



Well Name: FEE 8A; BHD
 API #: 3004524693
 Source: BRADENHEAD
 Sample Type: GAS

Analysis No: HS20230130
 Cust No: 35825-12915

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: FEE 8A; BHD
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: 3004524693
 94586

Source: BRADENHEAD
 Well Flowing: N
 Pressure: 77 PSIG
 Flow Temp: DEG. F
 Ambient Temp: 91 DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/29/2023
 Sample Time: 7.35 AM
 Sampled By: DAKOTA RHOADES
 Sampled by (CO): HILCORP

Heat Trace: AREA 3 / RUN 307

Remarks: PRESSURED WITH HELIUM TO 30 LBS.

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	6.4932	5.4487	0.7160	0.00	0.0628
CO2	0.0188	0.0158	0.0030	0.00	0.0003
Methane	86.2391	72.3666	14.6520	871.01	0.4777
Ethane	4.0367	3.3874	1.0820	71.44	0.0419
Propane	1.7017	1.4280	0.4700	42.82	0.0259
Iso-Butane	0.4203	0.3527	0.1380	13.67	0.0084
N-Butane	0.4501	0.3777	0.1420	14.68	0.0090
I-Pentane	0.1724	0.1447	0.0630	6.90	0.0043
N-Pentane	0.1015	0.0852	0.0370	4.07	0.0025
Hexane Plus	0.3662	0.3073	0.1640	19.30	0.0121
Total	100.0000	83.9141	17.4670	1043.89	0.6450

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0024
 BTU/CU.FT IDEAL: 1046.3
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1048.8
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1030.6
 DRY BTU @ 15.025: 1069.8
 REAL SPECIFIC GRAVITY: 0.6463

CYLINDER #: 6094
 CYLINDER PRESSURE: 19 PSIG
 ANALYSIS DATE: 07/13/2023
 ANALYSIS TIME: 11:11:41 AM
 ANALYSIS RUN BY: ACEDA GOODOH

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500 Last Cal/Verify: 07/19/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	FEE 8A; BHD	BRADENHEAD	07/19/2023
Stn. No.:	3004524693		35825-12915
Mtr. No.:	94586		

Smpl Date:	06/29/2023	11/23/2022	11/24/2021	09/27/2021	08/19/2020
Test Date:	07/13/2023	11/28/2022	12/01/2021	09/28/2021	08/21/2020
Run No:	HS20230130	HS20220168	HS2021259	HS2021247	HS200204
Nitrogen:	6.4932	8.3862	1.0375	0.8479	0.6712
CO2:	0.0188	0.0100	0.0129	0.0069	0.0035
Methane:	86.2391	84.5700	89.9625	90.0884	89.5846
Ethane:	4.0367	4.0977	5.1989	5.1167	5.2191
Propane:	1.7017	1.7874	2.4945	2.4879	2.6391
I-Butane:	0.4203	0.3887	0.4987	0.5078	0.5930
N-Butane:	0.4501	0.3957	0.4785	0.4963	0.6070
I-Pentane:	0.1724	0.1432	0.1399	0.1653	0.2351
N-Pentane:	0.1015	0.0789	0.0748	0.0941	0.1410
Hexane+:	0.3662	0.1422	0.1018	0.1887	0.3064
BTU:	1048.8	1018.3	1114.6	1121.6	1139.6
GPM:	17.4670	17.2820	17.9250	17.9660	18.0880
SPG:	0.6463	0.6467	0.6302	0.6326	0.6422



Well Name: FEE 8A; CSG

API #: 3004524693

Source: CASING

Sample Type: GAS

Analysis No: HS20230131

Cust No: 35825-12920

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)

Well Name: FEE 8A; CSG

County/State: SAN JUAN NM

Location:

Lease/PA/CA:

Formation:

Cust. Stn. No.: 3004524693
94586

AREA 3 / RUN 307

Heat Trace:

Remarks:

Source: CASING

Well Flowing: Y

Pressure: 221 PSIG

Flow Temp: 101 DEG. F

Ambient Temp: 91 DEG. F

Flow Rate: MCF/D

Sample Method: Purge & Fill

Sample Date: 06/29/2023

Sample Time: 2.20 PM

Sampled By: DAKOTA RHOADES

Sampled by (CO): HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.6150	0.6122	0.0680	0.00	0.0059
CO2	0.0863	0.0859	0.0150	0.00	0.0013
Methane	89.2571	88.8533	15.1700	901.50	0.4944
Ethane	5.2858	5.2619	1.4170	93.54	0.0549
Propane	2.7383	2.7259	0.7560	68.90	0.0417
Iso-Butane	0.6215	0.6187	0.2040	20.21	0.0125
N-Butane	0.6498	0.6469	0.2050	21.20	0.0130
I-Pentane	0.2605	0.2593	0.0960	10.42	0.0065
N-Pentane	0.1636	0.1629	0.0590	6.56	0.0041
Hexane Plus	0.3221	0.3206	0.1440	16.98	0.0107
Total	100.0000	99.5476	18.1340	1139.31	0.6450

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0028
 BTU/CU.FT IDEAL: 1141.9
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1145.1
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1125.2
 DRY BTU @ 15.025: 1168.0
 REAL SPECIFIC GRAVITY: 0.6465

CYLINDER #: 6231
 CYLINDER PRESSURE: 221 PSIG
 ANALYSIS DATE: 07/13/2023
 ANALYSIS TIME: 11:11:56 AM
 ANALYSIS RUN BY: SARAH BALLARD

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500

Last Cal/Verify: 07/19/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	FEE 8A; CSG	CASING	07/19/2023
Stn. No.:	3004524693		35825-12920
Mtr. No.:	94586		

Smpl Date:	06/29/2023	11/23/2022	08/19/2020
Test Date:	07/13/2023	11/28/2022	08/21/2020
Run No:	HS20230131	HS20220167	HS200205
Nitrogen:	0.6150	0.5524	0.5205
CO2:	0.0863	0.0037	0.0174
Methane:	89.2571	89.2558	89.7135
Ethane:	5.2858	5.2588	5.2206
Propane:	2.7383	2.7217	2.6228
I-Butane:	0.6215	0.6358	0.5902
N-Butane:	0.6498	0.6643	0.6018
I-Pentane:	0.2605	0.2781	0.2372
N-Pentane:	0.1636	0.1730	0.1456
Hexane+:	0.3221	0.4564	0.3304
BTU:	1145.1	1153.4	1141.8
GPM:	18.1340	18.1820	18.1040
SPG:	0.6465	0.6498	0.6422



Well Name: FEE #8A; TBG

API #: 3004524693

Source: TUBING

Sample Type: GAS

Analysis No: HS20230132

Cust No: 35825-14690

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)

Well Name: FEE #8A; TBG

County/State: SAN JUAN NM

Location:

Lease/PA/CA:

Formation:

Cust. Stn. No.: 3004524693
94586

AREA 3/ RUN 307

Heat Trace: N

Remarks:

Source: TUBING

Well Flowing: Y

Pressure: 99 PSIG

Flow Temp: 100.7 DEG. F

Ambient Temp: 91 DEG. F

Flow Rate: 0 MCF/D

Sample Method: Purge & Fill

Sample Date: 06/29/2023

Sample Time: 2.10 PM

Sampled By: DAKOTA RHOADES

Sampled by (CO): HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5631	0.5611	0.0620	0.00	0.0054
CO2	0.1183	0.1179	0.0200	0.00	0.0018
Methane	87.4828	87.1775	14.8720	883.58	0.4846
Ethane	5.9873	5.9664	1.6060	105.96	0.0622
Propane	3.2442	3.2329	0.8960	81.63	0.0494
Iso-Butane	0.6935	0.6911	0.2280	22.55	0.0139
N-Butane	0.8233	0.8204	0.2600	26.86	0.0165
I-Pentane	0.3230	0.3219	0.1180	12.92	0.0080
N-Pentane	0.2205	0.2197	0.0800	8.84	0.0055
Hexane Plus	0.5440	0.5421	0.2430	28.67	0.0180
Total	100.0000	99.6510	18.3850	1171.01	0.6653

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.003
 BTU/CU.FT IDEAL: 1173.7
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1177.2
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1156.7
 DRY BTU @ 15.025: 1200.8
 REAL SPECIFIC GRAVITY: 0.6671

CYLINDER #: 6127
 CYLINDER PRESSURE: 78 PSIG
 ANALYSIS DATE: 07/13/2023
 ANALYSIS TIME: 11:20:01 AM
 ANALYSIS RUN BY: SARAH BALLARD

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500 Last Cal/Verify: 07/19/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	FEE #8A; TBG	TUBING	07/19/2023
Stn. No.:	3004524693		35825-14690
Mtr. No.:	94586		

Smpl Date:	06/29/2023	06/29/2023	11/23/2022
Test Date:	07/13/2023	07/13/2023	11/28/2022
Run No:	HS20230133	HS20230132	HS20220166
Nitrogen:	0.1711	0.5631	0.5151
CO2:	0.5082	0.1183	0.0984
Methane:	83.8800	87.4828	87.5707
Ethane:	8.6588	5.9873	5.8267
Propane:	3.6114	3.2442	3.0519
I-Butane:	0.7700	0.6935	0.6865
N-Butane:	0.9938	0.8233	0.8342
I-Pentane:	0.3699	0.3230	0.3653
N-Pentane:	0.2766	0.2205	0.2645
Hexane+:	0.7602	0.5440	0.7867
BTU:	1221.5	1177.2	1187.0
GPM:	18.8350	18.3850	18.4390
SPG:	0.6976	0.6671	0.6725



Well Name: FEE #8A; TBG

API #: 3004524693

Source: TUBING

Sample Type: GAS

Analysis No: HS20230133

Cust No: 35825-14690

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)

Well Name: FEE #8A; TBG

County/State: SAN JUAN NM

Location:

Lease/PA/CA:

Formation:

Cust. Stn. No.: 3004524693
94586

AREA 3/ RUN 307

Heat Trace:

Remarks:

Source: TUBING

Well Flowing: Y

Pressure: 98 PSIG

Flow Temp: 107 DEG. F

Ambient Temp: 91 DEG. F

Flow Rate: 56 MCF/D

Sample Method: Purge & Fill

Sample Date: 06/29/2023

Sample Time: 2.30 PM

Sampled By: DAKOTA RHOADES

Sampled by (CO): HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1711	0.1740	0.0190	0.00	0.0017
CO2	0.5082	0.5168	0.0870	0.00	0.0077
Methane	83.8800	85.2999	14.2640	847.19	0.4646
Ethane	8.6588	8.8054	2.3230	153.23	0.0899
Propane	3.6114	3.6725	0.9980	90.87	0.0550
Iso-Butane	0.7700	0.7830	0.2530	25.04	0.0155
N-Butane	0.9938	1.0106	0.3140	32.42	0.0199
I-Pentane	0.3699	0.3762	0.1360	14.80	0.0092
N-Pentane	0.2766	0.2813	0.1010	11.09	0.0069
Hexane Plus	0.7602	0.7731	0.3400	40.07	0.0252
Total	100.0000	101.6928	18.8350	1214.71	0.6955

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
 BTU/CU.FT IDEAL: 1217.5
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1221.5
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1200.2
 DRY BTU @ 15.025: 1246.0
 REAL SPECIFIC GRAVITY: 0.6976

CYLINDER #: 5036
 CYLINDER PRESSURE: 57 PSIG
 ANALYSIS DATE: 07/13/2023
 ANALYSIS TIME: 11:22:00 AM
 ANALYSIS RUN BY: ACEDA GOODOH

GPM, BTU, and SPG calculations as shown above are based on current GPA constants.

GPA Standard: GPA-2261

GC: Danalyzer Model 500

Last Cal/Verify: 07/19/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	FEE #8A; TBG	TUBING	07/19/2023
Stn. No.:	3004524693		35825-14690
Mtr. No.:	94586		

Smpl Date:	06/29/2023	06/29/2023	11/23/2022
Test Date:	07/13/2023	07/13/2023	11/28/2022
Run No:	HS20230133	HS20230132	HS20220166
Nitrogen:	0.1711	0.5631	0.5151
CO2:	0.5082	0.1183	0.0984
Methane:	83.8800	87.4828	87.5707
Ethane:	8.6588	5.9873	5.8267
Propane:	3.6114	3.2442	3.0519
I-Butane:	0.7700	0.6935	0.6865
N-Butane:	0.9938	0.8233	0.8342
I-Pentane:	0.3699	0.3230	0.3653
N-Pentane:	0.2766	0.2205	0.2645
Hexane+:	0.7602	0.5440	0.7867
BTU:	1221.5	1177.2	1187.0
GPM:	18.8350	18.3850	18.4390
SPG:	0.6976	0.6671	0.6725

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 242010

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 242010
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	this is an ongoing problem - bh should be producing to a pit	9/22/2023