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January 25, 2024

REVIEWED
By Mike Buchanan at 9:37 am, Apr 17, 2024

**New Mexico Oil Conservation Division**
New Mexico Energy, Mineral, and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Review of the 2023 Fourth Quarter--Solar SVE System Update Trunk S: Content Satisfactory
1. Harvest may continue with future remediation activities as outlined in this report.
2. Install boreholes in proposed locations and conduct sampling at 5' intervals, starting from surface.
3. Submit results to NMOCD along with next report submission.

**Subject:** **2023 Fourth Quarter – Solar SVE System Update**
**Trunk S**
**Harvest Four Corners, LLC**
Incident Number NCS1931842879
Remediation Permit Number 3RP-1014
Rio Arriba County, New Mexico

To Whom it May Concern:

Ensolum, LLC (Ensolum), on behalf of Harvest Four Corners, LLC (Harvest), presents the following *2023 Fourth Quarter – Solar SVE System Update* report summarizing the soil vapor extraction (SVE) system performance at the Trunk S (Site), located in Unit I of Section 7, Township 25 North, Range 03 West, in Rio Arriba County, New Mexico (Figure 1).

## BACKGROUND

The solar SVE system was installed in late 2019, with full time system operation beginning on July 16, 2020, to remediate subsurface impacts following a release on June 25, 2019. The release occurred from an underground natural gas pipeline leak associated with the Site and consisted of more than 25 barrels (bbls) of condensate and 278.5 thousand cubic feet (MCF) of natural gas. Harvest reported the release to the New Mexico Oil Conservation Division (NMOCD) on a release Notification and Corrective Action Form C-141 on September 20, 2019, and the event was assigned Incident Number NCS1931842879. Approximately 2,000 cubic yards ($yd^3$) of impacted soil were excavated and transported off site for disposal. Due to the extent of the release, the excavation was unsuccessful at removing all impacted soil and the excavation was backfilled with the stockpiled soils after repairing the pipeline leak. A solar SVE system was installed to remediate residual impacts resulting from the release. Reports summarizing remediation system operation for previous quarters of system operation have been submitted to the NMOCD.

## SOLAR SVE SYSTEM OPERATION AND MONITORING

The solar SVE system is comprised of five SVE wells (SB-1 through SB-5), installed at depths ranging from 30 to 50 feet below ground surface (bgs), plumbed to a VariSun Mobile Solar SVE unit consisting of a 4.6 horsepower vacuum blower capable of extracting 190 cubic feet per minute (cfm) at 50 inches of water column (IWC) vacuum. Each SVE well has a dedicated leg with an adjustable valve and vacuum gauge to control the individual flow rates and vacuum prior to manifolding together before the liquid knockout tank and blower. Harvest utilized a solar-powered SVE system due to the remote location and the lack of electrical grid power at the Site. The direct-drive blower motor is connected to solar panels via a motor controller that automatically starts the system as sunlight is available and throttles the blower up as sun power increases throughout the day to maximize efficiency. Seasonally, there are approximately 10 hours in the winter and 12 hours in the summer of available solar power in Farmington, New Mexico. The complete solar

SVE system is constructed as one unit designed for utilization at off-grid locations and operates autonomously. The layout of the solar SVE system is depicted on Figure 2.

Between full time startup of the solar SVE system on July 16, 2020, and the last quarterly Site visit on December 21, 2023, there have been 1,254 days of operation, with an estimated 14,406 total hours of nominal daylight available for solar SVE system operations. Since installation, the system had an actual runtime of 14,944 hours, for an overall uptime of 103.7 percent (%) of the available runtime hours based on the average available nominal daylight hours (per the National Renewable Energy Laboratory (NREL)). A photographic log of the runtime hours meter readings is included as Appendix A. Below is a table summarizing SVE system runtime in comparison with nominal available daylight hours per month.

**SVE System Runtime**

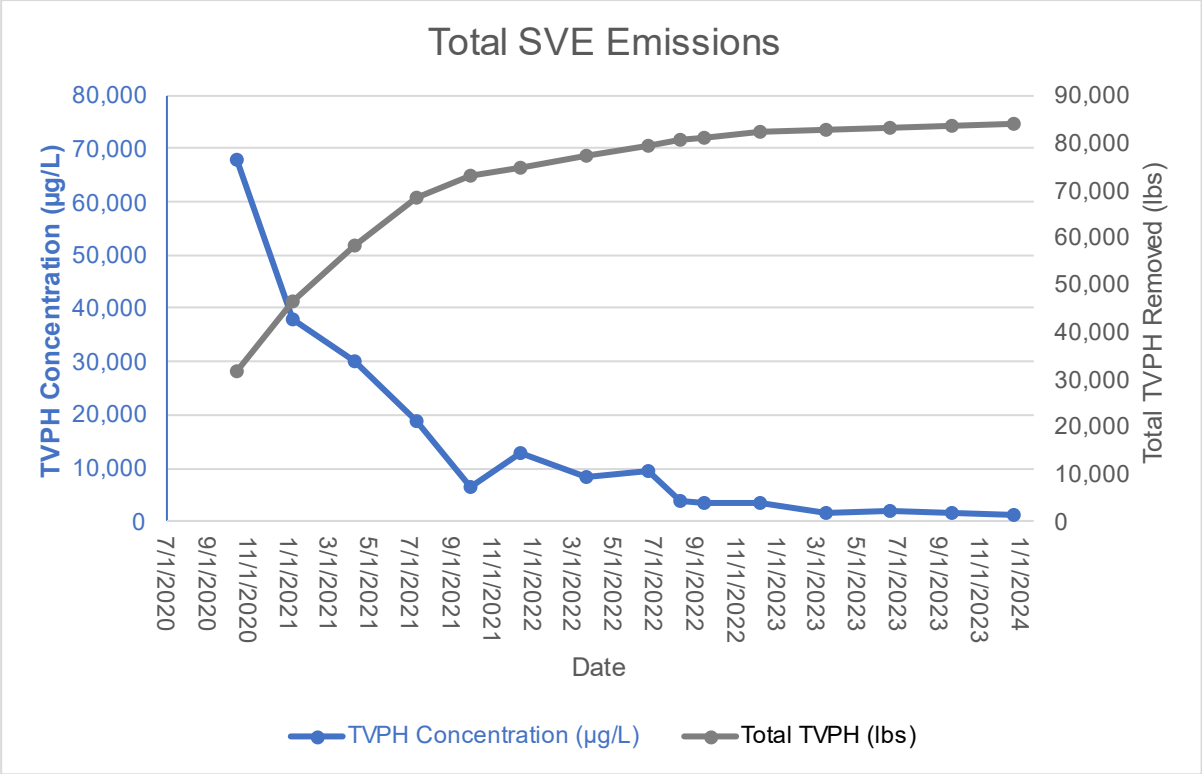
| Time Period | Start up July 16, 2020 to September 20, 2023 | September 21, 2023 to September 30, 2023 | October 1, 2023 to October 31, 2023 | November 1, 2023 to November 30, 2023 | December 1, 2023 to December 21, 2023 |
|---|---|---|---|---|---|
| Days | 1,162 | 10 | 31 | 30 | 21 |
| Avg. Nominal Daylight Hours | 11.58 | 12 | 11 | 10 | 9 |
| Available Runtime Hours | 13,456 | 120 | 341 | 300 | 189 |

| | |
|---|---|
| **Total Available Daylight Runtime Hours** | **14,406** |
| **Actual Runtime Hours** | **14,944** |
| **Cumulative % Runtime** | **103.7%** |
| **Quarterly Available Daylight Runtime Hours** | **950** |
| **Quarterly Runtime Hours** | **951** |
| **Quarterly % Runtime** | **100.1%** |

## AIR EMISSIONS MONITORING

An initial air sample was collected on July 16, 2020, from the influent side of the blower on the SVE system. Subsequent air samples were collected quarterly with the most recent sample collected on December 21, 2023 (Table 1). Samples were collected in 1-liter Tedlar® bags via a high vacuum air sampler and submitted to Eurofins Environmental Testing Laboratory in Albuquerque, New Mexico, for analyses of volatile organic compounds (VOCs) following United States Environmental Protection Agency (EPA) Method 8260B, total volatile petroleum hydrocarbons (TVPH) following EPA Method 8015, and oxygen and carbon dioxide following Gas Processors Association Method 2261. The laboratory analytical report from the December 2023 sampling event is included as Appendix B.

Estimated air emissions were calculated using air sample data collected to date (Table 2). The impacted mass source removal via the solar SVE system to-date is estimated to be 83,910 pounds (lbs) (or 41.96 tons) of TVPH. Since system startup, petroleum hydrocarbon emissions have steadily declined as shown in the chart below.




**Notes:**

TVPH – total volatile petroleum hydrocarbons
µg/L – micrograms per liter
lbs – pounds

The mass removal rate has steadily decreased over time. The December 2023 TVPH emissions rate decreased slightly from September 2023 to approximately 0.45 pounds per hour (lbs/hr) or approximately 4.73 pounds per day (lbs/day).

## CLOSURE PLAN

Concentrations of TVPH and mass removal at the Site have been approaching an asymptotic level since September 2022, indicating that reduction of hydrocarbon impacts is nearing the maximum extent practicable. Ensolum proposes drilling two boreholes to 55 feet below ground surface (bgs), within the former excavation footprint to collect soil samples for Site closure. Ensolum will collect soil samples from the interval with the highest photoionization detector (PID) readings and from the terminus of each borehole. Proposed borehole locations are between SB-1 and SB-4 and between SB-2 and SB-3. These locations are proposed in order to sample representative soil from the former excavation walls, floor and fill material. Proposed borehole locations are presented on Figure 2. Soil samples will be analyzed for benzene, toluene, ethylbenzene, and total xylenes (BTEX), Total petroleum hydrocarbons (TPH) as a combination of gasoline range organics (GRO), diesel range organics (DRO), and motor oil range organics (MRO) and chloride (Cl) per Table I Closure Criteria.

### SITE CLOSURE CRITERIA

In accordance with the *Table I, Closure Criteria for Soils Impacted by a Release* (19.15.29.12 NMAC), the following Closure Criteria for constituents of concern (COCs) has been applied to the Site:

- Benzene: 10 milligrams per kilogram (mg/kg)
- BTEX: 50 mg/kg

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

If the final delineation samples indicate hydrocarbon impacts have been reduced to concentrations in compliance with Site specific Table I Closure Criteria, Ensolum will present the confirmation laboratory analysis data in a report and request closure of the release. Should the results indicate analytes in the soil exceed the Table I Closure Criteria, Ensolum will either make operational adjustments and restart the SVE system or develop an alternative remedial approach to reach Site closure based on the results of the investigation.

## PLAN FOR NEXT QUARTER OF OPERATION

Until this plan is approved, Ensolum will continue quarterly sampling and reporting, and will continue to visit the Site monthly to ensure a minimum of 90% runtime efficiency continues and that any maintenance issues are addressed in a timely manner. An air sample will be collected in the first quarter of 2024 and analyzed for VOCs, TVPH, and oxygen and carbon dioxide. An updated quarterly report with sample results, runtime, and mass source removal will be submitted under separate cover.

Ensolum appreciates the opportunity to provide this report to the NMOCD. If you have any questions or comments regarding this update, do not hesitate to contact Danny Burns at (303) 601-1420 or via email at dburns@ensolum.com or Monica Smith at (505) 632-4625 or at msmith@harvestmidstream.com.

Sincerely,

**ENSOLUM, LLC**

Reece Hanson
Staff Geologist

Danny Burns
Senior Geologist

**APPENDICES**

Figure 1 – Site Location Map
Figure 2 – SVE System Layout
Table 1 – Soil Vapor Extraction System Laboratory Analytical Results
Table 2 – Soil Vapor Extraction System Mass Removal and Emissions
Appendix A – Photographic Log
Appendix B – Laboratory Analytical Report

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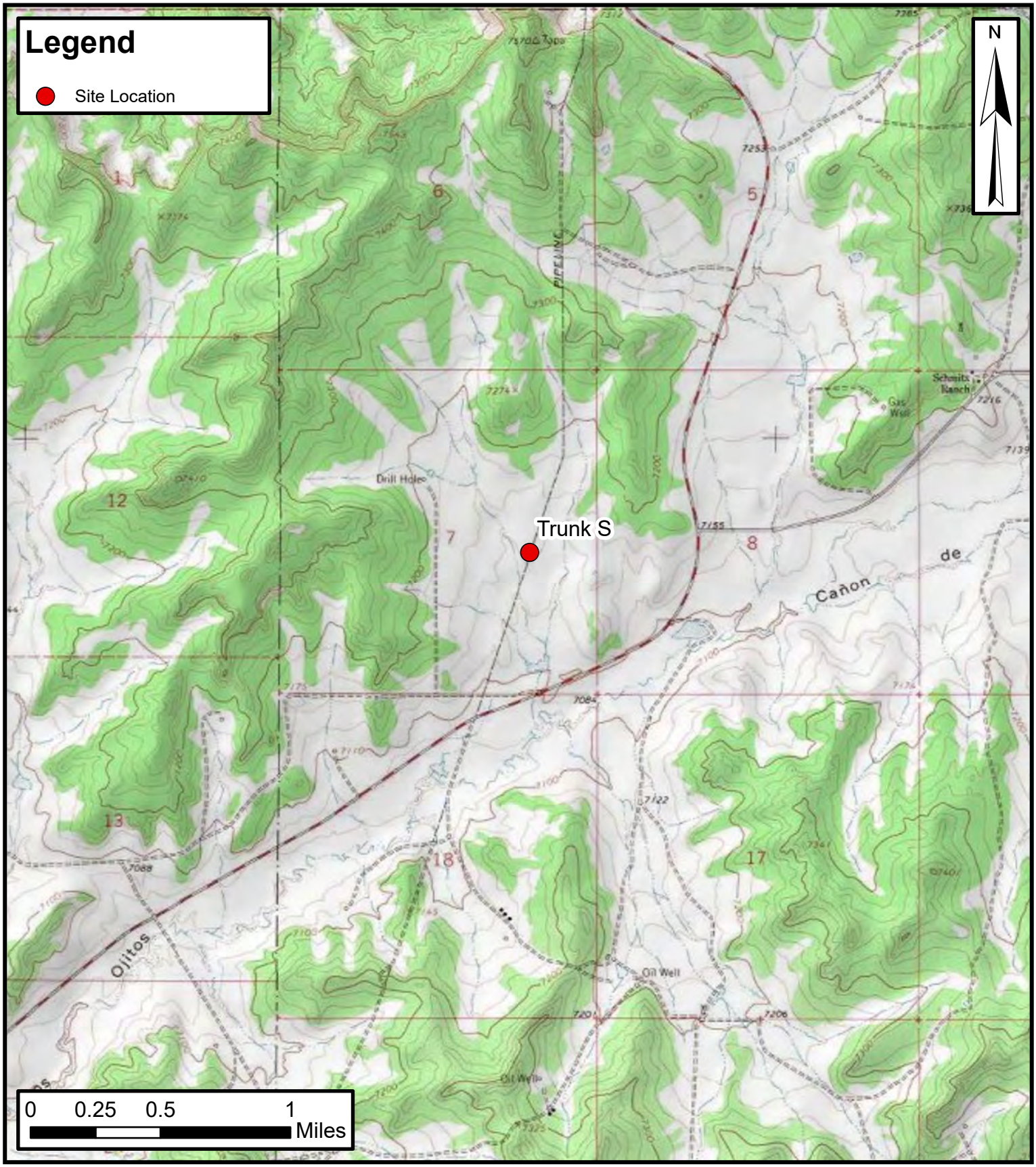
# FIGURES

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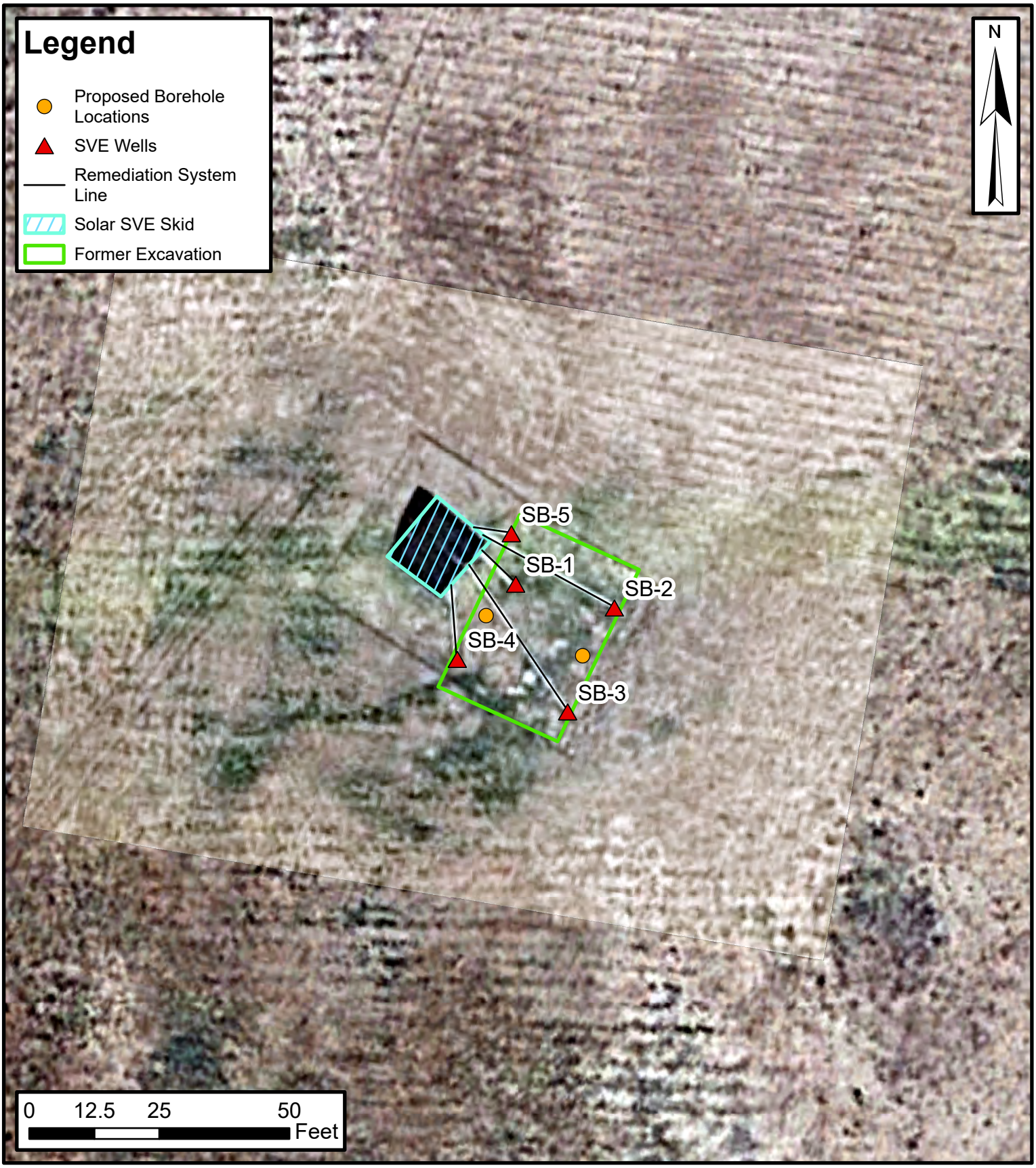
# Site Location Map

Trunk S
Harvest Four Corners, LLC

36.41189°, -107.18085°
Rio Arriba County, New Mexico

FIGURE
1


Sources: Environmental Systems Research Institute (ESRI), National Geographic society, i-cubed

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# Proposed Borehole Locations

Trunk S
Harvest Four Corners, LLC
36.41189°, -107.18085°
Rio Arriba County, New Mexico

FIGURE
2

Sources: Google Earth

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# TABLES

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# TABLE 1
## SOIL VAPOR EXTRACTION SYSTEM LABORATORY ANALYTICAL RESULTS
## Trunk S
## Harvest Four Corners, LLC
## Rio Arriba County, New Mexico

| Date | PID (ppm) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | TVPH/GRO (µg/L) | Oxygen (Mol %) | Carbon Dioxide (Mol %) |
|---|---|---|---|---|---|---|---|---|
| 7/16/2020* | 4,268 | 1,700 | 1,570 | 29.4 | 517.9 | NA | 20.20 | 0.67 |
| 9/3/2020* | 1,100 | 45 | 220 | 22 | 230 | NA | NA | NA |
| 9/30/2020* | 1,200 | 49 | 480 | 86 | 770 | NA | NA | NA |
| 10/14/2020* | 1,357 | 150 | 460 | 15 | 270 | 68,000 | 20.94 | 0.93 |
| 1/8/2021* | 786 | 76 | 310 | 9.1 | 150 | 38,000 | 20.81 | 0.88 |
| 4/9/2021* | 898 | 50 | 160 | 8.2 | 140 | 30,000 | 21.54 | 0.49 |
| 7/12/2021* | 859 | 33 | 150 | 12 | 210 | 19,000 | 21.47 | 0.49 |
| 9/29/2020* | 561 | 15 | 77 | 5.3 | 85 | 6,500 | 21.57 | 0.54 |
| 12/14/2021* | NM | 22 | 140 | 10 | 170 | 13,000 | 21.83 | 0.40 |
| 3/23/2022* | 545 | 17 | 90 | 7.9 | 130 | 8,300 | 21.95 | 0.35 |
| 6/23/2022 | 605 | 6.5 | 42 | 3.5 | 49 | 9,300 | 21.39 | 0.45 |
| 8/11/2022 | 789 | 6.4 | 48 | 5.5 | 78 | 4,000 | NA | NA |
| 9/15/2022 | 487 | 5.7 | 37 | 4.6 | 59 | 3,400 | 20.91 | 0.66 |
| 12/7/2022 | 457 | 3.8 | 38 | 5.2 | 67 | 3,300 | 21.35 | 0.63 |
| 3/15/2023 | 370 | 2.7 | 24 | 2.4 | 32 | 1,800 | 21.34 | 0.53 |
| 6/21/2023 | 418 | 2.2 | 15 | 2.3 | 27 | 2,000 | 21.04 | 0.54 |
| 9/20/2023 | 318 | 1.3 | 16 | 2.4 | 35 | 1,700 | 21.42 | 0.53 |
| 12/21/2023 | 325 | 0.9 | 9.8 | 2.0 | 28 | 1,400 | 21.54 | 0.50 |

**Notes:**

* - data collected by Animas Environmental
GRO: gasoline range organics
µg/L: micrograms per liter
Mol'%: mole percent
NM: not measured
NA: not analyzed
PID: photoionization detector
ppm: parts per million
TVPH: total volatile petroleum hydrocarbons

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# TABLE 2
## SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS
## Trunk S
## Harvest Four Corners, LLC
## Rio Arriba County, New Mexico

**Laboratory Analysis**

| Date | PID (ppm) | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes (µg/L) | TVPH (µg/L) |
|---|---|---|---|---|---|---|
| 7/16/2020 | 4,268 | 1,700 | 1,570 | 29.4 | 517.9 | NS |
| 9/3/2020 | 1,100 | 45 | 220 | 22 | 230 | NS |
| 9/30/2020 | 1,200 | 49 | 480 | 86 | 770 | NS |
| 10/14/2020 | 1,357 | 150 | 460 | 15 | 270 | 68,000 |
| 1/8/2021 | 786 | 76 | 310 | 9.1 | 150 | 38,000 |
| 4/9/2021 | 898 | 50 | 160 | 8.2 | 140 | 30,000 |
| 7/12/2021 | 859 | 33 | 150 | 12 | 210 | 19,000 |
| 9/29/2021 | 561 | 15 | 77 | 5.3 | 85 | 6,500 |
| 12/14/2021 | 553 | 22 | 140 | 10 | 170 | 13,000 |
| 3/23/2022 | 545 | 17 | 90 | 7.9 | 130 | 8,300 |
| 6/23/2022 | 605 | 6.5 | 42 | 3.5 | 49 | 9,300 |
| 8/11/2022 | 789 | 6.4 | 48 | 5.5 | 78 | 4,000 |
| 9/15/2022 | 487 | 5.7 | 37 | 4.6 | 59 | 3,400 |
| 12/7/2022 | 457 | 3.8 | 38 | 5.2 | 67 | 3,300 |
| 3/15/2023 | 370 | 2.7 | 24 | 2.4 | 32 | 1,800 |
| 6/21/2023 | 418 | 2.2 | 15 | 2.3 | 27 | 2,000 |
| 9/20/2023 | 318 | 1.3 | 16 | 2.4 | 35 | 1,700 |
| 12/21/2023 | 325 | 0.9 | 9.8 | 2.0 | 28 | 1,400 |
| **Average** | 883 | 121 | 216 | 13 | 169 | 13,980 |

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# TABLE 2
## SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS
## Trunk S
## Harvest Four Corners, LLC
## Rio Arriba County, New Mexico

**Average Vapor Extraction Summary**

| Date | Flow Rate (cfm) | Total System Flow (cf) | Delta Flow (cf) | Benzene (lb/hr) | Toluene (lb/hr) | Ethylbenzene (lb/hr) | Total Xylenes (lb/hr) | TVPH (lb/hr) |
|---|---|---|---|---|---|---|---|---|
| 7/16/2020 | 88 | 1,700,160 | 1,700,160 | 0.56 | 0.52 | 0.010 | 0.17 | -- |
| 9/3/2020 | 86 | 5,007,720 | 3,307,560 | 0.28 | 0.29 | 0.008 | 0.12 | -- |
| 9/30/2020 | 87 | 6,756,420 | 1,748,700 | 0.02 | 0.11 | 0.018 | 0.16 | -- |
| 10/14/2020 | 86 | 7,540,740 | 784,320 | 0.03 | 0.15 | 0.016 | 0.17 | 22.00 |
| 1/8/2021 | 94 | 12,193,740 | 4,653,000 | 0.04 | 0.14 | 0.004 | 0.07 | 17.84 |
| 4/9/2021 | 92 | 17,553,660 | 5,359,920 | 0.02 | 0.08 | 0.003 | 0.05 | 11.83 |
| 7/12/2021 | 85 | 24,127,560 | 6,573,900 | 0.01 | 0.05 | 0.003 | 0.06 | 8.11 |
| 9/29/2021 | 92 | 29,730,360 | 5,602,800 | 0.01 | 0.04 | 0.003 | 0.05 | 4.22 |
| 12/14/2021 | 42 | 31,650,600 | 1,920,240 | 0.00 | 0.02 | 0.001 | 0.02 | 2.44 |
| 3/23/2022 | 74 | 36,077,280 | 4,426,680 | 0.01 | 0.03 | 0.002 | 0.04 | 2.31 |
| 6/23/2022 | 47.6 | 39,581,592 | 3,504,312 | 0.00 | 0.01 | 0.001 | 0.02 | 2.00 |
| 8/11/2022 | 93 | 43,331,352 | 3,749,760 | 0.00 | 0.02 | 0.002 | 0.02 | 1.75 |
| 9/15/2022 | 97 | 45,892,152 | 2,560,800 | 0.00 | 0.02 | 0.002 | 0.02 | 1.31 |
| 12/7/2022 | 44 | 48,584,952 | 2,692,800 | 0.00 | 0.01 | 0.001 | 0.01 | 0.88 |
| 3/15/2023 | 36 | 50,798,952 | 2,214,000 | 0.00 | 0.00 | 0.001 | 0.01 | 0.38 |
| 6/21/2023 | 71 | 55,425,312 | 4,626,360 | 0.00 | 0.01 | 0.001 | 0.01 | 0.38 |
| 9/20/2023 | 65 | 60,123,492 | 4,698,180 | 0.00 | 0.00 | 0.001 | 0.01 | 0.47 |
| 12/21/2023 | 90 | 65,258,892 | 5,135,400 | 0.00 | 0.00 | 0.001 | 0.01 | 0.45 |
| | | | **Average** | 0.05 | 0.08 | 0.00 | 0.06 | 5.09 |

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# TABLE 2
## SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS
## Trunk S
## Harvest Four Corners, LLC
## Rio Arriba County, New Mexico

**Flow and Laboratory Analysis**

| Date | Total SVE System Hours | Delta Hours | Benzene (pounds) | Toluene (pounds) | Ethylbenzene (pounds) | Total Xylenes (pounds) | TVPH (pounds) | TVPH (tons) |
|---|---|---|---|---|---|---|---|---|
| 7/16/2020 | 322 | 322 | 180 | 166 | 3 | 55 | -- | -- |
| 9/3/2020 | 963 | 641 | 180 | 185 | 5 | 77 | -- | -- |
| 9/30/2020 | 1,298 | 335 | 5 | 38 | 6 | 55 | -- | -- |
| 10/14/2020 | 1,450 | 152 | 5 | 23 | 2 | 25 | 31,899 | 15.9 |
| 1/8/2021 | 2,275 | 825 | 33 | 112 | 3 | 61 | 14,718 | 7.4 |
| 4/9/2021 | 3,246 | 971 | 21 | 79 | 3 | 48 | 11,483 | 5.7 |
| 7/12/2021 | 4,535 | 1,289 | 17 | 64 | 4 | 72 | 10,453 | 5.2 |
| 9/29/2021 | 5,550 | 1,015 | 8 | 40 | 3 | 52 | 4,284 | 2.1 |
| 12/14/2021 | 6,312 | 762 | 2 | 13 | 1 | 15 | 1,862 | 0.9 |
| 3/23/2022 | 7,309 | 997 | 5 | 32 | 2 | 41 | 2,303 | 1.2 |
| 6/23/2022 | 8,536 | 1,227 | 3 | 14 | 1 | 20 | 2,455 | 1.2 |
| 8/11/2022 | 9,208 | 672 | 2 | 11 | 1 | 15 | 1,175 | 0.6 |
| 9/15/2022 | 9,648 | 440 | 1 | 7 | 1 | 11 | 578 | 0.3 |
| 12/7/2022 | 10,668 | 1,020 | 1 | 6 | 1 | 11 | 901 | 0.5 |
| 3/15/2023 | 11,693 | 1,025 | 0 | 4 | 1 | 7 | 391 | 0.2 |
| 6/21/2023 | 12,779 | 1,086 | 1 | 6 | 1 | 9 | 413 | 0.2 |
| 9/20/2023 | 13,993 | 1,214 | 1 | 5 | 1 | 9 | 569 | 0.3 |
| 12/21/2023 | 14,944 | 951 | 0 | 4 | 1 | 10 | 426 | 0.2 |
| **Total Mass Recovery to Date** | | | 465 | 807 | 40 | 592 | 83,910 | 41.96 |

***Notes:***

*cf: cubic feet*

*cfm: cubic feet per minute*

*µg/L: micrograms per liter*

*lb/hr: pounds per hour*

*--: not sampled*

*PID: photoionization detector*

*ppm: parts per million*

*TVPH: total volatile petroleum hydrocarbons*

*VOC : volatile organic compounds*

*VOC Mass Removed (lbs) = Influent VOCs ($mg/m^3$) * Air Flow Rates (cfm) * (1 $m^3$/35.3147 $ft^3$) * (1 lb/453,592 mg) * Time Period (min)*

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# APPENDIX A

## Photographic Log

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**Photographic Log**
**Trunk S**
Harvest Four Corners, LLC
Rio Arriba County, New Mexico

Photo #1
SVE Hours Reading 10/18/2023

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**Photographic Log**
**Trunk S**
Harvest Four Corners, LLC
Rio Arriba County, New Mexico

Photo #2
SVE Hours Reading 11/27/2023

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**Photographic Log**
**Trunk S**
Harvest Four Corners, LLC
Rio Arriba County, New Mexico

Photo #3
SVE Hours Reading 12/21/2023

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# APPENDIX B

## Laboratory Analytical Report

eurofins | Environment Testing

*Eurofins Environment Testing South Central, LLC*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975 FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

January 12, 2024

Monica Smith
Harvest
1755 Arroyo Dr.
Bloomfield, NM 87413
TEL: (505) 632-4475
FAX:

RE: Trunk S OrderNo.: 2312D10

Dear Monica Smith:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 12/22/2023 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 do not hesitate to contact Eurofins Albuquerque 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 **2312D10**
Date Reported: **1/12/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Harvest
**Client Sample ID:** Q4 Influent
**Project:** Trunk S
**Collection Date:** 12/21/2023 11:55:00 AM
**Lab ID:** 2312D10-001 **Matrix:** AIR **Received Date:** 12/22/2023 6:45:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8015D: GASOLINE RANGE** | | | | | | Analyst: **JJP** | |
| Gasoline Range Organics (GRO) | 1400 | 50 | | µg/L | 10 | 12/29/2023 2:05:09 PM | GA10215 |
| Surr: BFB | 232 | 15-412 | | %Rec | 10 | 12/29/2023 2:05:09 PM | GA10215 |
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **RAA** | |
| Benzene | 0.85 | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Toluene | 9.8 | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Ethylbenzene | 2.0 | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Methyl tert-butyl ether (MTBE) | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,2,4-Trimethylbenzene | 0.97 | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,3,5-Trimethylbenzene | 1.3 | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,2-Dichloroethane (EDC) | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,2-Dibromoethane (EDB) | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Naphthalene | ND | 1.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1-Methylnaphthalene | ND | 2.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 2-Methylnaphthalene | ND | 2.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Acetone | ND | 5.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Bromobenzene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Bromodichloromethane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Bromoform | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Bromomethane | ND | 1.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 2-Butanone | ND | 5.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Carbon disulfide | ND | 5.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Carbon tetrachloride | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Chlorobenzene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Chloroethane | ND | 1.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Chloroform | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Chloromethane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 2-Chlorotoluene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 4-Chlorotoluene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| cis-1,2-DCE | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| cis-1,3-Dichloropropene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,2-Dibromo-3-chloropropane | ND | 1.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Dibromochloromethane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Dibromomethane | ND | 1.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,2-Dichlorobenzene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,3-Dichlorobenzene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,4-Dichlorobenzene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Dichlorodifluoromethane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,1-Dichloroethane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,1-Dichloroethene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |

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 | Above Quantitation Range/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 standard limits. If undiluted results may be estimated. |

**Analytical Report**
Lab Order **2312D10**
Date Reported: **1/12/2024**

# Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Harvest
**Client Sample ID:** Q4 Influent
**Project:** Trunk S
**Collection Date:** 12/21/2023 11:55:00 AM
**Lab ID:** 2312D10-001 **Matrix:** AIR **Received Date:** 12/22/2023 6:45:00 AM

| Analyses | Result | RL | Qual | Units | DF | Date Analyzed | Batch |
|---|---|---|---|---|---|---|---|
| **EPA METHOD 8260B: VOLATILES** | | | | | | Analyst: **RAA** | |
| 1,2-Dichloropropane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,3-Dichloropropane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 2,2-Dichloropropane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,1-Dichloropropene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Hexachlorobutadiene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 2-Hexanone | ND | 5.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Isopropylbenzene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 4-Isopropyltoluene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 4-Methyl-2-pentanone | ND | 5.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Methylene chloride | ND | 1.5 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| n-Butylbenzene | ND | 1.5 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| n-Propylbenzene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| sec-Butylbenzene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Styrene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| tert-Butylbenzene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,1,1,2-Tetrachloroethane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,1,2,2-Tetrachloroethane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Tetrachloroethene (PCE) | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| trans-1,2-DCE | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| trans-1,3-Dichloropropene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,2,3-Trichlorobenzene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,2,4-Trichlorobenzene | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,1,1-Trichloroethane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,1,2-Trichloroethane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Trichloroethene (TCE) | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Trichlorofluoromethane | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| 1,2,3-Trichloropropane | ND | 1.0 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Vinyl chloride | ND | 0.50 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Xylenes, Total | 28 | 0.75 | | µg/L | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Surr: Dibromofluoromethane | 101 | 70-130 | | %Rec | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Surr: 1,2-Dichloroethane-d4 | 98.0 | 70-130 | | %Rec | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Surr: Toluene-d8 | 120 | 70-130 | | %Rec | 5 | 1/3/2024 1:05:00 PM | R102204 |
| Surr: 4-Bromofluorobenzene | 111 | 70-130 | | %Rec | 5 | 1/3/2024 1:05:00 PM | R102204 |

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 | Above Quantitation Range/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 standard limits. If undiluted results may be estimated. | | |

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# ANALYTICAL SUMMARY REPORT

January 09, 2024

Hall Environmental
4901 Hawkins St NE Ste D
Albuquerque, NM 87109-4372

Work Order: B23121707 Quote ID: B15626

Project Name: Tedlar Gas Analysis

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 12/28/2023 for analysis.

| Lab ID | Client Sample ID | Collect Date | Receive Date | Matrix | Test |
|---|---|---|---|---|---|
| B23121707-001 | 2312D10-001B - Q4 Influent | 12/21/23 11:55 | 12/28/23 | Air | Air Correction Calculations<br>Appearance and Comments<br>Calculated Properties<br>GPM @ std cond,/1000 cu. ft., moist. Free<br>Natural Gas Analysis<br>Specific Gravity @ 60/60 |

The analyses presented in this report were performed by Energy Laboratories, Inc., 1120 S 27th St., Billings, MT 59101, unless otherwise noted. Any exceptions or problems with the analyses are noted in the report package. Any issues encountered during sample receipt are documented in the Work Order Receipt Checklist.

The results as reported relate only to the item(s) submitted for testing. This report shall be used or copied only in its entirety. Energy Laboratories, Inc. is not responsible for the consequences arising from the use of a partial report.

If you have any questions regarding these test results, please contact your Project Manager.

Report Approved By:

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# LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Hall Environmental
**Project:** Tedlar Gas Analysis
**Lab ID:** B23121707-001
**Client Sample ID:** 2312D10-001B - Q4 Influent

**Report Date:** 01/09/24
**Collection Date:** 12/21/23 11:55
**DateReceived:** 12/28/23
**Matrix:** Air

| Analyses | Result | Units | Qualifiers | RL | MCL/ QCL | Method | Analysis Date / By |
|---|---|---|---|---|---|---|---|
| **GAS CHROMATOGRAPHY ANALYSIS REPORT** | | | | | | | |
| Oxygen | 21.54 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Nitrogen | 77.96 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Carbon Dioxide | 0.50 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Hydrogen Sulfide | <0.01 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Methane | <0.01 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Ethane | <0.01 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Propane | <0.01 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Isobutane | <0.01 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| n-Butane | <0.01 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Isopentane | <0.01 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| n-Pentane | <0.01 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Hexanes plus | <0.01 | Mol % | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Propane | < 0.001 | gpm | | 0.001 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Isobutane | < 0.001 | gpm | | 0.001 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| n-Butane | < 0.001 | gpm | | 0.001 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Isopentane | < 0.001 | gpm | | 0.001 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| n-Pentane | < 0.001 | gpm | | 0.001 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Hexanes plus | < 0.001 | gpm | | 0.001 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| GPM Total | < 0.001 | gpm | | 0.001 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| GPM Pentanes plus | < 0.001 | gpm | | 0.001 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| **CALCULATED PROPERTIES** | | | | | | | |
| Gross BTU per cu ft @ Std Cond. (HHV) | ND | | | 1 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Net BTU per cu ft @ std cond. (LHV) | ND | | | 1 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Pseudo-critical Pressure, psia | 547 | | | 1 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Pseudo-critical Temperature, deg R | 240 | | | 1 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| Specific Gravity @ 60/60F | 1.00 | | | 0.001 | | D3588-81 | 01/02/24 01:06 / jrj |
| Air, % | 98.42 | | | 0.01 | | GPA 2261-95 | 01/02/24 01:06 / jrj |
| - The analysis was not corrected for air. | | | | | | | |
| **COMMENTS** | | | | | | | |
| - | | | | | | - | 01/02/24 01:06 / jrj |

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.
- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.
- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.
- Standard conditions: 60 F & 14.73 psi on a dry basis.

**Report Definitions:**
RL - Analyte Reporting Limit
QCL - Quality Control Limit
MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)

# QA/QC Summary Report

Prepared by Billings, MT Branch

**Client:** Hall Environmental **Work Order:** B23121707 **Report Date:** 01/09/24

| Analyte | Count | Result | Units | RL | %REC | Low Limit | High Limit | RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| **Method:** **GPA 2261-95** | | | | | | | | | | Batch: R414590 |
| **Lab ID:** **B23121706-001ADUP** | 12 | Sample Duplicate | | | | Run: GCNGA-B_240102A | | | | 01/02/24 12:06 |
| Oxygen | | 20.8 | Mol % | 0.01 | | | | 0 | 20 | |
| Nitrogen | | 78.2 | Mol % | 0.01 | | | | 0 | 20 | |
| Carbon Dioxide | | 0.96 | Mol % | 0.01 | | | | 1.0 | 20 | |
| Hydrogen Sulfide | | <0.01 | Mol % | 0.01 | | | | | 20 | |
| Methane | | <0.01 | Mol % | 0.01 | | | | | 20 | |
| Ethane | | <0.01 | Mol % | 0.01 | | | | | 20 | |
| Propane | | <0.01 | Mol % | 0.01 | | | | | 20 | |
| Isobutane | | <0.01 | Mol % | 0.01 | | | | | 20 | |
| n-Butane | | <0.01 | Mol % | 0.01 | | | | | 20 | |
| Isopentane | | <0.01 | Mol % | 0.01 | | | | | 20 | |
| n-Pentane | | <0.01 | Mol % | 0.01 | | | | | 20 | |
| Hexanes plus | | <0.01 | Mol % | 0.01 | | | | | 20 | |
| **Lab ID:** **LCS010224** | 11 | Laboratory Control Sample | | | | Run: GCNGA-B_240102A | | | | 01/02/24 03:12 |
| Oxygen | | 0.64 | Mol % | 0.01 | 128 | 70 | 130 | | | |
| Nitrogen | | 6.00 | Mol % | 0.01 | 100 | 70 | 130 | | | |
| Carbon Dioxide | | 0.99 | Mol % | 0.01 | 100 | 70 | 130 | | | |
| Methane | | 74.8 | Mol % | 0.01 | 100 | 70 | 130 | | | |
| Ethane | | 6.04 | Mol % | 0.01 | 101 | 70 | 130 | | | |
| Propane | | 5.01 | Mol % | 0.01 | 101 | 70 | 130 | | | |
| Isobutane | | 1.70 | Mol % | 0.01 | 85 | 70 | 130 | | | |
| n-Butane | | 2.00 | Mol % | 0.01 | 100 | 70 | 130 | | | |
| Isopentane | | 1.01 | Mol % | 0.01 | 101 | 70 | 130 | | | |
| n-Pentane | | 1.01 | Mol % | 0.01 | 101 | 70 | 130 | | | |
| Hexanes plus | | 0.84 | Mol % | 0.01 | 105 | 70 | 130 | | | |

**Qualifiers:**

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

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# Work Order Receipt Checklist

## Hall Environmental

B23121707

| | | | |
|---|---|---|---|
| Login completed by: | Crystal M. Jones | Date Received: | 12/28/2023 |
| Reviewed by: | dharris | Received by: | cmj |
| Reviewed Date: | 12/28/2023 | Carrier name: | FedEx |

| | | | |
|---|---|---|---|
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on all shipping container(s)/cooler(s)? | Yes ☑ | No ☐ | Not Present ☐ |
| Custody seals intact on all sample bottles? | Yes ☐ | No ☐ | Not Present ☑ |
| Chain of custody present? | Yes ☑ | No ☐ | |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ | |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ | |
| Samples in proper container/bottle? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |
| All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.) | Yes ☑ | No ☐ | |
| Temp Blank received in all shipping container(s)/cooler(s)? | Yes ☐ | No ☑ | Not Applicable ☐ |
| Container/Temp Blank temperature: | 8.6°C No Ice | | |
| Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4"). | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Water - pH acceptable upon receipt? | Yes ☐ | No ☐ | Not Applicable ☑ |

### Standard Reporting Procedures:

Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH, Dissolved Oxygen and Residual Chlorine, are qualified as being analyzed outside of recommended holding time.

Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

The reference date for Radon analysis is the sample collection date. The reference date for all other Radiochemical analyses is the analysis date. Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

### Contact and Corrective Action Comments:

None

eurofins | Environment Testing

# CHAIN OF CUSTODY RECORD

PAGE: 1 OF: 1

*Eurofins Environment Testing South Central, LLC*
*4901 Hawkins NE*
*Albuquerque, NM 87109*
*TEL: 505-345-3975*
*FAX: 505-345-4107*
*Website: www.hallenvironmental.com*

| | | | |
|---|---|---|---|
| SUB CONTRATOR: **Energy Labs -Billings** | COMPANY: **Energy Laboratories** | PHONE: **(406) 869-6253** | FAX: **(406) 252-6069** |
| ADDRESS: **1120 South 27th Street** | | ACCOUNT #: | EMAIL: |
| CITY, STATE, ZIP: **Billings, MT 59107** | | | |

| ITEM | SAMPLE | CLIENT SAMPLE ID | BOTTLE TYPE | MATRIX | COLLECTION DATE | # CONTAINERS | ANALYTICAL COMMENTS |
|---|---|---|---|---|---|---|---|
| 1 | 2312D10-001B | Q4 Influent | TEDLAR | Air | 12/21/2023 11:55:00 AM | 1 | Natural gas analysis. 02+C02. |

B23121707

**SPECIAL INSTRUCTIONS / COMMENTS:**

Include the LAB ID and CLIENT SAMPLE ID on final reports. Email results to Hall.Lab@et.eurofinsus.com. For Questions email Hall.samplecontrol@et.eurofinsus.com. Please return all coolers and blue ice. Thank you.

| | | | | | |
|---|---|---|---|---|---|
| Relinquished By: | Date: 12/22/2023 | Time: 7:29 AM | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| Relinquished By: | Date: | Time: | Received By: Crystal Tres | Date: 12/22/23 | Time: 0700 |

**TAT:** Standard ☐ **RUSH** Next BD ☐ 2nd BD ☐ 3rd BD ☐

REPORT TRANSMITTAL DESIRED:
☐ HARDCOPY (extra cost) ☐ FAX ☐ EMAIL ☐ ONLINE

FOR LAB USE ONLY
Temp of samples ____ ____ °C Attempt to Cool ? ____
Comments: ____

# QC SUMMARY REPORT

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2312D10**

***12-Jan-24***

**Client:** Harvest

**Project:** Trunk S

| Sample ID: | **2312D10-001ADUP** | SampType: | **DUP** | TestCode: | **EPA Method 8015D: Gasoline Range** |
|---|---|---|---|---|---|
| Client ID: | **Q4 Influent** | Batch ID: | **GA102153** | RunNo: | **102153** |
| Prep Date: | | Analysis Date: | **12/29/2023** | SeqNo: | **3770598** Units: **µg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | 1400 | 50 | | | | | | 4.30 | 20 | |
| Surr: BFB | 48000 | | 20000 | | 242 | 15 | 412 | 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 standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/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#: **2312D10**

***12-Jan-24***

**Client:** Harvest

**Project:** Trunk S

| Sample ID: **2312d10-001adup** | SampType: **DUP** | TestCode: **EPA Method 8260B: Volatiles** |
|---|---|---|
| Client ID: **Q4 Influent** | Batch ID: **R102204** | RunNo: **102204** |
| Prep Date: | Analysis Date: **1/3/2024** | SeqNo: **3773361** Units: **µg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.87 | 0.50 | | | | | | 2.56 | 20 | |
| Toluene | 11 | 0.50 | | | | | | 8.07 | 20 | |
| Ethylbenzene | 2.2 | 0.50 | | | | | | 9.93 | 20 | |
| Methyl tert-butyl ether (MTBE) | ND | 0.50 | | | | | | 0 | 20 | |
| 1,2,4-Trimethylbenzene | 1.2 | 0.50 | | | | | | 21.3 | 20 | R |
| 1,3,5-Trimethylbenzene | 1.6 | 0.50 | | | | | | 18.0 | 20 | |
| 1,2-Dichloroethane (EDC) | ND | 0.50 | | | | | | 0 | 20 | |
| 1,2-Dibromoethane (EDB) | ND | 0.50 | | | | | | 0 | 20 | |
| Naphthalene | ND | 1.0 | | | | | | 0 | 20 | |
| 1-Methylnaphthalene | ND | 2.0 | | | | | | 0 | 20 | |
| 2-Methylnaphthalene | ND | 2.0 | | | | | | 0 | 20 | |
| Acetone | ND | 5.0 | | | | | | 0 | 20 | |
| Bromobenzene | ND | 0.50 | | | | | | 0 | 20 | |
| Bromodichloromethane | ND | 0.50 | | | | | | 0 | 20 | |
| Bromoform | ND | 0.50 | | | | | | 0 | 20 | |
| Bromomethane | ND | 1.0 | | | | | | 0 | 20 | |
| 2-Butanone | ND | 5.0 | | | | | | 0 | 20 | |
| Carbon disulfide | ND | 5.0 | | | | | | 0 | 20 | |
| Carbon tetrachloride | ND | 0.50 | | | | | | 0 | 20 | |
| Chlorobenzene | ND | 0.50 | | | | | | 0 | 20 | |
| Chloroethane | ND | 1.0 | | | | | | 0 | 20 | |
| Chloroform | ND | 0.50 | | | | | | 0 | 20 | |
| Chloromethane | ND | 0.50 | | | | | | 0 | 20 | |
| 2-Chlorotoluene | ND | 0.50 | | | | | | 0 | 20 | |
| 4-Chlorotoluene | ND | 0.50 | | | | | | 0 | 20 | |
| cis-1,2-DCE | ND | 0.50 | | | | | | 0 | 20 | |
| cis-1,3-Dichloropropene | ND | 0.50 | | | | | | 0 | 20 | |
| 1,2-Dibromo-3-chloropropane | ND | 1.0 | | | | | | 0 | 20 | |
| Dibromochloromethane | ND | 0.50 | | | | | | 0 | 20 | |
| Dibromomethane | ND | 1.0 | | | | | | 0 | 20 | |
| 1,2-Dichlorobenzene | ND | 0.50 | | | | | | 0 | 20 | |
| 1,3-Dichlorobenzene | ND | 0.50 | | | | | | 0 | 20 | |
| 1,4-Dichlorobenzene | ND | 0.50 | | | | | | 0 | 20 | |
| Dichlorodifluoromethane | ND | 0.50 | | | | | | 0 | 20 | |
| 1,1-Dichloroethane | ND | 0.50 | | | | | | 0 | 20 | |
| 1,1-Dichloroethene | ND | 0.50 | | | | | | 0 | 20 | |
| 1,2-Dichloropropane | ND | 0.50 | | | | | | 0 | 20 | |
| 1,3-Dichloropropane | ND | 0.50 | | | | | | 0 | 20 | |
| 2,2-Dichloropropane | ND | 0.50 | | | | | | 0 | 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 standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/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#: **2312D10**

***12-Jan-24***

**Client:** Harvest

**Project:** Trunk S

| Sample ID: **2312d10-001adup** | SampType: **DUP** | TestCode: **EPA Method 8260B: Volatiles** |
|---|---|---|
| Client ID: **Q4 Influent** | Batch ID: **R102204** | RunNo: **102204** |
| Prep Date: | Analysis Date: **1/3/2024** | SeqNo: **3773361** Units: **µg/L** |

| Analyte | Result | PQL | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloropropene | ND | 0.50 | | | | | | 0 | 20 | |
| Hexachlorobutadiene | ND | 0.50 | | | | | | 0 | 20 | |
| 2-Hexanone | ND | 5.0 | | | | | | 0 | 20 | |
| Isopropylbenzene | ND | 0.50 | | | | | | 0 | 20 | |
| 4-Isopropyltoluene | ND | 0.50 | | | | | | 0 | 20 | |
| 4-Methyl-2-pentanone | ND | 5.0 | | | | | | 0 | 20 | |
| Methylene chloride | ND | 1.5 | | | | | | 0 | 20 | |
| n-Butylbenzene | ND | 1.5 | | | | | | 0 | 20 | |
| n-Propylbenzene | 0.52 | 0.50 | | | | | | 200 | 20 | R |
| sec-Butylbenzene | ND | 0.50 | | | | | | 0 | 20 | |
| Styrene | ND | 0.50 | | | | | | 0 | 20 | |
| tert-Butylbenzene | ND | 0.50 | | | | | | 0 | 20 | |
| 1,1,1,2-Tetrachloroethane | ND | 0.50 | | | | | | 0 | 20 | |
| 1,1,2,2-Tetrachloroethane | ND | 0.50 | | | | | | 0 | 20 | |
| Tetrachloroethene (PCE) | ND | 0.50 | | | | | | 0 | 20 | |
| trans-1,2-DCE | ND | 0.50 | | | | | | 0 | 20 | |
| trans-1,3-Dichloropropene | ND | 0.50 | | | | | | 0 | 20 | |
| 1,2,3-Trichlorobenzene | ND | 0.50 | | | | | | 0 | 20 | |
| 1,2,4-Trichlorobenzene | ND | 0.50 | | | | | | 0 | 20 | |
| 1,1,1-Trichloroethane | ND | 0.50 | | | | | | 0 | 20 | |
| 1,1,2-Trichloroethane | ND | 0.50 | | | | | | 0 | 20 | |
| Trichloroethene (TCE) | ND | 0.50 | | | | | | 0 | 20 | |
| Trichlorofluoromethane | ND | 0.50 | | | | | | 0 | 20 | |
| 1,2,3-Trichloropropane | ND | 1.0 | | | | | | 0 | 20 | |
| Vinyl chloride | ND | 0.50 | | | | | | 0 | 20 | |
| Xylenes, Total | 32 | 0.75 | | | | | | 12.0 | 20 | |
| Surr: Dibromofluoromethane | 5.0 | | 5.000 | | 99.6 | 70 | 130 | 0 | 0 | |
| Surr: 1,2-Dichloroethane-d4 | 4.8 | | 5.000 | | 96.4 | 70 | 130 | 0 | 0 | |
| Surr: Toluene-d8 | 6.1 | | 5.000 | | 121 | 70 | 130 | 0 | 0 | |
| Surr: 4-Bromofluorobenzene | 5.6 | | 5.000 | | 111 | 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 standard limits. If undiluted results may be estimated. |
| B | Analyte detected in the associated Method Blank |
| E | Above Quantitation Range/Estimated Value |
| J | Analyte detected below quantitation limits |
| P | Sample pH Not In Range |
| RL | Reporting Limit |

eurofins | Environment Testing

*Eurofins Environment Testing South Central, LLC*
*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: Harvest | Work Order Number: 2312D10 | RcptNo: 1

Received By: Tracy Casarrubias 12/22/2023 6:45:00 AM

Completed By: Tracy Casarrubias 12/22/2023 7:23:23 AM

Reviewed By: 12-22-23

## 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: 12/22/23

## 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: Mailing address and phone number are missing on COC- TMC 12/22/23

16. Additional remarks:

17. **Cooler Information**

| Cooler No | Temp °C | Condition | Seal Intact | Seal No | Seal Date | Signed By |
|---|---|---|---|---|---|---|
| 1 | N/A | Good | Yes | | | |

# Chain-of-Custody Record

Client: Harvest

Attn: Monica Smith

Mailing Address:

Phone #:

email or Fax#: msmith@harvest-midstream.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Trunk S

Project #:

Project Manager: Reece Hanson

Sampler: Reece Hanson

On Ice: ☐ Yes ☑ No

# of Coolers: 1

Cooler Temp (Including CF): N/A (°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. 2312D10 | 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) | VOCs 8260B | TVPH 8015 | $O_2$, $CO_2$ GPA 2261 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12/21/23 | 11:55 | Gas | Q4 Influent | 2, Tedlar | - | 001 | | | | | | | | | | | X | X | X | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | |

| Date: | Time: | Relinquished by: | Received by: | Via: | Date | Time |
|---|---|---|---|---|---|---|
| 12/21/23 | 1630 | | Chris Walls | | 12/21/23 | 1630 |
| 12/21/23 | 1740 | Chris Walls | | courier | 12/22/23 | 6:45 |

Remarks:
cc: rhanson@ensolum.com

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 309926

## CONDITIONS

| Operator: | OGRID: |
|---|---|
| Harvest Four Corners, LLC<br>1755 Arroyo Dr<br>Bloomfield, NM 87413 | 373888 |
| | Action Number:<br>309926 |
| | Action Type:<br>[UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT) |

**CONDITIONS**

| Created By | Condition | Condition Date |
|---|---|---|
| michael.buchanan | Review of the 2023 Fourth Quarter--Solar SVE System Update Trunk S: Content Satisfactory 1. Harvest may continue with future remediation activities as outlined in this report. 2. Install boreholes in proposed locations and conduct sampling at 5' intervals, starting from surface. 3. Submit results to NMOCD along with next report submission. | 4/17/2024 |