

**Huerfano Unit 181E - API# 30-045-26657**

2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: HS180224
Cust No: 35825-10780

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: HUERFANO UNIT 181E; BHD
County/State: SAN JUAN NM
Location:
Field: AREA 6 / RUN 612
Formation: DK
Cust. Str. No.:

Source: BRADENHEAD
Well Flowing:
Pressure: 88 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 09/28/2018
Sample Time: 3.10 PM
Sampled By: W. JARAMILLO
Sampled by (CO): HILCORP

Heat Trace:
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.7347	0.7364	0.0810	0.00	0.0071
CO2	0.1224	0.1227	0.0210	0.00	0.0019
Methane	70.5895	70.7491	12.0210	712.95	0.3910
Ethane	13.3773	13.4075	3.5940	236.74	0.1389
Propane	8.1377	8.1561	2.2520	204.75	0.1239
Iso-Butane	1.2052	1.2079	0.3960	39.19	0.0242
N-Butane	3.1661	3.1733	1.0030	103.29	0.0635
I-Pentane	1.0305	1.0328	0.3790	41.23	0.0257
N-Pentane	1.0581	1.0605	0.3850	42.42	0.0264
Hexane Plus	0.5785	0.5798	0.2590	30.49	0.0191
Total	100.0000	100.2261	20.3910	1411.06	0.8216

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0048
BTU/CU.FT IDEAL: 1414.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1421.1
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1396.4
DRY BTU @ 15.025: 1449.6
REAL SPECIFIC GRAVITY: 0.8253

CYLINDER #: 5000
CYLINDER PRESSURE: 87 PSIG
ANALYSIS DATE: 10/04/2018
ANALYSIS TIME: 03:13:40 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

GC Method: C6+ Gas

Last Cal/Verify: 10/08/2018

NMOC

NOV 05 2018

DISTRICT III

60



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: HUERFANO UNIT 181E; BHD
Stn. No.:
Mtr. No.:

BRADENHEAD
DK

10/08/2018
35825-10780

Smpl Date:	09/28/2018	08/28/2018
Test Date:	10/04/2018	09/10/2018
Run No:	HS180224	HS180193
Nitrogen:	0.7347	0.4971
CO2:	0.1224	0.1240
Methane:	70.5895	70.9408
Ethane:	13.3773	13.2957
Propane:	8.1377	8.2406
I-Butane:	1.2052	1.2317
N-Butane:	3.1661	3.1277
I-Pentane:	1.0305	0.9941
N-Pentane:	1.0581	1.0123
Hexane+:	0.5785	0.5360
BTU:	1421.1	1419.9
GPM:	20.3910	20.3800
SPG:	0.8253	0.8220

**Huerfano Unit 181E - API# 30-045-26657**

2030 Afton Place
Farmington, NM 87401
(505) 325-6622

Analysis No: HS180225
Cust No: 35825-10785

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: HUERFANO UNIT 181E; CSG
County/State: SAN JUAN NM
Location:
Field: AREA 6 / RUN 612
Formation: DK
Cust. Stn. No.:

Source: CASING
Well Flowing:
Pressure: 130 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 09/28/2018
Sample Time: 3.10 PM
Sampled By: W. JARAMILLO
Sampled by (CO): HILCORP

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5072	0.5090	0.0560	0.00	0.0049
CO2	0.1864	0.1870	0.0320	0.00	0.0028
Methane	69.9260	70.1683	11.9110	706.25	0.3873
Ethane	13.3542	13.4005	3.5880	236.33	0.1386
Propane	8.2715	8.3002	2.2900	208.12	0.1259
Iso-Butane	1.2515	1.2558	0.4110	40.70	0.0251
N-Butane	3.3438	3.3554	1.0590	109.08	0.0671
I-Pentane	1.1534	1.1574	0.4240	46.15	0.0287
N-Pentane	1.2265	1.2308	0.4470	49.17	0.0306
Hexane Plus	0.7795	0.7822	0.3490	41.09	0.0258
Total	100.0000	100.3466	20.5670	1436.88	0.8369

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.005
BTU/CU.FT IDEAL: 1440.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1447.4
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1422.2
DRY BTU @ 15.025: 1476.4
REAL SPECIFIC GRAVITY: 0.8408

CYLINDER #: 6229
CYLINDER PRESSURE: 120 PSIG
ANALYSIS DATE: 10/04/2018
ANALYSIS TIME: 03:25:42 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

GC Method: C6+ Gas

Last Cal/Verify: 10/08/2018



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: HUERFANO UNIT 181E; CSG
Stn. No.:
Mtr. No.:

CASING
DK

10/08/2018
35825-10785

Smpl Date:	09/28/2018	08/28/2018
Test Date:	10/04/2018	09/10/2018
Run No:	HS180225	HS180194
Nitrogen:	0.5072	0.5089
CO2:	0.1864	0.2228
Methane:	69.9260	70.5785
Ethane:	13.3542	13.2718
Propane:	8.2715	8.2646
I-Butane:	1.2515	1.2529
N-Butane:	3.3438	3.1986
I-Pentane:	1.1534	1.0457
N-Pentane:	1.2265	1.0798
Hexane+:	0.7795	0.5764
BTU:	1447.4	1426.4
GPM:	20.5670	20.4280
SPG:	0.8408	0.8279



2030 Afton Place
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Analysis No: HS180226
Cust No: 35825-10790

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: HUERFANO UNIT 181E; TBG
County/State: SAN JUAN NM
Location:
Field: AREA 6 / RUN 612
Formation: DK
Cust. Stn. No.:

Source: TUBING
Well Flowing:
Pressure: 122 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 09/28/2018
Sample Time: 3.10 PM
Sampled By: W. JARAMILLO
Sampled by (CO): HILCORP

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4514	0.4554	0.0500	0.00	0.0044
CO2	1.0457	1.0550	0.1790	0.00	0.0159
Methane	74.8260	75.4881	12.7340	755.74	0.4145
Ethane	12.7072	12.8197	3.4110	224.88	0.1319
Propane	6.4341	6.4910	1.7790	161.89	0.0980
Iso-Butane	0.9259	0.9341	0.3040	30.11	0.0186
N-Butane	2.0387	2.0567	0.6450	66.51	0.0409
I-Pentane	0.5297	0.5344	0.1940	21.19	0.0132
N-Pentane	0.4698	0.4740	0.1710	18.83	0.0117
Hexane Plus	0.5715	0.5766	0.2560	30.12	0.0189
Total	100.0000	100.8850	19.7230	1309.28	0.7679

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0041
BTU/CU.FT IDEAL: 1312.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1317.7
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1294.8
DRY BTU @ 15.025: 1344.1
REAL SPECIFIC GRAVITY: 0.7708

CYLINDER #: 4134
CYLINDER PRESSURE: 122 PSIG
ANALYSIS DATE: 10/04/2018
ANALYSIS TIME: 03:01:57 AM
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

GC Method: C6+ Gas

Last Cal/Verify: 10/08/2018



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: HUERFANO UNIT 181E; TBG
Stn. No.:
Mtr. No.:

TUBING
DK

10/08/2018
35825-10790

Smpl Date:	09/28/2018	08/28/2018
Test Date:	10/04/2018	09/10/2018
Run No:	HS180226	HS180195
Nitrogen:	0.4514	0.4494
CO2:	1.0457	0.9949
Methane:	74.8260	76.5832
Ethane:	12.7072	12.3397
Propane:	6.4341	5.4704
I-Butane:	0.9259	0.8742
N-Butane:	2.0387	1.3643
I-Pentane:	0.5297	0.5813
N-Pentane:	0.4698	0.3852
Hexane+:	0.5715	0.9574
BTU:	1317.7	1299.8
GPM:	19.7230	19.5780
SPG:	0.7708	0.7585