



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

Analysis No: HS190020
Cust No: 35825-10590

30-045-26122

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: FEDERAL GAS COM H #1E; BHD
County/State: NM
Location:
Lease/PA/CA: AREA 3 / RUN 316
Formation: DAKOTA
Cust. Stn. No.: 95618

Source: BRADENHEAD
Well Flowing: Y
Pressure: 150 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 04/05/2019
Sample Time: 11.00 AM
Sampled By: JESSE RANGEL
Sampled by (CO): HILCORP

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	1.1485	1.1125	0.1270	0.00	0.0111
CO2	0.0213	0.0206	0.0040	0.00	0.0003
Methane	96.1330	93.1157	16.3280	970.94	0.5325
Ethane	2.0758	2.0106	0.5560	36.74	0.0216
Propane	0.2048	0.1984	0.0570	5.15	0.0031
Iso-Butane	0.2380	0.2305	0.0780	7.74	0.0048
N-Butane	0.0416	0.0403	0.0130	1.36	0.0008
I-Pentane	0.0168	0.0163	0.0060	0.67	0.0004
N-Pentane	0.0096	0.0093	0.0030	0.38	0.0002
Hexane Plus	0.1106	0.1071	0.0490	5.83	0.0037
Total	100.0000	96.8613	17.2210	1028.82	0.5785

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0021
BTU/CU.FT IDEAL: 1031.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1033.4
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1015.4
DRY BTU @ 15.025: 1054.1
REAL SPECIFIC GRAVITY: 0.5795

CYLINDER #: 4065
CYLINDER PRESSURE: 31 PSIG
ANALYSIS DATE: 04/10/2019
ANALYSIS TIME: 03:35:17 PM
ANALYSIS RUN BY: SHYANN ELLEDGE

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: 04/12/2019

GC Method: C6+ Gas



30-045-26122

HILCORP (BHD PROJECT)

WELL ANALYSIS COMPARISON

Lease: FEDERAL GAS COM H #1E; BHD
Stn. No.: 95618
Mtr. No.:

BRADENHEAD
DAKOTA

04/12/2019
35825-10590

Smpl Date:	04/05/2019	08/24/2018
Test Date:	04/10/2019	09/04/2018
Run No:	HS190020	HS180154
Nitrogen:	1.1485	1.1190
CO2:	0.0213	0.0229
Methane:	96.1330	96.2247
Ethane:	2.0758	2.0602
Propane:	0.2048	0.1937
I-Butane:	0.2380	0.2206
N-Butane:	0.0416	0.0377
I-Pentane:	0.0168	0.0153
N-Pentane:	0.0096	0.0097
Hexane+:	0.1106	0.0962
BTU:	1033.4	1032.2
GPM:	17.2210	17.2120
SPG:	0.5795	0.5785



30-045-26122

2030 Afton Place
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Analysis No: HS190021
Cust No: 35825-10595

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: FEDERAL GAS COM H #1E; CSG
County/State: NM
Location:
Lease/PA/CA: AREA 3 / RUN 316
Formation: DAKOTA
Cust. Stn. No.: 95618

Source: CASING
Well Flowing: Y
Pressure: 220 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 04/05/2019
Sample Time: 11.00 AM
Sampled By: JESSE RANGEL
Sampled by (CO): HILCORP

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5334	0.5174	0.0590	0.00	0.0052
CO2	1.3782	1.3368	0.2360	0.00	0.0209
Methane	81.1424	78.7041	13.7980	819.54	0.4494
Ethane	10.2252	9.9179	2.7430	180.96	0.1062
Propane	4.3267	4.1967	1.1960	108.86	0.0659
Iso-Butane	0.5186	0.5030	0.1700	16.86	0.0104
N-Butane	1.0143	0.9838	0.3210	33.09	0.0204
I-Pentane	0.2467	0.2393	0.0900	9.87	0.0061
N-Pentane	0.1864	0.1808	0.0680	7.47	0.0046
Hexane Plus	0.4281	0.4152	0.1910	22.57	0.0142
Total	100.0000	96.9950	18.8720	1199.22	0.7033

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
BTU/CU.FT IDEAL: 1202.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1206.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1185.0
DRY BTU @ 15.025: 1230.2
REAL SPECIFIC GRAVITY: 0.7053

CYLINDER #: 6194
CYLINDER PRESSURE: 166 PSIG
ANALYSIS DATE: 04/10/2019
ANALYSIS TIME: 03:49:44 AM
ANALYSIS RUN BY: SHYANN ELLEDGE

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: 04/12/2019

GC Method: C6+ Gas



30-045-26122

HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: FEDERAL GAS COM H #1E; CSG
Stn. No.: 95618
Mtr. No.:

CASING
DAKOTA

04/12/2019
35825-10595

Smpl Date:	04/05/2019	08/24/2018
Test Date:	04/10/2019	09/04/2018
Run No:	HS190021	HS180155
Nitrogen:	0.5334	0.5700
CO2:	1.3782	1.2525
Methane:	81.1424	82.0103
Ethane:	10.2252	9.4793
Propane:	4.3267	4.1270
I-Butane:	0.5186	0.5639
N-Butane:	1.0143	1.1308
I-Pentane:	0.2467	0.3299
N-Pentane:	0.1864	0.2877
Hexane+:	0.4281	0.2486
BTU:	1206.0	1199.6
GPM:	18.8720	18.7860
SPG:	0.7053	0.6996



2030 Afton Place
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30-045-26122

Analysis No: HS190022
Cust No: 35825-11005

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: FEDERAL GAS COM H #1E; TBG
County/State: SAN JUAN NM
Location:
Lease/PA/CA: AREA 3 / RUN 316
Formation: DAKOTA
Cust. Stn. No.: 95618

Source: TUBING
Well Flowing: Y
Pressure: 200 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 04/05/2019
Sample Time: 12.00 PM
Sampled By: JESSE RANGEL
Sampled by (CO): HILCORP

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5737	0.5591	0.0630	0.00	0.0055
CO2	1.0622	1.0352	0.1820	0.00	0.0161
Methane	79.0242	77.0146	13.4430	798.14	0.4377
Ethane	10.1307	9.8731	2.7190	179.28	0.1052
Propane	5.0414	4.9132	1.3940	126.85	0.0768
Iso-Butane	0.7532	0.7340	0.2470	24.49	0.0151
N-Butane	1.5532	1.5137	0.4910	50.67	0.0312
I-Pentane	0.6072	0.5918	0.2230	24.29	0.0151
N-Pentane	0.5876	0.5727	0.2140	23.56	0.0146
Hexane Plus	0.6666	0.6496	0.2980	35.14	0.0221
Total	100.0000	97.4570	19.2740	1262.42	0.7394

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0037
BTU/CU.FT IDEAL: 1265.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1270.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1247.9
DRY BTU @ 15.025: 1295.4
REAL SPECIFIC GRAVITY: 0.7419

CYLINDER #: 6101
CYLINDER PRESSURE: 228 PSIG
ANALYSIS DATE: 04/10/2019
ANALYSIS TIME: 03:35:20 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: 04/12/2019

GC Method: C6+ Gas



30-045-26122

HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: FEDERAL GAS COM H #1E; TBG
Stn. No.: 95618
Mtr. No.:

TUBING
DAKOTA

04/12/2019
35825-11005

Smpl Date: 04/05/2019
Test Date: 04/10/2019
Run No: HS190022
Nitrogen: 0.5737
CO2: 1.0622
Methane: 79.0242
Ethane: 10.1307
Propane: 5.0414
I-Butane: 0.7532
N-Butane: 1.5532
I-Pentane: 0.6072
N-Pentane: 0.5876
Hexane+: 0.6666
BTU: 1270.0
GPM: 19.2740
SPG: 0.7419