



Well Name: GRENIER 4; CSG
API #: API #3004510949
Source: CASING
Sample Type: GAS
Analysis No: HS200166
Cust No: 35825-12790

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: GRENIER 4; CSG
County/State: SAN JUAN NM
Location:
Lease/PA/CA: SF-078115
Formation: PC
Cust. Stn. No.: API #3004510949
3409730

Source: CASING
Well Flowing: Y
Pressure: 67 PSIG
Flow Temp: 100 DEG. F
Ambient Temp: 85 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 08/04/2020
Sample Time: 10.00 AM
Sampled By:
Sampled by (CO):

Heat Trace: N
Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2975	0.2921	0.0330	0.00	0.0029
CO2	0.4568	0.4485	0.0780	0.00	0.0069
Methane	85.0915	83.5534	14.4680	859.42	0.4713
Ethane	7.8903	7.7477	2.1160	139.63	0.0819
Propane	3.4634	3.4008	0.9570	87.14	0.0527
Iso-Butane	0.5889	0.5783	0.1930	19.15	0.0118
N-Butane	0.8646	0.8490	0.2730	28.21	0.0174
I-Pentane	0.3140	0.3083	0.1150	12.56	0.0078
N-Pentane	0.2309	0.2267	0.0840	9.26	0.0058
Hexane Plus	0.8021	0.7876	0.3590	42.28	0.0265
Total	100.0000	98.1924	18.6760	1197.66	0.6851

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0032
BTU/CU.FT IDEAL: 1200.4
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1204.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1183.3
DRY BTU @ 15.025: 1228.4
REAL SPECIFIC GRAVITY: 0.687

CYLINDER #: 4156
CYLINDER PRESSURE: 138 PSIG
ANALYSIS DATE: 08/10/2020
ANALYSIS TIME: 02:28:17 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 4; CSG
Stn. No.: API #3004510949
Mtr. No.: 3409730

CASING
PC

08/13/2020
35825-12790

Smpl Date: 08/04/2020
Test Date: 08/10/2020
Run No: HS200166

Nitrogen: 0.2975
CO2: 0.4568
Methane: 85.0915
Ethane: 7.8903
Propane: 3.4634
I-Butane: 0.5889
N-Butane: 0.8646
I-Pentane: 0.3140
N-Pentane: 0.2309
Hexane+: 0.8021

BTU: 1204.3
GPM: 18.6760
SPG: 0.6870



Well Name: GRENIER 4; INTRM
 API #: API #3004510949
 Source: INTERMEDIATE CASING
 Sample Type: GAS
 Analysis No: HS200167
 Cust No: 35825-12795

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	INTERMEDIATE CASING
Well Name:	GRENIER 4; INTRM	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	67 PSIG
Location:		Flow Temp:	100 DEG. F
Lease/PA/CA:	SF-078115	Ambient Temp:	85 DEG. F
Formation:	PC	Flow Rate:	0 MCF/D
Cust. Stn. No.:	API #3004510949	Sample Method:	Purge & Fill
	3409730	Sample Date:	08/04/2020
		Sample Time:	10.00 AM
	AREA 1 / RUN 109	Sampled By:	
Heat Trace:	N	Sampled by (CO):	
Remarks:			

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2770	0.2718	0.0310	0.00	0.0027
CO2	0.3537	0.3471	0.0610	0.00	0.0054
Methane	84.6070	83.0308	14.3890	854.53	0.4686
Ethane	7.4949	7.3553	2.0110	132.64	0.0778
Propane	3.4373	3.3733	0.9500	86.49	0.0523
Iso-Butane	0.6915	0.6786	0.2270	22.49	0.0139
N-Butane	1.1756	1.1537	0.3720	38.35	0.0236
I-Pentane	0.5165	0.5069	0.1890	20.66	0.0129
N-Pentane	0.4211	0.4133	0.1530	16.88	0.0105
Hexane Plus	1.0254	1.0063	0.4590	54.05	0.0339
Total	100.0000	98.1371	18.8420	1226.09	0.7016

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0034	CYLINDER #:	6040
BTU/CU.FT IDEAL:	1228.9	CYLINDER PRESSURE:	106 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1233.1	ANALYSIS DATE:	08/10/2020
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1211.6	ANALYSIS TIME:	02:22:12 PM
DRY BTU @ 15.025:	1257.8	ANALYSIS RUN BY:	SHYANN ELLEDGE
REAL SPECIFIC GRAVITY:	0.7037		

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 4; INTRM
Stn. No.: API #3004510949
Mtr. No.: 3409730

INTERMEDIATE CASING
PC

08/13/2020
35825-12795

Smpl Date: 08/04/2020
Test Date: 08/10/2020
Run No: HS200167

Nitrogen: 0.2770
CO2: 0.3537
Methane: 84.6070
Ethane: 7.4949
Propane: 3.4373
I-Butane: 0.6915
N-Butane: 1.1756
I-Pentane: 0.5165
N-Pentane: 0.4211
Hexane+: 1.0254

BTU: 1233.1
GPM: 18.8420
SPG: 0.7037



Well Name: GRENIER 4; TBG
 API #: API #3004510949
 Source: TUBING
 Sample Type: GAS
 Analysis No: HS200168
 Cust No: 35825-12800

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: GRENIER 4; TBG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA: SF-078115
 Formation: PC
 Cust. Stn. No.: API #3004510949
 3409730

Source: TUBING
 Well Flowing: Y
 Pressure: 67 PSIG
 Flow Temp: 100 DEG. F
 Ambient Temp: 85 DEG. F
 Flow Rate: 0 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 08/04/2020
 Sample Time: 10.00 AM
 Sampled By:
 Sampled by (CO):

Heat Trace: N
 Remarks: AREA 1 / RUN 109

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2666	0.2629	0.0290	0.00	0.0026
CO2	0.9367	0.9236	0.1600	0.00	0.0142
Methane	82.0087	80.8657	13.9480	828.29	0.4542
Ethane	9.4757	9.3436	2.5420	167.69	0.0984
Propane	4.1355	4.0779	1.1430	104.05	0.0630
Iso-Butane	0.6677	0.6584	0.2190	21.71	0.0134
N-Butane	1.0777	1.0627	0.3410	35.16	0.0216
I-Pentane	0.3474	0.3426	0.1270	13.90	0.0087
N-Pentane	0.2677	0.2640	0.0970	10.73	0.0067
Hexane Plus	0.8163	0.8049	0.3650	43.03	0.0270
Total	100.0000	98.6063	18.9710	1224.56	0.7098

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0035
 BTU/CU.FT IDEAL: 1227.4
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1231.6
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1210.2
 DRY BTU @ 15.025: 1256.3
 REAL SPECIFIC GRAVITY: 0.7119

CYLINDER #: 6183
 CYLINDER PRESSURE: 138 PSIG
 ANALYSIS DATE: 08/10/2020
 ANALYSIS TIME: 02:35:19 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: 08/13/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	GRENIER 4; TBG	TUBING	08/13/2020
Stn. No.:	API #3004510949	PC	35825-12800
Mtr. No.:	3409730		

Smpl Date:	08/04/2020
Test Date:	08/10/2020
Run No:	HS200168
Nitrogen:	0.2666
CO2:	0.9367
Methane:	82.0087
Ethane:	9.4757
Propane:	4.1355
I-Butane:	0.6677
N-Butane:	1.0777
I-Pentane:	0.3474
N-Pentane:	0.2677
Hexane+:	0.8163
BTU:	1231.6
GPM:	18.9710
SPG:	0.7119