



Well Name: HUERFANO 179E; BHD
 API #: API #3004526672
 Source: BRADENHEAD
 Sample Type: GAS
 Analysis No: HS2021101
 Cust No: 35825-10380

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: HUERFANO 179E; BHD
 County/State: SAN JUAN NM
 Location: K14-26N-10W
 Lease/PA/CA:
 Formation: DK
 Cust. Stn. No.: API #3004526672

Source: BRADENHEAD
 Well Flowing: Y
 Pressure: 58 PSIG
 Flow Temp: DEG. F
 Ambient Temp: 75 DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 05/27/2021
 Sample Time: 11.45 AM
 Sampled By: MATT CRANE
 Sampled by (CO): HILCORP

AREA 6 / RUN 0606

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.7441	0.7370	0.0820	0.00	0.0072
CO2	1.3402	1.3274	0.2300	0.00	0.0204
Methane	70.9129	70.2362	12.0720	716.22	0.3928
Ethane	14.0956	13.9611	3.7850	249.45	0.1463
Propane	7.9688	7.8928	2.2040	200.50	0.1213
Iso-Butane	1.2290	1.2173	0.4040	39.97	0.0247
N-Butane	2.2048	2.1838	0.6980	71.93	0.0442
I-Pentane	0.6019	0.5962	0.2210	24.08	0.0150
N-Pentane	0.4662	0.4618	0.1700	18.69	0.0116
Hexane Plus	0.4365	0.4323	0.1950	23.01	0.0144
Total	100.0000	99.0459	20.0610	1343.84	0.7980

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0044
 BTU/CU.FT IDEAL: 1347.0
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1352.9
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1329.4
 DRY BTU @ 15.025: 1380.0
 REAL SPECIFIC GRAVITY: 0.8012

CYLINDER #: 4227
 CYLINDER PRESSURE: 54 PSIG
 ANALYSIS DATE: 06/07/2021
 ANALYSIS TIME: 12:30:32 AM
 ANALYSIS RUN BY: PATRICIA KING

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: 06/09/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	HUERFANO 179E; BHD	BRADENHEAD	06/09/2021
Stn. No.:	API #3004526672	DK	35825-10380
Mtr. No.:			

	05/27/2021	11/29/2018	09/28/2018	08/10/2018
Smpl Date:	05/27/2021	11/29/2018	09/28/2018	08/10/2018
Test Date:	06/07/2021	11/29/2018	10/04/2018	08/16/2018
Run No:	HS2021101	HS180250	HS180221	HS180100
Nitrogen:	0.7441	0.7162	1.0209	1.0633
CO2:	1.3402	1.3319	1.2239	1.1574
Methane:	70.9129	74.1293	75.4518	74.8740
Ethane:	14.0956	13.2062	11.2350	11.4008
Propane:	7.9688	6.7248	6.5629	6.7095
I-Butane:	1.2290	1.0305	1.0585	1.1269
N-Butane:	2.2048	1.8070	2.0121	2.0887
I-Pentane:	0.6019	0.4907	0.5750	0.6195
N-Pentane:	0.4662	0.3367	0.4932	0.5313
Hexane+:	0.4365	0.2267	0.3667	0.4286
BTU:	1352.9	1297.2	1296.2	1308.5
GPM:	20.0610	19.6400	19.5320	19.6140
SPG:	0.8012	0.7650	0.7660	0.7733



Well Name: HUERFANO 179E; CSG

API #: API #3004526672

Source: CASING

Sample Type: GAS

Analysis No: HS2021102

Cust No: 35825-10385

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: HUERFANO 179E; CSG
 County/State: SAN JUAN NM
 Location: K14-26-N-10W
 Lease/PA/CA:
 Formation: DK
 Cust. Stn. No.: API #3004526672

Source: CASING
 Well Flowing: Y
 Pressure: 135.4 PSIG
 Flow Temp: DEG. F
 Ambient Temp: 76 DEG. F
 Flow Rate: MCF/D
 Sample Method:
 Sample Date: 05/27/2021
 Sample Time: 11.55 AM
 Sampled By: MATT CRANE
 Sampled by (CO):

AREA 6 / RUN 0606

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.7522	0.7491	0.0830	0.00	0.0073
CO2	1.3463	1.3407	0.2310	0.00	0.0205
Methane	69.7887	69.4978	11.8840	704.87	0.3866
Ethane	13.8450	13.7873	3.7190	245.01	0.1437
Propane	8.2455	8.2111	2.2820	207.47	0.1255
Iso-Butane	1.3555	1.3499	0.4460	44.08	0.0272
N-Butane	2.5446	2.5340	0.8060	83.01	0.0511
I-Pentane	0.8225	0.8191	0.3020	32.91	0.0205
N-Pentane	0.6808	0.6780	0.2480	27.29	0.0170
Hexane Plus	0.6189	0.6163	0.2770	32.62	0.0205
Total	100.0000	99.5833	20.2780	1377.26	0.8198

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0047
 BTU/CU.FT IDEAL: 1380.4
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1387.0
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1362.9
 DRY BTU @ 15.025: 1414.8
 REAL SPECIFIC GRAVITY: 0.8233

CYLINDER #: 4222
 CYLINDER PRESSURE: 132 PSIG
 ANALYSIS DATE: 06/07/2021
 ANALYSIS TIME: 12:11:55 AM
 ANALYSIS RUN BY: PATRICIA KING

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: 06/09/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	HUERFANO 179E; CSG	CASING	06/09/2021
Stn. No.:	API #3004526672	DK	35825-10385
Mtr. No.:			

Smpl Date:	05/27/2021	11/29/2018	09/28/2018	08/10/2018
Test Date:	06/07/2021	11/29/2018	10/04/2018	08/16/2018
Run No:	HS2021102	HS180251	HS180222	HS180101
Nitrogen:	0.7522	1.4175	1.0666	1.0103
CO2:	1.3463	1.3027	1.3938	1.3958
Methane:	69.7887	74.2190	75.1527	74.6017
Ethane:	13.8450	13.2015	10.8696	11.2058
Propane:	8.2455	6.4122	6.6500	6.7381
I-Butane:	1.3555	0.9446	1.0838	1.1200
N-Butane:	2.5446	1.6941	2.1001	2.1398
I-Pentane:	0.8225	0.3378	0.6359	0.6653
N-Pentane:	0.6808	0.2076	0.5654	0.5832
Hexane+:	0.6189	0.2630	0.4821	0.5400
BTU:	1387.0	1274.0	1304.2	1314.4
GPM:	20.2780	19.4870	19.5780	19.6610
SPG:	0.8233	0.7571	0.7744	0.7804



Well Name: HUERFANO 179E; TBG

API #: API #3004526672

Source: TUBING

Sample Type: GAS

Analysis No: HS2021103

Cust No: 35825-10390

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: HUERFANO 179E; TBG
 County/State: SAN JUAN NM
 Location: K14-26N-10W
 Lease/PA/CA:
 Formation: DK
 Cust. Stn. No.: API #3004526672

Source: TUBING
 Well Flowing: Y
 Pressure: 129 PSIG
 Flow Temp: DEG. F
 Ambient Temp: 75 DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 05/27/2021
 Sample Time: 1.00 PM
 Sampled By: MATT CRANE
 Sampled by (CO): HILCORP

AREA 6 / RUN 0606

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.9516	0.9456	0.1050	0.00	0.0092
CO2	1.4718	1.4626	0.2520	0.00	0.0224
Methane	73.7815	73.3193	12.5580	745.19	0.4087
Ethane	11.9043	11.8297	3.1960	210.67	0.1236
Propane	7.0569	7.0127	1.9520	177.56	0.1074
Iso-Butane	1.1360	1.1289	0.3730	36.94	0.0228
N-Butane	2.0548	2.0419	0.6500	67.03	0.0412
I-Pentane	0.5777	0.5741	0.2120	23.11	0.0144
N-Pentane	0.4778	0.4748	0.1740	19.15	0.0119
Hexane Plus	0.5876	0.5839	0.2630	30.97	0.0194
Total	100.0000	99.3735	19.7350	1310.64	0.7810

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0042
 BTU/CU.FT IDEAL: 1313.7
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1319.2
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1296.2
 DRY BTU @ 15.025: 1345.6
 REAL SPECIFIC GRAVITY: 0.784

CYLINDER #: 4130
 CYLINDER PRESSURE: 122 PSIG
 ANALYSIS DATE: 06/07/2021
 ANALYSIS TIME: 11:55:20 AM
 ANALYSIS RUN BY: PATRICIA KING

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: 06/09/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	HUERFANO 179E; TBG	TUBING	06/09/2021
Stn. No.:	API #3004526672	DK	35825-10390
Mtr. No.:			

Smpl Date:	05/27/2021	09/28/2018	08/10/2018
Test Date:	06/07/2021	10/04/2018	08/16/2018
Run No:	HS2021103	HS180223	HS180102
Nitrogen:	0.9516	1.0677	1.0949
CO2:	1.4718	1.4406	1.4433
Methane:	73.7815	76.2598	76.6266
Ethane:	11.9043	10.8943	10.7204
Propane:	7.0569	6.2516	6.1034
I-Butane:	1.1360	1.0085	0.9766
N-Butane:	2.0548	1.8173	1.7368
I-Pentane:	0.5777	0.4929	0.4633
N-Pentane:	0.4778	0.4111	0.3855
Hexane+:	0.5876	0.3562	0.4492
BTU:	1319.2	1275.2	1271.1
GPM:	19.7350	19.3870	19.3500
SPG:	0.7840	0.7565	0.7542

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

COMMENTS

Action 32816

COMMENTS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 32816
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

COMMENTS

Created By	Comment	Comment Date
mkuehling	appears to be same gas production casing and bradenhead	6/23/2021

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
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1000 Rio Brazos Rd., Aztec, NM 87410
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Phone:(505) 476-3470 Fax:(505) 476-3462

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Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 32816

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 32816
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	None	6/23/2021