



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

Analysis No: HS190181
Cust No: 35825-11655

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: JICARILLA 14; BHD
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: JIC 120
Formation: DK
Cust. Stn. No.: API # 3003922343

NMOC
AUG 01 2019
DISTRICT III

Source: BRADENHEAD
Well Flowing: N
Pressure: 56 PSIG
Flow Temp: DEG. F
Ambient Temp: 79 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/17/2019
Sample Time: 9.39 AM
Sampled By: BRANDON NOBLE
Sampled by (CO): HILCORP

Heat Trace: AREA 14 / RUN 1406
N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4185	0.4153	0.0460	0.00	0.0040
CO2	0.5832	0.5787	0.1000	0.00	0.0089
Methane	76.7155	76.1235	13.0520	774.83	0.4249
Ethane	13.3557	13.2526	3.5840	236.36	0.1387
Propane	5.2420	5.2015	1.4490	131.89	0.0798
Iso-Butane	0.8914	0.8845	0.2930	28.99	0.0179
N-Butane	1.3500	1.3396	0.4270	44.04	0.0271
I-Pentane	0.5383	0.5341	0.1980	21.54	0.0134
N-Pentane	0.3621	0.3593	0.1320	14.52	0.0090
Hexane Plus	0.5433	0.5391	0.2430	28.64	0.0180
Total	100.0000	99.2282	19.5240	1280.79	0.7417

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0038
BTU/CU.FT IDEAL: 1283.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1288.7
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1266.3
DRY BTU @ 15.025: 1314.5
REAL SPECIFIC GRAVITY: 0.7442

CYLINDER #: 4229
CYLINDER PRESSURE: 48 PSIG
ANALYSIS DATE: 07/24/2019
ANALYSIS TIME: 04:00:56 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

GC Method: C6+ Gas

Last Cal/Verify: 07/31/2019



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: JICARILLA 14; BHD
Stn. No.: API # 3003922343
Mtr. No.:

BRADENHEAD
DK

07/31/2019
35825-11655

Smpl Date: 07/17/2019
Test Date: 07/24/2019
Run No: HS190181

Nitrogen: 0.4185
CO2: 0.5832
Methane: 76.7155
Ethane: 13.3557
Propane: 5.2420
I-Butane: 0.8914
N-Butane: 1.3500
I-Pentane: 0.5383
N-Pentane: 0.3621
Hexane+: 0.5433

BTU: 1288.7
GPM: 19.5240
SPG: 0.7442



2030 Afton Place
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Analysis No: HS190182
Cust No: 35825-11660

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: JICARILLA 14; CSG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: JIC 120
Formation: DK
Cust. Stn. No.: API # 3003922343

Source: CASING
Well Flowing: N
Pressure: 146 PSIG
Flow Temp: DEG. F
Ambient Temp: 79 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/17/2019
Sample Time: 9.33 AM
Sampled By: BRANDON NOBLE
Sampled by (CO): HILCORP

Heat Trace: AREA 14 / RUN 1406
N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3951	0.3918	0.0440	0.00	0.0038
CO2	0.6394	0.6341	0.1100	0.00	0.0097
Methane	76.6569	76.0264	13.0430	774.23	0.4246
Ethane	13.1458	13.0376	3.5280	232.64	0.1365
Propane	5.2260	5.1830	1.4450	131.49	0.0796
Iso-Butane	0.8977	0.8903	0.2950	29.19	0.0180
N-Butane	1.3746	1.3633	0.4350	44.84	0.0276
I-Pentane	0.5752	0.5705	0.2110	23.01	0.0143
N-Pentane	0.3973	0.3940	0.1450	15.93	0.0099
Hexane Plus	0.6920	0.6863	0.3100	36.48	0.0229
Total	100.0000	99.1773	19.5660	1287.82	0.7469

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0039
BTU/CU.FT IDEAL: 1290.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1295.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1273.4
DRY BTU @ 15.025: 1321.9
REAL SPECIFIC GRAVITY: 0.7495

CYLINDER #: 6094
CYLINDER PRESSURE: 84 PSIG
ANALYSIS DATE: 07/24/2019
ANALYSIS TIME: 03:43:51 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

GC Method: C6+ Gas

Last Cal/Verify: 07/31/2019



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: JICARILLA 14; CSG
Stn. No.: API # 3003922343
Mtr. No.:

CASING
DK

07/31/2019
35825-11660

Smpl Date: 07/17/2019
Test Date: 07/24/2019
Run No: HS190182

Nitrogen: 0.3951
CO2: 0.6394
Methane: 76.6569
Ethane: 13.1458
Propane: 5.2260
I-Butane: 0.8977
N-Butane: 1.3746
I-Pentane: 0.5752
N-Pentane: 0.3973
Hexane+: 0.6920

BTU: 1295.9
GPM: 19.5660
SPG: 0.7495



2030 Afton Place
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(505) 325-6622

Analysis No: HS190183
Cust No: 35825-11665

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: JICARILLA 14; TBG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: JIC 120
Formation: DK
Cust. Stn. No.: API # 3003922343

Source: TUBING
Well Flowing: N
Pressure: 145 PSIG
Flow Temp: DEG. F
Ambient Temp: 79 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/17/2019
Sample Time: 9.25 AM
Sampled By: BRANDON NOBLE
Sampled by (CO): HILCORP

Heat Trace: N
Remarks: AREA 14 / RUN 1406

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4364	0.4334	0.0480	0.00	0.0042
CO2	0.7390	0.7339	0.1270	0.00	0.0112
Methane	77.9336	77.3953	13.2580	787.13	0.4317
Ethane	12.8812	12.7922	3.4570	227.96	0.1337
Propane	4.8084	4.7752	1.3290	120.98	0.0732
Iso-Butane	0.7671	0.7618	0.2520	24.95	0.0154
N-Butane	1.1204	1.1127	0.3540	36.55	0.0225
I-Pentane	0.4165	0.4136	0.1530	16.66	0.0104
N-Pentane	0.2775	0.2756	0.1010	11.12	0.0069
Hexane Plus	0.6199	0.6156	0.2770	32.68	0.0205
Total	100.0000	99.3093	19.3560	1258.03	0.7297

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0037
BTU/CU.FT IDEAL: 1260.9
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1265.6
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1243.6
DRY BTU @ 15.025: 1290.9
REAL SPECIFIC GRAVITY: 0.7322

CYLINDER #: 4040
CYLINDER PRESSURE: 145 PSIG
ANALYSIS DATE: 07/24/2019
ANALYSIS TIME: 03:27:01 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: 07/31/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: JICARILLA 14; TBG
Stn. No.: API # 3003922343
Mtr. No.:

TUBING
DK

07/31/2019
35825-11665

Smpl Date: 07/17/2019
Test Date: 07/24/2019
Run No: HS190183

Nitrogen: 0.4364
CO2: 0.7390
Methane: 77.9336
Ethane: 12.8812
Propane: 4.8084
I-Butane: 0.7671
N-Butane: 1.1204
I-Pentane: 0.4165
N-Pentane: 0.2775
Hexane+: 0.6199

BTU: 1265.6
GPM: 19.3560
SPG: 0.7322