# REVIEWED

By Mike Buchanan at 9:41 am, Apr 09, 2024



# ENSOLUM

January 15, 2024

## **New Mexico Oil Conservation Division**

New Mexico Energy, Minerals, and Natural Resources Department 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re: Fourth Quarter 2023 - SVE System Update

Sunray B 1B

San Juan County, New Mexico Hilcorp Energy Company NMOCD Incident No: nAPP2212649502

To Whom it May Concern:

Review of the Fourth Quarter 2023--SVE System Update for Sunray B 1B: Content Satisfactory 1. Continue to perform O&M as scheduled and install pitot tubes as necessary. Please include field and installation notes when completed for next report to OCD. 2. Operate system as normal. 3. Submit next system update report to OCD as Hilcorp has

Ensolum, LLC (Ensolum), on behalf of Hilcorp Energy Company (Hilcorp), scheduled this Fourth Quarter 2023 -SVE System Update report summarizing the soil vapor extraction (SVE) system performance at the Sunray B 1B natural gas production well (Site) on land managed by the Bureau of Land Management (BLM) in Unit F, Section 15, Township 30 North, Range 10 West in San Juan County, New Mexico (Figure 1). After a temporary startup on August 29, 2023, followed by a month long shut down, the SVE system was put into full time operation on September 29, 2023, to remediate subsurface soil impacts resulting from a release of approximately 14 barrels (bbls) of natural gas condensate and 7 bbls of produced water. This report summarizes Site activities performed in September, October, November, and December of 2023.

## **SVE SYSTEM SPECIFICATIONS**

The SVE system at the Site consists of a 3-phase, 5 horsepower Howden Roots 32 URAI rotary lobe blower capable of producing 112 cubic feet per minute (cfm) flow at 82 inches of water column (IWC) vacuum. The system is powered by a permanent power drop and is intended to run 24 hours per day. Three SVE wells are currently in operation and are shown on Figure 2. SVE wells SVE01, SVE02, and SVE03 are screened at varying depths up to 25 feet below ground surface (bgs) to address residual soil impacts in the unsaturated zone.

## SYSTEM STARTUP AND FOURTH QUARTER 2023 ACTIVITIES

The initial startup of the Site SVE system was performed on August 29 and 30, 2023. Based on the New Mexico Oil Conservation Division (NMOCD) Conditions of Approval (COAs), dated February 10, 2023, field data measurements were collected from the system and included the following parameters: total system flow, estimated flow rates from each SVE well, photoionization detector (PID) measurements of volatile organic compounds (VOCs) from each SVE well, vacuum measurements from each SVE well, and oxygen/carbon dioxide measurements via hand-held analyzers from each SVE well. In accordance with the COAs, initial air samples were also collected on August 29 and 30, 2023; however, due to the high decibel output of the rotary lobe blower, Hilcorp and Ensolum determined a muffler/silencer was required in order to meet personnel health and safety requirements. As such, the system was shut down until a silencer

Page 2

could be installed. The NMOCD and BLM were notified of the system shut down, with agency communications included as Appendix A.

Following the addition of the silencer, the system was re-started on September 29, 2023. In accordance with the NMOCD COAs for the Site, daily site visits were conducted for the first week of operation and then weekly thereafter for the remainder of September, October, November, and December 2023. Field parameters noted above were collected during each visit. Field notes taken during operations and maintenance (O&M) visits are presented in Appendix B. Since startup on September 29, 2023, vacuum extraction was performed on all Site SVE wells in order to induce flow in impacted soil zones. Between September 29 and December 28, 2023, the SVE system operated for 2,181.4 hours for a runtime efficiency of 95 percent (%). Appendix C presents photographs of the runtime meter for calculating the fourth quarter 2023 runtime efficiency. Table 1 presents the SVE system operational hours and calculated percentage runtime.

Based on the February 2023 COAs, initial air samples were collected on August 29 and 30, 2023, from a sample port located between the SVE piping manifold and the SVE blower using a high vacuum air sampler. Prior to collection, the emission sample was field screened with a PID for organic vapor monitoring (OVM). The emission sample was collected directly into two 1-Liter Tedlar® bags and submitted to Hall Environmental Analysis Laboratory (now Eurofins Environment Testing) in Albuquerque, New Mexico for analysis of total volatile petroleum hydrocarbons (TVPH – also known as total petroleum hydrocarbons – gasoline range organics (TPH-GRO)) following United States Environmental Protection Agency (EPA) Method 8015D, VOCs following EPA Method 8260B, and fixed gas analysis of oxygen and carbon dioxide following Gas Processors Association (GPA) Method 2261. Upon re-starting the system on September 29, 2023, samples were collected weekly for the first month of operation and then biweekly (once every two weeks) through the end of the fourth quarter of 2023. A summary of field measurements and analytical data collected between September and December 2023 are presented in Tables 2 and 3, respectively. Note: analytical data from the last two sampling events conducted on December 13 and December 28, 2023, have not been received from the laboratory; this data will be included in the following quarterly report. Full laboratory analytical reports are attached as Appendix D. Oxygen and carbon dioxide levels over time are presented in Graphs 1 and 2, respectively.

Air sample data and measured influent flow rates are used to estimate total mass recovered and total emissions generated by the SVE system (Table 4). Based on these estimates, 825 pounds (0.41 tons) of TVPH have been removed by the system to date between system startup and November 28, 2023. No phase-separated hydrocarbons were recovered from the system during the O&M and sampling period described above.

## **DISCUSSION AND RECOMMENDATIONS**

As approved by the NMOCD (Appendix D), activities and data collected during the fourth quarter of 2023 are summarized in this report. Accurate flow measurements at SVE03 could not be obtained during the fourth quarter of 2023 due to the rotameter being undersized. Ensolum has purchased pitot tubes to replace the individual well rotameters and will install the new flow measurement devices in first quarter of 2024 in order to obtain more accurate data on the individual well legs.

A decrease in mass removal rates was observed during the first quarter of system operation, as is expected following initial startup. Mass removal has remained consistent from October 19 through the end of November 2023 with the system continuing to remove over 10 pounds per day of petroleum hydrocarbons.



Monthly O&M visits and bi-monthly (every other month) sampling events will continue to be performed by Ensolum and/or Hilcorp personnel to ensure the SVE system is operating within normal working ranges (i.e., temperature, pressure, and vacuum). Deviations from regular operations will be noted on field logs and included in the following quarterly report.

We appreciate the opportunity to provide this report to the NMOCD. If you should have any questions or comments regarding this report, please contact the undersigned.

Sincerely,

## Ensolum, LLC

Stuart Hyde, LG Senior Geologist (970) 903-1607 shyde@ensolum.com

Daniel R. Moir, PG Senior Managing Geologist (303) 887-2946 dmoir@ensolum.com

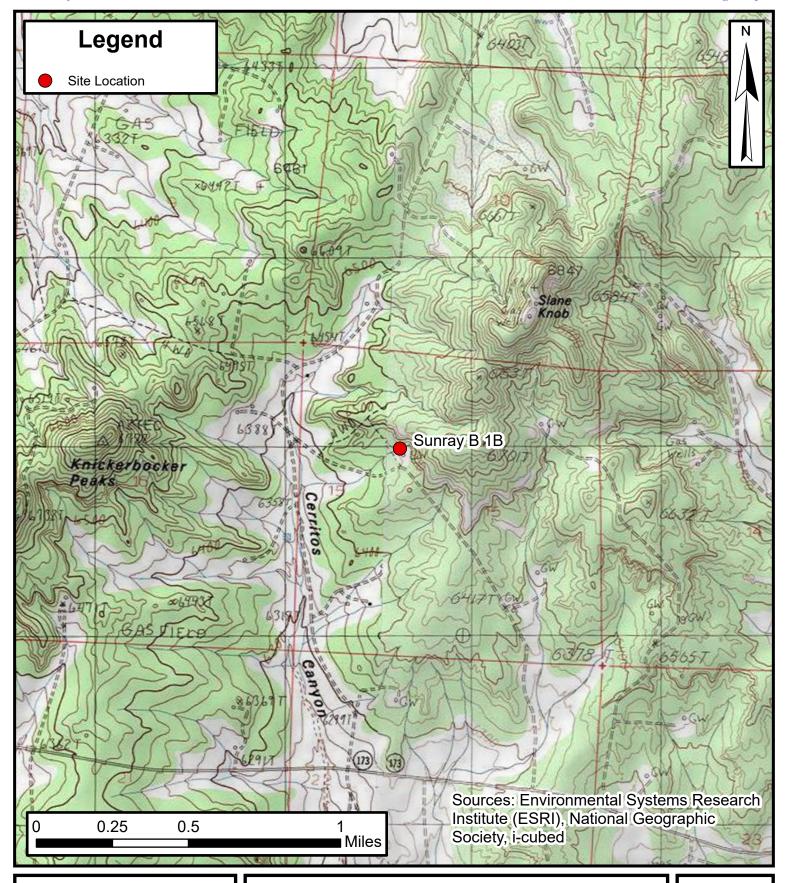
## **Attachments:**

Figure 1	Site Location Map
Figure 2	SVE System Radius of Influence and Radius of Effect
Table 1	Soil Vapor Extraction System Runtime Calculations
Table 2	Soil Vapor Extraction System Field Measurements
Table 3	Soil Vapor Extraction System Air Analytical Results
Table 4	Soil Vapor Extraction System Mass Removal and Emissions
Graph 1	Oxygen vs Time
Graph 2	Carbon Dioxide vs Time
Appendix A Appendix B Appendix C Appendix D	Agency Correspondence Field Notes Project Photographs Laboratory Analytical Reports





**FIGURES** 





# **Site Location Map**

Sunray B 1B Hilcorp Energy Company

> 36.8147621, -107.8746643 San Juan County, New Mexico

**FIGURE** 

1





# SVE System Radius of Influence and Radius of Effect

Sunray B 1B Hilcorp Energy Company

36.8147621, -107.8746643 San Juan County, New Mexico **FIGURE** 

2



TABLES AND GRAPHS



# TABLE 1 SOIL VAPOR EXTRACTION SYSTEM RUNTIME CALCULATIONS Sunray B 1B

Hilcorp Energy Company San Juan County, New Mexico

Date	Total Operational Hours	Delta Hours	Days	Percent Runtime
9/29/2023	126.8		Startup	
12/28/2023	2,181.4	2,054.6	90	95%

Ensolum 1 of 1



#### **TABLE 2** SOIL VAPOR EXTRACTION SYSTEM FIELD MEASUREMENTS Sunray B 1B **Hilcorp Energy Company** San Juan County, New Mexico Differential Flow Rate Carbon Dioxide PID SVE Well ID Date Flow Rate (acfm) Vacuum (IWC) Oxygen (%) $(scfm)^{(1)(2)}$ Pressure (IWC) (mag) (%) 788 92 8/29/2023 144 74.8 2.7 8/30/2023 1,826 68.0 20.9 0.62 3.0 151 99 20.9 0.26 9/29/2023 538 68.0 10/6/2023 431 3.0 151 101 60.5 20.9 0.00 10/12/2023 356 201 127 20.9 0.00 5.3 80.0 10/19/2023 399 5.7 209 131 81.0 20.9 0.10 10/26/2023 165 6.5 223 146 68.0 20.9 0.10 Influent, All Wells 10/31/2023 278 5.6 207 134 72.1 11/16/2023 378 6.9 230 153 61.2 --11/28/2023 147 7.2 235 156 61.2 12/7/2023 205 7.0 231 157 54.4 19.6 0.02 12/13/2023 165 6.9 230 153 61.2 19.3 0.02 12/20/2023 182 7.1 233 155 61.2 --12/28/2023 39 4.8 192 135 40.8 8/29/2023 2,789 16 78.9 20.9 8/30/2023 3.588 20 0.62 76.2 9/29/2023 1,312 10 20.9 0.18 10/6/2023 1,429 10 66.0 20.9 10/12/2023 2,450 9 76.0 20.9 0.18 10/19/2023 672 10 70.0 20.9 0.08 10 20.9 0.08 10/26/2023 420 68.0 SVE01 10/31/2023 348 ------72.1 20.9 0.02 11/16/2023 688 0.06 8 78.9 19.8 11/28/2023 453 8 62.6 20.2 0.04 8 12/7/2023 430 58.0 19.6 0.02 10 12/13/2023 405 598 19.3 0.02 12/20/2023 12 59.8 12/28/2023 20 9 49 0 193 0.04 8/29/2023 416 16 81.6 20.9 8/30/2023 1.849 23 0.62 403 13 73.4 20.9 9/29/2023 0.12 382 22 66.0 20.9 10/6/2023 10/12/2023 540 16 72.0 20.9 0.10 10/19/2023 288 14 70.0 20.9 0.08 10/26/2023 95 10 72.0 20.9 0.04 SVE02 10/31/2023 215 18 69.4 20.9 0.10 11/16/2023 515 15 62.6 19.8 0.02 11/28/2023 93 19 59.8 20.2 0.02 12/7/2023 55 18 56.0 19.6 0.02 107 25 19.3 0.00 12/13/2023 57.1 12/20/2023 24 54.4 12/28/2023 44 18 43.5 19.3 0.02 25 174 8/29/2023 426 20.9 8/30/2023 >25 0.62 9/29/2023 248 >25 65.3 20.9 0.20 10/6/2023 162 40 20.9 52.0 10/12/2023 450 50 52.0 20.9 0.14 10/19/2023 131 <50 20.9 0.10 55.0 10/26/2023 88 >50 56.0 20.9 0.08 SVE03 10/31/2023 89 >50 53.0 20.9 0.02 ----11/16/2023 258 >50 50.3 19.8 0.04 11/28/2023 148 >50 47.6 20.2 0.02 12/7/2023 45 >50 44.0 19.6 0.02

>50

>50

>50

50.3

46.2

35.4

19.3

19.3

0.02

0.04

12/13/2023

12/20/2023

12/28/2023

175

34



#### TABLE 2 SOIL VAPOR EXTRACTION SYSTEM FIELD MEASUREMENTS Sunray B 1B Hilcorp Energy Company San Juan County, New Mexico Differential Flow Rate Carbon Dioxide PID Vacuum (IWC) SVE Well ID Date Flow Rate (acfm) Oxygen (%) Pressure (IWC) (scfm)<sup>(1)(2)</sup> (%) (ppm)

#### Notes:

(1): individual well flow rates in scfm estimated based on rotometer field measurements

(2): total system flow rates in scfm calculated based on pitot tube differential pressure measurements

IWC: inches of water column

PID: photoionization detector

ppm: parts per million

acfm: actual cubic feet per minute

scfm: standard cubic feet per minute

%: percent

--: not measured

Received by OCD: 1/15/2024 4:03:58 PM



## TABLE 3

## SOIL VAPOR EXTRACTION SYSTEM EMISSIONS ANALYTICAL RESULTS

Sunray B 1B

Hilcorp Energy Company San Juan County, New Mexico

Date	PID (ppm)	Benzene (µg/L)	Toluene (μg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	TVPH/GRO (µg/L)	Oxygen (%)	Carbon Dioxide (%)
8/29/2023	788	18	190	6.8	58	5,900	18.38%	4.23%
8/30/2023	1,826	10	230	<10	77	6,000	21.39%	0.87%
9/29/2023	538	4.8	140	11	100	4,100	21.67%	0.36%
10/6/2023	529	<2.0	48	<5.0	41	1,400	21.74%	0.18%
10/12/2023	357	<2.0	47	<5.0	51	1,800	21.69%	0.22%
10/19/2023	399	<5.0	29	<5.0	29	1,200	21.81%	0.16%
10/26/2023	165	<5.0	26	<5.0	21	960	21.80%	0.15%
10/31/2023	278	0.53	30	3.3	42	900	21.60%	0.17%
11/16/2023	378	0.41	21	2.5	35	1,100	21.61%	0.10%
11/28/2023	147	< 0.50	13	1.7	22	750	21.64%	0.10%

#### Notes:

GRO: gasoline range hydrocarbons

µg/L: microgram per liter
PID: photoionization detector
ppm: parts per million

TVPH: total volatile petroleum hydrocarbons

%: percent

<: gray indicates result less than the stated laboratory reporting limit (RL)

Ensolum 1 of 1



# **TABLE 4** SOIL VAPOR EXTRACTION SYSTEM MASS REMOVAL AND EMISSIONS Sunray B 1B Hilcorp Energy Company San Juan County, New Mexico

### Laboratory Analysis

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Date	PID (ppm)	Benzene (μg/L)	Toluene (μg/L)	Ethylbenzene (μg/L)	Total Xylenes (μg/L)	TVPH (μg/L)
8/29/2023	788	18	190	6.8	58	5,900
8/30/2023	1,826	10	230	10	77	6,000
9/29/2023	538	4.8	140	11	100	4,100
10/6/2023	529	2.0	48	5.0	41	1,400
10/12/2023	357	2.0	47	5.0	51	1,800
10/19/2023	399	5.0	29	5.0	29	1,200
10/26/2023	165	5.0	26	5.0	21	960
10/31/2023	278	0.53	30	3.3	42	900
11/16/2023	378	0.41	21	21 2.5 35		1,100
11/28/2023	147	0.50	13	1.7	22	750
Average	541	4.8	77	5.5	48	2,411

## Vapor Extraction Summary

Date	Flow Rate (scfm)	Total System Flow (cf)	Delta Flow (cf)	Benzene (lb/hr)	Toluene (lb/hr)	Ethylbenzene (lb/hr)	Total Xylenes (lb/hr)	TVPH (lb/hr)
9/29/2023	99.0			L	Jpdated System Startu	ıp		
10/6/2023	101	1,015,656	1,015,656	0.00127	0.035	0.0030	0.026	1.03
10/12/2023	127		-	-				
10/19/2023	131	3,261,258	2,245,602	0.0015	0.017	0.0022	0.0152	0.56
10/26/2023	146	4,699,650	1,438,392	0.0026	0.0142	0.0026	0.0130	0.56
10/31/2023	134	5,446,566	746,916	0.00145	0.0147	0.0022	0.016	0.49
11/16/2023	153	8,945,064	3,498,498	0.00025	0.0137	0.00156	0.021	0.54
11/28/2023	156	11,562,120	2,617,056	0.00026	0.0098	0.00121	0.0165	0.53
-			Average	0.00122	0.017	0.0021	0.018	0.62

## Mass Recovery

Date	Total Operational Hours	Delta Hours	Benzene (pounds)	Toluene (pounds)	Ethylbenzene (pounds)	Total Xylenes (pounds)	TVPH (pounds)	TVPH (tons)
9/29/2023	127			L	Jpdated System Startu	р		
10/6/2023	294	168	0.21	5.9	0.50	4.4	172	0.086
10/12/2023			-			-	-	-
10/19/2023	580	286	0.43	4.8	0.62	4.3	161	0.081
10/26/2023	744	164	0.43	2.3	0.43	2.1	92	0.046
10/31/2023	837	93	0.134	1.36	0.20	1.53	45	0.023
11/16/2023	1,218	381	0.096	5.2	0.59	7.9	205	0.102
11/28/2023	1,498	280	0.074	2.7	0.34	4.6	149	0.075
	Total Ma	ss Recovery to Date	1.38	22	2.7	25	825	0.41

### Notes:

cf: cubic feet

scfm: standard cubic feet per minute

μg/L: micrograms per liter

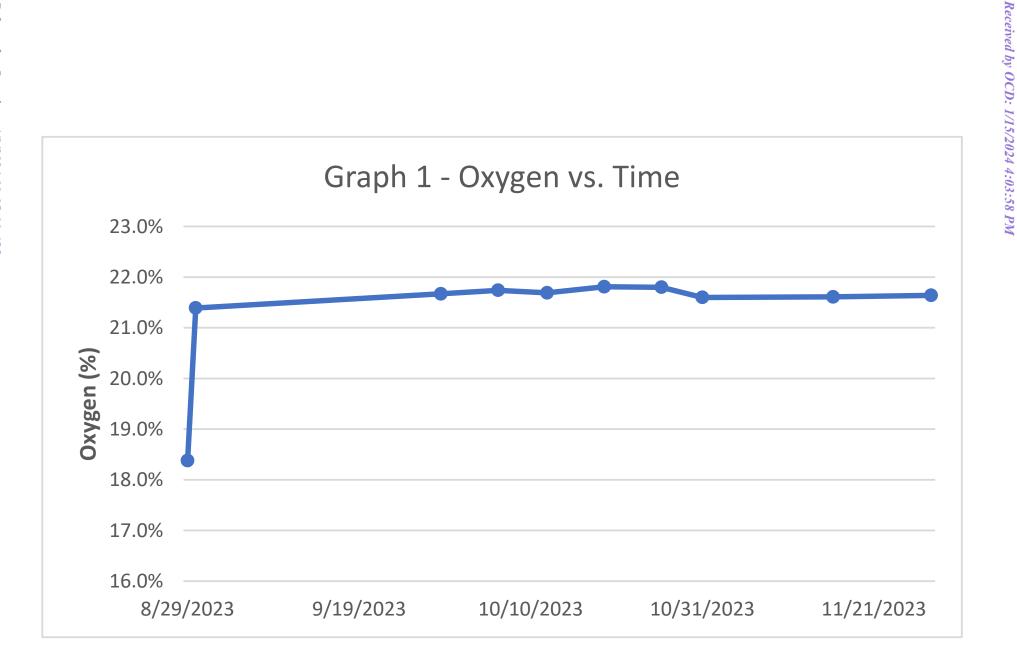
lb/hr: pounds per hour

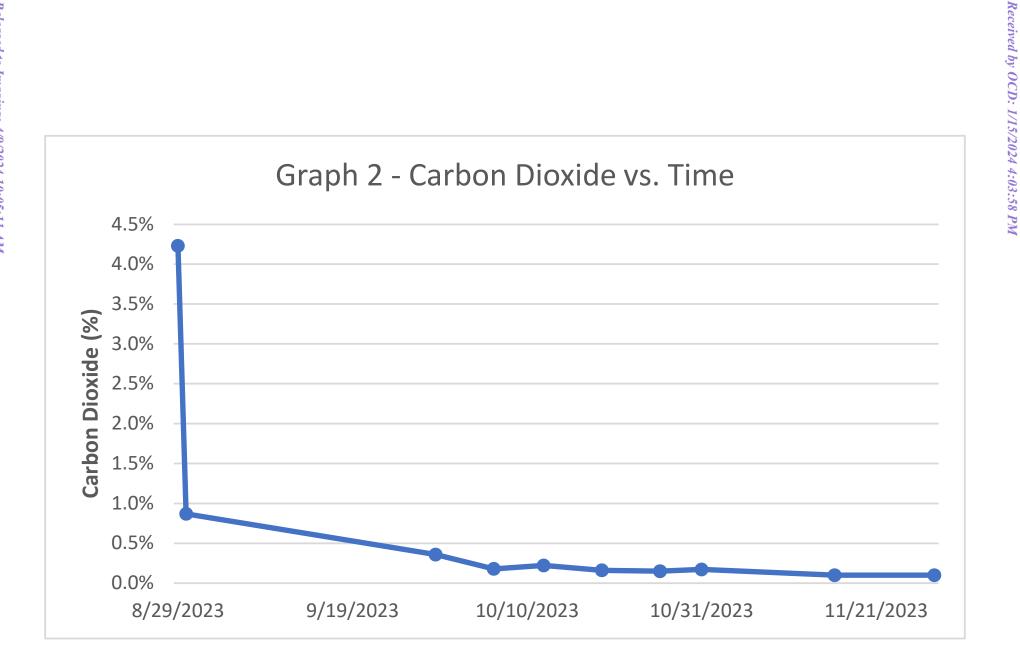
PID: photoionization detector

ppm: parts per million

TVPH: total volatile petroleum hydrocarbons

gray: laboratory reporting limit used for calculating emissions







**APPENDIX A** 

NMOCD Correspondence

From: <u>Adeloye, Abiodun A</u>

To: <u>Stuart Hyde</u>; <u>Velez, Nelson, EMNRD</u>

 Cc:
 Mitch Killough; Devin Hencmann; Danny Burns; Bryan Hall; Chad Perkins

 Subject:
 RE: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup Extension Request

**Date:** Tuesday, October 3, 2023 7:53:53 AM

Attachments: <u>image001.png</u>

image002.png image003.png image004.png image005.png

## [\*\*EXTERNAL EMAIL\*\*]

Thank you Stuart for the updates.

Abiodun Adeloye (Emmanuel) Natural Resources Specialist (NRS) 6251 College Blvd., Suite A Farmington, NM 87402

Office: 505-564-7665 Mobile: 505-635-0984

From: Stuart Hyde <shyde@ensolum.com> Sent: Monday, October 2, 2023 4:12 PM

**To:** Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Adeloye, Abiodun A <aadeloye@blm.gov>

**Cc:** Mitch Killough <a href="mailto:whileong.com">mkillough@hilcorp.com</a>; Devin Hencmann <a href="mailto:dhencmann@ensolum.com">dhencmann@ensolum.com</a>; Danny Burns <a href="mailto:dhencmann@ensolum.com">dhencmann@ensolum.com</a>; Chad Perkins <a href="mailto:coperkins@hilcorp.com">coperkins@hilcorp.com</a>; Chad Perkins

Subject: RE: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup Extension Request

All,

The SVE system at the Sunray B 1B site was re-started on Friday September 29<sup>th</sup> once we were able to install the proper sound controls. We visited the site today and we had 100% runtime over the weekend, so it appears that we are up and operating. We will be conducting daily site visits this week to ensure proper operation and will let you know if anything changes.

Please reach out with any questions. Thanks.



**From:** Velez, Nelson, EMNRD < <u>Nelson.Velez@emnrd.nm.gov</u>>

Sent: Wednesday, August 16, 2023 1:45 PM

To: Stuart Hyde <<u>shyde@ensolum.com</u>>; Adeloye, Abiodun A <<u>aadeloye@blm.gov</u>>

**Cc:** Mitch Killough <a href="mailto:killough@hilcorp.com">mkillough@hilcorp.com</a>; Devin Hencmann <a href="mailto:dhencmann@ensolum.com">dhencmann@ensolum.com</a>;

Danny Burns < <a href="mailto:dburns@ensolum.com">dburns@ensolum.com</a>>

Subject: Re: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup Extension Request

## [\*\*EXTERNAL EMAIL\*\*]

Stuart,

Time extension request for an additional 45-days is approved. Remediation Due date updated to October 2, 2023. Please notify OCD on when the startup occurs.

Regards,

## Nelson Velez • Environmental Specialist - Adv

Environmental Bureau | EMNRD - Oil Conservation Division

1000 Rio Brazos Road | Aztec, NM 87410

(505) 469-6146 | nelson.velez@emnrd.nm.gov

http://www.emnrd.state.nm.us/OCD/\_



From: Stuart Hyde <<u>shyde@ensolum.com</u>>

**Sent:** Wednesday, August 16, 2023 12:20 PM

**To:** Velez, Nelson, EMNRD < <u>Nelson.Velez@emnrd.nm.gov</u>>; Adeloye, Abiodun A

<aadeloye@blm.gov>

**Cc:** Mitch Killough <<u>mkillough@hilcorp.com</u>>; Devin Hencmann <<u>dhencmann@ensolum.com</u>>;

Danny Burns < <a href="mailto:dburns@ensolum.com">dburns@ensolum.com</a>>

Subject: RE: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup Extension Request

Nelson,

As we discussed on the phone, we have had additional delays at the Sunray B 1B in obtaining the necessary parts and, now, equipment to complete the installation of the SVE system. As such, we are

requesting an additional 45 days for the startup deadline for the system. I hope this amount of time is overkill but would like to heir on the side of caution this time. If approved, the requested new deadline would be Sunday October 1, 2023.

Please reach out with any questions or comments. Thanks and have a good afternoon.



**From:** Velez, Nelson, EMNRD < <u>Nelson.Velez@emnrd.nm.gov</u>>

Sent: Tuesday, August 1, 2023 2:11 PM

**To:** Adeloye, Abiodun A <<u>aadeloye@blm.gov</u>>; Stuart Hyde <<u>shyde@ensolum.com</u>>

**Cc:** Mitch Killough <a href="mailto:killough@hilcorp.com">mkillough@hilcorp.com</a>; Devin Hencmann <a href="mailto:dhencmann@ensolum.com">dhencmann@ensolum.com</a>;

Danny Burns < <a href="mailto:dburns@ensolum.com">dburns@ensolum.com</a>>

Subject: Re: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup Extension Request

## [ \*\*EXTERNAL EMAIL\*\*]

Good day Stuart,

Your 2 week time extension request is approved. Remediation Due date has been updated to August 17, 2023 within the incident page.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

Regards,

Nelson Velez • Environmental Specialist - Adv

Environmental Bureau | EMNRD - Oil Conservation Division

1000 Rio Brazos Road | Aztec, NM 87410

(505) 469-6146 | <u>nelson.velez@emnrd.nm.gov</u>

http://www.emnrd.state.nm.us/OCD/



From: Adeloye, Abiodun A <aadeloye@blm.gov>

**Sent:** Tuesday, August 1, 2023 11:55 AM

**To:** Stuart Hyde <<u>shyde@ensolum.com</u>>; Velez, Nelson, EMNRD <<u>Nelson.Velez@emnrd.nm.gov</u>> **Cc:** Mitch Killough <<u>mkillough@hilcorp.com</u>>; Devin Hencmann <<u>dhencmann@ensolum.com</u>>;
Danny Burns <<u>dburns@ensolum.com</u>>

Subject: RE: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup Extension Request

Hi, Stuart, the BLM-FFO approves the two weeks extension for the SVE work. Please include this approval with your closure report.

Please let me know if you have any questions.

Thank you.

Abiodun Adeloye (Emmanuel) Natural Resources Specialist (NRS) 6251 College Blvd., Suite A Farmington, NM 87402

Office: 505-564-7665 Mobile: 505-635-0984

From: Stuart Hyde <<u>shyde@ensolum.com</u>> Sent: Tuesday, August 1, 2023 11:33 AM

**To:** Velez, Nelson, EMNRD < <u>Nelson.Velez@emnrd.nm.gov</u>>

**Cc:** Mitch Killough < <a href="mailto:mkillough@hilcorp.com">mkillough@hilcorp.com</a>>; Adeloye, Abiodun A < <a href="mailto:aadeloye@blm.gov">aadeloye@blm.gov</a>>; Devin

Hencmann < <a href="mailto:dhencmann@ensolum.com">dhencmann@ensolum.com</a>; Danny Burns < <a href="mailto:dhencmann.com">dhencmann.com</a>; Danny Burns <a href="mailto:dhencmann.com">dhencmann.com</a>; Danny Burns <a href="mailto:dhencma

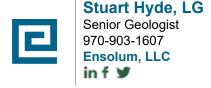
This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Nelson and Emmanuel,

On behalf of Hilcorp Energy Company, we are requesting a two-week extension to the August 3, 2023 startup deadline for the SVE system at the Sunray B 1B site (new deadline of August 17, 2023).

The SVE skid and equipment was installed at the Site on July 28, 2023 and is powered and ready to go. However, due to low inventory and delays in obtaining parts for the well connections and manifold (connecting the wells to the skid), we have not yet been able to complete the final installation. We are anticipating delivery of the remaining parts this week and should be able to start the system within the next week or so.

Please let us know if you have any questions or comments regarding the above request or the site. Thanks.



From: <u>Velez, Nelson, EMNRD</u>

To: <u>Danny Burns</u>; <u>Adeloye</u>, <u>Abiodun A</u>; <u>Stuart Hyde</u>

Cc: <u>Mitch Killough</u>; <u>Devin Hencmann</u>

Subject: Re: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup

**Date:** Thursday, August 31, 2023 7:11:54 AM

Attachments: <u>image001.png</u>

image002.png image003.png image004.png Outlook-go2ug2gc.png

# [ \*\*EXTERNAL EMAIL\*\*]

Good morning Danny,

Thank you for the correspondence. Please let us know when the re-start will occur.

Have a good & safe day.

Regards,

Nelson Velez • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | nelson.velez@emnrd.nm.gov http://www.emnrd.state.nm.us/OCD/



From: Danny Burns <dburns@ensolum.com>
Sent: Wednesday, August 30, 2023 4:39 PM

**To:** Adeloye, Abiodun A <aadeloye@blm.gov>; Stuart Hyde <shyde@ensolum.com>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>

Cc: Mitch Killough <mkillough@hilcorp.com>; Devin Hencmann <dhencmann@ensolum.com>

Subject: RE: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup

Nelson and Emmanuel,

Hilcorp conducted a safety inspection of the new SVE skid at the Sunray B 1B and discovered that it exceeds noise standards on the pad, requiring ear protection. So, we are shutting the system down as of today until an exhaust silencer/muffler can be installed to mitigate the excessive noise. We will re-start the system with the sampling schedule per the conditions of approval after the installation. The remediation start up date was extended to October 2, 2023, and we anticipate we should be able to acquire and install the noise mitigation equipment before that date. If for some reason we

cannot, we will advise you before then.

Thanks,



From: Adeloye, Abiodun A <aadeloye@blm.gov>

Sent: Wednesday, August 30, 2023 9:01 AM

**To:** Stuart Hyde <shyde@ensolum.com>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov> **Cc:** Mitch Killough <mkillough@hilcorp.com>; Devin Hencmann <dhencmann@ensolum.com>;

Danny Burns <dburns@ensolum.com>

Subject: RE: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup

## [ \*\*EXTERNAL EMAIL\*\*]

Thanks, Stuart for the notification.

Abiodun Adeloye (Emmanuel) Natural Resources Specialist (NRS) 6251 College Blvd., Suite A Farmington, NM 87402

Office: 505-564-7665 Mobile: 505-635-0984

From: Stuart Hyde <<u>shyde@ensolum.com</u>>
Sent: Wednesday, August 30, 2023 7:50 AM

**To:** Velez, Nelson, EMNRD < <u>Nelson.Velez@emnrd.nm.gov</u>>; Adeloye, Abiodun A

<aadeloye@blm.gov>

**Cc:** Mitch Killough <<u>mkillough@hilcorp.com</u>>; Devin Hencmann <<u>dhencmann@ensolum.com</u>>;

Danny Burns < <a href="mailto:dburns@ensolum.com">dburns@ensolum.com</a>>

**Subject:** [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Nelson and Emmanuel,

We were able to start the new SVE system at the Sunray B 1B yesterday afternoon, August 29, 2023. Per the NMOCD conditions of approval, we collected the initial startup air sample yesterday evening and will collect the follow up air sample this morning. We will keep you updated if there are any

issues with the system in the first few weeks of operation, but looks like we are up and running.

Also, due to only having one month left in the third quarter of 2023, we would like to delay the first quarterly report preparation in order to combine the last month of Q3 with Q4 O&M and sampling. As such, the first report would be submitted by January 15, 2024. Please let us know if you approve of this reporting timeline.



Stuart Hyde, LG Senior Geologist 970-903-1607 Ensolum, LLC in f From: <u>Velez, Nelson, EMNRD</u>

To: Stuart Hyde; Adeloye, Abiodun A

Cc: Mitch Killough; Devin Hencmann; Danny Burns; Bratcher, Michael, EMNRD

Subject: Re: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup

**Date:** Wednesday, August 30, 2023 8:09:13 AM

Attachments: image001.png image002.png

image003.png image004.png Outlook-Irzcoi3u.png

# [ \*\*EXTERNAL EMAIL\*\*]

Stuart,

Thank you for the correspondence.

Combining the 3<sup>rd</sup> and 4<sup>th</sup> quarters for the first O & M and sampling quarterly report would be acceptable to the OCD.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

The OCD requires a copy of all correspondence relative to remedial activities be included in all proposals and/or final closure reports. Correspondence required to be included in reports may include, but not limited to, notifications for liner inspections, sample events, spill/release/fire, and request for time extensions or variances.

Regards,

Nelson Velez ● Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | nelson.velez@emnrd.nm.gov http://www.emnrd.state.nm.us/OCD/



From: Stuart Hyde <shyde@ensolum.com>
Sent: Wednesday, August 30, 2023 7:49 AM

**To:** Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Adeloye, Abiodun A <aadeloye@blm.gov>

**Cc:** Mitch Killough <mkillough@hilcorp.com>; Devin Hencmann <dhencmann@ensolum.com>; Danny Burns <dburns@ensolum.com>

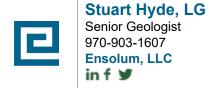
Subject: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.

Nelson and Emmanuel,

We were able to start the new SVE system at the Sunray B 1B yesterday afternoon, August 29, 2023. Per the NMOCD conditions of approval, we collected the initial startup air sample yesterday evening and will collect the follow up air sample this morning. We will keep you updated if there are any issues with the system in the first few weeks of operation, but looks like we are up and running.

Also, due to only having one month left in the third quarter of 2023, we would like to delay the first quarterly report preparation in order to combine the last month of Q3 with Q4 O&M and sampling. As such, the first report would be submitted by January 15, 2024. Please let us know if you approve of this reporting timeline.



From: <u>Velez, Nelson, EMNRD</u>

**To:** <u>Adeloye, Abiodun A</u>; <u>Stuart Hyde</u>

Cc: <u>Mitch Killough</u>; <u>Devin Hencmann</u>; <u>Danny Burns</u>

Subject: Re: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup Extension Request

**Date:** Tuesday, August 1, 2023 12:11:31 PM

Attachments: image001.pnq

image002.png image003.png image004.png Outlook-ko3bs0tn.png

# [ \*\*EXTERNAL EMAIL\*\*]

Good day Stuart,

Your 2 week time extension request is approved. Remediation Due date has been updated to August 17, 2023 within the incident page.

Please keep a copy of this communication for inclusion within the appropriate report submittal.

Regards,

Nelson Velez • Environmental Specialist - Adv Environmental Bureau | EMNRD - Oil Conservation Division 1000 Rio Brazos Road | Aztec, NM 87410 (505) 469-6146 | nelson.velez@emnrd.nm.gov http://www.emnrd.state.nm.us/OCD/



From: Adeloye, Abiodun A <aadeloye@blm.gov>

**Sent:** Tuesday, August 1, 2023 11:55 AM

**To:** Stuart Hyde <shyde@ensolum.com>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov> **Cc:** Mitch Killough <mkillough@hilcorp.com>; Devin Hencmann <dhencmann@ensolum.com>; Danny Burns <dburns@ensolum.com>

Subject: RE: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup Extension Request

Hi, Stuart, the BLM-FFO approves the two weeks extension for the SVE work. Please include this approval with your closure report.

Please let me know if you have any questions.

Thank you.

Abiodun Adeloye (Emmanuel) Natural Resources Specialist (NRS) 6251 College Blvd., Suite A Farmington, NM 87402

Office: 505-564-7665 Mobile: 505-635-0984

From: Stuart Hyde <shyde@ensolum.com> Sent: Tuesday, August 1, 2023 11:33 AM

**To:** Velez, Nelson, EMNRD < Nelson. Velez@emnrd.nm.gov>

**Cc:** Mitch Killough <mkillough@hilcorp.com>; Adeloye, Abiodun A <aadeloye@blm.gov>; Devin

Hencmann <a href="mailto:dhencmann@ensolum.com">dhencmann@ensolum.com</a>; Danny Burns <a href="mailto:dhencmann.com">dhencmann.com</a>; Danny Burns <a href="mailto:dhencmann.com">dhencmann.com</a

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Nelson and Emmanuel,

On behalf of Hilcorp Energy Company, we are requesting a two-week extension to the August 3, 2023 startup deadline for the SVE system at the Sunray B 1B site (new deadline of August 17, 2023). The SVE skid and equipment was installed at the Site on July 28, 2023 and is powered and ready to go. However, due to low inventory and delays in obtaining parts for the well connections and manifold (connecting the wells to the skid), we have not yet been able to complete the final installation. We are anticipating delivery of the remaining parts this week and should be able to start the system within the next week or so.

Please let us know if you have any questions or comments regarding the above request or the site. Thanks.



Stuart Hyde, LG Senior Geologist 970-903-1607 Ensolum, LLC From: Adeloye, Abiodun A

To: <u>Stuart Hyde; Velez, Nelson, EMNRD</u>

Cc: <u>Mitch Killough</u>; <u>Devin Hencmann</u>; <u>Danny Burns</u>

Subject: RE: [EXTERNAL] NAPP2212649502 - Sunray B 1B SVE Startup Extension Request

**Date:** Tuesday, August 1, 2023 11:55:32 AM

Attachments: image001.png

image002.png image003.png image004.png

## [\*\*EXTERNAL EMAIL\*\*]

Hi, Stuart, the BLM-FFO approves the two weeks extension for the SVE work. Please include this approval with your closure report.

Please let me know if you have any questions.

Thank you.

Abiodun Adeloye (Emmanuel) Natural Resources Specialist (NRS) 6251 College Blvd., Suite A Farmington, NM 87402

Office: 505-564-7665 Mobile: 505-635-0984

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To: Velez, Nelson, EMNRD < Nelson. Velez@emnrd.nm.gov>

**Cc:** Mitch Killough <mkillough@hilcorp.com>; Adeloye, Abiodun A <aadeloye@blm.gov>; Devin

Hencmann <a href="mailto:dhencmann@ensolum.com">dhencmann@ensolum.com</a>; Danny Burns <a href="mailto:dhencmann.com">dhencmann.com</a>; Danny Burns <a href="mailto:dhencmann.com">dhencmann.com<

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the system within the next week or so.

Please let us know if you have any questions or comments regarding the above request or the site. Thanks.





**APPENDIX B** 

Field Notes

Received by OCD: 1/15/2024 4:03:58 PM Location B1B

Project / Client HEC Page 31 of 180 Date 8-29-23 Sunny Hot DB Truck/tools, HVAS, PID 0930 - Onsite for SVE system start up Review MASP, sign JSA. Calibrate Mini RAE Lite PID W/ 100 ppm I sobutylene Passed bump PID Rendings w/system of Headspace 3,603 ppm SVEOI 1,854 02 42 03 1315 - Start up SVE system. Hours meter started w/ 1.5 hours on it. 1330- SVE Parameters Total 5 sintly Total Flow - Vac-5. FID 2,789 SVE 01 - 16 16 setm \$15-5.8 02- 16 sch 416 -6.0 174 03-725 schm 5.4 Influent PID -Exhausy 11D - 1, 141 pm Diff. Pressure - 2.7 INC 1420- Influent 8/29/23 collected. Released to maging 4/9/2624 10 0504 AM

Location Sunray BIB Date 8-30-23 Project / Client HEC EC, Truck, PID, 6-605, Vac 15:30 EC on size for SUE OBM Sampling 73'Zwc SIWC Vac 20 SCFM 61/F01 SVEOZ 23 SCAM SVEO3 725 SCFM Head Space PID 3,589 SVEOL SVE07 1,849 426 SUEO3 1876 gpm PID Th fluent 02 20.9 0.0 H25 0-62 Coz CHH 7% LEL 0.08 90 UPI Influent 8-34 collected @ Kard Hours Released to Imaging: 4/9/2024 10:05:11 AM

Received by OCD: 1/15/2024 4:03:58 PM Page 33 of 180 9-29-23 Sunfay (HEC) Sanny 70's EC Truck, VOC, PID 10:45 EC ON Siter For DEM System on & running vac: 5 in Ha diff press: 73 TWC Hours: 126.8 @ 11:29 30 % Propper from SEFA INTO PPIN CHy OzaCoziCO1435 Flow VOCIPID W:115 2 20.90.18 0 0.0 10 5.6 1312 SVEOI 12.5 5.4 403 0 20.9 0 - 12 0 0 07 0 20.9 0.28 0 0 725 4.8 248 2 20.9 0,2600 5 538 Influent Influent sample collected @ 11:70 Condensation in site tube of Ko tank 11:40 Ec off- Size 40 9-29 Released to Imaging: 4/9/2024 10:05:11 AM

Junary D Hilcosp Energy
10/2/2027 SH, Dodge 1500 PID, 4-gas, Eagle, High Vac Primp! 1100 SH asite, system on + runing, General System D+M and emissions sampling 5" Hg 73" Ho Vac Diff Pressure 198.8 @ 11:21 AM Hours "Hao PM 90 90 70 April 18 mm SCFM Well Flaw Vac 1800 290 20,9 0.00 0 0.0 406,8 9 20,9 0.00 0 0.0 SVEOI ~10 76 77 725 SVEOD SVE03 1623 65 PM 20.9 0,00 0 725 65 0,0 596 FSpen 20.9 Influent 0.00 0.0 SUEOI Rotanuter younging up to 33 setus throned value halfway to settle and reading 85 cfm at half flow 1145 - SVEDI rotumeles stabilized @ losefor w/ significant liquid in meler site - No lighed i- KO fun le site tube Released to Gnazing: 459/2024 10-85:11 AM

Suntar	, B 11	3		Dat	e	0-	3 -	23	21	
Sunray B   B Date 10-3-23  HEE Sunny, 705										
Q Truck/+	Truck/tools, PID, G-gas, HVAS									
10:00-Onsit	e for	wee	KI	51	IE	0	41	4		
feries +	1ASP, 5	ian	55	A,						
		o								
SVE Paramo	ters C	12	:30	)			•		-	
Total flow							*			
Vac			AND DESCRIPTION OF THE PERSON					•		
Exhaust PID									×	
Temp		50 .				Ą				
Diff. Press										
KU Tank A	- empl	7		8.						
	Influe	nt 5	VE	01		02		0	3	
Flow (SCFM)	in Hg 6	W	10		2	8	e e	4	8	
VAC LIM. THU)	Ser.	00	70		6	8		59	8	
PID (ppm)	502		,32	0	4	91		29	4	
(Hy (ppm)	15		60		6	5		0		
OKY (VO //.)	20.9	2	0.9		20	9	-	20	.9	
H2 5 (ppm)	6.0	(	0.0		0	0		0.	0	
CU (ppm)	0		0		C	)		C	)	
LOz (vol/)	-0.02	-0	0.02	_	0.0	2		-0.0	2	
(Hy (1. Lec)	-7	-	7		- <del>7</del>	_			-	
14.30 - Offs	ite									
14:33	Hou	45	- 2	.26	۰ ٥					
						_				

	4M cont			
- Greased t	the blowe	c beac	الم مرح	
- Greater 1		, vear	143	
Replaced	0-25	SCFM	rotam	eter
Replaced W/O-	50 on	5VE	024	03
14:08-	Hlvs	249.	6	
1/1 - 7 - 0	- NC 1			
14:30 - 0	9 Hsite			
			V V	

Location Sunray BIB Date 10-5-23 DB Truktools, PID, 6-yas, HVAS Sunny, 803 1130-Onsite for O+M. Review HASP, JSA System on truming upon arrival. SVE Parameters @ 13:00 Total Flow - 79 seem Vac - 5 in Hg 273.5 tlours Exhaust PID- 661 ppm @ 14:00 Temp - 160 °F Diff. Pressure - 4.2 in H20 KO Tank - 1.0 in visible in sight glass 01 Influent 02 03 Flow (SCFM) 9 79 22 48 Vac (in Hz0) 5 m. Ha 54 68 66 PID (ppm) 405 1,326 364 178 CH4 (ppm) 85 20 120 55 Oxy ( ) vol 20.9 20.9 20.9 20.9 HLS (ppm) 0.0 0,0 0.0 0.0 (O (spm) 0. 0 0 0 -changed oil in Roots Blower -changed H2 to 45.00 as VFD is over ownping. Called Bryan For trouble shoot. He is on way.

Location Surray B 1B Date 10-12-23 Project / Client HEC Windy 60s DB Truck, HVAS, PID, 6-gas 1230 - Onsale for weeky O+M. HASP + JSA. Bryan & Chuck onsite finishing electrical setup. At the power pole source and they stepped up voltage to 420 V and then stipped in back down to 240V at the site control panel System off until they finish. -KO Tank ~ 6" in sight Lube, approx 75%. of tube filled. -Drained approx 13 gallons 1320-Start SVE system back up. Running @ 60 Hz max egacity. Amperages appers steady + below motor specs, maximum. Blower exhaust is a notably londer -HEC claims to have ordered a different muffler (same as @ 41A) to help reduce noise. -Bleed value seems to be leaking with increused load/60 t/z. Home to
Received undring: 4/2024 10:05:11 myels next of Missit.

Project / Client Cont'd Date 10.12-235 Project / Client

SVE F	arameters	@ 13:4	15	
Total F	low SCFM	- 74.	5	
V	ac intheo	- 80		
Exhaust	PID ppm	- 414		
	Temp of	- 175		
Diff. Pr	ressure in He	0-5.3		
KO Ten	1K -empty			03
	Influent	SVEOL	02	
Flow se	fm 74.5	8.5	16	50
Vac int	120 80	76	72	52
PID ppr	n 356	415	134	116
Ha OPW	920	2,450	540	450
Oxy vol	1. 20.9	20.9	20.9	20.9
-125 ppm	1 6.0	0.6	0.0	0.0
CO 1pm	, 0	0	0	14
102 vol7		0.18	0.10	0.17
CHM 1. LE	EL -4		-9	7.5
1420-	Influent	t 10-12	2-23	ellected
PID	- 357			
1445 -	offsite			
-				
eased to Imaging: 4/9/20	024 10:05:11 AM		/	lete in ehe Rain

Date 10-19-23 Location Sunray B1B Project / Client O+M cont'd Flushed lines by opening J-plugs on top to remove limid from lines & rotameters Start w/ 01, then 03 and 02 last to get most lighteds. 1250-Shut down SNE system. -Diain approx 12 gal from Ko tonk, Light Brown oraque liquid w/ 1t. brown sheen. Some PSH separation towards end. Influent -cleaned up oil residue by 10-19-23 74 blower 81 364 a touch of new 850 20.9 0.0 -greased bearings 0 0.12 1335 - restart system Ly HRS @580.1 7

Running @ 60.00 HZ 1345 + OH site

Reto in es Rain

Released to Imaging: 4/9/2024 10:05:11 AM

Received by OCD: 1/15/2024 4:03:58 PM B B Location Sunray Page 44 of 180 Date 10/26/2033 Project / Client Hil corp , 50°F, light wind, Sunny GMC 1500, PID, 6-965, 4-965, PID, HVAS 0730 Left Office 0800 Got gas and put air in rear left tire 0845 Arrived onsite. Complete TSA, Calibrate PID w/ 100 ppm 130 Sutylene Segin D+M and Sumpling, notes Collected on O+M Form System running upon arrival Offsile 1010 10/26/2013 Released to Imaging: 4/9/2024 10:05:11 AM



710ppn

#### SUNRAY B 1B SVE SYSTEM O&M FORM

DATE: 10/36/3033 TIME ONSITE: 0845 O&M PERSONNEL: 5 Hyder
TIME OFFSITE:

SVE SYSTEM - MONTHLY O&M SVE ALARMS: None KO TANK HIGH LEVEL Check/Date WEEKLY MAINTENANCE: Blower Bearing Grease 10/26/23 QUARTERLY MAINTENANCE: Blower Oil Change **SVE SYSTEM** TIME READING Blower Hours (take photo) 744.3 0945 Total Flow (scfm) Inlet Vacuum (IHG) 0915 Differential Pressure (IWC) 0915 Inlet PID 0925 Exhaust PID x hourst latet Temperature 150°F 2915 K/O Tank Liquid Level 4 Inch K/O Liquid Drained (gallons) **SVE SYSTEM - QUARTERLY SAMPLING** SAMPLE ID: SAMPLE TIME: Analytes: Sample Bi-Weekly (every other week) for TVPH (8015), BTEX (8260), Fixed Gas (CO2 AND O2) **OPERATING WELLS** 5VE01-03

Change in Well Operation:

None

WELLHEAD MEASUREMENT	S			102	CHY	Has	(0)	60
WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	FLOW (CFM)	- OXX		CAPPON	DIOXIDE	
SVE01	68 INL	420	I ALL A	30,9%	760 pm	Dan	0.08%	Orna
SVE02	72 IWG	95.3	410	20.9%	111	(0)	0.04%	V 4 C 1 Sec.
SVE03	56 IWL	88.3	750	70,9%	165 Mm	Oppor	0.09 %	Oppu
In thent COMMENTS/OTHER MAINTEN	NANCE. SIVING	165	- 1	20,970	Dppu-		0,10%	

SVEOI Robameter Float broken SVEOD Float bouncing 0-30 scfm Inlet FION S,000 Fin @ 61°F D' sch 40 PVE Received by OCD: 1/15/2024 4:03:58 PM **Page 46 of 180** Location Syray B 1B Date 10.31.23 Project / Client Filcorp truck, PID, 6-ges 4-ges, HVAS, simple kit 1400 onside for Oth and sampling JSA signal - System of upon arriva - Sight take PM suspect KO hande full error, drangel 1x coder volume from tank It bown wast w/ sheen PSH out and -turned system back on and rom for 30 months before taking parametes or samply - rotan efor on SVE # 1 broken 2x teller bas samples taken "Surray B IB Inflore" at 1530 1545 leaving site Released to Imaging: 4/9/2024 10:05:11 AM

**ENSOLUM** 

SAN JUAN 32.9 #44A SVE SYSTE

O&M FORM

DATE:	OSM PERSONNEL: Zuch My 05
TIME ONSITE: 1400	TIME OFFSITE: 1545

		SVE SYSTEM - MONTH	LY O&M
			/
SVE ALARMS:		KO TANK HIGH LEVEL	
and the state of t		Check/Date	
WEEKLY MAINTENANCE:	Blower Bearing Grease	10-31-23	
QUARTERLY MAINTENANCE:	Blower Oil Change		7
SVE SYSTEM	READING	TIME	1
Blower Hours (take photo)	637.2	1420	]
Total Flow (scfm)	>68		
Inlet Vacuum (IHG)	0.18	· · · · · · · · · · · · · · · · · · ·	
Differential Pressure (IWC)	5.6		]
Inlet PID	278		
Exhaust PID			]
Charlet Temperature	0.150°F		]
K/O Tank Liquid Level	RIL		1
K/O Liquid Drained (gallons)	20		1
	SI	E SYSTEM - QUARTERL	Y SAMPLING
SAMPLE ID:		SAMPLE TIME:	
Analytes:	Sample Bi-Weekly (ever	ry other week) for TVPH (80	15), BTEX (8260), Fixed Gas (CO2 AND O2)
OPERATING WELLS			

Change in Well Operation:

WELLHEAD MEASUREMENTS

WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	FLOW (CFM)	OXYGEN	CARBON DIOXIDE
SVE01	5-3	348	rotune + + 50 km	20.7	0,02
SVE02	5.1	215	18	20.9	0.0
SVE03	3.9	88.9	>50	20,9	0.02

SVE OI rotainett broken attempted fix but needs replacement/ports
- Full tank triggered shut of, drawed ~ 20 gallors of fluid

Received by OCD: 1/15/2024 4:03:58 PM B 1B Date 11-8-23 Location Sun ray Project / Client HEC DB Truck, HVAS, PID, multigus 1315-Onsite for OAM. System running upon arrival 1345 SVE Parameters @ Total Flow SCFM -Vac IWC 76.8 75 10 Hg) 437 Exhaust PID ppm -Temp of Diff. Pressure. Iwc -6.32 KO Tank - No visible liquids. SVE 01 Rotameter junked up W/ PSH and float/ rood dislodged Take apart, clean + fix float assembly. Needs rod holder replacement. - Purged liquids from rotameters Need 0-10 ure magnetelie l'or Diff pressure - Need U-100 scen rutu. For SVEO3 - Greased blower bearings Released to Imaging: 4/9/2024 10:05:11 AM

Location \_

Page 49 of 180

Project / Client \_\_\_\_\_

Released to Imaging: 4/9/2024 10:05:11 AM

		0+1	CONT	0	
		Inflort	01	OZ	03
Fbw	SIFM	75	9	16	750
Vac	IWC	76.8	66	64	49
PID	PPM	282	769	286	178
	1PM	6	1	0	0
CHy	vol./.	20.2	20.0	20.2	20.2
Oxy	PPM	0.0	0.0	0.0	0.0
H,S	PPM	0	0	0	0
	vol/.	-0.04	0.08	-0.09 -	0.04
CO2	7. LEL	-10	-8	-8	-8
CHy	7. CLC				
150	47 - C	ffsite.			
120					
				1	
			100		
	11/				
	1				0
	1/1				10
	14			1	2

Rite in the Rain.

Date 11-16-23 Location Sunray B1B Project / Client \_ ZM, trudet tods, 4-gg, 6-ggs, HAB, Somple kd, PID 1345 onsik for OHM and Samplin -PID colibrated at 41A JSA smed System ronning upon arrival, all values open Parameters on O+M form 2x tedlar bac simpler "Sunray BIB Influent" at 1420 - Notified operater and tried off system to gresse blover motor
- drain el 12 gallars brown nater from Knockost tank orange only roidue at the last sollon that had been floating on the top - All values open, system on when leaving 1218,3 hours -1450 leaving site Released to Imaging: 4/9/2024 10:05:11 AM

S	unrans	-		□ E	NSO
DAT TIME ONSIT	E: 11-16-23	O&M PERSONNI TIME OFFSIT	M EL: Zuch	Myss	
SVE ALARMS	s: Nove	SVE SYSTEM - MON	THLY O&M	_	
WEEKLY MAINTENANCE	E: Blower Bearing Greas	Check/Date e			
SVE SYSTEM  Blower Hours (take photo Total Flow (scfm Inlet Vacuum (IHG Differential Pressure (IWC Inlet PIC Exhaust PIC Exhaust PIC K/O Tank Liquid Level K/O Liquid Drained (gallons	1378 14.5 150°F 150°F 150°F	1430 1350 1435		% O <sub>2</sub> , 0.04	vd % (O2
Analytes:	Sunray B 1 Y Sample Bi-Weekly (eve	3 WARTERLE Ty other week) for TVPH (80	1420	ned Gas (CO2 AND O2	:)
OPERATING WELLS  Change in Well Operation:  WELLHEAD MEASUREMENTS				vol	%
WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	FLOW (CFM)	OXYGEN	CARBON DIOXIDE
SVE01	5.8	688	8	19.8	0.06
SVE02	4.6	515	15	6.01	0.02
SVE03	3.7	258	750	19.8	0.04
COMMENTS/OTHER MAINTEN	IANCE:	_			

Page 52 of 180 Date 11-22-22 Project / Client eaven Released to Imaging: 4/9/2024 10:05:11 AM

Sun Pay BIB



		SVE SYSTEM - MONTH	ILY O&M
SVE ALARMS:	A/a	KO TANK HIGH LEVEL	n/a
		Check/Date	
WEEKLY MAINTENANCE:	Blower Bearing Grease	11-22	
QUARTERLY MAINTENANCE:	Blower Oil Change	_	
			1
SVE SYSTEM	READING	TIME	• -
Blower Hours (take photo)	1,360.9	1315	
Total Flow (scfm)	>78	1350	~
Inlet Vacuum (IHG)	5	1350	
Differential Pressure (IWC)	6.5	1350	
Inlet PID	127	1400	20.6 vol & O2 O.00 (O2
Exhaust PID	398	1310	2 (
TX Notes Temperature	150°F	1310	
K/O Tank Liquid Level	7" in tube	1310	
K/O Liquid Drained (gallons)	15.5	1345	'
	s	VE SYSTEM - QUARTERL	YSAMPLING
SAMPLE ID:		SAMPLE TIME:	
Analytes:	Sample Bi-Weekly (ever	y other week) for TVPH (80	15), BTEX (8260), Fixed Gas (CO2 AND O2)
OPERATING WELLS			1
_			
Change in Well Operation:			

WELLHEAD	<b>MEASUREMENTS</b>
MELLINEAU	MEASUREMENIS

THE RESIDENCE OF THE PARTY OF T					
WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	FLOW (CFM)	OXYGEN	CARBON DIOXIDE
SVE01	5	407	12	19.8	0.04
SVE02	845.7	156	16	20.0	0.00
SVE03	3.6	45,3	>50	20.0	0.02

Fixed	broken	rotometer	2	SVEOT

# **ENSOLUM**

Sunray	1
DATE:	11-28-23
TIME ONSITE:	1355

SVE SYSTEM

OAM PERSONNEL: Zach Myes
TIME OFFSITE: 1445

		SVE SYSTEM - MONTHL	LY O&M
SVE ALARMS:	-	KO TANK HIGH LEVEL	_
		Check/Date	
WEEKLY MAINTENANCE:	Blower Bearing Grease	11.78	
QUARTERLY MAINTENANCE:	Blower Oil Change		
SVE SYSTEM	READING	TIME	
Blower Hours (take photo)  Total Flow (scfm	71.5	1430	
Inlet Vacuum (IHG	115	1400	1
Differential Pressure (IWC	illi	1420	20.2 vol % 02 0.02 vol % (0)
Exhaust PII	111006	1400	Ì
K/O Tank Liquid Leve	T .	1400	-
K/O Liquid Drained (gallons	3	1435	
		SVE SYSTEM - QUARTERI	LLY SAMPLING
SAMPLE II	5 Suniay BIB	In fluent SAMPLE TIME	e: 1420
	102	very other week) for TVPH (8	8015), BTEX (8260), Fixed Gas (CO2 AND O2)
OPERATING WELL	SILIZI		

Change in Well Operation:	

#### WELLHEAD MEASUREMENTS

WEEL IDAD MICAGOREMENTO					
WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	FLOW (CFM)	OXYGEN	CARBON DIOXIDE
SVE01	4.6	453	7,5	20.2	0.04
SVE02	4.4	43.1	19	20.2	0.02
SVE03	3.5	148	>50	20.2	0.00

COMMENTS/OTHER MA	INTENANCE:			

Received by OCD: 1/15/2024 4:03:58 PM B J B Location Date 11-28-23 Project / Client -PID calibrated at #41A and sampling E System running all valves opening
Forameters cottected on O+M form Dramed 3.5 gillors from Ko tanh Gensel Honer Moter 2x teller bag simple "Surry BIB Influent" leaving site

Released to Imaging: 4/9/2024 10:05:11 AM

Surray B 13.



SVE SYSTEM O&M FORM

TIME ONSITE 9;55 TIME OFFSITE: 12:15

		SVE SYSTEM - MONTI	HLY O&M
SVE ALARMS		KO TANK HIGH LEVEL	_
WEEKLY MAINTENANCE:	Planter Pagging Crasso	Check/Date  //12/7/23	
QUARTERLY MAINTENANCE:		NA	
SVE SYSTEM	READING	TIME	
Blower Hours (take photo)	1709.1	10:40	62 03 01
Total Flow (scfm)	*74	10:23	187 >50 + 8
Inlet Vacuum (IHG)	4	10:17	
Differential Pressure (IWC)	-7	10:20	02 (0
Inlet PID	205	11:35	611.6 0.02
Exhaust PID	330	11:40	
Inlet Temperature	NA	NA	
K/O Tank Liquid Level	Half of sile	-tube	
K/O Liquid Drained (gallons)	~10	11:50	
, , , , , , , , , , , , , , , , , , , ,	1		
	sv	'E SYSTEM - QUARTERLY	SAMPLING
SAMPLE ID:	NA	SAMPLE TIME:	NA
Analytes: S			), BTEX (8260), Fixed Gas (CO2 AND O2)
OPERATING WELLS	01,02,	U 2	

Change in Well Operation: Plane all wells of

WELLHEAD MEASUREMENTS

WEELINGA MENOGRAM	VACUUM (IHG)			1	
WELL ID	VACUUM (I <del>PG</del> )	PID HEADSPACE (PPM)	FLOW (CFM)	OXYGEN	CARBON DIOXIDE
SVE01	58	430	8	19.6	0.02
SVE02	56	55	18	19.6	0.02
SVE03	4	45	>50	19.6	0.02

COMMENTS/OTHER MAINTENANCE:
Trumble shoot ITVAS & re-do head space readings - Grase blows

Date 12/7/Page 57 of 180 Received by OCD: 1/15/2024 4:03:58 PM Location Sugray B1B Project / Client H: Corp RH, Track/tools, PID, HVAS, Eagle, 4-gas 9:33-RH on Six Far O +M - Calibrate BID W/ 100 ppm Isobatylene - System owning on wrival - fill out + sign SSA = fill all Tedlar bags for headspace in let readings - seen low - trouble shoot Hyt HVAS -repar o re-pull tedlar Goss for readings - See form for all parameter) 12:15 - RH SFF Sik

Released to Imaging: 4/9/2024 10:05:11 AM

Rute in the Russ

Sunray BIB



SVE SYSTEM

DATE: 12-13-23

TIME ORSITE: 1220

TIME OFFEITE: 1205

TIME ONSTITE.	100		
		SVE SYSTEM - MONTH	LY O&M
SVE ALARMS:	_	KO TANK HIGH LEVEL	
		Check/Date	
WEEKLY MAINTENANCE:	Blower Bearing Grease	12-13	
QUARTERLY MAINTENANCE:	Blower Oil Change	~	
		W	
SVE SYSTEM	READING	TIME	
Blower Hours (take photo)	1250	1855.0	
Total Flow (scfm)	>85	1230	
Inlet Vacuum (IHG)	4.5	1230	
Differential Pressure (IWC)	6.9	1236	10 7 11 10 0 0 00
Inlet PID	165	1240	19.3 Vol 4, O2, 0.02 CC2
Exhaust PID	287	1225	`
€> I <del>ntel</del> Temperature	135°F	1230	
K/O Tank Liquid Level	0.5"	1230	
K/O Liquid Drained (gallons)	3.5	1255	
		SVE SYSTEM - QUARTERL	
	,	Wont SAMPLE TIME:	
Analytes:	Sample Bi-Weekly (eve	ery other week) for TVPH (80	15), BTEX (8260), Fixed Gas (CO2 AND O2)
OPERATING WELLS			
Change in Well Operation:			
WELLHEAD MEASUREMENT	e		V.1 %

EAD MEASUREME	NTS		03(78		
WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	FLOW (CFM)	OXYGEN	CARBON DIOXID
SVE01	4.4	405	10	19.3	0.02
SVE02	4.2	107	25	19.3	0.00
SVE03	3.7	175	>50	19.3	0.02

greased blower moter

Received by OCD: 1/15/2024 4:03:58 PM Location SM (ay B B Page 59 of 180 Date 12-13-23 Project / Client 1220 onsite for SVE gystem O+M and sampling - JSA signel PID calbath at #41 A . System running upon arrival Parametes on 0+M form 1855.0 hours at 1250 Operator notified and system shot down to of liqued from KO tank 2x teller bag sample taken at 1240
"Sunray BIB Influent"
PID 165 ppn 1305 leaving site

Released to Imaging: 4/9/2024 10:05:11 AM

# **回 ENSOLUM**

#### SUNRAY B 1B SVE SYSTEM O&M FORM

TIME ONSITE: 17-20-23 O&M PERSONNEL: D. Burns

		SVE SYSTEM - MO	ONTHLY O&M		
SVE ALARMS:	NA	KO TANK HIGH LEVE	L		
		Check/Date			
WEEKLY MAINTENANCE:	Blower Bearing Grease				
ARTERLY MAINTENANCE:	Blower Oil Change				
SVE SYSTEM	READING	TIME			
Blower Hours (take photo)	2021.5	1130			
Total Flow (scfm)	QI.	1130			
Inlet Vacuum (IHG)	11 8				
Differential Pressure (IWC)	7.1				
Inlet PID					
Exhaust PID			_		
EX Inlet Temperature					
K/O Tank Liquid Level	NA				
K/O Liquid Drained (gallons)	11 /				
	120 921	VE SVETEM OUADA			
SAMPLE ID:	5	VE SYSTEM - QUART			
		SAMPLE T	IIVIE:		
OPERATING WELLS	Sample bi-vveekly (eve	ry other week) for TVP	H (8015), BTEX (8260).	Fixed Gas (CO2 AND	O2)

Change in Well Operation: None

WELLHEAD MEASUREMENTS

WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	FLOW (CFM)	OXYGEN	CARBON DIOXIDE
SVE01	4.4		12		
SVE02	4.0		24		
SVE03	3. 4		650		

COMMENTS/OTHER MAINTENANCE:	86	

Inlet 0% LEL
19.0 Oxy vol%.
6. Opporthes
0 ppor CO
0.04 vol%. CO2 5%. CH4

Received by OCD: 1/15/2024 4:03:58 PM Location Sunray B1B Date 12-28 Project / Client Hilcorp 2m, trade, 4-55, 65=, 4VB, PID 1330 Onste for OHM and sample -encountered Hilcop employee Chuch who was making some elactrol system changes to SUE system tirel down from 60Hz to 50Hz to make heating elements function botter - volume of system is significantly lower System running pon around 2181.4 hours at 1340.
PID calibrated at #414
Parametes recorded on Oth form System shit down to good blow motor 2x teller las 500 sample "Surray BIB In hunt at 1425 1435 leaving site

# **ENSOLUM**

Sun ray

SVE SYSTEM O&M FORM

TIME ONSITE: 1330

O&M PERSONNEL: 1435

		SVE SYSTEM - MO	NTHLY O&M		
SVE ALARMS:		KO TANK HIGH LEVE	L	_	
		Check/Date			
WEEKLY MAINTENANCE:	Blower Bearing Grease				
UARTERLY MAINTENANCE:	Blower Oil Change				
			$\neg$		
SVE SYSTEM	READING	TIME	_		
Blower Hours (take photo)	2181.4	1340			
Total Flow (scfm)	>70				
Inlet Vacuum (IHG)	3.0				
Differential Pressure (IWC)	4.8				
Inlet PID	38.7				
Exhaust PID	295				
Anlet-Temperature					
K/O Tank Liquid Level	2" in sight the				
K/O Liquid Drained (gallons)	4				
			,		
	s	VE SYSTEM - QUARTE	RLY SAMPLING		
SAMPLE ID:	,	SAMPLE TI	AE: 1425		
Analytes:	_	y other week) for TVPH	(8015), BTEX (8260), Fixed	d Gas (CO2 AND O2)	
OPERATING WELLS	1,2,3				

Change in Well Operation:

WELLHEAD MEASUREMENTS

WELLHEAD MEASUREME	NTS	1			
WELL ID	VACUUM (IHG)	PID HEADSPACE (PPM)	FLOW (CFM)	OXYGEN	CARBON DIOXIDE
SVE01	3.6	20.4	9	19.3	0.04
SVE02	4Am 3.2	43.9	18	19.3	0.02
SVE03	2.6	34.4	>50	19.3	0.04

COMMENTS/OTHER MAINTENANCE:

graved boner motor







**APPENDIX C** 

**Project Photographs** 

### **PROJECT PHOTOGRAPHS**

Sunray B 1B San Juan County, New Mexico Hilcorp Energy Company

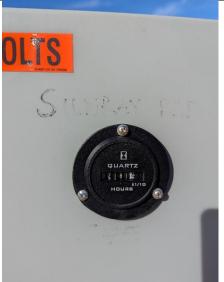
### Photograph 1

Runtime meter taken on September 29, 2023 at 11:29 AM Hours = 126.8



### Photograph 2

Runtime meter taken on December 28, 2023 at 1:38 PM Hours = 2,181.4





APPENDIX D

Laboratory Analytical Reports



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

September 14, 2023

Mitch Killough HILCORP ENERGY PO Box 4700 Farmington, NM 87499

TEL: (505) 564-0733

FAX:

RE: Sunray B 1B OrderNo.: 2308G06

### Dear Mitch Killough:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/30/2023 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 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

# **Analytical Report**Lab Order **2308G06**

Date Reported: 9/14/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: Influent 8/29/23

 Project:
 Sunray B 1B
 Collection Date: 8/29/2023 2:20:00 PM

 Lab ID:
 2308G06-001
 Matrix: AIR
 Received Date: 8/30/2023 6:30:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE					Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	5900	500	μg/L	100	9/7/2023 3:35:23 PM
Surr: BFB	124	15-412	%Rec	100	9/7/2023 3:35:23 PM
EPA METHOD 8260B: VOLATILES					Analyst: CCM
Benzene	18	5.0	μg/L	50	9/11/2023 3:25:00 PM
Toluene	190	5.0	μg/L	50	9/11/2023 3:25:00 PM
Ethylbenzene	6.8	5.0	μg/L	50	9/11/2023 3:25:00 PM
Methyl tert-butyl ether (MTBE)	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,2,4-Trimethylbenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,3,5-Trimethylbenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,2-Dichloroethane (EDC)	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,2-Dibromoethane (EDB)	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Naphthalene	ND	10	μg/L	50	9/11/2023 3:25:00 PM
1-Methylnaphthalene	ND	20	μg/L	50	9/11/2023 3:25:00 PM
2-Methylnaphthalene	ND	20	μg/L	50	9/11/2023 3:25:00 PM
Acetone	ND	50	μg/L	50	9/11/2023 3:25:00 PM
Bromobenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Bromodichloromethane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Bromoform	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Bromomethane	ND	10	μg/L	50	9/11/2023 3:25:00 PM
2-Butanone	ND	50	μg/L	50	9/11/2023 3:25:00 PM
Carbon disulfide	ND	50	μg/L	50	9/11/2023 3:25:00 PM
Carbon tetrachloride	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Chlorobenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Chloroethane	ND	10	μg/L	50	9/11/2023 3:25:00 PM
Chloroform	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Chloromethane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
2-Chlorotoluene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
4-Chlorotoluene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
cis-1,2-DCE	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
cis-1,3-Dichloropropene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,2-Dibromo-3-chloropropane	ND	10	μg/L	50	9/11/2023 3:25:00 PM
Dibromochloromethane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Dibromomethane	ND	10	μg/L	50	9/11/2023 3:25:00 PM
1,2-Dichlorobenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,3-Dichlorobenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,4-Dichlorobenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Dichlorodifluoromethane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,1-Dichloroethane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,1-Dichloroethene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM

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
- 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

# Analytical Report Lab Order 2308G06

Date Reported: 9/14/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: Influent 8/29/23

 Project:
 Sunray B 1B
 Collection Date: 8/29/2023 2:20:00 PM

 Lab ID:
 2308G06-001
 Matrix: AIR
 Received Date: 8/30/2023 6:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: CCM
1,2-Dichloropropane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,3-Dichloropropane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
2,2-Dichloropropane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,1-Dichloropropene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Hexachlorobutadiene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
2-Hexanone	ND	50	μg/L	50	9/11/2023 3:25:00 PM
Isopropylbenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
4-Isopropyltoluene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
4-Methyl-2-pentanone	ND	50	μg/L	50	9/11/2023 3:25:00 PM
Methylene chloride	ND	15	μg/L	50	9/11/2023 3:25:00 PM
n-Butylbenzene	ND	15	μg/L	50	9/11/2023 3:25:00 PM
n-Propylbenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
sec-Butylbenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Styrene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
tert-Butylbenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,1,1,2-Tetrachloroethane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,1,2,2-Tetrachloroethane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Tetrachloroethene (PCE)	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
trans-1,2-DCE	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
trans-1,3-Dichloropropene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,2,3-Trichlorobenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,2,4-Trichlorobenzene	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,1,1-Trichloroethane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,1,2-Trichloroethane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Trichloroethene (TCE)	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Trichlorofluoromethane	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
1,2,3-Trichloropropane	ND	10	μg/L	50	9/11/2023 3:25:00 PM
Vinyl chloride	ND	5.0	μg/L	50	9/11/2023 3:25:00 PM
Xylenes, Total	58	7.5	μg/L	50	9/11/2023 3:25:00 PM
Surr: Dibromofluoromethane	87.0	70-130	%Rec	50	9/11/2023 3:25:00 PM
Surr: 1,2-Dichloroethane-d4	79.2	70-130	%Rec	50	9/11/2023 3:25:00 PM
Surr: Toluene-d8	120	70-130	%Rec	50	9/11/2023 3:25:00 PM
Surr: 4-Bromofluorobenzene	108	70-130	%Rec	50	9/11/2023 3:25:00 PM

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
- 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

### ANALYTICAL SUMMARY REPORT

September 14, 2023

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

Work Order:

B23090042

Quote ID: B15626

Project Name:

Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 9/1/2023 for analysis.

Lab ID	Client Sample ID	Collect Date R	Receive Date	Matrix	Test
B23090042-001	2308G06-001B, Influent 8/29/23	08/29/23 14:20	09/01/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis 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:

### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

 Client:
 Hall Environmental
 Report Date: 09/14/23

 Project:
 Not Indicated
 Collection Date: 08/29/23 14:20

 Lab ID:
 B23090042-001
 DateReceived: 09/01/23

 Client Sample ID:
 2308G06-001B, Influent 8/29/23
 Matrix: Air

					MCL/		
Analyses	Result	Units	Qualifiers	RL		Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS F	REPORT						
Oxygen	18.38	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
Nitrogen	77.18	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
Carbon Dioxide	4.23	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
Hydrogen Sulfide	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
Methane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
Ethane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
Propane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
sobutane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
n-Butane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
sopentane	<0.01	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
n-Pentane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
lexanes plus	0.21	Mol %		0.01		GPA 2261-95	09/05/23 12:54 / jrj
ropane	< 0.001	gpm		0.001		GPA 2261-95	09/05/23 12:54 / jrj
sobutane	< 0.001	gpm		0.001		GPA 2261-95	09/05/23 12:54 / jrj
-Butane	< 0.001	gpm		0.001		GPA 2261-95	09/05/23 12:54 / jrj
sopentane	< 0.001	gpm		0.001		GPA 2261-95	09/05/23 12:54 / jrj
-Pentane	< 0.001	gpm		0.001		GPA 2261-95	09/05/23 12:54 / jrj
lexanes plus	0.088	gpm		0.001		GPA 2261-95	09/05/23 12:54 / jrj
SPM Total	0.088	gpm		0.001		GPA 2261-95	09/05/23 12:54 / jrj
SPM Pentanes plus	0.088	gpm		0.001		GPA 2261-95	09/05/23 12:54 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	10			1		GPA 2261-95	09/05/23 12:54 / jrj
let BTU per cu ft @ std cond. (LHV)	9			1		GPA 2261-95	09/05/23 12:54 / jrj
Pseudo-critical Pressure, psia	561			1		GPA 2261-95	09/05/23 12:54 / jrj
Seudo-critical Temperature, deg R	252			1		GPA 2261-95	09/05/23 12:54 / jrj
Specific Gravity @ 60/60F	1.02			0.001		D3588-81	09/05/23 12:54 / jrj
Air, %	83.97			0.01		GPA 2261-95	09/05/23 12:54 / jrj
- The analysis was not corrected for air.							
COMMENTS							

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level

**Definitions:** QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)

09/05/23 12:54 / jrj

<sup>-</sup> GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.

<sup>-</sup> To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.

<sup>-</sup> Standard conditions: 60 F & 14.73 psi on a dry basis.



# **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Hall Environmental Work Order: B23090042 Report Date: 09/14/23

••	rian Erivii Griii Torikai				TTOTAL CTUOTI	<u></u>	00.2	торо.	. <b>D</b> u.o.	00/11/20	
Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	GPA 2261-95									Batch:	: R408198
Lab ID:	LCS090523	11 Lab	oratory Cor	ntrol Sample			Run: GCNG	A-B_230905A		09/05	/23 11:08
Oxygen			0.64	Mol %	0.01	128	70	130			
Nitrogen			5.99	Mol %	0.01	100	70	130			
Carbon D	Dioxide		1.01	Mol %	0.01	102	70	130			
Methane			74.6	Mol %	0.01	100	70	130			
Ethane			6.10	Mol %	0.01	102	70	130			
Propane			4.92	Mol %	0.01	100	70	130			
Isobutane	е		2.00	Mol %	0.01	100	70	130			
n-Butane			2.00	Mol %	0.01	100	70	130			
Isopentar	ne		1.00	Mol %	0.01	100	70	130			
n-Pentan	е		1.00	Mol %	0.01	100	70	130			
Hexanes	plus		0.78	Mol %	0.01	98	70	130			
Lab ID:	B23090041-001ADUP	12 San	nple Duplic	ate			Run: GCNG	A-B_230905A		09/05	/23 12:16
Oxygen			21.7	Mol %	0.01				0	20	
Nitrogen			78.1	Mol %	0.01				0	20	
Carbon D	Dioxide		0.26	Mol %	0.01				0.0	20	
Hydroger	n 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	е		< 0.01	Mol %	0.01					20	
n-Butane			< 0.01	Mol %	0.01					20	
Isopentar	ne		< 0.01	Mol %	0.01					20	
										00	
n-Pentan	е		< 0.01	Mol %	0.01					20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Trust our People. Trust our Data. www.energylab.com Billings, MT 406.252.6325 • Casper, WY 307.235.0515 Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

# **Work Order Receipt Checklist**

### Hall Environmental

Login completed by: Richard L. Shular

### B23090042

Date Received: 9/1/2023

Reviewed by:	darcy		Re	eceived by: car	
Reviewed Date:	9/9/2023		Ca		
Shipping container/cooler in	good condition?	Yes ✓	No 🗌	Not Present	
Custody seals intact on all s	hipping container(s)/cooler(s)?	Yes 🗸	No 🗌	Not Present	
Custody seals intact on all s	ample bottles?	Yes	No 🗌	Not Present ✓	
Chain of custody present?		Yes 🗸	No 🗌		
Chain of custody signed who	en relinquished and received?	Yes 🗸	No 🗌		
Chain of custody agrees with	h sample labels?	Yes 🗸	No 🗌		
Samples in proper container	/bottle?	Yes 🗸	No 🗌		
Sample containers intact?		Yes 🗸	No 🗌		
Sufficient sample volume for	r indicated test?	Yes 🔽	No 🗌		
All samples received within I (Exclude analyses that are c such as pH, DO, Res Cl, Su	onsidered field parameters	Yes ✓	No 🗌		
Temp Blank received in all s	hipping container(s)/cooler(s)?	Yes	No 🗹	Not Applicable	
Container/Temp Blank temp	erature:	21.0°C No Ice			
Containers requiring zero he bubble that is <6mm (1/4").	adspace have no headspace or	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.

### **Contact and Corrective Action Comments:**

None

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

CHAIN OF CUSTODY RECORD PAGE 1 OF 1

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

Billings COMPANY: Energy Laboratories PHONE: (406) 869-6253 FAX: (406) 252-6069	ACCOUNT	107	BOTTLE COLLECTION SE ANALYTICAL COMMENTS	29/23 TEDLAR Air 8/29/2023 2:20:00 PM 1 Natural Gas Analysis. CO2+02 <b>823090042</b>
COMPANY	1120 South 27th Street	T 59107	BCCLENT SAMPLE ID T	
SUB CONTRATOR Energy Labs -Billings	ADDRESS: 1120 South	CITY, STATE, ZIP Billings, MT 59107	ITEM SAMPLE	1 2308G06-001B Influent 8/29/23

ONLINE Attempt to Cool ? REPORT TRANSMITTAL DESIRED EMAIL Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you. FOR LAB USE ONLY FAX HARDCOPY (extra cost) Temp of samples Time. Time: 3rd BD 三部 2nd BD Received 60 andy Next BD Received By. Received By. 7:02 AM RUSH Time Time Date-8/30/2023 Date Date. TAT

SPECIAL INSTRUCTIONS / COMMENTS:



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:	HILCORP ENERGY	Work Order Numl	per: 2308G06		RcptNo: 1
Received By:	Tracy Casarrubias	8/30/2023 6:30:00	MΑ		
Completed By:	Tracy Casarrubias	8/30/2023 6:59:48	AM		
Reviewed By:	\$ 8-30-23				
0	/				
Chain of Cust	<u>ody</u>				
1. Is Chain of Cu	stody complete?		Yes	No 🗹	Not Present
2. How was the s	ample delivered?		<u>Courier</u>		
Log In					
3. Was an attemp	ot made to cool the sample	s?	Yes 🗌	No 🗌	NA 🔽
4. Were all sampl	les received at a temperatu	re of >0° C to 6.0°C	Yes 🗌	No 🗌	NA 🗹
5. Sample(s) in p	roper container(s)?		Yes 🔽	No 🗌	
6. Sufficient samp	ole volume for indicated tes	ut(s)?	Yes 🗸	No 🗌	
7. Are samples (e	except VOA and ONG) prop	erly preserved?	Yes 🗸	No 🗌	
8. Was preservati	ive added to bottles?		Yes	No 🗸	NA 🗆
9. Received at lea	ast 1 vial with headspace <	1/4" for AQ VOA?	Yes 🗌	No 🗌	NA 🗹
10. Were any sam	ple containers received bro	oken?	Yes	No 🗹	# of preserved
11. Does paperwor	rk match bottle labels?		Yes 🗹	No 🗌	bottles checked for pH:
	ncies on chain of custody)				(<2 or >12 unless noted)
	orrectly identified on Chain		Yes 🔽	No 📙	Adjusted?
	analyses were requested?		Yes 🗹	No 📙	enecked by: 128/30/23
	g times able to be met? stomer for authorization.)		Yes 🗸	No ∐	Enecked by: TV 8 / 30 / 2
Special Handli	ng (if applicable)				
15. Was client not	ified of all discrepancies w	ith this order?	Yes 🗌	No 🗌	NA 🗸
Person I	Notified:	Date	[		
By Who	m:	Via:	eMail P	hone 🗌 Fax	☐ In Person
Regardir	ng:				
Client In	structions: Mailing addres	s.phone number and Em	nail/ Fax are missin	ng on COC-TM	IC 8/30/23
16. Additional ren	narks:				
17. Cooler Inform Cooler No	Temp °C Condition	Seal Intact   Seal No	Seal Date	Signed By	

Released to Imaging: 4/9/2024 10:05:11 AM

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Chain-of-Custody Record	Turn-Around Time:	HAII FNVTRONMENTAL
Client: Hillorg Energy Company	X Standard   Rush	
tch Killough	Project Name:	www.hallenvironmental.com
Mailing Address:	ray D +	4901 Hawkins NE - Albuquerque, NM 87109
	Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #:		Analysis Request
email or Fax#:	Project Manager:	(O)
QA/QC Package:	Street Hyde	HAS (A)
☐ Standard ☐ Level 4 (Full Validation)		Post (OS)
Accreditation:   Az Compliance	Sampler: ) any Burns	70827 (1.1.) (1.1.) (1.1.)
	On Ice:	98/88 504 50 Or 83, 1
□ EDD (Type)		cide od 310 (/)
	Cooler Temp(including cF): N/M (°C)	esti Meth by 8 Byt, 3r, JCA
		PHS (N) PO (N) P
Time Matrix Sample Na	Type and # Type	85 87 87 87 87 87 87 87 81
8-29-23 14:20 A:r Influent 8/29/23	Z-Tedly NY DO	X
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P		
age		
Date Time: Relinquished by:	Received by: Via: Date Time	Remarks: Journs
Date: Time: Relinquished by:	Received by: Wer Colly Date Time	$\mathcal{I}_{\bullet}$
SOUNT FORMS THE ENDING	C/20/13 6:30	all reneman in
samples submitted to Hall Environme	ntal may be subcontracted to other accredited laboratories. This serves as notice of this	This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Released to Imaging, 4/9/2024 10:05:11 AM



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

September 14, 2023

Stuart Hyde HILCORP ENERGY PO Box 4700 Farmington, NM 87499

TEL: (505) 564-0733

FAX:

RE: Sanroy B1B OrderNo.: 2308H03

#### Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 1 sample(s) on 8/31/2023 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 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

# Analytical Report Lab Order 2308H03

Date Reported: 9/14/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: Influent 8-30

 Project:
 Sanroy B1B
 Collection Date: 8/30/2023 4:00:00 PM

 Lab ID:
 2308H03-001
 Matrix: AIR
 Received Date: 8/31/2023 6:10:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: CCM
Benzene	10	10	μg/L	100	9/11/2023 3:50:00 PM
Toluene	230	10	μg/L	100	9/11/2023 3:50:00 PM
Ethylbenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Methyl tert-butyl ether (MTBE)	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,2,4-Trimethylbenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,3,5-Trimethylbenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,2-Dichloroethane (EDC)	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,2-Dibromoethane (EDB)	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Naphthalene	ND	20	μg/L	100	9/11/2023 3:50:00 PM
1-Methylnaphthalene	ND	40	μg/L	100	9/11/2023 3:50:00 PM
2-Methylnaphthalene	ND	40	μg/L	100	9/11/2023 3:50:00 PM
Acetone	ND	100	μg/L	100	9/11/2023 3:50:00 PM
Bromobenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Bromodichloromethane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Bromoform	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Bromomethane	ND	20	μg/L	100	9/11/2023 3:50:00 PM
2-Butanone	ND	100	μg/L	100	9/11/2023 3:50:00 PM
Carbon disulfide	ND	100	μg/L	100	9/11/2023 3:50:00 PM
Carbon tetrachloride	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Chlorobenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Chloroethane	ND	20	μg/L	100	9/11/2023 3:50:00 PM
Chloroform	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Chloromethane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
2-Chlorotoluene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
4-Chlorotoluene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
cis-1,2-DCE	ND	10	μg/L	100	9/11/2023 3:50:00 PM
cis-1,3-Dichloropropene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,2-Dibromo-3-chloropropane	ND	20	μg/L	100	9/11/2023 3:50:00 PM
Dibromochloromethane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Dibromomethane	ND	20	μg/L	100	9/11/2023 3:50:00 PM
1,2-Dichlorobenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,3-Dichlorobenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,4-Dichlorobenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Dichlorodifluoromethane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,1-Dichloroethane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,1-Dichloroethene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,2-Dichloropropane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,3-Dichloropropane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
2,2-Dichloropropane	ND	10	μg/L	100	9/11/2023 3:50:00 PM

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 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

**CLIENT: HILCORP ENERGY** 

# Analytical Report Lab Order 2308H03

Date Reported: 9/14/2023

## Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Influent 8-30

 Project:
 Sanroy B1B
 Collection Date: 8/30/2023 4:00:00 PM

 Lab ID:
 2308H03-001
 Matrix: AIR
 Received Date: 8/31/2023 6:10:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: CCM
1,1-Dichloropropene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Hexachlorobutadiene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
2-Hexanone	ND	100	μg/L	100	9/11/2023 3:50:00 PM
Isopropylbenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
4-Isopropyltoluene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
4-Methyl-2-pentanone	ND	100	μg/L	100	9/11/2023 3:50:00 PM
Methylene chloride	ND	30	μg/L	100	9/11/2023 3:50:00 PM
n-Butylbenzene	ND	30	μg/L	100	9/11/2023 3:50:00 PM
n-Propylbenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
sec-Butylbenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Styrene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
tert-Butylbenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,1,1,2-Tetrachloroethane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,1,2,2-Tetrachloroethane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Tetrachloroethene (PCE)	ND	10	μg/L	100	9/11/2023 3:50:00 PM
trans-1,2-DCE	ND	10	μg/L	100	9/11/2023 3:50:00 PM
trans-1,3-Dichloropropene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,2,3-Trichlorobenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,2,4-Trichlorobenzene	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,1,1-Trichloroethane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,1,2-Trichloroethane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Trichloroethene (TCE)	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Trichlorofluoromethane	ND	10	μg/L	100	9/11/2023 3:50:00 PM
1,2,3-Trichloropropane	ND	20	μg/L	100	9/11/2023 3:50:00 PM
Vinyl chloride	ND	10	μg/L	100	9/11/2023 3:50:00 PM
Xylenes, Total	77	15	μg/L	100	9/11/2023 3:50:00 PM
Surr: Dibromofluoromethane	90.8	70-130	%Rec	100	9/11/2023 3:50:00 PM
Surr: 1,2-Dichloroethane-d4	84.1	70-130	%Rec	100	9/11/2023 3:50:00 PM
Surr: Toluene-d8	113	70-130	%Rec	100	9/11/2023 3:50:00 PM
Surr: 4-Bromofluorobenzene	107	70-130	%Rec	100	9/11/2023 3:50:00 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	6000	500	μg/L	100	9/11/2023 3:50:00 PM
Surr: BFB	87.1	70-130	%Rec	100	9/11/2023 3:50:00 PM

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 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

#### ANALYTICAL SUMMARY REPORT

September 14, 2023

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

Work Order:

B23090044

Quote ID: B15626

Project Name:

Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 9/1/2023 for analysis.

Lab ID	Client Sample ID	Collect Date Re	eceive Date	Matrix	Test
B23090044-001	2308H03-001B, Influent 8-30	08/30/23 16:00	09/01/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis 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:

#### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

 Client:
 Hall Environmental
 Report Date: 09/14/23

 Project:
 Not Indicated
 Collection Date: 08/30/23 16:00

 Lab ID:
 B23090044-001
 DateReceived: 09/01/23

Client Sample ID: 2308H03-001B, Influent 8-30 Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS	REPORT						
Oxygen	21.39	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
Nitrogen	77.55	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
Carbon Dioxide	0.87	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
Hydrogen Sulfide	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
Methane	0.02	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
Ethane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
Propane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
Isobutane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
n-Butane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
Isopentane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
n-Pentane	< 0.01	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
Hexanes plus	0.17	Mol %		0.01		GPA 2261-95	09/05/23 13:21 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	09/05/23 13:21 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	09/05/23 13:21 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	09/05/23 13:21 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	09/05/23 13:21 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	09/05/23 13:21 / jrj
Hexanes plus	0.072	gpm		0.001		GPA 2261-95	09/05/23 13:21 / jrj
GPM Total	0.072	gpm		0.001		GPA 2261-95	09/05/23 13:21 / jrj
GPM Pentanes plus	0.072	gpm		0.001		GPA 2261-95	09/05/23 13:21 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	8			1		GPA 2261-95	09/05/23 13:21 / jrj
Net BTU per cu ft @ std cond. (LHV)	8			1		GPA 2261-95	09/05/23 13:21 / jrj
Pseudo-critical Pressure, psia	549			1		GPA 2261-95	09/05/23 13:21 / jrj
Pseudo-critical Temperature, deg R	242			1		GPA 2261-95	09/05/23 13:21 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	09/05/23 13:21 / jrj
Air, %	97.75			0.01		GPA 2261-95	09/05/23 13:21 / jrj
- The analysis was not corrected for air.							.,
COMMENTS							

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level

**Definitions:** QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)

09/05/23 13:21 / jrj

<sup>-</sup> GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.

<sup>-</sup> To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.

<sup>-</sup> Standard conditions: 60 F & 14.73 psi on a dry basis.



## **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Hall Environmental Work Order: B23090044 Report Date: 09/14/23

								торо.			
Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	GPA 2261-95									Batch:	: R408198
Lab ID:	LCS090523	11 Lab	oratory Cor	ntrol Sample			Run: GCNG	A-B_230905A		09/05	/23 11:08
Oxygen			0.64	Mol %	0.01	128	70	130			
Nitrogen			5.99	Mol %	0.01	100	70	130			
Carbon D	Dioxide		1.01	Mol %	0.01	102	70	130			
Methane			74.6	Mol %	0.01	100	70	130			
Ethane			6.10	Mol %	0.01	102	70	130			
Propane			4.92	Mol %	0.01	100	70	130			
Isobutane	е		2.00	Mol %	0.01	100	70	130			
n-Butane			2.00	Mol %	0.01	100	70	130			
Isopentar	ne		1.00	Mol %	0.01	100	70	130			
n-Pentan	е		1.00	Mol %	0.01	100	70	130			
Hexanes	plus		0.78	Mol %	0.01	98	70	130			
Lab ID:	B23090041-001ADUP	12 Sar	nple Duplic	ate			Run: GCNG	A-B_230905A		09/05	/23 12:16
Oxygen			21.7	Mol %	0.01				0	20	
Nitrogen			78.1	Mol %	0.01				0	20	
Carbon D	Dioxide		0.26	Mol %	0.01				0.0	20	
Hydroger	n 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	е		< 0.01	Mol %	0.01					20	
n-Butane			<0.01	Mol %	0.01					20	
Isopentar	ne		<0.01	Mol %	0.01					20	
					0.04					20	
n-Pentan	е		< 0.01	Mol %	0.01					20	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



Trust our People. Trust our Data. www.energylab.com Billings, MT 406.252.6325 • Casper, WY 307.235.0515 Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

## **Work Order Receipt Checklist**

### Hall Environmental

Login completed by: Richard L. Shular

### B23090044

Date Received: 9/1/2023

9 ,				
Reviewed by:	darcy		Red	ceived by: car
Reviewed Date:	9/9/2023		Carı	rier name: FedEx
Shipping container/cooler in	good condition?	Yes 🗸	No 🗌	Not Present
Custody seals intact on all s	hipping container(s)/cooler(s)?	Yes ✓	No 🗌	Not Present
Custody seals intact on all s	ample bottles?	Yes	No 🗌	Not Present ✓
Chain of custody present?		Yes ✓	No 🗌	
Chain of custody signed who	en relinquished and received?	Yes ✓	No 🗌	
Chain of custody agrees with	h sample labels?	Yes ✓	No 🗌	
Samples in proper container	/bottle?	Yes ✓	No 🗌	
Sample containers intact?		Yes ✓	No 🗌	
Sufficient sample volume for	r indicated test?	Yes ✓	No 🗌	
All samples received within I (Exclude analyses that are c such as pH, DO, Res Cl, Su	onsidered field parameters	Yes √	No 🗌	
Temp Blank received in all s	hipping container(s)/cooler(s)?	Yes	No 🗹	Not Applicable
Container/Temp Blank temp	erature:	20.6°C No Ice		
Containers requiring zero he bubble that is <6mm (1/4").	adspace have no headspace or	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.

#### **Contact and Corrective Action Comments:**

None

Website: www.hallenvironmental.com

ENVIRONMENTAL LABORATORY ANALYSIS HALL

OF: CHAIN OF CUSTODY RECORD PAGE: 1

Hall Environmental Analysis Laboratory

4901 Hawkins NE. Ilbuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

(400) 252-6069 ENIMIL FAX (406) 869-6253 ACCOUNT # PHONE Energy Laboratories COMPANY 1120 South 27th Street SUB CONTRATOR Energy Labs -Billings

B23096044 ANALYTICAL COMMENTS 1 Natural Gas Analysis- 02+C02 # CONTAINERS 8/30/2023 4:00:00 PM COLLECTION DATE MATRIX Air BOTTLE TYPE TEDLAR CLIENT SAMPLE ID Billings, MT 59107 1 2308H03-001B Influent 8-30 SAMPLE ITEM

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.

SPECIAL INSTRUCTIONS / COMMENTS:

ONLINE Attempt to Cool 3 REPORT TRANSMITTAL DESIRED: EMAIL FOR LAB USE ONLY FAX HARDCOPY (extra cost) Temp of samples B150 Date: Date Received By 7:52 AM RUSH 8/31/2023 Date Date TAT

CITY, STATE, ZIP.

ADDRESS

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:	HILCORP ENERGY	Work Order Nur	nber: 2308H03		RcptNo: 1
Received By:	Tracy Casarrubias	8/31/2023 6:10:00	) AM		
Completed By:	Tracy Casarrubias	8/31/2023 7:49:05	5 AM		
Reviewed By:	mp 8/3/	123			
Chain of Custe	od <u>y</u>				
1. Is Chain of Cus	stody complete?		Yes 🗌	No 🗹	Not Present
2. How was the sa	ample delivered?		<u>Courier</u>		
<u>Log In</u>					
3. Was an attemp	t made to cool the sample	s?	Yes	No 🗌	NA 🗹
4. Were all sample	es received at a temperatu	re of >0° C to 6.0°C	Yes 🗌	No 🗌	NA 🗹
5. Sample(s) in pr	oper container(s)?		Yes 🗸	No 🗌	
6. Sufficient sample	le volume for indicated test	(s)?	Yes 🗹	No 🗌	
7. Are samples (ex	ccept VOA and ONG) prope	erly preserved?	Yes 🗹	No 🗌	
8. Was preservativ	ve added to bottles?		Yes 🗌	No 🗹	NA 🗌
9. Received at leas	st 1 vial with headspace <1	/4" for AQ VOA?	Yes 🗌	No 🗌	NA 🗹
10. Were any samp	le containers received brol	ken?	Yes	No 🗸	# of preserved
	match bottle labels? cies on chain of custody)		Yes 🗸	No 🗌	bottles checked for pH: (<2.21 >12 unless noted)
12. Are matrices cor	rectly identified on Chain o	f Custody?	Yes 🗸	No 🗌	Adjusted?
	nalyses were requested?		Yes 🗸	No 🗌	
	times able to be met? tomer for authorization.)		Yes 🗹	No 🗌	Adjusted?  Adjusted?  Adjusted by: [mc 8/3/k3
Special Handlin	g (if applicable)				
15. Was client notifi	ied of all discrepancies with	this order?	Yes	No 🗌	NA 🗹
Person No	otified:	Date:	<u> </u>	Western and address of the	
By Whom:		Via:	eMail Pr	none 🗌 Fax	☐ In Person
Regarding		THE STATE OF			
Client Inst	ructions: Mailing address	and phone number are	missing on COC-	TMC 8/31/23	The second section of the second seco
16. Additional rema	ırks:				
	=	Seal Intact   Seal No	Seal Date	Signed By	

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email or Fax#: MKillowsh@hillorp com	Project Manager:			<b>⊅</b> C			
QA/QC Package:	Stoart Hyde	) / MRC	SWIS	OS ԠOc	nəsdA\	(ep)	
☐ Az Compliance ☐ Other	Sampler: £, corrol/ Onles: □ Yes ■No	) / DB(		NO <sup>5</sup> ' I		(60)	
	olers:	SRO	0 0	,£C			
	Cooler Temp(including CF): N/N (°C)	MTE	83				
Time Matrix Sample Name	Container Preservative HEAL No.	X3T8 108:H9T 99 1808	EDB (Ma 9AHs b) 8 AЯЭЯ	SI, F, Bi 3260 (Vo	S) 07S8 oO lsto	Fixed	
1600 Air Influent 8-30		$\times$				X	
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laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report. Released to Imaging: 479/2024 10:05:11 AM



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

October 25, 2023

Stuart Hyde Hilcorp Energy PO Box 61529

Houston, TX 77208-1529 TEL: (337) 276-7676

FAX:

RE: Sunray B1B OrderNo.: 2309H67

#### Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/30/2023 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 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

# **Analytical Report**Lab Order **2309H67**

Date Reported: 10/25/2023

## Hall Environmental Analysis Laboratory, Inc.

 CLIENT:
 Hilcorp Energy
 Client Sample ID: Sunray Influent 9-29-23

 Project:
 Sunray B1B
 Collection Date: 9/29/2023 11:20:00 AM

 Lab ID:
 2309H67-001
 Matrix: AIR
 Received Date: 9/30/2023 8:10:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed B	atch
EPA METHOD 8015D: GASOLINE RANGE					Analyst: J	IJP
Gasoline Range Organics (GRO)	4100	250	μg/L	50	10/11/2023 3:39:46 PM G	3A10037
Surr: BFB	181	15-412	%Rec	50	10/11/2023 3:39:46 PM G	GA10037
EPA METHOD 8260B: VOLATILES					Analyst: J	IR
Benzene	4.8	2.5	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Toluene	140	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Ethylbenzene	11	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Methyl tert-butyl ether (MTBE)	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
1,2,4-Trimethylbenzene	6.6	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
1,3,5-Trimethylbenzene	6.2	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
1,2-Dichloroethane (EDC)	ND	2.5	μg/L	50	10/10/2023 10:55:16 AM R	R100362
1,2-Dibromoethane (EDB)	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Naphthalene	ND	10	μg/L	50	10/10/2023 10:55:16 AM R	R100362
1-Methylnaphthalene	ND	20	μg/L	50	10/10/2023 10:55:16 AM R	R100362
2-Methylnaphthalene	ND	20	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Acetone	ND	50	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Bromobenzene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Bromodichloromethane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Bromoform	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Bromomethane	ND	10	μg/L	50	10/10/2023 10:55:16 AM R	R100362
2-Butanone	ND	50	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Carbon disulfide	ND	50	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Carbon tetrachloride	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Chlorobenzene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Chloroethane	ND	10	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Chloroform	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Chloromethane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
2-Chlorotoluene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
4-Chlorotoluene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
cis-1,2-DCE	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
cis-1,3-Dichloropropene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
1,2-Dibromo-3-chloropropane	ND	10	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Dibromochloromethane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Dibromomethane	ND	10	μg/L	50	10/10/2023 10:55:16 AM R	R100362
1,2-Dichlorobenzene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
1,3-Dichlorobenzene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
1,4-Dichlorobenzene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
Dichlorodifluoromethane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
1,1-Dichloroethane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362
1,1-Dichloroethene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM R	R100362

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 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

Page 1 of 5

# **Analytical Report**Lab Order **2309H67**

Date Reported: 10/25/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy

Client Sample ID: Sunray Influent 9-29-23

Project: Sunray B1B

Collection Date: 9/29/2023 11:20:00 AM

**Lab ID:** 2309H67-001 **Matrix:** AIR **Received Date:** 9/30/2023 8:10:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	: JR
1,2-Dichloropropane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
1,3-Dichloropropane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
2,2-Dichloropropane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
1,1-Dichloropropene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
Hexachlorobutadiene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
2-Hexanone	ND	50	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
Isopropylbenzene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
4-Isopropyltoluene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
4-Methyl-2-pentanone	ND	50	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
Methylene chloride	ND	15	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
n-Butylbenzene	ND	15	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
n-Propylbenzene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
sec-Butylbenzene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
Styrene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
tert-Butylbenzene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
1,1,1,2-Tetrachloroethane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
1,1,2,2-Tetrachloroethane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
Tetrachloroethene (PCE)	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
trans-1,2-DCE	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
trans-1,3-Dichloropropene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
1,2,3-Trichlorobenzene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
1,2,4-Trichlorobenzene	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
1,1,1-Trichloroethane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
1,1,2-Trichloroethane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
Trichloroethene (TCE)	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
Trichlorofluoromethane	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
1,2,3-Trichloropropane	ND	10	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
Vinyl chloride	ND	5.0	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
Xylenes, Total	100	7.5	μg/L	50	10/10/2023 10:55:16 AM	1 R100362
Surr: Dibromofluoromethane	96.5	70-130	%Rec	50	10/10/2023 10:55:16 AM	1 R100362
Surr: 1,2-Dichloroethane-d4	95.4	70-130	%Rec	50	10/10/2023 10:55:16 AM	1 R100362
Surr: Toluene-d8	99.2	70-130	%Rec	50	10/10/2023 10:55:16 AM	1 R100362
Surr: 4-Bromofluorobenzene	104	70-130	%Rec	50	10/10/2023 10:55:16 AM	1 R100362

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 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

Page 2 of 5

#### ANALYTICAL SUMMARY REPORT

October 05, 2023

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

Work Order:

B23100339

Quote ID: B15626

Project Name:

Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 10/4/2023 for analysis.

Lab ID	Client Sample ID	Collect Date R	eceive Date	Matrix	Test
B23100339-001	2309H67-001B, Sunray Influent 9-29-23	09/29/23 11:20	10/04/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis 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:

#### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client: Hall Environmental **Report Date: 10/05/23** Project: Not Indicated Collection Date: 09/29/23 11:20 DateReceived: 10/04/23 Lab ID: B23100339-001

Client Sample ID: 2309H67-001B, Sunray Influent 9-29-23 Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS	REPORT						
Oxygen	21.67	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
Nitrogen	77.87	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
Carbon Dioxide	0.36	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
Hexanes plus	0.10	Mol %		0.01		GPA 2261-95	10/05/23 10:19 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	10/05/23 10:19 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	10/05/23 10:19 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	10/05/23 10:19 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	10/05/23 10:19 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	10/05/23 10:19 / jrj
Hexanes plus	0.042	gpm		0.001		GPA 2261-95	10/05/23 10:19 / jrj
GPM Total	0.042	gpm		0.001		GPA 2261-95	10/05/23 10:19 / jrj
GPM Pentanes plus	0.042	gpm		0.001		GPA 2261-95	10/05/23 10:19 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	5			1		GPA 2261-95	10/05/23 10:19 / jrj
Net BTU per cu ft @ std cond. (LHV)	4			1		GPA 2261-95	10/05/23 10:19 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	10/05/23 10:19 / jrj
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	10/05/23 10:19 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	10/05/23 10:19 / jrj
Air, % - The analysis was not corrected for air.	99.00			0.01		GPA 2261-95	10/05/23 10:19 / jrj
COMMENTS							

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.

RL - Analyte Reporting Limit Report MCL - Maximum Contaminant Level

Definitions: QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)

10/05/23 10:19 / jrj

<sup>-</sup> 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.

<sup>-</sup> Standard conditions: 60 F & 14.73 psi on a dry basis.



## **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Hall Environmental Work Order: B23100339 Report Date: 10/05/23

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	GPA 2261-95									Batch:	R410004
Lab ID:	B23100339-001ADUP	12 Sai	mple Duplic	ate			Run: GCNG	GA-B_231005A		10/05/	23 10:49
Oxygen			21.7	Mol %	0.01				0.0	20	
Nitrogen			77.9	Mol %	0.01				0.0	20	
Carbon Di	ioxide		0.36	Mol %	0.01				0.0	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	
Isopentan	е		< 0.01	Mol %	0.01					20	
n-Pentane	)		< 0.01	Mol %	0.01					20	
Hexanes p	olus		0.10	Mol %	0.01				0.0	20	
Lab ID:	LCS100523	11 Lat	ooratory Co	ntrol Sample			Run: GCNG	SA-B_231005A		10/05/	23 11:18
Oxygen			0.61	Mol %	0.01	122	70	130			
Nitrogen			6.06	Mol %	0.01	101	70	130			
Carbon Di	oxide		1.01	Mol %	0.01	102	70	130			
Methane			74.6	Mol %	0.01	100	70	130			
Ethane			6.05	Mol %	0.01	101	70	130			
Propane			4.88	Mol %	0.01	99	70	130			
Isobutane			2.00	Mol %	0.01	100	70	130			
n-Butane			2.00	Mol %	0.01	100	70	130			
Isopentan	е		1.02	Mol %	0.01	102	70	130			
n-Pentane	)		1.01	Mol %	0.01	101	70	130			
Hexanes p	olus		0.81	Mol %	0.01	101	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Billings, MT 406.252.6325 • Casper, WY 307.235.0515 Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

B23100339

## **Work Order Receipt Checklist**

#### Hall Environmental

Reviewed by:  Reviewed Date:  Carrier name: Return-FedEx Ground  Shipping container/cooler in good condition?  Yes	Login completed by: Addison A. Gilbert		Date	Received: 10/4/2023
Shipping container/cooler in good condition?  Yes  No  Not Present  No	Reviewed by:		Re	eceived by: aag
Custody seals intact on all shipping container(s)/cooler(s)? Yes	Reviewed Date:		Ca	rrier name: Return-FedEx Ground
Custody seals intact on all sample bottles?  Yes No No Not Present Chain of custody present?  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 No Sufficient sample volume for indicated test?  Yes No No No Sufficient sample volume for indicated test?  Yes No No No No No No No No No Not Applicable Container, Ferrous Iron, etc.)  Temp Blank received in all shipping container(s)/cooler(s)?  Yes No No Not Applicable Container/Temp Blank temperature:  17.4°C No Ice  Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Shipping container/cooler in good condition?	Yes ✓	No 🗌	Not Present
Chain of custody present?  Chain of custody signed when relinquished and received?  Yes V No Chain of custody agrees with sample labels?  Yes V No Samples in proper container/bottle?  Samples in proper container/bottle?  Yes V No Sample containers intact?  Yes V No Sample containers intact?  Yes V No Sample volume for indicated test?  Yes V No Sufficient sample volume for indicated test?  Yes V No No Sufficient sample volume for indicated test?  Yes V No No No Sufficient sample volume for indicated test?  Yes V No No No No Not Applicable Temps Blank received in all shipping container(s)/cooler(s)?  Yes No No Not Applicable Temps Blank temperature:  17.4°C No Ice  Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Custody seals intact on all shipping container(s)/cooler(s)?	Yes ✓	No 🗌	Not Present
Chain of custody signed when relinquished and received?  Yes V No Chain of custody agrees with sample labels?  Yes V No Samples in proper container/bottle?  Yes V No Sample containers intact?  Yes V No Sufficient sample volume for indicated test?  Yes V No Sufficient sample volume for indicated test?  Yes V No Sufficient sample volume for indicated test?  Yes V No No Sufficient sample volume for indicated test?  Yes V No No Sufficient sample volume for indicated test?  Yes V No No Sufficient sample volume for indicated test?  Yes V No No No Not Applicable Such as pH, DO, Res CI, Sulfite, Ferrous Iron, etc.)  Temp Blank received in all shipping container(s)/cooler(s)?  Yes No No Not Applicable Sufficient substitution in the substitution of the substitution	Custody seals intact on all sample bottles?	Yes	No 🗌	Not Present 🗸
Chain of custody agrees with sample labels?  Yes \( \sigma \) No \( \)  Samples in proper container/bottle?  Yes \( \sigma \) No \( \)  Sample containers intact?  Yes \( \sigma \) No \( \)  Sufficient sample volume for indicated test?  Yes \( \sigma \) No \( \)  All samples received within holding time?  (Exclude analyses that are considered field parameters such as pH, DO, Res CI, Sulfite, Ferrous Iron, etc.)  Temp Blank received in all shipping container(s)/cooler(s)?  Yes \( \sigma \)  No \( \sigma \)  Not Applicable \( \sigma \)  Container/Temp Blank temperature:  17.4°C No Ice  Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Chain of custody present?	Yes ✓	No 🗌	
Samples in proper container/bottle?  Yes \( \sigma \) No \( \sigma \)  Sufficient sample volume for indicated test?  Yes \( \sigma \) No \( \sigma \)  All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res CI, Sulfite, Ferrous Iron, etc.)  Temp Blank received in all shipping container(s)/cooler(s)?  Yes \( \sigma \) No \( \sigma \)  No \( \sigma \) Not Applicable \( \sigma \)  Container/Temp Blank temperature:  17.4°C No Ice  Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Chain of custody signed when relinquished and received?	Yes ✓	No 🗌	
Sample containers intact?  Yes \( \script{\script{No}} \)  Sufficient sample volume for indicated test?  Yes \( \script{\script{No}} \)  All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res CI, Sulfite, Ferrous Iron, etc.)  Temp Blank received in all shipping container(s)/cooler(s)?  Yes \( \script{\script{No}} \)  No \( \script{\script{No}} \)  Not Applicable \( \script{\script{Container/Temp Blank temperature:}} \)  Container/Temp Blank temperature:  17.4°C No Ice  Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Chain of custody agrees with sample labels?	Yes ✓	No 🗌	
Sufficient sample volume for indicated test?  Yes \( \subseteq \) No \( \subseteq \)  All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)  Temp Blank received in all shipping container(s)/cooler(s)?  Yes \( \subseteq \) No \( \subseteq \) Not Applicable \( \subseteq \)  Container/Temp Blank temperature:  17.4°C No Ice  Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Samples in proper container/bottle?	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.)  Temp Blank received in all shipping container(s)/cooler(s)?  Yes No No Not Applicable Container/Temp Blank temperature:  17.4°C No Ice  Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Sample containers intact?	Yes ✓	No 🗌	
(Exclude analyses that are considered field parameters such as pH, DO, Res CI, Sulfite, Ferrous Iron, etc.)  Temp Blank received in all shipping container(s)/cooler(s)? Yes □ No ☑ Not Applicable □  Container/Temp Blank temperature: 17.4°C No Ice  Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Sufficient sample volume for indicated test?	Yes ✓	No 🗌	
Container/Temp Blank temperature: 17.4°C No Ice  Containers requiring zero headspace have no headspace or Yes No No No VOA vials submitted bubble that is <6mm (1/4").	(Exclude analyses that are considered field parameters	Yes √	No 🗌	
Containers requiring zero headspace have no headspace or Yes No No No VOA vials submitted bubble that is <6mm (1/4").	Temp Blank received in all shipping container(s)/cooler(s)?	Yes	No 🗹	Not Applicable
bubble that is <6mm (1/4").	Container/Temp Blank temperature:	17.4°C No Ice		
Water - pH acceptable upon receipt? Yes ☐ No ☐ Not Applicable ☑		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.

#### **Contact and Corrective Action Comments:**

None

	HALL ENVIRONMENTAL ANALYSIS LABORATORY	MENTAL S ORY	CHAIN	OF CUST	rody	CHAIN OF CUSTODY RECORD	1 OF:		Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com
SUBCO	DNTRATOR Energ	SUB CONTRATOR: Energy Labs -Billings COMPANY.		Energy Laboratories	s	PHONE	(406) 869-6253	FAX:	(406) 252-6069
ADDRESS	SS. 1120	1120 South 27th Street				ACCOUNT#:		EMAIL	
CITY, S.	TATE, ZIP. Billin	CHY, STATE, ZIP. Billings, MT 59107							
							# CONTA		
ITEM	SAMPLE	CLIENT SAMPLE ID		TYPE	MATRIX	COLLECTION DATE	AINERS	ANALYTI	ANALYTICAL COMMENTS
1	2309H67-001B	2309H67-001B Sunray Influent 9-29-23		TEDLAR	Air	9/29/2023 11:20:00 AM 1 Natural Gas Analysis- 02+C02	1 Natural Gas Analys	sis- 02+C02	50011200

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## Hall Environmental Analysis Laboratory, Inc.

190000

WO#: **2309H67 25-Oct-23** 

Client: Hilcorp Energy
Project: Sunray B1B

Surr: BFB

Sample ID: 2309h67-001adup SampType: DUP TestCode: EPA Method 8015D: Gasoline Range

Client ID: Sunray Influent 9-29- Batch ID: GA100376 RunNo: 100376

Prep Date: Analysis Date: 10/11/2023 SeqNo: 3677482 Units: μg/L

100000

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 4200 250 1.84 20

185

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

Page 3 of 5

## Hall Environmental Analysis Laboratory, Inc.

2309H67 25-Oct-23

WO#:

**Client:** Hilcorp Energy **Project:** Sunray B1B

Sample ID: 2309h67-001adup SampType: DUP TestCode: EPA Method 8260B: Volatiles

Client ID: Sunray Influent 9-29-Batch ID: R100362 RunNo: 100362

Analyte Benzene	Result	PQL								
Ponzono		FQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Delizerie	4.9	2.5						1.91	20	
Toluene	130	5.0						4.78	20	
Ethylbenzene	9.6	5.0						11.5	20	
Methyl tert-butyl ether (MTBE)	ND	5.0						0	20	
1,2,4-Trimethylbenzene	5.3	5.0						21.8	20	R
1,3,5-Trimethylbenzene	5.3	5.0						15.7	20	
1,2-Dichloroethane (EDC)	ND	2.5						0	20	
1,2-Dibromoethane (EDB)	ND	5.0						0	20	
Naphthalene	ND	10						0	20	
1-Methylnaphthalene	ND	20						0	20	
2-Methylnaphthalene	ND	20						0	20	
Acetone	ND	50						0	20	
Bromobenzene	ND	5.0						0	20	
Bromodichloromethane	ND	5.0						0	20	
Bromoform	ND	5.0						0	20	
Bromomethane	ND	10						0	20	
2-Butanone	ND	50						0	20	
Carbon disulfide	ND	50						0	20	
Carbon tetrachloride	ND	5.0						0	20	
Chlorobenzene	ND	5.0						0	20	
Chloroethane	ND	10						0	20	
Chloroform	ND	5.0						0	20	
Chloromethane	ND	5.0						0	20	
2-Chlorotoluene	ND	5.0						0	20	
4-Chlorotoluene	ND	5.0						0	20	
cis-1,2-DCE	ND	5.0						0	20	
cis-1,3-Dichloropropene	ND	5.0						0	20	
1,2-Dibromo-3-chloropropane	ND	10						0	20	
Dibromochloromethane	ND	5.0						0	20	
Dibromomethane	ND	10						0	20	
1,2-Dichlorobenzene	ND	5.0						0	20	
1,3-Dichlorobenzene	ND	5.0						0	20	
1,4-Dichlorobenzene	ND	5.0						0	20	
Dichlorodifluoromethane	ND	5.0						0	20	
1,1-Dichloroethane	ND	5.0						0	20	
1,1-Dichloroethene	ND	5.0						0	20	
1,2-Dichloropropane	ND	5.0						0	20	
1,3-Dichloropropane	ND	5.0						0	20	
2,2-Dichloropropane	ND	5.0						0	20	

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Limit

Page 4 of 5

## Hall Environmental Analysis Laboratory, Inc.

2309H67 25-Oct-23

WO#:

Client: Hilcorp Energy
Project: Sunray B1B

Sample ID: 2309h67-001adup SampType: DUP TestCode: EPA Method 8260B: Volatiles

Client ID: Sunray Influent 9-29- Batch ID: R100362 RunNo: 100362

Sunray initident		IIID. KI			Nullino. IC					
Prep Date:	Analysis D	Date: 10	/10/2023	٤	SeqNo: 36	675829	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	5.0						0	20	
Hexachlorobutadiene	ND	5.0						0	20	
2-Hexanone	ND	50						0	20	
Isopropylbenzene	ND	5.0						0	20	
4-Isopropyltoluene	ND	5.0						0	20	
4-Methyl-2-pentanone	ND	50						0	20	
Methylene chloride	ND	15						0	20	
n-Butylbenzene	ND	15						0	20	
n-Propylbenzene	ND	5.0						0	20	
sec-Butylbenzene	ND	5.0						0	20	
Styrene	ND	5.0						0	20	
tert-Butylbenzene	ND	5.0						0	20	
1,1,1,2-Tetrachloroethane	ND	5.0						0	20	
1,1,2,2-Tetrachloroethane	ND	5.0						0	20	
Tetrachloroethene (PCE)	ND	5.0						0	20	
trans-1,2-DCE	ND	5.0						0	20	
trans-1,3-Dichloropropene	ND	5.0						0	20	
1,2,3-Trichlorobenzene	ND	5.0						0	20	
1,2,4-Trichlorobenzene	ND	5.0						0	20	
1,1,1-Trichloroethane	ND	5.0						0	20	
1,1,2-Trichloroethane	ND	5.0						0	20	
Trichloroethene (TCE)	ND	5.0						0	20	
Trichlorofluoromethane	ND	5.0						0	20	
1,2,3-Trichloropropane	ND	10						0	20	
Vinyl chloride	ND	5.0						0	20	
Xylenes, Total	92	7.5						8.37	20	
Surr: Dibromofluoromethane	47		50.00		94.2	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	48		50.00		95.3	70	130	0	0	
Surr: Toluene-d8	50		50.00		99.7	70	130	0	0	
Surr: 4-Bromofluorobenzene	53		50.00		107	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
- 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

Page 5 of 5



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

Released to Imaging: 4/9/2024 10:05:11 AM

Client Name: Hilcorp Energy	Work Order Numbe	er: <b>2309H67</b>		RcptNo: 1	
Received By: Tracy Casarrubias	9/30/2023 8:10:00 A	м			
Completed By: Tracy Casarrubias	9/30/2023 9:47:56 A	м			
Reviewed By: 120/2/23					
Chain of Custody					
1. Is Chain of Custody complete?		Yes	No 🗹	Not Present	
2. How was the sample delivered?		Courier		100 N3	
<u>Log In</u> 3. Was an attempt made to cool the samples	?	Yes 🗌	No 🗸 🕅	M. M. O. W.	
4. Were all samples received at a temperatur	e 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) prope	erly 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	ken?	Yes 🗌	No 🗹	# of preserved bottles checked	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)		Yes 🗹	No 🗌	for pH: (<2 or >12 ur	nless noted)
12. Are matrices correctly identified on Chain of	of Custody?	Yes 🗹	No 🗌	Adjusted?	
13. Is it clear what analyses were requested?		Yes 🗸	No 🗌		0 120127
14. Were all holding times able to be met? (If no, notify customer for authorization.)		Yes 🗹	No 🗆	Checked by: TWC	4/30/63
Special Handling (if applicable)					
15. Was client notified of all discrepancies wit	h this order?	Yes 🗌	No 🗌	NA 🗹	
Person Notified:	Date:		COUNTY OF THE PERSON NAMED IN COLUMN 1		
By Whom:	Via:	eMail [] I	Phone 🗌 Fax	In Person	
Regarding:					
Client Instructions: Mailing address	and phone number are	missing on COC	- TMC 9/30/23		
16. Additional remarks:					
	Seal Intact   Seal No	Seal Date	Signed By		

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Chain-of-Custody Record	Lurn-Around Lime:	HALL ENVIRONMENTAL
Client: Hillower	☑ Standard □ Rush	
	Project Name:	www.hallenvironmental.com
Mailing Address:	Survey 87B	4901 Hawkins NE - Albuquerque, NM 87109
State on Broad	Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #:		Analysis Request
email or Fax#: mx://000m & hi/co.p. com	Project Manager:	†OS
QA/QC Package:	S. HYDE - ENSOLUM	O / MRPSIMS
:	Sampler: E. Carrell	280 (1. )728 , <sub>s</sub> Ομ
		8/89/8/98/99/99/99/99/99/99/99/99/99/99/
□ EDD (Type)	olers: \	od od 310 NO NO NO NO
	Cooler Temp(including CF): NA (°C)	15C estid 1eth 3y 8 3r, 3t, AOV
i i	Container Preservative HEAL No.	2TEX / 8081 Po 8081 Po 8081 Po 87CRA 87CRA 82CB (/ 82CB (/ 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8) 8)
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Collection No.	9/20/23 -8:10	TO AN ALL TO AND AND AND AND AND AND AND AND AND ADDRESS OF THE AND ADDRESS OF THE ADDRESS OF TH
the contraction of the state of	al may be subcontracted to other accredited laboratories. This serves as notice of thi	This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Released to Imaging: 432024 10:05:11 AM



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

November 02, 2023

Stuart Hyde HILCORP ENERGY PO Box 4700 Farmington, NM 87499

TEL: (505) 564-0733

FAX:

RE: Sunray B 1B OrderNo.: 2310673

#### Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/13/2023 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 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

# Analytical Report Lab Order 2310673

Date Reported: 11/2/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: Influent 10-6-23

 Project:
 Sunray B 1B
 Collection Date: 10/6/2023 1:15:00 PM

 Lab ID:
 2310673-001
 Matrix: AIR
 Received Date: 10/13/2023 6:30:00 AM

Analyses	Result	RL Qua	al Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE					Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	1400	250	μg/L	50	10/19/2023 3:04:48 PM
Surr: BFB	118	15-412	%Rec	50	10/19/2023 3:04:48 PM
EPA METHOD 8260B: VOLATILES					Analyst: JR
Benzene	ND	2.0	μg/L	50	10/19/2023 10:15:36 AM
Toluene	48	5.0	μg/L	50	10/19/2023 10:15:36 AM
Ethylbenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Methyl tert-butyl ether (MTBE)	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,2,4-Trimethylbenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,3,5-Trimethylbenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,2-Dichloroethane (EDC)	ND	2.0	μg/L	50	10/19/2023 10:15:36 AM
1,2-Dibromoethane (EDB)	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Naphthalene	ND	10	μg/L	50	10/19/2023 10:15:36 AM
1-Methylnaphthalene	ND	20	μg/L	50	10/19/2023 10:15:36 AM
2-Methylnaphthalene	ND	20	μg/L	50	10/19/2023 10:15:36 AM
Acetone	ND	50	μg/L	50	10/19/2023 10:15:36 AM
Bromobenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Bromodichloromethane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Bromoform	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Bromomethane	ND	10	μg/L	50	10/19/2023 10:15:36 AM
2-Butanone	ND	50	μg/L	50	10/19/2023 10:15:36 AM
Carbon disulfide	ND	50	μg/L	50	10/19/2023 10:15:36 AM
Carbon tetrachloride	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Chlorobenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Chloroethane	ND	10	μg/L	50	10/19/2023 10:15:36 AM
Chloroform	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Chloromethane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
2-Chlorotoluene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
4-Chlorotoluene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
cis-1,2-DCE	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
cis-1,3-Dichloropropene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,2-Dibromo-3-chloropropane	ND	10	μg/L	50	10/19/2023 10:15:36 AM
Dibromochloromethane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Dibromomethane	ND	10	μg/L	50	10/19/2023 10:15:36 AM
1,2-Dichlorobenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,3-Dichlorobenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,4-Dichlorobenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Dichlorodifluoromethane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,1-Dichloroethane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,1-Dichloroethene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM

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 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

Page 1 of 5

# Analytical Report Lab Order 2310673

Date Reported: 11/2/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: Influent 10-6-23

 Project:
 Sunray B 1B
 Collection Date: 10/6/2023 1:15:00 PM

 Lab ID:
 2310673-001
 Matrix: AIR
 Received Date: 10/13/2023 6:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: <b>JR</b>
1,2-Dichloropropane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,3-Dichloropropane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
2,2-Dichloropropane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,1-Dichloropropene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Hexachlorobutadiene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
2-Hexanone	ND	50	μg/L	50	10/19/2023 10:15:36 AM
Isopropylbenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
4-Isopropyltoluene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
4-Methyl-2-pentanone	ND	50	μg/L	50	10/19/2023 10:15:36 AM
Methylene chloride	ND	15	μg/L	50	10/19/2023 10:15:36 AM
n-Butylbenzene	ND	15	μg/L	50	10/19/2023 10:15:36 AM
n-Propylbenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
sec-Butylbenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Styrene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
tert-Butylbenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,1,1,2-Tetrachloroethane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,1,2,2-Tetrachloroethane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Tetrachloroethene (PCE)	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
trans-1,2-DCE	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
trans-1,3-Dichloropropene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,2,3-Trichlorobenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,2,4-Trichlorobenzene	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,1,1-Trichloroethane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,1,2-Trichloroethane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Trichloroethene (TCE)	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Trichlorofluoromethane	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
1,2,3-Trichloropropane	ND	10	μg/L	50	10/19/2023 10:15:36 AM
Vinyl chloride	ND	5.0	μg/L	50	10/19/2023 10:15:36 AM
Xylenes, Total	41	7.5	μg/L	50	10/19/2023 10:15:36 AM
Surr: Dibromofluoromethane	99.3	70-130	%Rec	50	10/19/2023 10:15:36 AM
Surr: 1,2-Dichloroethane-d4	91.3	70-130	%Rec	50	10/19/2023 10:15:36 AM
Surr: Toluene-d8	97.0	70-130	%Rec	50	10/19/2023 10:15:36 AM
Surr: 4-Bromofluorobenzene	99.7	70-130	%Rec	50	10/19/2023 10:15:36 AM

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 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

Page 2 of 5

#### ANALYTICAL SUMMARY REPORT

November 01, 2023

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

Work Order:

B23101318

Quote ID: B15626

Project Name:

Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 10/17/2023 for analysis.

Lab ID	Client Sample ID	Collect Date Receive	Date Matrix	Test
B23101318-001	2310673-001B, Influent 10-6-23	10/06/23 13:15 10/1	7/23 Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis 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:

#### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

 Client:
 Hall Environmental
 Report Date:
 11/01/23

 Project:
 Not Indicated
 Collection Date:
 10/06/23 13:15

 Lab ID:
 B23101318-001
 DateReceived:
 10/17/23

 Client Sample ID:
 2310673-001B, Influent 10-6-23
 Matrix:
 Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS	REPORT						
Oxygen	21.74	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
Nitrogen	78.01	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
Carbon Dioxide	0.18	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
Methane	< 0.01	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
sobutane	<0.01	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
sopentane	<0.01	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
Hexanes plus	0.07	Mol %		0.01		GPA 2261-95	10/19/23 12:24 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	10/19/23 12:24 / jrj
sobutane	< 0.001	gpm		0.001		GPA 2261-95	10/19/23 12:24 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	10/19/23 12:24 / jrj
sopentane	< 0.001	gpm		0.001		GPA 2261-95	10/19/23 12:24 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	10/19/23 12:24 / jrj
lexanes plus	0.029	gpm		0.001		GPA 2261-95	10/19/23 12:24 / jrj
GPM Total	0.029	gpm		0.001		GPA 2261-95	10/19/23 12:24 / jrj
GPM Pentanes plus	0.029	gpm		0.001		GPA 2261-95	10/19/23 12:24 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	3			1		GPA 2261-95	10/19/23 12:24 / jrj
Net BTU per cu ft @ std cond. (LHV)	3			1		GPA 2261-95	10/19/23 12:24 / jrj
Pseudo-critical Pressure, psia	545			1		GPA 2261-95	10/19/23 12:24 / jrj
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	10/19/23 12:24 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	10/19/23 12:24 / jrj
Air, %	99.34			0.01		GPA 2261-95	10/19/23 12:24 / jrj
- The analysis was not corrected for air.							
COMMENTS							

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level

**Definitions:** QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)

10/19/23 12:24 / jrj

<sup>-</sup> GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.

<sup>-</sup> To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.

<sup>-</sup> Standard conditions: 60 F & 14.73 psi on a dry basis.



## **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Hall Environmental Work Order: B23101318 Report Date: 11/01/23

Analyte		Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	GPA 2261-95									Batch:	R410813
Lab ID:	B23101079-004ADUP	12 Saı	mple Duplic	ate		F	Run: GCNG	A-B_231019A		10/19/	23 14:38
Oxygen			0.83	Mol %	0.01				1.2	20	
Nitrogen			14.4	Mol %	0.01				0.4	20	
Carbon Di	ioxide		0.03	Mol %	0.01				0.0	20	
Hydrogen	Sulfide		< 0.01	Mol %	0.01					20	
Methane			83.6	Mol %	0.01				0.1	20	
Ethane			0.75	Mol %	0.01				0.0	20	
Propane			0.21	Mol %	0.01				0.0	20	
Isobutane			0.09	Mol %	0.01				12	20	
n-Butane			0.03	Mol %	0.01				0.0	20	
Isopentan	е		< 0.01	Mol %	0.01					20	
n-Pentane	e		< 0.01	Mol %	0.01					20	
Hexanes p	plus		<0.01	Mol %	0.01					20	
Lab ID:	LCS101923	11 Lat	ooratory Cor	ntrol Sample		F	Run: GCNG	A-B_231019A		10/19/	23 15:12
Oxygen			0.60	Mol %	0.01	120	70	130			
Nitrogen			6.00	Mol %	0.01	100	70	130			
Carbon Di	ioxide		0.99	Mol %	0.01	100	70	130			
Methane			74.1	Mol %	0.01	99	70	130			
Ethane			5.98	Mol %	0.01	100	70	130			
Propane			5.56	Mol %	0.01	113	70	130			
Isobutane			1.98	Mol %	0.01	99	70	130			
n-Butane			1.99	Mol %	0.01	99	70	130			
Isopentan	е		1.03	Mol %	0.01	103	70	130			
n-Pentane	e		1.02	Mol %	0.01	102	70	130			
Hexanes p	plus		0.76	Mol %	0.01	95	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Trust our People. Trust our Data. www.energylab.com

Billings, MT 406.252.6325 • Casper, WY 307.235.0515 Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

## **Work Order Receipt Checklist**

#### Hall Environmental

B23101318

Login completed by:	Yvonna E. Smith		Date	e Received: 10/17/2023	
Reviewed by:	lleprowse		R	eceived by: dnh	
Reviewed Date:	10/21/2023		Ca	arrier name: FedEx	
Shipping container/cooler in	good condition?	Yes ✓	No 🗌	Not Present	
Custody seals intact on all s	hipping container(s)/cooler(s)?	Yes 🗸	No 🗌	Not Present	
Custody seals intact on all s	ample bottles?	Yes	No 🗌	Not Present ✓	
Chain of custody present?		Yes ✓	No 🗌		
Chain of custody signed who	en relinquished and received?	Yes ✓	No 🗌		
Chain of custody agrees with	h sample labels?	Yes ✓	No 🗌		
Samples in proper container	r/bottle?	Yes ✓	No 🗌		
Sample containers intact?		Yes ✓	No 🗌		
Sufficient sample volume for	r indicated test?	Yes ✓	No 🗌		
All samples received within I (Exclude analyses that are of such as pH, DO, Res CI, Su	considered field parameters	Yes ✓	No 🗌		
Temp Blank received in all s	shipping container(s)/cooler(s)?	Yes	No 🗹	Not Applicable	
Container/Temp Blank temp	erature:	15.2°C No Ice			
Containers requiring zero he bubble that is <6mm (1/4").	eadspace have no headspace or	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

Website: www.hallenvironmental.com

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

Hall Environmental Analysis Laboratory Albuquerque, NM 87109 4901 Harrkims NE TEL: 505-345-3975 FAX: 505-345-4107 OF: CHAIN OF CUSTODY RECORD PAGE: 1

B13101318 ANALYTICAL COMMENTS (406) 252-6069 EMAIL FAX 1 Natural Gas Analysis- CO2+O2 (406) 869-6253 # CONTAINERS 10/6/2023 1:15:00 PM ACCOUNT # COLLECTION PHONE DATE MATRIX Air Energy Laboratories BOTTLE TYPE TEDLAR COMPANY CLIENT SAMPLE ID 1120 South 27th Street SUB CONTRATOR Energy Labs -Billings 1 2310673-001B Influent 10-6-23 CITY, STATE, ZIP. Billings, MT 59107 SAMPLE ADDRESS ITEM

	Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.		ORT TRANSMITTAL DESIRED:	HAKDCOPY (extra cost) FAA EMAIL CONLENE	FOR LAB USE ONLY	Temp of samples C Attempt to Cool?	Comments:	
	ults to lab@hallenvironme		Date: Time:	Date: Time:	Durfo ( ) Truston	14 FM 24 D	3rd BD	
	on all final reports. Please e-mail resu		Received By	Received By:	Jan.	Come	Next BD 2nd BD	
	SAMPLE ID o		Time 8:10 AM	Time:	Tima		RUSH	
/ COMMENTS:	AB ID and the CLIENT.	0	Date T 10/13/2023	Date	Doto		Slandard	
SPECIAL INSTRUCTIONS / COMMENTS:	Please include the LA		, Relinquished By:	Relinquished By:	Definitional Dec	Schalance by	TAT:	

### Hall Environmental Analysis Laboratory, Inc.

WO#: 2310673 02-Nov-23

**Client:** HILCORP ENERGY

**Project:** Sunray B 1B

Sample ID: 2310673-001adup SampType: **DUP** TestCode: EPA Method 8015D: Gasoline Range

Client ID: Influent 10-6-23 Batch ID: GA100590 RunNo: 100590

Prep Date: Analysis Date: 10/19/2023 SeqNo: 3687273 Units: µg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 1400 Gasoline Range Organics (GRO) 250 0.587 20 Surr: BFB 130000 100000 126 15 412 0 0

Qualifiers:

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated.

Analyte detected in the associated Method Blank

Above Quantitation Range/Estimated Value

Analyte detected below quantitation limits

Sample pH Not In Range

Reporting Limit

Page 3 of 5

### Hall Environmental Analysis Laboratory, Inc.

2310673 02-Nov-23

WO#:

**Client:** HILCORP ENERGY

**Project:** Sunray B 1B

Sample ID: 2310673-001adup SampType: DUP TestCode: EPA Method 8260B: Volatiles Client ID: Influent 10-6-23 Batch ID: R100597 RunNo: 100597

Units: µg/L Prep Date: Analysis Date: 10/19/2023 SeqNo: 3687769 PQL SPK value SPK Ref Val HighLimit %RPD **RPDLimit** Analyte Result %REC LowLimit Qual Benzene ND 2.0 0 20 Toluene 42 5.0 12.2 20 ND Ethylbenzene 5.0 0 20 Methyl tert-butyl ether (MTBE) ND 5.0 0 20 1,2,4-Trimethylbenzene ND 5.0 0 20 1,3,5-Trimethylbenzene ND 0 20 5.0 1,2-Dichloroethane (EDC) ND 2.0 0 20 1,2-Dibromoethane (EDB) ND 0 20 5.0 Naphthalene ND 10 0 20 0 1-Methylnaphthalene ND 20 20 2-Methylnaphthalene ND 20 0 20 50 0 Acetone ND 20 Bromobenzene ND 5.0 0 20 Bromodichloromethane ND 5.0 0 20 Bromoform ND 0 20 5.0 Bromomethane ND 10 0 20 ND 0 20 2-Butanone 50 Carbon disulfide ND 50 0 20 Carbon tetrachloride ND 5.0 0 20 Chlorobenzene ND 0 20 5.0 0 Chloroethane ND 10 20 0 Chloroform ND 5.0 20 Chloromethane ND 5.0 0 20 2-Chlorotoluene ND 5.0 0 20 4-Chlorotoluene ND 5.0 0 20 ND 5.0 0 20 cis-1,2-DCE cis-1,3-Dichloropropene ND 5.0 0 20 0 1,2-Dibromo-3-chloropropane ND 10 20 Dibromochloromethane 0 20 ND 5.0 0 Dibromomethane ND 10 20 1.2-Dichlorobenzene ND 5.0 0 20 0 20 1,3-Dichlorobenzene ND 5.0 1,4-Dichlorobenzene ND 5.0 0 20 0 Dichlorodifluoromethane ND 5.0 20 1.1-Dichloroethane ND 5.0 0 20 1,1-Dichloroethene ND 5.0 0 20 1,2-Dichloropropane ND 5.0 0 20 1,3-Dichloropropane ND 5.0 0 20 ND 5.0 0 20 2,2-Dichloropropane

#### Qualifiers:

- Value exceeds Maximum Contaminant Level
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- В Analyte detected in the associated Method Blank
- Е Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RL Reporting Limit

Page 4 of 5

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2310673** 

02-Nov-23

**Client:** HILCORP ENERGY

**Project:** Sunray B 1B

Sample ID: 2310673-001adup	Samp1	ype: <b>DU</b>	P	Tes	tCode: EF	PA Method	8260B: Volatil	es		-
Client ID: Influent 10-6-23		n ID: <b>R1</b> 0			RunNo: 10					
Prep Date:	Analysis D				SeqNo: 30		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	5.0						0	20	
Hexachlorobutadiene	ND	5.0						0	20	
2-Hexanone	ND	50						0	20	
Isopropylbenzene	ND	5.0						0	20	
4-Isopropyltoluene	ND	5.0						0	20	
4-Methyl-2-pentanone	ND	50						0	20	
Methylene chloride	ND	15						0	20	
n-Butylbenzene	ND	15						0	20	
n-Propylbenzene	ND	5.0						0	20	
sec-Butylbenzene	ND	5.0						0	20	
Styrene	ND	5.0						0	20	
tert-Butylbenzene	ND	5.0						0	20	
1,1,1,2-Tetrachloroethane	ND	5.0						0	20	
1,1,2,2-Tetrachloroethane	ND	5.0						0	20	
Tetrachloroethene (PCE)	ND	5.0						0	20	
trans-1,2-DCE	ND	5.0						0	20	
trans-1,3-Dichloropropene	ND	5.0						0	20	
1,2,3-Trichlorobenzene	ND	5.0						0	20	
1,2,4-Trichlorobenzene	ND	5.0						0	20	
1,1,1-Trichloroethane	ND	5.0						0	20	
1,1,2-Trichloroethane	ND	5.0						0	20	
Trichloroethene (TCE)	ND	5.0						0	20	
Trichlorofluoromethane	ND	5.0						0	20	
1,2,3-Trichloropropane	ND	10						0	20	
Vinyl chloride	ND	5.0						0	20	
Xylenes, Total	38	7.5						7.99	20	
Surr: Dibromofluoromethane	49		50.00		97.7	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	46		50.00		91.2	70	130	0	0	
Surr: Toluene-d8	46		50.00		92.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	50		50.00		101	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
- 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

Page 5 of 5

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

Released to Imaging: 4/9/2024 10:05:11 AM

Client Name: HILCORP ENERGY Work Order Num	ber: 2310673		RcptNo:	1
Received By: Tracy Casarrubias 10/13/2023 6:30:00	) AM			
	•			
Completed By: Tracy Casarrubias 10/13/2023 7:19:00	) AM			
Reviewed By: 5CM 10/13/23				
Chain of Custody				
1. Is Chain of Custody complete?	Yes 🗌	No 🔽	Not Present	
2. How was the sample delivered?	Courier			
<u>Log In</u>				
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 🗹		
			# of preserved bottles checked	
11. Does paperwork match bottle labels?	Yes 🗹	No 🗌	for pH:	/12lass mate 1)
(Note discrepancies on chain of custody)  12. Are matrices correctly identified on Chain of Custody?	Yes 🗸	No 🗆	(<2 or Adjusted?	12 unless noted)
[3] Is it clear what analyses were requested?	res <b>⊻</b> Yes <b>⊻</b>	No 🗆		
14. Were all holding times able to be met?	Yes ✓	No 🗆	Checked by:	M 15-13.7
(If no, notify customer for authorization.)	ies 🖭	110		1 - 150
Special Handling (if applicable)				
15. Was client notified of all discrepancies with this order?	Yes 🗌	No 🗌	NA 🗹	
Person Notified: Date				
By Whom: Via:	eMail F	hone  Fax	☐ In Person	
Regarding:			Water of the Control	
Client Instructions: Mailing address,phone number and En	nail/Fax are missin	g on COC- TM	C 10/13/23	
16. Additional remarks:				
17. Cooler Information				
Cooler No Temp °C Condition Seal Intact Seal No	Seal Date	Signed By		
1 N/A Good Yes				

J	hain	of-C	Chain-of-Custody Record	Record	urn-Around lime:	: : :				_			ENVIDONMENTA	TD	2	Σ	2	V		
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Released to Imaging: 4/9/2024 10:05:11 AM



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

November 03, 2023

Stuart Hyde HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733

FAX:

RE: Sunray B 1B OrderNo.: 2310A08

#### Dear Stuart Hyde:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 10/20/2023 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

andy

4901 Hawkins NE

Albuquerque, NM 87109

# Analytical Report Lab Order 2310A08

Date Reported: 11/3/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: Influent 10-19-23

 Project:
 Sunray B 1B
 Collection Date: 10/19/2023 12:35:00 PM

 Lab ID:
 2310A08-001
 Matrix: AIR
 Received Date: 10/20/2023 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE					Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	1200	250	μg/L	50	10/31/2023 10:27:51 AM
Surr: BFB	135	15-412	%Rec	50	10/31/2023 10:27:51 AM
EPA METHOD 8260B: VOLATILES					Analyst: CCM
Benzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Toluene	29	5.0	μg/L	50	10/30/2023 2:16:00 PM
Ethylbenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Methyl tert-butyl ether (MTBE)	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,2,4-Trimethylbenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,3,5-Trimethylbenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,2-Dichloroethane (EDC)	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,2-Dibromoethane (EDB)	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Naphthalene	ND	10	μg/L	50	10/30/2023 2:16:00 PM
1-Methylnaphthalene	ND	20	μg/L	50	10/30/2023 2:16:00 PM
2-Methylnaphthalene	ND	20	μg/L	50	10/30/2023 2:16:00 PM
Acetone	ND	50	μg/L	50	10/30/2023 2:16:00 PM
Bromobenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Bromodichloromethane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Bromoform	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Bromomethane	ND	10	μg/L	50	10/30/2023 2:16:00 PM
2-Butanone	ND	50	μg/L	50	10/30/2023 2:16:00 PM
Carbon disulfide	ND	50	μg/L	50	10/30/2023 2:16:00 PM
Carbon tetrachloride	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Chlorobenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Chloroethane	ND	10	μg/L	50	10/30/2023 2:16:00 PM
Chloroform	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Chloromethane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
2-Chlorotoluene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
4-Chlorotoluene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
cis-1,2-DCE	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
cis-1,3-Dichloropropene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,2-Dibromo-3-chloropropane	ND	10	μg/L	50	10/30/2023 2:16:00 PM
Dibromochloromethane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Dibromomethane	ND	10	μg/L	50	10/30/2023 2:16:00 PM
1,2-Dichlorobenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,3-Dichlorobenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,4-Dichlorobenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Dichlorodifluoromethane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,1-Dichloroethane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,1-Dichloroethene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM

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 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

Page 1 of 5

# Analytical Report Lab Order 2310A08

Date Reported: 11/3/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: Influent 10-19-23

 Project:
 Sunray B 1B
 Collection Date: 10/19/2023 12:35:00 PM

 Lab ID:
 2310A08-001
 Matrix: AIR
 Received Date: 10/20/2023 7:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: CCM
1,2-Dichloropropane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,3-Dichloropropane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
2,2-Dichloropropane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,1-Dichloropropene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Hexachlorobutadiene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
2-Hexanone	ND	50	μg/L	50	10/30/2023 2:16:00 PM
Isopropylbenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
4-Isopropyltoluene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
4-Methyl-2-pentanone	ND	50	μg/L	50	10/30/2023 2:16:00 PM
Methylene chloride	ND	15	μg/L	50	10/30/2023 2:16:00 PM
n-Butylbenzene	ND	15	μg/L	50	10/30/2023 2:16:00 PM
n-Propylbenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
sec-Butylbenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Styrene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
tert-Butylbenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,1,1,2-Tetrachloroethane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,1,2,2-Tetrachloroethane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Tetrachloroethene (PCE)	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
trans-1,2-DCE	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
trans-1,3-Dichloropropene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,2,3-Trichlorobenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,2,4-Trichlorobenzene	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,1,1-Trichloroethane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,1,2-Trichloroethane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Trichloroethene (TCE)	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Trichlorofluoromethane	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
1,2,3-Trichloropropane	ND	10	μg/L	50	10/30/2023 2:16:00 PM
Vinyl chloride	ND	5.0	μg/L	50	10/30/2023 2:16:00 PM
Xylenes, Total	29	7.5	μg/L	50	10/30/2023 2:16:00 PM
Surr: Dibromofluoromethane	89.1	70-130	%Rec	50	10/30/2023 2:16:00 PM
Surr: 1,2-Dichloroethane-d4	91.5	70-130	%Rec	50	10/30/2023 2:16:00 PM
Surr: Toluene-d8	109	70-130	%Rec	50	10/30/2023 2:16:00 PM
Surr: 4-Bromofluorobenzene	105	70-130	%Rec	50	10/30/2023 2:16:00 PM

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 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

Page 2 of 5

#### ANALYTICAL SUMMARY REPORT

November 02, 2023

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

Work Order: B23101902 Quote ID: B15626

Project Name: Tedlar Gas Analysis

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 10/25/2023 for analysis.

Lab ID	Client Sample ID	Collect Date R	Receive Date	Matrix	Test
B23101902-001	2310A08-001B, Influent 10-19-23	10/19/23 12:35	10/25/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis 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:

#### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

 Client:
 Hall Environmental
 Report Date:
 11/02/23

 Project:
 Tedlar Gas Analysis
 Collection Date:
 10/19/23 12:35

 Lab ID:
 B23101902-001
 DateReceived:
 10/25/23

 Client Sample ID:
 2310A08-001B, Influent 10-19-23
 Matrix:
 Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS	REPORT						
Oxygen	21.81	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
Nitrogen	78.00	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
Carbon Dioxide	0.16	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
Hydrogen Sulfide	< 0.01	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
Methane	< 0.01	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
Ethane	< 0.01	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
Propane	< 0.01	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
sobutane	< 0.01	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
n-Butane	< 0.01	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
sopentane	< 0.01	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
n-Pentane	< 0.01	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
lexanes plus	0.03	Mol %		0.01		GPA 2261-95	10/26/23 10:57 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	10/26/23 10:57 / jrj
sobutane	< 0.001	gpm		0.001		GPA 2261-95	10/26/23 10:57 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	10/26/23 10:57 / jrj
sopentane	< 0.001	gpm		0.001		GPA 2261-95	10/26/23 10:57 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	10/26/23 10:57 / jrj
lexanes plus	0.013	gpm		0.001		GPA 2261-95	10/26/23 10:57 / jrj
GPM Total	0.013	gpm		0.001		GPA 2261-95	10/26/23 10:57 / jrj
GPM Pentanes plus	0.013	gpm		0.001		GPA 2261-95	10/26/23 10:57 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	1			1		GPA 2261-95	10/26/23 10:57 / jrj
Net BTU per cu ft @ std cond. (LHV)	1			1		GPA 2261-95	10/26/23 10:57 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	10/26/23 10:57 / jrj
Pseudo-critical Temperature, deg R	239			1		GPA 2261-95	10/26/23 10:57 / jrj
Specific Gravity @ 60/60F	0.999			0.001		D3588-81	10/26/23 10:57 / jrj
Air, %	99.64			0.01		GPA 2261-95	10/26/23 10:57 / jrj
- The analysis was not corrected for air.							
COMMENTS							

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level

**Definitions:** QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)

10/26/23 10:57 / jrj

<sup>-</sup> GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.

<sup>-</sup> To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.

<sup>-</sup> Standard conditions: 60 F & 14.73 psi on a dry basis.



## **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Hall Environmental Work Order: B23101902 Report Date: 11/02/23

Analyte		Count	Result	Units	RL	%REC L	ow Limit	High Limit	RPD	RPDLimit	Qual
Method:	GPA 2261-95									Batch:	R411208
Lab ID:	B23101903-001ADUP	12 Sar	mple Duplic	ate		R	un: GCNG	A-B_231026A		10/26/	23 12:42
Oxygen			18.1	Mol %	0.01				0.2	20	
Nitrogen			79.3	Mol %	0.01				0.1	20	
Carbon Di	oxide		0.88	Mol %	0.01				1.1	20	
Hydrogen	Sulfide		< 0.01	Mol %	0.01					20	
Methane			0.02	Mol %	0.01					20	
Ethane			< 0.01	Mol %	0.01					20	
Propane			< 0.01	Mol %	0.01					20	
Isobutane			0.03	Mol %	0.01				0.0	20	
n-Butane			0.08	Mol %	0.01				0.0	20	
Isopentan	е		0.11	Mol %	0.01				0.0	20	
n-Pentane	)		0.10	Mol %	0.01				9.5	20	
Hexanes p	olus		1.44	Mol %	0.01				5.7	20	
Lab ID:	LCS102623	11 Lat	oratory Cor	ntrol Sample		R	tun: GCNG	A-B_231026A		10/26/	23 14:30
Oxygen			0.59	Mol %	0.01	118	70	130			
Nitrogen			5.79	Mol %	0.01	96	70	130			
Carbon Di	oxide		1.01	Mol %	0.01	102	70	130			
Methane			74.8	Mol %	0.01	100	70	130			
Ethane			6.05	Mol %	0.01	101	70	130			
Propane			4.88	Mol %	0.01	99	70	130			
Isobutane			2.01	Mol %	0.01	100	70	130			
n-Butane			2.01	Mol %	0.01	100	70	130			
Isopentan	е		1.01	Mol %	0.01	101	70	130			
n-Pentane	)		1.01	Mol %	0.01	101	70	130			
Hexanes p	olus		0.83	Mol %	0.01	104	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Trust our People. Trust our Data. www.energylab.com Billings, MT 406.252.6325 • Casper, WY 307.235.0515 Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

## **Work Order Receipt Checklist**

### Hall Environmental

### B23101902

Login completed by:	Danielle N. Harris		Date	Received: 10/25/2023
Reviewed by:	lleprowse		Re	eceived by: dnh
Reviewed Date:	10/27/2023		Car	rrier name: FedEx
Shipping container/cooler in	good condition?	Yes ✓	No 🗌	Not Present
Custody seals intact on all sh	nipping container(s)/cooler(s)?	Yes √	No 🗌	Not Present
Custody seals intact on all sa	ample bottles?	Yes	No 🗌	Not Present 🗸
Chain of custody present?		Yes √	No 🗌	
Chain of custody signed whe	en 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 h (Exclude analyses that are or such as pH, DO, Res Cl, Su	onsidered field parameters	Yes 🗸	No 🗌	
Temp Blank received in all sl	nipping container(s)/cooler(s)?	Yes	No 🔽	Not Applicable
Container/Temp Blank tempe	erature:	8.8°C No Ice		
Containers requiring zero heabubble that is <6mm (1/4").	adspace have no headspace or	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

Hall Environmental Analysis Laboratory Wanguerque, NM 87109 4901 Hawkins NE TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com 823161902 ANALYTICAL COMMENTS (400) 252-6069 EMAIL EAN 10/19/2023 12:35:00 PM 1 Natural Gas Analysis (406) 869-6253 OF: CHAIN OF CUSTODY RECORD PAGE 1 ACCOUNT# COLLECTION PHONE DATE MATRIN Air Energy Laboratories BOTTLE TYPE TEDLAR COMPANY CLIENT SAMPLE ID SUBCONTRATOR Energy Labs -Billings 1120 South 27th Street 2310A08-001B Influent 10-19-23 Billings, MT 59107 ENVIRONMENTAL LABORATORY ANALYSIS SAMPLE HALL TITY, STATE, ZIP ADDRESS ITEM

CLENT S	Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.	Time: Received By: Date: Time Received By: Control Date: Time REPORT TRANSMITTAL DESIRED: Time REPO			Time Reynold Pale 10 Ting Tens of samples C Attention to Cool?		Comments:
CLIENT SAMPLE ID on all final reports. Please e-mail results to laborate:    Time: Time: Received By: Date:   Date:   Date:     Date:   Date:     Date:   Date:     Date:   Date:     Date:     Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:   Date:	nhallenviron.	 Time	Time		7 2 2 E	3rd BD	
CLIENT SAMPLE ID on all final reports. Please e-mail refuser.  10/20/2023 Time: 7:56 AM Received By: Received By: Time: Received By: Received By: Received By: Received By: Received By: Received By: Russia Time: Russia Next BD Land BD	sults to labe	Date:	Date		70/		
CLIENT SAMPLE ID on all final reports. Plea to 20/20/20/20/20/20/20/20/20/20/20/20/20/2	se e-mail re				No.	2nd BD	
CLIENT SAMPLE ID on a leg 10/20/2023 Time: 7:56 AM leg 17 Time: 1 leg 10/20/2023 Time: 1 leg 10/20 AM leg 10/	Il final reports. Plea	Received By:	Received By:		Bulles	Next BD	
CLIENT SAMH  10/20/2023 Time  10/20/2023 Time  10/20/2023 Time	LE ID on a	7:56 AM				RUSH	
CLIEN The state of	T SAMI	2023 Time	Tim		T <sub>II</sub>		
If the Do Do	l the CLIEN	Date: 10/20/2	Date:		Date:	Standard C	
	lease include the	Relinquished By M	Relinquished Bv:	•	Relinquished By:	TAT:	

### Hall Environmental Analysis Laboratory, Inc.

140000

2310A08 03-Nov-23

WO#:

0

**Client:** HILCORP ENERGY

**Project:** Sunray B 1B

Surr: BFB

Sample ID: 2310a08-001adup SampType: **DUP** TestCode: EPA Method 8015D: Gasoline Range

Client ID: Influent 10-19-23 Batch ID: GA100845 RunNo: 100845

Prep Date: Analysis Date: 10/31/2023 SeqNo: 3700405 Units: µg/L

100000

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 1300 250 11.0 20

141

15

412

0

#### Qualifiers:

- Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- Reporting Limit

Page 3 of 5

### Hall Environmental Analysis Laboratory, Inc.

WO#: **2310A08** *03-Nov-23* 

Client: HILCORP ENERGY

**Project:** Sunray B 1B

Sample ID: 2310A08-001adup SampType: DUP TestCode: EPA Method 8260B: Volatiles

Client ID: Influent 10-19-23 Batch ID: R100818 RunNo: 100818

Prep Date:	Analysis [	Date: 10	/30/2023	S	SeqNo: 36	699532	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	5.0						0	20	
Toluene	26	5.0						11.5	20	
Ethylbenzene	ND	5.0						0	20	
Methyl tert-butyl ether (MTBE)	ND	5.0						0	20	
1,2,4-Trimethylbenzene	ND	5.0						0	20	
1,3,5-Trimethylbenzene	ND	5.0						0	20	
1,2-Dichloroethane (EDC)	ND	5.0						0	20	
1,2-Dibromoethane (EDB)	ND	5.0						0	20	
Naphthalene	ND	10						0	20	
1-Methylnaphthalene	ND	20						0	20	
2-Methylnaphthalene	ND	20						0	20	
Acetone	ND	50						0	20	
Bromobenzene	ND	5.0						0	20	
Bromodichloromethane	ND	5.0						0	20	
Bromoform	ND	5.0						0	20	
Bromomethane	ND	10						0	20	
2-Butanone	ND	50						0	20	
Carbon disulfide	ND	50						0	20	
Carbon tetrachloride	ND	5.0						0	20	
Chlorobenzene	ND	5.0						0	20	
Chloroethane	ND	10						0	20	
Chloroform	ND	5.0						0	20	
Chloromethane	ND	5.0						0	20	
2-Chlorotoluene	ND	5.0						0	20	
4-Chlorotoluene	ND	5.0						0	20	
cis-1,2-DCE	ND	5.0						0	20	
cis-1,3-Dichloropropene	ND	5.0						0	20	
1,2-Dibromo-3-chloropropane	ND	10						0	20	
Dibromochloromethane	ND	5.0						0	20	
Dibromomethane	ND	10						0	20	
1,2-Dichlorobenzene	ND	5.0						0	20	
1,3-Dichlorobenzene	ND	5.0						0	20	
1,4-Dichlorobenzene	ND	5.0						0	20	
Dichlorodifluoromethane	ND	5.0						0	20	
1,1-Dichloroethane	ND	5.0						0	20	
1,1-Dichloroethene	ND	5.0						0	20	
1,2-Dichloropropane	ND	5.0						0	20	
1,3-Dichloropropane	ND	5.0						0	20	
2,2-Dichloropropane	ND	5.0						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

Page 4 of 5

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2310A08** *03-Nov-23* 

Client: HILCORP ENERGY

**Project:** Sunray B 1B

 Sample ID:
 2310A08-001adup
 SampType:
 DUP
 TestCode:
 EPA Method 8260B:
 Volatiles

 Client ID:
 Influent 10-19-23
 Batch ID:
 R100818
 RunNo:
 100818

 Prep Date:
 Analysis Date:
 10/30/2023
 SeqNo:
 3699532
 Units:
 μg/L

Prep Date:	Analysis [	Date: 10	/30/2023	(	SeqNo: 36	699532	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,1-Dichloropropene	ND	5.0						0	20	
Hexachlorobutadiene	ND	5.0						0	20	
2-Hexanone	ND	50						0	20	
Isopropylbenzene	ND	5.0						0	20	
4-Isopropyltoluene	ND	5.0						0	20	
4-Methyl-2-pentanone	ND	50						0	20	
Methylene chloride	ND	15						0	20	
n-Butylbenzene	ND	15						0	20	
n-Propylbenzene	ND	5.0						0	20	
sec-Butylbenzene	ND	5.0						0	20	
Styrene	ND	5.0						0	20	
tert-Butylbenzene	ND	5.0						0	20	
1,1,1,2-Tetrachloroethane	ND	5.0						0	20	
1,1,2,2-Tetrachloroethane	ND	5.0						0	20	
Tetrachloroethene (PCE)	ND	5.0						0	20	
trans-1,2-DCE	ND	5.0						0	20	
trans-1,3-Dichloropropene	ND	5.0						0	20	
1,2,3-Trichlorobenzene	ND	5.0						0	20	
1,2,4-Trichlorobenzene	ND	5.0						0	20	
1,1,1-Trichloroethane	ND	5.0						0	20	
1,1,2-Trichloroethane	ND	5.0						0	20	
Trichloroethene (TCE)	ND	5.0						0	20	
Trichlorofluoromethane	ND	5.0						0	20	
1,2,3-Trichloropropane	ND	10						0	20	
Vinyl chloride	ND	5.0						0	20	
Xylenes, Total	25	7.5						13.2	20	
Surr: Dibromofluoromethane	44		50.00		87.6	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	47		50.00		93.4	70	130	0	0	
Surr: Toluene-d8	54		50.00		108	70	130	0	0	
Surr: 4-Bromofluorobenzene	52		50.00		105	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
- 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

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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

Released to Imaging: 4/9/2024 10:05:11 AM

Client Name:	HILCORP ENERGY	Work Order Num	ber: 2310A08		RcptNo:	1
Received By:	Cheyenne Cason	10/20/2023 7:30:00	) AM	Chul		
Completed By:	Cheyenne Cason	10/20/2023 7:52:50	) AM	Chenl		
Reviewed By:	TMC	10/20/23		34		
Chain of Cust	ody					
1. Is Chain of Cu	stody complete?		Yes 🗹	No 🗌	Not Present	
2. How was the s	sample delivered?		<u>Courier</u>	100. W	1 (0/20/13)	
<u>Log In</u>			_ pl	MC 00 1		
3. Was an attem	ot made to cool the samp	oles?	Yes 🗸 🕻	No 📙	NA 🗸	
4. Were all samp	les received at a tempera	ature of >0° C to 6.0°C	Yes 🗌	No 🗌	NA 🗹	
5. Sample(s) in p	roper container(s)?		Yes 🔽	No 🗌		
6. Sufficient samp	ole volume for indicated t	rest(s)?	Yes 🗹	No 🗌		
7. Are samples (e	except VOA and ONG) pi	operly preserved?	Yes 🗹	No 🗌		
8. Was preservat	ive added to bottles?		Yes 🗌	No 🗸	NA 🗌	
9. Received at lea	ast 1 vial with headspace	<1/4" for AQ VOA?	Yes 🗌	No 🗌	NA 🗹	
10. Were any sam	ple containers received	broken?	Yes 🗌	No 🗹	# of preserved bottles checked	-
	rk match bottle labels? ncies on chain of custod	v)	Yes 🗹	No 🗆	for pH:	>12 unless noted)
	orrectly identified on Cha		Yes 🔽	No 🗌	Adjusted?	
13. Is it clear what	analyses were requested	d?	Yes 🗸	No 🗌	1,	notal and
	ig times able to be met? stomer for authorization.	)	Yes 🗹	No 🗌	Checked by:	om 10/80
Special Handli	ng (if applicable)					
15. Was client not	tified of all discrepancies	with this order?	Yes 🗌	No 🗌	NA 🗹	-
Person i	Notified:	Date				
By Who Regardi	ng:	Via:	eMail F	Phone  Fax	☐ In Person	
16. Additional rer	structions:					-
10. Additional fer	narks:					
17. <u>Cooler Infon</u> Cooler No	mation Temp °C Condition NA Good	Seal Intact   Seal No Yes   NA	Seal Date	Signed By		
Page 1 of						

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Chain-of-Custody Record	Turn-Around Time:	TATION COLVEY
Hilcorg Ene	XStandard C Rush	ANALYSIS LABORATORY
Mailing Address:	Suntay 8 1B	www.hallenvironmental.com
	Project #:	Tel 505-345-3075 Esv 605-345-407
Phone #:		Analysis
email or Fax#:	Project Manager:	†C
QA/QC Package: ☐ Standard ☐ Level 4 (Full Validation)	Hydre	PO4, SG SIMS PCB's
Accreditation:	Sampler: Daving Branch	0808 \ (8082   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0808   0
□ EDD (Type)	olers: (	des
	(Indiuding CF); W/A (°C)	ethodethodethodethodethodethodethodethod
Time Matrix Sample Name	Container Preservative HEAL No. Type and # Type	BTEX \ 8081 Pe 8081 Pe PAHs b RCRA E CI, F, B 8260 (V B270 (S Total Co
12:35 Air Influent 10-19-23	2 Teoller - 001	X
Date: Time: Relinquished by:	-	Remarks:
Time: Relinquished by:	211	
20 Truck	Via.	
v. samples	57/29/2012	



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

November 08, 2023

Stuart Hyde Hilcorp Energy PO Box 61529 Houston, TX 77208-1529

TEL: (337) 276-7676

FAX:

RE: Sunray B 1B OrderNo.: 2310D01

#### Dear Stuart Hyde:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 10/27/2023 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

Only

4901 Hawkins NE

Albuquerque, NM 87109

### **Analytical Report** Lab Order 2310D01

Date Reported: 11/8/2023

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Hilcorp Energy Client Sample ID: Inlet

**Project:** Sunray B 1B Collection Date: 10/26/2023 9:40:00 AM Lab ID: 2310D01-001 Matrix: AIR Received Date: 10/27/2023 7:30:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE					Analyst:	JJP
Gasoline Range Organics (GRO)	960	250	μg/L	50	10/31/2023 12:02:05 PM	4 GA1008
Surr: BFB	123	15-412	%Rec	50	10/31/2023 12:02:05 PM	/ GA1008
<b>EPA METHOD 8260B: VOLATILES</b>					Analyst:	ССМ
Benzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Toluene	26	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Ethylbenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Methyl tert-butyl ether (MTBE)	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,2,4-Trimethylbenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,3,5-Trimethylbenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,2-Dichloroethane (EDC)	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,2-Dibromoethane (EDB)	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Naphthalene	ND	10	μg/L	50	10/30/2023 3:53:00 PM	R100818
1-Methylnaphthalene	ND	20	μg/L	50	10/30/2023 3:53:00 PM	R100818
2-Methylnaphthalene	ND	20	μg/L	50	10/30/2023 3:53:00 PM	R100818
Acetone	ND	50	μg/L	50	10/30/2023 3:53:00 PM	R100818
Bromobenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Bromodichloromethane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Bromoform	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Bromomethane	ND	10	μg/L	50	10/30/2023 3:53:00 PM	R100818
2-Butanone	ND	50	μg/L	50	10/30/2023 3:53:00 PM	R100818
Carbon disulfide	ND	50	μg/L	50	10/30/2023 3:53:00 PM	R100818
Carbon tetrachloride	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Chlorobenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Chloroethane	ND	10	μg/L	50	10/30/2023 3:53:00 PM	R100818
Chloroform	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Chloromethane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
2-Chlorotoluene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
4-Chlorotoluene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
cis-1,2-DCE	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
cis-1,3-Dichloropropene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,2-Dibromo-3-chloropropane	ND	10	μg/L	50	10/30/2023 3:53:00 PM	R100818
Dibromochloromethane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Dibromomethane	ND	10	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,2-Dichlorobenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,3-Dichlorobenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,4-Dichlorobenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Dichlorodifluoromethane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,1-Dichloroethane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,1-Dichloroethene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818

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
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RLReporting Limit

Page 1 of 2

### **Analytical Report** Lab Order 2310D01

Date Reported: 11/8/2023

## Hall Environmental Analysis Laboratory, Inc.

**CLIENT:** Hilcorp Energy Client Sample ID: Inlet

**Project:** Sunray B 1B Collection Date: 10/26/2023 9:40:00 AM Lab ID: 2310D01-001 Matrix: AIR Received Date: 10/27/2023 7:30:00 AM

Analyses	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst:	ССМ
1,2-Dichloropropane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,3-Dichloropropane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
2,2-Dichloropropane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,1-Dichloropropene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Hexachlorobutadiene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
2-Hexanone	ND	50	μg/L	50	10/30/2023 3:53:00 PM	R100818
Isopropylbenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
4-Isopropyltoluene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
4-Methyl-2-pentanone	ND	50	μg/L	50	10/30/2023 3:53:00 PM	R100818
Methylene chloride	ND	15	μg/L	50	10/30/2023 3:53:00 PM	R100818
n-Butylbenzene	ND	15	μg/L	50	10/30/2023 3:53:00 PM	R100818
n-Propylbenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
sec-Butylbenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Styrene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
tert-Butylbenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,1,1,2-Tetrachloroethane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,1,2,2-Tetrachloroethane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Tetrachloroethene (PCE)	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
trans-1,2-DCE	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
trans-1,3-Dichloropropene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,2,3-Trichlorobenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,2,4-Trichlorobenzene	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,1,1-Trichloroethane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,1,2-Trichloroethane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Trichloroethene (TCE)	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Trichlorofluoromethane	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
1,2,3-Trichloropropane	ND	10	μg/L	50	10/30/2023 3:53:00 PM	R100818
Vinyl chloride	ND	5.0	μg/L	50	10/30/2023 3:53:00 PM	R100818
Xylenes, Total	21	7.5	μg/L	50	10/30/2023 3:53:00 PM	R100818
Surr: Dibromofluoromethane	91.1	70-130	%Rec	50	10/30/2023 3:53:00 PM	R100818
Surr: 1,2-Dichloroethane-d4	97.8	70-130	%Rec	50	10/30/2023 3:53:00 PM	R100818
Surr: Toluene-d8	108	70-130	%Rec	50	10/30/2023 3:53:00 PM	R100818
Surr: 4-Bromofluorobenzene	103	70-130	%Rec	50	10/30/2023 3:53:00 PM	R100818

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
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit
- % Recovery outside of standard limits. If undiluted results may be estimated.
- Analyte detected in the associated Method Blank
- Above Quantitation Range/Estimated Value
- Analyte detected below quantitation limits
- Sample pH Not In Range
- RLReporting Limit

Page 2 of 2

#### ANALYTICAL SUMMARY REPORT

November 08, 2023

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

Work Order:

B23102199

Quote ID: B15626

Project Name:

Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 10/31/2023 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B23102199-001	2310D01-001B, Inlet	10/26/23 9:40	10/31/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist Free Natural Gas Analysis 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:

#### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

 Client:
 Hall Environmental
 Report Date:
 11/08/23

 Project:
 Not Indicated
 Collection Date:
 10/26/23 09:40

 Lab ID:
 B23102199-001
 DateReceived:
 10/31/23

 Client Sample ID:
 2310D01-001B, Inlet
 Matrix:
 Air

Analyses	Result l	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS I	REPORT						
Oxygen	21.80 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
Nitrogen	78.03 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
Carbon Dioxide	0.15 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
Hydrogen Sulfide	<0.01 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
Methane	<0.01 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
Ethane	<0.01 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
Propane	<0.01 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
sobutane	<0.01 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
-Butane	<0.01 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
sopentane	<0.01 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
-Pentane	<0.01 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
lexanes plus	0.02 N	Mol %		0.01		GPA 2261-95	11/02/23 09:45 / jrj
ropane	< 0.001	gpm		0.001		GPA 2261-95	11/02/23 09:45 / jrj
sobutane	< 0.001	gpm		0.001		GPA 2261-95	11/02/23 09:45 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	11/02/23 09:45 / jrj
sopentane	< 0.001	gpm		0.001		GPA 2261-95	11/02/23 09:45 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	11/02/23 09:45 / jrj
łexanes plus	0.008 g	gpm		0.001		GPA 2261-95	11/02/23 09:45 / jrj
SPM Total	0.008 g	gpm		0.001		GPA 2261-95	11/02/23 09:45 / jrj
SPM Pentanes plus	0.008 g	gpm		0.001		GPA 2261-95	11/02/23 09:45 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	1			1		GPA 2261-95	11/02/23 09:45 / jrj
let BTU per cu ft @ std cond. (LHV)	1			1		GPA 2261-95	11/02/23 09:45 / jrj
Pseudo-critical Pressure, psia	545			1		GPA 2261-95	11/02/23 09:45 / jrj
Seudo-critical Temperature, deg R	239			1		GPA 2261-95	11/02/23 09:45 / jrj
specific Gravity @ 60/60F	0.999			0.001		D3588-81	11/02/23 09:45 / jrj
vir, % - The analysis was not corrected for air.	99.60			0.01		GPA 2261-95	11/02/23 09:45 / jrj
COMMENTS							

COMMENTS

11/02/23 09:45 / jrj

Report RL - Analyte Reporting Limit

Definitions: QCL - Quality Control Limit

MCL - Maximum Contaminant Level

ND - Not detected at the Reporting Limit (RL)

<sup>-</sup> BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.

<sup>-</sup> GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.

<sup>-</sup> To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.

<sup>-</sup> Standard conditions: 60 F & 14.73 psi on a dry basis.



## **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Hall Environmental Work Order: B23102199 Report Date: 11/08/23

Analyte		Count	Result	Units	RL	%REC L	ow Limit	High Limit	RPD	RPDLimit	Qual
Method:	GPA 2261-95									Batch:	R411585
Lab ID:	B23102199-001ADUP	12 Sai	mple Duplic	ate		R	un: GCNG	A-B_231102A		11/02/	/23 10:13
Oxygen			21.8	Mol %	0.01				0.0	20	
Nitrogen			78.0	Mol %	0.01				0.0	20	
Carbon D	ioxide		0.15	Mol %	0.01				0.0	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	
Isopentar	ne		< 0.01	Mol %	0.01					20	
n-Pentan	е		< 0.01	Mol %	0.01					20	
Hexanes	plus		0.02	Mol %	0.01				0.0	20	
Lab ID:	LCS110223	11 Lat	ooratory Cor	ntrol Sample		R	un: GCNG	A-B_231102A		11/02/	/23 12:50
Oxygen			0.60	Mol %	0.01	120	70	130			
Nitrogen			5.94	Mol %	0.01	99	70	130			
Carbon D	ioxide		0.99	Mol %	0.01	100	70	130			
Methane			74.4	Mol %	0.01	99	70	130			
Ethane			5.97	Mol %	0.01	99	70	130			
Propane			5.42	Mol %	0.01	110	70	130			
Isobutane	)		1.98	Mol %	0.01	99	70	130			
n-Butane			1.98	Mol %	0.01	99	70	130			
Isopentar	ne		1.00	Mol %	0.01	100	70	130			
n-Pentan	е		1.00	Mol %	0.01	100	70	130			
Hexanes	nlue		0.77	Mol %	0.01	96	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Billings, MT 406.252.6325 • Casper, WY 307.235.0515 Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

## **Work Order Receipt Checklist**

### Hall Environmental

B23102199

Login completed by:	Danielle N. Harris		Date	Received: 10/31/2023	3
Reviewed by:	darcy		Re	ceived by: lel	
Reviewed Date:	11/3/2023		Car	rier name: FedEx	
Shipping container/cooler in	good condition?	Yes ✓	No 🗌	Not Present	
Custody seals intact on all s	hipping container(s)/cooler(s)?	Yes ✓	No 🗌	Not Present	
Custody seals intact on all sa	ample bottles?	Yes	No 🗌	Not Present 🗸	
Chain of custody present?		Yes √	No 🗌		
Chain of custody signed whe	en relinquished and received?	Yes √	No 🗌		
Chain of custody agrees with	n 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 h (Exclude analyses that are c such as pH, DO, Res CI, Su	onsidered field parameters	Yes √	No 🗌		
Temp Blank received in all s	hipping container(s)/cooler(s)?	Yes	No 🗸	Not Applicable	
Container/Temp Blank tempe	erature:	12.4°C No Ice			
Containers requiring zero he bubble that is <6mm (1/4").	adspace have no headspace or	Yes	No 🗌	No VOA vials submitted	$\checkmark$
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

ONLINE

EMAIL

☐ HARDCOPY (extra cost)

FOR LAB USE ONLY

REPORT TRANSMITTAL DESIRED.

Attempt to Cool ?

Temp of samples

Chand Way 23 This

3rd BD

2nd BD

Next BD

RUSH

Standard L

TAT

Time.

Date:

Relinquished By
Relinquished By:
Relinquished By:

Time:

Date: Date:

Received By Received By Received By

10:05 AM

Date: 10/27/2023

Comments:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CHAIN OF CUSTODY RECORD PAGE: 1 OFF 1

Hall Environmental Analysis Laboratory

4901 Hawkins NE

1					
.Whaquerque. NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com	(406) 252-6069	EMAIL		ANALYTICAL COMMENTS	nalysis
	(406) 869-6253			# CONTAINERS	1 Natural Gas Ar
	PHONE	ACCOUNT#.		COLLECTION	10/26/2023 9:40:00 AM 1 Natural Gas Analysis
	sa			MATRIX	Air 10
	Energy Laboratories			BOTTLE	TEDLAR
ORY	SUB CONTRATOR Energy Labs -Billings COMPANY Energy	1120 South 27th Street	şs, MT 59107	CLIENT SAMPLE ID	Inlet
ANALYSIS LABORATORY	NTRATOR Energy		CHY, STATE, ZIP Billings, MT 59107	SAMPLE	1 2310D01-001B Inlet
	SUB CO	ADDRESS	CHY, SI	ITEM	1

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	all coolers and blue ice. The	
	ental.com. Please return a	
	ılts to lab@hallenvironm	
	ports. Please e-mail resu	
	APLE ID on all final reports	
MMENTS:	Pease include the LAB ID and the CLIENT SAMPLE ID	
SPECIAL INSTRUCTIONS / COM	se include the LAB ID	

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

Released to Imaging: 4/9/2024 10:05:11 AM

Client Name:	Hilcorp Energy	Work Order Numb	er: 2310D01		RcptNo: 1	
Received By:	Cheyenne Cason	10/27/2023 7:30:00	AM	Chenl		
Completed By:	Cheyenne Cason	10/27/2023 10:01:03	3 AM	Chul		
Reviewed By: 🛰	フル10/27/27					
Chain of Cust			. a	N. 🗆	Net Berest 🗔	
1. Is Chain of Cu			Yes 🗹	No 🗆	Not Present	
2. How was the s	sample delivered?		Client (C	0121/123	Ser to Colorlas	
Log In  3. Was an attempt	pt made to cool the samp	les?	Yes $\square$	No 🗸	M (O)	
4. Were all samp	les received at a tempera	ture of >0° C to 6.0°C	Yes 🗌	No 🗌	NA 🗹	
5. Sample(s) in p	proper container(s)?		Yes 🗹	No 🗌		
6. Sufficient same	ple volume for indicated to	est(s)?	Yes 🗹	No 🗌		
7. Are samples (e	except VOA and ONG) pro	operly preserved?	Yes 🗹	No 🗌		
8. Was preservat	ive added to bottles?		Yes 🗌	No 🗹	NA 🗆	
9. Received at lea	ast 1 vial with headspace	<1/4" for AQ VOA?	Yes 🗌	No 🗌	NA 🗹	
10. Were any sam	pple containers received b	oroken?	Yes 🗌	No 🗹	# of preserved	
	rk match bottle labels? ncies on chain of custody	v)	Yes 🗹	No 🗆	bottles checked for pH: (<2 of >12 unle	ess noted)
	orrectly identified on Chai		Yes 🗸	No 🗌	Adjusted?	
13. Is it clear what	analyses were requested	1?	Yes 🗹	No 🗌	lean	10 hrs
	ng times able to be met? ustomer for authorization.)	)	Yes 🗹	No 🗆	Checked by SCII I	10/8/
Special Handli	ing (if applicable)					
15. Was client no	tified of all discrepancies	with this order?	Yes 🗌	No 🗌	NA 🗹	
Person	Notified:	Date:				
By Who	om:	Via:	eMail	Phone  Fax	In Person	
Regardi	100000000000000000000000000000000000000					
	nstructions:				)1	
16. Additional rer	marks:					
17. Cooler Infor		1		0		
Cooler No 1	Temp °C Condition NA Good	Seal Intact Seal No Not Present NA	Seal Date	Signed By		
1	ith Good	NOT FIGSCHI INA				

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	ANALYSIS LABORATORY	www.hallenvironmental.com	4901 Hawkins NE - Albuquerque, NM 87109		Anal	(O	§ 's (802° PCB's PO₄, S	S808\; (1.40) (1.40) (1.40) (2.40) (2.40)	GR des des des des des des des des des des	15E( etho y 83 hr, <i>N</i> OA) emi-	BTEX / BO81 Pe BO81 Pe BCRA 8 CI, F, E RCRA 8 CI, F, E RCRA 8 CI, F, E	X		The second section of the second section and the second section of the section of the second section of the section of the second section of the				The second secon	The state of the s			Time Remarks: カイン	Time	0730
Turn-Around Time:	©KStandard □ Rush	Project Name:	Surray 5#18	Project #:	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Project Manager:	Struct Hyde	Sampler: SHyde	olers:/	Cooler Temp(including CF): Wh	Container Preservative Type 73/000/		Section seems to a		Company of Theory Company	The second of th	State of the state				a Napagarana	Received by: Via: Date	/la:	ld Come come 10/27/23
Chain-of-Custody Record	Client: Hilcorp	11(out	~ St.	Houston TX	Phone #:	email or Fax#: whill Bugh @hilcon, con	QA/QC Package:	☐ Az Compliance ☐ Other			Date Time Matrix Sample Name	15 0940 AIR Inlet										Date: Time: Relinquished by	rime: Relinquished by:	"12475 1836 (Unus Word

Released to Imaging: 4/9/2024 [10:05:11] AM



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

November 02, 2023

Stuart Hyde HILCORP ENERGY PO Box 4700 Farmington, NM 87499

TEL: (505) 564-0733

FAX:

RE: Sunray B 1B OrderNo.: 2310675

#### Dear Stuart Hyde:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/13/2023 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 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

andyl

4901 Hawkins NE

Albuquerque, NM 87109

# Analytical Report Lab Order 2310675

Date Reported: 11/2/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY Client Sample ID: Influent 10-12-23

 Project:
 Sunray B 1B
 Collection Date: 10/12/2023 2:20:00 PM

 Lab ID:
 2310675-001
 Matrix: AIR
 Received Date: 10/13/2023 6:30:00 AM

Analyses	Result	RL Qua	l Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE					Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	1800	250	μg/L	50	10/20/2023 11:09:25 AM
Surr: BFB	148	15-412	%Rec	50	10/20/2023 11:09:25 AM
EPA METHOD 8260B: VOLATILES					Analyst: <b>JR</b>
Benzene	ND	2.0	μg/L	50	10/19/2023 11:12:28 AM
Toluene	47	5.0	μg/L	50	10/19/2023 11:12:28 AM
Ethylbenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Methyl tert-butyl ether (MTBE)	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,2,4-Trimethylbenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,3,5-Trimethylbenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,2-Dichloroethane (EDC)	ND	2.0	μg/L	50	10/19/2023 11:12:28 AM
1,2-Dibromoethane (EDB)	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Naphthalene	ND	10	μg/L	50	10/19/2023 11:12:28 AM
1-Methylnaphthalene	ND	20	μg/L	50	10/19/2023 11:12:28 AM
2-Methylnaphthalene	ND	20	μg/L	50	10/19/2023 11:12:28 AM
Acetone	ND	50	μg/L	50	10/19/2023 11:12:28 AM
Bromobenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Bromodichloromethane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Bromoform	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Bromomethane	ND	10	μg/L	50	10/19/2023 11:12:28 AM
2-Butanone	ND	50	μg/L	50	10/19/2023 11:12:28 AM
Carbon disulfide	ND	50	μg/L	50	10/19/2023 11:12:28 AM
Carbon tetrachloride	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Chlorobenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Chloroethane	ND	10	μg/L	50	10/19/2023 11:12:28 AM
Chloroform	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Chloromethane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
2-Chlorotoluene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
4-Chlorotoluene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
cis-1,2-DCE	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
cis-1,3-Dichloropropene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,2-Dibromo-3-chloropropane	ND	10	μg/L	50	10/19/2023 11:12:28 AM
Dibromochloromethane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Dibromomethane	ND	10	μg/L	50	10/19/2023 11:12:28 AM
1,2-Dichlorobenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,3-Dichlorobenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,4-Dichlorobenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Dichlorodifluoromethane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,1-Dichloroethane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,1-Dichloroethene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM

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 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

Page 1 of 3

**CLIENT: HILCORP ENERGY** 

## **Analytical Report**

Lab Order **2310675**Date Reported: **11/2/2023** 

### Hall Environmental Analysis Laboratory, Inc.

Client Sample ID: Influent 10-12-23

 Project:
 Sunray B 1B
 Collection Date: 10/12/2023 2:20:00 PM

 Lab ID:
 2310675-001
 Matrix: AIR
 Received Date: 10/13/2023 6:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: <b>JR</b>
1,2-Dichloropropane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,3-Dichloropropane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
2,2-Dichloropropane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,1-Dichloropropene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Hexachlorobutadiene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
2-Hexanone	ND	50	μg/L	50	10/19/2023 11:12:28 AM
Isopropylbenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
4-Isopropyltoluene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
4-Methyl-2-pentanone	ND	50	μg/L	50	10/19/2023 11:12:28 AM
Methylene chloride	ND	15	μg/L	50	10/19/2023 11:12:28 AM
n-Butylbenzene	ND	15	μg/L	50	10/19/2023 11:12:28 AM
n-Propylbenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
sec-Butylbenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Styrene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
tert-Butylbenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,1,1,2-Tetrachloroethane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,1,2,2-Tetrachloroethane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Tetrachloroethene (PCE)	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
trans-1,2-DCE	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
trans-1,3-Dichloropropene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,2,3-Trichlorobenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,2,4-Trichlorobenzene	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,1,1-Trichloroethane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,1,2-Trichloroethane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Trichloroethene (TCE)	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Trichlorofluoromethane	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
1,2,3-Trichloropropane	ND	10	μg/L	50	10/19/2023 11:12:28 AM
Vinyl chloride	ND	5.0	μg/L	50	10/19/2023 11:12:28 AM
Xylenes, Total	51	7.5	μg/L	50	10/19/2023 11:12:28 AM
Surr: Dibromofluoromethane	97.7	70-130	%Rec	50	10/19/2023 11:12:28 AM
Surr: 1,2-Dichloroethane-d4	88.8	70-130	%Rec	50	10/19/2023 11:12:28 AM
Surr: Toluene-d8	93.0	70-130	%Rec	50	10/19/2023 11:12:28 AM
Surr: 4-Bromofluorobenzene	99.3	70-130	%Rec	50	10/19/2023 11:12:28 AM

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 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

Page 2 of 3

### ANALYTICAL SUMMARY REPORT

November 01, 2023

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

Work Order:

B23101316

Quote ID: B15626

Project Name:

Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 10/17/2023 for analysis.

Lab ID	Client Sample ID	Collect Date R	eceive Date	Matrix	Test
B23101316-001	2310675-001B, Influent 10-12-23	10/12/23 14:20	10/17/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis 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:

#### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

 Client:
 Hall Environmental
 Report Date:
 11/01/23

 Project:
 Not Indicated
 Collection Date:
 10/12/23 14:20

 Lab ID:
 B23101316-001
 DateReceived:
 10/17/23

 Client Sample ID:
 2310675-001B, Influent 10-12-23
 Matrix:
 Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS	REPORT						
Oxygen	21.69	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
Nitrogen	78.00	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
Carbon Dioxide	0.22	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
Hydrogen Sulfide	< 0.01	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
Methane	< 0.01	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
Ethane	< 0.01	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
Propane	< 0.01	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
Isobutane	< 0.01	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
n-Butane	< 0.01	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
Isopentane	< 0.01	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
n-Pentane	< 0.01	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
Hexanes plus	0.09	Mol %		0.01		GPA 2261-95	10/19/23 11:53 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	10/19/23 11:53 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	10/19/23 11:53 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	10/19/23 11:53 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	10/19/23 11:53 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	10/19/23 11:53 / jrj
Hexanes plus	0.038	gpm		0.001		GPA 2261-95	10/19/23 11:53 / jrj
GPM Total	0.038	gpm		0.001		GPA 2261-95	10/19/23 11:53 / jrj
GPM Pentanes plus	0.038	gpm		0.001		GPA 2261-95	10/19/23 11:53 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	4			1		GPA 2261-95	10/19/23 11:53 / jrj
Net BTU per cu ft @ std cond. (LHV)	4			1		GPA 2261-95	10/19/23 11:53 / jrj
Pseudo-critical Pressure, psia	546			1		GPA 2261-95	10/19/23 11:53 / jrj
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	10/19/23 11:53 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	10/19/23 11:53 / jrj
Air, %	99.11			0.01		GPA 2261-95	10/19/23 11:53 / jrj
- The analysis was not corrected for air.							.,
COMMENTS							

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level

**Definitions:** QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)

10/19/23 11:53 / jrj

<sup>-</sup> GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.

<sup>-</sup> To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.

<sup>-</sup> Standard conditions: 60 F & 14.73 psi on a dry basis.



## **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Hall Environmental Work Order: B23101316 Report Date: 11/01/23

Analyte		Count	Result	Units	RL	%REC I	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	GPA 2261-95									Batch:	R410813
Lab ID:	B23101079-004ADUP	12 Sar	mple Duplic	ate		F	Run: GCNG	A-B_231019A		10/19	/23 14:38
Oxygen			0.83	Mol %	0.01				1.2	20	
Nitrogen			14.4	Mol %	0.01				0.4	20	
Carbon D	ioxide		0.03	Mol %	0.01				0.0	20	
Hydrogen	Sulfide		<0.01	Mol %	0.01					20	
Methane			83.6	Mol %	0.01				0.1	20	
Ethane			0.75	Mol %	0.01				0.0	20	
Propane			0.21	Mol %	0.01				0.0	20	
Isobutane	;		0.09	Mol %	0.01				12	20	
n-Butane			0.03	Mol %	0.01				0.0	20	
Isopentan	ne		< 0.01	Mol %	0.01					20	
n-Pentane	е		< 0.01	Mol %	0.01					20	
Hexanes	plus		<0.01	Mol %	0.01					20	
Lab ID:	LCS101923	11 Lab	oratory Cor	ntrol Sample		F	Run: GCNG	A-B_231019A		10/19	/23 15:12
Oxygen			0.60	Mol %	0.01	120	70	130			
Nitrogen			6.00	Mol %	0.01	100	70	130			
Carbon D	ioxide		0.99	Mol %	0.01	100	70	130			
Methane			74.1	Mol %	0.01	99	70	130			
Ethane			5.98	Mol %	0.01	100	70	130			
Propane			5.56	Mol %	0.01	113	70	130			
Isobutane	)		1.98	Mol %	0.01	99	70	130			
n-Butane			1.99	Mol %	0.01	99	70	130			
Isopentan	ne		1.03	Mol %	0.01	103	70	130			
n-Pentane	е		1.02	Mol %	0.01	102	70	130			
Hexanes	plus		0.76	Mol %	0.01	95	70	130			

Qualifiers:

RL - Analyte Reporting Limit

 $\ensuremath{\mathsf{ND}}$  - Not detected at the Reporting Limit (RL)

Billings, MT 406.252.6325 • Casper, WY 307.235.0515 Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

## **Work Order Receipt Checklist**

### Hall Environmental

Login completed by: Yvonna F. Smith

### B23101316

Date Received: 10/17/2023

_og cop.c.ca b).				
Reviewed by:	lleprowse		Re	eceived by: dnh
Reviewed Date:	10/21/2023		Car	rier name: FedEx
Shipping container/cooler in	good condition?	Yes ✓	No 🗌	Not Present
Custody seals intact on all s	hipping container(s)/cooler(s)?	Yes ✓	No 🗌	Not Present
Custody seals intact on all s	ample bottles?	Yes	No 🗌	Not Present 🗸
Chain of custody present?		Yes ✓	No 🗌	
Chain of custody signed who	en relinquished and received?	Yes ✓	No 🗌	
Chain of custody agrees with	n 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 I (Exclude analyses that are c such as pH, DO, Res Cl, Su	onsidered field parameters	Yes 🔽	No 🗌	
Temp Blank received in all s	hipping container(s)/cooler(s)?	Yes	No 🗸	Not Applicable
Container/Temp Blank temp	erature:	15.2°C No Ice		
Containers requiring zero he bubble that is <6mm (1/4").	adspace have no headspace or	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

Temp of samples

2nd BD

Next BD

RUSH

TAT

ENVIRONMENTAL LABORATORY ANALYSIS HALL

**LIall Environmental Analysis Laboratory** Albuquerque, NM 87109 4901 Hawkins NE TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com OF: CHAIN OF CUSTODY RECORD PAGE: 1

223101310 ANALYTICAL COMMENTS (406) 252-6069 EMAIL FAX. 10/12/2023 2:20:00 PM 1 Natural Gas Analysis- CO2+O2 (406) 869-6253 # CONTAINERS COLLECTION ACCOUNT # PHONE DATE MATRIX Air Energy Laboratories BOTTLE TEDLAR COMPANY CLIENT SAMPLE ID 1120 South 27th Street SUB CONTRATOR Energy Labs -Billings 1 2310675-001B Influent 10-12-23 CITY, STATE, ZIP Billings, MT 59107 SAMPLE ADDRESS HEM

Please include the LAB	3 ID and the CLIENT &	SAMPLE ID	on all final reports. Please e-mail	results to lab@ha	illenvironmental.c	Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.
Refinquished By:	Date: 10/13/2023	Time 8:15 AM	Received By:	Date:	Time:	RANSMITTAL DESIRED:
Relinquished By.	Date	Time	Received By:	Date	Time	HARDCOPY (extra cost) FAX ONLINE
			(			FOR LAB USE ONLY
Relinquished By:	Date:	Time	Received by 1	が行って	18 19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
	/		Sur Comment	DIFFO	2,5	Temp of samples C Attempt to Cool ?

SPECIAL INSTRUCTIONS / COMMENTS:

### Hall Environmental Analysis Laboratory, Inc.

140000

WO#: **2310675** 

02-Nov-23

**Client:** HILCORP ENERGY

**Project:** Sunray B 1B

Surr: BFB

Sample ID: 2310675-001adup SampType: DUP TestCode: EPA Method 8015D: Gasoline Range

Client ID: Influent 10-12-23 Batch ID: GA100615 RunNo: 100615

Prep Date: Analysis Date: 10/20/2023 SeqNo: 3688783 Units: µg/L

100000

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Gasoline Range Organics (GRO) 1700 250 8.23 20

137

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

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

Page 3 of 3

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

Released to Imaging: 4/9/2024 10:05:11 AM

meosne. ww				
Client Name: HILCORP ENERGY Work Order Num	nber: 2310675		RcptNo:	1
Received By: Tracy Casarrubias 10/13/2023 6:30:0	O AM			
Completed By: Tracy Casarrubias 10/13/2023 8:15:4	4 AM			
Reviewed By: 5CM 10 /13 /33				
Chain of Custody				
1. Is Chain of Custody complete?	Yes 🗌	No 🗹	Not Present	
2. How was the sample delivered?	Courier			
<u>Log In</u>				
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 🗹	# of preserved bottles checked	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗸	No 🗌	for pH:	>12 unless noted)
2. Are matrices correctly identified on Chain of Custody?	Yes 🗹	No 🗌	Adjusted?	
3. Is it clear what analyses were requested?	Yes 🗸	No 🗆		11
14. Were all holding times able to be met?  (If no, notify customer for authorization.)	Yes 🗸	No 🗆	Checked by:	\$ 10.13.2
Special Handling (if applicable)			6	
15. Was client notified of all discrepancies with this order?	Yes 🗌	No 🗌	NA 🗸	
Person Notified: Date	e: [			
By Whom: Via:	eMail F	Phone 🗌 Fax	☐ In Person	
Regarding:				
Client Instructions: Mailing address, phone number and En	mail/Fax are missin	q on COC- TM	C 10/13/23	
16. Additional remarks:				
17. Cooler Information				
	Seal Date	Signed By		
Cooler No Temp °C Condition Seal Intact Seal No  1 N/A Good Yes	Ocui Date			

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Chain-of-Custody Record	Turn-Around Time:	HALL ENVIRONMENTAL
Client: 4/2/LOrd Energy CB	X Standard	ANALYSIS LABORATORY
×2	::	www.hallenvironmental.com
	Suntay O LD	4901 Hawkins NE - Albuquerque, NM 87109
	Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #:	4.5	/sis Requ
email or Fax#:	Project Manager:	(O)
ige:	Street Hyde	t/Abs
	6	07C()
Accreditation:	Sampler: D. Durms On Ice:   Yes   No	508/26 508/26 508.4 500.4 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.2 500.
□ EDD (Type)		oidel oide 310 6ta NO NO Ni-V
	Cooler Temp(including CF): N / A (°C)	oy 8 Br, Br, Sem Sem
	Container Preservative HEAL No.	DB (NDB) (ND
Date Time Matrix Sample Name	Type and # Type 7510 UT5	H 11 13 13 13 13 13 13 13 13 13 13 13 13
10-12-23 1420 Air Enfluent 10-12-23	2 Todar 001	X
200	(	
		)
Date: Time: Relinquished by:	Via: COLLAR	Remarks:
	Received by: Via: > Date Time	
	This contact and the contact of this notified of this notified of this notified of the notifie	s nossibility. Any sub-contracted data will be clearly notated on the analytical report.

Released to Imaging: 4/9/2024~10:05:11~AM



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

November 15, 2023

Mitch Killough
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733

FAX:

RE: Sunray B1B OrderNo.: 2311001

#### Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 11/1/2023 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

andy

4901 Hawkins NE

Albuquerque, NM 87109

# Analytical Report Lab Order 2311001

Date Reported: 11/15/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT:HILCORP ENERGYClient Sample ID: Sunray B1B InfluentProject:Sunray B1BCollection Date: 10/31/2023 3:30:00 PMLab ID:2311001-001Matrix: AIRReceived Date: 11/1/2023 6:15:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE					Analyst: <b>KMN</b>
Gasoline Range Organics (GRO)	900	250	μg/L	50	11/8/2023 2:56:00 PM
Surr: BFB	126	15-412	%Rec	50	11/8/2023 2:56:00 PM
EPA METHOD 8260B: VOLATILES					Analyst: RAA
Benzene	0.53	0.50	μg/L	5	11/8/2023 3:07:52 PM
Toluene	30	0.50	μg/L	5	11/8/2023 3:07:52 PM
Ethylbenzene	3.3	0.50	μg/L	5	11/8/2023 3:07:52 PM
Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,2,4-Trimethylbenzene	4.0	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,3,5-Trimethylbenzene	3.7	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,2-Dichloroethane (EDC)	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,2-Dibromoethane (EDB)	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Naphthalene	ND	1.0	μg/L	5	11/8/2023 3:07:52 PM
1-Methylnaphthalene	ND	2.0	μg/L	5	11/8/2023 3:07:52 PM
2-Methylnaphthalene	ND	2.0	μg/L	5	11/8/2023 3:07:52 PM
Acetone	ND	5.0	μg/L	5	11/8/2023 3:07:52 PM
Bromobenzene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Bromodichloromethane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Bromoform	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Bromomethane	ND	1.0	μg/L	5	11/8/2023 3:07:52 PM
2-Butanone	ND	5.0	μg/L	5	11/8/2023 3:07:52 PM
Carbon disulfide	ND	5.0	μg/L	5	11/8/2023 3:07:52 PM
Carbon tetrachloride	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Chlorobenzene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Chloroethane	ND	1.0	μg/L	5	11/8/2023 3:07:52 PM
Chloroform	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Chloromethane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
2-Chlorotoluene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
4-Chlorotoluene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
cis-1,2-DCE	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
cis-1,3-Dichloropropene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,2-Dibromo-3-chloropropane	ND	1.0	μg/L	5	11/8/2023 3:07:52 PM
Dibromochloromethane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Dibromomethane	ND	1.0	μg/L	5	11/8/2023 3:07:52 PM
1,2-Dichlorobenzene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,3-Dichlorobenzene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,4-Dichlorobenzene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Dichlorodifluoromethane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,1-Dichloroethane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,1-Dichloroethene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM

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 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

Page 1 of 5

# **Analytical Report**Lab Order **2311001**

Date Reported: 11/15/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Project: Sunray B1B

Collection Date: 10/31/2023 3:30:00 PM

Lab ID: 2311001-001

Matrix: AIR

Received Date: 11/1/2023 6:15:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: RAA
1,2-Dichloropropane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,3-Dichloropropane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
2,2-Dichloropropane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,1-Dichloropropene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Hexachlorobutadiene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
2-Hexanone	ND	5.0	μg/L	5	11/8/2023 3:07:52 PM
Isopropylbenzene	0.70	0.50	μg/L	5	11/8/2023 3:07:52 PM
4-Isopropyltoluene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
4-Methyl-2-pentanone	ND	5.0	μg/L	5	11/8/2023 3:07:52 PM
Methylene chloride	ND	1.5	μg/L	5	11/8/2023 3:07:52 PM
n-Butylbenzene	ND	1.5	μg/L	5	11/8/2023 3:07:52 PM
n-Propylbenzene	0.64	0.50	μg/L	5	11/8/2023 3:07:52 PM
sec-Butylbenzene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Styrene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
tert-Butylbenzene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,1,1,2-Tetrachloroethane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,1,2,2-Tetrachloroethane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Tetrachloroethene (PCE)	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
trans-1,2-DCE	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
trans-1,3-Dichloropropene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,2,3-Trichlorobenzene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,2,4-Trichlorobenzene	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,1,1-Trichloroethane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,1,2-Trichloroethane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Trichloroethene (TCE)	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Trichlorofluoromethane	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
1,2,3-Trichloropropane	ND	1.0	μg/L	5	11/8/2023 3:07:52 PM
Vinyl chloride	ND	0.50	μg/L	5	11/8/2023 3:07:52 PM
Xylenes, Total	42	0.75	μg/L	5	11/8/2023 3:07:52 PM
Surr: Dibromofluoromethane	80.0	70-130	%Rec	5	11/8/2023 3:07:52 PM
Surr: 1,2-Dichloroethane-d4	91.0	70-130	%Rec	5	11/8/2023 3:07:52 PM
Surr: Toluene-d8	114	70-130	%Rec	5	11/8/2023 3:07:52 PM
Surr: 4-Bromofluorobenzene	109	70-130	%Rec	5	11/8/2023 3:07:52 PM

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 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

Page 2 of 5

#### ANALYTICAL SUMMARY REPORT

November 06, 2023

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

Work Order:

B23110156

Quote ID: B15626

Project Name:

Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 11/2/2023 for analysis.

Lab ID	Client Sample ID	Collect Date Re	eceive Date	Matrix	Test
B23110156-001	2311001-001B, Sunray B1B Influent	10/31/23 15:30	11/02/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis 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:

#### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

 Client:
 Hall Environmental
 Report Date: 11/06/23

 Project:
 Not Indicated
 Collection Date: 10/31/23 15:30

 Lab ID:
 B23110156-001
 DateReceived: 11/02/23

Client Sample ID: 2311001-001B, Sunray B1B Influent Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS	REPORT						
Oxygen	21.60	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
Nitrogen	78.20	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
Carbon Dioxide	0.17	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
Hydrogen Sulfide	< 0.01	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
Methane	< 0.01	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
Ethane	< 0.01	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
Propane	< 0.01	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
sobutane	< 0.01	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
n-Butane	< 0.01	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
sopentane	< 0.01	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
n-Pentane	< 0.01	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
Hexanes plus	0.03	Mol %		0.01		GPA 2261-95	11/03/23 10:58 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	11/03/23 10:58 / jrj
sobutane	< 0.001	gpm		0.001		GPA 2261-95	11/03/23 10:58 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	11/03/23 10:58 / jrj
sopentane	< 0.001	gpm		0.001		GPA 2261-95	11/03/23 10:58 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	11/03/23 10:58 / jrj
Hexanes plus	0.013	gpm		0.001		GPA 2261-95	11/03/23 10:58 / jrj
GPM Total	0.013	gpm		0.001		GPA 2261-95	11/03/23 10:58 / jrj
GPM Pentanes plus	0.013	gpm		0.001		GPA 2261-95	11/03/23 10:58 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	1			1		GPA 2261-95	11/03/23 10:58 / jrj
Net BTU per cu ft @ std cond. (LHV)	1			1		GPA 2261-95	11/03/23 10:58 / jrj
Pseudo-critical Pressure, psia	545			1		GPA 2261-95	11/03/23 10:58 / jrj
Pseudo-critical Temperature, deg R	239			1		GPA 2261-95	11/03/23 10:58 / jrj
Specific Gravity @ 60/60F	0.999			0.001		D3588-81	11/03/23 10:58 / jrj
Air, %	98.69			0.01		GPA 2261-95	11/03/23 10:58 / jrj
- The analysis was not corrected for air.							
COMMENTS							

- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level

**Definitions:** QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)

11/03/23 10:58 / jrj

<sup>-</sup> GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.

<sup>-</sup> To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.

<sup>-</sup> Standard conditions: 60 F & 14.73 psi on a dry basis.



# **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Hall Environmental Work Order: B23110156 Report Date: 11/06/23

Analyte		Count	Result	Units	RL	%REC I	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	GPA 2261-95									Batch:	R411666
Lab ID:	B23110154-001ADUP	12 Sar	mple Duplic	ate		F	Run: GCNG	A-B_231103A		11/03/	23 10:27
Oxygen			21.5	Mol %	0.01				0.0	20	
Nitrogen			78.1	Mol %	0.01				0	20	
Carbon Di	ioxide		0.35	Mol %	0.01				0.0	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	
Isopentan	е		< 0.01	Mol %	0.01					20	
n-Pentane	)		< 0.01	Mol %	0.01					20	
Hexanes p	olus		0.08	Mol %	0.01				13	20	
Lab ID:	LCS110323	11 Lat	oratory Cor	ntrol Sample		F	Run: GCNG	A-B_231103A		11/03/	23 12:38
Oxygen			0.61	Mol %	0.01	122	70	130			
Nitrogen			6.07	Mol %	0.01	101	70	130			
Carbon Di	ioxide		0.99	Mol %	0.01	100	70	130			
Methane			74.4	Mol %	0.01	99	70	130			
Ethane			6.01	Mol %	0.01	100	70	130			
Propane			5.12	Mol %	0.01	104	70	130			
Isobutane			1.99	Mol %	0.01	99	70	130			
n-Butane			1.99	Mol %	0.01	99	70	130			
Isopentan	е		1.04	Mol %	0.01	104	70	130			
n-Pentane	•		1.02	Mol %	0.01	102	70	130			
Hexanes p	olus		0.79	Mol %	0.01	99	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Billings, MT 406.252.6325 • Casper, WY 307.235.0515 Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

# **Work Order Receipt Checklist**

#### Hall Environmental

B23110156

Login completed by:	Danielle N. Harris		Date	Received: 11/2/2023	
Reviewed by:	gmccartney		Re	ceived by: lel	
Reviewed Date:	11/3/2023		Car	rier name: FedEx	
Shipping container/cooler in	good condition?	Yes 🗸	No 🗌	Not Present	
Custody seals intact on all sh	nipping container(s)/cooler(s)?	Yes 🔽	No 🗌	Not Present	
Custody seals intact on all sa	ample bottles?	Yes	No 🗌	Not Present 🗸	
Chain of custody present?		Yes 🗹	No 🗌		
Chain of custody signed whe	en 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 h (Exclude analyses that are or such as pH, DO, Res Cl, Su	onsidered field parameters	Yes √	No 🗌		
Temp Blank received in all sl	nipping container(s)/cooler(s)?	Yes	No 🗹	Not Applicable	
Container/Temp Blank tempe	erature:	11.0°C No Ice			
Containers requiring zero heabubble that is <6mm (1/4").	adspace have no headspace or	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

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 823110156 OF: CHAIN OF CUSTODY RECORD PAGE: 1

ANALYTICAL COMMENTS (406) 252-6069 10/31/2023 3:30:00 PM 1 \*\*5 DAY TAT\*\* Natural Gas Analysis. CO2+02 EMAIL FAX (406) 869-6253 # CONTAINERS ACCOUNT# COLLECTION PHONE DATE MATRIX Air **Energy Laboratories** BOTTLE TYPE TEDLAR COMPANY CLIENT SAMPLE ID 2311001-001B Sunray B1B Influent 1120 South 27th Street SUB CONTRATOR Energy Labs -Billings CITY, STATE, ZIP Billings, MT 59107 SAMPLE ADDRESS. ITEM

Relinquished By	Date 11/10/073	Time: 7:03 AM	Received By:		Date.	Time.	REPORT TRANSMITTAL DESIRED:
nquished By	Date	Time.	Received By.		Date	Time.	HARDCOPY (extra cost) FAX EMAIL. ONLINE
	Date	Time	Boronnella		l Joseph	- Inne	FOR LAB USE ONLY
industries 123	ranc.	o de la companya de l	as why		11/2/23	50,00	Temp of samples C Attempt to Cool ?
TAT:	Standard	RUSH	Next BD	2nd BD	3rd BD		
	Date. Date.	- I	Received By. Received By.		2/23	Time.	FOR LAB USE

# **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2311001** 

15-Nov-23

**Client:** HILCORP ENERGY

**Project:** Sunray B1B

Sample ID: 2311001-001adup SampType: DUP TestCode: EPA Method 8015D: Gasoline Range

Client ID: Sunray B1B Influent Batch ID: R101035 RunNo: 101035

Prep Date: Analysis Date: 11/8/2023 SeqNo: 3710509 Units: μg/L

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual 850 Gasoline Range Organics (GRO) 250 5.96 20 Surr: BFB 120000 100000 122 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

Page 3 of 5

# **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2311001** 

15-Nov-23

Client: HILCORP ENERGY

**Project:** Sunray B1B

Sample ID: 2311001-001a dup SampType: DUP TestCode: EPA Method 8260B: Volatiles

Client ID: Sunray B1B Influent Batch ID: R101045 RunNo: 101045

Prep Date: Analysis Date: 11/8/2023 SeqNo: 3709412 Units: μg/L

Prep Date:	Analysis D	Date: 11	/8/2023	5	SeqNo: 37	709412	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.49	0.25						8.22	20	
Toluene	29	0.50						5.27	20	
Ethylbenzene	3.0	0.50						8.33	20	
Methyl tert-butyl ether (MTBE)	ND	0.50						0	20	
1,2,4-Trimethylbenzene	3.7	0.50						9.31	20	
1,3,5-Trimethylbenzene	3.4	0.50						8.93	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
- 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

Page 4 of 5

# **QC SUMMARY REPORT**

## Hall Environmental Analysis Laboratory, Inc.

WO#: **2311001** 

15-Nov-23

Client: HILCORP ENERGY

**Project:** Sunray B1B

Sample ID: 2311001-001a dup SampType: DUP TestCode: EPA Method 8260B: Volatiles

Client ID: Sunray B1B Influent Batch ID: R101045 RunNo: 101045

Olicin ID. Sullay Bib IIIII	uein Date	IIID. KI	010-0		turii vo. Tu	010-0				
Prep Date:	Analysis D	Date: <b>11</b>	/8/2023	٤	SeqNo: 37	709412	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	0.65	0.50						8.36	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	0.59	0.50						7.51	20	
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	38	0.75						11.2	20	
Surr: Dibromofluoromethane	3.9		5.000		78.3	70	130	0	0	
Surr: 1,2-Dichloroethane-d4	4.6		5.000		91.7	70	130	0	0	
Surr: Toluene-d8	5.6		5.000		112	70	130	0	0	
Surr: 4-Bromofluorobenzene	5.4		5.000		108	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

Page 5 of 5

Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque. NM 87109

TEL: 505-345-3975 FAX: 505-345-4107

# Sample Log-In Check List

Released to Imaging: 4/9/2024 10:05:11 AM

Client Name: HI	LCORP ENERGY	Work Order Number	er: 2311001		RcptNo	p: 1
Received By: T	racy Casarrubias	11/1/2023 6:15:00 AI	M			
Completed By: T	racy Casarrubias	11/1/2023 6:56:16 AI	VI			
Reviewed By:	V 11-1-23					
Chain of Custoc	d <u>y</u>					
1. Is Chain of Custo	dy complete?		Yes 🗌	No 🗹	Not Present	
2. How was the san	nple delivered?		Courier			
Log In						
	nade to cool the sample	es?	Yes 🗌	No 🔽	NA 🗌	
			2			
Were all samples	received at a temperatu	ure of >0° C to 6.0°C	Yes 🗌	No 🗔	NA 🔽	
5. Sample(s) in prop	per container(s)?		Yes 🗹	No 🗌		
S. Sufficient sample	volume for indicated tes	st(s)?	Yes 🗸	No 🗌		
7. Are samples (exc	ept VOA and ONG) prop	perly preserved?	Yes 🗸	No 🗌		
3. Was preservative	added to bottles?		Yes 🗌	No 🔽	NA 🗌	
. Received at least	1 vial with headspace <	1/4" for AQ VOA?	Yes 🗌	No 🗌	NA 🗹	
0. Were any sample	containers received bro	oken?	Yes	No 🗸	# of preserved	
4					bottles checked	
<ol> <li>Does paperwork r</li> <li>(Note discrepancie)</li> </ol>	natch bottle labels? es on chain of custody)		Yes 🔽	No 📙	for pH: (<2.0	or/>12 unless noted)
	ectly identified on Chain	of Custody?	Yes 🗹	No 🗌	Adjusted?	
	alyses were requested?	-	Yes 🗹	No 🗌		Gen wh
_	imes able to be met?		Yes 🗹	No 🗌	Checked by:	12011 111
(If no, notify custo	mer for authorization.)					
pecial Handling	(if applicable)					
5. Was client notifie	d of all discrepancies w	th this order?	Yes 🗌	No 🗌	NA 🗹	
Person Not	ified:	Date:		***************************************		
By Whom:	To a second seco	Via:	eMail	Phone 🗌 Fax	☐ In Person	
Regarding:	(American)		A constitution of the cons			
Client Instru	uctions: Mailing address	s,phone number, and Ema	il/Eay are miss	sing on COC. To	MC 11/1/23	

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

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HALL ENVIRONMENTAL ANALYSIS LABORATORY www.hallenvironmental.com 4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107	BTEX / MTBE / TMB's (8021) TPH:8015D(GRO)! DRO / MRO) 3081 Pesticides/8082 PCB's EDB (Method 504.1) 3CRA 8 Metals CI, F, Br, NO <sub>3</sub> , NO <sub>2</sub> , PO <sub>4</sub> , SO <sub>4</sub> 3S20 (VOA) Cotal Coliform (Present/Absent)		Date Time Remarks:   0 3  2 3   0 3  2 3   0 3  2 3   0 3  2 3   0 3  2 3   0 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Turn-Around Time:  Solve Broject Name:  Solve Black  Froject #:	Project Manager: Sturt Hylle  Shylle @ ensolum.com  Sampler: Zer Mys  On Ice:		
Client: Hiloup att. Mitch Killough Mailing Address:  Phone #:	□ Level 4 (Full Validation) □ Az Compliance □ Other □ Matrix   Sample Name	Sung BIB In them	Date: Time: Relinquished by:    Si   Color   Color   Color     Si   Color   Color   Color     Si   Color   Color   Color     Si   Color   Color   Color     If necessary, samples submitted to Hall Environmental may be Subcontracted Affer accredited laboratories.

Released to Imaging: 4/9/2024 10:05:11 AM



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

December 04, 2023

Mitch Killough
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733

FAX:

RE: Sunray B1B OrderNo.: 2311964

#### Dear Mitch Killough:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 11/17/2023 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

andy

4901 Hawkins NE

Albuquerque, NM 87109

# **Analytical Report**Lab Order **2311964**

Date Reported: 12/4/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Project: Sunray B1B

Collection Date: 11/16/2023 2:20:00 PM

Lab ID: 2311964-001

Matrix: AIR

Received Date: 11/17/2023 6:15:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: CCM
Benzene	0.41	0.25	μg/L	5	11/22/2023 1:09:00 PM
Toluene	21	0.50	μg/L	5	11/22/2023 1:09:00 PM
Ethylbenzene	2.5	0.50	μg/L	5	11/22/2023 1:09:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,2,4-Trimethylbenzene	6.3	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,3,5-Trimethylbenzene	5.5	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,2-Dichloroethane (EDC)	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,2-Dibromoethane (EDB)	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Naphthalene	ND	1.0	μg/L	5	11/22/2023 1:09:00 PM
1-Methylnaphthalene	ND	2.0	μg/L	5	11/22/2023 1:09:00 PM
2-Methylnaphthalene	ND	2.0	μg/L	5	11/22/2023 1:09:00 PM
Acetone	ND	5.0	μg/L	5	11/22/2023 1:09:00 PM
Bromobenzene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Bromodichloromethane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Bromoform	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Bromomethane	ND	1.0	μg/L	5	11/22/2023 1:09:00 PM
2-Butanone	ND	5.0	μg/L	5	11/22/2023 1:09:00 PM
Carbon disulfide	ND	5.0	μg/L	5	11/22/2023 1:09:00 PM
Carbon tetrachloride	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Chlorobenzene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Chloroethane	ND	1.0	μg/L	5	11/22/2023 1:09:00 PM
Chloroform	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Chloromethane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
2-Chlorotoluene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
4-Chlorotoluene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
cis-1,2-DCE	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
cis-1,3-Dichloropropene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,2-Dibromo-3-chloropropane	ND	1.0	μg/L	5	11/22/2023 1:09:00 PM
Dibromochloromethane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Dibromomethane	ND	1.0	μg/L	5	11/22/2023 1:09:00 PM
1,2-Dichlorobenzene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,3-Dichlorobenzene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,4-Dichlorobenzene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Dichlorodifluoromethane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,1-Dichloroethane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,1-Dichloroethene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,2-Dichloropropane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,3-Dichloropropane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
2,2-Dichloropropane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM

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 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

# **Analytical Report**Lab Order **2311964**

Date Reported: 12/4/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT:HILCORP ENERGYClient Sample ID: Sunray B1B InfluentProject:Sunray B1BCollection Date: 11/16/2023 2:20:00 PMLab ID:2311964-001Matrix: AIRReceived Date: 11/17/2023 6:15:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: CCM
1,1-Dichloropropene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Hexachlorobutadiene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
2-Hexanone	ND	5.0	μg/L	5	11/22/2023 1:09:00 PM
Isopropylbenzene	0.64	0.50	μg/L	5	11/22/2023 1:09:00 PM
4-Isopropyltoluene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
4-Methyl-2-pentanone	ND	5.0	μg/L	5	11/22/2023 1:09:00 PM
Methylene chloride	ND	1.5	μg/L	5	11/22/2023 1:09:00 PM
n-Butylbenzene	ND	1.5	μg/L	5	11/22/2023 1:09:00 PM
n-Propylbenzene	0.69	0.50	μg/L	5	11/22/2023 1:09:00 PM
sec-Butylbenzene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Styrene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
tert-Butylbenzene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,1,1,2-Tetrachloroethane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Tetrachloroethene (PCE)	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
trans-1,2-DCE	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
trans-1,3-Dichloropropene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,2,3-Trichlorobenzene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,2,4-Trichlorobenzene	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,1,1-Trichloroethane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,1,2-Trichloroethane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Trichloroethene (TCE)	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Trichlorofluoromethane	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
1,2,3-Trichloropropane	ND	1.0	μg/L	5	11/22/2023 1:09:00 PM
Vinyl chloride	ND	0.50	μg/L	5	11/22/2023 1:09:00 PM
Xylenes, Total	35	0.75	μg/L	5	11/22/2023 1:09:00 PM
Surr: Dibromofluoromethane	97.6	70-130	%Rec	5	11/22/2023 1:09:00 PM
Surr: 1,2-Dichloroethane-d4	98.7	70-130	%Rec	5	11/22/2023 1:09:00 PM
Surr: Toluene-d8	115	70-130	%Rec	5	11/22/2023 1:09:00 PM
Surr: 4-Bromofluorobenzene	116	70-130	%Rec	5	11/22/2023 1:09:00 PM
EPA METHOD 8015D: GASOLINE RANGE					Analyst: CCM
Gasoline Range Organics (GRO)	1100	25	μg/L	5	11/22/2023 1:09:00 PM
Surr: BFB	108	70-130	%Rec	5	11/22/2023 1:09:00 PM

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
- 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

#### ANALYTICAL SUMMARY REPORT

December 04, 2023

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

Work Order: B23

B23111613

Quote ID: B15626

Project Name:

Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 11/21/2023 for analysis.

Lab ID	Client Sample ID	Collect Date R	eceive Date	Matrix	Test
B23111613-001	2311964-001B, Sunray B1B Influent	11/16/23 14:20	11/21/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis 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:

Client Sample ID: 2311964-001B, Sunray B1B Influent

Billings, MT 406.252.6325 • Casper, WY 307.235.0515 Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

Matrix: Air

#### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client:Hall EnvironmentalReport Date: 12/04/23Project:Not IndicatedCollection Date: 11/16/23 14:20Lab ID:B23111613-001DateReceived: 11/21/23

MCL/ QCL RL Method Analysis Date / By **Analyses Result Units** Qualifiers GAS CHROMATOGRAPHY ANALYSIS REPORT Oxygen 21.61 Mol % 0.01 GPA 2261-95 12/01/23 11:49 / jrj Nitrogen 78.06 Mol % 0.01 GPA 2261-95 12/01/23 11:49 / iri 0.10 Mol % 0.01 12/01/23 11:49 / jrj Carbon Dioxide GPA 2261-95 Hydrogen Sulfide <0.01 Mol % 0.01 GPA 2261-95 12/01/23 11:49 / jrj Methane 0.01 Mol % 0.01 GPA 2261-95 12/01/23 11:49 / jrj Ethane 0.03 Mol % 0.01GPA 2261-95 12/01/23 11:49 / jrj 12/01/23 11:49 / jrj Propane < 0.01 Mol % 0.01 GPA 2261-95 <0.01 Mol % GPA 2261-95 12/01/23 11:49 / jrj Isobutane 0.01 <0.01 Mol % 0.01 GPA 2261-95 12/01/23 11:49 / jrj n-Butane GPA 2261-95 <0.01 Mol % 0.01 12/01/23 11:49 / jrj Isopentane n-Pentane <0.01 Mol % 0.01 GPA 2261-95 12/01/23 11:49 / jrj Hexanes plus 0.19 Mol % 0.01 GPA 2261-95 12/01/23 11:49 / jrj Propane < 0.001 gpm 0.001 GPA 2261-95 12/01/23 11:49 / jrj GPA 2261-95 12/01/23 11:49 / jrj Isobutane < 0.001 gpm 0.001 n-Butane 0.001 GPA 2261-95 12/01/23 11:49 / iri < 0.001 gpm 12/01/23 11:49 / jrj Isopentane < 0.001 gpm 0.001 GPA 2261-95 n-Pentane < 0.001 gpm 0.001 GPA 2261-95 12/01/23 11:49 / jrj 12/01/23 11:49 / jrj Hexanes plus 0.001 GPA 2261-95 0.080 gpm **GPM Total** 0.080 gpm 0.001 GPA 2261-95 12/01/23 11:49 / jrj **GPM Pentanes plus** 0.080 gpm 0.001 GPA 2261-95 12/01/23 11:49 / jrj **CALCULATED PROPERTIES** Gross BTU per cu ft @ Std Cond. (HHV) 10 GPA 2261-95 12/01/23 11:49 / jrj 1 Net BTU per cu ft @ std cond. (LHV) 9 GPA 2261-95 12/01/23 11:49 / jrj 1 Pseudo-critical Pressure, psia 545 GPA 2261-95 12/01/23 11:49 / jrj 1 Pseudo-critical Temperature, deg R 240 GPA 2261-95 12/01/23 11:49 / jrj 1 Specific Gravity @ 60/60F 1.00 0.001 D3588-81 12/01/23 11:49 / jrj Air. % 98.74 0.01 GPA 2261-95 12/01/23 11:49 / jrj - The analysis was not corrected for air.

-

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.

**COMMENTS** 

Report RL - Analyte Reporting Limit MCL - Maximum Contaminant Level

**Definitions:** QCL - Quality Control Limit ND - Not detected at the Reporting Limit (RL)

12/01/23 11:49 / jrj



# **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Hall Environmental Work Order: B23111613 Report Date: 12/04/23

Analyte		Count	Result	Units	RL	%REC I	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	GPA 2261-95									Batch:	R413045
Lab ID:	B23111612-001ADUP	12 Sar	mple Duplic	ate		F	Run: GC789	90_231201A		12/01/	23 10:57
Oxygen			21.5	Mol %	0.01				0.2	20	
Nitrogen			78.2	Mol %	0.01				0	20	
Carbon Di	oxide		0.20	Mol %	0.01				14	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	
Isopentan	е		< 0.01	Mol %	0.01					20	
n-Pentane	)		< 0.01	Mol %	0.01					20	
Hexanes p	olus		0.17	Mol %	0.01				5.7	20	
Lab ID:	LCS120123	11 Lat	oratory Cor	ntrol Sample		F	Run: GC789	90_231201A		12/01/	23 04:00
Oxygen			0.52	Mol %	0.01	104	70	130			
Nitrogen			7.02	Mol %	0.01	117	70	130			
Carbon Di	oxide		1.01	Mol %	0.01	102	70	130			
Methane			73.7	Mol %	0.01	99	70	130			
Ethane			5.99	Mol %	0.01	100	70	130			
Propane			5.02	Mol %	0.01	102	70	130			
Isobutane			1.85	Mol %	0.01	92	70	130			
n-Butane			2.02	Mol %	0.01	101	70	130			
Isopentan	е		1.03	Mol %	0.01	103	70	130			
n-Pentane	)		1.04	Mol %	0.01	104	70	130			
Hexanes p	olus		0.83	Mol %	0.01	104	70	130			

Qualifiers:

RL - Analyte Reporting Limit

 $\ensuremath{\mathsf{ND}}$  - Not detected at the Reporting Limit (RL)

Billings, MT 406.252.6325 • Casper, WY 307.235.0515 Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

# **Work Order Receipt Checklist**

#### Hall Environmental

B23111613

Login completed by:	Danielle N. Harris		Date	Received: 11/21/2023	
Reviewed by:	lleprowse		Re	eceived by: lel	
Reviewed Date:	11/27/2023		Ca	rrier name: FedEx	
Shipping container/cooler in	good condition?	Yes ✓	No 🗌	Not Present	
Custody seals intact on all s	hipping container(s)/cooler(s)?	Yes ✓	No 🗌	Not Present	
Custody seals intact on all s	ample bottles?	Yes	No 🗌	Not Present ✓	
Chain of custody present?		Yes ✓	No 🗌		
Chain of custody signed who	en relinquished and received?	Yes 🔽	No 🗌		
Chain of custody agrees with	h sample labels?	Yes 🔽	No 🗌		
Samples in proper container	/bottle?	Yes 🔽	No 🗌		
Sample containers intact?		Yes 🔽	No 🗌		
Sufficient sample volume for	r indicated test?	Yes 🗹	No 🗌		
All samples received within I (Exclude analyses that are of such as pH, DO, Res CI, Su	considered field parameters	Yes ✓	No 🗌		
Temp Blank received in all s	hipping container(s)/cooler(s)?	Yes	No 🗹	Not Applicable	
Container/Temp Blank temp	erature:	16.2°C No Ice			
Containers requiring zero he bubble that is <6mm (1/4").	eadspace have no headspace or	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

Co eurotins	CHAIN OF CUS	OF CUSTODY RECORD PAGE:	GE: 1 OF: 1	Eurofins Environment Testing South Central, LLC	
				4901 Havkins NE	
				Albuquerque, NM 87109	
				TEL: 505-345-3975	
				FAX: 505-345-4107	
				Website: www.hallenvironmental.com	
				823111613	
SUB CONTRATOR Energy Labs - Billings COMPANY.	Energy Laboratories	es PHONE	(406) 869-6253	FAX (406) 252-6069	1
ADDRESS 1120 South 27th Street		ACCOUNT#		EMAIL	
CITY, STATE, ZIP Billings, MT 59107					
			# CO?		
	BOTILE	COLLECTION	NTAIR		
ITEM SAMPLE CLIENT SAMPLE ID	TYPE	TYPE MATRIX DATE	<b>W</b>	ANALYTICAL COMMENTS	
1 2311964-001B Sunray B1B Influent	TEDLAR	Air 11/16/2023 2:20:00 PM	11/16/2023 2:20:00 PM 1 Natural Gas Analysis- CO2+02	02+02	

Relinquished By:	Date: Ti	Time Time	Received By:	Date: Time:	REPORT TRANSMITTAL DESIRED:
Refinquished By:	Date		Received By	Date. Time.	HARDCOPY (extra cost) FAX CMAIL ONLINE
					V HAN HOLL A D I GOD
Relinquished By:	Date:	Time	Received By J. Coll 2.	Lold a little store	FOR LAB USE ONL!
	(		man maky	5610 60 13	Temp of samples C Attempt to Cool ?
TAT:	Standard	RUSH	I Next BD 2nd BD	3rd BD	
					Comments



**Environment Testin** 

#### Eurofins Environment Testing South Central. LLC 4901 Hawkins NE

Website: www.hallenvironmental.com

Albuquerque. NM 87109 TEL: 505-345-3975 FAX: 505-345-4107

# Sample Log-In Check List

Released to Imaging: 4/9/2024 10:05:11 AM

Client Name: HILCORP E	NERGY Work Order Nun	nber: 2311964		RcptNo: 1	
Received By: Tracy Casa	rrubias 11/17/2023 6:15:0	O AM			
Completed By: Tracy Casa	rrubias 11/17/2023 11:42:	24 AM			
Reviewed By: CML	11/17/73				
Chain of Custody					
Is Chain of Custody complete	ete?	Yes 🗌	No 🗹	Not Present	
2. How was the sample delive	red?	Courier			
<u>Log In</u>		_			
3. Was an attempt made to co	ool the samples?	Yes 🗌	No 🗹	NA 🗆	
4. Were all samples received a	at a temperature of >0° C to 6.0°C	Yes 🗌	No V	W,1/1/23	
5. Sample(s) in proper contain	ner(s)?	<u>Not requi</u> Yes <b>✓</b>	red No 🗌		
6. Sufficient sample volume fo	r indicated test(s)?	Yes 🗹	No 🗌		
7. Are samples (except VOA a	nd 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 contained	rs received broken?	Yes □		of preserved	
11. Does paperwork match bott (Note discrepancies on cha		Yes 🗸			unless noted)
12. Are matrices correctly ident	ified on Chain of Custody?	Yes 🗹	No 🗌	Adjusted?	
13. Is it clear what analyses we	re requested?	Yes 🔽	No 🗌	GIM	Which
14. Were all holding times able (If no, notify customer for a		Yes 🗹	No 📙	Checked by	
Special Handling (if app	licable)				
15. Was client notified of all dis	screpancies with this order?	Yes 🗌	No 🗌	NA 🗹	
Person Notified:	Dat	e:			
By Whom:	Via	: eMail P	hone 🗌 Fax 📋	] In Person	
Regarding:					
Client Instructions:	Mailing address, phone number, and	Email/Fax are missi	ng on COC-TMC	11/17/23	
16. Additional remarks:					
17. Cooler Information  Cooler No Temp °C	Condition   Seal Intact   Seal No	Soot Data	Signed By		
1 N/A	Condition Seal Intact Seal No Good Yes	Seal Date	Signed By		
	to a constant of the second of				

081 to 891, necessary, samples submitted to Hall Environmental may be ex	Date: Time: Relinquished by:	Date: Time: Relinguished by:						21420 av	Date Time Matrix Sample Name	ype)	Accreditation:   Az Compliance  Other	QA/QC Package:	email or Fax#:	Phone #:		Mailing Address:
ecessary, samples submitted to Hall Environmental may be subconfracted to other accredited laboratories. This serves as notice o	•	Via:) Date Time	}					2x tells/ - 001	Container Preservative HEAL No.  Type and # Type 23119 04	-	Sampler: Ach Myex On Ice:   Yes  You	shydee onsolvin.com	Project Manager: Stuart Hyde		Project #:	Sunay BIB
of this possibility. Any sub-contracted data will be clearly notated on the analytical report.	& borns	ZMYERS @ ONSO UM. COM							BTEX / N TPH:8019 8081 Pes EDB (Me PAHs by RCRA 8 CI, F, Bi 8260 (VC) 8270 (Se Total Cc)	MTB  Stick  831  Met  OA)	des/800 des/800 d 504.1 0 or 83 als O <sub>3</sub> NO VOA) m (Pre	DRO / I 32 PCI ) 270SIM D <sub>2</sub> , PO	MRO) B's MS	Analysis Requ	Tel. 505-345-3975 Fax 505-345-4107	4901 Hawkins NE - Albuquerque, NM 87109

Client: Hillows ofthe Mitch Killoush

Chain-of-Custody Record

Turn-Around Time:

Project Name: Standard

□ Rush

# ANALYSIS LABORATORY HALL ENVIRONMENTAL

Released to Imaging: 4/9/2024 10:05:11 AM

www.hallenvironmental.com

4901 Hawkins NE

Albuquerque, NAI 87109 TEL: 505-345-3975

Website: www.hallenvironmental.com FAX: 505-345-4107

CITY, STATE, ZIP Billings, MT 59107 SUB CONTRATION Energy Labs - Billings ADDRESS 2311964-001B Sunray B1B Influent SAMPLE 1120 South 27th Street CLIENT SAMPLE ID COMPANY **Energy Laboratories** TEDLAR BOTTLE TYPE Ar MATRIX 11/16/2023 2:20:00 PM 1 Natural Gas Analysis- CO2+02 COLLECTION ACCOUNT # PHONE # CONTAINERS (406) 869-6253 ANALYTICAL COMMENTS EMAIL. FAX (406) 252-6069

SPECIAL INSTRUCTIONS / COMMENTS:

Please include the LAB ID and the CLIENT SAMPLE ID on all final reports. Please e-mail results to lab@hallenvironmental.com. Please return all coolers and blue ice. Thank you.



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

December 12, 2023

Stuart Hyde HILCORP ENERGY PO Box 4700 Farmington, NM 87499 TEL: (505) 564-0733

FAX:

RE: Sunray B1B OrderNo.: 2311D07

#### Dear Stuart Hyde:

Eurofins Environment Testing South Central, LLC received 1 sample(s) on 11/29/2023 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

andy

4901 Hawkins NE

Albuquerque, NM 87109

# **Analytical Report**Lab Order **2311D07**

Date Reported: 12/12/2023

## Hall Environmental Analysis Laboratory, Inc.

CLIENT:HILCORP ENERGYClient Sample ID: Sunray B1B InfluentProject:Sunray B1BCollection Date: 11/28/2023 2:20:00 PMLab ID:2311D07-001Matrix: AIRReceived Date: 11/29/2023 6:30:00 AM

	1714011111		ccci ca Batci	11,20	2023 0.30.00 1101
Analyses	Result	RL (	Qual Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE					Analyst: <b>JJP</b>
Gasoline Range Organics (GRO)	750	25	μg/L	5	12/7/2023 1:07:12 PM
Surr: BFB	516	15-412	S %Rec	5	12/7/2023 1:07:12 PM
EPA METHOD 8260B: VOLATILES					Analyst: CCM
Benzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Toluene	13	0.50	μg/L	5	12/6/2023 3:21:00 PM
Ethylbenzene	1.7	0.50	μg/L	5	12/6/2023 3:21:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,2,4-Trimethylbenzene	4.0	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,3,5-Trimethylbenzene	3.6	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,2-Dichloroethane (EDC)	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,2-Dibromoethane (EDB)	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Naphthalene	ND	1.0	μg/L	5	12/6/2023 3:21:00 PM
1-Methylnaphthalene	ND	2.0	μg/L	5	12/6/2023 3:21:00 PM
2-Methylnaphthalene	ND	2.0	μg/L	5	12/6/2023 3:21:00 PM
Acetone	ND	5.0	μg/L	5	12/6/2023 3:21:00 PM
Bromobenzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Bromodichloromethane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Bromoform	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Bromomethane	ND	1.0	μg/L	5	12/6/2023 3:21:00 PM
2-Butanone	ND	5.0	μg/L	5	12/6/2023 3:21:00 PM
Carbon disulfide	ND	5.0	μg/L	5	12/6/2023 3:21:00 PM
Carbon tetrachloride	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Chlorobenzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Chloroethane	ND	1.0	μg/L	5	12/6/2023 3:21:00 PM
Chloroform	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Chloromethane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
2-Chlorotoluene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
4-Chlorotoluene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
cis-1,2-DCE	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
cis-1,3-Dichloropropene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,2-Dibromo-3-chloropropane	ND	1.0	μg/L	5	12/6/2023 3:21:00 PM
Dibromochloromethane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Dibromomethane	ND	1.0	μg/L	5	12/6/2023 3:21:00 PM
1,2-Dichlorobenzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,3-Dichlorobenzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,4-Dichlorobenzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Dichlorodifluoromethane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,1-Dichloroethane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,1-Dichloroethene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM

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 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

Page 1 of 2

# **Analytical Report**Lab Order **2311D07**

Date Reported: 12/12/2023

# Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: Sunray B1B Influent

Project: Sunray B1B

Collection Date: 11/28/2023 2:20:00 PM

Lab ID: 2311D07-001

Matrix: AIR

Received Date: 11/29/2023 6:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES					Analyst: CCM
1,2-Dichloropropane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,3-Dichloropropane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
2,2-Dichloropropane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,1-Dichloropropene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Hexachlorobutadiene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
2-Hexanone	ND	5.0	μg/L	5	12/6/2023 3:21:00 PM
Isopropylbenzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
4-Isopropyltoluene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
4-Methyl-2-pentanone	ND	5.0	μg/L	5	12/6/2023 3:21:00 PM
Methylene chloride	ND	1.5	μg/L	5	12/6/2023 3:21:00 PM
n-Butylbenzene	ND	1.5	μg/L	5	12/6/2023 3:21:00 PM
n-Propylbenzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
sec-Butylbenzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Styrene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
tert-Butylbenzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,1,1,2-Tetrachloroethane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Tetrachloroethene (PCE)	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
trans-1,2-DCE	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
trans-1,3-Dichloropropene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,2,3-Trichlorobenzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,2,4-Trichlorobenzene	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,1,1-Trichloroethane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,1,2-Trichloroethane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Trichloroethene (TCE)	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Trichlorofluoromethane	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
1,2,3-Trichloropropane	ND	1.0	μg/L	5	12/6/2023 3:21:00 PM
Vinyl chloride	ND	0.50	μg/L	5	12/6/2023 3:21:00 PM
Xylenes, Total	22	0.75	μg/L	5	12/6/2023 3:21:00 PM
Surr: Dibromofluoromethane	100	70-130	%Rec	5	12/6/2023 3:21:00 PM
Surr: 1,2-Dichloroethane-d4	101	70-130	%Rec	5	12/6/2023 3:21:00 PM
Surr: Toluene-d8	116	70-130	%Rec	5	12/6/2023 3:21:00 PM
Surr: 4-Bromofluorobenzene	112	70-130	%Rec	5	12/6/2023 3:21:00 PM

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 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

Page 2 of 2

#### ANALYTICAL SUMMARY REPORT

December 08, 2023

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

Work Order:

B23112063

Quote ID: B15626

Project Name: Not Indicated

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 11/30/2023 for analysis.

Lab ID	Client Sample ID	Collect Date Re	eceive Date	Matrix	Test
B23112063-001	2311D07-001B, Sunray B1B Influent	11/28/23 14:20	11/30/23	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond,/1000 cu. ft., moist. Free Natural Gas Analysis 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:

#### LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

Client:Hall EnvironmentalReport Date: 12/08/23Project:Not IndicatedCollection Date: 11/28/23 14:20Lab ID:B23112063-001DateReceived: 11/30/23Client Sample ID:2311D07-001B, Sunray B1B InfluentMatrix: Air

Analyses	Result I	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS	REPORT						
Oxygen	21.64	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
Nitrogen	78.25 N	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
Carbon Dioxide	0.10	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
Methane	0.01	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
sobutane	<0.01	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
sopentane	<0.01	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
lexanes plus	<0.01	Mol %		0.01		GPA 2261-95	12/06/23 12:33 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	12/06/23 12:33 / jrj
sobutane	< 0.001	gpm		0.001		GPA 2261-95	12/06/23 12:33 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	12/06/23 12:33 / jrj
sopentane	< 0.001	gpm		0.001		GPA 2261-95	12/06/23 12:33 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	12/06/23 12:33 / jrj
lexanes plus	< 0.001	gpm		0.001		GPA 2261-95	12/06/23 12:33 / jrj
GPM Total	< 0.001	gpm		0.001		GPA 2261-95	12/06/23 12:33 / jrj
GPM Pentanes plus	< 0.001	gpm		0.001		GPA 2261-95	12/06/23 12:33 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	ND			1		GPA 2261-95	12/06/23 12:33 / jrj
Net BTU per cu ft @ std cond. (LHV)	ND			1		GPA 2261-95	12/06/23 12:33 / jrj
Pseudo-critical Pressure, psia	545			1		GPA 2261-95	12/06/23 12:33 / jrj
Pseudo-critical Temperature, deg R	239			1		GPA 2261-95	12/06/23 12:33 / jrj
Specific Gravity @ 60/60F	0.998			0.001		D3588-81	12/06/23 12:33 / jrj
Air, %	98.87			0.01		GPA 2261-95	12/06/23 12:33 / jrj
- The analysis was not corrected for air.							
COMMENTS							

-

12/06/23 12:33 / jrj

Report RL - Analyte Reporting Limit

MCL - Maximum Contaminant Level

**Definitions:** QCL - Quality Control Limit

ND - Not detected at the Reporting Limit (RL)

<sup>-</sup> BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.

<sup>-</sup> GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.

<sup>-</sup> To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.

<sup>-</sup> Standard conditions: 60 F & 14.73 psi on a dry basis.



# **QA/QC Summary Report**

Prepared by Billings, MT Branch

Client: Hall Environmental Work Order: B23112063 Report Date: 12/08/23

Analyte		Count	Result	Units	RL	%REC L	Low Limit	High Limit	RPD	RPDLimit	Qual
Method:	GPA 2261-95									Batch:	R413302
Lab ID:	B23120241-001ADUP	12 Sai	mple Duplic	ate		F	Run: GCNG	A-B_231206A		12/06/	23 04:07
Oxygen			21.4	Mol %	0.01				0	20	
Nitrogen			78.0	Mol %	0.01				0.0	20	
Carbon Di	ioxide		0.42	Mol %	0.01				0.0	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	
Isopentan	е		< 0.01	Mol %	0.01					20	
n-Pentane	)		< 0.01	Mol %	0.01					20	
Hexanes p	olus		0.11	Mol %	0.01				9.5	20	
Lab ID:	LCS120623	11 Lat	oratory Cor	ntrol Sample		F	Run: GCNG	A-B_231206A		12/06/	23 03:15
Oxygen			0.52	Mol %	0.01	104	70	130			
Nitrogen			6.39	Mol %	0.01	106	70	130			
Carbon Di	ioxide		0.99	Mol %	0.01	100	70	130			
Methane			74.6	Mol %	0.01	100	70	130			
Ethane			6.03	Mol %	0.01	100	70	130			
Propane			5.07	Mol %	0.01	103	70	130			
Isobutane			1.76	Mol %	0.01	88	70	130			
n-Butane			1.97	Mol %	0.01	98	70	130			
Isopentan	е		0.98	Mol %	0.01	98	70	130			
n-Pentane	)		0.96	Mol %	0.01	96	70	130			
Hexanes p	olus		0.74	Mol %	0.01	93	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)

Billings, MT 406.252.6325 • Casper, WY 307.235.0515 Gillette, WY 307.686.7175 • Helena, MT 406.442.0711

# **Work Order Receipt Checklist**

#### Hall Environmental

## B23112063

Login completed by:	Yvonna E. Smith		Date	Received: 11/30/2023
Reviewed by:	Icadreau		Re	ceived by: dnh
Reviewed Date:	12/5/2023		Car	rier name: FedEx
Shipping container/cooler in	good condition?	Yes ✓	No 🗌	Not Present
Custody seals intact on all sl	nipping container(s)/cooler(s)?	Yes ✓	No 🗌	Not Present
Custody seals intact on all sa	ample bottles?	Yes	No 🗌	Not Present 🗹
Chain of custody present?		Yes √	No 🗌	
Chain of custody signed whe	en 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 h (Exclude analyses that are couch as pH, DO, Res Cl, Su	onsidered field parameters	Yes 🔽	No 🗌	
Temp Blank received in all sl	hipping container(s)/cooler(s)?	Yes 🗌	No 🗹	Not Applicable
Container/Temp Blank tempe	erature:	11.6°C No Ice		
Containers requiring zero heabubble that is <6mm (1/4").	adspace have no headspace or	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

Environment Testing	CHAIN OF CUSTODY	CUSTODY RECORD PAGE 1 OF	Eurofins Environmen	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. ADDRESS 1120 South 27th Street CITY, STATE, ZIP Billings, MT 59107	Energy Laboratories	PHONE: (406) 80	(406) 869-6253 FAX (406	(406) 252-6069
ITEM SAMPLE CLIENT SAMPLE ID 1 2311D07-001B Sunray B1B Influent	BOTTLE TYPE MATRIX TEDLAR Air	COLLECTION PER PART PART PART PART PART PART PART PAR	YTICAL	COMMENTS 221/2003

Relinguished By	Date. 11/29/2023	Time. 7:22 AM	Received By.	Date.	Time.	ORT TRANSMITTAL DESIRED:	
Relinquished By	Date	Time	Received By	Date	Time	HARDCOPY (extra cost) FAX EMAIL	ONLINE
damand by	-Canc.		second by.	Aug.		FOR 1 AB 11SE ONI V	
Relinquished By:	Date:	Time.	Rechyad By WILL	Daty . Ac	Time	TOWN TOO ONLY NO.	
			June	नियं देखे	35	Temp of samples C Attempt to Cool ?	
TAT:	Standard Standard	RUSH	H Next BD 2nd BD	3rd BD	D		
*						Communication	

# **Environment Testin**

Eurofins Environment Testing South Central, LLC 4901 Hawkins NE

TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

# Sample Log-In Check List

Released to Imaging: 4/9/2024 10:05:11 AM

Albuquerque, NM 87109

Client Name: HILCORP ENERGY	Work Order Number: 23	311D07		RcptNo:	1
Received By: Tracy Casarrubias	11/29/2023 6:30:00 AM				
Completed By: Tracy Casarrubias	11/29/2023 7:19:09 AM				
Reviewed By: 7 11 11 29 / 23					
Chain of Custody					
1. Is Chain of Custody complete?	Y	es 🗌	No 🗹	Not Present 📙	
2. How was the sample delivered?	<u>C</u> :	<u>ourier</u>			
<u>Log In</u> 3. Was an attempt made to cool the samples?	Ye	es 🗌	No 🗹	NA 🗌	
4. Were all samples received at a temperature	of >0° C to 6.0°C Ye	es 🗌	No 🗌	NA 🗹	
5. Sample(s) in proper container(s)?	Ye	es 🗹	No 🗌		
Sufficient sample volume for indicated test(s)	? Ye	s 🗸	No 🗆		
7. Are samples (except VOA and ONG) properly	preserved? Ye	s 🗸	No 🗌		
8. Was preservative added to bottles?	Ye	es 🗌	No 🗹	NA 🗌	
9. Received at least 1 vial with headspace <1/4	for AQ VOA?	es 🗌	No 🗌	NA 🗹	
10. Were any sample containers received broker	n? Ye	es 🗆	No 🗹	# of preserved bottles checked	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Υe	es 🗹	No 🗌	for pH: (<2 o	r >12 unless noted)
12. Are matrices correctly identified on Chain of	•	es 🔽	No 🗌	Adjusted?	
13. Is it clear what analyses were requested?		es 🗹	No 📙		rem 11/19
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Υє	es 🗸	No 📙	Checked by	Dan Man
Special Handling (if applicable)					
15. Was client notified of all discrepancies with t	his order? Y	es 🗌	No 🗆	NA 🗹	
Person Notified:	Date:				
By Whom:	Via: 📗 e	eMail [	] Phone [] Fax	☐ In Person	
Regarding: Client Instructions: Mailing address.p	hone number and Email/Fa	x are mis	sing on COC- TM	C 11/29/23	
16. Additional remarks:					
17. Cooler Information  Cooler No Temp °C Condition Set  NA Good Yes		l Date	Signed By		

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mkillouch@hilcorp.com	Project Name:	,				, >	ww.h	allen	ironn	www.hallenvironmental.com	89. E0					
Mailing Address:	SUNTRY	, RIK	i de	4	4901 Hawkins NE	lawkir	S NE		enbno	rque,	Albuquerque, NM 87109	7109				
	Project #: /				Tel. 505-345-3975	5-34	5-397		-ax	505-34	Fax 505-345-4107	7(				
Phone #:			1					Anal	sis F	Analysis Request	st					
email or Fax#:	Project Manager:	er:Stuart	+1/2de					<sup>†</sup> OS		(4	ใาบส					
QA/QC Package:		shyde@ensolum.com	. 50				SMIS	 PO₄, 5	_				/			
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Date: Time: Relipequished by:	Received by:	Via: (twiner	Date Time 5.30								/					
samples	e subcontracted to other acc	edited Taboratories. T	his serves as notice of this	possibility	Any st	up-contr	acted da	a will b	s clearly	notated	on the	analytica	l report			

Released to Imaging: 4/9/2024 10:05:11 AM

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

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 303718

#### **CONDITIONS**

Operator:	OGRID:
HILCORP ENERGY COMPANY	372171
1111 Travis Street	Action Number:
Houston, TX 77002	303718
	Action Type:
	[UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

#### CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the Fourth Quarter 2023SVE System Update for Sunray B 1B: Content Satisfactory 1. Continue to perform O&M as scheduled and install pitot tubes as necessary. Please include field and installation notes when completed for next report to OCD. 2. Operate system as normal. 3. Submit next system update report to OCD as Hilcorp has scheduled.	4/9/2024