



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

Analysis No: HS190184
Cust No: 35825-11670

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: JICARILLA K 15E; BHD
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: JIC 104
Formation: DK/MV
Cust. Stn. No.: API # 3003922414

Source: BRADENHEAD
Well Flowing: N
Pressure: 50 PSIG
Flow Temp: DEG. F
Ambient Temp: 92 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/16/2019
Sample Time: 2.00 PM
Sampled By: BRANDON NOBLE
Sampled by (CO): HILCORP

Heat Trace: AREA 14 / RUN 1406
Remarks: N

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	3.7061	3.6479	0.4090	0.00	0.0358
CO2	0.0115	0.0113	0.0020	0.00	0.0002
Methane	77.2078	75.9960	13.1320	779.80	0.4277
Ethane	10.1609	10.0014	2.7260	179.82	0.1055
Propane	5.1294	5.0489	1.4180	129.06	0.0781
Iso-Butane	0.9261	0.9116	0.3040	30.12	0.0186
N-Butane	1.4336	1.4111	0.4530	46.77	0.0288
I-Pentane	0.5246	0.5164	0.1920	20.99	0.0131
N-Pentane	0.3750	0.3691	0.1360	15.03	0.0093
Hexane Plus	0.5250	0.5168	0.2350	27.67	0.0174
Total	100.0000	98.4305	19.0070	1229.26	0.7344

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0035
BTU/CU.FT IDEAL: 1232.1
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1236.4
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1214.9
DRY BTU @ 15.025: 1261.2
REAL SPECIFIC GRAVITY: 0.7367

CYLINDER #: 6248
CYLINDER PRESSURE: 53 PSIG
ANALYSIS DATE: 07/24/2019
ANALYSIS TIME: 03:09:31 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 K 15E; BHD
Stn. No.: API # 3003922414
Mtr. No.:

BRADENHEAD
DK/MV

07/31/2019
35825-11670

Smpl Date: 07/16/2019
Test Date: 07/24/2019
Run No: HS190184
Nitrogen: 3.7061
CO2: 0.0115
Methane: 77.2078
Ethane: 10.1609
Propane: 5.1294
I-Butane: 0.9261
N-Butane: 1.4336
I-Pentane: 0.5246
N-Pentane: 0.3750
Hexane+: 0.5250
BTU: 1236.4
GPM: 19.0070
SPG: 0.7367



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Analysis No: HS190185
Cust No: 35825-11675

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: JICARILLA K 15E; CSG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: JIC 104
Formation: DK/MV
Cust. Stn. No.: API # 3003922414

Source: CASING
Well Flowing: N
Pressure: 64 PSIA
Flow Temp: DEG. F
Ambient Temp: 92 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/16/2019
Sample Time: 1.40 PM
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	0.7152	0.7043	0.0790	0.00	0.0069
CO2	1.1930	1.1747	0.2040	0.00	0.0181
Methane	76.0731	74.9088	12.9500	768.34	0.4214
Ethane	10.3418	10.1835	2.7770	183.02	0.1074
Propane	5.0141	4.9374	1.3870	126.16	0.0763
Iso-Butane	1.2523	1.2331	0.4120	40.72	0.0251
N-Butane	1.9924	1.9619	0.6310	65.00	0.0400
I-Pentane	0.9638	0.9490	0.3540	38.56	0.0240
N-Pentane	0.7975	0.7853	0.2900	31.97	0.0199
Hexane Plus	1.6568	1.6314	0.7420	87.33	0.0548
Total	100.0000	98.4694	19.8260	1341.10	0.7939

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0044
BTU/CU.FT IDEAL: 1344.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1350.1
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1326.6
DRY BTU @ 15.025: 1377.1
REAL SPECIFIC GRAVITY: 0.7971

CYLINDER #: 5002
CYLINDER PRESSURE: 69 PSIG
ANALYSIS DATE: 07/24/2019
ANALYSIS TIME: 02:34:19 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 K 15E; CSG
Stn. No.: API # 3003922414
Mtr. No.:

CASING
DK/MV

07/31/2019
35825-11675

Smpl Date: 07/16/2019
Test Date: 07/24/2019
Run No: HS190185
Nitrogen: 0.7152
CO2: 1.1930
Methane: 76.0731
Ethane: 10.3418
Propane: 5.0141
I-Butane: 1.2523
N-Butane: 1.9924
I-Pentane: 0.9638
N-Pentane: 0.7975
Hexane+: 1.6568
BTU: 1350.1
GPM: 19.8260
SPG: 0.7971



2030 Afton Place
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Analysis No: HS190186
Cust No: 35825-11680

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: JICARILLA K 15E; TBG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: JIC 104
Formation: DK/MV
Cust. Stn. No.: API # 3003922414

Source: TUBING
Well Flowing: N
Pressure: 70 PSIG
Flow Temp: DEG. F
Ambient Temp: 92 DEG. F
Flow Rate: MCF/D
Sample Method: Purge & Fill
Sample Date: 07/16/2019
Sample Time: 1.50 PM
Sampled By: BRANDON NOBLE
Sampled by (CO): HILCORP

Heat Trace: AREA 14 / RUN 1406
Remarks: N

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5149	0.5121	0.0570	0.00	0.0050
CO2	0.8084	0.8039	0.1380	0.00	0.0123
Methane	77.5562	77.1285	13.1970	783.32	0.4296
Ethane	11.5148	11.4513	3.0910	203.78	0.1195
Propane	5.1092	5.0810	1.4130	128.55	0.0778
Iso-Butane	0.9627	0.9574	0.3160	31.31	0.0193
N-Butane	1.4732	1.4651	0.4660	48.06	0.0296
I-Pentane	0.5655	0.5624	0.2080	22.63	0.0141
N-Pentane	0.4203	0.4180	0.1530	16.85	0.0105
Hexane Plus	1.0748	1.0689	0.4810	56.65	0.0356
Total	100.0000	99.4486	19.5200	1291.14	0.7532

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.004
BTU/CU.FT IDEAL: 1294.1
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1299.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1276.6
DRY BTU @ 15.025: 1325.2
REAL SPECIFIC GRAVITY: 0.7558

CYLINDER #: 5015
CYLINDER PRESSURE: 68 PSIG
ANALYSIS DATE: 07/24/2019
ANALYSIS TIME: 02:52:39 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

GC Method: C6+ Gas

Last Cal/Verify: 07/31/2019



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: JICARILLA K 15E; TBG
Stn. No.: API # 3003922414
Mtr. No.:

TUBING
DK/MV

07/31/2019
35825-11680

Smpl Date: 07/16/2019
Test Date: 07/24/2019
Run No: HS190186

Nitrogen: 0.5149
CO2: 0.8084
Methane: 77.5562
Ethane: 11.5148
Propane: 5.1092
I-Butane: 0.9627
N-Butane: 1.4732
I-Pentane: 0.5655
N-Pentane: 0.4203
Hexane+: 1.0748

BTU: 1299.2
GPM: 19.5200
SPG: 0.7558