



Well Name: GARRETT FEDERAL COM
 API #: 3004513086
 Source: BRADENHEAD
 Sample Type: GAS
 Analysis No: HS20230141
 Cust No: 35825-15190

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	BRADENHEAD
Well Name:	GARRETT FEDERAL COM 2-1; BHD	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	PSIG
Location:		Flow Temp:	DEG. F
Lease/PA/CA:		Ambient Temp:	DEG. F
Formation:		Flow Rate:	MCF/D
Cust. Stn. No.:	3004513086	Sample Method:	Purge & Fill
		Sample Date:	07/11/2023
		Sample Time:	9.00 AM
		Sampled By:	CURT WILLIAMS
		Sampled by (CO):	HILCORP

Heat Trace: AREA 7 / RUN 704

Remarks: PRESSURED WITH HELIUM TO 30 LBS.

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	19.6796	0.8059	2.1730	0.00	0.1903
CO2	0.0537	0.0022	0.0090	0.00	0.0008
Methane	61.9229	2.5358	10.5380	625.42	0.3430
Ethane	5.6677	0.2321	1.5220	100.30	0.0588
Propane	3.2698	0.1339	0.9040	82.27	0.0498
Iso-Butane	1.0354	0.0424	0.3400	33.67	0.0208
N-Butane	2.1684	0.0888	0.6860	70.74	0.0435
I-Pentane	1.5262	0.0625	0.5600	61.06	0.0380
N-Pentane	1.3333	0.0546	0.4850	53.45	0.0332
Hexane Plus	3.3430	0.1369	1.4970	176.21	0.1106
Total	100.0000	4.0951	18.7140	1203.13	0.8889

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0041	CYLINDER #:	60
BTU/CU.FT IDEAL:	1205.9	CYLINDER PRESSURE:	10 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1210.9	ANALYSIS DATE:	07/14/2023
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1189.8	ANALYSIS TIME:	11:58:33 AM
DRY BTU @ 15.025:	1235.2	ANALYSIS RUN BY:	SARAH BALLARD
REAL SPECIFIC GRAVITY:	0.8922		

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:	GARRETT FEDERAL COM 2-1; BHD	BRADENHEAD	07/19/2023
Stn. No.:	3004513086		35825-15190
Mtr. No.:			

Smpl Date: 07/11/2023
Test Date: 07/14/2023
Run No: HS20230141

Nitrogen: 19.6796
CO2: 0.0537
Methane: 61.9229
Ethane: 5.6677
Propane: 3.2698
I-Butane: 1.0354
N-Butane: 2.1684
I-Pentane: 1.5262
N-Pentane: 1.3333
Hexane+: 3.3430

BTU: 1210.9
GPM: 18.7140
SPG: 0.8922



Well Name: GARRETT FEDERAL COM

API #: 3004513086

Source: CASING

Sample Type: GAS

Analysis No: HS20230142

Cust No: 35825-15185

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: GARRETT FEDERAL COM 2-1; CSG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: 3004513086

Source: CASING
 Well Flowing: Y
 Pressure: PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 07/11/2023
 Sample Time: 9.00 AM
 Sampled By: CURT WILLIAMS
 Sampled by (CO): HILCORP

AREA 7 / RUN 704

Heat Trace:

Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3505	0.3500	0.0390	0.00	0.0034
CO2	1.6372	1.6351	0.2800	0.00	0.0249
Methane	80.2447	80.1395	13.6470	810.47	0.4445
Ethane	10.9389	10.9246	2.9350	193.59	0.1136
Propane	3.9182	3.9131	1.0830	98.59	0.0597
Iso-Butane	0.7113	0.7104	0.2330	23.13	0.0143
N-Butane	1.0325	1.0311	0.3270	33.68	0.0207
I-Pentane	0.4214	0.4208	0.1550	16.86	0.0105
N-Pentane	0.3021	0.3017	0.1100	12.11	0.0075
Hexane Plus	0.4432	0.4426	0.1980	23.36	0.0147
Total	100.0000	99.8689	19.0070	1211.79	0.7137

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0034
 BTU/CU.FT IDEAL: 1214.6
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1218.7
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1197.5
 DRY BTU @ 15.025: 1243.1
 REAL SPECIFIC GRAVITY: 0.7158

CYLINDER #: 1088
 CYLINDER PRESSURE: 178 PSIG
 ANALYSIS DATE: 07/14/2023
 ANALYSIS TIME: 12:08:46 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:	GARRETT FEDERAL COM 2-1; CSG	CASING	07/19/2023
Stn. No.:	3004513086		35825-15185
Mtr. No.:			

Smpl Date: 07/11/2023
Test Date: 07/14/2023
Run No: HS20230142

Nitrogen: 0.3505
CO2: 1.6372
Methane: 80.2447
Ethane: 10.9389
Propane: 3.9182
I-Butane: 0.7113
N-Butane: 1.0325
I-Pentane: 0.4214
N-Pentane: 0.3021
Hexane+: 0.4432

BTU: 1218.7
GPM: 19.0070
SPG: 0.7158



Well Name: GARRETT FEDERAL COM

API #: 3004513086

Source: TUBING

Sample Type: GAS

Analysis No: HS20230143

Cust No: 35825-15195

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: GARRETT FEDERAL COM 2-1; TBG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: 3004513086

Source: TUBING
 Well Flowing: Y
 Pressure: PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 07/11/2023
 Sample Time: 9.00 AM
 Sampled By: CURT WILLIAMS
 Sampled by (CO): HILCORP

AREA 7/ RUN 704

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4332	0.4426	0.0480	0.00	0.0042
CO2	1.6254	1.6607	0.2780	0.00	0.0247
Methane	81.7779	83.5516	13.9030	825.96	0.4530
Ethane	10.7815	11.0154	2.8920	190.80	0.1119
Propane	3.5087	3.5848	0.9690	88.28	0.0534
Iso-Butane	0.5825	0.5951	0.1910	18.94	0.0117
N-Butane	0.7695	0.7862	0.2430	25.10	0.0154
I-Pentane	0.1940	0.1982	0.0710	7.76	0.0048
N-Pentane	0.1064	0.1087	0.0390	4.27	0.0027
Hexane Plus	0.2209	0.2257	0.0990	11.64	0.0073
Total	100.0000	102.1690	18.7330	1172.76	0.6891

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
 BTU/CU.FT IDEAL: 1175.5
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1179.1
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1158.6
 DRY BTU @ 15.025: 1202.7
 REAL SPECIFIC GRAVITY: 0.691

CYLINDER #: 199
 CYLINDER PRESSURE: 284 PSIG
 ANALYSIS DATE: 07/14/2023
 ANALYSIS TIME: 12:03:00 AM
 ANALYSIS RUN BY: ACEDA GOODNOH

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:	GARRETT FEDERAL COM 2-1; TBG	TUBING	07/19/2023
Stn. No.:	3004513086		35825-15195
Mtr. No.:			

Smpl Date: 07/11/2023
Test Date: 07/14/2023
Run No: HS20230143

Nitrogen: 0.4332
CO2: 1.6254
Methane: 81.7779
Ethane: 10.7815
Propane: 3.5087
I-Butane: 0.5825
N-Butane: 0.7695
I-Pentane: 0.1940
N-Pentane: 0.1064
Hexane+: 0.2209

BTU: 1179.1
GPM: 18.7330
SPG: 0.6910

District I
1625 N. French Dr., Hobbs, NM 88240
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District II
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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 243988

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 243988
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	high nitrogen on bradenhead sample	9/20/2023