



OCD Received
8/10/2020

Well Name: GRENIER B9; TBG
API #: API #3004520429
Source: TUBING
Sample Type: GAS
Analysis No: HS200152
Cust No: 35825-12725

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: GRENIER B9; TBG
County/State: SAN JUAN NM
Location:
Lease/PA/CA:
Formation: PC
Cust. Stn. No.: API #3004520429
3287630

Source: TUBING
Well Flowing:
Pressure: 36 PSIA
Flow Temp: DEG. F
Ambient Temp: 88 DEG. F
Flow Rate: 6 MCF/D
Sample Method:
Sample Date: 07/28/2020
Sample Time: 2.30 PM
Sampled By: LIONEL GLEASON
Sampled by (CO): HILCORP

AREA 3 / RUN 306

Heat Trace:
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2535	0.2468	0.0280	0.00	0.0025
CO2	0.3864	0.3761	0.0660	0.00	0.0059
Methane	86.7384	84.4365	14.7470	876.06	0.4804
Ethane	6.9835	6.7982	1.8730	123.59	0.0725
Propane	3.0261	2.9458	0.8360	76.14	0.0461
Iso-Butane	0.5615	0.5466	0.1840	18.26	0.0113
N-Butane	0.7988	0.7776	0.2530	26.06	0.0160
I-Pentane	0.3015	0.2935	0.1110	12.06	0.0075
N-Pentane	0.2234	0.2175	0.0810	8.96	0.0056
Hexane Plus	0.7269	0.7076	0.3250	38.32	0.0241
Total	100.0000	97.3462	18.5040	1179.44	0.6718

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0031
BTU/CU.FT IDEAL: 1182.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1185.8
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1165.2
DRY BTU @ 15.025: 1209.5
REAL SPECIFIC GRAVITY: 0.6736

CYLINDER #: 1286
CYLINDER PRESSURE: 30 PSIG
ANALYSIS DATE: 08/06/2020
ANALYSIS TIME: 01:33:33 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: 08/07/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: GRENIER B9; TBG
Stn. No.: API #3004520429
Mtr. No.: 3287630

TUBING
PC

08/07/2020
35825-12725

Smpl Date: 07/28/2020
Test Date: 08/06/2020
Run No: HS200152

Nitrogen: 0.2535
CO2: 0.3864
Methane: 86.7384
Ethane: 6.9835
Propane: 3.0261
I-Butane: 0.5615
N-Butane: 0.7988
I-Pentane: 0.3015
N-Pentane: 0.2234
Hexane+: 0.7269

BTU: 1185.8
GPM: 18.5040
SPG: 0.6736



Well Name: GRENIER B9; BHD
API #: API #3004520429
Source: BRADENHEAD
Sample Type: GAS
Analysis No: HS200150
Cust No: 35825-12715

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: GRENIER B9; BHD
County/State: SAN JUAN NM
Location:
Lease/PA/CA:
Formation: PC
Cust. Stn. No.: API #3004520429
3287630

Source: BRADENHEAD
Well Flowing: Y
Pressure: 36 PSIA
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: 7 MCF/D
Sample Method:
Sample Date: 07/28/2020
Sample Time: 2.28 PM
Sampled By: LIONEL GLEASON
Sampled by (CO): HILCORP

Heat Trace: AREA 3 / RUN 306

Remarks: N

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2909	0.2844	0.0320	0.00	0.0028
CO2	0.0120	0.0117	0.0020	0.00	0.0002
Methane	87.1484	85.1976	14.8130	880.20	0.4827
Ethane	7.5515	7.3825	2.0250	133.64	0.0784
Propane	3.0148	2.9473	0.8330	75.86	0.0459
Iso-Butane	0.4896	0.4786	0.1610	15.92	0.0098
N-Butane	0.7406	0.7240	0.2340	24.16	0.0149
I-Pentane	0.2392	0.2338	0.0880	9.57	0.0060
N-Pentane	0.1696	0.1658	0.0620	6.80	0.0042
Hexane Plus	0.3434	0.3357	0.1540	18.10	0.0114
Total	100.0000	97.7614	18.4040	1164.24	0.6562

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0029
BTU/CU.FT IDEAL: 1166.9
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1170.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1149.9
DRY BTU @ 15.025: 1193.7
REAL SPECIFIC GRAVITY: 0.6579

CYLINDER #: 009
CYLINDER PRESSURE: 32 PSIG
ANALYSIS DATE: 08/06/2020
ANALYSIS TIME: 02:00:35 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: 08/07/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: GRENIER B9; BHD
Stn. No.: API #3004520429
Mtr. No.: 3287630

BRADENHEAD
PC

08/07/2020
35825-12715

Smpl Date: 07/28/2020
Test Date: 08/06/2020
Run No: HS200150

Nitrogen: 0.2909
CO2: 0.0120
Methane: 87.1484
Ethane: 7.5515
Propane: 3.0148
I-Butane: 0.4896
N-Butane: 0.7406
I-Pentane: 0.2392
N-Pentane: 0.1696
Hexane+: 0.3434

BTU: 1170.3
GPM: 18.4040
SPG: 0.6579



Well Name: GRENIER B9; CSG
API #: API #3004520429
Source: CASING
Sample Type: GAS
Analysis No: HS200151
Cust No: 35825-12720

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: GRENIER B9; CSG
County/State: SAN JUAN NM
Location:
Lease/PA/CA:
Formation: PC
Cust. Stn. No.: API #3004520429
3287630

Source: CASING
Well Flowing: Y
Pressure: 167 PSIA
Flow Temp: DEG. F
Ambient Temp: 88 DEG. F
Flow Rate: 6 MCF/D
Sample Method:
Sample Date: 07/28/2020
Sample Time: 2.48 PM
Sampled By: LIONEL GLEASON
Sampled by (CO): HILCORP

Heat Trace:
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2312	0.2313	0.0260	0.00	0.0022
CO2	0.3111	0.3113	0.0530	0.00	0.0047
Methane	88.0776	88.1231	14.9710	889.58	0.4879
Ethane	6.4687	6.4720	1.7350	114.48	0.0672
Propane	2.6764	2.6778	0.7390	67.34	0.0407
Iso-Butane	0.5005	0.5008	0.1640	16.28	0.0100
N-Butane	0.6998	0.7002	0.2210	22.83	0.0140
I-Pentane	0.2753	0.2754	0.1010	11.01	0.0069
N-Pentane	0.2076	0.2077	0.0750	8.32	0.0052
Hexane Plus	0.5518	0.5521	0.2470	29.09	0.0183
Total	100.0000	100.0517	18.3320	1158.93	0.6571

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0029
BTU/CU.FT IDEAL: 1161.6
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1165.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1144.7
DRY BTU @ 15.025: 1188.3
REAL SPECIFIC GRAVITY: 0.6588

CYLINDER #: 003
CYLINDER PRESSURE: 157 PSIG
ANALYSIS DATE: 08/06/2020
ANALYSIS TIME: 01:27:22 PM
ANALYSIS RUN BY: RICHARD WILSON

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: 08/07/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: GRENIER B9; CSG
Stn. No.: API #3004520429
Mtr. No.: 3287630

CASING
PC

08/07/2020
35825-12720

Smpl Date: 07/28/2020
Test Date: 08/06/2020
Run No: HS200151

Nitrogen: 0.2312
CO2: 0.3111
Methane: 88.0776
Ethane: 6.4687
Propane: 2.6764
I-Butane: 0.5005
N-Butane: 0.6998
I-Pentane: 0.2753
N-Pentane: 0.2076
Hexane+: 0.5518

BTU: 1165.0
GPM: 18.3320
SPG: 0.6588