



OCD Received
8/13/2020

Well Name: GRENIER 11F; BHD
API #: API #3004530466
Source: BRADENHEAD
Sample Type: GAS
Analysis No: HS200169
Cust No: 35825-12805

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: GRENIER 11F; BHD
County/State: SAN JUAN NM
Location:
Lease/PA/CA: SF-078115
Formation: DK
Cust. Stn. No.: API #3004530466
3637230

Source: BRADENHEAD
Well Flowing: Y
Pressure: 73 PSIG
Flow Temp: 97 DEG. F
Ambient Temp: 94 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 08/04/2020
Sample Time: 11.30 AM
Sampled By:
Sampled by (CO):

Heat Trace: AREA 1 / RUN 109
N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	1.9610	1.8957	0.2160	0.00	0.0190
CO2	0.0041	0.0040	0.0010	0.00	0.0001
Methane	85.6709	82.8179	14.5620	865.28	0.4745
Ethane	7.0121	6.7786	1.8800	124.09	0.0728
Propane	3.0823	2.9797	0.8510	77.55	0.0469
Iso-Butane	0.6568	0.6349	0.2160	21.36	0.0132
N-Butane	0.8091	0.7822	0.2560	26.40	0.0162
I-Pentane	0.3163	0.3058	0.1160	12.65	0.0079
N-Pentane	0.2000	0.1933	0.0730	8.02	0.0050
Hexane Plus	0.2874	0.2778	0.1290	15.15	0.0095
Total	100.0000	96.6699	18.3000	1150.50	0.6651

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0029
BTU/CU.FT IDEAL: 1153.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1156.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1136.4
DRY BTU @ 15.025: 1179.7
REAL SPECIFIC GRAVITY: 0.6667

CYLINDER #: 6022
CYLINDER PRESSURE: 40 PSIG
ANALYSIS DATE: 08/10/2020
ANALYSIS TIME: 02:08:59 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: 08/13/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: GRENIER 11F; BHD
Stn. No.: API #3004530466
Mtr. No.: 3637230

BRADENHEAD
DK

08/13/2020
35825-12805

Smpl Date: 08/04/2020
Test Date: 08/10/2020
Run No: HS200169
Nitrogen: 1.9610
CO2: 0.0041
Methane: 85.6709
Ethane: 7.0121
Propane: 3.0823
I-Butane: 0.6568
N-Butane: 0.8091
I-Pentane: 0.3163
N-Pentane: 0.2000
Hexane+: 0.2874
BTU: 1156.5
GPM: 18.3000
SPG: 0.6667



Well Name: GRENIER 11F; CSG
 API #: API #3004530466
 Source: CASING
 Sample Type: GAS
 Analysis No: HS200170
 Cust No: 35825-12810

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	CASING
Well Name:	GRENIER 11F; CSG	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	73 PSIG
Location:		Flow Temp:	97 DEG. F
Lease/PA/CA:	SF-078115	Ambient Temp:	94 DEG. F
Formation:	DK	Flow Rate:	0 MCF/D
Cust. Stn. No.:	API #3004530466	Sample Method:	Purge & Fill
	3637230	Sample Date:	08/04/2020
		Sample Time:	11.30 AM
	AREA 1 / RUN 109	Sampled By:	
Heat Trace:	N	Sampled by (CO):	
Remarks:			

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3107	0.3063	0.0340	0.00	0.0030
CO2	2.2606	2.2288	0.3870	0.00	0.0343
Methane	81.7989	80.6497	13.9120	826.17	0.4531
Ethane	8.5789	8.4584	2.3020	151.82	0.0891
Propane	3.6257	3.5748	1.0020	91.23	0.0552
Iso-Butane	0.7046	0.6947	0.2310	22.91	0.0141
N-Butane	1.0604	1.0455	0.3350	34.59	0.0213
I-Pentane	0.4368	0.4307	0.1600	17.48	0.0109
N-Pentane	0.3519	0.3470	0.1280	14.11	0.0088
Hexane Plus	0.8715	0.8593	0.3900	45.94	0.0288
Total	100.0000	98.5952	18.8810	1204.24	0.7186

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0035	CYLINDER #:	5005
BTU/CU.FT IDEAL:	1207.0	CYLINDER PRESSURE:	106 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1211.1	ANALYSIS DATE:	08/11/2020
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1190.0	ANALYSIS TIME:	01:53:22 PM
DRY BTU @ 15.025:	1235.4	ANALYSIS RUN BY:	PATRICIA KING
REAL SPECIFIC GRAVITY:	0.7208		

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: 08/13/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: GRENIER 11F; CSG
Stn. No.: API #3004530466
Mtr. No.: 3637230

CASING
DK

08/13/2020
35825-12810

Smpl Date: 08/04/2020
Test Date: 08/11/2020
Run No: HS200170

Nitrogen: 0.3107
CO2: 2.2606
Methane: 81.7989
Ethane: 8.5789
Propane: 3.6257
I-Butane: 0.7046
N-Butane: 1.0604
I-Pentane: 0.4368
N-Pentane: 0.3519
Hexane+: 0.8715

BTU: 1211.1
GPM: 18.8810
SPG: 0.7208



Well Name: GRENIER 11F; TBG
API #: API #3004530466
Source: TUBING
Sample Type: GAS
Analysis No: HS200171
Cust No: 35825-12815

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: GRENIER 11F; TBG
County/State: SAN JUAN NM
Location:
Lease/PA/CA: SF-078115
Formation: DK
Cust. Stn. No.: API #3004530466
3637230

Source: TUBING
Well Flowing: Y
Pressure: 73 PSIG
Flow Temp: 97 DEG. F
Ambient Temp: 94 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 08/04/2020
Sample Time: 11.30 AM
Sampled By:
Sampled by (CO):

Heat Trace: AREA 1 / RUN 109
N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3047	0.3002	0.0340	0.00	0.0029
CO2	2.2497	2.2164	0.3850	0.00	0.0342
Methane	81.5718	80.3642	13.8740	823.88	0.4518
Ethane	8.6861	8.5575	2.3310	153.72	0.0902
Propane	3.6506	3.5965	1.0090	91.85	0.0556
Iso-Butane	0.6909	0.6807	0.2270	22.47	0.0139
N-Butane	1.0305	1.0152	0.3260	33.62	0.0207
I-Pentane	0.4362	0.4297	0.1600	17.45	0.0109
N-Pentane	0.3284	0.3235	0.1190	13.16	0.0082
Hexane Plus	1.0511	1.0355	0.4700	55.40	0.0348
Total	100.0000	98.5194	18.9350	1211.55	0.7231

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0035
BTU/CU.FT IDEAL: 1214.4
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1218.6
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1197.4
DRY BTU @ 15.025: 1243.0
REAL SPECIFIC GRAVITY: 0.7253

CYLINDER #: 6190
CYLINDER PRESSURE: 78 PSIG
ANALYSIS DATE: 08/10/2020
ANALYSIS TIME: 01:48:39 PM
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: 08/13/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: GRENIER 11F; TBG
Stn. No.: API #3004530466
Mtr. No.: 3637230

TUBING
DK

08/13/2020
35825-12815

Smpl Date: 08/04/2020
Test Date: 08/10/2020
Run No: HS200171

Nitrogen: 0.3047
CO2: 2.2497
Methane: 81.5718
Ethane: 8.6861
Propane: 3.6506
I-Butane: 0.6909
N-Butane: 1.0305
I-Pentane: 0.4362
N-Pentane: 0.3284
Hexane+: 1.0511

BTU: 1218.6
GPM: 18.9350
SPG: 0.7253