



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

Analysis No: HS190137
Cust No: 35825-11485

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: JICARILLA 101 #3; BHD
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation:
Cust. Stn. No.: API # 3003920294

Source: BRADENHEAD
Well Flowing: N
Pressure: 194 PSIG
Flow Temp: DEG. F
Ambient Temp: 82 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 06/12/2019
Sample Time: 11.46 AM
Sampled By: JERRY NELSON
Sampled by (CO): HILCORP

Heat Trace: AREA 14 / RUN 1407
N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5584	0.5470	0.0620	0.00	0.0054
CO2	0.1457	0.1427	0.0250	0.00	0.0022
Methane	84.4766	82.7587	14.3640	853.21	0.4679
Ethane	8.0900	7.9255	2.1700	143.17	0.0840
Propane	3.7954	3.7182	1.0490	95.50	0.0578
Iso-Butane	0.7414	0.7263	0.2430	24.11	0.0149
N-Butane	0.9638	0.9442	0.3050	31.44	0.0193
I-Pentane	0.3718	0.3642	0.1360	14.88	0.0093
N-Pentane	0.2571	0.2519	0.0930	10.31	0.0064
Hexane Plus	0.5998	0.5876	0.2680	31.62	0.0199
Total	100.0000	97.9663	18.7150	1204.23	0.6870

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0032
BTU/CU.FT IDEAL: 1207.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1210.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1189.8
DRY BTU @ 15.025: 1235.2
REAL SPECIFIC GRAVITY: 0.689

CYLINDER #: 7000
CYLINDER PRESSURE: 198 PSIG
ANALYSIS DATE: 06/18/2019
ANALYSIS TIME: 03:00:38 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: 06/25/2019



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: JICARILLA 101 #3; BHD
Stn. No.: API # 3003920294
Mtr. No.:

BRADENHEAD

06/25/2019
35825-11485

Smpl Date: 06/12/2019
Test Date: 06/18/2019
Run No: HS190137

Nitrogen: 0.5584
CO2: 0.1457
Methane: 84.4766
Ethane: 8.0900
Propane: 3.7954
I-Butane: 0.7414
N-Butane: 0.9638
I-Pentane: 0.3718
N-Pentane: 0.2571
Hexane+: 0.5998

BTU: 1210.9
GPM: 18.7150
SPG: 0.6890



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

Analysis No: HS190138
Cust No: 35825-11490

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: JICARILLA 101 #3; CSG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation:
Cust. Stn. No.: API # 3003920294

Source: CASING
Well Flowing: N
Pressure: 194 PSIG
Flow Temp: DEG. F
Ambient Temp: 82 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 06/12/2019
Sample Time: 11.58 AM
Sampled By: JERRY NELSON
Sampled by (CO): HILCORP

Heat Trace: AREA 14 / RUN 1407
Remarks: N

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5598	0.5486	0.0620	0.00	0.0054
CO2	0.1828	0.1791	0.0310	0.00	0.0028
Methane	84.4592	82.7642	14.3610	853.04	0.4678
Ethane	8.0990	7.9365	2.1720	143.33	0.0841
Propane	3.8043	3.7280	1.0510	95.72	0.0579
Iso-Butane	0.7438	0.7289	0.2440	24.19	0.0149
N-Butane	0.9657	0.9463	0.3050	31.50	0.0194
I-Pentane	0.3714	0.3639	0.1360	14.86	0.0093
N-Pentane	0.2553	0.2502	0.0930	10.23	0.0064
Hexane Plus	0.5587	0.5475	0.2500	29.45	0.0185
Total	100.0000	97.9932	18.7050	1202.32	0.6864

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0032
BTU/CU.FT IDEAL: 1205.1
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1209.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1188.0
DRY BTU @ 15.025: 1233.2
REAL SPECIFIC GRAVITY: 0.6884

CYLINDER #: 4095
CYLINDER PRESSURE: 196 PSIG
ANALYSIS DATE: 06/18/2019
ANALYSIS TIME: 03:35:46 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: 06/25/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: JICARILLA 101 #3; CSG
Stn. No.: API # 3003920294
Mtr. No.:

CASING

06/25/2019
35825-11490

Smpl Date: 06/12/2019
Test Date: 06/18/2019
Run No: HS190138

Nitrogen: 0.5598
CO2: 0.1828
Methane: 84.4592
Ethane: 8.0990
Propane: 3.8043
I-Butane: 0.7438
N-Butane: 0.9657
I-Pentane: 0.3714
N-Pentane: 0.2553
Hexane+: 0.5587

BTU: 1209.0
GPM: 18.7050
SPG: 0.6884



2030 Afton Place
Farmington, NM 87401
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Analysis No: HS190139
Cust No: 35825-11495

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: JICARILLA 101 #3; TBG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation:
Cust. Str. No.: API # 3003920294

Source: TUBING
Well Flowing: N
Pressure: 192.2 PSIG
Flow Temp: DEG. F
Ambient Temp: 82 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 06/12/2019
Sample Time: 11.54 AM
Sampled By: JERRY NELSON
Sampled by (CO): HILCORP

Heat Trace: AREA 14 / RUN 1407
Remarks: N

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3699	0.3629	0.0410	0.00	0.0036
CO2	0.6243	0.6125	0.1070	0.00	0.0095
Methane	82.0986	80.5476	13.9610	829.20	0.4547
Ethane	10.0134	9.8242	2.6860	177.21	0.1040
Propane	4.1874	4.1083	1.1570	105.36	0.0638
Iso-Butane	0.6740	0.6613	0.2210	21.92	0.0135
N-Butane	1.0061	0.9871	0.3180	32.82	0.0202
I-Pentane	0.3264	0.3202	0.1200	13.06	0.0081
N-Pentane	0.2364	0.2319	0.0860	9.48	0.0059
Hexane Plus	0.4635	0.4547	0.2070	24.43	0.0153
Total	100.0000	98.1107	18.9040	1213.47	0.6986

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
BTU/CU.FT IDEAL: 1216.3
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1220.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1199.1
DRY BTU @ 15.025: 1244.7
REAL SPECIFIC GRAVITY: 0.7006

CYLINDER #: 4072
CYLINDER PRESSURE: 191 PSIG
ANALYSIS DATE: 06/18/2019
ANALYSIS TIME: 03:19:29 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: 06/25/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: JICARILLA 101 #3; TBG
Stn. No.: API # 3003920294
Mtr. No.:

TUBING

06/25/2019
35825-11495

Smpl Date: 06/12/2019
Test Date: 06/18/2019
Run No: HS190139
Nitrogen: 0.3699
CO2: 0.6243
Methane: 82.0986
Ethane: 10.0134
Propane: 4.1874
I-Butane: 0.6740
N-Butane: 1.0061
I-Pentane: 0.3264
N-Pentane: 0.2364
Hexane+: 0.4635
BTU: 1220.3
GPM: 18.9040
SPG: 0.7006