



Well Name: VCU #13; BHD

API #: 3003921469

Source: BRADENHEAD

Sample Type: GAS

Analysis No: HS20220117

Cust No: 35825-14435

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)

Well Name: VCU #13; BHD

County/State: RIO ARRIBA NM

Location:

Lease/PA/CA: NMNM14916

Formation: PC

Cust. Stn. No.: 3003921469
90085

AREA 13 / RUN 1313

Heat Trace:

Remarks:

Source: BRADENHEAD

Well Flowing:

Pressure: PSIG

Flow Temp: DEG. F

Ambient Temp: DEG. F

Flow Rate: MCF/D

Sample Method: Purge & Fill

Sample Date: 07/01/2022

Sample Time: 8.45 AM

Sampled By: CORY SCHULTZ

Sampled by (CO):

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3863	0.3800	0.0430	0.00	0.0037
CO2	0.4445	0.4372	0.0760	0.00	0.0068
Methane	83.9798	82.6083	14.2790	848.20	0.4652
Ethane	7.9241	7.7947	2.1250	140.23	0.0823
Propane	4.3429	4.2720	1.2000	109.27	0.0661
Iso-Butane	0.8295	0.8160	0.2720	26.97	0.0166
N-Butane	1.0750	1.0574	0.3400	35.07	0.0216
I-Pentane	0.3622	0.3563	0.1330	14.49	0.0090
N-Pentane	0.2628	0.2585	0.0960	10.53	0.0065
Hexane Plus	0.3929	0.3865	0.1760	20.71	0.0130
Total	100.0000	98.3669	18.7400	1205.48	0.6908

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0032
 BTU/CU.FT IDEAL: 1208.3
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1212.1
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1191.0
 DRY BTU @ 15.025: 1236.4
 REAL SPECIFIC GRAVITY: 0.6928

CYLINDER #: 4076
 CYLINDER PRESSURE: 104 PSIG
 ANALYSIS DATE: 07/11/2022
 ANALYSIS TIME: 11:07:15 AM
 ANALYSIS RUN BY: ALEXIS MITCHELL

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: 07/13/2022

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	VCU #13; BHD	BRADENHEAD	07/13/2022
Stn. No.:	3003921469	PC	35825-14435
Mtr. No.:	90085		

Smpl Date:	07/01/2022	05/17/2022
Test Date:	07/11/2022	05/23/2022
Run No:	HS20220117	HS20220083
Nitrogen:	0.3863	1.0838
CO2:	0.4445	0.5927
Methane:	83.9798	81.9008
Ethane:	7.9241	7.6836
Propane:	4.3429	4.9409
I-Butane:	0.8295	1.1011
N-Butane:	1.0750	1.1915
I-Pentane:	0.3622	0.4215
N-Pentane:	0.2628	0.2889
Hexane+:	0.3929	0.7952
BTU:	1212.1	1239.7
GPM:	18.7400	18.9330
SPG:	0.6928	0.7204



Well Name: VCU #13; CSG

API #: 3003921469

Source: CASING

Sample Type: GAS

Analysis No: HS20220118

Cust No: 35825-14440

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)

Well Name: VCU #13; CSG

County/State: RIO ARRIBA NM

Location:

Lease/PA/CA: NMNM14916

Formation: PC

Cust. Stn. No.: 3003921469
90085

AREA 13 / RUN 1313

Heat Trace:

Remarks:

Source: CASING

Well Flowing:

Pressure: PSIG

Flow Temp: DEG. F

Ambient Temp: DEG. F

Flow Rate: MCF/D

Sample Method:

Sample Date: 07/01/2022

Sample Time: 8.35 AM

Sampled By: CORY SCHULTZ

Sampled by (CO):

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3678	0.3676	0.0410	0.00	0.0036
CO2	0.4445	0.4442	0.0760	0.00	0.0068
Methane	84.4110	84.3591	14.3520	852.55	0.4676
Ethane	7.7284	7.7236	2.0730	136.77	0.0802
Propane	4.2038	4.2012	1.1620	105.77	0.0640
Iso-Butane	0.8181	0.8176	0.2690	26.60	0.0164
N-Butane	1.0573	1.0566	0.3340	34.49	0.0212
I-Pentane	0.3569	0.3567	0.1310	14.28	0.0089
N-Pentane	0.2722	0.2720	0.0990	10.91	0.0068
Hexane Plus	0.3400	0.3398	0.1520	17.92	0.0113
Total	100.0000	99.9384	18.6890	1199.30	0.6867

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0032
 BTU/CU.FT IDEAL: 1202.1
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1205.9
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1184.9
 DRY BTU @ 15.025: 1230.1
 REAL SPECIFIC GRAVITY: 0.6886

CYLINDER #: 4214
 CYLINDER PRESSURE: 101 PSIG
 ANALYSIS DATE: 07/11/2022
 ANALYSIS TIME: 10:56:29 AM
 ANALYSIS RUN BY: ALEXIS MITCHELL

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: 07/13/2022

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	VCU #13; CSG	CASING	07/13/2022
Stn. No.:	3003921469	PC	35825-14440
Mtr. No.:	90085		

Smpl Date:	07/01/2022	05/17/2022
Test Date:	07/11/2022	05/23/2022
Run No:	HS20220118	HS20220084
Nitrogen:	0.3678	1.8088
CO2:	0.4445	0.5903
Methane:	84.4110	80.3234
Ethane:	7.7284	7.8167
Propane:	4.2038	5.1369
I-Butane:	0.8181	1.1362
N-Butane:	1.0573	1.2437
I-Pentane:	0.3569	0.4632
N-Pentane:	0.2722	0.3234
Hexane+:	0.3400	1.1574
BTU:	1205.9	1256.4
GPM:	18.6890	19.0550
SPG:	0.6886	0.7388



Well Name: VCU #13; TBG

API #: 3003921469

Source: TUBING

Sample Type: GAS

Analysis No: HS20220116

Cust No: 35825-14505

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)

Well Name: VCU #13; TBG

County/State: RIO ARRIBA NM

Location:

Lease/PA/CA: NMNM-14916

Formation:

Cust. Stn. No.: 3003921469
90085

AREA 13/ RUN 1313

Heat Trace:

Remarks:

Source: TUBING

Well Flowing:

Pressure: PSIG

Flow Temp: DEG. F

Ambient Temp: DEG. F

Flow Rate: MCF/D

Sample Method:

Sample Date: 07/01/2022

Sample Time: 8.30 AM

Sampled By: CORY SCHULTZ

Sampled by (CO):

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4881	0.4805	0.0540	0.00	0.0047
CO2	0.5462	0.5377	0.0930	0.00	0.0083
Methane	83.3261	82.0321	14.1690	841.59	0.4615
Ethane	7.9616	7.8379	2.1360	140.90	0.0827
Propane	4.5801	4.5090	1.2660	115.24	0.0697
Iso-Butane	0.8761	0.8625	0.2880	28.49	0.0176
N-Butane	1.0541	1.0377	0.3330	34.39	0.0212
I-Pentane	0.3357	0.3305	0.1230	13.43	0.0084
N-Pentane	0.2417	0.2379	0.0880	9.69	0.0060
Hexane Plus	0.5903	0.5811	0.2640	31.12	0.0195
Total	100.0000	98.4469	18.8140	1214.84	0.6996

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
 BTU/CU.FT IDEAL: 1217.7
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1221.7
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1200.4
 DRY BTU @ 15.025: 1246.2
 REAL SPECIFIC GRAVITY: 0.7016

CYLINDER #: 4150
 CYLINDER PRESSURE: 109 PSIG
 ANALYSIS DATE: 07/11/2022
 ANALYSIS TIME: 11:17:10 AM
 ANALYSIS RUN BY: ALEXIS MITCHELL

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: 07/13/2022

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: VCU #13; TBG
Stn. No.: 3003921469
Mtr. No.: 90085

TUBING

07/13/2022
35825-14505

Smpl Date: 07/01/2022
Test Date: 07/11/2022
Run No: HS20220116

Nitrogen: 0.4881
CO2: 0.5462
Methane: 83.3261
Ethane: 7.9616
Propane: 4.5801
I-Butane: 0.8761
N-Butane: 1.0541
I-Pentane: 0.3357
N-Pentane: 0.2417
Hexane+: 0.5903

BTU: 1221.7
GPM: 18.8140
SPG: 0.7016

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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 127614

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 127614
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	gas appears to be the same all strings	8/1/2022