



Well Name: HUERFANO UNIT 181E;
 API #: API #3004526657
 Source: BRADENHEAD
 Sample Type: GAS
 Analysis No: HS2021132
 Cust No: 35825-10780

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	BRADENHEAD
Well Name:	HUERFANO UNIT 181E; BHD	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	99 PSIG
Location:		Flow Temp:	DEG. F
Lease/PA/CA:		Ambient Temp:	DEG. F
Formation:	DK	Flow Rate:	MCF/D
Cust. Stn. No.:	API #3004526657 95795	Sample Method:	
	AREA 09 / 0907	Sample Date:	07/01/2021
		Sample Time:	9.10 AM
Heat Trace:		Sampled By:	JEFFIFER B.
Remarks:		Sampled by (CO):	HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4913	0.4887	0.0540	0.00	0.0048
CO2	0.7253	0.7215	0.1240	0.00	0.0110
Methane	73.1248	72.7407	12.4490	738.56	0.4050
Ethane	12.7456	12.6786	3.4230	225.56	0.1323
Propane	7.1621	7.1245	1.9820	180.21	0.1090
Iso-Butane	1.0084	1.0031	0.3310	32.79	0.0202
N-Butane	2.4164	2.4037	0.7650	78.83	0.0485
I-Pentane	0.7079	0.7042	0.2600	28.32	0.0176
N-Pentane	0.7564	0.7524	0.2750	30.32	0.0188
Hexane Plus	0.8618	0.8573	0.3860	45.43	0.0285
Total	100.0000	99.4747	20.0490	1360.02	0.7959

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0045
BTU/CU.FT IDEAL:	1363.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1369.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1345.5
DRY BTU @ 15.025:	1396.7
REAL SPECIFIC GRAVITY:	0.7992

CYLINDER #:	6036
CYLINDER PRESSURE:	82 PSIG
ANALYSIS DATE:	07/12/2021
ANALYSIS TIME:	01:20:51 PM
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: 07/14/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	HUERFANO UNIT 181E; BHD	BRADENHEAD	07/14/2021
Stn. No.:	API #3004526657	DK	35825-10780
Mtr. No.:	95795		

Smpl Date:	07/01/2021	09/28/2018	08/28/2018
Test Date:	07/12/2021	10/04/2018	09/10/2018
Run No:	HS2021132	HS180224	HS180193
Nitrogen:	0.4913	0.7347	0.4971
CO2:	0.7253	0.1224	0.1240
Methane:	73.1248	70.5895	70.9408
Ethane:	12.7456	13.3773	13.2957
Propane:	7.1621	8.1377	8.2406
I-Butane:	1.0084	1.2052	1.2317
N-Butane:	2.4164	3.1661	3.1277
I-Pentane:	0.7079	1.0305	0.9941
N-Pentane:	0.7564	1.0581	1.0123
Hexane+:	0.8618	0.5785	0.5360
BTU:	1369.3	1421.1	1419.9
GPM:	20.0490	20.3910	20.3800
SPG:	0.7992	0.8253	0.8220



Well Name: HUERFANO UNIT 181E;
 API #: API #3004526657
 Source: CASING
 Sample Type: GAS
 Analysis No: HS2021133
 Cust No: 35825-10785

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: HUERFANO UNIT 181E; CSG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation: DK
 Cust. Stn. No.: API #3004526657
 95795
 AREA 09 / 0907
 Heat Trace:
 Remarks:

Source: CASING
 Well Flowing: Y
 Pressure: 111 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method:
 Sample Date: 07/01/2021
 Sample Time: 9.20 AM
 Sampled By: JENNIFER B.
 Sampled by (CO): HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4865	0.4845	0.0540	0.00	0.0047
CO2	0.9190	0.9152	0.1580	0.00	0.0140
Methane	72.7057	72.4065	12.3790	734.33	0.4027
Ethane	12.6948	12.6425	3.4100	224.66	0.1318
Propane	7.1676	7.1381	1.9830	180.34	0.1091
Iso-Butane	1.0189	1.0147	0.3350	33.13	0.0204
N-Butane	2.4612	2.4511	0.7790	80.29	0.0494
I-Pentane	0.7319	0.7289	0.2690	29.28	0.0182
N-Pentane	0.7797	0.7765	0.2840	31.26	0.0194
Hexane Plus	1.0347	1.0304	0.4630	54.54	0.0342
Total	100.0000	99.5884	20.1140	1367.83	0.8040

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0046
 BTU/CU.FT IDEAL: 1371.0
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1377.2
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1353.2
 DRY BTU @ 15.025: 1404.8
 REAL SPECIFIC GRAVITY: 0.8074

CYLINDER #: 6189
 CYLINDER PRESSURE: 107 PSIG
 ANALYSIS DATE: 07/12/2021
 ANALYSIS TIME: 01:31:45 PM
 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: 07/14/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	HUERFANO UNIT 181E; CSG	CASING	07/14/2021
Stn. No.:	API #3004526657	DK	35825-10785
Mtr. No.:	95795		

Smpl Date:	07/01/2021	09/28/2018	08/28/2018
Test Date:	07/12/2021	10/04/2018	09/10/2018
Run No:	HS2021133	HS180225	HS180194
Nitrogen:	0.4865	0.5072	0.5089
CO2:	0.9190	0.1864	0.2228
Methane:	72.7057	69.9260	70.5785
Ethane:	12.6948	13.3542	13.2718
Propane:	7.1676	8.2715	8.2646
I-Butane:	1.0189	1.2515	1.2529
N-Butane:	2.4612	3.3438	3.1986
I-Pentane:	0.7319	1.1534	1.0457
N-Pentane:	0.7797	1.2265	1.0798
Hexane+:	1.0347	0.7795	0.5764
BTU:	1377.2	1447.4	1426.4
GPM:	20.1140	20.5670	20.4280
SPG:	0.8074	0.8408	0.8279



Well Name: HUERFANO UNIT 181E;
 API #: API #3004526657
 Source: TUBING
 Sample Type: GAS
 Analysis No: HS2021134
 Cust No: 35825-10790

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: HUERFANO UNIT 181E; TBG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation: DK
 Cust. Stn. No.: API #3004526657
 95795

Source: TUBING
 Well Flowing: Y
 Pressure: 100 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method:
 Sample Date: 07/01/2021
 Sample Time: 9.00 AM
 Sampled By: JENNIFER B.
 Sampled by (CO): HILCORP

Heat Trace: AREA 09 / 0907

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4284	0.4257	0.0470	0.00	0.0041
CO2	1.0781	1.0712	0.1850	0.00	0.0164
Methane	73.7268	73.2575	12.5490	744.64	0.4084
Ethane	12.8859	12.8039	3.4600	228.04	0.1338
Propane	6.7448	6.7019	1.8660	169.71	0.1027
Iso-Butane	0.9940	0.9877	0.3270	32.32	0.0199
N-Butane	2.1204	2.1069	0.6710	69.17	0.0426
I-Pentane	0.6059	0.6020	0.2220	24.24	0.0151
N-Pentane	0.5472	0.5437	0.1990	21.94	0.0136
Hexane Plus	0.8685	0.8630	0.3890	45.78	0.0287
Total	100.0000	99.3635	19.9150	1335.84	0.7853

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0043
 BTU/CU.FT IDEAL: 1338.9
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1344.7
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1321.3
 DRY BTU @ 15.025: 1371.6
 REAL SPECIFIC GRAVITY: 0.7884

CYLINDER #: 7018
 CYLINDER PRESSURE: 85 PSIG
 ANALYSIS DATE: 07/12/2021
 ANALYSIS TIME: 01:13:37 PM
 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: 07/14/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	HUERFANO UNIT 181E; TBG	TUBING	07/14/2021
Stn. No.:	API #3004526657	DK	35825-10790
Mtr. No.:	95795		

Smpl Date:	07/01/2021	09/28/2018	08/28/2018
Test Date:	07/12/2021	10/04/2018	09/10/2018
Run No:	HS2021134	HS180226	HS180195
Nitrogen:	0.4284	0.4514	0.4494
CO2:	1.0781	1.0457	0.9949
Methane:	73.7268	74.8260	76.5832
Ethane:	12.8859	12.7072	12.3397
Propane:	6.7448	6.4341	5.4704
I-Butane:	0.9940	0.9259	0.8742
N-Butane:	2.1204	2.0387	1.3643
I-Pentane:	0.6059	0.5297	0.5813
N-Pentane:	0.5472	0.4698	0.3852
Hexane+:	0.8685	0.5715	0.9574
BTU:	1344.7	1317.7	1299.8
GPM:	19.9150	19.7230	19.5780
SPG:	0.7884	0.7708	0.7585

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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 38997

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 38997
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	same gas all strings - working with Hunter Gates/Hilcorp - 90 day compliance	8/6/2021