



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

API 30-045-23866

Analysis No: HS180121
Cust No: 35825-10470

36.8115425

108.257843

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT) Source: BRADENHEAD
Well Name: HUMBLE N. KIRTLAND #1E; BHD Well Flowing: Y
County/State: SAN JUAN NM Pressure: 103 PSIG
Location: Flow Temp: DEG. F
Field: Ambient Temp: DEG. F
Formation: DK Flow Rate: MCF/D
Cust. Stn. No.: 93159 Sample Method:
Sample Date: 08/09/2018
Sample Time: 8.15 AM
Sampled By: JESSE RANGEL
Sampled by (CO): HILCORP

Heat Trace: N
Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5605	0.5593	0.0620	0.00	0.0054
CO2	1.3046	1.3018	0.2230	0.00	0.0198
Methane	81.0344	80.8618	13.7820	818.45	0.4488
Ethane	9.6029	9.5824	2.5770	169.94	0.0997
Propane	4.2735	4.2644	1.1810	107.53	0.0651
Iso-Butane	0.6827	0.6812	0.2240	22.20	0.0137
N-Butane	1.2175	1.2149	0.3850	39.72	0.0244
I-Pentane	0.3690	0.3682	0.1350	14.76	0.0092
N-Pentane	0.3215	0.3208	0.1170	12.89	0.0080
Hexane Plus	0.6334	0.6320	0.2830	33.39	0.0210
Total	100.0000	99.7868	18.9690	1218.87	0.7152

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0035
BTU/CU.FT IDEAL: 1221.7
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1225.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1204.6
DRY BTU @ 15.025: 1250.5
REAL SPECIFIC GRAVITY: 0.7173

CYLINDER #: 6034
CYLINDER PRESSURE: 107 PSIG
ANALYSIS DATE: 08/22/2018
ANALYSIS TIME: 11:40:03 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: 08/28/2018

NMOC

SEP 18 2018

DISTRICT III



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

API 30-045-23866

Lease: HUMBLE N. KIRTLAND #1E; BHD
Stn. No.: 93159
Mtr. No.:

BRADENHEAD
DK

08/28/2018
35825-10470

Smpl Date: 08/09/2018
Test Date: 08/22/2018
Run No: HS180121

Nitrogen: 0.5605
CO2: 1.3046
Methane: 81.0344
Ethane: 9.6029
Propane: 4.2735
I-Butane: 0.6827
N-Butane: 1.2175
I-Pentane: 0.3690
N-Pentane: 0.3215
Hexane+: 0.6334

BTU: 1225.9
GPM: 18.9690
SPG: 0.7173



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API 30-045-23846

Analysis No: HS180123
Cust No: 35825-10480

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: HUMBLE N. KIRTLAND #1E; TBG
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Str. No.: 93159

Source: TUBING
Well Flowing: Y
Pressure: 155 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 08/09/2018
Sample Time: 8.15 AM
Sampled By: JESSE RANGEL
Sampled by (CO): HILCORP

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5713	0.5805	0.0630	0.00	0.0055
CO2	1.3269	1.3482	0.2270	0.00	0.0202
Methane	80.4569	81.7512	13.6840	812.61	0.4457
Ethane	9.8832	10.0422	2.6520	174.90	0.1026
Propane	4.5102	4.5828	1.2470	113.48	0.0687
Iso-Butane	0.6770	0.6879	0.2220	22.02	0.0136
N-Butane	1.2045	1.2239	0.3810	39.29	0.0242
I-Pentane	0.3552	0.3609	0.1300	14.21	0.0088
N-Pentane	0.3155	0.3206	0.1150	12.65	0.0079
Hexane Plus	0.6993	0.7106	0.3130	36.86	0.0231
Total	100.0000	101.6088	19.0340	1226.03	0.7202

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0035
BTU/CU.FT IDEAL: 1228.9
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1233.2
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1211.7
DRY BTU @ 15.025: 1257.9
REAL SPECIFIC GRAVITY: 0.7225

CYLINDER #: 6219
CYLINDER PRESSURE: 160 PSIG
ANALYSIS DATE: 08/22/2018
ANALYSIS TIME: 12:04:04 AM
ANALYSIS RUN BY: PATRICIA KING

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: 08/28/2018

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

API 30-45-23866

Lease: HUMBLE N. KIRTLAND #1E; TBG
Stn. No.: 93159
Mtr. No.:

TUBING
DK

08/28/2018
35825-10480

Smpl Date: 08/09/2018
Test Date: 08/22/2018
Run No: HS180123
Nitrogen: 0.5713
CO2: 1.3269
Methane: 80.4569
Ethane: 9.8832
Propane: 4.5102
I-Butane: 0.6770
N-Butane: 1.2045
I-Pentane: 0.3552
N-Pentane: 0.3155
Hexane+: 0.6993
BTU: 1233.2
GPM: 19.0340
SPG: 0.7225



2030 Afton Place
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API 30-045-23866

Analysis No: HS180122
Cust No: 35825-10475

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: HUMBLE N. KIRTLAND #1E; CSG
County/State: SAN JUAN NM
Location:
Field:
Formation: DK
Cust. Stn. No.: 93159

Source: CASING
Well Flowing: Y
Pressure: 160 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 08/09/2018
Sample Time: 8.15 AM
Sampled By: JESSE RANGEL
Sampled by (CO): HILCORP

Heat Trace: N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5618	0.5607	0.0620	0.00	0.0054
CO2	1.3113	1.3088	0.2250	0.00	0.0199
Methane	80.9681	80.8127	13.7710	817.78	0.4485
Ethane	9.6346	9.6161	2.5850	170.50	0.1000
Propane	4.3365	4.3282	1.1990	109.11	0.0660
Iso-Butane	0.6837	0.6824	0.2240	22.23	0.0137
N-Butane	1.2096	1.2073	0.3830	39.46	0.0243
I-Pentane	0.3691	0.3684	0.1350	14.77	0.0092
N-Pentane	0.3223	0.3217	0.1170	12.92	0.0080
Hexane Plus	0.6030	0.6018	0.2700	31.78	0.0200
Total	100.0000	99.8081	18.9710	1218.56	0.7151

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0035
BTU/CU.FT IDEAL: 1221.4
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1225.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1204.2
DRY BTU @ 15.025: 1250.0
REAL SPECIFIC GRAVITY: 0.7172

CYLINDER #: 6222
CYLINDER PRESSURE: 194 PSIG
ANALYSIS DATE: 08/22/2018
ANALYSIS TIME: 11:57:23 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: 08/28/2018

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

API 30-045-23866

Lease: HUMBLE N. KIRTLAND #1E; CSG
Stn. No.: 93159
Mtr. No.:

CASING
DK

08/28/2018
35825-10475

Smpl Date: 08/09/2018
Test Date: 08/22/2018
Run No: HS180122

Nitrogen: 0.5618
CO2: 1.3113
Methane: 80.9681
Ethane: 9.6346
Propane: 4.3365
I-Butane: 0.6837
N-Butane: 1.2096
I-Pentane: 0.3691
N-Pentane: 0.3223
Hexane+: 0.6030

BTU: 1225.5
GPM: 18.9710
SPG: 0.7172