



January 12, 2022

New Mexico Oil Conservation Division
New Mexico Energy, Minerals, and Natural Resources Department
1000 Rio Brazos Road
Aztec, NM 87410

**Subject: Fourth Quarter 2021 - Quarterly SVE System Update
San Juan 28-6 Unit #31
Hilcorp Energy Company
API #: 30-039-07290
NMOCD Incident Number: NVF1816655680
Rio Arriba County, New Mexico**

To Whom it May Concern:

WSP USA Inc. (WSP), on behalf of Hilcorp Energy Company (Hilcorp), presents the following fourth quarter 2021 summary report discussing the soil vapor extraction (SVE) system at the San Juan 28-6 Unit #31 natural gas production well (Site, shown on Figure 1). The layout of the SVE system and piping is shown on Figure 2. This report is being submitted as part of the proposed timeline of remediation events in the *Updated Remediation Work Plan* dated October 7, 2021 and submitted to the New Mexico Oil Conservation Division (NMOCD). The report documents air sampling and system operations to monitor SVE remediation progress.

A rental SVE system (constructed by Process Technology Support, LLC) was installed at the Site and operated between September 28, 2021 and November 9, 2021. On November 9, 2021, a replacement Ametek Rotron model EN656M5XL regenerative blower was installed in the permanent Geotech SVE skid located at the Site. Minimal system downtime was necessary to reconnect the electrical system to the Geotech SVE skid and start the system to test operating conditions.

FOURTH QUARTER 2021 ACTIVITIES

Between September 28, 2021 (SVE system startup) and November 5, 2021, all SVE wells at the Site were open and operating in order to establish baseline measurements for vacuum, flow, and other operating conditions (i.e., photoionization detector [PID] readings, generator conditions, etc.). Initial (September 28, 2021) and one-month (October 21, 2021) stack air samples were collected to assess analytical results and contaminant mass removal while all SVE wells were in operation. With all SVE wells open, the system was able to achieve approximately 55 cubic feet per minute (cfm) of flow at a vacuum of 35 inches of water column (IWC).

In order to achieve the required flow in all impacted areas (as presented in the *Updated Remediation Work Plan* dated October 7, 2021), SVE wells SVE-2RD, 3, 5, 11D, and 13D were isolated in order to target the deeper impacts present on the east side of the Site. All other wells were shut off and the bypass valve on the SVE manifold was adjusted so that the blower remained within the vacuum-operating capacity. With these wells isolated, the system was able to achieve approximately 10 cfm of flow at a vacuum of 50 IWC. Samples were collected on November 5 and December 16, 2021 to assess analytical results and contaminant mass removal while SVE wells SVE-2RD, 3, 5, 11D, and 13D were in operation.

All air samples were collected from the influent side of the blower, via high vacuum air sampler, and directly into 1-Liter Tedlar® bags. Samples were submitted to Hall Environmental Analysis Laboratory (Hall) for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8015 and total volatile petroleum hydrocarbons (TVPH) by EPA Method 8015. The initial and last samples collected (September 28, 2021 during third quarter and December 16, 2021 during fourth quarter) were additionally analyzed for volatile organic compounds (VOCs) by EPA Method 8260 and fixed gas analysis of oxygen and carbon dioxide.

WSP USA
848 EAST 2ND AVENUE
DURANGO CO 81301

Tel.: 970-385-1096
wsp.com



Prior to collection of samples during each event, the air from the influent side was field screened with a PID for organic vapor monitoring (OVM). Table 1 presents a summary of analytical data collected during the pilot test, with the full analytical laboratory report included in Enclosure A.

The air-sample data collected to date and measured flow rates were utilized to calculate total emissions and contaminants mass removal for the system up to December 16, 2021 (Table 2). As of December 2021, the total operational time of the system was 1,876 hours with an estimated mass source removal via the SVE system of 6,131 pounds of TVPH. The operational runtime for the fourth quarter 2021 was 99%. Based on Site visit observations and runtime calculations, the system was operating as anticipated during the fourth quarter of 2021.

RECOMMENDATIONS

On December 16, operating wells were again changed to target shallow impacts present on the east side of the Site. Wells SVE-1, 2RS, 4, 11S, 13S, and 14S were isolated and all other wells were turned off. The bypass valve on the SVE manifold was again adjusted and the system is currently operating at 30 cfm at a vacuum of 50 IWC. Updated analytical data, emissions calculations, and contaminant mass removal volumes for the east side shallow soil impacts will be updated in the first quarter 2022 report. Additionally, WSP and Hilcorp will continue cycling the operating SVE wells during the first quarter 2022 in order to establish an optimum operating schedule for the SVE system. The next quarterly report will detail system optimization efforts and re-testing of radius of influence and radius of effect with the current system in operation.

Regular operation and maintenance (O&M) visits will continue to be conducted bi-weekly by WSP and/or Hilcorp personnel. During O&M visits, personnel will ensure that the SVE system is operating within normal working temperature, pressure, and vacuum ranges. Any deviations from regular operations will be noted and included in the subsequent quarterly report.

WSP appreciates the opportunity to provide this report to the NMOCD. If you have any questions or comments regarding this report, do not hesitate to contact me at (970) 385-1096 or via email at stuart.hyde@wsp.com or Billy Ginn at (346) 237-2073 or at William.ginn@hilcorp.com.

Kind regards,

A handwritten signature in black ink, appearing to read 'Stuart Hyde'.

Stuart Hyde, L.G.
Senior Geologist

A handwritten signature in black ink, appearing to read 'Ashley L. Ager'.

Ashley Ager, M.S., P.G.
Regional Vice President, Geologist

Enclosures:

Figure 1 – Site Location Map

Figure 2 – SVE System Layout

Table 1 – Soil Vapor Extraction System Analytical Results

Table 2 – Soil Vapor Extraction System Recovery & Emissions Summary

Enclosure A – Analytical Laboratory Reports

FIGURES

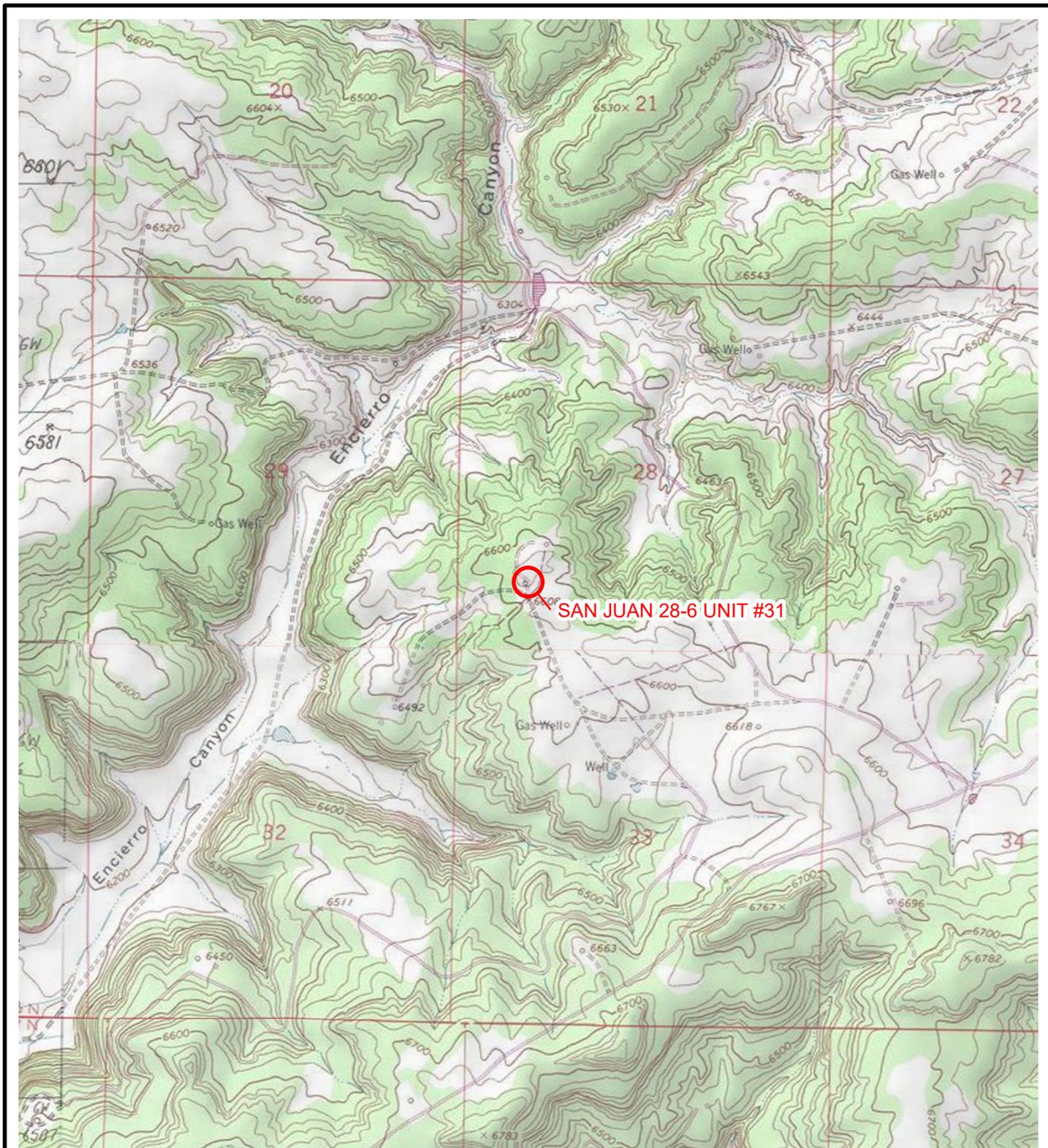


IMAGE COURTESY OF ESRI/USGS

LEGEND

 SITE LOCATION

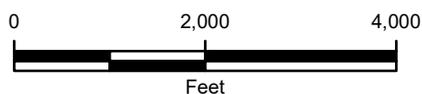


FIGURE 1
SITE LOCATION MAP
SAN JUAN 28-6 UNIT #31
SWSW SEC 28-T28N-R6W
RIO ARRIBA COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY



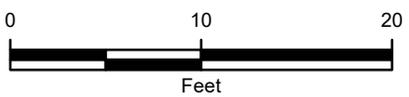
C:\Users\USJG689584\OneDrive - WSP\0365\Documents\TE017821011_SAN JUAN 28-6 UNIT #31\MXD\017821011_FIG01_SJ 28-6_31_SL_2021.mxd



IMAGE COURTESY OF ANIMAS ENVIRONMENTAL SERVICES

LEGEND

-  SVE WELL
-  GENERATOR AND SVE BLOWER LOCATION



SVE: SOIL VAPOR EXTRACTION

FIGURE 2
SVE SYSTEM LAYOUT
 SAN JUAN 28-6 UNIT #31
 SWSW SEC 28-T28N-R6W
 RIO ARriba COUNTY, NEW MEXICO
 HILCORP ENERGY COMPANY



C:\Users\USTJ689650\OneDrive - WSP\0365\HILCORP\TE017821011_SAN JUAN 28-6 UNIT_#31\MXD\017821011_FIG04_SJ 28-6_31_SVE_SYSTEM_2021_LS.mxd

TABLES

TABLE 1
SOIL VAPOR EXTRACTION SYSTEM ANALYTICAL RESULTS

SAN JUAN 28-6 UNIT #31
RIO ARRIBA COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Date	Sample ID	Operating SVE Wells	PID (ppm)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TVPH (µg/L)	Oxygen (%)	Carbon Dioxide (%)
9/20/2021	Pilot Test	All Wells	1,287	720	1,600	15	320	250,000	17.870%	2.054%
9/28/2021	Influent A+B	All Wells	736	240	720	27	350	53,000	NA	NA
10/21/2021	Influent A+B	All Wells	615	60	170	6.7	74	13,000	NA	NA
11/5/2021	Leg A Deep	2RD, 3, 5, 11D, 13D	1,177	620	1,700	29	390	72,000	NA	NA
12/16/2021	Leg A Deep	2RD, 3, 5, 11D, 13D	1,398	470	950	11	190	96,000	21.004%	0.834%

Notes:

% - percent

µg/L - micrograms per Liter

NA - not analyzed

PID - photoionization detector

ppm - parts per million

TVPH - total volatile petroleum hydrocarbons

**TABLE 2
SOIL VAPOR EXTRACTION SYSTEM RECOVERY & EMISSIONS SUMMARY**

**SAN JUAN 28-6 UNIT #31
RIO ARRIBA COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY**

Sample Information and Lab Analysis

Date	Total Flow (cf)	Delta Flow (cf)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	TVPH (µg/L)	PID (ppm)
9/28/2021	17,280	17,280	240	720	27	350	53,000	736
10/21/2021	1,648,680	1,631,400	60	170	7	74	13,000	615
11/5/2021	1,864,392	215,712	620	1,700	29	390	72,000	1,177
12/16/2021	2,496,696	632,304	470	950	11	190	96,000	1,398
Average			348	885	18	251	58,500	982

Vapor Extraction Calculations

Date	Flow Rate (cfm)	Benzene (lb/hr)	Toluene (lb/hr)	Ethylbenzene (lb/hr)	Xylenes (lb/hr)	TVPH (lb/hr)
9/28/2021	60	0.1	0.2	0.01	0.1	11.9
10/21/2021	50	0.01	0.03	0.001	0.01	2.4
11/5/2021	8	0.02	0.05	0.001	0.01	2.2
12/16/2021	12	0.02	0.04	0.0005	0.01	4.3
Average		33	0.03	0.1	0.002	5.2

Pounds Extracted Over Operating Time

Date	Total Operational Hours	Delta Hours	Benzene (lbs)	Toluene (lbs)	Ethylbenzene (lbs)	Xylenes (lbs)	TVPH (lbs)	TVPH (tons)
9/28/2021	5	5	0.3	0.8	0.0	0.4	57	0.03
10/21/2021	549	544	6.1	17.3	0.7	7.5	1,322	0.7
11/9/2021 (1)	998	449	8.3	22.9	0.4	5.2	968	0.5
12/16/2021	1,876	878	18.5	37.4	0.4	7.5	3,784	1.9
Total Extracted to Date			33	78	2	21	6,131	3.1

- Notes:**
- (1) - total operational hours collected during site visit on 11/9/2021
 - cf - cubic feet
 - cfm - cubic feet per minute
 - µg/l - micrograms per liter
 - lbs - pounds
 - lb/hr - pounds per hour
 - PID - photo-ionization detector
 - ppm - part per million
 - TVPH - total volatile petroleum hydrocarbons

ENCLOSURE A – ANALYTICAL LABORATORY REPORTS



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

November 02, 2021

Billy Ginn
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX

RE: San Juan 28 6 31

OrderNo.: 2110B33

Dear Billy Ginn:

Hall Environmental Analysis Laboratory received 1 sample(s) on 10/23/2021 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written in a cursive style.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2110B33

Date Reported: 11/2/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: Influent A+B

Project: San Juan 28 6 31

Collection Date: 10/21/2021 1:30:00 PM

Lab ID: 2110B33-001

Matrix: AIR

Received Date: 10/23/2021 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015D: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	13000	500		µg/L	100	10/28/2021 10:03:48 AM
Surr: BFB	120	37.3-213		%Rec	100	10/28/2021 10:03:48 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Benzene	60	10		µg/L	100	10/28/2021 10:03:48 AM
Toluene	170	10		µg/L	100	10/28/2021 10:03:48 AM
Ethylbenzene	6.7	5.0		µg/L	100	10/28/2021 10:03:48 AM
Xylenes, Total	74	20		µg/L	100	10/28/2021 10:03:48 AM
Surr: 4-Bromofluorobenzene	85.1	70-130		%Rec	100	10/28/2021 10:03:48 AM

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Value above quantitation range
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix	



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

Sample Log-In Check List

Client Name: HILCORP ENERGY

Work Order Number: 2110B33

RcptNo: 1

Received By: Sean Livingston 10/23/2021 9:15:00 AM

Completed By: Desiree Dominguez 10/25/2021 9:04:52 AM

Reviewed By: KPG 10/25/21

Handwritten signatures: Sean Livingston, DD

Chain of Custody

- 1. Is Chain of Custody complete? Yes [checked] No [] Not Present []
2. How was the sample delivered? Courier

Log In

- 3. Was an attempt made to cool the samples? Yes [checked] No [] NA []
4. Were all samples received at a temperature of >0° C to 6.0° C Yes [checked] No [] NA []
5. Sample(s) in proper container(s)? Yes [checked] No []
6. Sufficient sample volume for indicated test(s)? Yes [checked] No []
7. Are samples (except VOA and ONG) properly preserved? Yes [checked] No []
8. Was preservative added to bottles? Yes [] No [checked] NA []
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes [] No [] NA [checked]
10. Were any sample containers received broken? Yes [] No [checked]
11. Does paperwork match bottle labels? Yes [checked] No []
12. Are matrices correctly identified on Chain of Custody? Yes [checked] No []
13. Is it clear what analyses were requested? Yes [checked] No []
14. Were all holding times able to be met? Yes [checked] No []

of preserved bottles checked for pH: (<2 or >12 unless noted)
Adjusted?
Checked by: TMC 10/25/21

Special Handling (if applicable)

- 15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

Person Notified: _____ Date: _____
By Whom: _____ Via: [] eMail [] Phone [] Fax [] In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Row 1: 1, NA, Good, [], [], [], []



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

November 17, 2021

Billy Ginn
HILCORP ENERGY
PO Box 4700
Farmington, NM 87499
TEL: (505) 564-0733
FAX:

RE: San Juan 28-6 31

OrderNo.: 2111379

Dear Billy Ginn:

Hall Environmental Analysis Laboratory received 1 sample(s) on 11/6/2021 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read 'Andy Freeman', is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order 2111379

Date Reported: 11/17/2021

Hall Environmental Analysis Laboratory, Inc.

CLIENT: HILCORP ENERGY

Client Sample ID: Leg A Deep

Project: San Juan 28-6 31

Collection Date: 11/5/2021 1:45:00 PM

Lab ID: 2111379-001

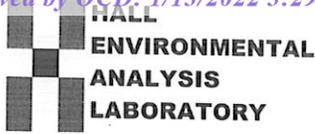
Matrix: AIR

Received Date: 11/6/2021 8:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	72000	500		µg/L	100	11/9/2021 1:18:39 PM	A82709
Surr: BFB	179	37.3-213		%Rec	100	11/9/2021 1:18:39 PM	A82709
EPA METHOD 8021B: VOLATILES							Analyst: NSB
Benzene	620	10		µg/L	100	11/9/2021 1:18:39 PM	B82709
Toluene	1700	10	E	µg/L	100	11/9/2021 1:18:39 PM	B82709
Ethylbenzene	29	5.0		µg/L	50	11/9/2021 10:26:42 AM	B82709
Xylenes, Total	390	10		µg/L	50	11/9/2021 10:26:42 AM	B82709
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	50	11/9/2021 10:26:42 AM	B82709

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Limit
	S	% Recovery outside of range due to dilution or matrix interference		



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

Sample Log-In Check List

Client Name: **Hilcorp Energy** Work Order Number: **2111379** RcptNo: **1**

Received By: **Isaiah Ortiz** 11/6/2021 8:40:00 AM

Completed By: **Cheyenne Cason** 11/8/2021 8:52:57 AM

Reviewed By: **KPA 11/08/21**

I-Ox
Chad

Chain of Custody

- 1. Is Chain of Custody complete? Yes No Not Present
- 2. How was the sample delivered? Courier

Log In

- 3. Was an attempt made to cool the samples? Yes No NA
- 4. Were all samples received at a temperature of >0° C to 6.0°C Yes No NA
- 5. Sample(s) in proper container(s)? Yes No
- 6. Sufficient sample volume for indicated test(s)? Yes No
- 7. Are samples (except VOA and ONG) properly preserved? Yes No
- 8. Was preservative added to bottles? Yes No NA
- 9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes No NA
- 10. Were any sample containers received broken? Yes No
- 11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes No
- 12. Are matrices correctly identified on Chain of Custody? Yes No
- 13. Is it clear what analyses were requested? Yes No
- 14. Were all holding times able to be met? (If no, notify customer for authorization.) Yes No

of preserved bottles checked for pH: _____
(<2 or >12 unless noted)
Adjusted? _____
Checked by: *ja 11/8/21*

Special Handling (if applicable)

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

Person Notified:	_____	Date:	_____
By Whom:	_____	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	_____		
Client Instructions:	_____		

16. Additional remarks:

17. Cooler Information

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



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

Danny Burns
Hilcorp Energy
PO Box 61529
Houston, TX 77208-1529
TEL: (337) 276-7676
FAX

RE: San Juan 28 6 31

OrderNo.: 2112B19

Dear Danny Burns:

Hall Environmental Analysis Laboratory received 2 sample(s) on 12/17/2021 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", is written over a white background.

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report

Lab Order **2112B19**

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy

Client Sample ID: Influent- Leg A Deep

Project: San Juan 28 6 31

Collection Date: 12/16/2021 12:55:00 PM

Lab ID: 2112B19-001

Matrix: AIR

Received Date: 12/17/2021 7:31:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015D: GASOLINE RANGE							Analyst: NSB
Gasoline Range Organics (GRO)	96000	500	E	µg/L	100	12/20/2021 12:41:09 PM	B84667
Surr: BFB	216	37.3-213	S	%Rec	100	12/20/2021 12:41:09 PM	B84667
EPA METHOD 8260B: VOLATILES							Analyst: CCM
Benzene	470	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Toluene	950	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Ethylbenzene	11	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Methyl tert-butyl ether (MTBE)	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,2,4-Trimethylbenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,3,5-Trimethylbenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,2-Dichloroethane (EDC)	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,2-Dibromoethane (EDB)	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Naphthalene	ND	20		µg/L	100	12/17/2021 5:09:00 PM	R84633
1-Methylnaphthalene	ND	40		µg/L	100	12/17/2021 5:09:00 PM	R84633
2-Methylnaphthalene	ND	40		µg/L	100	12/17/2021 5:09:00 PM	R84633
Acetone	ND	100		µg/L	100	12/17/2021 5:09:00 PM	R84633
Bromobenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Bromodichloromethane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Bromoform	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Bromomethane	ND	20		µg/L	100	12/17/2021 5:09:00 PM	R84633
2-Butanone	ND	100		µg/L	100	12/17/2021 5:09:00 PM	R84633
Carbon disulfide	ND	100		µg/L	100	12/17/2021 5:09:00 PM	R84633
Carbon tetrachloride	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Chlorobenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Chloroethane	ND	20		µg/L	100	12/17/2021 5:09:00 PM	R84633
Chloroform	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Chloromethane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
2-Chlorotoluene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
4-Chlorotoluene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
cis-1,2-DCE	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
cis-1,3-Dichloropropene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,2-Dibromo-3-chloropropane	ND	20		µg/L	100	12/17/2021 5:09:00 PM	R84633
Dibromochloromethane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Dibromomethane	ND	20		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,2-Dichlorobenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,3-Dichlorobenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,4-Dichlorobenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Dichlorodifluoromethane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,1-Dichloroethane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,1-Dichloroethene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633

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

Qualifiers:	* Value exceeds Maximum Contaminant Level.	B Analyte detected in the associated Method Blank
	D Sample Diluted Due to Matrix	E Estimated value
	H Holding times for preparation or analysis exceeded	J Analyte detected below quantitation limits
	ND Not Detected at the Reporting Limit	P Sample pH Not In Range
	PQL Practical Quantitative Limit	RL Reporting Limit
	S % Recovery outside of range due to dilution or matrix interference	

Analytical Report

Lab Order 2112B19

Date Reported:

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy

Client Sample ID: Influent- Leg A Deep

Project: San Juan 28 6 31

Collection Date: 12/16/2021 12:55:00 PM

Lab ID: 2112B19-001

Matrix: AIR

Received Date: 12/17/2021 7:31:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES							Analyst: CCM
1,2-Dichloropropane	43	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,3-Dichloropropane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
2,2-Dichloropropane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,1-Dichloropropene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Hexachlorobutadiene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
2-Hexanone	ND	100		µg/L	100	12/17/2021 5:09:00 PM	R84633
Isopropylbenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
4-Isopropyltoluene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
4-Methyl-2-pentanone	ND	100		µg/L	100	12/17/2021 5:09:00 PM	R84633
Methylene chloride	ND	30		µg/L	100	12/17/2021 5:09:00 PM	R84633
n-Butylbenzene	ND	30		µg/L	100	12/17/2021 5:09:00 PM	R84633
n-Propylbenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
sec-Butylbenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Styrene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
tert-Butylbenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,1,1,2-Tetrachloroethane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,1,2,2-Tetrachloroethane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Tetrachloroethene (PCE)	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
trans-1,2-DCE	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
trans-1,3-Dichloropropene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,2,3-Trichlorobenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,2,4-Trichlorobenzene	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,1,1-Trichloroethane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,1,2-Trichloroethane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Trichloroethene (TCE)	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Trichlorofluoromethane	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
1,2,3-Trichloropropane	ND	20		µg/L	100	12/17/2021 5:09:00 PM	R84633
Vinyl chloride	ND	10		µg/L	100	12/17/2021 5:09:00 PM	R84633
Xylenes, Total	190	15		µg/L	100	12/17/2021 5:09:00 PM	R84633
Surr: Dibromofluoromethane	100	70-130		%Rec	100	12/17/2021 5:09:00 PM	R84633
Surr: 1,2-Dichloroethane-d4	88.6	70-130		%Rec	100	12/17/2021 5:09:00 PM	R84633
Surr: Toluene-d8	106	70-130		%Rec	100	12/17/2021 5:09:00 PM	R84633
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	100	12/17/2021 5:09:00 PM	R84633

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

Qualifiers:			
*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Estimated value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quantitative Limit	RL	Reporting Limit
S	% Recovery outside of range due to dilution or matrix interference		



ANALYTICAL SUMMARY REPORT

December 29, 2021

Hall Environmental

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

Work Order: G21120389

Project Name: Not Indicated

Energy Laboratories Inc. Gillette WY received the following 2 samples for Hall Environmental on 12/22/2021 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G21120389-001	2112B19-001B; Influent- Leg A Deep	12/16/21 12:55	12/22/21	Gas	Natural Gas Analysis - BTU Natural Gas Analysis - Compressibility Factor Natural Gas Analysis - GPM Natural Gas Analysis - Molecular Weight Natural Gas Analysis - Routine Natural Gas Analysis - Pressure Base Natural Gas Analysis - Psuedo- Critical Pressure Natural Gas Analysis - Psuedo- Critical Temperature Natural Gas Analysis - Specific Gravity Natural Gas Analysis - Temperature Base
G21120389-002	2112B19-002B; Influent- Leg A Shallow	12/16/21 14:00	12/22/21	Gas	Same As Above

The analyses presented in this report were performed by Energy Laboratories, Inc., 400 W. Boxelder Rd., Gillette, WY 82718, 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 tests results, please contact your Project Manager.

Report Approved By:



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Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

Client: Hall Environmental
Project: Not Indicated
Client Sample ID: 2112B19-001B; Influent-Leg A Deep
Location:
Lab ID: G21120389-001

Report Date: 12/29/21
Collection Date: 12/16/21 12:55
Date Received: 12/22/21
Sampled By: Not Provided

Analyses	Result	Units	Qualifier	Method	Analysis Date / By
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NATURAL GAS CHROMATOGRAPHIC ANALYSIS REPORT

Oxygen	21.004	Mol %		GPA 2261	12/28/21 09:24 / djb
Nitrogen	77.427	Mol %		GPA 2261	12/28/21 09:24 / djb
Carbon Dioxide	0.834	Mol %		GPA 2261	12/28/21 09:24 / djb
Hydrogen Sulfide	< 0.001	Mol %		GPA 2261	12/28/21 09:24 / djb
Methane	< 0.001	Mol %		GPA 2261	12/28/21 09:24 / djb
Ethane	< 0.001	Mol %		GPA 2261	12/28/21 09:24 / djb
Propane	< 0.001	Mol %		GPA 2261	12/28/21 09:24 / djb
Isobutane	0.001	Mol %		GPA 2261	12/28/21 09:24 / djb
n-Butane	0.004	Mol %		GPA 2261	12/28/21 09:24 / djb
Isopentane	0.028	Mol %		GPA 2261	12/28/21 09:24 / djb
n-Pentane	0.035	Mol %		GPA 2261	12/28/21 09:24 / djb
Hexanes plus	0.667	Mol %		GPA 2261	12/28/21 09:24 / djb

GPM @ STD COND/1000 CU.FT., MOISTURE FREE GAS

GPM Ethane	< 0.0003	gal/MCF		GPA 2261	12/28/21 09:24 / djb
GPM Propane	< 0.0003	gal/MCF		GPA 2261	12/28/21 09:24 / djb
GPM Isobutane	< 0.0003	gal/MCF		GPA 2261	12/28/21 09:24 / djb
GPM n-Butane	0.0010	gal/MCF		GPA 2261	12/28/21 09:24 / djb
GPM Isopentane	0.0100	gal/MCF		GPA 2261	12/28/21 09:24 / djb
GPM n-Pentane	0.0130	gal/MCF		GPA 2261	12/28/21 09:24 / djb
GPM Hexanes plus	0.2900	gal/MCF		GPA 2261	12/28/21 09:24 / djb
GPM Pentanes plus	0.3130	gal/MCF		GPA 2261	12/28/21 09:24 / djb
GPM Total	0.3150	gal/MCF		GPA 2261	12/28/21 09:24 / djb

CALCULATED PROPERTIES

Calculation Pressure Base	14.730	psia		GPA 2261	12/28/21 09:24 / djb
Calculation Temperature Base	60	°F		GPA 2261	12/28/21 09:24 / djb
Compressibility Factor, Z	1.0000	unitless		GPA 2261	12/28/21 09:24 / djb
Molecular Weight	29.44	unitless		GPA 2261	12/28/21 09:24 / djb
Pseudo-critical Pressure, psia	548	psia		GPA 2261	12/28/21 09:24 / djb
Pseudo-critical Temperature, deg R	246	deg R		GPA 2261	12/28/21 09:24 / djb
Specific Gravity (air=1.000)	1.020	unitless		GPA 2261	12/28/21 09:24 / djb
Gross BTU per cu ft @ std cond, dry	36.99	BTU/cu ft		GPA 2261	12/28/21 09:24 / djb
Gross BTU per cu ft @ std cond, wet	36.35	BTU/cu ft		GPA 2261	12/28/21 09:24 / djb

Report RL - Analyte Reporting Limit
Definitions: QCL - Quality Control Limit

MCL - Maximum Contaminant Level
ND - Not detected at the Reporting Limit (RL)



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QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Hall Environmental

Work Order: G21120389

Report Date: 12/29/21

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
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Method: GPA 2261 Analytical Run: R268728

Lab ID: ICV-2112280838 Initial Calibration Verification Standard 12/28/21 08:38

Oxygen	0.384	Mol %	0.001	96	75	110			
Nitrogen	5.086	Mol %	0.001	101	90	110			
Carbon Dioxide	4.909	Mol %	0.001	99	90	110			
Hydrogen Sulfide	0.129	Mol %	0.001	130	100	136			
Methane	73.239	Mol %	0.001	100	90	110			
Ethane	5.008	Mol %	0.001	101	90	110			
Propane	5.010	Mol %	0.001	100	90	110			
Isobutane	1.985	Mol %	0.001	99	90	110			
n-Butane	1.966	Mol %	0.001	98	90	110			
Isopentane	0.984	Mol %	0.001	98	90	110			
n-Pentane	0.995	Mol %	0.001	99	90	110			
Hexanes plus	0.305	Mol %	0.001	101	90	110			

Lab ID: CCV-2112280845 Continuing Calibration Verification Standard 12/28/21 08:45

Oxygen	0.587	Mol %	0.001	98	90	110			
Nitrogen	1.244	Mol %	0.001	89	85	110			
Carbon Dioxide	0.955	Mol %	0.001	96	90	110			
Hydrogen Sulfide	0.026	Mol %	0.001	104	70	130			
Methane	93.618	Mol %	0.001	100	90	110			
Ethane	1.015	Mol %	0.001	101	90	110			
Propane	1.012	Mol %	0.001	101	90	110			
Isobutane	0.495	Mol %	0.001	99	90	110			
n-Butane	0.494	Mol %	0.001	99	90	110			
Isopentane	0.200	Mol %	0.001	100	90	110			
n-Pentane	0.200	Mol %	0.001	100	90	110			
Hexanes plus	0.154	Mol %	0.001	103	90	110			

Lab ID: CCV-2112280953 Continuing Calibration Verification Standard 12/28/21 09:54

Oxygen	0.608	Mol %	0.001	101	90	110			
Nitrogen	1.309	Mol %	0.001	94	85	110			
Carbon Dioxide	0.954	Mol %	0.001	95	90	110			
Hydrogen Sulfide	0.026	Mol %	0.001	104	70	130			
Methane	93.540	Mol %	0.001	100	90	110			
Ethane	1.012	Mol %	0.001	101	90	110			
Propane	1.010	Mol %	0.001	101	90	110			
Isobutane	0.494	Mol %	0.001	99	90	110			
n-Butane	0.494	Mol %	0.001	99	90	110			
Isopentane	0.199	Mol %	0.001	99	90	110			
n-Pentane	0.200	Mol %	0.001	100	90	110			
Hexanes plus	0.154	Mol %	0.001	103	90	110			

Method: GPA 2261 Batch: R268728

Lab ID: G21120389-001ADUP	Sample Duplicate			Run: Varian GC_211228A	12/28/21 09:28
Oxygen	21.003	Mol %	0.001	0.0	10

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



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QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Hall Environmental

Work Order: G21120389

Report Date: 12/29/21

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: GPA 2261							Batch: R268728		
Lab ID: G21120389-001ADUP	Sample Duplicate			Run: Varian GC_211228A			12/28/21 09:28		
Nitrogen	77.419	Mol %	0.001				0.0	10	
Carbon Dioxide	0.835	Mol %	0.001				0.1	10	
Hydrogen Sulfide	< 0.001	Mol %	0.001					10	
Methane	< 0.001	Mol %	0.001					10	
Ethane	< 0.001	Mol %	0.001					10	
Propane	< 0.001	Mol %	0.001					10	
Isobutane	0.001	Mol %	0.001				0.0	10	
n-Butane	0.004	Mol %	0.001				0.0	10	
Isopentane	0.028	Mol %	0.001				0.0	10	
n-Pentane	0.035	Mol %	0.001				0.0	10	
Hexanes plus	0.675	Mol %	0.001				1.2	10	
Lab ID: G21120389-002ADUP							Run: Varian GC_211228A		
Sample Duplicate							12/28/21 09:45		
Oxygen	21.998	Mol %	0.001				0.0	10	
Nitrogen	77.876	Mol %	0.001				0.0	10	
Carbon Dioxide	0.116	Mol %	0.001				0.0	10	
Hydrogen Sulfide	< 0.001	Mol %	0.001					10	
Methane	< 0.001	Mol %	0.001					10	
Ethane	< 0.001	Mol %	0.001					10	
Propane	< 0.001	Mol %	0.001					10	
Isobutane	< 0.001	Mol %	0.001					10	
n-Butane	< 0.001	Mol %	0.001					10	
Isopentane	0.001	Mol %	0.001				0.0	10	
n-Pentane	0.001	Mol %	0.001				0.0	10	
Hexanes plus	0.008	Mol %	0.001				0.0	10	

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



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Work Order Receipt Checklist

Hall Environmental

G21120389

Login completed by: Jill S. Jeffress

Date Received: 12/22/2021

Reviewed by: Misty Stephens

Received by: csj

Reviewed Date: 12/27/2021

Carrier name: FedEx

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

Standard Reporting Procedures:

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

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

Radiochemical precision results represent a 2-sigma Total Measurement Uncertainty.

Contact and Corrective Action Comments:

None



CHAIN OF CUSTODY RECORD PAGE: 1 OF 1

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

Table with columns: SUB CONTRACTOR, ADDRESS, CITY, STATE, ZIP, PHONE, ACCOUNT #, EMAIL, ITEM, SAMPLE, CLIENT SAMPLE ID, BOTTLE TYPE, MATRIX, COLLECTION DATE, # CONTAINERS, ANALYTICAL COMMENTS. Contains two rows of sample data.

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.

Form with fields for Relinquished By, Date, Time, Received By, Date, Time, REPORT TRANSMITTAL DESIRED (HARDCOPY, FAX, EMAIL, ONLINE), FOR LAB USE ONLY (Temp of samples, Attempt to Cool?, Comments), and TAT (Standard, RUSH, Next BD, 2nd BD, 3rd BD).



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

Sample Log-In Check List

Client Name: Hilcorp Energy Work Order Number: 2112B19 RcptNo: 1

Received By: Tracy Casarrubias 12/17/2021 7:31:00 AM

Completed By: Tracy Casarrubias 12/17/2021 9:49:04 AM

Reviewed By: KPG 12/17/21

Chain of Custody

- 1. Is Chain of Custody complete? Yes [checked] No [] Not Present []
2. How was the sample delivered? Courier

Log In

- 3. Was an attempt made to cool the samples? Yes [checked] No [] NA []
4. Were all samples received at a temperature of >0° C to 6.0°C Yes [] No [checked] NA []
5. Sample(s) in proper container(s)? Yes [checked] No []
6. Sufficient sample volume for indicated test(s)? Yes [checked] No []
7. Are samples (except VOA and ONG) properly preserved? Yes [checked] No []
8. Was preservative added to bottles? Yes [] No [checked] NA []
9. Received at least 1 vial with headspace <1/4" for AQ VOA? Yes [] No [] NA [checked]
10. Were any sample containers received broken? Yes [] No [checked]
11. Does paperwork match bottle labels? Yes [checked] No []
12. Are matrices correctly identified on Chain of Custody? Yes [checked] No []
13. Is it clear what analyses were requested? Yes [checked] No []
14. Were all holding times able to be met? Yes [checked] No []

of preserved bottles checked for pH: (<2 or >12 unless noted) Adjusted? Checked by: JN 12/17/21

Special Handling (if applicable)

- 15. Was client notified of all discrepancies with this order? Yes [] No [] NA [checked]

Person Notified: _____ Date: _____
By Whom: _____ Via: [] eMail [] Phone [] Fax [] In Person
Regarding: _____
Client Instructions: _____

16. Additional remarks:

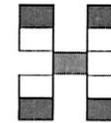
17. Cooler Information

Table with 7 columns: Cooler No, Temp °C, Condition, Seal Intact, Seal No, Seal Date, Signed By. Row 1: 1, N/A, Good, Yes, , ,

Chain-of-Custody Record

Client: Hilcorp Energy Co.
 Attn: Billy Ginn
 Mailing Address: _____
 Phone #: _____
 email or Fax#: _____
 QA/QC Package:
 Standard Level 4 (Full Validation)
 Accreditation: Az Compliance
 NELAC Other _____
 EDD (Type) _____

Turn-Around Time:
 Standard Rush
 Project Name:
San Juan 28-6 #31
 Project #:
 Project Manager:
D. Burns
S. Hyde
 Sampler: D.B.
 On Ice: Yes No
 # of Coolers: 1
 Cooler Temp (including CF): N/A (°C)



HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO/DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Fixed Gas O ₂ , CO ₂
12-16	1255	Air	Influent-Leg A Deep	2-Tedlar	None	001		<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>
12-16	1400	Air	Influent-Leg A Shallow	2-Tedlar	None	002		<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>

Date: 12-16-21 Time: 15:30 Relinquished by: [Signature]
 Date: 12/16/21 Time: 1743 Relinquished by: [Signature]

Received by: [Signature] Via: WAZ Date: 12/16/21 Time: 1530
 Received by: [Signature] Via: COARR Date: 12/17/21 Time: 7:31

Remarks:
 cci. danny.burns@wsp.com
 stuart.hyde@wsp.com
 devin.henemann@wsp.com
 eric.carroll@wsp.com

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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

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

CONDITIONS

Action 72300

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 72300
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Accepted for the record. See App ID 125935 for most updated status.	9/23/2022