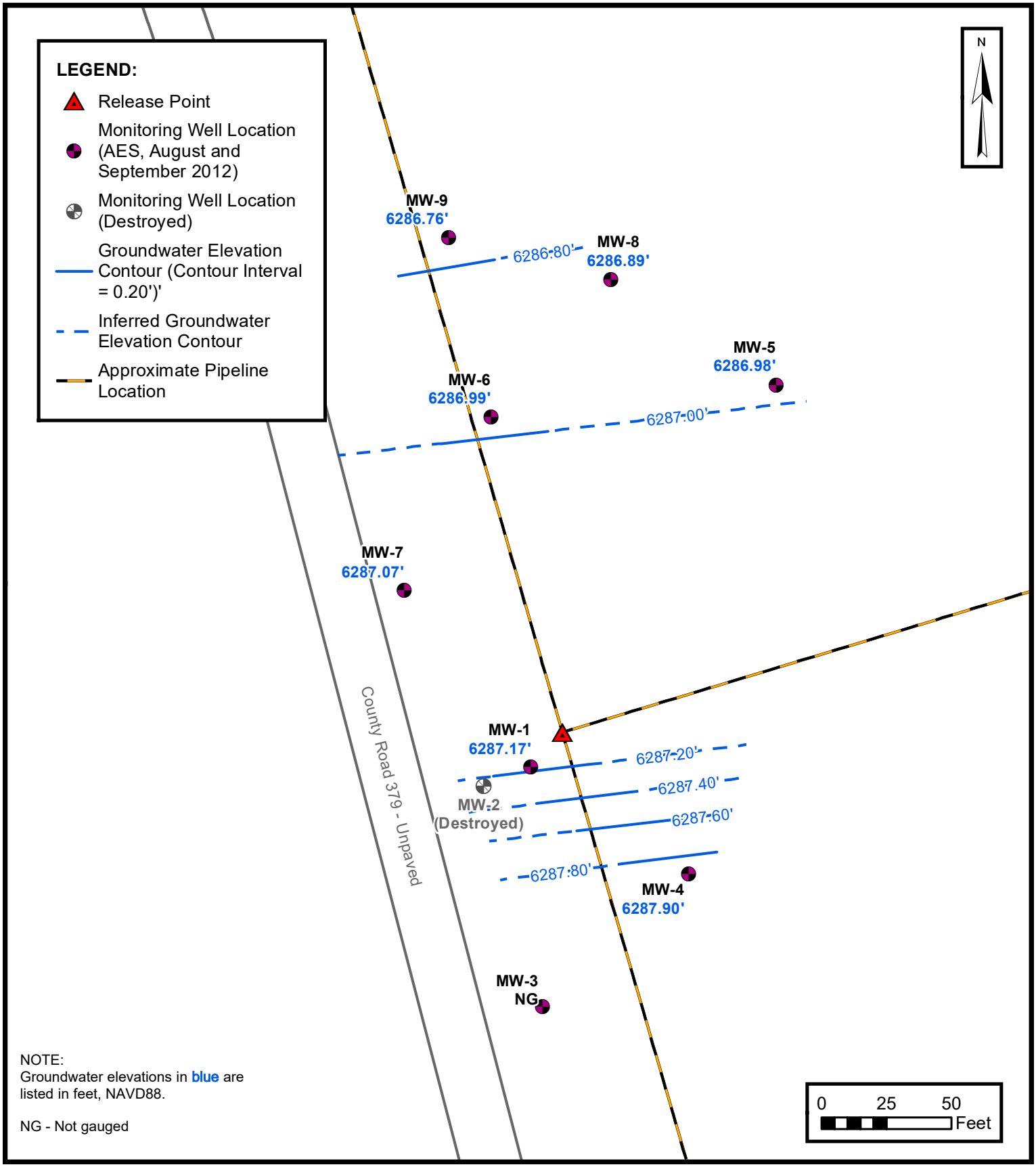


ENSOLUM
Environmental & Hydrogeologic Consultants

2020 SOIL BORING/ MONITORING WELL LOCATIONS WITH SOIL ANALYTICAL RESULTS
ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼, S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
4



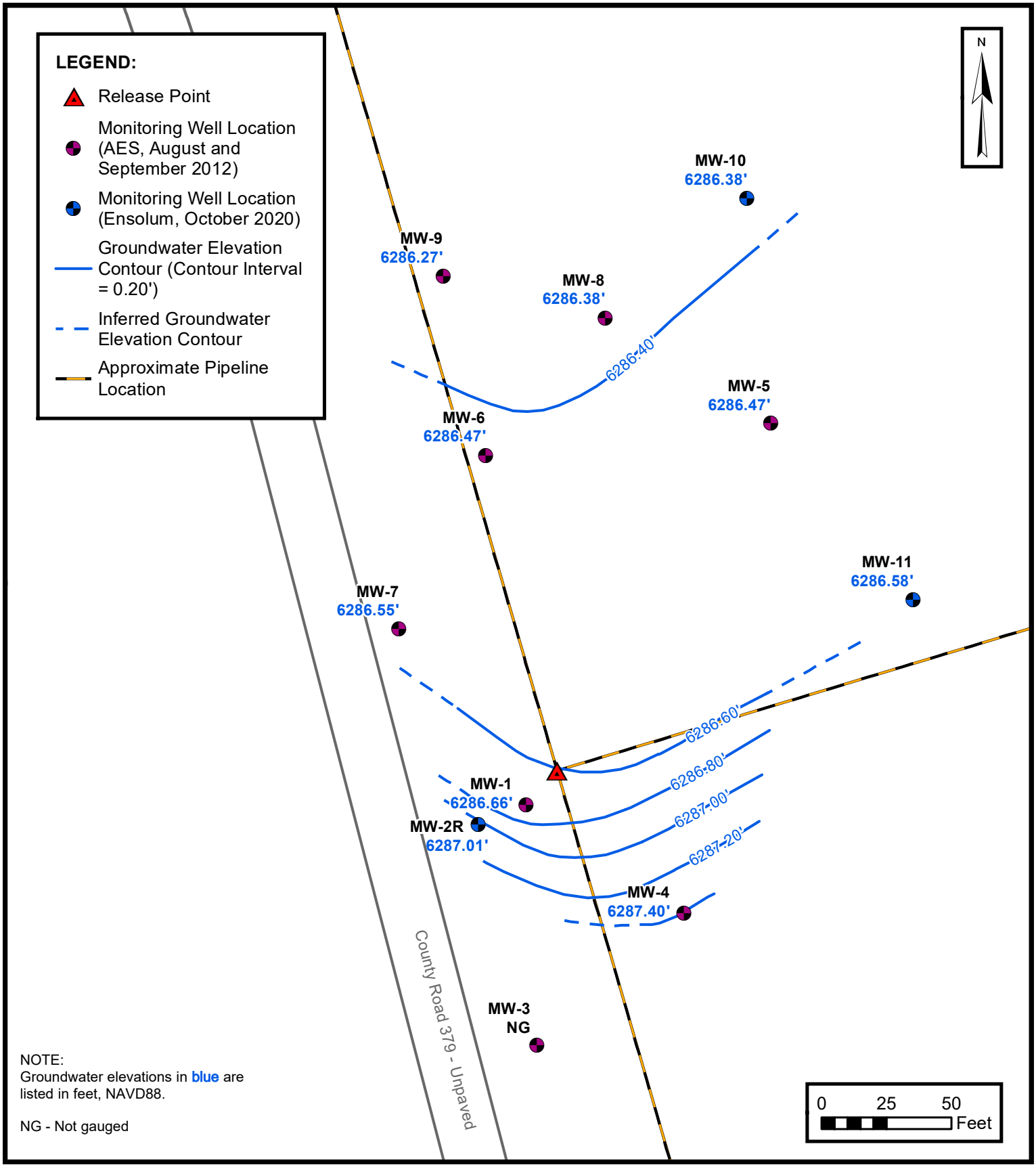
ENSOLUM
Environmental & Hydrogeologic Consultants

GROUNDWATER GRADIENT MAP (JUNE 2020)

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼ S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
5A



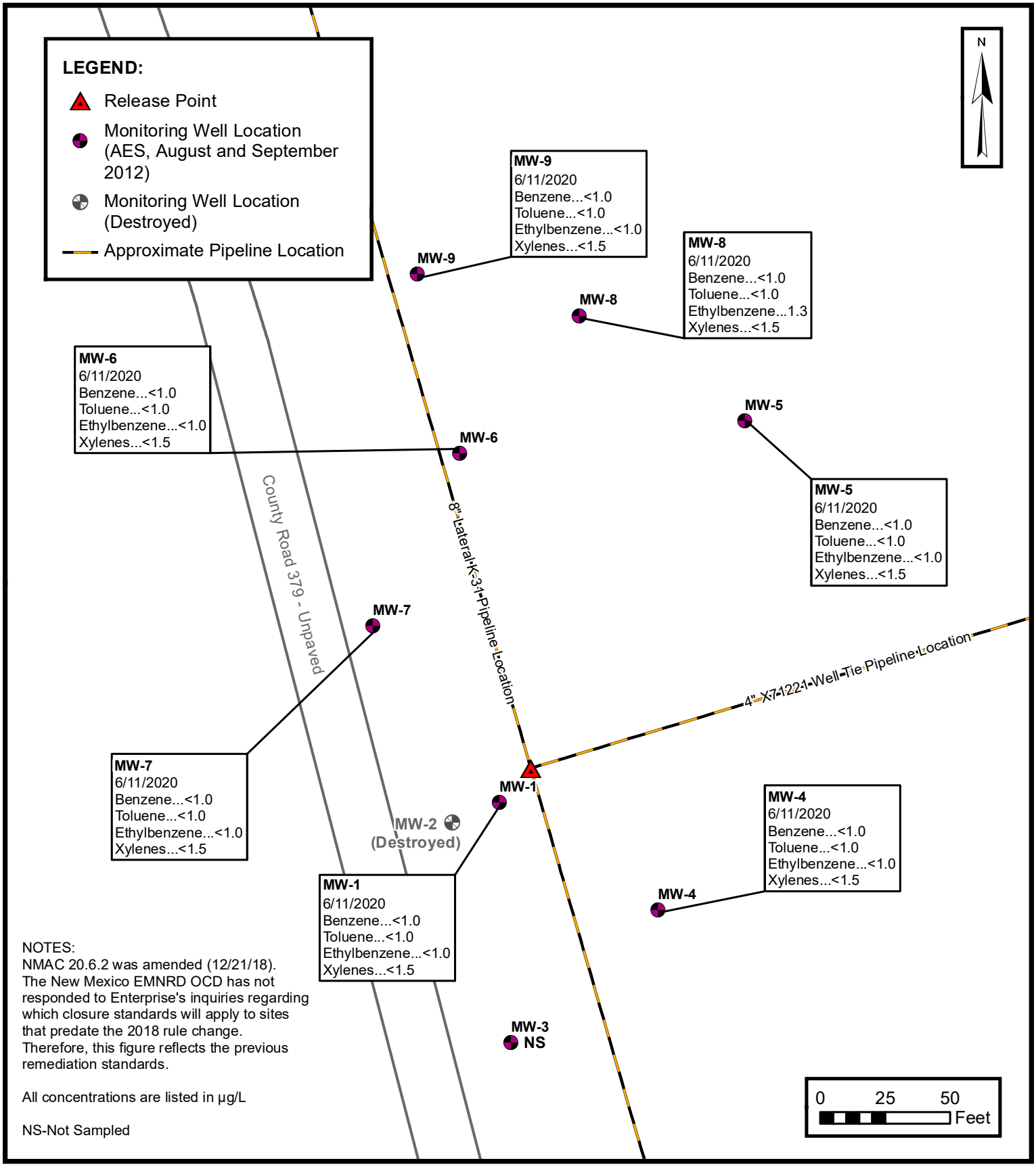
ENSOLUM
Environmental & Hydrogeologic Consultants

GROUNDWATER GRADIENT MAP (DECEMBER 2020)

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼ S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
5B



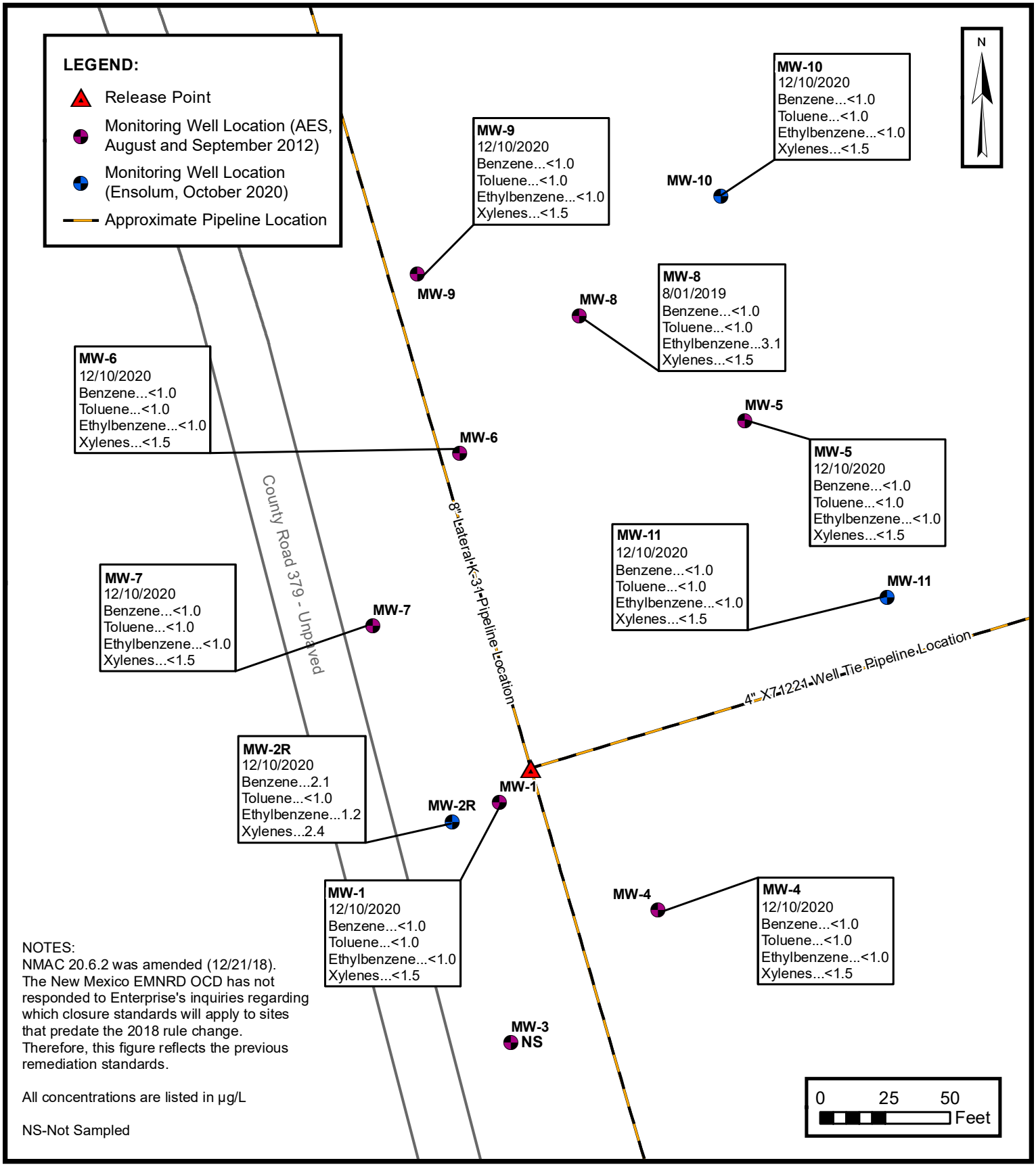
ENSOLUM
Environmental & Hydrogeologic Consultants

GROUNDWATER ANALYTICAL DATA MAP (JUNE 2020)

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼, S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE 6A



NOTES:
NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD has not responded to Enterprise's inquiries regarding which closure standards will apply to sites that predate the 2018 rule change. Therefore, this figure reflects the previous remediation standards.

All concentrations are listed in µg/L

NS-Not Sampled

ENSOLUM
Environmental & Hydrogeologic Consultants

GROUNDWATER ANALYTICAL DATA MAP (DECEMBER 2020)

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼, S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
6B

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APPENDIX B

2020 Soil Boring/Well Boring Logs

BORING LOG MW-10

PROJECT NUMBER 05B1226002	**DRILLING DATE** 10/20/20	**DIAMETER** 8 in.
PROJECT NAME Lateral K-31 (12/02/11) Release)	**DRILLER** Enviro-Drill, Inc.	**TOTAL DEPTH** 20.1 feet
CLIENT Enterprise Field Services, LLC	**LONGITUDE** 107.475065 W	**CASING** N/A
LOCATION Rio Arriba County, New Mexico	**LATITUDE** 36.393827 N	**SCREEN** 10 feet
PROJECT MANAGER M. Gentry, R.G.	**BORING METHOD** Hollow Stem Auger	**COMPLETION** Above Ground

COMMENTS:

LOGGED BY L. Daniell
CHECKED BY M. Gentry

Depth (ft)	Samples	% Recovery	PID	Graphic Log	Water	Material Description	Well Diagram
1			ND			Potholed to depth of 6 feet	
2							
3							
4							
5							
6	MW-10 (6 - 8')		0.0			Sandy Silt, brown, slightly moist, no hydrocarbon odor	
7						-Moist at 10 feet bgs	
8			0.0				
9							
10	MW-10 (10 - 12')		0.0				
11							
12			0.0		▽	Silty Sand, brown, fine- to medium-grained, wet, no hydrocarbon odor	
13						-Brown, fine- to coarse-grained, wet, no hydrocarbon odor	
14			0.0				
15							
16			0.0				
17							
18			0.0			Silty Clay, brown, wet, no hydrocarbon odor	
19						Silty Sand, brown, fine- to medium-grained, wet, no hydrocarbon odor	
20							
21						TD at 20.1 ft bgs	
22							
23							
24							

BORING LOG MW-11

PROJECT NUMBER 05B1226002
PROJECT NAME Lateral K-31 (12/02/11) Release
CLIENT Enterprise Field Services, LLC
LOCATION Rio Arriba County, New Mexico
PROJECT MANAGER M. Gentry, R.G.

DRILLING DATE 10/20/20
DRILLER Enviro-Drill, Inc.
LONGITUDE 107.475065 W
LATITUDE 36.393827 N
BORING METHOD: Hollow Stem Auger

DIAMETER 8 in.
TOTAL DEPTH 20.2 feet
CASING N/A
SCREEN 10 feet
COMPLETION Above Ground

COMMENTS

LOGGED BY L. Daniell
CHECKED BY M. Gentry

Depth (ft)	Samples	% Recovery	PID	Graphic Log	Water	Material Description	Well Diagram (MW-11)
1			ND			Potholed to depth of 7 feet	
2							
3							
4							
5							
6							
7	MW-11 (7 - 9')		0.0			Silty Sand, brown, fine-grained, slightly moist, no hydrocarbon odor -Moist at 10 feet bgs	
8							
9			0.0				
10						Silty Clay, brown, slightly moist, no hydrocarbon odor	
11			0.0				
12						Sandy Silt, gray to black, moist, no hydrocarbon odor -Brown from 13 to 16 feet bgs	
13	MW-11 (13 - 15')		0.0				
14							
15			0.0				
16					▽	Silty Sand, brown, fine- to medium-grained, wet, no hydrocarbon odor -6" beds of sandy silt at 17 and 19 feet bgs	
17			0.0				
18							
19			0.0				
20							
21						TD at 20.2 ft bgs	
22							
23							
24							

BORING LOG MW-2R

PROJECT NUMBER 05B1226002
PROJECT NAME Lateral K-31 (12/02/11) Release
CLIENT Enterprise Field Services, LLC
LOCATION Rio Arriba County, New Mexico
PROJECT MANAGER M. Gentry, R.G.

DRILLING DATE 10/20/20
DRILLER Enviro-Drill, Inc.
LONGITUDE 107.475065 W
LATITUDE 36.393827 N
BORING METHOD Hollow Stem Auger

DIAMETER 8 in.
TOTAL DEPTH 24 feet
CASING N/A
SCREEN 10 feet
COMPLETION Above Ground

COMMENTS

LOGGED BY L. Daniell
CHECKED BY M. Gentry

Depth (ft)	Samples	% Recovery	PID	Material Description
1–7			ND	Potholed to depth of 7 feet
7–11			31.5	Silty clay, gray to black, fine-grained, slightly moist, no hydrocarbon odor -Brown from 8 to 10 feet bgs -Black with slight odor from 10 to 11.5 feet bgs
9–10			49.7	
11	MW-2R (11 - 13')		5000	Sandy silt, black, moist, strong hydrocarbon odor
12–13				Clay, brown, slightly moist, slight hydrocarbon odor
13–14			21.6	
14–15				Sandy Silt, black, slightly moist, slight hydrocarbon odor -6" Silty sand at 15 feet bgs
15	MW-2R (15 - 17')		180.6	
16–17				Silty Sand, gray to black, fine- to medium-grained, slightly moist, slight hydrocarbon odor
17–18			8.4	Silty Clay, brown, moist to very moist, slight hydrocarbon odor -2" Silty Sand at 18 feet bgs
19			46.8	Sandy Clay, brown to gray, very moist to wet, slight hydrocarbon odor -Increase in sand percentage downward
20–24				
24				TD at 24 ft bgs

Well Diagram: MW-2

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APPENDIX C

Executed C-138 Solid Waste Acceptance Form

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources
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.
87057-1125

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:**
Lateral K-31 Pipeline

3. **Location of Material (Street Address, City, State or ULSTR):**
UL L Section 9 T 25N R 6W, GPS 36.41141, -107.479160, Rio Arriba, NM
Dec 2020

4. **Source and Description of Waste:**
Source: Hydrocarbon/water/soil from remediation activities associated with a natural gas pipeline release.
Description: Hydrocarbon/water/soil from remediation activities associated with a natural gas pipeline release.
Estimated Volume 2 yd^3 / ~~bbls~~ Known Volume (to be entered by the operator at the end of the haul) 1 ~~yd^3~~/~~bbls~~ Drum

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 12-10-2020, representative for Enterprise Products Operating authorizes Envirotech, Inc. to complete
Generator Signature
the required testing/sign the Generator Waste Testing Certification.

I, _____, 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: OFT**

OCD Permitted Surface Waste Management Facility

Name and Facility Permit #: **Envirotech, Inc. Soil Remediation Facility * Permit #: NM 01-0011**
Address of Facility: **Hilltop, 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: 12/10/20
SIGNATURE: _____ TELEPHONE NO.: **505-632-0615**
Surface Waste Management Facility Authorized Agent

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APPENDIX D

Tables

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TABLE 1
Lateral K-31 (12/02/2011)
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	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 GRO/DRO/MRO (mg/kg)	Chloride (mg/kg)
New Mexico Energy, Mineral & Natural Resources Department Oil Conservation Division Closure Criteria			10	NE	NE	NE	50				100	600
Test Hole Excavation and Soil Boring Soil Samples Collected by AES (2011-2012)												
TP-1	12.08.11	14	<0.050	<0.050	<0.050	<0.099	ND	<5.0	<9.8	NA	ND	NA
	12.08.11	15.5	<0.047	<0.047	<0.047	<0.093	ND	<4.7	<9.9	NA	ND	NA
TP-2	12.08.11	15	<0.050	<0.050	<0.050	<0.10	ND	<5.0	<10	NA	ND	NA
TP-3	12.08.11	15	3.7	130	28	270	**432**	2,500	2,200	NA	**4,700**	NA
TP-4	12.08.11	7	<0.047	<0.047	<0.047	<0.094	ND	<4.7	<10	NA	ND	NA
	12.08.11	15	8.0	210	75	690	**982**	5,800	3,000	NA	**8,800**	NA
SB-1	03.15.12	10	<0.49	<0.49	0.73	4.9	5.6	190	89	NA	**279**	NA
	03.15.12	14	<0.046	<0.046	<0.046	<0.092	ND	<4.6	<9.7	NA	ND	NA
SB-2	03.15.12	2 to 4	0.070	0.10	0.054	0.49	0.71	5.3	<10	NA	ND	NA
	03.15.12	12	<0.049	<0.049	<0.049	<0.098	ND	<4.9	<10	NA	ND	NA
SB-3	03.15.12	12	<0.049	<0.049	<0.049	<0.099	ND	<4.9	<10	NA	ND	NA
	03.15.12	14	<0.048	<0.048	<0.048	<0.096	ND	<4.8	<10	NA	ND	NA
SB-4	03.15.12	4	0.11	0.55	0.16	1.6	2.4	10	20	NA	30	NA
	03.15.12	14	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<9.8	NA	ND	NA
SB-5	03.16.12	4	<0.048	<0.048	<0.048	0.24	0.24	<4.8	<9.7	NA	ND	NA
	03.16.12	14	<0.048	<0.048	<0.048	<0.095	ND	<4.8	<9.6	NA	ND	NA
SB-6	03.16.12	2	<0.097	<0.097	<0.097	0.31	0.31	11	77	NA	88	NA
	03.16.12	14	<0.049	<0.049	<0.049	<0.097	ND	<4.9	<10	NA	ND	NA
SB-7	03.16.12	6	<0.047	<0.047	<0.047	<0.095	ND	<4.7	<10	NA	ND	NA
	03.16.12	14	<0.049	<0.049	<0.049	<0.098	ND	<4.9	<9.9	NA	ND	NA
SB-8	03.16.12	4	<0.050	<0.050	<0.050	0.20	0.20	<5.0	<10	NA	ND	NA
	03.16.12	14	<0.047	<0.047	<0.047	0.098	0.098	<4.7	<9.9	NA	ND	NA
SB-9	03.16.12	10	0.51	9.4	1.9	19	31	190	250	NA	**440**	NA
	03.16.12	14	**29**	480	64	580	**1,153**	6,700	2,000	NA	**8,700**	NA
SB-10	03.16.12	4	<0.047	<0.047	<0.047	0.20	0.20	5.8	32	NA	40	NA
	03.16.12	14	<0.048	<0.048	<0.048	<0.095	ND	<4.8	<9.9	NA	ND	NA
SB-11	03.16.12	10	0.67	14	10	83	**108**	1,100	240	NA	**1,340**	NA
	03.16.12	14	<0.048	<0.048	<0.048	<0.095	ND	7.0	<10	NA	7.0	NA
SB-12	03.16.12	4	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<10	NA	ND	NA
	03.16.12	14	0.070	<0.048	<0.048	<0.096	0.070	<4.8	<10	NA	ND	NA

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TABLE 1
Lateral K-31 (12/02/2011)
SOIL ANALYTICAL SUMMARY

Sample I.D.	Date	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 GRO/DRO/MRO (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 Borings Advanced by AES (2012)												
MW-1	08.13.12	0 to 2	<0.048	<0.048	<0.048	<0.096	ND	5.0	<9.8	NA	5.0	NA
	08.13.12	10 to 12	<0.049	<0.049	0.065	0.45	0.52	<4.9	37	NA	37	NA
MW-2	08.13.12	5 to 7	0.089	<0.049	<0.049	0.15	0.24	<4.9	<9.8	NA	ND	NA
	08.13.12	10 to 12	<0.047	<0.047	<0.047	<0.095	ND	<4.7	<9.9	NA	ND	NA
MW-3	08.15.12	0 to 2	<0.049	<0.049	<0.049	<0.098	ND	<4.9	<10	NA	ND	NA
	08.15.12	10 to 12	0.13	<0.048	<0.048	<0.095	ND	<4.8	<9.7	NA	ND	NA
MW-4	08.15.12	0 to 2	0.072	<0.049	0.059	0.97	1.10	8.8	<10	NA	8.8	NA
	08.15.12	10 to 12	<0.048	<0.048	<0.048	0.23	0.23	<4.8	<10	NA	ND	NA
MW-5	08.15.12	5 to 7	<0.049	<0.049	<0.049	<0.098	ND	<4.8	<9.9	NA	ND	NA
	08.15.12	10 to 12	<0.049	<0.049	<0.049	<0.099	ND	<4.9	<9.6	NA	ND	NA
MW-6	08.13.12	0 to 2	0.055	<0.048	<0.048	0.27	0.33	<4.8	12	NA	12	NA
	08.13.12	10 to 12	<0.048	<0.048	<0.048	<0.096	ND	<4.8	<9.8	NA	ND	NA
MW-7	08.15.12	5 to 7	0.11	<0.049	<0.049	<0.098	ND	<4.9	<9.8	NA	ND	NA
	08.15.12	10 to 12	<0.048	<0.048	<0.048	<0.095	ND	<4.8	<9.7	NA	ND	NA
MW-8	08.14.12	5 to 7	0.092	<0.046	<0.046	<0.093	ND	<4.6	<9.7	NA	ND	NA
	08.14.12	10 to 12	<0.048	<0.048	<0.048	<0.097	ND	<4.8	<9.7	NA	ND	NA
MW-9	08.14.12	5 to 7	<0.047	<0.047	<0.047	<0.095	ND	<4.8	<9.9	NA	ND	NA
	08.14.12	10 to 12	<0.049	<0.049	<0.049	<0.097	ND	<4.9	<9.8	NA	ND	NA
Soil Borings Advanced by Ensolum, LLC (2020)												
MW-2R	10.20.20	11 to 13	0.12	<0.050	0.69	4.2	5.0	97	78	<50	**175**	120
	10.20.20	15 to 17	<0.025	<0.050	<0.050	0.25	0.25	7.9	<9.6	<48	7.9	70
MW-10	10.20.20	6 to 8	<0.025	<0.050	<0.050	<0.10	ND	<5.0	<9.8	<49	ND	<60
	10.20.20	10 to 12	<0.025	<0.050	<0.050	<0.10	ND	<5.0	<8.9	<45	ND	<60
MW-11	10.20.20	7 to 9	<0.025	<0.050	<0.050	<0.099	ND	<5.0	<8.7	<43	ND	<59
	10.20.20	13 to 15	<0.025	<0.050	<0.050	<0.10	ND	<5.0	<9.5	<48	ND	<60

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

mg/kg = milligrams per kilograms

NA = Not Analyzed

ND = Not Detected above the Laboratory Reporting Limits

NE = Not established

BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

TPH = Total Petroleum Hydrocarbon

GRO = Gasoline Range Organics

DRO = Diesel Range Organics

ENSOLUM

TABLE 2
Lateral K-31 (12/02/2011)
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]
Monitoring Wells Installed by AES (2012)					
MW-1	9.5.12	**18**	2.9	3.3	25
	12.20.12	**11**	<2.0	<2.0	5.8
	3.21.13	**29**	14	<2.0	6.8
	9.4.13	**24**	3.0	<2.0	10
	12.9.13	**42**	20	10	45
	3.19.14	**17**	15	<1	6
	11.12.14	<1.0	<1.0	<1.0	<2.0
	6.17.15	<1.0	<1.0	<1.0	<2.0
	11.17.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	4.1	<1.0	<1.0	<2.0
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	1.8	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	<1.0	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.02.19	<1.0	<1.0	<1.0	<2.0
	12.31.19	<1.0	<1.0	<1.0	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5
MW-2	9.5.12	9.5	9.2	<2.0	30
	12.20.12	**17**	<2.0	<2.0	41
	3.21.13	**18**	<2.0	<2.0	18
	9.4.13	8.0	<2.0	<2.0	4.2
	12.9.13	**24**	13	11	49
	3.19.14	<1	<1	<1	<3
	11.12.14	Monitoring Well Apparently Destroyed			
	6.17.15				
	11.17.15				
	6.08.16				
	12.29.16				
	6.30.17				
	12.28.17				
	6.20.18				
	1.17.19				
	8.01.19				
	6.11.20				
	12.10.20				
MW-3	9.5.12	<2.0	<2.0	<2.0	<4.0
	12.20.12	<2.0	<2.0	<2.0	<4.0
	3.21.13	<2.0	<2.0	<2.0	<4.0
	9.4.13	5.4	<2.0	<2.0	<4.0
	12.9.13	**10**	15	9.7	37
	3.19.14	3.0	4.0	<1	<3
	11.12.14	<1.0	<1.0	<1.0	<2.0
	6.17.15	9.9	<1.0	<1.0	<2.0
	11.18.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	Unable to sample			
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	<1.0	<1.0	<1.0	<1.5
	12.28.17	Unable to sample (obstructed well screen/casing)			
	6.20.18	Unable to sample (obstructed well screen/casing)			
	1.17.19	Unable to sample (obstructed well screen/casing)			
	8.01.19	Unable to sample (obstructed well screen/casing)			
	6.11.20	Unable to sample (obstructed well screen/casing)			
	12.10.20	Unable to sample (obstructed well screen/casing)			

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TABLE 2
Lateral K-31 (12/02/2011)
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]
MW-4	9.5.12	<2.0	<2.0	<2.0	<4.0
	12.20.12	**19**	<2.0	<2.0	<4.0
	3.21.13	4.8	<2.0	<2.0	<4.0
	9.4.13	<2.0	<2.0	<2.0	<4.0
	12.9.13	**42**	17	14	54
	3.19.14	<1	<1	<1	<3
	11.12.14	5.4	<1.0	<1.0	<2.0
	6.17.15	7.2	<1.0	<1.0	<2.0
	11.18.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	5.1	<1.0	<1.0	<2.0
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	<1.0	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	<1.0	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.02.19	<1.0	<1.0	<1.0	<2.0
	12.31.19	<1.0	<1.0	<1.0	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5
MW-5	9.5.12	**10**	<2.0	<2.0	<4.0
	12.20.12	**10**	<2.0	<2.0	<4.0
	3.21.13	9	<2.0	<2.0	<4.0
	9.4.13	9.3	<2.0	<2.0	<4.0
	12.9.13	**48**	9.3	9.7	36
	3.19.14	**27**	<1	2	<3
	11.12.14	<1.0	<1.0	<1.0	<2.0
	6.17.15	**52**	<1.0	1.4	<2.0
	11.18.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	**230**	<1.0	8.5	<2.0
	12.29.16	**14**	<1.0	2.1	<1.5
	6.30.17	2.4	<1.0	1.8	<2.0
	12.28.17	**42**	<1.0	11	<1.5
	6.20.18	<1.0	<1.0	5.7	<1.5
	1.17.19	<1.0	<1.0	3.4	<1.5
	8.01.19	<1.0	<1.0	1.7	<2.0
	12.31.19	<1.0	<1.0	1.9	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5
MW-6	9.5.12	**37**	8.3	<2.0	14
	12.20.12	**82**	5.8	<2.0	<4.0
	3.21.13	**130**	5.1	<2.0	<4.0
	9.4.13	**40**	22	<2.0	13
	12.9.13	**210**	20	12	51
	3.19.14	**77**	8.0	1.0	4.0
	11.12.14	**19**	<1.0	<1.0	<2.0
	6.17.15	<1.0	<1.0	<1.0	<2.0
	11.18.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	<1.0	<1.0	<1.0	<2.0
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	<1.0	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	<1.0	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.01.19	<1.0	<1.0	<1.0	<2.0
	12.31.19	<1.0	<1.0	<1.0	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5

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TABLE 2
Lateral K-31 (12/02/2011)
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]
MW-7	9.5.12	3.6	<2.0	<2.0	<4.0
	12.20.12	5.9	<2.0	<2.0	<4.0
	3.21.13	<2.0	<2.0	<2.0	<4.0
	9.4.13	6.2	<2.0	<2.0	<4.0
	12.9.13	**30**	17	14	56
	3.19.14	<1	<1	<1	<3
	11.12.14	<1.0	<1.0	<1.0	<2.0
	6.17.15	<1.0	<1.0	<1.0	<2.0
	11.17.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	<1.0	<1.0	<1.0	<2.0
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	<1.0	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	<1.0	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.02.19	<1.0	<1.0	<1.0	<2.0
	12.31.19	<1.0	<1.0	<1.0	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5
MW-8	9.5.12	**20**	<2.0	<2.0	<4.0
	12.20.12	**25**	<2.0	<2.0	<4.0
	3.21.13	**26**	<2.0	<2.0	<4.0
	9.4.13	**34**	<2.0	<2.0	<4.0
	12.9.13	**200**	14	11	46
	3.19.14	**57**	<1	<1	<3
	11.12.14	5.8	<1.0	<1.0	<2.0
	6.17.15	1.5	<1.0	<1.0	<2.0
	11.18.15	1.7	<1.0	<1.0	<2.0
	6.08.16	4.2	<1.0	<1.0	<2.0
	12.29.16	1.3	<1.0	<1.0	<1.5
	6.30.17	1.2	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	1.9	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.01.19	2.1	<1.0	14	<2.0
	12.31.19	<1.0	<1.0	1.4	<2.0
	6.11.20	<1.0	<1.0	1.3	<1.5
	12.10.20	<1.0	<1.0	3.1	<1.5
MW-9	9.5.12	<2.0	<2.0	<2.0	<4.0
	12.20.12	<2.0	<2.0	<2.0	<4.0
	3.21.13	<2.0	<2.0	<2.0	<4.0
	9.4.13	<2.0	<2.0	<2.0	<4.0
	12.9.13	4	7.1	6	24
	3.19.14	<1	<1	<1	<3
	11.12.14	<1.0	<1.0	<1.0	<2.0
	6.17.15	<1.0	<1.0	<1.0	<2.0
	11.17.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	<1.0	<1.0	<1.0	<2.0
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	<1.0	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	<1.0	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.01.19	<1.0	<1.0	<1.0	<2.0
	12.31.19	<1.0	<1.0	<1.0	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5

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TABLE 2
Lateral K-31 (12/02/2011)
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		**10[A]**	**750[A]**	**750[A]**	**620[A]**
Monitoring Wells Installed by Ensolum, LLC (2020)					
MW-2R	12.10.20	2.1	<1.0	1.2	2.4
MW-10	12.10.20	<1.0	<1.0	<1.0	<1.5
MW-11	12.10.20	<1.0	<1.0	<1.0	<1.5

Note: Concentrations in **bold** and yellow exceed the applicable WQCC GQS

A = NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD has not responded to Enterprise's inquiries regarding which closure standards will apply to sites that predate the 2018 rule change. Therefore, this table reflects the previous remediation standards.

µg/L= micrograms per liter

<1.0= the numeral (in this case "1.0") identifies the laboratory reporting or practical quantitation limit

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TABLE 3
Lateral K-31 (12/02/2011)
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	TOC Elevations (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-1	9.5.12	ND	19.44	ND	6306.66	6287.22
	12.20.12	ND	19.02	ND		6287.64
	3.21.13	ND	18.59	ND		6288.07
	9.4.13	ND	19.49	ND		6287.17
	12.9.13	ND	18.80	ND		6287.86
	3.19.14	ND	18.40	ND		6288.26
	11.12.14	ND	19.11	ND		6287.55
	6.17.15	ND	18.70	ND		6287.96
	11.17.15	ND	19.08	ND		6287.58
	6.08.16	ND	18.80	ND		6287.86
	12.29.16	ND	19.18	ND		6287.48
	6.30.17	ND	19.13	ND		6287.53
	12.28.17	ND	19.16	ND		6287.50
	6.20.18	ND	19.45	ND		6287.21
	1.17.19	ND	19.30	ND		6287.36
	8.01.19	ND	19.58	ND		6287.08
	12.31.19	ND	19.59	ND		6287.07
	6.11.20	ND	19.49	ND		6287.17
	12.10.20	ND	20.00	ND		6286.66
MW-2	9.5.12	ND	16.69	ND	6242.58	6225.89
	12.20.12	ND	16.33	ND		6226.25
	3.21.13	ND	15.90	ND		6226.68
	9.4.13	ND	16.72	ND		6225.86
	12.9.13	ND	16.14	ND		6226.44
	3.19.14	ND	15.72	ND		6226.86
	11.12.14	Monitoring Well Apparently Destroyed				
	6.17.15					
	11.17.15					
	6.08.16					
	12.29.16					
	6.30.17					
	12.28.17					
	6.20.18					
	1.17.19					
	8.01.19					
	12.31.19					
	6.11.20					
	12.10.20					
MW-2R	12.10.20	ND	20.71	ND	6307.72	6287.01
MW-3	9.5.12	ND	18.93	ND	6306.94	6288.01
	12.20.12	ND	18.51	ND		6288.43
	3.21.13	ND	18.07	ND		6288.87
	9.4.13	ND	18.97	ND		6287.97
	12.9.13	ND	18.30	ND		6288.64
	3.19.14	ND	17.89	ND		6289.05
	11.12.14	ND	18.59	ND		6288.35
	6.17.15	ND	18.20	ND		6288.74
	11.17.15	ND	18.56	ND		6288.38
	6.08.16	ND	18.30	ND		6288.64
	12.29.16	ND	18.66	ND		6288.28
	6.30.17	ND	18.64	ND		6288.30
	12.28.17	NG	NG	NG		NG
	6.20.18	NG	NG	NG		NG
	1.17.19	NG	NG	NG		NG
	8.01.19	NG	NG	NG		NG
	12.31.19	NG	NG	NG		NG
	6.11.20	NG	NG	NG		NG
	12.10.20	ND	NG	ND		NG

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TABLE 3
Lateral K-31 (12/02/2011)
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	TOC Elevations (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-4	9.5.12	ND	17.55	ND	6305.50	6287.95
	12.20.12	ND	17.14	ND		6288.36
	3.21.13	ND	16.71	ND		6288.79
	9.4.13	ND	17.59	ND		6287.91
	12.9.13	ND	16.93	ND		6288.57
	3.19.14	ND	16.51	ND		6288.99
	11.12.14	ND	17.24	ND		6288.26
	6.17.15	ND	16.83	ND		6288.67
	11.17.15	ND	17.21	ND		6288.29
	6.08.16	ND	16.93	ND		6288.57
	12.29.16	ND	17.30	ND		6288.20
	6.30.17	ND	17.27	ND		6288.23
	12.28.17	ND	17.30	ND		6288.20
	6.20.18	ND	17.59	ND		6287.91
	1.17.19	ND	17.44	ND		6288.06
	8.01.19	ND	17.69	ND		6287.81
	12.31.19	ND	17.70	ND		6287.80
	6.11.20	ND	17.60	ND		6287.90
	12.10.20	ND	18.10	ND		6287.40
MW-5	9.5.12	ND	15.88	ND	6302.91	6287.03
	12.20.12	ND	15.44	ND		6287.47
	3.21.13	ND	15.00	ND		6287.91
	9.4.13	ND	15.91	ND		6287.00
	12.9.13	ND	15.20	ND		6287.71
	3.19.14	ND	14.81	ND		6288.10
	11.12.14	ND	15.54	ND		6287.37
	6.17.15	ND	15.14	ND		6287.77
	11.17.15	ND	15.50	ND		6287.41
	6.08.16	ND	15.22	ND		6287.69
	12.29.16	ND	15.60	ND		6287.31
	6.30.17	ND	15.59	ND		6287.32
	12.30.17	ND	15.57	ND		6287.34
	6.20.18	ND	15.59	ND		6287.32
	1.17.19	ND	15.74	ND		6287.17
	8.01.19	ND	16.02	ND		6286.89
	12.31.19	ND	16.03	ND		6286.88
	6.11.20	ND	15.93	ND		6286.98
	12.10.20	ND	16.44	ND		6286.47
MW-6	9.5.12	ND	17.41	ND	6304.43	6287.02
	12.20.12	ND	16.97	ND		6287.46
	3.21.13	ND	16.53	ND		6287.90
	9.4.13	ND	17.45	ND		6286.98
	12.9.13	ND	16.75	ND		6287.68
	3.19.14	ND	16.34	ND		6288.09
	11.12.14	ND	17.06	ND		6287.37
	6.17.15	ND	16.66	ND		6287.77
	11.17.15	ND	17.03	ND		6287.40
	6.08.16	ND	16.74	ND		6287.69
	12.29.16	ND	17.13	ND		6287.30
	6.30.17	ND	17.11	ND		6287.32
	12.28.17	ND	17.10	ND		6287.33
	6.20.18	ND	17.41	ND		6287.02
	1.17.19	ND	17.27	ND		6287.16
	8.01.19	ND	17.54	ND		6286.89
	12.31.19	ND	17.56	ND		6286.87
	6.11.20	ND	17.44	ND		6286.99
	12.10.20	ND	17.96	ND		6286.47

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TABLE 3
Lateral K-31 (12/02/2011)
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	TOC Elevations (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-7	9.5.12	ND	17.61	ND	6304.73	6287.12
	12.20.12	ND	17.18	ND		6287.55
	3.21.13	ND	16.74	ND		6287.99
	9.4.13	ND	17.65	ND		6287.08
	12.9.13	ND	16.96	ND		6287.77
	3.19.14	ND	16.55	ND		6288.18
	11.12.14	ND	17.29	ND		6287.44
	6.17.15	ND	16.87	ND		6287.86
	11.17.15	ND	17.25	ND		6287.48
	6.08.16	ND	16.96	ND		6287.77
	12.29.16	ND	17.36	ND		6287.37
	6.30.17	ND	17.30	ND		6287.43
	12.28.17	ND	17.32	ND		6287.41
	6.20.18	ND	17.62	ND		6287.11
	1.17.19	ND	17.49	ND		6287.24
	8.01.19	ND	17.74	ND		6286.99
	12.31.19	ND	17.78	ND		6286.95
	6.11.20	ND	17.66	ND		6287.07
	12.10.20	ND	18.18	ND		6286.55
MW-8	9.5.12	ND	16.55	ND	6303.48	6286.93
	12.20.12	ND	16.09	ND		6287.39
	3.21.13	ND	15.65	ND		6287.83
	9.4.13	ND	16.57	ND		6286.91
	12.9.13	ND	15.86	ND		6287.62
	3.19.14	ND	15.46	ND		6288.02
	11.12.14	ND	16.18	ND		6287.30
	6.17.15	ND	15.79	ND		6287.69
	11.17.15	ND	16.17	ND		6287.31
	6.08.16	ND	15.90	ND		6287.58
	12.29.16	ND	16.25	ND		6287.23
	6.30.17	ND	16.25	ND		6287.23
	12.28.17	ND	16.23	ND		6287.25
	6.20.18	ND	16.55	ND		6286.93
	1.17.19	ND	16.38	ND		6287.10
	8.01.19	ND	16.68	ND		6286.80
	12.31.19	ND	16.69	ND		6286.79
	6.11.20	ND	16.59	ND		6286.89
	12.10.20	ND	17.10	ND		6286.38
MW-9	9.5.12	ND	16.33	ND	6303.06	6286.73
	12.20.12	ND	15.84	ND		6287.22
	3.21.13	ND	15.39	ND		6287.67
	9.4.13	ND	16.32	ND		6286.74
	12.9.13	ND	15.61	ND		6287.45
	3.19.14	ND	15.21	ND		6287.85
	11.12.14	ND	15.95	ND		6287.11
	6.17.15	ND	15.52	ND		6287.54
	11.17.15	ND	15.88	ND		6287.18
	6.08.16	ND	15.60	ND		6287.46
	12.29.16	ND	15.98	ND		6287.08
	6.30.17	ND	15.97	ND		6287.09
	12.28.17	ND	15.94	ND		6287.12
	6.20.18	ND	16.27	ND		6286.79
	1.17.19	ND	16.11	ND		6286.95
	8.01.19	ND	16.41	ND		6286.65
	12.31.19	ND	16.40	ND		6286.66
	6.11.20	ND	16.30	ND		6286.76
	12.10.20	ND	16.79	ND		6286.27

ENSOLUM

TABLE 3
Lateral K-31 (12/02/2011)
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	TOC Elevations (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-10	12.10.20	ND	15.66	ND	6302.04	6286.38
MW-11	12.10.20	ND	17.03	ND	6303.61	6286.58

BTOC - Below Top of Casing
TOC - Top of Casing
ND - Not Detected
NG - Not Gauged
AMSL - Above Mean Sea Level (North American Vertical Datum 1988)

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APPENDIX E

Laboratory Data Sheets & Chain of Custody Documentation

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

June 19, 2020

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

RE: Lateral K-31 (2011) OrderNo.: 2006680

Dear M. Gentry:

Hall Environmental Analysis Laboratory received 7 sample(s) on 6/12/2020 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 **2006680**
Date Reported: **6/19/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** MW-9
Project: Lateral K-31 (2011) **Collection Date:** 6/11/2020 9:50:00 AM
Lab ID: 2006680-001 **Matrix:** AQUEOUS **Received Date:** 6/12/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	6/15/2020 5:27:00 PM	SL69645
Toluene	ND	1.0		µg/L	1	6/15/2020 5:27:00 PM	SL69645
Ethylbenzene	ND	1.0		µg/L	1	6/15/2020 5:27:00 PM	SL69645
Xylenes, Total	ND	1.5		µg/L	1	6/15/2020 5:27:00 PM	SL69645
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	6/15/2020 5:27:00 PM	SL69645
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	6/15/2020 5:27:00 PM	SL69645
Surr: Dibromofluoromethane	101	70-130		%Rec	1	6/15/2020 5:27:00 PM	SL69645
Surr: Toluene-d8	98.3	70-130		%Rec	1	6/15/2020 5:27:00 PM	SL69645

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 **2006680**
Date Reported: **6/19/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** MW-8
Project: Lateral K-31 (2011) **Collection Date:** 6/11/2020 10:20:00 AM
Lab ID: 2006680-002 **Matrix:** AQUEOUS **Received Date:** 6/12/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	6/15/2020 6:39:00 PM	SL69645
Toluene	ND	1.0		µg/L	1	6/15/2020 6:39:00 PM	SL69645
Ethylbenzene	1.3	1.0		µg/L	1	6/15/2020 6:39:00 PM	SL69645
Xylenes, Total	ND	1.5		µg/L	1	6/15/2020 6:39:00 PM	SL69645
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	6/15/2020 6:39:00 PM	SL69645
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	6/15/2020 6:39:00 PM	SL69645
Surr: Dibromofluoromethane	104	70-130		%Rec	1	6/15/2020 6:39:00 PM	SL69645
Surr: Toluene-d8	98.8	70-130		%Rec	1	6/15/2020 6:39:00 PM	SL69645

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 **2006680**
Date Reported: **6/19/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** MW-5
Project: Lateral K-31 (2011) **Collection Date:** 6/11/2020 11:00:00 AM
Lab ID: 2006680-003 **Matrix:** AQUEOUS **Received Date:** 6/12/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	6/15/2020 7:03:00 PM	SL69645
Toluene	ND	1.0		µg/L	1	6/15/2020 7:03:00 PM	SL69645
Ethylbenzene	ND	1.0		µg/L	1	6/15/2020 7:03:00 PM	SL69645
Xylenes, Total	ND	1.5		µg/L	1	6/15/2020 7:03:00 PM	SL69645
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	1	6/15/2020 7:03:00 PM	SL69645
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	6/15/2020 7:03:00 PM	SL69645
Surr: Dibromofluoromethane	105	70-130		%Rec	1	6/15/2020 7:03:00 PM	SL69645
Surr: Toluene-d8	99.1	70-130		%Rec	1	6/15/2020 7:03:00 PM	SL69645

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 **2006680**
Date Reported: **6/19/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** MW-6
Project: Lateral K-31 (2011) **Collection Date:** 6/11/2020 11:50:00 AM
Lab ID: 2006680-004 **Matrix:** AQUEOUS **Received Date:** 6/12/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	6/15/2020 7:27:00 PM	SL69645
Toluene	ND	1.0		µg/L	1	6/15/2020 7:27:00 PM	SL69645
Ethylbenzene	ND	1.0		µg/L	1	6/15/2020 7:27:00 PM	SL69645
Xylenes, Total	ND	1.5		µg/L	1	6/15/2020 7:27:00 PM	SL69645
Surr: 1,2-Dichloroethane-d4	112	70-130		%Rec	1	6/15/2020 7:27:00 PM	SL69645
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	6/15/2020 7:27:00 PM	SL69645
Surr: Dibromofluoromethane	104	70-130		%Rec	1	6/15/2020 7:27:00 PM	SL69645
Surr: Toluene-d8	99.1	70-130		%Rec	1	6/15/2020 7:27:00 PM	SL69645

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 **2006680**
Date Reported: **6/19/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** MW-7
Project: Lateral K-31 (2011) **Collection Date:** 6/11/2020 12:25:00 PM
Lab ID: 2006680-005 **Matrix:** AQUEOUS **Received Date:** 6/12/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	6/15/2020 7:50:00 PM	SL69645
Toluene	ND	1.0		µg/L	1	6/15/2020 7:50:00 PM	SL69645
Ethylbenzene	ND	1.0		µg/L	1	6/15/2020 7:50:00 PM	SL69645
Xylenes, Total	ND	1.5		µg/L	1	6/15/2020 7:50:00 PM	SL69645
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	6/15/2020 7:50:00 PM	SL69645
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	6/15/2020 7:50:00 PM	SL69645
Surr: Dibromofluoromethane	105	70-130		%Rec	1	6/15/2020 7:50:00 PM	SL69645
Surr: Toluene-d8	96.1	70-130		%Rec	1	6/15/2020 7:50:00 PM	SL69645

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 **2006680**
Date Reported: **6/19/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** MW-1
Project: Lateral K-31 (2011) **Collection Date:** 6/11/2020 12:55:00 PM
Lab ID: 2006680-006 **Matrix:** AQUEOUS **Received Date:** 6/12/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	6/15/2020 8:14:00 PM	SL69645
Toluene	ND	1.0		µg/L	1	6/15/2020 8:14:00 PM	SL69645
Ethylbenzene	ND	1.0		µg/L	1	6/15/2020 8:14:00 PM	SL69645
Xylenes, Total	ND	1.5		µg/L	1	6/15/2020 8:14:00 PM	SL69645
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	6/15/2020 8:14:00 PM	SL69645
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	6/15/2020 8:14:00 PM	SL69645
Surr: Dibromofluoromethane	105	70-130		%Rec	1	6/15/2020 8:14:00 PM	SL69645
Surr: Toluene-d8	99.1	70-130		%Rec	1	6/15/2020 8:14:00 PM	SL69645

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 **2006680**
Date Reported: **6/19/2020**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Client Sample ID:** MW-4
Project: Lateral K-31 (2011) **Collection Date:** 6/11/2020 1:30:00 PM
Lab ID: 2006680-007 **Matrix:** AQUEOUS **Received Date:** 6/12/2020 8:20:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	6/15/2020 8:38:00 PM	SL69645
Toluene	ND	1.0		µg/L	1	6/15/2020 8:38:00 PM	SL69645
Ethylbenzene	ND	1.0		µg/L	1	6/15/2020 8:38:00 PM	SL69645
Xylenes, Total	ND	1.5		µg/L	1	6/15/2020 8:38:00 PM	SL69645
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	6/15/2020 8:38:00 PM	SL69645
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	6/15/2020 8:38:00 PM	SL69645
Surr: Dibromofluoromethane	100	70-130		%Rec	1	6/15/2020 8:38:00 PM	SL69645
Surr: Toluene-d8	100	70-130		%Rec	1	6/15/2020 8:38:00 PM	SL69645

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#: **2006680**

19-Jun-20

Client: ENSOLUM

Project: Lateral K-31 (2011)

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **LCSW** Batch ID: **SL69645** RunNo: **69645**

Prep Date: Analysis Date: **6/15/2020** SeqNo: **2419703** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		108	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.8	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	10		10.00		99.8	70	130			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **PBW** Batch ID: **SL69645** RunNo: **69645**

Prep Date: Analysis Date: **6/15/2020** SeqNo: **2419704** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.9	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Sample ID: **2006680-001ams** SampType: **MS** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **MW-9** Batch ID: **SL69645** RunNo: **69645**

Prep Date: Analysis Date: **6/15/2020** SeqNo: **2419706** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	20	1.0	20.00	0	99.7	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		111	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		99.9	70	130			
Surr: Dibromofluoromethane	10		10.00		103	70	130			
Surr: Toluene-d8	9.8		10.00		98.2	70	130			

Sample ID: **2006680-001amsd** SampType: **MSD** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **MW-9** Batch ID: **SL69645** RunNo: **69645**

Prep Date: Analysis Date: **6/15/2020** SeqNo: **2419707** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	103	70	130	1.48	20	
Toluene	20	1.0	20.00	0	101	70	130	0.939	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#: **2006680**
19-Jun-20

Client: ENSOLUM
Project: Lateral K-31 (2011)

Sample ID: **2006680-001amsd** SampType: **MSD** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-9** Batch ID: **SL69645** RunNo: **69645**
Prep Date: Analysis Date: **6/15/2020** SeqNo: **2419707** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	12		10.00		115	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		105	70	130	0	0	
Surr: Toluene-d8	9.9		10.00		99.2	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

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: **2006680** RcptNo: 1

Received By: **Emily Mocho** **6/12/2020 8:20:00 AM**

Completed By: **Emily Mocho** **6/12/2020 8:37:15 AM**

Reviewed By: mg / SDA 6.12.20 06/12/20

Chain of Custody

1. Is Chain of Custody 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: mg 06/12/20

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	4.0	Good	Not Present			

Chain-of-Custody Record

Client: Ensolum, LLC

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

Phone #: ↳ mgentry

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: Lateral K-31 (2011)

Project #: 05B12260O2

Project Manager: ↳ M. Gentry
~~K. Summers~~

Sampler: L. Daniell

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.9 + 0.1 = 4.0 (°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. 2006680	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)						
6/11/20	9:50	W	MW-9	3x40mL VOA	$HgCl_2$	-001	X															
6/11/20	10:20	W	MW-8	3x40mL VOA	$HgCl_2$	-002	X															
6/11/20	11:00	W	MW-5	3x40mL VOA	$HgCl_2$	-003	X															
6/11/20	11:50	W	MW-6	3x40mL VOA	$HgCl_2$	-004	X															
6/11/20	12:25	W	MW-7	3x40mL VOA	$HgCl_2$	-005	X															
6/11/20	12:55	W	MW-1	3x40mL VOA	$HgCl_2$	-006	X															
6/4/20	13:30	W	MW-4	3x40mL VOA	$HgCl_2$	-007	X															

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/11/20	1833		Chrystin Waller		6/11/2020	1833
6/11/2020	1904	Chrystin Waller		courier	6/12/20	8:20

Remarks:
Bill to Ensolum
PM Marc Gentry

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: clients.hallenvironmental.com

February 03, 2022

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

RE: Lateral K 31 OrderNo.: 2010B19

Dear M. Gentry:

Hall Environmental Analysis Laboratory received 6 sample(s) on 10/23/2020 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 30, 2020.

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. 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. All samples are reported as received unless otherwise indicated.

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 **2010B19**
Date Reported: **2/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Project: Lateral K 31
Lab ID: 2010B19-001 **Matrix:** SOIL

Client Sample ID: MW-10 6'-8'
Collection Date: 10/20/2020 9:50:00 AM
Received Date: 10/23/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	10/29/2020 3:01:06 AM	56084
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/26/2020 12:47:23 AM	56003
Surr: BFB	88.6	70-130		%Rec	1	10/26/2020 12:47:23 AM	56003
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.8		mg/Kg	1	10/26/2020 11:37:49 AM	56015
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	10/26/2020 11:37:49 AM	56015
Surr: DNOP	97.0	30.4-154		%Rec	1	10/26/2020 11:37:49 AM	56015
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	10/26/2020 12:47:23 AM	56003
Toluene	ND	0.050		mg/Kg	1	10/26/2020 12:47:23 AM	56003
Ethylbenzene	ND	0.050		mg/Kg	1	10/26/2020 12:47:23 AM	56003
Xylenes, Total	ND	0.10		mg/Kg	1	10/26/2020 12:47:23 AM	56003
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	10/26/2020 12:47:23 AM	56003
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	10/26/2020 12:47:23 AM	56003
Surr: Dibromofluoromethane	111	70-130		%Rec	1	10/26/2020 12:47:23 AM	56003
Surr: Toluene-d8	101	70-130		%Rec	1	10/26/2020 12:47:23 AM	56003

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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2010B19**
Date Reported: **2/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Project: Lateral K 31
Lab ID: 2010B19-002 **Matrix:** SOIL

Client Sample ID: MW-10 10'-12'
Collection Date: 10/20/2020 10:00:00 AM
Received Date: 10/23/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	10/29/2020 3:13:31 AM	56084
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **JMR**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/26/2020 11:58:37 AM	56003
Surr: BFB	86.4	70-130		%Rec	1	10/26/2020 11:58:37 AM	56003
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	8.9		mg/Kg	1	10/26/2020 12:01:12 PM	56015
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	10/26/2020 12:01:12 PM	56015
Surr: DNOP	98.0	30.4-154		%Rec	1	10/26/2020 12:01:12 PM	56015
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **JMR**	
Benzene	ND	0.025		mg/Kg	1	10/26/2020 11:58:37 AM	56003
Toluene	ND	0.050		mg/Kg	1	10/26/2020 11:58:37 AM	56003
Ethylbenzene	ND	0.050		mg/Kg	1	10/26/2020 11:58:37 AM	56003
Xylenes, Total	ND	0.10		mg/Kg	1	10/26/2020 11:58:37 AM	56003
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	10/26/2020 11:58:37 AM	56003
Surr: 4-Bromofluorobenzene	96.7	70-130		%Rec	1	10/26/2020 11:58:37 AM	56003
Surr: Dibromofluoromethane	116	70-130		%Rec	1	10/26/2020 11:58:37 AM	56003
Surr: Toluene-d8	101	70-130		%Rec	1	10/26/2020 11:58:37 AM	56003

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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2010B19**
Date Reported: **2/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-11 7'-9'
Project: Lateral K 31
Collection Date: 10/20/2020 11:20:00 AM
Lab ID: 2010B19-003 **Matrix:** SOIL **Received Date:** 10/23/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	59		mg/Kg	20	10/29/2020 3:25:55 AM	56084
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/26/2020 1:46:34 AM	56003
Surr: BFB	86.5	70-130		%Rec	1	10/26/2020 1:46:34 AM	56003
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	8.7		mg/Kg	1	10/26/2020 12:24:33 PM	56015
Motor Oil Range Organics (MRO)	ND	43		mg/Kg	1	10/26/2020 12:24:33 PM	56015
Surr: DNOP	101	30.4-154		%Rec	1	10/26/2020 12:24:33 PM	56015
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	10/26/2020 1:46:34 AM	56003
Toluene	ND	0.050		mg/Kg	1	10/26/2020 1:46:34 AM	56003
Ethylbenzene	ND	0.050		mg/Kg	1	10/26/2020 1:46:34 AM	56003
Xylenes, Total	ND	0.099		mg/Kg	1	10/26/2020 1:46:34 AM	56003
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	10/26/2020 1:46:34 AM	56003
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	10/26/2020 1:46:34 AM	56003
Surr: Dibromofluoromethane	114	70-130		%Rec	1	10/26/2020 1:46:34 AM	56003
Surr: Toluene-d8	104	70-130		%Rec	1	10/26/2020 1:46:34 AM	56003

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	Estimated value
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 interference		

Analytical Report
Lab Order **2010B19**
Date Reported: **2/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Project: Lateral K 31
Lab ID: 2010B19-004 **Matrix:** SOIL

Client Sample ID: MW-11 13'-15'
Collection Date: 10/20/2020 11:30:00 AM
Received Date: 10/23/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	ND	60		mg/Kg	20	10/29/2020 3:38:20 AM	56084
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	10/24/2020 5:40:31 PM	56011
Surr: BFB	91.5	70-130		%Rec	1	10/24/2020 5:40:31 PM	56011
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.5		mg/Kg	1	10/26/2020 12:48:12 PM	56015
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/26/2020 12:48:12 PM	56015
Surr: DNOP	102	30.4-154		%Rec	1	10/26/2020 12:48:12 PM	56015
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	10/24/2020 5:40:31 PM	56011
Toluene	ND	0.050		mg/Kg	1	10/24/2020 5:40:31 PM	56011
Ethylbenzene	ND	0.050		mg/Kg	1	10/24/2020 5:40:31 PM	56011
Xylenes, Total	ND	0.10		mg/Kg	1	10/24/2020 5:40:31 PM	56011
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	10/24/2020 5:40:31 PM	56011
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	10/24/2020 5:40:31 PM	56011
Surr: Dibromofluoromethane	107	70-130		%Rec	1	10/24/2020 5:40:31 PM	56011
Surr: Toluene-d8	105	70-130		%Rec	1	10/24/2020 5:40:31 PM	56011

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	Estimated value
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 interference		

Analytical Report
Lab Order **2010B19**
Date Reported: **2/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-2R 11'-13'
Project: Lateral K 31
Collection Date: 10/20/2020 1:40:00 PM
Lab ID: 2010B19-005 **Matrix:** SOIL **Received Date:** 10/23/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	120	60		mg/Kg	20	10/29/2020 3:50:44 AM	56084
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	97	5.0		mg/Kg	1	10/24/2020 3:11:12 PM	56011
Surr: BFB	106	70-130		%Rec	1	10/24/2020 3:11:12 PM	56011
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	78	10		mg/Kg	1	10/26/2020 1:11:46 PM	56015
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	10/26/2020 1:11:46 PM	56015
Surr: DNOP	101	30.4-154		%Rec	1	10/26/2020 1:11:46 PM	56015
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	0.12	0.025		mg/Kg	1	10/24/2020 3:11:12 PM	56011
Toluene	ND	0.050		mg/Kg	1	10/24/2020 3:11:12 PM	56011
Ethylbenzene	0.69	0.050		mg/Kg	1	10/24/2020 3:11:12 PM	56011
Xylenes, Total	4.2	0.10		mg/Kg	1	10/24/2020 3:11:12 PM	56011
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	10/24/2020 3:11:12 PM	56011
Surr: 4-Bromofluorobenzene	123	70-130		%Rec	1	10/24/2020 3:11:12 PM	56011
Surr: Dibromofluoromethane	112	70-130		%Rec	1	10/24/2020 3:11:12 PM	56011
Surr: Toluene-d8	104	70-130		%Rec	1	10/24/2020 3:11:12 PM	56011

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	Estimated value
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 interference		

Analytical Report
Lab Order **2010B19**
Date Reported: **2/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-2R 15'-17'
Project: Lateral K 31
Collection Date: 10/20/2020 1:50:00 PM
Lab ID: 2010B19-006 **Matrix:** SOIL **Received Date:** 10/23/2020 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **CAS**	
Chloride	70	60		mg/Kg	20	10/29/2020 10:28:38 AM	56097
EPA METHOD 8015D MOD: GASOLINE RANGE						Analyst: **DJF**	
Gasoline Range Organics (GRO)	7.9	5.0		mg/Kg	1	10/24/2020 6:11:21 PM	56011
Surr: BFB	94.9	70-130		%Rec	1	10/24/2020 6:11:21 PM	56011
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	10/26/2020 1:35:26 PM	56015
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	10/26/2020 1:35:26 PM	56015
Surr: DNOP	101	30.4-154		%Rec	1	10/26/2020 1:35:26 PM	56015
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	0.025		mg/Kg	1	10/24/2020 6:11:21 PM	56011
Toluene	ND	0.050		mg/Kg	1	10/24/2020 6:11:21 PM	56011
Ethylbenzene	ND	0.050		mg/Kg	1	10/24/2020 6:11:21 PM	56011
Xylenes, Total	0.25	0.099		mg/Kg	1	10/24/2020 6:11:21 PM	56011
Surr: 1,2-Dichloroethane-d4	106	70-130		%Rec	1	10/24/2020 6:11:21 PM	56011
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	10/24/2020 6:11:21 PM	56011
Surr: Dibromofluoromethane	114	70-130		%Rec	1	10/24/2020 6:11:21 PM	56011
Surr: Toluene-d8	107	70-130		%Rec	1	10/24/2020 6:11:21 PM	56011

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	Estimated value
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 interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2010B19**

03-Feb-22

Client: ENSOLUM

Project: Lateral K 31

Sample ID: **MB-56084** SampType: **MBLK** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **56084** RunNo: **72997**

Prep Date: **10/28/2020** Analysis Date: **10/28/2020** SeqNo: **2566348** Units: **mg/Kg**

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

Sample ID: **LCS-56084** SampType: **LCS** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **56084** RunNo: **72997**

Prep Date: **10/28/2020** Analysis Date: **10/28/2020** SeqNo: **2566349** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.6	90	110			

Sample ID: **MB-56097** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**

Client ID: **PBS** Batch ID: **56097** RunNo: **73010**

Prep Date: **10/29/2020** Analysis Date: **10/29/2020** SeqNo: **2567071** Units: **mg/Kg**

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

Sample ID: **LCS-56097** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**

Client ID: **LCSS** Batch ID: **56097** RunNo: **73010**

Prep Date: **10/29/2020** Analysis Date: **10/29/2020** SeqNo: **2567073** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	92.4	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010B19**
03-Feb-22

Client: ENSOLUM
Project: Lateral K 31

Sample ID: **MB-56015**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **56015**	RunNo: **72918**
Prep Date: **10/24/2020**	Analysis Date: **10/26/2020**	SeqNo: **2563417** 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	30.4	154			

Sample ID: **LCS-56015**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **56015**	RunNo: **72918**
Prep Date: **10/24/2020**	Analysis Date: **10/26/2020**	SeqNo: **2563418** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43	10	50.00	0	86.5	70	130			
Surr: DNOP	4.8		5.000		95.4	30.4	154			

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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010B19**
03-Feb-22

Client: ENSOLUM
Project: Lateral K 31

Sample ID: **mb-56011** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **56011** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/24/2020** SeqNo: **2562545** 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: 1,2-Dichloroethane-d4	0.52		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		104	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		109	70	130			
Surr: Toluene-d8	0.54		0.5000		108	70	130			

Sample ID: **lcs-56011** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **56011** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/24/2020** SeqNo: **2562546** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.95	0.025	1.000	0	94.6	80	120			
Toluene	1.1	0.050	1.000	0	111	80	120			
Ethylbenzene	1.2	0.050	1.000	0	115	80	120			
Xylenes, Total	3.3	0.10	3.000	0	110	80	120			
Surr: 1,2-Dichloroethane-d4	0.52		0.5000		104	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.5000		105	70	130			
Surr: Dibromofluoromethane	0.54		0.5000		108	70	130			
Surr: Toluene-d8	0.55		0.5000		109	70	130			

Sample ID: **2010b19-004ams** SampType: **MS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **MW-11 13'-15'** Batch ID: **56011** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/24/2020** SeqNo: **2562548** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	0.9852	0	98.2	71.1	115			
Toluene	1.1	0.049	0.9852	0	112	79.6	132			
Ethylbenzene	1.1	0.049	0.9852	0	115	83.8	134			
Xylenes, Total	3.3	0.099	2.956	0	111	82.4	132			
Surr: 1,2-Dichloroethane-d4	0.48		0.4926		97.8	70	130			
Surr: 4-Bromofluorobenzene	0.52		0.4926		105	70	130			
Surr: Dibromofluoromethane	0.52		0.4926		106	70	130			
Surr: Toluene-d8	0.50		0.4926		102	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010B19**
03-Feb-22

Client: ENSOLUM
Project: Lateral K 31

Sample ID: **2010b19-004amsd** SampType: **MSD4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **MW-11 13'-15'** Batch ID: **56011** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/25/2020** SeqNo: **2562549** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.025	0.9872	0	98.8	71.1	115	0.793	20	
Toluene	1.1	0.049	0.9872	0	110	79.6	132	1.32	20	
Ethylbenzene	1.1	0.049	0.9872	0	114	83.8	134	0.447	20	
Xylenes, Total	3.2	0.099	2.962	0	110	82.4	132	1.24	20	
Surr: 1,2-Dichloroethane-d4	0.49		0.4936		100	70	130	0	0	
Surr: 4-Bromofluorobenzene	0.52		0.4936		104	70	130	0	0	
Surr: Dibromofluoromethane	0.52		0.4936		106	70	130	0	0	
Surr: Toluene-d8	0.50		0.4936		101	70	130	0	0	

Sample ID: **mb-56003** SampType: **MBLK** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBS** Batch ID: **56003** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/25/2020** SeqNo: **2562554** 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: 1,2-Dichloroethane-d4	0.50		0.5000		99.1	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		101	70	130			
Surr: Dibromofluoromethane	0.52		0.5000		105	70	130			
Surr: Toluene-d8	0.51		0.5000		102	70	130			

Sample ID: **lcs-56003** SampType: **LCS4** TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **BatchQC** Batch ID: **56003** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/25/2020** SeqNo: **2562555** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.92	0.025	1.000	0	92.4	80	120			
Toluene	1.0	0.050	1.000	0	103	80	120			
Ethylbenzene	1.1	0.050	1.000	0	105	80	120			
Xylenes, Total	3.1	0.10	3.000	0	103	80	120			
Surr: 1,2-Dichloroethane-d4	0.51		0.5000		103	70	130			
Surr: 4-Bromofluorobenzene	0.50		0.5000		99.9	70	130			
Surr: Dibromofluoromethane	0.55		0.5000		110	70	130			
Surr: Toluene-d8	0.51		0.5000		102	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010B19**
03-Feb-22

Client: ENSOLUM
Project: Lateral K 31

Sample ID: **mb-56011** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **56011** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/24/2020** SeqNo: **2562573** 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	450		500.0		90.8	70	130			

Sample ID: **lcs-56011** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **56011** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/24/2020** SeqNo: **2562574** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	23	5.0	25.00	0	93.3	70	130			
Surr: BFB	460		500.0		91.2	70	130			

Sample ID: **2010b19-005ams** SampType: **MS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **MW-2R 11'-13'** Batch ID: **56011** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/25/2020** SeqNo: **2562579** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	140	4.9	48.54	96.57	91.9	49.2	122			
Surr: BFB	540		485.4		111	70	130			

Sample ID: **2010b19-005amsd** SampType: **MSD** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **MW-2R 11'-13'** Batch ID: **56011** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/25/2020** SeqNo: **2562580** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	110	4.9	24.61	96.57	57.7	49.2	122	24.1	20	R
Surr: BFB	500		492.1		102	70	130	0	0	

Sample ID: **mb-56003** SampType: **MBLK** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **PBS** Batch ID: **56003** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/25/2020** SeqNo: **2562591** 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	450		500.0		89.3	70	130			

Sample ID: **lcs-56003** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **56003** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/25/2020** SeqNo: **2562592** Units: **mg/Kg**

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

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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2010B19**
03-Feb-22

Client: ENSOLUM
Project: Lateral K 31

Sample ID: **lcs-56003** SampType: **LCS** TestCode: **EPA Method 8015D Mod: Gasoline Range**
Client ID: **LCSS** Batch ID: **56003** RunNo: **72903**
Prep Date: **10/23/2020** Analysis Date: **10/25/2020** SeqNo: **2562592** 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	87.4	70	130			
Surr: BFB	440		500.0		88.5	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **ENSOLUM** Work Order Number: **2010B19** RcptNo: **1**

Received By: **Sean Livingston** **10/23/2020 8:05:00 AM** Sean Livingston

Completed By: **Desiree Dominguez** **10/23/2020 9:29:33 AM** DD

Reviewed By: JR 10/23/20

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 10.23.20

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	0.5	Good	Yes			

Chain-of-Custody Record

Client: Enduring LLC

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

Phone #: -

email or Fax#: mgentry@enduring.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:
☐ Standard ☐ **Rush**_____

Project Name: Lateral K-31

Project #: 05B12726602

Project Manager: M. Gentry

Sampler: L. Daniell

On Ice: ☐ Yes ☐ No

# of Coolers:

Cooler Temp(including CF): (°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.	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)						
10/20/22	9:30	S	MW-10 (6-8')	4oz jar			X	X					X									
10/20/22	10:00	S	MW-10 (10-12')	4oz jar			X	X					X									
10/20/22	11:20	S	MW-11 (7-9')	4oz jar			X	X					X									
10/20/22	11:30	S	MW-11 (12-15')	4oz jar			X	X					X									
10/20/22	3:00	S	MW-21 (11-13')	4oz jar			X	X					X									
10/20/22	3:50	S	MW-21 (15-17')	4oz jar			X	X					X									
10/21/22	9:50	S	MW-21 (32-34')	4oz jar			X	X					X									
10/21/22	10:20	S	MW-71 (32-34')	4oz jar			X	X					X									

SD
B
LD
R

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/21/22	1555		Rh Wat		10/21/22	1555
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: Bill To Enduring

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 #: ~~50~~

email or Fax#: mgentry@ensolum.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Lateral K-31

Project #: 05B1226002

Project Manager: M. Gentry

Sampler: L. Daniell

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.5+0=0.5 (°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. 2010B19	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 Chlorides	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)
10/20/20	9:50	S	MW-10 (6-8')	1 4oz jar	cool	-001	X	X					X			
10/20/20	10:00	S	MW-10 (10-12')	1 4oz jar	cool	-002	X	X					X			
10/20/20	11:20	S	MW-11 (7-9')	1 4oz jar	cool	-003	X	X					X			
10/20/20	11:30	S	MW-11 (13-15')	1 4oz jar	cool	-004	X	X					X			
10/20/20	13:40	S	MW-2 (11-13')	1 4oz jar	cool	-005	X	X					X			
10/20/20	13:50	S	MW-2 (15-17')	1 4oz jar	cool	-006	X	X					X			
~~10/21/20~~	~~15:50~~	~~S~~	~~MW-21 (12-14')~~	~~1 4oz jar~~	~~cool~~		~~X~~	~~X~~					~~X~~	~~X~~	~~X~~	~~X~~
~~10/21/20~~	~~16:00~~	~~S~~	~~MW-21 (32-34')~~	~~1 4oz jar~~	~~cool~~		~~X~~	~~X~~					~~X~~	~~X~~	~~X~~	~~X~~

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/21/20	18:55				10/21/2020	1855
10/22/2020	1811	Christen Waller	GL Courier		10/23/20	8:05

Remarks:
Bill To Ensolum

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: clients.hallenvironmental.com

February 03, 2022

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

RE: Lateral K-31 2011 OrderNo.: 2012661

Dear M. Gentry:

Hall Environmental Analysis Laboratory received 10 sample(s) on 12/12/2020 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 30, 2020.

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. 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. All samples are reported as received unless otherwise indicated.

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: **2012661**
Date Reported: **2/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Lab Order:** 2012661
Project: Lateral K-31 2011

Lab ID: 2012661-001 **Collection Date:** 12/10/2020 9:35:00 AM
Client Sample ID: MW-7 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/18/2020 11:14:55 PM	B74128
Toluene	ND	1.0		µg/L	1	12/18/2020 11:14:55 PM	B74128
Ethylbenzene	ND	1.0		µg/L	1	12/18/2020 11:14:55 PM	B74128
Xylenes, Total	ND	1.5		µg/L	1	12/18/2020 11:14:55 PM	B74128
Surr: 1,2-Dichloroethane-d4	90.8	70-130		%Rec	1	12/18/2020 11:14:55 PM	B74128
Surr: Dibromofluoromethane	112	70-130		%Rec	1	12/18/2020 11:14:55 PM	B74128
Surr: Toluene-d8	91.9	70-130		%Rec	1	12/18/2020 11:14:55 PM	B74128

Lab ID: 2012661-002 **Collection Date:** 12/10/2020 10:20:00 AM
Client Sample ID: MW-6 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/19/2020 12:35:53 AM	B74128
Toluene	ND	1.0		µg/L	1	12/19/2020 12:35:53 AM	B74128
Ethylbenzene	ND	1.0		µg/L	1	12/19/2020 12:35:53 AM	B74128
Xylenes, Total	ND	1.5		µg/L	1	12/19/2020 12:35:53 AM	B74128
Surr: 1,2-Dichloroethane-d4	92.9	70-130		%Rec	1	12/19/2020 12:35:53 AM	B74128
Surr: Dibromofluoromethane	114	70-130		%Rec	1	12/19/2020 12:35:53 AM	B74128
Surr: Toluene-d8	91.1	70-130		%Rec	1	12/19/2020 12:35:53 AM	B74128

Lab ID: 2012661-003 **Collection Date:** 12/10/2020 11:10:00 AM
Client Sample ID: MW-9 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/19/2020 1:02:47 AM	B74128
Toluene	ND	1.0		µg/L	1	12/19/2020 1:02:47 AM	B74128
Ethylbenzene	ND	1.0		µg/L	1	12/19/2020 1:02:47 AM	B74128
Xylenes, Total	ND	1.5		µg/L	1	12/19/2020 1:02:47 AM	B74128
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%Rec	1	12/19/2020 1:02:47 AM	B74128
Surr: Dibromofluoromethane	115	70-130		%Rec	1	12/19/2020 1:02:47 AM	B74128
Surr: Toluene-d8	91.6	70-130		%Rec	1	12/19/2020 1:02:47 AM	B74128

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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order: **2012661**
Date Reported: **2/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Lab Order:** 2012661
Project: Lateral K-31 2011

Lab ID: 2012661-004 **Collection Date:** 12/10/2020 11:45:00 AM
Client Sample ID: MW-8 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/19/2020 1:29:43 AM	B74128
Toluene	ND	1.0		µg/L	1	12/19/2020 1:29:43 AM	B74128
Ethylbenzene	3.1	1.0		µg/L	1	12/19/2020 1:29:43 AM	B74128
Xylenes, Total	ND	1.5		µg/L	1	12/19/2020 1:29:43 AM	B74128
Surr: 1,2-Dichloroethane-d4	91.1	70-130		%Rec	1	12/19/2020 1:29:43 AM	B74128
Surr: Dibromofluoromethane	114	70-130		%Rec	1	12/19/2020 1:29:43 AM	B74128
Surr: Toluene-d8	90.5	70-130		%Rec	1	12/19/2020 1:29:43 AM	B74128

Lab ID: 2012661-005 **Collection Date:** 12/10/2020 12:20:00 PM
Client Sample ID: MW-10 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/19/2020 1:56:40 AM	B74128
Toluene	ND	1.0		µg/L	1	12/19/2020 1:56:40 AM	B74128
Ethylbenzene	ND	1.0		µg/L	1	12/19/2020 1:56:40 AM	B74128
Xylenes, Total	ND	1.5		µg/L	1	12/19/2020 1:56:40 AM	B74128
Surr: 1,2-Dichloroethane-d4	93.1	70-130		%Rec	1	12/19/2020 1:56:40 AM	B74128
Surr: Dibromofluoromethane	115	70-130		%Rec	1	12/19/2020 1:56:40 AM	B74128
Surr: Toluene-d8	91.3	70-130		%Rec	1	12/19/2020 1:56:40 AM	B74128

Lab ID: 2012661-006 **Collection Date:** 12/10/2020 1:00:00 PM
Client Sample ID: MW-5 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/19/2020 2:23:35 AM	B74128
Toluene	ND	1.0		µg/L	1	12/19/2020 2:23:35 AM	B74128
Ethylbenzene	ND	1.0		µg/L	1	12/19/2020 2:23:35 AM	B74128
Xylenes, Total	ND	1.5		µg/L	1	12/19/2020 2:23:35 AM	B74128
Surr: 1,2-Dichloroethane-d4	93.3	70-130		%Rec	1	12/19/2020 2:23:35 AM	B74128
Surr: Dibromofluoromethane	114	70-130		%Rec	1	12/19/2020 2:23:35 AM	B74128
Surr: Toluene-d8	90.2	70-130		%Rec	1	12/19/2020 2:23:35 AM	B74128

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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order: **2012661**
Date Reported: **2/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Lab Order:** 2012661
Project: Lateral K-31 2011

Lab ID: 2012661-007 **Collection Date:** 12/10/2020 1:35:00 PM
Client Sample ID: MW-11 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/19/2020 2:50:28 AM	B74128
Toluene	ND	1.0		µg/L	1	12/19/2020 2:50:28 AM	B74128
Ethylbenzene	ND	1.0		µg/L	1	12/19/2020 2:50:28 AM	B74128
Xylenes, Total	ND	1.5		µg/L	1	12/19/2020 2:50:28 AM	B74128
Surr: 1,2-Dichloroethane-d4	92.1	70-130		%Rec	1	12/19/2020 2:50:28 AM	B74128
Surr: Dibromofluoromethane	117	70-130		%Rec	1	12/19/2020 2:50:28 AM	B74128
Surr: Toluene-d8	91.8	70-130		%Rec	1	12/19/2020 2:50:28 AM	B74128

Lab ID: 2012661-008 **Collection Date:** 12/10/2020 2:15:00 PM
Client Sample ID: MW-4 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/19/2020 3:17:22 AM	B74128
Toluene	ND	1.0		µg/L	1	12/19/2020 3:17:22 AM	B74128
Ethylbenzene	ND	1.0		µg/L	1	12/19/2020 3:17:22 AM	B74128
Xylenes, Total	ND	1.5		µg/L	1	12/19/2020 3:17:22 AM	B74128
Surr: 1,2-Dichloroethane-d4	92.2	70-130		%Rec	1	12/19/2020 3:17:22 AM	B74128
Surr: Dibromofluoromethane	114	70-130		%Rec	1	12/19/2020 3:17:22 AM	B74128
Surr: Toluene-d8	91.5	70-130		%Rec	1	12/19/2020 3:17:22 AM	B74128

Lab ID: 2012661-009 **Collection Date:** 12/10/2020 3:00:00 PM
Client Sample ID: MW-2R **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	2.1	1.0		µg/L	1	12/19/2020 3:44:17 AM	B74128
Toluene	ND	1.0		µg/L	1	12/19/2020 3:44:17 AM	B74128
Ethylbenzene	1.2	1.0		µg/L	1	12/19/2020 3:44:17 AM	B74128
Xylenes, Total	2.4	1.5		µg/L	1	12/19/2020 3:44:17 AM	B74128
Surr: 1,2-Dichloroethane-d4	93.9	70-130		%Rec	1	12/19/2020 3:44:17 AM	B74128
Surr: Dibromofluoromethane	114	70-130		%Rec	1	12/19/2020 3:44:17 AM	B74128
Surr: Toluene-d8	91.2	70-130		%Rec	1	12/19/2020 3:44:17 AM	B74128

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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order: **2012661**
Date Reported: **2/3/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM **Lab Order:** 2012661
Project: Lateral K-31 2011

Lab ID: 2012661-010 **Collection Date:** 12/10/2020 3:25:00 PM
Client Sample ID: MW-1 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	12/19/2020 4:11:11 AM	B74128
Toluene	ND	1.0		µg/L	1	12/19/2020 4:11:11 AM	B74128
Ethylbenzene	ND	1.0		µg/L	1	12/19/2020 4:11:11 AM	B74128
Xylenes, Total	ND	1.5		µg/L	1	12/19/2020 4:11:11 AM	B74128
Surr: 1,2-Dichloroethane-d4	92.5	70-130		%Rec	1	12/19/2020 4:11:11 AM	B74128
Surr: Dibromofluoromethane	115	70-130		%Rec	1	12/19/2020 4:11:11 AM	B74128
Surr: Toluene-d8	89.8	70-130		%Rec	1	12/19/2020 4:11:11 AM	B74128

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	Estimated value
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 interference		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012661**
03-Feb-22

Client: ENSOLUM
Project: Lateral K-31 2011

Sample ID: **mb2** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **B74128** RunNo: **74128**
Prep Date: Analysis Date: **12/18/2020** SeqNo: **2615781** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.2		10.00		92.0	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.5	70	130			
Surr: Dibromofluoromethane	11		10.00		114	70	130			
Surr: Toluene-d8	9.0		10.00		89.7	70	130			

Sample ID: **100ng lcs2** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **B74128** RunNo: **74128**
Prep Date: Analysis Date: **12/18/2020** SeqNo: **2615782** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	19	1.0	20.00	0	95.9	70	130			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	11		10.00		109	70	130			
Surr: Toluene-d8	9.1		10.00		90.7	70	130			

Sample ID: **2012661-001a ms** SampType: **MS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-7** Batch ID: **B74128** RunNo: **74128**
Prep Date: Analysis Date: **12/18/2020** SeqNo: **2615784** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130			
Toluene	19	1.0	20.00	0	95.8	70	130			
Surr: 1,2-Dichloroethane-d4	8.9		10.00		88.6	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		96.1	70	130			
Surr: Dibromofluoromethane	11		10.00		112	70	130			
Surr: Toluene-d8	9.0		10.00		90.0	70	130			

Sample ID: **2012661-001a msd** SampType: **MSD** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-7** Batch ID: **B74128** RunNo: **74128**
Prep Date: Analysis Date: **12/19/2020** SeqNo: **2615785** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	110	70	130	0.588	20	
Toluene	19	1.0	20.00	0	96.2	70	130	0.363	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2012661**
03-Feb-22

Client: ENSOLUM
Project: Lateral K-31 2011

Sample ID: **2012661-001a msd** SampType: **MSD** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **MW-7** Batch ID: **B74128** RunNo: **74128**
Prep Date: Analysis Date: **12/19/2020** SeqNo: **2615785** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.1		10.00		91.3	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.6		10.00		96.3	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		111	70	130	0	0	
Surr: Toluene-d8	8.9		10.00		89.4	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 interference
B	Analyte detected in the associated Method Blank
E	Estimated value
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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **ENSOLUM** Work Order Number: **2012661** RcptNo: 1

Received By: **Isaiah Ortiz** **12/12/2020 9:45:00 AM** I-OK

Completed By: **Emily Mocho** **12/14/2020 8:26:30 AM**

Reviewed By: SGL 12/14/20

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: JR 12/14/20

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	3.1	Good	Yes			

Chain-of-Custody Record

Client: Ensolum, LLC

Mailing Address: 606 S. Rio Grande Suite A

Phone #:

email or Fax#: mgentry@ensolum.com

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other_____

☐ EDD (Type) _____

Turn-Around Time:

☐ Standard ☐ **Rush**_____

Project Name: Lateral K-31 (2011)

Project #: 05B1226002

Project Manager: M. Gentry

Sampler: L. Daniell

On Ice: ☐ Yes ☐ No

# of Coolers:

Cooler Temp(including CF): (°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.	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)						
12/10/20	9:35	W	MW-7	3x40mL VOA	H_2Cl_2		X															
12/10/20	10:20	W	MW-6	3x40mL VOA	H_2Cl_2		X															
12/10/20	11:10	W	MW-9	3x40mL VOA	H_2Cl_2		X															
12/10/20	11:45	W	MW-8	3x40mL VOA	H_2Cl_2		X															
12/10/20	12:20	W	MW-10	3x40mL VOA	H_2Cl_2		X															
12/10/20	13:00	W	MW-5	3x40mL VOA	H_2Cl_2		X															
12/10/20	13:35	W	MW-11	3x40mL VOA	H_2Cl_2		X															
12/10/20	14:15	W	MW-4	3x40mL VOA	H_2Cl_2		X															
12/10/20	15:00	W	MW-2 (D R)	3x40mL VOA	H_2Cl_2		X															
12/10/20	15:25	W	MW-1	3x40mL VOA	H_2Cl_2		X															

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
12/10/20	1427				12/11/2020	1422
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: Bill to Ensolum

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: 6120 S. Rio Grande Suite A

Phone #:

email or Fax#: mgentry@ensolum.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: Lateral K-31 (2011)

Project #: 05B1226002

Project Manager: M. Gentry

Sampler: L. Daniell

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 3.1 °C ± 0 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2012661	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)
12/10/20	9:35	W	MW-7	3x40mL VOA	$HgCl_2$	001	X									
12/10/20	10:20	W	MW-6	3x40mL VOA	$HgCl_2$	002	X									
12/10/20	11:10	W	MW-9	3x40mL VOA	$HgCl_2$	003	X									
12/10/20	11:45	W	MW-8	3x40mL VOA	$HgCl_2$	004	X									
12/10/20	12:20	W	MW-10	3x40mL VOA	$HgCl_2$	005	X									
12/10/20	13:00	W	MW-5	3x40mL VOA	$HgCl_2$	006	X									
12/10/20	13:35	W	MW-11	3x40mL VOA	$HgCl_2$	007	X									
12/10/20	14:15	W	MW-4	3x40mL VOA	$HgCl_2$	008	X									
12/10/20	15:00	W	MW-2	3x40mL VOA	$HgCl_2$	009	X									
12/10/20	15:25	W	MW-1	3x40mL VOA	$HgCl_2$	010	X									

Analysis Request

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
12/11/20	1422				12/11/2020	1422
12/11/20	1816			courier	12/12/20	0945

Remarks: Bill to Ensolum

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 F

New Mexico Office of the State Engineer Permit Approval

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER
AZTEC

Tom Blaine, P.E.
State Engineer

100 Gossett Drive, Suite A
Aztec, New Mexico 87410

August 7, 2018

Thomas Long
Enterprise Products
614 Reily Avenue
Farmington, NM 87401

RE: Permit Approval for Monitoring Wells, SJ-4311 POD1-POD11; Enterprise Products; Lateral K31 Pipeline Release Investigation; Rural Rio Arriba County, New Mexico

Dear Mr. Long:

On July 31, 2018, the New Mexico Office of the State Engineer received an application for a permit for the use of nine existing and two proposed new monitoring wells at the above referenced location. Enclosed is a copy of the above numbered permit that has been approved subject to the conditions set forth on the approval page and in the attached Conditions of Approval. A receipt for the fees paid is also attached.

Please be aware that there are deadlines to submit well records for the newly installed monitoring wells. These deadlines can be found in the attached Conditions of Approval. A standardized plugging method has also been included in the Conditions of Approval for the future abandonment of the wells covered by this permit. This eliminates the need to submit a separate Well Plugging Plan of Operations for approval by the NMOSE prior to plugging, unless an alternate plugging method is proposed, required by a separate oversight agency, necessary due to incompatibility with actual conditions, or artesian conditions are encountered. The well and plugging records should be sent to the NMOSE District V, 100 Gossett Drive, Suite A, Aztec, NM, 87410.

If you have any questions regarding this permitting action, please feel free to contact me at (505) 334-4751.

Sincerely,

Blaine Watson
District Manager
Water Rights Division – District V

Enclosures

cc: Aztec Reading (w/o enclosures)
SJ-4311 File
WATERS
Kyle Summers, APEX Titan, Inc., via e-mail
Brandon Powell, NMOCD District 3,via e-mail

OFFICE OF THE STATE ENGINEER/INTERSTATE STREAM COMMISSION – AZTEC OFFICE

OFFICIAL RECEIPT NUMBER: 5 - **6173** DATE: 7/31/2018 FILE NO.: TBD

TOTAL: 55.00 RECEIVED: Fifty five + no/100 DOLLARS ☐ CASH: ☑ CHECK NO.: 1437

PAYOR: K. & P. Summers ADDRESS: 791 Rd. 3000

CITY: Aztec STATE: NM ZIP: 87410 RECEIVED BY: B. Watson

INSTRUCTIONS: Indicate the number of actions to the left of the appropriate type of filing. Complete the receipt information. **Original** to payor; **pink** copy to Program Support/ASD; **yellow** copy remains in district office; and **goldenrod** copy to accompany application being filed. If a mistake is made, void the original and all copies and submit to Program Support/ASD as part of the daily deposit.

A. Ground Water Filing Fees

___	1. Change of Ownership of Water Right	$ 2.00
___	2. Application to Appropriate or Supplement Domestic 72-12-1 Well	$ 125.00
___	3. Application to Repair or Deepen 72-12-1 Well	$ 75.00
___	4. Application for Replacement 72-12-1 Well	$ 75.00
___	5. Application to Change Purpose of Use 72-12-1 Well	$ 75.00
___	6. Application for Stock Well/Temp. Use	$ 5.00
___	7. Application to Appropriate Irrigation, Municipal, or Commercial Use	$ 25.00
___	8. Declaration of Water Right	$ 1.00
___	9. Application for Supplemental Non 72-12-1 Well	$ 25.00
___	10. Application to Change Place or Purpose of Use Non 72-12-1 Well	$ 25.00
___	11. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Ground Water	$ 50.00
___	12. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Ground Water	$ 50.00
___	13. Application to Change Point of Diversion of Non 72-12-1 Well	$ 25.00
___	14. Application to Repair or Deepen Non 72-12-1 Well	$ 5.00
(11)	15. Application for Test, Expl. Observ. Well	$ 5.00
___	16. Application for Extension of Time	$ 25.00
___	17. Proof of Application to Beneficial Use	$ 25.00
___	18. Notice of Intent to Appropriate	$ 25.00

B. Surface Water Filing Fees

___	1. Change of Ownership of a Water Right	$ 5.00
___	2. Declaration of Water Right	$ 10.00
___	3. Amended Declaration	$ 25.00
___	4. Application to Change Point of Diversion and Place and/or Purpose of Use from Surface Water to Surface Water	$ 200.00
___	5. Application to Change Point of Diversion and Place and/or Purpose of Use from Ground Water to Surface Water	$ 200.00
___	6. Application to Change Point of Diversion	$ 100.00
___	7. Application to Change Place and/or Purpose of Use	$ 100.00
___	8. Application to Appropriate	$ 25.00
___	9. Notice of Intent to Appropriate	$ 25.00
___	10. Application for Extension of Time	$ 50.00
___	11. Supplemental Well to a Surface Right	$ 100.00
___	12. Return Flow Credit	$ 100.00
___	13. Proof of Completion of Works	$ 25.00
___	14. Proof of Application of Water to Beneficial Use	$ 25.00
___	15. Water Development Plan	$ 100.00
___	16. Declaration of Livestock Water Impoundment	$ 10.00
___	17. Application for Livestock Water Impoundment	$ 10.00

C. Well Driller Fees

___	1. Application for Well Driller's License	$ 50.00
___	2. Application for Renewal of Well Driller's License	$ 50.00

D. Reproduction of Documents

___ @ 25¢/copy $_____

___ Map(s) $_____

E. Certification $_____

F. *Credit Card Convenience Fee $_____

G. Other_____ $_____

Comments:

Existing wells MW1 - MW9

Proposed wells MW-10 + MW-11

All fees are non-refundable.

File No. SJ-4311 POD1-POD11

NEW MEXICO OFFICE OF THE STATE ENGINEER

WR-07 APPLICATION FOR PERMIT TO DRILL

A WELL WITH NO WATER RIGHT

(check applicable box):

For fees, see State Engineer website: http://www.ose.state.nm.us/

Purpose:	☐ Pollution Control And/Or Recovery	☐ Ground Source Heat Pump
☐ Exploratory Well (Pump test)	☐ Construction Site/Public Works Dewatering	☐ Other(Describe):
☒ Monitoring Well	☐ Mine Dewatering	

A separate permit will be required to apply water to beneficial use regardless if use is consumptive or nonconsumptive.

☒ Temporary Request - Requested Start Date: 8/1/18 Requested End Date: Unkown

Plugging Plan of Operations Submitted? ☐ Yes ☒ No

1. APPLICANT(S)

Name: Enterprise Products	Name: Apex Titan, Inc.
Contact or Agent: check here if Agent ☐ Thomas Long	Contact or Agent: check here if Agent ☒ Kyle Summers
Mailing Address: 614 Reilly Ave.	Mailing Address: 606 South Rio Grande, Suite A
City: Farmington	City: Aztec
State: New Mexico Zip Code: 87401	State: New Mexico Zip Code: 87410
Phone: 505-215-4727 ☐ Home ☒ Cell Phone (Work):	Phone: 903-821-5603 ☐ Home ☒ Cell Phone (Work):
E-mail (optional): tjlong@eprod.com	E-mail (optional): ksummers@apexcos.com

FOR OSE INTERNAL USE Application for Permit, Form WR-07, Rev 11/17/16

File No.: SJ-4311 POD1-POD11	Trn. No.:	Receipt No.: 5-6173
Trans Description (optional):		
Sub-Basin:	PCW/LOG Due Date: July 7, 2019	

2. **WELL(S)** Describe the well(s) applicable to this application.

Location Required: Coordinate location must be reported in NM State Plane (NAD 83), UTM (NAD 83), or Latitude/Longitude (Lat/Long - WGS84).
District II (Roswell) and District VII (Cimarron) customers, provide a PLSS location in addition to above.

☐ NM State Plane (NAD83) (Feet)
☐ NM West Zone
☐ NM East Zone
☐ NM Central Zone

☐ UTM (NAD83) (Meters)
☐ Zone 12N
☐ Zone 13N

■ Lat/Long (WGS84) (to the nearest 1/10th of second)

Well Number (if known):	X or Easting or Longitude:	Y or Northing or Latitude:	Provide if known: -Public Land Survey System (PLSS) (*Quarters or Halves , Section, Township, Range*) OR - Hydrographic Survey Map & Tract; OR - Lot, Block & Subdivision; OR - Land Grant Name
See attached table			all wells are to be located in SE/4 SW/4, Sec. 16, T25N, R6W

2018 JUL 31 PM 3:52
STATE ENGINEER OFFICE AZTEC, NEW MEXICO

NOTE: If more well locations need to be described, complete form WR-08 (Attachment 1 – POD Descriptions)
Additional well descriptions are attached: ■ Yes ☐ No **If yes, how many** 11

Other description relating well to common landmarks, streets, or other:
See Attached Map

Well is on land owned by: New Mexico State

Well Information: NOTE: If more than one (1) well needs to be described, provide attachment. Attached? ■ Yes ☐ No
If yes, how many 11

Approximate depth of well (feet): 24	Outside diameter of well casing (inches): 2.25
Driller Name: GEOMAT INC (existing wells) or Enviro-Drill Inc. (new)	Driller License Number: WD 1186

3. ADDITIONAL STATEMENTS OR EXPLANATIONS

The groundwater monitoring wells (MW-1 through MW-9) are located on State Land at the Lateral K-31 (2011) pipeline release site in Rio Arriba County, NM. The monitoring wells were installed utilizing a hollow-stem auger drilling rig in 2012. These wells are not permitted under the OSE. The name of the Drilling company is GEOMAT, INC.

Apex TITAN, Inc, will implement a site investigation in which two (2) monitoring wells (MW-10 and MW-11) will be installed on-site utilizing a hollow-stem auger drilling rig. The primary objective of site investigation will be to further delineate the extent of hydrocarbon impact to soil and/or groundwater at the site. Low-flow or bailer sampling methods will be utilized to samples the wells, resulting in minimal water removal. The two (2) monitoring wells will be drilled by Enviro-Drill Inc.

4. SPECIFIC REQUIREMENTS: The applicant must include the following, as applicable to each well type. Please check the appropriate boxes, to indicate the information has been included and/or attached to this application:

Exploratory:	**Pollution Control and/or Recovery:**	**Construction De-Watering:**	**Mine De-Watering:**
☐ Include a description of any proposed pump test, if applicable.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for the pollution control or recovery operation. ☐ The estimated maximum period of time for completion of the operation. ☐ The annual diversion amount. ☐ The annual consumptive use amount. ☐ The maximum amount of water to be diverted and injected for the duration of the operation. ☐ The method and place of discharge.	☐ Include a description of the proposed dewatering operation, ☐ The estimated duration of the operation, ☐ The maximum amount of water to be diverted, ☐ A description of the need for the dewatering operation, and, ☐ A description of how the diverted water will be disposed of.	☐ Include a plan for pollution control/recovery, that includes the following: ☐ A description of the need for mine dewatering. ☐ The estimated maximum period of time for completion of the operation. ☐ The source(s) of the water to be diverted. ☐ The geohydrologic characteristics of the aquifer(s). ☐ The maximum amount of water to be diverted per annum. ☐ The maximum amount of water to be diverted for the duration of the operation. ☐ The quality of the water. ☐ The method of measurement of water diverted. ☐ The recharge of water to the aquifer. ☐ Description of the estimated area of hydrologic effect of the project. ☐ The method and place of discharge. ☐ An estimation of the effects on surface water rights and underground water rights from the mine dewatering project. ☐ A description of the methods employed to estimate effects on surface water rights and underground water rights. ☐ Information on existing wells, rivers, springs, and wetlands within the area of hydrologic effect.
Monitoring: ■ Include the reason for the monitoring well, and, ■ The duration of the planned monitoring.	☐ The method of measurement of water produced and discharged. ☐ The source of water to be injected. ☐ The method of measurement of water injected. ☐ The characteristics of the aquifer. ☐ The method of determining the resulting annual consumptive use of water and depletion from any related stream system. ☐ Proof of any permit required from the New Mexico Environment Department. ☐ An access agreement if the applicant is not the owner of the land on which the pollution plume control or recovery well is to be located.	**Ground Source Heat Pump:** ☐ Include a description of the geothermal heat exchange project, ☐ The number of boreholes for the completed project and required depths. ☐ The time frame for constructing the geothermal heat exchange project, and, ☐ The duration of the project. ☐ Preliminary surveys, design data, and additional information shall be included to provide all essential facts relating to the request.	

ACKNOWLEDGEMENT

I, We (name of applicant(s)), Thomas Long
Print Name(s)

affirm that the foregoing statements are true to the best of (my, our) knowledge and belief.

Thomas Long
Applicant Signature

Applicant Signature

STATE ENGINEER OFFICE
AZTEC, NEW MEXICO
2018 JUL 31 PM 3:52

ACTION OF THE STATE ENGINEER

This application is:

☒ approved ☐ partially approved ☐ denied

provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare and further subject to the attached conditions of approval.

Witness my hand and seal this 7th day of August 20 18, for the State Engineer,

Tom Blaine, P.E., State Engineer

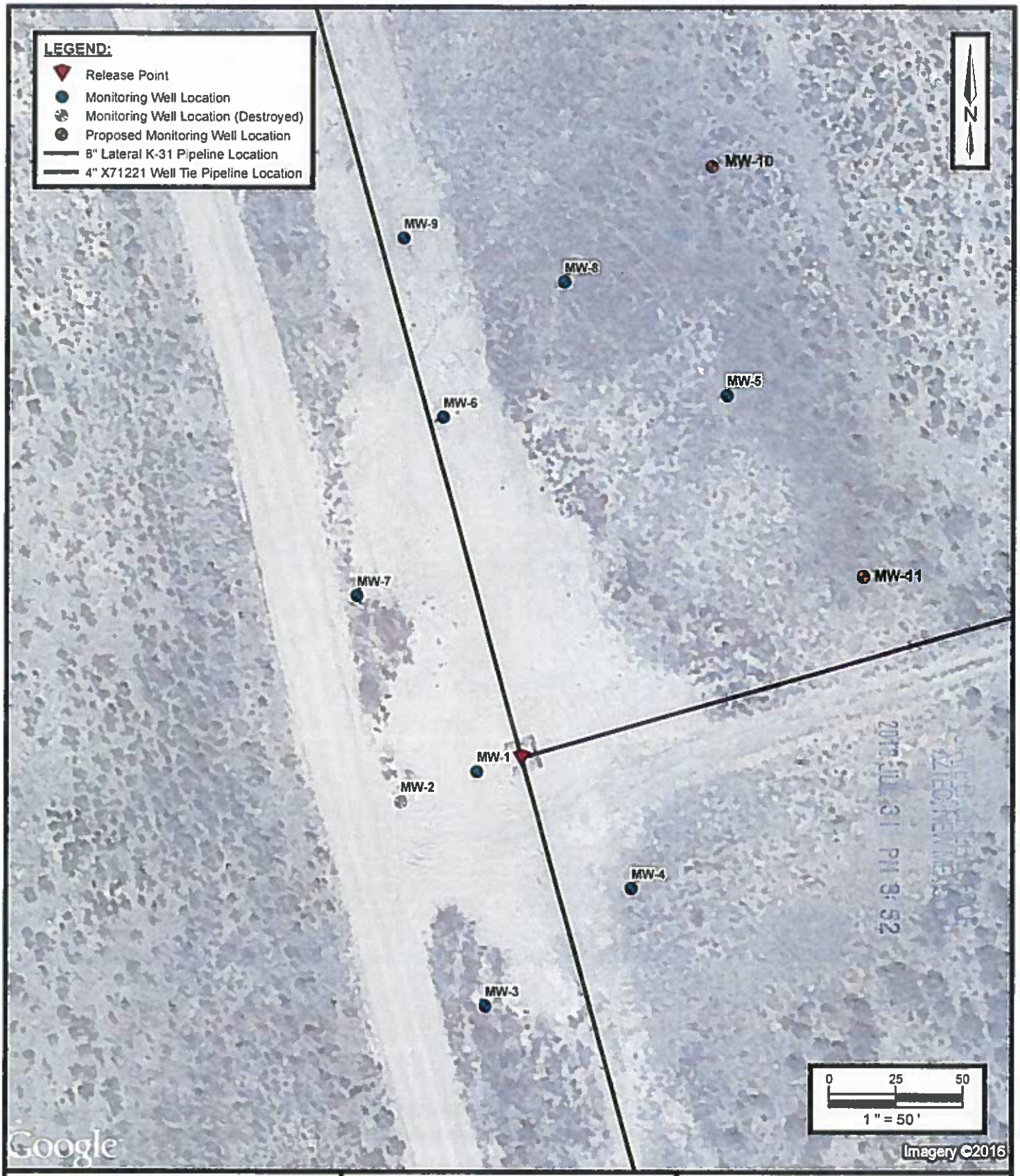
By: Blaine Watson
Signature

Blaine Watson
Print

Title: District V Manager
Print

FOR OSE INTERNAL USE — Application for Permit, Form WR-07

File No.: SJ-4311 POD1-POD11	Trn No.:



Lateral K-31 (12/02/2011) Pipeline Release
SW 1/4 Sec16, T25N, R6W
Rural Rio Arriba County, New Mexico
36.393827 N, 107.475065 W

Project No. 7030414G014

Apex TITAN, Inc.
606 South Rio Grande, Suite A
Aztec, New Mexico 87410
Phone (505) 334-5200
www.apexcos.com
A Subsidiary of Apex Companies, LLC

OSE File #:
SJ-4311 POD1-POD11

Proposed Monitoring Well Location Map

Aerial Photograph March 2016

Z:\Dallas South\Drafting\New Mexico\2014\7030414G014\Attachment B.mxd Modified 8/17/2016 by JSimpson NAD 1983 2011 StatePlane New Mexico Central FIPS 3002 Ft US Coordinate System

SJ-4311 POD#	Well Number (If Known)	X or Easting or Longitude:	Y or Northing or Latitude:	Provide If Known: - Public Land Survey System (PLSS) (Quarters or Halves, Section, Township, Range) OR -Hydrographic Survey Map & Tract; OR -Lot, Block & Subdivision; OR -Land Grant Name	Well Diameter	Well Depth	Depth to Water
1	MW-1	-107.4751371	36.39382066	SE 1/4 of SW 1/4, S16 T25N R6W	2"	24'	16'
2	MW-2	-107.4752332	36.39378867	SE 1/4 of SW 1/4, S16 T25N R6W	2"	24'	16'
3	MW-3	-107.4751217	36.39358090	SE 1/4 of SW 1/4, S16 T25N R6W	2"	24'	16'
4	MW-4	-107.4749393	36.39370319	SE 1/4 of SW 1/4, S16 T25N R6W	2"	24'	16'
5	MW-5	-107.4748278	36.39420983	SE 1/4 of SW 1/4, S16 T25N R6W	2"	24'	16'
6	MW-6	-107.4751865	36.39418350	SE 1/4 of SW 1/4, S16 T25N R6W	2"	24'	16'
7	MW-7	-107.4752927	36.39399881	SE 1/4 of SW 1/4, S16 T25N R6W	2"	24'	16'
8	MW-8	-107.4750353	36.39432394	SE 1/4 of SW 1/4, S16 T25N R6W	2"	24'	16'
9	MW-9	-107.4752402	36.39436655	SE 1/4 of SW 1/4, S16 T25N R6W	2"	24'	16'
10	MW-10	-107.4746500	36.39402581	SE 1/4 of SW 1/4, S16 T25N R6W	2"	24'	16'
11	MW-11	-107.4748513	36.39444436	SE 1/4 of SW 1/4, S16 T25N R6W	2"	24'	16'

OSE File#: SJ-4311 POD1-POD11

NMOSE Permit to Drill a Well(s) With No Water Right - Conditions of Approval
SJ-4311 POD1–POD11

8The New Mexico Office of the State Engineer (NMOSE) has determined that existing water rights will not be impaired by this activity. This application is approved without publication provided it is not exercised to the detriment of any others having existing rights, and is not contrary to the conservation of water in New Mexico nor detrimental to the public welfare of the state. This application approval (i.e., permit) is further subject to the following conditions of approval.

1. This permit is approved as follows:

Permittee(s):	Enterprise Products (via Apex Titan, Inc., as Agent) 614 Reily Avenue Farmington, NM 87401
Permit Number:	SJ-4311
Application File Date:	July 31, 2018
Priority:	N/A
Source:	Groundwater
Point(s) of Diversion:	Eleven points of diversion (POD), SJ-4311 POD1 through POD11, are proposed. The PODs consist of nine existing groundwater monitoring wells (Table 1) and two proposed new wells (Table 2) that will all be used for periodic groundwater sampling. The wells will be located at the Lateral K-31 Pipeline release site located on land owned by the State of New Mexico in rural Rio Arriba County, New Mexico. The PODs will be located within the SE/4 SW/4 of Section 16, Township 25 North, Range 6 West, NMPM, at the following approximate point locations (Long/Lat, WGS84).

Table 1: Existing Monitoring Wells

POD Number and Owner's Well Name	Casing: Diameter (inches) and Depth (feet)		Longitude (decimal degrees)	Latitude (decimal degrees)
SJ-4311 POD1 (MW-1)	2	24	107.4751371 W	36.39382066 N
SJ-4311 POD1 (MW-2)	2	24	107.4752332 W	36.39378867 N
SJ-4311 POD1 (MW-3)	2	24	107.4751217 W	36.39358090 N
SJ-4311 POD1 (MW-4)	2	24	107.4749393 W	36.39370319 N
SJ-4311 POD1 (MW-5)	2	24	107.4748278 W	36.39420983 N
SJ-4311 POD1 (MW-6)	2	24	107.4751865 W	36.39418350 N
SJ-4311 POD1 (MW-7)	2	24	107.4752927 W	36.39399881 N
SJ-4311 POD1 (MW-8)	2	24	107.4750353 W	36.39432394 N
SJ-4311 POD1 (MW-9)	2	24	107.4752402 W	36.39436655 N

Table 2: Proposed New Monitoring Wells

POD Number and Owner's Well Name	Casing: Diameter (inches) and Depth (feet)		Longitude (decimal degrees)	Latitude (decimal degrees)
SJ-4311 POD1 (MW-1)	2	24	107.4746500 W	36.39402581 N
SJ-4311 POD1 (MW-1)	2	24	107.4748513 W	36.39444436 N

Purpose of Use: Groundwater sampling

Place of Use: N/A

Amount of Water: N/A

2. No water shall be appropriated and beneficially used from any wells or borings approved under this permit.

3. No water shall be diverted from the well(s) except for initial well development and periodic sampling purposes. Upon completion of monitoring activities the well(s) shall be plugged in accordance with Subsection C of 19.27.4.30 NMAC, unless a permit to use water is acquired from the NMOSE.

4. The well(s) may continue to be used indefinitely for groundwater sampling or monitoring required for the current site investigation and any associated remediation, so long as they remain in good repair. **A new permit shall be obtained from the NMOSE prior to replacing a well(s) or for any change in use as approved herein.**

5. Water well drilling and well drilling activities, including well plugging, are regulated under NMOSE Regulations 19.27.4 NMAC. These regulations apply, and provide both general and specific direction regarding the drilling of wells in New Mexico. Note that the construction of any well that allows groundwater to flow uncontrolled to the land surface or to move appreciably between geologic units is prohibited.

6. In accordance with Subsection A of 19.27.4.29 NMAC, on-site supervision of well drilling/plugging is required by the holder of a New Mexico Well Driller License or a NMOSE-registered Drill Rig Supervisor. The New Mexico licensed Well Driller shall ensure that well drilling activities are completed in accordance with 19.27.4.29, 19.27.4.30 and 19.27.4.31 NMAC. However, pursuant to 72-12-12 NMSA 1978 and 19.27.4.8 NMAC, a driller's license is not required for the construction of a driven well with an outside casing diameter of 2⅜ inches or less and that does not require the use of a drill rig (e.g., auger) for installation. This exemption is not applicable to well plugging.

7. The permittee has not stated whether artesian conditions are likely to be encountered at the proposed well/borehole location(s). However, if artesian conditions are encountered during drilling, all rules and regulations pertaining to the drilling and casing and plugging of artesian wells shall be followed.

8. A Well Record documenting the as-built well construction and materials used shall be filed for each of the new wells in accordance with Subsection N of 19.27.4.29 NMAC. **Well Records shall be filed with the State Engineer (NMOSE District V, 100 Gossett Drive, Suite A, Aztec,**

NM, 87410) within 30 days after completion of the well(s). Well installation(s) shall be complete and the well record(s) filed no later than one year from the date of approval of this permit.

9. If the required Well Record documentation is not received within one year of the date of permit approval, this permit will automatically expire.

10. When the permittee receives approval or direction to permanently abandon the well(s)/borehole(s) covered by this permit, plugging shall be performed by a New Mexico licensed well driller. The well(s)/borehole(s) shall be plugged pursuant to Subsection C of 19.27.4.30 NMAC using the following method, unless an alternate plugging method has been proposed by or on behalf of the well owner and approved by the NMOSE. If a well/borehole has encountered artesian conditions, a Well Plugging Plan of Operations shall be submitted and NMOSE approval obtained *prior* to the initiation of *any* well plugging activities concerning artesian wells. Additionally, if the following standardized plugging sealant is not appropriate for use due to incompatibility with the water quality or any soil and water contaminates encountered, a Well Plugging Plan of Operations shall be submitted and NMOSE approval obtained *prior* to the initiation of *any* well plugging activities.

    a. Obstructions in a well/borehole shall be identified and removed if possible. If an obstruction cannot be removed, the method used to grout below and around the obstruction shall be described in detail in the plugging record.

    b. Prior to plugging, calculate the theoretical volume of sealant needed for abandonment of the well/borehole based on the actual measured pluggable depth of the well/borehole and the volume factor for the casing/borehole diameter. Compare the actual volume of sealant placed in the well/borehole with the theoretical volume to verify the actual volume of sealant is equal to or exceeds the theoretical volume.

    c. Portland Type I/II cement shall be used for the plugging sealant. The water mixed with the cement to create the plugging sealant shall be potable water or of similar quality. Portland cement has a fundamental water demand of 5.2 gallons of water per 94-lb sack of cement. Up to a maximum of 6.0 gallons per 94-lb sack is acceptable to allow for greater pumpability.

       Pure bentonite powder ("90 barrel yield") is allowed as a cement additive by NMOSE and American Water Works Association (AWWA) guidelines. If a bentonite additive is used, the following rates and mixing guidelines shall be followed. For a rate or a mixing procedure other than that provided below, the NMOSE District V office must be contacted for pre-approval. Neither granular bentonite nor extended-yield bentonite shall be mixed with cement for the purpose of this plugging activity. When supplementing a cement slurry with bentonite powder, water demand for the mix increases at a rate of approximately 0.65 gallon of water for each 1% increment of bentonite bdwc (by dry weight cement) above the stated base water demand of 5.2 gallons water per 94-lb sack of cement for neat cement. Bentonite powder must be hydrated separately with its required increment of water before being mixed into the wet neat cement. If water is otherwise added to the combination of dry ingredients or the dry bentonite is blended into wet cement, the alkalinity of the cement will restrict the yield of the bentonite powder, resulting in excess free water in the slurry and excessive cement shrinkage upon curing.

d. Placement of the sealant within the well/borehole shall be by pumping through a tremie pipe extended to near the bottom of the well/borehole and kept below the top of the slurry column (i.e., immersed in the slurry) as the well/borehole is plugged from bottom upwards in a manner that displaces the standing water column.

e. Prior to, or upon completion of plugging, the well casing may be cut-off below grade as necessary to allow for approved construction onsite, provided a minimum six-inch thickness of reinforced abandonment plugging sealant or concrete completely covers the top of the cut-off casing. Any remaining void to the surface may be filled with native soil, concrete, or asphalt as needed to match the surrounding surface material and blended with the surface topography to prevent ponding.

f. **Within 30 days after completion of well/borehole plugging, a complete Plugging Record shall be filed with the State Engineer** in accordance with Paragraph (3) of Subsection C of 19.27.4.30 NMAC for each well/boring plugged. The Well Plugging Record(s) shall be filed with the State Engineer at the NMOSE District V Office, 100 Gossett Drive, Suite A, Aztec, NM 87410. The required well plugging record form is available at http://www.ose.state.nm.us/STST/wdForms.php.

11. In accordance with Subsection C of 19.27.4.30 NMAC, a well/borehole that does not encounter groundwater may be immediately plugged by filling with drill cuttings or clean native fill to within 10 feet of land surface and by plugging the remaining 10 feet to the land surface with a sealant approved by the Office of the State Engineer. A Plugging Record shall be filed with the State Engineer as described above.

12. Should another regulatory agency sharing jurisdiction of the project authorize, or by regulation require, more stringent requirements than stated herein, the more stringent procedure should be followed. These, among others, may include provisions regarding pre-authorization to proceed, type of methods and materials used, inspection, or prohibition of free discharge of any fluid or other material to or from the well that is related to the drilling and/or monitoring process.

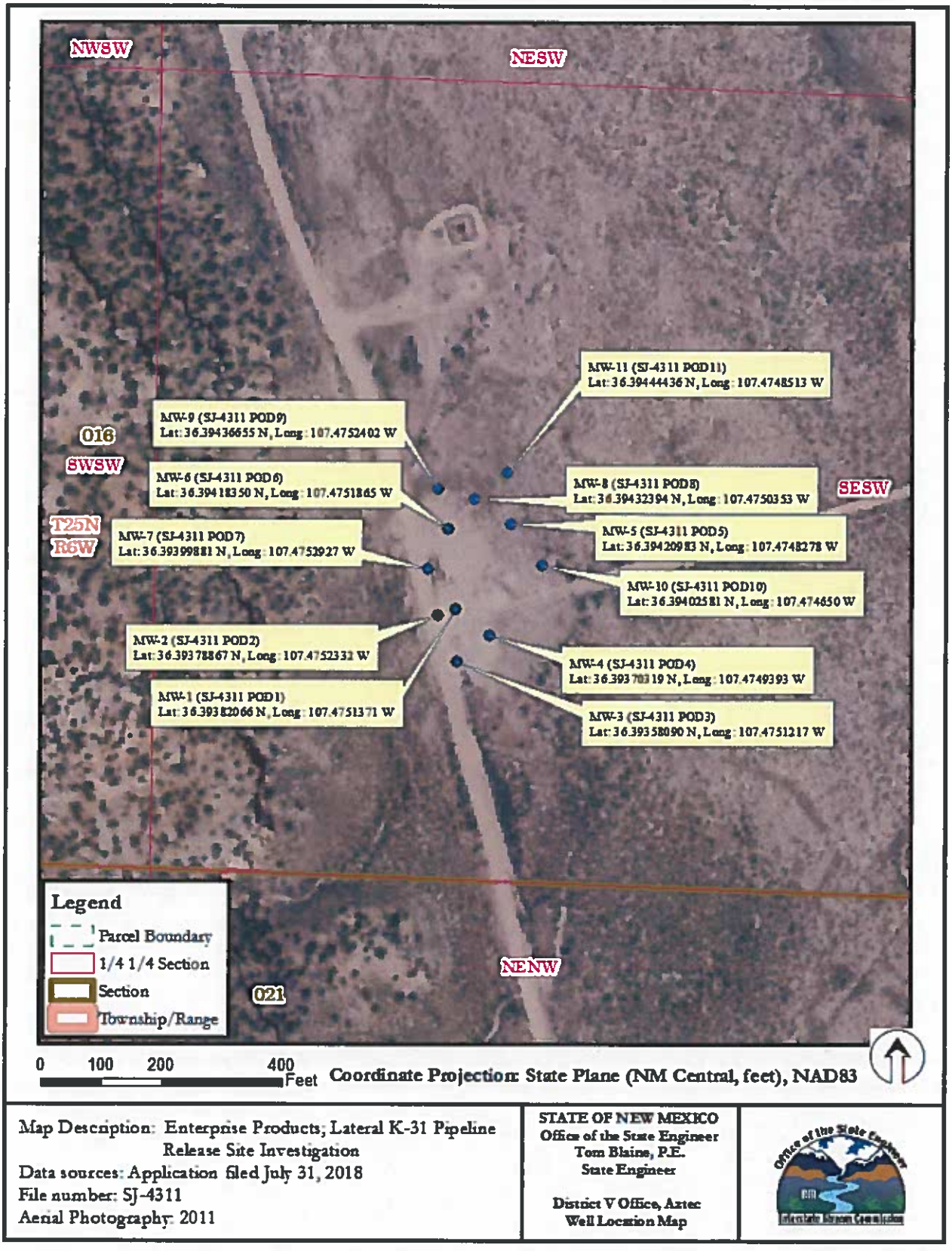
13. Pursuant to 72-12-3 NMSA 1978, the applicant may or may not have provided written documentation with the application, which the applicant claims as confirmation that access has been granted for the aforementioned well(s) to be located on property owned by someone other than the well owner/applicant. NMOSE approval of this permit in no way infers the right of access to land not owned by the well owner/applicant.

14. The State Engineer retains jurisdiction of this permit.

The application for drilling well(s) SJ-4311 POD1-POD11 without a water right, submitted on July 31, 2018, is hereby approved with the aforesaid conditions applied, when signed by an authorized designee of the State Engineer:

Witness my hand and seal this 7th day of August, A.D. 2018.
Tom Blaine, P.E., State Engineer

By: _____
Blaine Watson, Manager
District V Office, Water Rights Division



Map Description: Enterprise Products; Lateral K-31 Pipeline Release Site Investigation
Data sources: Application filed July 31, 2018
File number: SJ-4311
Aerial Photography: 2011

STATE OF NEW MEXICO
Office of the State Engineer
Tom Blaine, P.E.
State Engineer

District V Office, Aztec
Well Location Map

Enterprise Products

ENTERPRISE PRODUCTS PARTNERS L.P.
ENTERPRISE PRODUCTS GP, LLC
(General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

September 21, 2022

Submitted online via OCD E-Permitting:
https://wwwapps.emnrd.state.nm.us/OCD/OCDPermitting/default.aspx

Mr. Nelson Velez
New Mexico Energy, Minerals & Natural Resources
Department – Oil Conservation Division
1000 Rio Brazos Road
Aztec, New Mexico 87410

RE: ***2021 Groundwater Monitoring Report*** (Ensolum, March 28, 2022)
Enterprise Field Services, LLC
Lateral K-31 Pipeline Release (12/02/2011)
Rio Arriba Co., NM [S16, T25N R6W (36.393827° N, 107.475065° W)]
OCD RP: 3R-440; Stage 1 AP-129

Dear Mr. Velez:

Enterprise Products Operating LLC (Enterprise), on behalf of Enterprise Field Services, LLC, is pleased to provide the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD) with one electronic copy of the attached *2021 Groundwater Monitoring Report* prepared by Ensolum, LLC (Ensolum) and dated March 28, 2022. The report is associated with the Enterprise Lateral K-31 release of natural gas condensate liquids that occurred on December 2, 2011 from the Lateral K-31 pipeline, located in Rio Arriba County, New Mexico. The attached document summarizes the groundwater monitoring and sampling (GWM&S) activities performed at the above-referenced location (hereinafter referred to as "the Site") during June 2021 and December 2021 (the "reporting period").

Based on the data contained in this report, dissolved-phase hydrocarbon (DPH), or constituent of concern (COC) concentrations remain below the applicable Water Quality Control Commission (WQCC) Groundwater Quality Standards (GQSs).

Based on the findings and conclusions included in the report, Enterprise plans to: 1) conduct quarterly groundwater monitoring activities at the Site, 2) complete soil delineation activities proximal to MW-2R, and 3) prepare a *Stage 2 Abatement Plan* (if required) or proceed "at-risk" with the removal of residual impacted soils.

Enterprise appreciates the New Mexico EMNRD OCD's continued assistance in bringing this Site to closure. Should you have any questions, comments or concerns, or need additional information regarding this Site, please feel free to contact me at (713) 381-8780, or via email at gemiller@eprod.com.

Sincerely,

Gregory E. Miller, P.G.
Supervisor, Environmental

Rodney M. Sartor, REM
Sr. Director, Environmental

cc: NM SLO, Santa Fe, NM – Mr. Nick Jaramillo l <njaramillo@slo.state.nm.us>
ec: NMOCD, Aztec, NM - Mr. Nelson Velez < Nelson.Velez@state.nm.us>
NMOCD, Santa Fe, NM – Mr. Jim Griswold <Jim.Griswold@state.nm.us>
NMOCD, Santa Fe, NM – Mr. Brad Billings <Bradford.Billings@state.nm.us>
Ensolum, Houston, TX – Mr. Marc E. Gentry <MGentry@ensolum.com>

P.O. Box 4324
Houston, Texas 77210-4324
713.381.6500

1100 Louisiana Street
Houston, Texas 77002-5227
www.epplp.com

2021 GROUNDWATER MONITORING REPORT

Property:

Lateral K-31 (12/02/2011)
SW ¼, S16 T25N R6W
Rio Arriba County, New Mexico

New Mexico EMNRD OCD Incident ID No. NBBB1219848468
New Mexico EMNRD OCD RP No. 3RP-440
Abatement Plan No. 129

March 28, 2022
Ensolum Project No. 05B1226002

Prepared for:

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2021 GROUNDWATER MONITORING REPORT
EXECUTIVE SUMMARY

This report documents the 2021 groundwater monitoring activities conducted at the Lateral K-31 (12/02/2011) pipeline release site, referred to hereinafter as the "Site".

The Site is located within the Enterprise Field Services, LLC (Enterprise) pipeline right-of-way in the southwest (SW) quarter (1/4) of Section 16, Township 25 North, Range 6 West, in Rio Arriba County, New Mexico.

On December 2, 2011, a release of natural gas and associated liquids from the Lateral K-31 pipeline was discovered at the Site. The pipeline was subsequently repaired. Site assessments conducted by Animas Environmental Services, LLC (AES) during December 2011 and March 2012 identified concentrations of constituents of concern (COCs) in soils and groundwater above the New Mexico Energy, Minerals and Natural Resources Department (EMNRD), Oil Conservation Division (OCD) closure criteria and the New Mexico Water Quality Control Commission (WQCC) Groundwater Quality Standards (GQSs).

During August and September 2012, AES advanced nine additional soil borings, which were subsequently converted into monitoring wells (MW-1 through MW-9) to further evaluate the extent of dissolved phase COCs in groundwater. COCs were not identified in soil above the New Mexico EMNRD OCD closure criteria at these soil boring/monitoring well boring locations. However, COCs were identified in groundwater above the WQCC GQSs. Groundwater monitoring events were conducted by AES during December 2012, June 2013, September 2013, and December 2013 and were subsequently conducted by Apex TITAN, Inc., (Apex). Enterprise retained Apex to perform environmental Site investigation activities between 2016 and 2018. Following a staffing change at Apex in February 2019, Enterprise reassigned management of the project to Ensolum, LLC (Ensolum). During May 2019, Enterprise submitted a *Stage 1 Abatement Plan* for this Site to the New Mexico EMNRD OCD. The New Mexico EMNRD OCD has not responded or approved the plan at this time, and Enterprise has resumed semi-annual groundwater monitoring of the Site.

In October 2020, Ensolum advanced three soil borings and completed all three as monitoring wells. COCs were identified in soil above the New Mexico EMNRD OCD closure criteria at one well location (MW-2R). However, COCs were not identified in groundwater above the WQCC GQSs. Groundwater monitoring events were conducted during June and December 2021 to further evaluate groundwater quality over time and monitor COC concentration trends over time at the Site.

Findings based on the groundwater monitoring activities are as follows:

- The groundwater flow direction at the Site is generally towards the north under an approximate average gradient of 0.004 feet per foot (ft/ft).
- The groundwater analytical results for the samples collected from the monitoring wells during the 2021 events do not indicate COC concentrations above the applicable WQCC groundwater quality standards.

Ensolum offers the following recommendations:

- Report the groundwater monitoring results to the New Mexico EMNRD OCD.
- Conduct quarterly groundwater sampling events to monitor the natural attenuation of COCs in the groundwater. In the event that no WQCC GQS exceedances are encountered during eight consecutive quarterly sampling events, Enterprise will request closure.
- Complete soil delineation activities proximal to MW-2R. Prepare a Stage 2 Abatement Plan or proceed

"at-risk" with the removal of residual impacted soils to expedite natural attenuation prior to EMNRD OCD approval of the Stage 1 Abatement Plan.

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2021 GROUNDWATER MONITORING REPORT

New Mexico EMNRD OCD RP No. 3RP-440
Abatement Plan No. 129

Ensolum Project No. 05B1226002

1.0 INTRODUCTION

This report documents the 2021 groundwater monitoring activities conducted at the Lateral K-31 Pipeline Release (12/02/2011) site, referred to hereinafter as the "Site".

1.1 Site Description & Background

Operator:	Enterprise Field Services, LLC / Enterprise Products Operating LLC (Enterprise)
Site Name:	Lateral K-31 (12/02/2011) (Site)
Incident ID	NBBB1219848468
Location:	36.393827° North, 107.475065° West Southwest (SW) ¼ of Section 16, Township 25 North, Range 6 West Rio Arriba County, New Mexico
Property:	New Mexico State Land Office (SLO)
Regulatory:	New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Oil Conservation Division (OCD)

On December 2, 2011, a release of natural gas and associated liquids from the Lateral K-31 pipeline was discovered at the Site. The pipeline was subsequently repaired. An initial site assessment was conducted by Animas Environmental Services, LLC (AES) on December 8, 2011. The assessment included the collection of soil samples from four test holes (TP-1 through TP-4) completed near the release area and a groundwater sample from an existing off-Site monitoring well located south of the release location that was associated with another operator's release site. Constituents of concern (COC) were identified in soils from two of the test holes (TP-3 and TP-4) at concentrations above the New Mexico EMNRD OCD closure criteria. The off-Site groundwater sample did not exhibit COC concentrations above New Mexico Water Quality Control Commission (WQCC) Groundwater Quality Standards (GQSs).

During March 2012, AES advanced 12 soil borings (SB-1 through SB-12) at the Site to further delineate the extent of hydrocarbon affected soil and potentially impacted groundwater. Based on laboratory analytical results of soil and groundwater samples collected from the soil borings, COC concentrations were identified in soil above the New Mexico EMNRD OCD closure criteria and in groundwater above the WQCC GQSs (*Site Investigation Report*, AES, May 16, 2012).

During August and September 2012, AES performed groundwater investigation activities and advanced nine additional soil borings to further evaluate the extent of dissolved phase COCs in groundwater. The soil borings were completed as groundwater monitoring wells (MW-1 through MW-9). COCs were not identified in soil above the New Mexico EMNRD OCD closure criteria at these monitoring well/soil boring locations. However, COCs were identified in groundwater above the WQCC GQSs (*Groundwater Investigation Report*, AES, November 28, 2012).

Groundwater monitoring events were conducted by AES during December 2012, June 2013, September 2013, and December 2013, and subsequently by Apex TITAN, Inc., (Apex). COC concentrations were

identified in groundwater above WQCC standards.

During February 2019, Enterprise assigned management of the project to Ensolum, LLC (Ensolum). In March 2019, Enterprise submitted a *Stage 1 Abatement Plan* for this Site to the New Mexico EMNRD OCD (*Stage 1 Abatement Plan*, Ensolum, March 21, 2019). The New Mexico EMNRD OCD has not responded or approved this plan at this time, and Enterprise has resumed semi-annual groundwater monitoring at the Site.

During October 2020, additional delineation activities were implemented in which three soil borings were advanced and completed as monitoring wells. Laboratory analytical results indicated COC concentrations in soil above the applicable New Mexico EMNRD OCD closure criteria in monitoring well MW-2R. The groundwater analytical results for the three new well indicated COC concentrations below the WQCC GQSs (2020 *Supplemental Environmental Site Investigation and Groundwater Monitoring Report*, Ensolum, February 3, 2021).

The Site is subject to regulatory oversight by the New Mexico EMNRD OCD. To address activities related to 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 sites that are subject to reporting and/or corrective action. Additionally, the New Mexico EMNRD OCD utilizes the New Mexico WQCC GQS (NMAC 20.6.2 *Ground and Surface Water Protection*) to evaluate groundwater conditions.[1]

The Site location is depicted on **Figure 1** of **Appendix A** which was reproduced from a portion of a United States Geological Survey (USGS) 7.5-minute series topographic map. A **Site Vicinity Map**, based on an aerial photograph, is provided as **Figure 2**, and a **Site Map**, which indicates the approximate locations of the monitoring wells and previous soil boring locations in relation to pertinent structures and general Site boundaries, is included as **Figure 3** of **Appendix A**.

1.2 Project Objective

The objective of the groundwater monitoring events was to further evaluate groundwater quality over time and monitor COC concentration trends over time at the Site.

2.0 GROUNDWATER MONITORING

2.1 Groundwater Sampling Program

Groundwater sampling events were conducted during June and December 2021 by Ensolum. The groundwater sampling program consisted of the collection of one groundwater sample from each of the viable monitoring wells at the Site. Monitoring well MW-3 was not sampled due to an obstruction in the well.

The groundwater sampling program consisted of the following:

- Prior to sample collection, Ensolum gauged the depth to fluids in each monitoring well using an interface probe capable of detecting non-aqueous phase liquids (NAPL).
- Monitoring wells were sampled utilizing micro-purge low-flow sampling techniques with dedicated or decontaminated sampling equipment. Following the completion of the micro-purge process, one groundwater sample was collected from each monitoring well.

[1] NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD has not responded to Enterprise's inquiries regarding which closure standards will apply to sites that predate the 2018 rule change. Therefore, this document reflects the GQSs that were applicable at the time of initial remediation.

- Low-flow or low-stress sampling refers to sampling methods that are intended to minimize stress that is imparted to the formation pore water in the immediate vicinity of the well screen. Water level drawdown provides the best indication of the stress imparted by a given flow-rate for a given hydrological situation. Pumping rates on the order of 0.1 to 0.5 liters per minute (L/min) are typically maintained during the low-flow/low-stress sampling activities.

- During low-flow sampling, the groundwater samples are collected from each monitoring well once produced groundwater is consistent in color, clarity, pH, temperature, and conductivity. Measurements are taken every three to five minutes while purging. Purging is considered complete once key parameters (especially pH and conductivity) have stabilized for three consecutive readings.

- Groundwater samples were collected in laboratory supplied containers (pre-preserved by the laboratory with mercuric chloride ($HgCl_2$)). Sample containers were labeled and sealed using the laboratory supplied labels and custody seals and were stored on ice in a cooler. The groundwater samples were relinquished to the courier for Hall Environmental Analysis Laboratory (HEAL) of Albuquerque, New Mexico under proper chain-of-custody procedures.

2.2 Groundwater Laboratory Analytical Methods

The groundwater samples collected from the monitoring wells during the groundwater sampling events were analyzed for BTEX utilizing United States (U.S) Environmental Protection Agency (EPA) SW-846 Method #8021 or #8260.

A summary of the analytes, sample matrix, number of samples, and EPA-approved analytical method for the two sampling events are presented on the following table.

Analytes	Sample Matrix	No. of Samples (per event)	EPA Method
BTEX	Groundwater	10	SW-846 #8021 or #8060

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

2.3 Groundwater Flow Direction

Each monitoring well has been geospatially surveyed or re-surveyed to determine the top-of-casing (TOC) elevation. Based on gauging data, the groundwater flow direction (gradient) at the Site is generally toward the north under an apparent average gradient of approximately 0.004 feet per foot (ft/ft).

The groundwater elevation data collected during the June and December 2021 sampling events (as well as historical gauging data) are presented with TOC elevations in **Table 2** (**Appendix B**). Groundwater gradient maps developed from the June and December 2021 gauging event data are included as **Figure 4A** and **Figure 4B** (**Appendix A**).

2.4 Data Evaluation

Ensolum compared the BTEX laboratory analytical results or laboratory practical quantitation limits (PQLs) / reporting limits (RLs) associated with the groundwater samples collected during the June 2021 and

December 2021 groundwater sampling events to the New Mexico WQCC GQSs.[1] The results of the analyses are summarized in **Table 1** of **Appendix B**. Groundwater analytical data maps are provided as **Figures 5A** and **5B** of **Appendix A**. Monitoring well MW-3 was not sampled in 2021 because the well screen/casing is obstructed; therefore, MW-3 is not included in the following discussion.

June 2021

- The analytical results for the monitoring wells do not indicate benzene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 10 µg/L.[1]
- The analytical results for the monitoring wells do not indicate toluene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 750 µg/L.[1]
- The analytical result for monitoring well MW-8 indicates an ethylbenzene concentration of 1.7 µg/L, which is below the WQCC GQS of 750 µg/L. The analytical results for the remaining monitoring wells do not indicate ethylbenzene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 750 µg/L.[1]
- The analytical results for the monitoring wells do not indicate total xylenes concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 620 µg/L.[1]
- No data qualifier flags are associated with the June 2021 analytical results.

December 2021

- The analytical results for the monitoring wells do not indicate benzene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 10 µg/L.[1]
- The analytical results for the monitoring wells do not indicate toluene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 750 µg/L.[1]
- The analytical results for the monitoring wells do not indicate ethylbenzene concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 750 µg/L.[1]
- The analytical results for the monitoring wells do not indicate total xylenes concentrations above the laboratory PQLs/RLs, which are below the WQCC GQS of 620 µg/L.[1]
- No data qualifier flags are associated with the December 2021 analytical results.

3.0 FINDINGS

Based on the evaluation of the analytical results from the June 2021 and December 2021 groundwater sampling events, Ensolum presents the following findings:

- The groundwater flow direction at the Site is generally towards the north under an approximate gradient of 0.004 ft/ft.

[1] NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD has not responded to Enterprise's inquiries regarding which closure standards will apply to sites that predate the 2018 rule change. Therefore, this document reflects the GQSs that were applicable at the time of initial remediation.

- The groundwater analytical results for the samples collected from the monitoring wells during the 2021 events do not indicate COC concentrations above the applicable WQCC groundwater quality standards.

- Results from the sampling events at the Site support generally declining COC concentrations in groundwater over time.

4.0 RECOMMENDATIONS

Based on the results of groundwater monitoring activities, Ensolum has the following recommendations:

- Report the groundwater monitoring results to the New Mexico EMNRD OCD.

- Conduct quarterly groundwater sampling events to monitor the natural attenuation of COCs in the groundwater. In the event that no WQCC GQS exceedances are encountered during eight consecutive quarterly sampling events, Enterprise will request closure.

- Complete soil delineation activities proximal to MW-2R, prepare a Stage 2 Abatement Plan, or proceed "at-risk" with the removal of residual impacted soils to expedite natural attenuation prior to EMNRD OCD approval of the Stage 1 Abatement Plan.

5.0 STANDARDS OF CARE, LIMITATIONS, AND RELIANCE

5.1 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). This scope of services was performed in accordance with the scope of work agreed with the client, as detailed in our proposal.

5.2 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 recommendations are based solely upon data available to Ensolum at the time of these services.

5.3 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.

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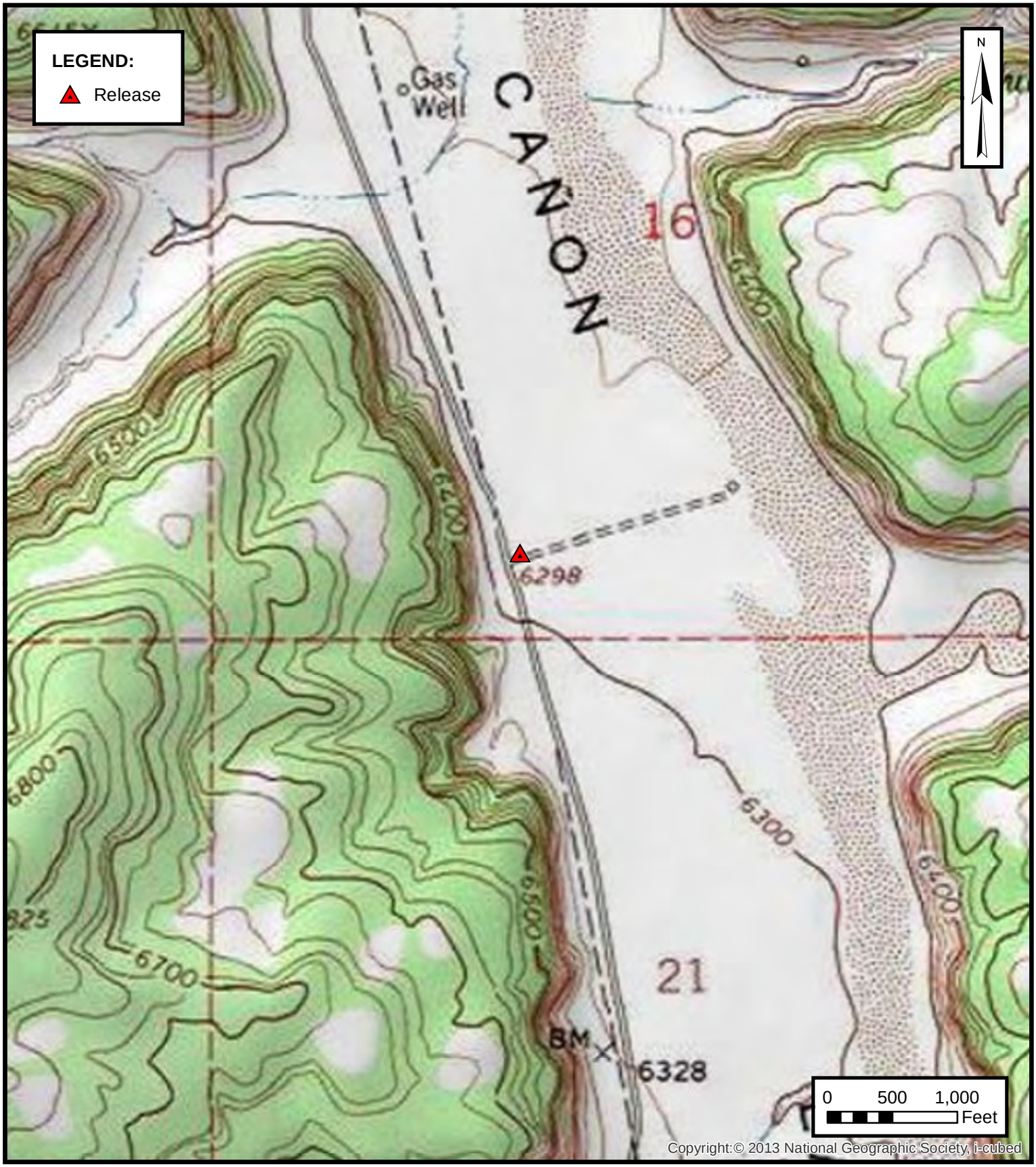
APPENDIX A

Figures



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Environmental & Hydrogeologic Consultants

TOPOGRAPHIC MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼, S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
1

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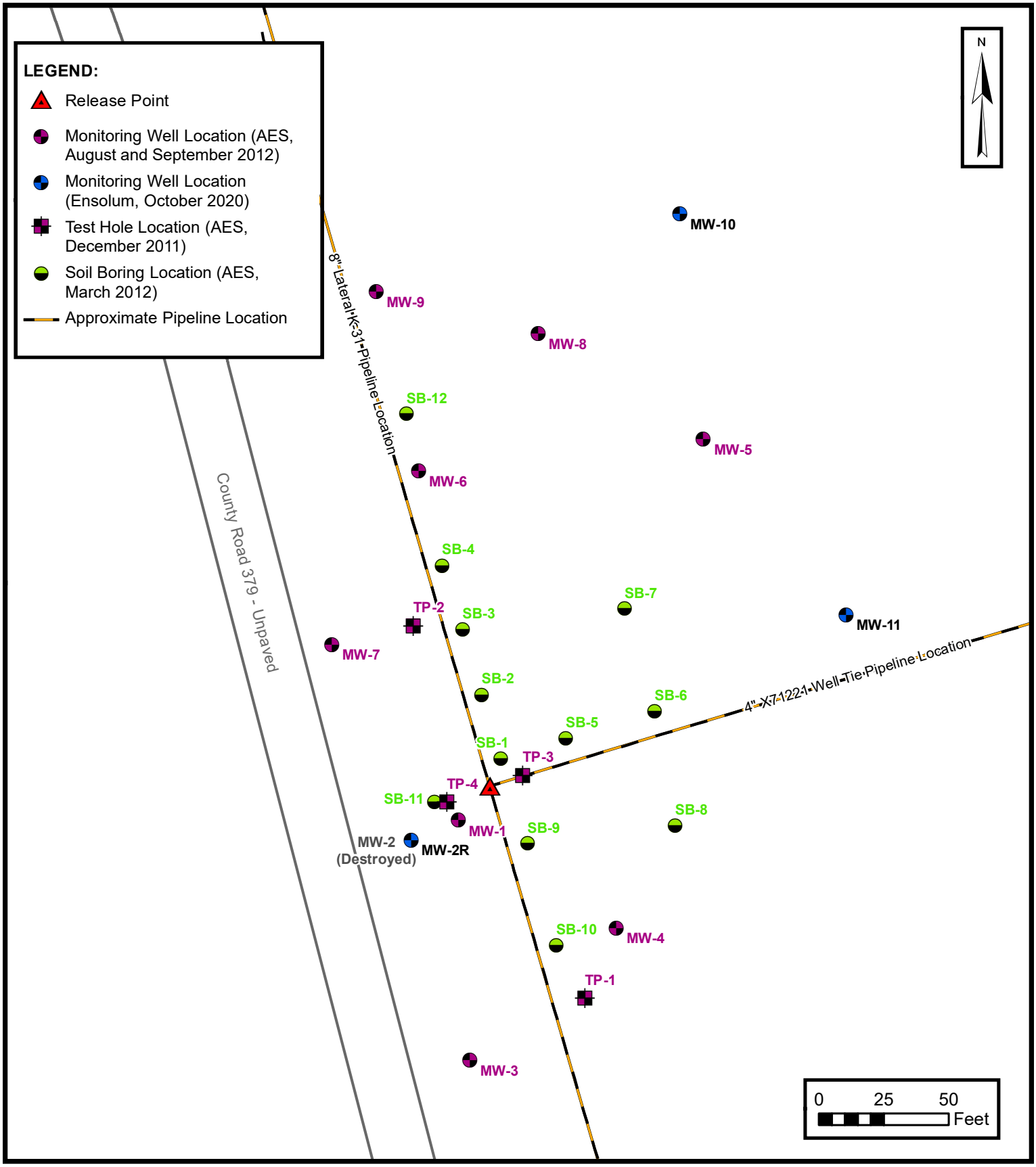
SITE VICINITY MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼, S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
2



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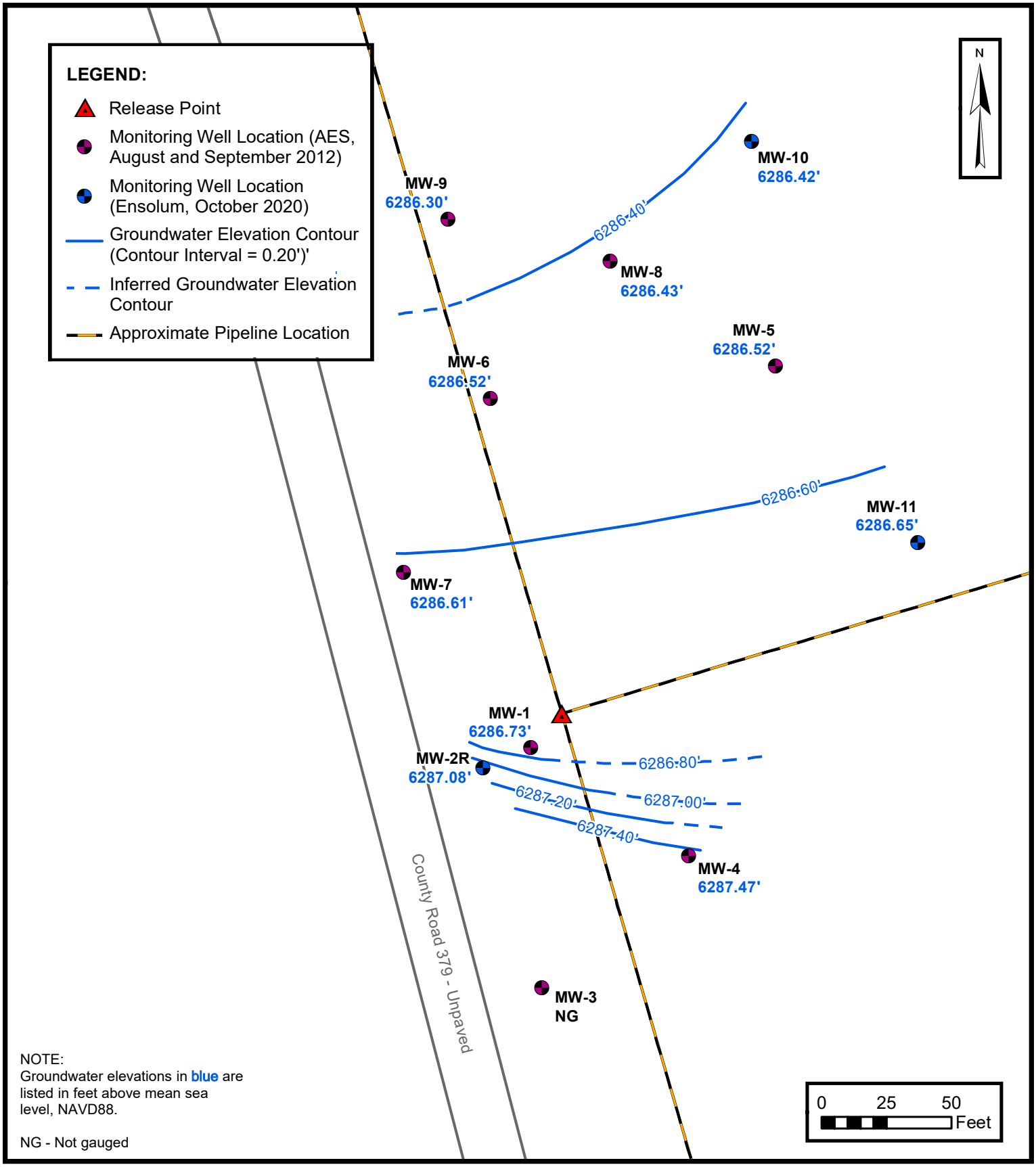
SITE MAP

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼, S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
3



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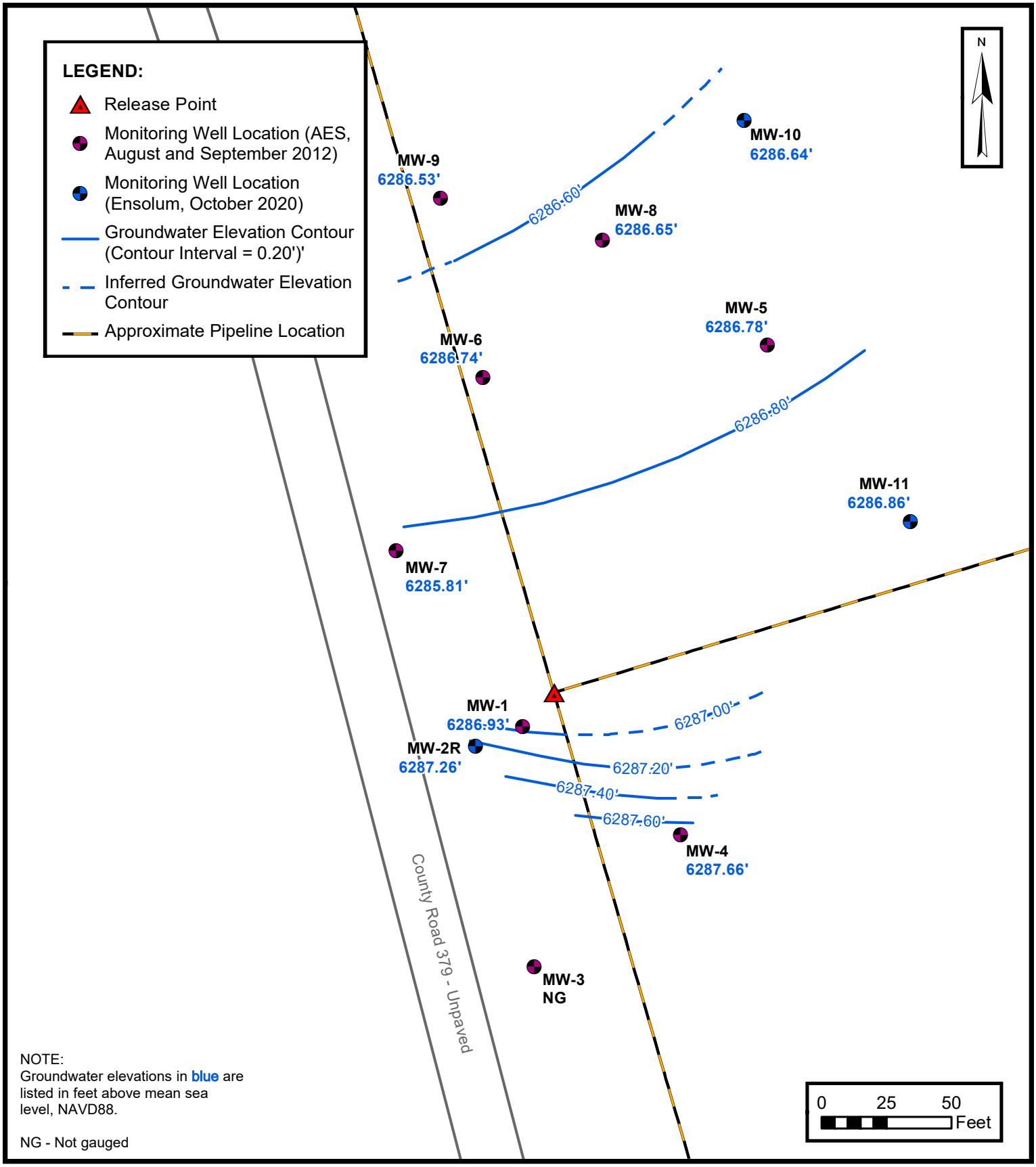
GROUNDWATER GRADIENT MAP (JUNE 2021)

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼ S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
4A



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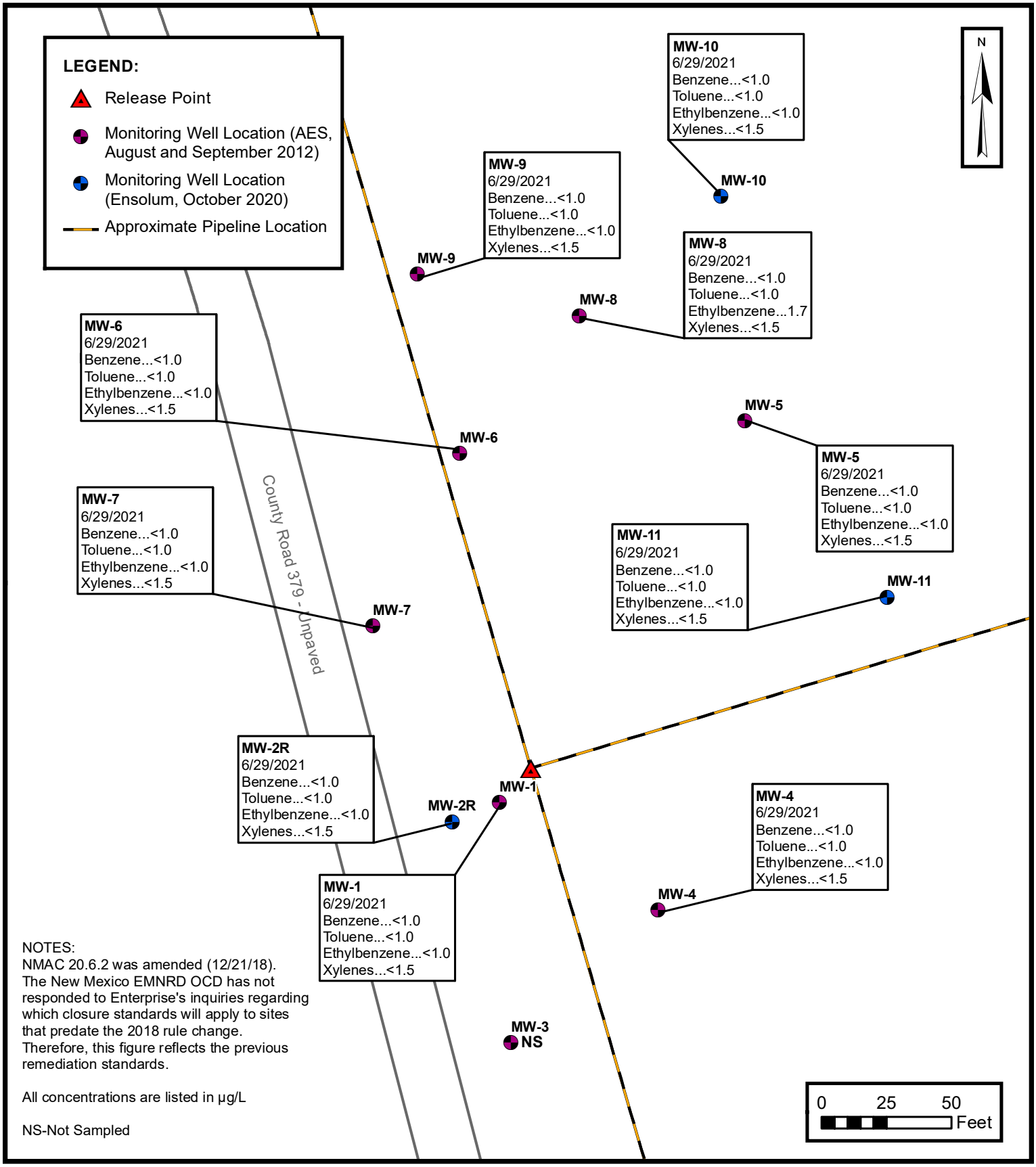
GROUNDWATER GRADIENT MAP (DECEMBER 2021)

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼ S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
4B



NOTES:
NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD has not responded to Enterprise's inquiries regarding which closure standards will apply to sites that predate the 2018 rule change. Therefore, this figure reflects the previous remediation standards.

All concentrations are listed in µg/L

NS-Not Sampled

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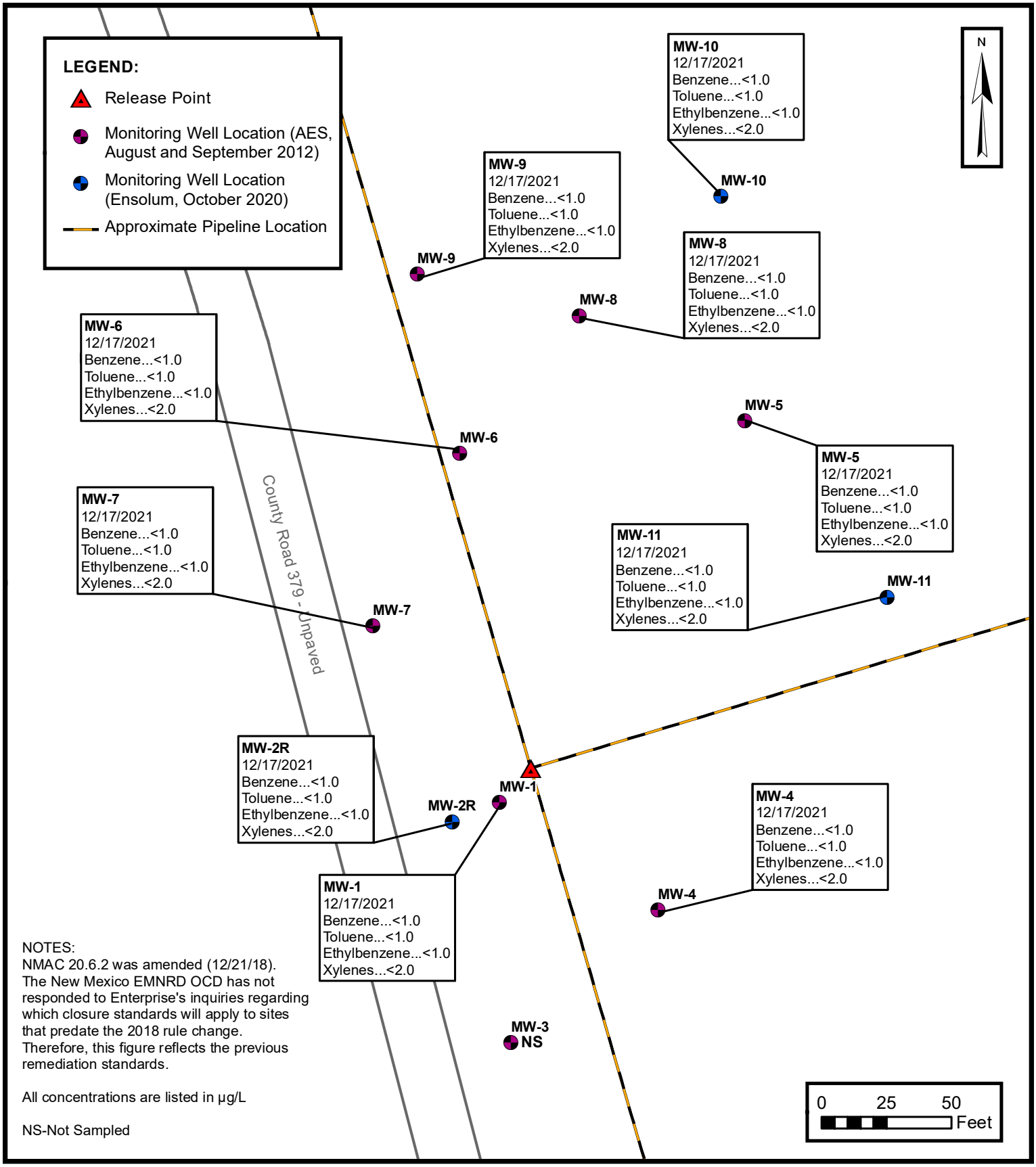
GROUNDWATER ANALYTICAL DATA MAP (JUNE 2021)

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼, S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
5A



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GROUNDWATER ANALYTICAL DATA MAP (DECEMBER 2021)

ENTERPRISE FIELD SERVICES, LLC
LATERAL K-31 (12/02/2011)
SW ¼, S16 T25N R6W, Rio Arriba County, New Mexico
36.393827° N, 107.475065° W

PROJECT NUMBER: 05B1226002

FIGURE
5B

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APPENDIX B

Tables

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TABLE 1
Lateral K-31 (12/02/2011)
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]
Monitoring Wells Installed by Animas Environmental Services, LLC					
MW-1	9.5.12	**18**	2.9	3.3	25
	12.20.12	**11**	<2.0	<2.0	5.8
	3.21.13	**29**	14	<2.0	6.8
	9.4.13	**24**	3.0	<2.0	10
	12.9.13	**42**	20	10	45
	3.19.14	**17**	15	<1	6
	11.12.14	<1.0	<1.0	<1.0	<2.0
	6.17.15	<1.0	<1.0	<1.0	<2.0
	11.17.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	4.1	<1.0	<1.0	<2.0
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	1.8	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	<1.0	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.02.19	<1.0	<1.0	<1.0	<2.0
	12.31.19	<1.0	<1.0	<1.0	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5
	6.29.21	<1.0	<1.0	<1.0	<1.5
	12.17.21	<1.0	<1.0	<1.0	<2.0
MW-2	9.5.12	9.5	9.2	<2.0	30
	12.20.12	**17**	<2.0	<2.0	41
	3.21.13	**18**	<2.0	<2.0	18
	9.4.13	8.0	<2.0	<2.0	4.2
	12.9.13	**24**	13	11	49
	3.19.14	<1	<1	<1	<3
	11.12.14	Monitoring Well Destroyed			
	6.17.15				
	11.17.15				
	6.08.16				
	12.29.16				
	6.30.17				
	12.28.17				
	6.20.18				
	1.17.19				
	8.01.19				
	6.11.20				
	12.10.20				
	6.29.21				
	12.17.21				
MW-3	9.5.12	<2.0	<2.0	<2.0	<4.0
	12.20.12	<2.0	<2.0	<2.0	<4.0
	3.21.13	<2.0	<2.0	<2.0	<4.0
	9.4.13	5.4	<2.0	<2.0	<4.0
	12.9.13	**10**	15	9.7	37
	3.19.14	3.0	4.0	<1	<3
	11.12.14	<1.0	<1.0	<1.0	<2.0
	6.17.15	9.9	<1.0	<1.0	<2.0
	11.18.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	Unable to sample			
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	<1.0	<1.0	<1.0	<1.5
	12.28.17	Unable to sample (obstructed well screen/casing)			
	6.20.18	Unable to sample (obstructed well screen/casing)			
	1.17.19	Unable to sample (obstructed well screen/casing)			
	8.01.19	Unable to sample (obstructed well screen/casing)			
	6.11.20	Unable to sample (obstructed well screen/casing)			
	12.10.20	Unable to sample (obstructed well screen/casing)			
	6.29.21	Unable to sample (obstructed well screen/casing)			
	12.17.21	Unable to sample (obstructed well screen/casing)			

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TABLE 1
Lateral K-31 (12/02/2011)
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]
MW-4	9.5.12	<2.0	<2.0	<2.0	<4.0
	12.20.12	**19**	<2.0	<2.0	<4.0
	3.21.13	4.8	<2.0	<2.0	<4.0
	9.4.13	<2.0	<2.0	<2.0	<4.0
	12.9.13	**42**	17	14	54
	3.19.14	<1	<1	<1	<3
	11.12.14	5.4	<1.0	<1.0	<2.0
	6.17.15	7.2	<1.0	<1.0	<2.0
	11.18.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	5.1	<1.0	<1.0	<2.0
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	<1.0	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	<1.0	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.02.19	<1.0	<1.0	<1.0	<2.0
	12.31.19	<1.0	<1.0	<1.0	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5
	6.29.21	<1.0	<1.0	<1.0	<1.5
	12.17.21	<1.0	<1.0	<1.0	<2.0
MW-5	9.5.12	**10**	<2.0	<2.0	<4.0
	12.20.12	**10**	<2.0	<2.0	<4.0
	3.21.13	9	<2.0	<2.0	<4.0
	9.4.13	9.3	<2.0	<2.0	<4.0
	12.9.13	**48**	9.3	9.7	36
	3.19.14	**27**	<1	2	<3
	11.12.14	<1.0	<1.0	<1.0	<2.0
	6.17.15	**52**	<1.0	1.4	<2.0
	11.18.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	**230**	<1.0	8.5	<2.0
	12.29.16	**14**	<1.0	2.1	<1.5
	6.30.17	2.4	<1.0	1.8	<2.0
	12.28.17	**42**	<1.0	11	<1.5
	6.20.18	<1.0	<1.0	5.7	<1.5
	1.17.19	<1.0	<1.0	3.4	<1.5
	8.01.19	<1.0	<1.0	1.7	<2.0
	12.31.19	<1.0	<1.0	1.9	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5
	6.29.21	<1.0	<1.0	<1.0	<1.5
	12.17.21	<1.0	<1.0	<1.0	<2.0
MW-6	9.5.12	**37**	8.3	<2.0	14
	12.20.12	**82**	5.8	<2.0	<4.0
	3.21.13	**130**	5.1	<2.0	<4.0
	9.4.13	**40**	22	<2.0	13
	12.9.13	**210**	20	12	51
	3.19.14	**77**	8.0	1.0	4.0
	11.12.14	**19**	<1.0	<1.0	<2.0
	6.17.15	<1.0	<1.0	<1.0	<2.0
	11.18.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	<1.0	<1.0	<1.0	<2.0
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	<1.0	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	<1.0	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.01.19	<1.0	<1.0	<1.0	<2.0
	12.31.19	<1.0	<1.0	<1.0	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5
	6.29.21	<1.0	<1.0	<1.0	<1.5
	12.17.21	<1.0	<1.0	<1.0	<2.0

ENSOLUM

TABLE 1
Lateral K-31 (12/02/2011)
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]
MW-7	9.5.12	3.6	<2.0	<2.0	<4.0
	12.20.12	5.9	<2.0	<2.0	<4.0
	3.21.13	<2.0	<2.0	<2.0	<4.0
	9.4.13	6.2	<2.0	<2.0	<4.0
	12.9.13	**30**	17	14	56
	3.19.14	<1	<1	<1	<3
	11.12.14	<1.0	<1.0	<1.0	<2.0
	6.17.15	<1.0	<1.0	<1.0	<2.0
	11.17.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	<1.0	<1.0	<1.0	<2.0
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	<1.0	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	<1.0	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.02.19	<1.0	<1.0	<1.0	<2.0
	12.31.19	<1.0	<1.0	<1.0	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5
	6.29.21	<1.0	<1.0	<1.0	<1.5
	12.17.21	<1.0	<1.0	<1.0	<2.0
MW-8	9.5.12	**20**	<2.0	<2.0	<4.0
	12.20.12	**25**	<2.0	<2.0	<4.0
	3.21.13	**26**	<2.0	<2.0	<4.0
	9.4.13	**34**	<2.0	<2.0	<4.0
	12.9.13	**200**	14	11	46
	3.19.14	**57**	<1	<1	<3
	11.12.14	5.8	<1.0	<1.0	<2.0
	6.17.15	1.5	<1.0	<1.0	<2.0
	11.18.15	1.7	<1.0	<1.0	<2.0
	6.08.16	4.2	<1.0	<1.0	<2.0
	12.29.16	1.3	<1.0	<1.0	<1.5
	6.30.17	1.2	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	1.9	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.01.19	2.1	<1.0	14	<2.0
	12.31.19	<1.0	<1.0	1.4	<2.0
	6.11.20	<1.0	<1.0	1.3	<1.5
	12.10.20	<1.0	<1.0	3.1	<1.5
	6.29.21	<1.0	<1.0	1.7	<1.5
	12.17.21	<1.0	<1.0	<1.0	<2.0
MW-9	9.5.12	<2.0	<2.0	<2.0	<4.0
	12.20.12	<2.0	<2.0	<2.0	<4.0
	3.21.13	<2.0	<2.0	<2.0	<4.0
	9.4.13	<2.0	<2.0	<2.0	<4.0
	12.9.13	4	7.1	6	24
	3.19.14	<1	<1	<1	<3
	11.12.14	<1.0	<1.0	<1.0	<2.0
	6.17.15	<1.0	<1.0	<1.0	<2.0
	11.17.15	<1.0	<1.0	<1.0	<2.0
	6.08.16	<1.0	<1.0	<1.0	<2.0
	12.29.16	<1.0	<1.0	<1.0	<1.5
	6.30.17	<1.0	<1.0	<1.0	<2.0
	12.28.17	<1.0	<1.0	<1.0	<1.5
	6.20.18	<1.0	<1.0	<1.0	<1.5
	1.17.19	<1.0	<1.0	<1.0	<1.5
	8.01.19	<1.0	<1.0	<1.0	<2.0
	12.31.19	<1.0	<1.0	<1.0	<2.0
	6.11.20	<1.0	<1.0	<1.0	<1.5
	12.10.20	<1.0	<1.0	<1.0	<1.5
	6.29.21	<1.0	<1.0	<1.0	<1.5
	12.17.21	<1.0	<1.0	<1.0	<2.0

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TABLE 1
Lateral K-31 (12/02/2011)
GROUNDWATER ANALYTICAL SUMMARY

Sample I.D.	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)
New Mexico Water Quality Control Commission Groundwater Quality Standards		10[A]	750[A]	750[A]	620[A]
Monitoring Wells Installed by Ensolum, LLC					
MW-2R	12.10.20	2.1	<1.0	1.2	2.4
	6.29.21	<1.0	<1.0	<1.0	<1.5
	12.17.21	<1.0	<1.0	<1.0	<2.0
MW-10	12.10.20	<1.0	<1.0	<1.0	<1.5
	6.29.21	<1.0	<1.0	<1.0	<1.5
	12.17.21	<1.0	<1.0	<1.0	<2.0
MW-11	12.10.20	<1.0	<1.0	<1.0	<1.5
	6.29.21	<1.0	<1.0	<1.0	<1.5
	12.17.21	<1.0	<1.0	<1.0	<2.0

Note: Concentrations in **bold** and yellow exceed the applicable WQCC GQS

A = NMAC 20.6.2 was amended (12/21/18). The New Mexico EMNRD OCD has not responded to Enterprise's inquiries regarding which closure standards will apply to sites that predate the 2018 rule change. Therefore, this table reflects the previous remediation standards.

µg/L= micrograms per liter

<1.0= the numeral (in this case "1.0") identifies the laboratory reporting or practical quantitation limit

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TABLE 2
Lateral K-31 (12/02/2011)
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	TOC Elevations (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-1	9.5.12	ND	19.44	ND	6306.66	6287.22
	12.20.12	ND	19.02	ND		6287.64
	3.21.13	ND	18.59	ND		6288.07
	9.4.13	ND	19.49	ND		6287.17
	12.9.13	ND	18.80	ND		6287.86
	3.19.14	ND	18.40	ND		6288.26
	11.12.14	ND	19.11	ND		6287.55
	6.17.15	ND	18.70	ND		6287.96
	11.17.15	ND	19.08	ND		6287.58
	6.08.16	ND	18.80	ND		6287.86
	12.29.16	ND	19.18	ND		6287.48
	6.30.17	ND	19.13	ND		6287.53
	12.28.17	ND	19.16	ND		6287.50
	6.20.18	ND	19.45	ND		6287.21
	1.17.19	ND	19.30	ND		6287.36
	8.01.19	ND	19.58	ND		6287.08
	12.31.19	ND	19.59	ND		6287.07
	6.11.20	ND	19.49	ND		6287.17
	12.10.20	ND	20.00	ND		6286.66
	6.29.21	ND	19.93	ND		6286.73
	12.17.21	ND	19.73	ND		6286.93
MW-2	9.5.12	ND	16.69	ND	6242.58	6225.89
	12.20.12	ND	16.33	ND		6226.25
	3.21.13	ND	15.90	ND		6226.68
	9.4.13	ND	16.72	ND		6225.86
	12.9.13	ND	16.14	ND		6226.44
	3.19.14	ND	15.72	ND		6226.86
	11.12.14	Monitoring Well Apparently Destroyed				
	6.17.15					
	11.17.15					
	6.08.16					
	12.29.16					
	6.30.17					
	12.28.17					
	6.20.18					
	1.17.19					
	8.01.19					
	12.31.19					
	6.11.20					
	12.10.20					
	6.29.21					
	12.17.21					
MW-2R	12.10.20	ND	20.71	ND	6307.72	6287.01
	6.29.21	ND	20.64	ND		6287.08
	12.17.21	ND	20.46	ND		6287.26
MW-3	9.5.12	ND	18.93	ND	6306.94	6288.01
	12.20.12	ND	18.51	ND		6288.43
	3.21.13	ND	18.07	ND		6288.87
	9.4.13	ND	18.97	ND		6287.97
	12.9.13	ND	18.30	ND		6288.64
	3.19.14	ND	17.89	ND		6289.05
	11.12.14	ND	18.59	ND		6288.35
	6.17.15	ND	18.20	ND		6288.74
	11.17.15	ND	18.56	ND		6288.38
	6.08.16	ND	18.30	ND		6288.64
	12.29.16	ND	18.66	ND		6288.28
	6.30.17	ND	18.64	ND		6288.30
	12.28.17	Unable to sample due to blockage				NG
	6.20.18					NG
	1.17.19					NG
	8.01.19					NG
	12.31.19					NG
	6.11.20					NG
	12.10.20					NG
	6.29.21					NG
	12.17.21					NG

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TABLE 2
Lateral K-31 (12/02/2011)
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	TOC Elevations (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-4	9.5.12	ND	17.55	ND	6305.50	6287.95
	12.20.12	ND	17.14	ND		6288.36
	3.21.13	ND	16.71	ND		6288.79
	9.4.13	ND	17.59	ND		6287.91
	12.9.13	ND	16.93	ND		6288.57
	3.19.14	ND	16.51	ND		6288.99
	11.12.14	ND	17.24	ND		6288.26
	6.17.15	ND	16.83	ND		6288.67
	11.17.15	ND	17.21	ND		6288.29
	6.08.16	ND	16.93	ND		6288.57
	12.29.16	ND	17.30	ND		6288.20
	6.30.17	ND	17.27	ND		6288.23
	12.28.17	ND	17.30	ND		6288.20
	6.20.18	ND	17.59	ND		6287.91
	1.17.19	ND	17.44	ND		6288.06
	8.01.19	ND	17.69	ND		6287.81
	12.31.19	ND	17.70	ND		6287.80
	6.11.20	ND	17.60	ND		6287.90
	12.10.20	ND	18.10	ND		6287.40
	6.29.21	ND	18.03	ND		6287.47
	12.17.21	ND	17.84	ND		6287.66
MW-5	9.5.12	ND	15.88	ND	6302.91	6287.03
	12.20.12	ND	15.44	ND		6287.47
	3.21.13	ND	15.00	ND		6287.91
	9.4.13	ND	15.91	ND		6287.00
	12.9.13	ND	15.20	ND		6287.71
	3.19.14	ND	14.81	ND		6288.10
	11.12.14	ND	15.54	ND		6287.37
	6.17.15	ND	15.14	ND		6287.77
	11.17.15	ND	15.50	ND		6287.41
	6.08.16	ND	15.22	ND		6287.69
	12.29.16	ND	15.60	ND		6287.31
	6.30.17	ND	15.59	ND		6287.32
	12.30.17	ND	15.57	ND		6287.34
	6.20.18	ND	15.59	ND		6287.32
	1.17.19	ND	15.74	ND		6287.17
	8.01.19	ND	16.02	ND		6286.89
	12.31.19	ND	16.03	ND		6286.88
	6.11.20	ND	15.93	ND		6286.98
	12.10.20	ND	16.44	ND		6286.47
	6.29.21	ND	16.39	ND		6286.52
	12.17.21	ND	16.13	ND		6286.78
MW-6	9.5.12	ND	17.41	ND	6304.43	6287.02
	12.20.12	ND	16.97	ND		6287.46
	3.21.13	ND	16.53	ND		6287.90
	9.4.13	ND	17.45	ND		6286.98
	12.9.13	ND	16.75	ND		6287.68
	3.19.14	ND	16.34	ND		6288.09
	11.12.14	ND	17.06	ND		6287.37
	6.17.15	ND	16.66	ND		6287.77
	11.17.15	ND	17.03	ND		6287.40
	6.08.16	ND	16.74	ND		6287.69
	12.29.16	ND	17.13	ND		6287.30
	6.30.17	ND	17.11	ND		6287.32
	12.28.17	ND	17.10	ND		6287.33
	6.20.18	ND	17.41	ND		6287.02
	1.17.19	ND	17.27	ND		6287.16
	8.01.19	ND	17.54	ND		6286.89
	12.31.19	ND	17.56	ND		6286.87
	6.11.20	ND	17.44	ND		6286.99
	12.10.20	ND	17.96	ND		6286.47
	6.29.21	ND	17.91	ND		6286.52
	12.17.21	ND	17.69	ND		6286.74

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TABLE 2
Lateral K-31 (12/02/2011)
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	TOC Elevations (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-7	9.5.12	ND	17.61	ND	6304.73	6287.12
	12.20.12	ND	17.18	ND		6287.55
	3.21.13	ND	16.74	ND		6287.99
	9.4.13	ND	17.65	ND		6287.08
	12.9.13	ND	16.96	ND		6287.77
	3.19.14	ND	16.55	ND		6288.18
	11.12.14	ND	17.29	ND		6287.44
	6.17.15	ND	16.87	ND		6287.86
	11.17.15	ND	17.25	ND		6287.48
	6.08.16	ND	16.96	ND		6287.77
	12.29.16	ND	17.36	ND		6287.37
	6.30.17	ND	17.30	ND		6287.43
	12.28.17	ND	17.32	ND		6287.41
	6.20.18	ND	17.62	ND		6287.11
	1.17.19	ND	17.49	ND		6287.24
	8.01.19	ND	17.74	ND		6286.99
	12.31.19	ND	17.78	ND		6286.95
	6.11.20	ND	17.66	ND		6287.07
	12.10.20	ND	18.18	ND		6286.55
	6.29.21	ND	18.12	ND		6286.61
	12.17.21	ND	18.92	ND		6285.81
MW-8	9.5.12	ND	16.55	ND	6303.48	6286.93
	12.20.12	ND	16.09	ND		6287.39
	3.21.13	ND	15.65	ND		6287.83
	9.4.13	ND	16.57	ND		6286.91
	12.9.13	ND	15.86	ND		6287.62
	3.19.14	ND	15.46	ND		6288.02
	11.12.14	ND	16.18	ND		6287.30
	6.17.15	ND	15.79	ND		6287.69
	11.17.15	ND	16.17	ND		6287.31
	6.08.16	ND	15.90	ND		6287.58
	12.29.16	ND	16.25	ND		6287.23
	6.30.17	ND	16.25	ND		6287.23
	12.28.17	ND	16.23	ND		6287.25
	6.20.18	ND	16.55	ND		6286.93
	1.17.19	ND	16.38	ND		6287.10
	8.01.19	ND	16.68	ND		6286.80
	12.31.19	ND	16.69	ND		6286.79
	6.11.20	ND	16.59	ND		6286.89
	12.10.20	ND	17.10	ND		6286.38
	6.29.21	ND	17.05	ND		6286.43
	12.17.21	ND	16.83	ND		6286.65
MW-9	9.5.12	ND	16.33	ND	6303.06	6286.73
	12.20.12	ND	15.84	ND		6287.22
	3.21.13	ND	15.39	ND		6287.67
	9.4.13	ND	16.32	ND		6286.74
	12.9.13	ND	15.61	ND		6287.45
	3.19.14	ND	15.21	ND		6287.85
	11.12.14	ND	15.95	ND		6287.11
	6.17.15	ND	15.52	ND		6287.54
	11.17.15	ND	15.88	ND		6287.18
	6.08.16	ND	15.60	ND		6287.46
	12.29.16	ND	15.98	ND		6287.08
	6.30.17	ND	15.97	ND		6287.09
	12.28.17	ND	15.94	ND		6287.12
	6.20.18	ND	16.27	ND		6286.79
	1.17.19	ND	16.11	ND		6286.95
	8.01.19	ND	16.41	ND		6286.65
	12.31.19	ND	16.40	ND		6286.66
	6.11.20	ND	16.30	ND		6286.76
	12.10.20	ND	16.79	ND		6286.27
	6.29.21	ND	16.76	ND		6286.30
	12.17.21	ND	16.53	ND		6286.53

ENSOLUM

TABLE 2
Lateral K-31 (12/02/2011)
GROUNDWATER ELEVATIONS

Well I.D.	Date	Depth to Product (feet BTOC)	Depth to Water (feet BTOC)	Product Thickness (feet)	TOC Elevations (feet AMSL)	Groundwater Elevation (feet AMSL)
MW-10	12.10.20	ND	15.66	ND	6302.04	6286.38
	6.29.21	ND	15.62	ND		6286.42
	12.17.21	ND	15.40	ND		6286.64
MW-11	12.10.20	ND	17.03	ND	6303.61	6286.58
	6.29.21	ND	16.96	ND		6286.65
	12.17.21	ND	16.75	ND		6286.86

BTOC - Below Top of Casing
TOC - Top of Casing
ND - Not Detected
NG - Not Gauged
AMSL - Above Mean Sea Level (North American Vertical Datum 1988)

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APPENDIX C

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: clients.hallenvironmental.com

July 07, 2021

Kyle Summers

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

RE: Lateral K31 OrderNo.: 2106F62

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 10 sample(s) on 6/30/2021 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 **2106F62**
Date Reported: **7/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-7
Project: Lateral K31
Collection Date: 6/29/2021 9:40:00 AM
Lab ID: 2106F62-001 **Matrix:** AQUEOUS **Received Date:** 6/30/2021 8:44:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/2/2021 4:20:00 PM	SL79551
Toluene	ND	1.0		µg/L	1	7/2/2021 4:20:00 PM	SL79551
Ethylbenzene	ND	1.0		µg/L	1	7/2/2021 4:20:00 PM	SL79551
Xylenes, Total	ND	1.5		µg/L	1	7/2/2021 4:20:00 PM	SL79551
Surr: 1,2-Dichloroethane-d4	99.2	70-130		%Rec	1	7/2/2021 4:20:00 PM	SL79551
Surr: Dibromofluoromethane	97.9	70-130		%Rec	1	7/2/2021 4:20:00 PM	SL79551
Surr: Toluene-d8	93.9	70-130		%Rec	1	7/2/2021 4:20:00 PM	SL79551

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 **2106F62**
Date Reported: **7/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-6
Project: Lateral K31
Collection Date: 6/29/2021 10:10:00 AM
Lab ID: 2106F62-002 **Matrix:** AQUEOUS **Received Date:** 6/30/2021 8:44:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/2/2021 5:30:00 PM	SL79551
Toluene	ND	1.0		µg/L	1	7/2/2021 5:30:00 PM	SL79551
Ethylbenzene	ND	1.0		µg/L	1	7/2/2021 5:30:00 PM	SL79551
Xylenes, Total	ND	1.5		µg/L	1	7/2/2021 5:30:00 PM	SL79551
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	7/2/2021 5:30:00 PM	SL79551
Surr: Dibromofluoromethane	96.7	70-130		%Rec	1	7/2/2021 5:30:00 PM	SL79551
Surr: Toluene-d8	94.3	70-130		%Rec	1	7/2/2021 5:30:00 PM	SL79551

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 **2106F62**
Date Reported: **7/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-9
Project: Lateral K31
Collection Date: 6/29/2021 10:45:00 AM
Lab ID: 2106F62-003 **Matrix:** AQUEOUS **Received Date:** 6/30/2021 8:44:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/2/2021 5:53:00 PM	SL79551
Toluene	ND	1.0		µg/L	1	7/2/2021 5:53:00 PM	SL79551
Ethylbenzene	ND	1.0		µg/L	1	7/2/2021 5:53:00 PM	SL79551
Xylenes, Total	ND	1.5		µg/L	1	7/2/2021 5:53:00 PM	SL79551
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	7/2/2021 5:53:00 PM	SL79551
Surr: Dibromofluoromethane	97.5	70-130		%Rec	1	7/2/2021 5:53:00 PM	SL79551
Surr: Toluene-d8	94.5	70-130		%Rec	1	7/2/2021 5:53:00 PM	SL79551

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 **2106F62**
Date Reported: **7/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-8
Project: Lateral K31
Collection Date: 6/29/2021 11:05:00 AM
Lab ID: 2106F62-004 **Matrix:** AQUEOUS **Received Date:** 6/30/2021 8:44:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/2/2021 6:16:00 PM	SL79551
Toluene	ND	1.0		µg/L	1	7/2/2021 6:16:00 PM	SL79551
Ethylbenzene	1.7	1.0		µg/L	1	7/2/2021 6:16:00 PM	SL79551
Xylenes, Total	ND	1.5		µg/L	1	7/2/2021 6:16:00 PM	SL79551
Surr: 1,2-Dichloroethane-d4	98.6	70-130		%Rec	1	7/2/2021 6:16:00 PM	SL79551
Surr: Dibromofluoromethane	95.7	70-130		%Rec	1	7/2/2021 6:16:00 PM	SL79551
Surr: Toluene-d8	93.5	70-130		%Rec	1	7/2/2021 6:16:00 PM	SL79551

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 **2106F62**
Date Reported: **7/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-10
Project: Lateral K31
Collection Date: 6/29/2021 11:25:00 AM
Lab ID: 2106F62-005 **Matrix:** AQUEOUS **Received Date:** 6/30/2021 8:44:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/2/2021 6:39:00 PM	SL79551
Toluene	ND	1.0		µg/L	1	7/2/2021 6:39:00 PM	SL79551
Ethylbenzene	ND	1.0		µg/L	1	7/2/2021 6:39:00 PM	SL79551
Xylenes, Total	ND	1.5		µg/L	1	7/2/2021 6:39:00 PM	SL79551
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	7/2/2021 6:39:00 PM	SL79551
Surr: Dibromofluoromethane	95.6	70-130		%Rec	1	7/2/2021 6:39:00 PM	SL79551
Surr: Toluene-d8	93.9	70-130		%Rec	1	7/2/2021 6:39:00 PM	SL79551

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 **2106F62**
Date Reported: **7/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-5
Project: Lateral K31
Collection Date: 6/29/2021 12:05:00 PM
Lab ID: 2106F62-006 **Matrix:** AQUEOUS **Received Date:** 6/30/2021 8:44:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/2/2021 7:03:00 PM	SL79551
Toluene	ND	1.0		µg/L	1	7/2/2021 7:03:00 PM	SL79551
Ethylbenzene	ND	1.0		µg/L	1	7/2/2021 7:03:00 PM	SL79551
Xylenes, Total	ND	1.5		µg/L	1	7/2/2021 7:03:00 PM	SL79551
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	1	7/2/2021 7:03:00 PM	SL79551
Surr: Dibromofluoromethane	94.3	70-130		%Rec	1	7/2/2021 7:03:00 PM	SL79551
Surr: Toluene-d8	94.9	70-130		%Rec	1	7/2/2021 7:03:00 PM	SL79551

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 **2106F62**
Date Reported: **7/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-11
Project: Lateral K31
Collection Date: 6/29/2021 12:35:00 PM
Lab ID: 2106F62-007 **Matrix:** AQUEOUS **Received Date:** 6/30/2021 8:44:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/2/2021 7:26:00 PM	SL79551
Toluene	ND	1.0		µg/L	1	7/2/2021 7:26:00 PM	SL79551
Ethylbenzene	ND	1.0		µg/L	1	7/2/2021 7:26:00 PM	SL79551
Xylenes, Total	ND	1.5		µg/L	1	7/2/2021 7:26:00 PM	SL79551
Surr: 1,2-Dichloroethane-d4	100	70-130		%Rec	1	7/2/2021 7:26:00 PM	SL79551
Surr: Dibromofluoromethane	94.5	70-130		%Rec	1	7/2/2021 7:26:00 PM	SL79551
Surr: Toluene-d8	91.6	70-130		%Rec	1	7/2/2021 7:26:00 PM	SL79551

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 **2106F62**
Date Reported: **7/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-4
Project: Lateral K31
Collection Date: 6/29/2021 1:00:00 PM
Lab ID: 2106F62-008 **Matrix:** AQUEOUS **Received Date:** 6/30/2021 8:44:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/2/2021 7:49:00 PM	SL79551
Toluene	ND	1.0		µg/L	1	7/2/2021 7:49:00 PM	SL79551
Ethylbenzene	ND	1.0		µg/L	1	7/2/2021 7:49:00 PM	SL79551
Xylenes, Total	ND	1.5		µg/L	1	7/2/2021 7:49:00 PM	SL79551
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	7/2/2021 7:49:00 PM	SL79551
Surr: Dibromofluoromethane	95.3	70-130		%Rec	1	7/2/2021 7:49:00 PM	SL79551
Surr: Toluene-d8	93.7	70-130		%Rec	1	7/2/2021 7:49:00 PM	SL79551

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 **2106F62**
Date Reported: **7/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-1
Project: Lateral K31
Collection Date: 6/29/2021 1:40:00 PM
Lab ID: 2106F62-009 **Matrix:** AQUEOUS **Received Date:** 6/30/2021 8:44:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/2/2021 8:12:00 PM	SL79551
Toluene	ND	1.0		µg/L	1	7/2/2021 8:12:00 PM	SL79551
Ethylbenzene	ND	1.0		µg/L	1	7/2/2021 8:12:00 PM	SL79551
Xylenes, Total	ND	1.5		µg/L	1	7/2/2021 8:12:00 PM	SL79551
Surr: 1,2-Dichloroethane-d4	99.0	70-130		%Rec	1	7/2/2021 8:12:00 PM	SL79551
Surr: Dibromofluoromethane	94.3	70-130		%Rec	1	7/2/2021 8:12:00 PM	SL79551
Surr: Toluene-d8	93.8	70-130		%Rec	1	7/2/2021 8:12:00 PM	SL79551

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 **2106F62**
Date Reported: **7/7/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-2R
Project: Lateral K31
Collection Date: 6/29/2021 2:05:00 PM
Lab ID: 2106F62-010 **Matrix:** AQUEOUS **Received Date:** 6/30/2021 8:44:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	7/2/2021 8:35:00 PM	SL79551
Toluene	ND	1.0		µg/L	1	7/2/2021 8:35:00 PM	SL79551
Ethylbenzene	ND	1.0		µg/L	1	7/2/2021 8:35:00 PM	SL79551
Xylenes, Total	ND	1.5		µg/L	1	7/2/2021 8:35:00 PM	SL79551
Surr: 1,2-Dichloroethane-d4	99.5	70-130		%Rec	1	7/2/2021 8:35:00 PM	SL79551
Surr: Dibromofluoromethane	96.9	70-130		%Rec	1	7/2/2021 8:35:00 PM	SL79551
Surr: Toluene-d8	93.4	70-130		%Rec	1	7/2/2021 8:35:00 PM	SL79551

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#: **2106F62**

07-Jul-21

Client: ENSOLUM

Project: Lateral K31

Sample ID: **100ng 8260 lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **LCSW** Batch ID: **SL79551** RunNo: **79551**

Prep Date: Analysis Date: **7/2/2021** SeqNo: **2797618** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.3	70	130			
Toluene	20	1.0	20.00	0	98.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.2	70	130			
Surr: 4-Bromofluorobenzene	9.5		10.00		95.3	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.3	70	130			
Surr: Toluene-d8	9.6		10.00		95.9	70	130			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **PBW** Batch ID: **SL79551** RunNo: **79551**

Prep Date: Analysis Date: **7/2/2021** SeqNo: **2797619** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.7	70	130			
Surr: 4-Bromofluorobenzene	9.3		10.00		93.4	70	130			
Surr: Dibromofluoromethane	9.5		10.00		94.6	70	130			
Surr: Toluene-d8	9.4		10.00		93.9	70	130			

Sample ID: **2106F62-001ams** SampType: **MS** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **MW-7** Batch ID: **R79551** RunNo: **79551**

Prep Date: Analysis Date: **7/2/2021** SeqNo: **2798390** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.9	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.3	70	130			
Surr: Toluene-d8	9.6		10.00		95.7	70	130			

Sample ID: **2106F62-001amsd** SampType: **MSD** TestCode: **EPA Method 8260: Volatiles Short List**

Client ID: **MW-7** Batch ID: **R79551** RunNo: **79551**

Prep Date: Analysis Date: **7/2/2021** SeqNo: **2798391** Units: **%Rec**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	9.3		10.00		93.3	70	130	0	0	
Surr: Dibromofluoromethane	9.5		10.00		94.9	70	130	0	0	
Surr: Toluene-d8	9.3		10.00		92.8	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

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

Sample Log-In Check List

Client Name: **ENSOLUM** Work Order Number: **2106F62** RcptNo: 1

Received By: **Tracy Casarrubias** **6/30/2021 8:44:00 AM**

Completed By: **Sean Livingston** **6/30/2021 9:25:23 AM** Sean Livingston

Reviewed By: SPA 6.30.21

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: DAD 6.30.21

Special Handling (if applicable)

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

Person Notified: Date:

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

Regarding:

Client Instructions:

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.6	Good				

Chain-of-Custody Record

Client: Ensolum

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

Phone #: mgentry@ensolum.com

email or Fax#: ~~kSummers@en~~ LD

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: Lateral K-31

Project #: 05B12260002

Project Manager: M. Gentry

Sampler: L. Daniell

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp(including CF): 1.8-0.2=1.6 (°C)

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

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2106F62	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)
6/29/21	9:40	W	MW-7	3x40mL VOA	HgCl2	001	X									
6/29/21	10:10	W	MW-6	3x40mL VOA		002	X									
6/29/21	10:45	W	MW-~~8~~-9	3x40mL VOA		003	X									
6/29/21	11:25	W	MW-8	3x40mL VOA		004	X									
6/29/21	11:25	W	MW-10	3x40mL VOA		005	X									
6/29/21	12:05	W	MW-5	2x40mL VOA		006	X									
6/29/21	12:35	W	MW-11	2x40mL VOA		007	X									
6/29/21	13:00	W	MW-4	2x40mL VOA		008	X									
6/29/21	~~13:35~~ 13:40	W	MW-1	3x40mL VOA		009	X									
6/29/21	14:05	W	MW-2R	3x40mL VOA		010	X									

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/29/21	1549		Chris Walters		6/29/21	1549
6/29/21	1811	Chris Walters		courier	6.30.21	9:44

Remarks: Bill to Ensolum

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: clients.hallenvironmental.com

December 29, 2021

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

RE: Lateral K 31 OrderNo.: 2112B68

Dear Marc Gentry:

Hall Environmental Analysis Laboratory received 10 sample(s) on 12/18/2021 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 **2112B68**
Date Reported: **12/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-9
Project: Lateral K 31
Collection Date: 12/17/2021 9:45:00 AM
Lab ID: 2112B68-001
Matrix: AQUEOUS
Received Date: 12/18/2021 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2021 5:29:59 AM	R84776
Toluene	ND	1.0		µg/L	1	12/24/2021 5:29:59 AM	R84776
Ethylbenzene	ND	1.0		µg/L	1	12/24/2021 5:29:59 AM	R84776
Xylenes, Total	ND	2.0		µg/L	1	12/24/2021 5:29:59 AM	R84776
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/24/2021 5:29:59 AM	R84776

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 interference		

Analytical Report
Lab Order **2112B68**
Date Reported: **12/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-8
Project: Lateral K 31
Collection Date: 12/17/2021 10:45:00 AM
Lab ID: 2112B68-002 **Matrix:** AQUEOUS **Received Date:** 12/18/2021 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2021 5:53:38 AM	R84776
Toluene	ND	1.0		µg/L	1	12/24/2021 5:53:38 AM	R84776
Ethylbenzene	ND	1.0		µg/L	1	12/24/2021 5:53:38 AM	R84776
Xylenes, Total	ND	2.0		µg/L	1	12/24/2021 5:53:38 AM	R84776
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/24/2021 5:53:38 AM	R84776

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 interference		

Analytical Report
Lab Order **2112B68**
Date Reported: **12/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-10
Project: Lateral K 31
Collection Date: 12/17/2021 11:25:00 AM
Lab ID: 2112B68-003 **Matrix:** AQUEOUS **Received Date:** 12/18/2021 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2021 6:17:11 AM	R84776
Toluene	ND	1.0		µg/L	1	12/24/2021 6:17:11 AM	R84776
Ethylbenzene	ND	1.0		µg/L	1	12/24/2021 6:17:11 AM	R84776
Xylenes, Total	ND	2.0		µg/L	1	12/24/2021 6:17:11 AM	R84776
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/24/2021 6:17:11 AM	R84776

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 interference		

Analytical Report
Lab Order **2112B68**
Date Reported: **12/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-5
Project: Lateral K 31
Collection Date: 12/17/2021 12:00:00 PM
Lab ID: 2112B68-004 **Matrix:** AQUEOUS **Received Date:** 12/18/2021 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2021 8:38:17 AM	R84776
Toluene	ND	1.0		µg/L	1	12/24/2021 8:38:17 AM	R84776
Ethylbenzene	ND	1.0		µg/L	1	12/24/2021 8:38:17 AM	R84776
Xylenes, Total	ND	2.0		µg/L	1	12/24/2021 8:38:17 AM	R84776
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/24/2021 8:38:17 AM	R84776

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 interference		

Analytical Report
Lab Order **2112B68**
Date Reported: **12/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-6
Project: Lateral K 31
Collection Date: 12/17/2021 12:35:00 PM
Lab ID: 2112B68-005 **Matrix:** AQUEOUS **Received Date:** 12/18/2021 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2021 9:48:50 AM	R84776
Toluene	ND	1.0		µg/L	1	12/24/2021 9:48:50 AM	R84776
Ethylbenzene	ND	1.0		µg/L	1	12/24/2021 9:48:50 AM	R84776
Xylenes, Total	ND	2.0		µg/L	1	12/24/2021 9:48:50 AM	R84776
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/24/2021 9:48:50 AM	R84776

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 interference		

Analytical Report
Lab Order **2112B68**
Date Reported: **12/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-7
Project: Lateral K 31
Collection Date: 12/17/2021 1:05:00 PM
Lab ID: 2112B68-006 **Matrix:** AQUEOUS **Received Date:** 12/18/2021 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2021 10:12:24 AM	R84776
Toluene	ND	1.0		µg/L	1	12/24/2021 10:12:24 AM	R84776
Ethylbenzene	ND	1.0		µg/L	1	12/24/2021 10:12:24 AM	R84776
Xylenes, Total	ND	2.0		µg/L	1	12/24/2021 10:12:24 AM	R84776
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/24/2021 10:12:24 AM	R84776

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 interference		

Analytical Report
Lab Order **2112B68**
Date Reported: **12/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-11
Project: Lateral K 31
Collection Date: 12/17/2021 1:45:00 PM
Lab ID: 2112B68-007 **Matrix:** AQUEOUS **Received Date:** 12/18/2021 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2021 10:35:55 AM	R84776
Toluene	ND	1.0		µg/L	1	12/24/2021 10:35:55 AM	R84776
Ethylbenzene	ND	1.0		µg/L	1	12/24/2021 10:35:55 AM	R84776
Xylenes, Total	ND	2.0		µg/L	1	12/24/2021 10:35:55 AM	R84776
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	12/24/2021 10:35:55 AM	R84776

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 interference		

Analytical Report
Lab Order **2112B68**
Date Reported: **12/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-4
Project: Lateral K 31
Collection Date: 12/17/2021 2:20:00 PM
Lab ID: 2112B68-008 **Matrix:** AQUEOUS **Received Date:** 12/18/2021 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2021 10:59:24 AM	R84776
Toluene	ND	1.0		µg/L	1	12/24/2021 10:59:24 AM	R84776
Ethylbenzene	ND	1.0		µg/L	1	12/24/2021 10:59:24 AM	R84776
Xylenes, Total	ND	2.0		µg/L	1	12/24/2021 10:59:24 AM	R84776
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/24/2021 10:59:24 AM	R84776

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 interference		

Analytical Report
Lab Order **2112B68**
Date Reported: **12/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-1
Project: Lateral K 31
Collection Date: 12/17/2021 2:50:00 PM
Lab ID: 2112B68-009 **Matrix:** AQUEOUS **Received Date:** 12/18/2021 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2021 11:22:55 AM	R84776
Toluene	ND	1.0		µg/L	1	12/24/2021 11:22:55 AM	R84776
Ethylbenzene	ND	1.0		µg/L	1	12/24/2021 11:22:55 AM	R84776
Xylenes, Total	ND	2.0		µg/L	1	12/24/2021 11:22:55 AM	R84776
Surr: 4-Bromofluorobenzene	100	70-130		%Rec	1	12/24/2021 11:22:55 AM	R84776

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 interference		

Analytical Report
Lab Order **2112B68**
Date Reported: **12/29/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: ENSOLUM
Client Sample ID: MW-2R
Project: Lateral K 31
Collection Date: 12/17/2021 3:35:00 PM
Lab ID: 2112B68-010
Matrix: AQUEOUS
Received Date: 12/18/2021 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	1.0		µg/L	1	12/24/2021 11:46:29 AM	R84776
Toluene	ND	1.0		µg/L	1	12/24/2021 11:46:29 AM	R84776
Ethylbenzene	ND	1.0		µg/L	1	12/24/2021 11:46:29 AM	R84776
Xylenes, Total	ND	2.0		µg/L	1	12/24/2021 11:46:29 AM	R84776
Surr: 4-Bromofluorobenzene	98.7	70-130		%Rec	1	12/24/2021 11:46:29 AM	R84776

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 interference		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2112B68**
29-Dec-21

Client: ENSOLUM
Project: Lateral K 31

Sample ID: **100ng btex lcs** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW** Batch ID: **R84776** RunNo: **84776**
Prep Date: Analysis Date: **12/23/2021** SeqNo: **2981538** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	20	1.0	20.00	0	99.7	80	120			
Xylenes, Total	59	2.0	60.00	0	98.9	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		102	70	130			

Sample ID: **100ng btex lcs-II** SampType: **LCS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **LCSW** Batch ID: **R84776** RunNo: **84776**
Prep Date: Analysis Date: **12/24/2021** SeqNo: **2981539** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.3	80	120			
Toluene	20	1.0	20.00	0	98.3	80	120			
Ethylbenzene	20	1.0	20.00	0	97.5	80	120			
Xylenes, Total	58	2.0	60.00	0	97.1	80	120			
Surr: 4-Bromofluorobenzene	20		20.00		101	70	130			

Sample ID: **2112b68-004ams** SampType: **MS** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-5** Batch ID: **R84776** RunNo: **84776**
Prep Date: Analysis Date: **12/24/2021** SeqNo: **2981563** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	80	120			
Toluene	20	1.0	20.00	0	101	80	120			
Ethylbenzene	20	1.0	20.00	0	101	80	120			
Xylenes, Total	60	2.0	60.00	0	99.8	80	120			
Surr: 4-Bromofluorobenzene	21		20.00		103	70	130			

Sample ID: **2112b68-004amsd** SampType: **MSD** TestCode: **EPA Method 8021B: Volatiles**
Client ID: **MW-5** Batch ID: **R84776** RunNo: **84776**
Prep Date: Analysis Date: **12/24/2021** SeqNo: **2981564** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.7	80	120	2.83	20	
Toluene	20	1.0	20.00	0	98.4	80	120	2.28	20	
Ethylbenzene	20	1.0	20.00	0	98.5	80	120	2.27	20	
Xylenes, Total	59	2.0	60.00	0	98.3	80	120	1.60	20	
Surr: 4-Bromofluorobenzene	21		20.00		103	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 interference
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#: **2112B68**

29-Dec-21

Client: ENSOLUM

Project: Lateral K 31

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R84776**	RunNo: **84776**
Prep Date:	Analysis Date: **12/23/2021**	SeqNo: **2981571** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		100	70	130			

Sample ID: **mb-II**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**
Client ID: **PBW**	Batch ID: **R84776**	RunNo: **84776**
Prep Date:	Analysis Date: **12/24/2021**	SeqNo: **2981572** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	20		20.00		102	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 interference
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: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **ENSOLUM** Work Order Number: **2112B68** RcptNo: **1**

Received By: **Isaiah Ortiz** **12/18/2021 10:00:00 AM** I-OK

Completed By: **Desiree Dominguez** **12/20/2021 8:29:31 AM** DD

Reviewed By: 12/20/21 KPG

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: JA 12/20/21

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	2.6	Good	Yes			

Chain-of-Custody Record

Client: Ensolum, LLC

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

Phone #: ~~505~~

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: Lateral K-31

Project #: 05B1226002

Project Manager: M. Gentry

Sampler: L. Daniell

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 2.6°C-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. 2112B68	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)
12/17/21	9:45	W	MW-9	3x40mL VOA	$HgCl_2$	-001	X									
12/17/21	10:45	W	MW-8			-002	X									
12/17/21	11:25	W	MW-10			-003	X									
12/17/21	12:00	W	MW-5			-004	X									
12/17/21	12:35	W	MW-6			-005	X									
12/17/21	13:05	W	MW-7			-006	X									
12/17/21	13:45	W	MW-11			-007	X									
12/17/21	14:20	W	MW-4			-008	X									
12/17/21	14:50	W	MW-1			-009	X									
12/17/21	15:35	W	MW-2R	↓	↓	-010	X									

Date	Time	Relinquished by	Received by	Via	Date	Time
12/17/21	1710				12/17/21	1710
12/17/21	1824			courier	12/18/21	1000

Remarks: Bill to Ensolum

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.

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 146781

CONDITIONS

Operator:	OGRID:
Enterprise Field Services, LLC PO Box 4324 Houston, TX 77210	241602
	Action Number: 146781
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2020 Supplemental Environmental Site Investigation and Groundwater Monitoring Report for Lateral K-31 Pipeline Release: Content Satisfactory 1. Continue to conduct groundwater monitoring on a quarterly or semi-annual basis. 2. Continue to evaluate MNA and submit Stage 1 AP (unless it has already been submitted to NMOCD) 3. Submit the Stage 2-AP for approval by the NMOCD 4. Continue to submit updates and monitoring reports for 2023 by or no later than April 1, 2024.	8/28/2023