



Well Name: ARNSTEIN 1; BHD
 API #: 3004510725
 Source: BRADENHEAD
 Sample Type: GAS
 Analysis No: HS20230086
 Cust No: 35825-14995

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	BRADENHEAD
Well Name:	ARNSTEIN 1; BHD	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	6 PSIG
Location:		Flow Temp:	82 DEG. F
Lease/PA/CA:	SF-078243	Ambient Temp:	81 DEG. F
Formation:	MV/DK	Flow Rate:	60 MCF/D
Cust. Stn. No.:	3004510725	Sample Method:	Purge & Fill
	3220130	Sample Date:	06/23/2023
	AREA 2 / RUN 203	Sample Time:	9.00 AM
Heat Trace:	N	Sampled By:	SHAWN FINCHER
Remarks:	PRESSURED WITH HELIUM TO 30 LBS.	Sampled by (CO):	HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5964	0.2760	0.0660	0.00	0.0058
CO2	0.0249	0.0115	0.0040	0.00	0.0004
Methane	87.9716	40.7112	14.9550	888.51	0.4873
Ethane	5.5150	2.5522	1.4790	97.60	0.0573
Propane	3.1268	1.4470	0.8640	78.67	0.0476
Iso-Butane	0.8341	0.3860	0.2740	27.12	0.0167
N-Butane	0.9914	0.4588	0.3130	32.34	0.0199
I-Pentane	0.3557	0.1646	0.1300	14.23	0.0089
N-Pentane	0.2239	0.1036	0.0810	8.98	0.0056
Hexane Plus	0.3602	0.1667	0.1610	18.99	0.0119
Total	100.0000	46.2776	18.3270	1166.45	0.6613

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.003	CYLINDER #:	6108
BTU/CU.FT IDEAL:	1169.1	CYLINDER PRESSURE:	PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1172.5	ANALYSIS DATE:	06/29/2023
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1152.1	ANALYSIS TIME:	09:22:38 AM
DRY BTU @ 15.025:	1196.0	ANALYSIS RUN BY:	SARAH BALLARD
REAL SPECIFIC GRAVITY:	0.6629		

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: 07/06/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	ARNSTEIN 1; BHD	BRADENHEAD	07/06/2023
Stn. No.:	3004510725	MV/DK	35825-14995
Mtr. No.:	3220130		

Smpl Date: 06/23/2023
Test Date: 06/29/2023
Run No: HS20230086

Nitrogen: 0.5964
CO2: 0.0249
Methane: 87.9716
Ethane: 5.5150
Propane: 3.1268
I-Butane: 0.8341
N-Butane: 0.9914
I-Pentane: 0.3557
N-Pentane: 0.2239
Hexane+: 0.3602

BTU: 1172.5
GPM: 18.3270
SPG: 0.6629



Well Name: ARNSTEIN 1; CSG
 API #: 3004510725
 Source: CASING
 Sample Type: GAS
 Analysis No: HS20230087
 Cust No: 35825-15000

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: ARNSTEIN 1; CSG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA: SF-078243
 Formation: MV / DK
 Cust. Stn. No.: 3004510725
 3220130

Source: CASING
 Well Flowing: Y
 Pressure: 150 PSIG
 Flow Temp: 82 DEG. F
 Ambient Temp: 81 DEG. F
 Flow Rate: 60 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/23/2023
 Sample Time: 9.00 AM
 Sampled By: SHAWN FINCHER
 Sampled by (CO): HILCORP

Heat Trace: AREA 2 / RUN 203

Remarks: N

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3207	0.3256	0.0350	0.00	0.0031
CO2	1.6975	1.7235	0.2910	0.00	0.0258
Methane	82.9195	84.1898	14.0990	837.49	0.4593
Ethane	9.0300	9.1683	2.4220	159.80	0.0937
Propane	3.4451	3.4979	0.9520	86.68	0.0525
Iso-Butane	0.5794	0.5883	0.1900	18.84	0.0116
N-Butane	0.9155	0.9295	0.2890	29.87	0.0184
I-Pentane	0.2842	0.2886	0.1040	11.37	0.0071
N-Pentane	0.2193	0.2227	0.0800	8.79	0.0055
Hexane Plus	0.5888	0.5978	0.2630	31.04	0.0195
Total	100.0000	101.5320	18.7250	1183.88	0.6964

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0032
 BTU/CU.FT IDEAL: 1186.6
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1190.4
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1169.7
 DRY BTU @ 15.025: 1214.2
 REAL SPECIFIC GRAVITY: 0.6984

CYLINDER #: 6216
 CYLINDER PRESSURE: 133 PSIG
 ANALYSIS DATE: 06/29/2023
 ANALYSIS TIME: 09:14:25 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: 07/06/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	ARNSTEIN 1; CSG	CASING	07/06/2023
Stn. No.:	3004510725	MV / DK	35825-15000
Mtr. No.:	3220130		

Smpl Date: 06/23/2023
Test Date: 06/29/2023
Run No: HS20230087

Nitrogen: 0.3207
CO2: 1.6975
Methane: 82.9195
Ethane: 9.0300
Propane: 3.4451
I-Butane: 0.5794
N-Butane: 0.9155
I-Pentane: 0.2842
N-Pentane: 0.2193
Hexane+: 0.5888

BTU: 1190.4
GPM: 18.7250
SPG: 0.6984



Well Name: ARNSTEIN 1; TBG
 API #: 3004510725
 Source: TUBING
 Sample Type: GAS
 Analysis No: HS20230088
 Cust No: 35825-15005

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: ARNSTEIN 1; TBG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA: SF-078243
 Formation: MV / DK
 Cust. Stn. No.: 3004510725
 3220130

Source: TUBING
 Well Flowing: Y
 Pressure: 138 PSIG
 Flow Temp: 82 DEG. F
 Ambient Temp: 81 DEG. F
 Flow Rate: 60 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/23/2023
 Sample Time: 9.00 AM
 Sampled By: SHAWN FINCHER
 Sampled by (CO): HILCORP

Heat Trace: AREA 2 / RUN 203

Remarks: N

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3491	0.3436	0.0390	0.00	0.0034
CO2	1.9233	1.8928	0.3290	0.00	0.0292
Methane	82.4438	81.1369	14.0190	832.68	0.4567
Ethane	9.1877	9.0421	2.4650	162.59	0.0954
Propane	3.5836	3.5268	0.9900	90.17	0.0546
Iso-Butane	0.5780	0.5688	0.1900	18.80	0.0116
N-Butane	0.8881	0.8740	0.2810	28.97	0.0178
I-Pentane	0.2990	0.2943	0.1100	11.96	0.0074
N-Pentane	0.2201	0.2166	0.0800	8.82	0.0055
Hexane Plus	0.5273	0.5189	0.2360	27.79	0.0175
Total	100.0000	98.4148	18.7390	1181.79	0.6990

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
 BTU/CU.FT IDEAL: 1184.5
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1188.3
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1167.6
 DRY BTU @ 15.025: 1212.1
 REAL SPECIFIC GRAVITY: 0.701

CYLINDER #: 6198
 CYLINDER PRESSURE: 126 PSIG
 ANALYSIS DATE: 06/29/2023
 ANALYSIS TIME: 09:31:02 AM
 ANALYSIS RUN BY: RICHARD WILSON

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: 07/06/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	ARNSTEIN 1; TBG	TUBING	07/06/2023
Stn. No.:	3004510725	MV / DK	35825-15005
Mtr. No.:	3220130		

Smpl Date: 06/23/2023
Test Date: 06/29/2023
Run No: HS20230088

Nitrogen: 0.3491
CO2: 1.9233
Methane: 82.4438
Ethane: 9.1877
Propane: 3.5836
I-Butane: 0.5780
N-Butane: 0.8881
I-Pentane: 0.2990
N-Pentane: 0.2201
Hexane+: 0.5273

BTU: 1188.3
GPM: 18.7390
SPG: 0.7010

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 236775

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 236775
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	similar	9/22/2023