



Well Name: MCCLANAHAN 19E; BHD

API #: 30-045-24107

Source: BRADENHEAD

Sample Type: GAS

Analysis No: HS2021110

Cust No: 35825-13725

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: MCCLANAHAN 19E; BHD
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: 34776-30

Source: BRADENHEAD
 Well Flowing: N
 Pressure: 25.4 PSIG
 Flow Temp: 81 DEG. F
 Ambient Temp: 82 DEG. F
 Flow Rate: 902 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/01/2021
 Sample Time: 2.35 PM
 Sampled By: ANDREW HARRIS
 Sampled by (CO): HILCORP

Heat Trace: N
 Remarks: AREA 7 / RUN 0707

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.9137	0.8986	0.1010	0.00	0.0088
CO2	0.0165	0.0162	0.0030	0.00	0.0003
Methane	87.7022	86.2518	14.9060	885.79	0.4858
Ethane	6.4071	6.3011	1.7180	113.39	0.0665
Propane	2.9818	2.9325	0.8240	75.03	0.0454
Iso-Butane	0.6547	0.6439	0.2150	21.29	0.0131
N-Butane	0.7277	0.7157	0.2300	23.74	0.0146
I-Pentane	0.2249	0.2212	0.0820	9.00	0.0056
N-Pentane	0.1475	0.1451	0.0540	5.91	0.0037
Hexane Plus	0.2239	0.2202	0.1000	11.80	0.0074
Total	100.0000	98.3463	18.2330	1145.95	0.6512

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0028
 BTU/CU.FT IDEAL: 1148.6
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1151.8
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1131.8
 DRY BTU @ 15.025: 1174.9
 REAL SPECIFIC GRAVITY: 0.6528

CYLINDER #: 4064
 CYLINDER PRESSURE: 21 PSIG
 ANALYSIS DATE: 06/11/2021
 ANALYSIS TIME: 08:32:32 AM
 ANALYSIS RUN BY: SHYANN GALLEGOS

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: 06/14/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: MCCLANAHAN 19E; BHD
Stn. No.: 34776-30
Mtr. No.:

BRADENHEAD

06/14/2021
35825-13725

Smpl Date: 06/01/2021
Test Date: 06/11/2021
Run No: HS2021110

Nitrogen: 0.9137
CO2: 0.0165
Methane: 87.7022
Ethane: 6.4071
Propane: 2.9818
I-Butane: 0.6547
N-Butane: 0.7277
I-Pentane: 0.2249
N-Pentane: 0.1475
Hexane+: 0.2239

BTU: 1151.8
GPM: 18.2330
SPG: 0.6528



Well Name: MCCLANAHAN 19E; CSG

API #: 30-045-24107

Source: CASING

Sample Type: GAS

Analysis No: HS2021111

Cust No: 35825-13730

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: MCCLANAHAN 19E; CSG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: 34776-30

Source: CASING
 Well Flowing: N
 Pressure: 122 PSIG
 Flow Temp: 81 DEG. F
 Ambient Temp: 82 DEG. F
 Flow Rate: 902 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/01/2021
 Sample Time: 2.37 PM
 Sampled By: ANDREW HARRIS
 Sampled by (CO): HILCORP

Heat Trace: N
 Remarks: AREA 7 / RUN 0707

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3380	0.3322	0.0370	0.00	0.0033
CO2	0.2256	0.2217	0.0390	0.00	0.0034
Methane	85.1650	83.6964	14.4820	860.17	0.4717
Ethane	7.4225	7.2945	1.9910	131.36	0.0771
Propane	3.6897	3.6261	1.0200	92.84	0.0562
Iso-Butane	0.5932	0.5830	0.1950	19.29	0.0119
N-Butane	1.0114	0.9940	0.3200	32.99	0.0203
I-Pentane	0.3535	0.3474	0.1300	14.14	0.0088
N-Pentane	0.2953	0.2902	0.1070	11.84	0.0074
Hexane Plus	0.9058	0.8902	0.4050	47.75	0.0300
Total	100.0000	98.2757	18.7260	1210.37	0.6900

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
 BTU/CU.FT IDEAL: 1213.2
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1217.2
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1196.0
 DRY BTU @ 15.025: 1241.6
 REAL SPECIFIC GRAVITY: 0.692

CYLINDER #: 4219
 CYLINDER PRESSURE: 108 PSIG
 ANALYSIS DATE: 06/11/2021
 ANALYSIS TIME: 09:10:37 AM
 ANALYSIS RUN BY: SHYANN GALLEGOS

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: 06/14/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	MCCLANAHAN 19E; CSG	CASING	06/14/2021
Stn. No.:	34776-30		35825-13730
Mtr. No.:			

Smpl Date: 06/01/2021
Test Date: 06/11/2021
Run No: HS2021111

Nitrogen: 0.3380
CO2: 0.2256
Methane: 85.1650
Ethane: 7.4225
Propane: 3.6897
I-Butane: 0.5932
N-Butane: 1.0114
I-Pentane: 0.3535
N-Pentane: 0.2953
Hexane+: 0.9058

BTU: 1217.2
GPM: 18.7260
SPG: 0.6920



Well Name: MCCLANAHAN 19E; TBG

API #: 30-045-24107

Source: TUBING

Sample Type: GAS

Analysis No: HS2021112

Cust No: 35825-13735

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: MCCLANAHAN 19E; TBG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: 34776-30

Source: TUBING
 Well Flowing:
 Pressure: 121 PSIG
 Flow Temp: 81 DEG. F
 Ambient Temp: 82 DEG. F
 Flow Rate: 902 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/01/2021
 Sample Time: 2.39 PM
 Sampled By: ANDREW HARRIS
 Sampled by (CO): HILCORP

AREA 7 / RUN 0707

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.6062	0.5934	0.0670	0.00	0.0059
CO2	1.6364	1.6019	0.2800	0.00	0.0249
Methane	77.0631	75.4390	13.1120	778.34	0.4269
Ethane	10.3957	10.1766	2.7900	183.97	0.1079
Propane	5.7165	5.5960	1.5810	143.83	0.0870
Iso-Butane	1.0520	1.0298	0.3460	34.21	0.0211
N-Butane	1.7053	1.6694	0.5400	55.63	0.0342
I-Pentane	0.5180	0.5071	0.1900	20.72	0.0129
N-Pentane	0.5014	0.4908	0.1820	20.10	0.0125
Hexane Plus	0.8054	0.7884	0.3600	42.45	0.0267
Total	100.0000	97.8924	19.4480	1279.26	0.7599

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0039
 BTU/CU.FT IDEAL: 1282.2
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1287.2
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1264.8
 DRY BTU @ 15.025: 1313.0
 REAL SPECIFIC GRAVITY: 0.7626

CYLINDER #: 7014
 CYLINDER PRESSURE: 16 PSIG
 ANALYSIS DATE: 06/11/2021
 ANALYSIS TIME: 08:51:55 AM
 ANALYSIS RUN BY: SHYANN GALLEGOS

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: 06/14/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	MCCLANAHAN 19E; TBG	TUBING	06/14/2021
Stn. No.:	34776-30		35825-13735
Mtr. No.:			

Smpl Date: 06/01/2021
Test Date: 06/11/2021
Run No: HS2021112

Nitrogen: 0.6062
CO2: 1.6364
Methane: 77.0631
Ethane: 10.3957
Propane: 5.7165
I-Butane: 1.0520
N-Butane: 1.7053
I-Pentane: 0.5180
N-Pentane: 0.5014
Hexane+: 0.8054

BTU: 1287.2
GPM: 19.4480
SPG: 0.7626

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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 36629

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 36629
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	gas appears to be the same on bradenhead and production casing	8/6/2021