



Well Name: GRAMBLING C 4A; BHD
 API #: 3004522525
 Source: BRADENHEAD
 Sample Type: GAS
 Analysis No: HS20230081
 Cust No: 35825-14970

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: GRAMBLING C 4A; BHD
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA: NM03562
 Formation: MV
 Cust. Stn. No.: 3004522525
 90009

Source: BRADENHEAD
 Well Flowing: Y
 Pressure: 78 PSIG
 Flow Temp: 80 DEG. F
 Ambient Temp: 78 DEG. F
 Flow Rate: 190 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/22/2023
 Sample Time: 10.50 AM
 Sampled By: PAT SHEETS
 Sampled by (CO): HILCORP

AREA 4 / RUN 410

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1200	0.1213	0.0130	0.00	0.0012
CO2	1.3867	1.4019	0.2370	0.00	0.0211
Methane	84.2028	85.1265	14.3180	850.45	0.4664
Ethane	7.4746	7.5566	2.0050	132.28	0.0776
Propane	3.9381	3.9813	1.0880	99.09	0.0600
Iso-Butane	0.4223	0.4269	0.1390	13.73	0.0085
N-Butane	1.2717	1.2857	0.4020	41.49	0.0255
I-Pentane	0.2783	0.2814	0.1020	11.13	0.0069
N-Pentane	0.2936	0.2968	0.1070	11.77	0.0073
Hexane Plus	0.6119	0.6186	0.2740	32.25	0.0203
Total	100.0000	101.0970	18.6850	1192.19	0.6947

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
 BTU/CU.FT IDEAL: 1194.9
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1198.9
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1178.0
 DRY BTU @ 15.025: 1222.9
 REAL SPECIFIC GRAVITY: 0.6967

CYLINDER #: 6040
 CYLINDER PRESSURE: 54 PSIG
 ANALYSIS DATE: 06/28/2023
 ANALYSIS TIME: 10:54:04 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: 06/30/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: GRAMBLING C 4A; BHD
Stn. No.: 3004522525
Mtr. No.: 90009

BRADENHEAD
MV

06/30/2023
35825-14970

Smpl Date: 06/22/2023
Test Date: 06/28/2023
Run No: HS20230081

Nitrogen: 0.1200
CO2: 1.3867
Methane: 84.2028
Ethane: 7.4746
Propane: 3.9381
I-Butane: 0.4223
N-Butane: 1.2717
I-Pentane: 0.2783
N-Pentane: 0.2936
Hexane+: 0.6119

BTU: 1198.9
GPM: 18.6850
SPG: 0.6967



Well Name: GRAMBLING C 4A; CSG

API #: 3004522525

Source: CASING

Sample Type: GAS

Analysis No: HS20230082

Cust No: 35825-14975

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)

Well Name: GRAMBLING C 4A; CSG

County/State: SAN JUAN NM

Location:

Lease/PA/CA: NM03562

Formation: MV

Cust. Stn. No.: 3004522525
90009

AREA 4 / RUN 410

Heat Trace:

Remarks:

Source: CASING

Well Flowing: Y

Pressure: 77 PSIG

Flow Temp: 80 DEG. F

Ambient Temp: 78 DEG. F

Flow Rate: 196 MCF/D

Sample Method: Purge & Fill

Sample Date: 06/22/2023

Sample Time: 10.40 AM

Sampled By: PAT SHEETS

Sampled by (CO): HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1166	0.1180	0.0130	0.00	0.0011
CO2	1.4183	1.4350	0.2430	0.00	0.0216
Methane	83.5008	84.4859	14.2000	843.36	0.4625
Ethane	7.4988	7.5873	2.0120	132.71	0.0779
Propane	4.0838	4.1320	1.1290	102.75	0.0622
Iso-Butane	0.4578	0.4632	0.1500	14.89	0.0092
N-Butane	1.4248	1.4416	0.4510	46.48	0.0286
I-Pentane	0.3359	0.3399	0.1230	13.44	0.0084
N-Pentane	0.3625	0.3668	0.1320	14.53	0.0090
Hexane Plus	0.8007	0.8101	0.3580	42.21	0.0265
Total	100.0000	101.1798	18.8110	1210.36	0.7069

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0034
 BTU/CU.FT IDEAL: 1213.2
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1217.3
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1196.1
 DRY BTU @ 15.025: 1241.7
 REAL SPECIFIC GRAVITY: 0.709

CYLINDER #: 6022
 CYLINDER PRESSURE: 71 PSIG
 ANALYSIS DATE: 06/28/2023
 ANALYSIS TIME: 11:07:00 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: 06/30/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	GRAMBLING C 4A; CSG	CASING	06/30/2023
Stn. No.:	3004522525	MV	35825-14975
Mtr. No.:	90009		

Smpl Date: 06/22/2023
Test Date: 06/28/2023
Run No: HS20230082

Nitrogen: 0.1166
CO2: 1.4183
Methane: 83.5008
Ethane: 7.4988
Propane: 4.0838
I-Butane: 0.4578
N-Butane: 1.4248
I-Pentane: 0.3359
N-Pentane: 0.3625
Hexane+: 0.8007

BTU: 1217.3
GPM: 18.8110
SPG: 0.7090



Well Name: GRAMBLING C 4A; TBG

API #: 3004522525

Source: TUBING

Sample Type: GAS

Analysis No: HS20230083

Cust No: 35825-14980

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)

Well Name: GRAMBLING C 4A; TBG

County/State: SAN JUAN NM

Location:

Lease/PA/CA: NM03562

Formation: MV

Cust. Stn. No.: 3004522525
90009

AREA 4 / RUN 410

Heat Trace:

Remarks:

Source: TUBING

Well Flowing: Y

Pressure: 52 PSIG

Flow Temp: 80 DEG. F

Ambient Temp: 76 DEG. F

Flow Rate: 253 MCF/D

Sample Method: Purge & Fill

Sample Date: 06/22/2023

Sample Time: 10.30 AM

Sampled By: PAT SHEETS

Sampled by (CO): HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1492	0.1509	0.0160	0.00	0.0014
CO2	1.5237	1.5414	0.2610	0.00	0.0232
Methane	82.7519	83.7150	14.0740	835.79	0.4584
Ethane	8.4710	8.5696	2.2730	149.91	0.0879
Propane	3.5957	3.6376	0.9940	90.47	0.0547
Iso-Butane	0.7126	0.7209	0.2340	23.17	0.0143
N-Butane	1.1177	1.1307	0.3540	36.46	0.0224
I-Pentane	0.3999	0.4046	0.1470	16.00	0.0100
N-Pentane	0.3160	0.3197	0.1150	12.67	0.0079
Hexane Plus	0.9623	0.9735	0.4310	50.72	0.0318
Total	100.0000	101.1639	18.8990	1215.20	0.7121

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0035
 BTU/CU.FT IDEAL: 1218.0
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1222.2
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1200.9
 DRY BTU @ 15.025: 1246.7
 REAL SPECIFIC GRAVITY: 0.7142

CYLINDER #: 6084
 CYLINDER PRESSURE: 57 PSIG
 ANALYSIS DATE: 06/28/2023
 ANALYSIS TIME: 11:19:56 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: 06/30/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	GRAMBLING C 4A; TBG	TUBING	06/30/2023
Stn. No.:	3004522525	MV	35825-14980
Mtr. No.:	90009		

Smpl Date: 06/22/2023
Test Date: 06/28/2023
Run No: HS20230083

Nitrogen: 0.1492
CO2: 1.5237
Methane: 82.7519
Ethane: 8.4710
Propane: 3.5957
I-Butane: 0.7126
N-Butane: 1.1177
I-Pentane: 0.3999
N-Pentane: 0.3160
Hexane+: 0.9623

BTU: 1222.2
GPM: 18.8990
SPG: 0.7142

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 235785

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 235785
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	same gas	9/22/2023