



OCD Received
8/18/2020

Well Name: STATE GAS COM BB 1;
API #: API # 3004510701
Source: BRADENHEAD
Sample Type: GAS
Analysis No: HS200181
Cust No: 35825-11880

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: STATE GAS COM BB 1; BHD
County/State: SAN JUAN NM
Location:
Lease/PA/CA:
Formation: DK
Cust. Stn. No.: API # 3004510701
75070

Source: BRADENHEAD
Well Flowing: Y
Pressure: 38 PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 08/07/2020
Sample Time: 10.30 AM
Sampled By:
Sampled by (CO):

AREA 2 / RUN 211

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	5.1887	5.0677	0.5730	0.00	0.0502
CO2	0.0201	0.0196	0.0030	0.00	0.0003
Methane	77.1036	75.3047	13.1110	778.75	0.4271
Ethane	9.9397	9.7078	2.6660	175.90	0.1032
Propane	4.3743	4.2723	1.2090	110.06	0.0666
Iso-Butane	0.8137	0.7947	0.2670	26.46	0.0163
N-Butane	1.2647	1.2352	0.4000	41.26	0.0254
I-Pentane	0.4564	0.4458	0.1670	18.26	0.0114
N-Pentane	0.3314	0.3237	0.1200	13.28	0.0083
Hexane Plus	0.5074	0.4956	0.2270	26.75	0.0168
Total	100.0000	97.6671	18.7430	1190.72	0.7255

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
BTU/CU.FT IDEAL: 1193.5
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1197.4
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1176.6
DRY BTU @ 15.025: 1221.4
REAL SPECIFIC GRAVITY: 0.7276

CYLINDER #: 4189
CYLINDER PRESSURE: 29 PSIG
ANALYSIS DATE: 08/12/2020
ANALYSIS TIME: 02:40:04 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: 08/17/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: STATE GAS COM BB 1; BHD
Stn. No.: API # 3004510701
Mtr. No.: 75070

BRADENHEAD
DK

08/17/2020
35825-11880

Smpl Date:	08/07/2020	08/09/2019
Test Date:	08/12/2020	08/19/2019
Run No:	HS200181	HS190225
Nitrogen:	5.1887	4.2272
CO2:	0.0201	0.1102
Methane:	77.1036	77.7247
Ethane:	9.9397	10.1064
Propane:	4.3743	4.4194
I-Butane:	0.8137	0.8117
N-Butane:	1.2647	1.2894
I-Pentane:	0.4564	0.4678
N-Pentane:	0.3314	0.3438
Hexane+:	0.5074	0.4994
BTU:	1197.4	1209.1
GPM:	18.7430	18.8280
SPG:	0.7276	0.7263



Well Name: STATE GAS COM BB 1;
 API #: API #3004510701
 Source: INTERMEDIATE CASING
 Sample Type: GAS
 Analysis No: HS200183
 Cust No: 35825-12820

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	INTERMEDIATE CASING
Well Name:	STATE GAS COM BB 1; INTRM	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	1 PSIG
Location:		Flow Temp:	DEG. F
Lease/PA/CA:		Ambient Temp:	DEG. F
Formation:	DK	Flow Rate:	MCF/D
Cust. Stn. No.:	API #3004510701	Sample Method:	
	75070	Sample Date:	08/07/2020
	AREA 2 / RUN 211	Sample Time:	11.30 AM
Heat Trace:	N	Sampled By:	
Remarks:	PRESSURED WITH HELIUM TO 30 LBS.	Sampled by (CO):	

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	40.3534	6.7979	4.4460	0.00	0.3903
CO2	0.0807	0.0136	0.0140	0.00	0.0012
Methane	49.1373	8.2776	8.3430	496.29	0.2722
Ethane	5.1069	0.8603	1.3680	90.38	0.0530
Propane	3.1284	0.5270	0.8630	78.71	0.0476
Iso-Butane	0.4648	0.0783	0.1520	15.11	0.0093
N-Butane	0.7895	0.1330	0.2490	25.76	0.0158
I-Pentane	0.2558	0.0431	0.0940	10.23	0.0064
N-Pentane	0.2012	0.0339	0.0730	8.07	0.0050
Hexane Plus	0.4820	0.0812	0.2150	25.41	0.0160
Total	100.0000	16.8459	15.8170	749.95	0.8169

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0018	CYLINDER #:	4050
BTU/CU.FT IDEAL:	751.7	CYLINDER PRESSURE:	PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	753.0	ANALYSIS DATE:	08/12/2020
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	739.9	ANALYSIS TIME:	02:26:48 PM
DRY BTU @ 15.025:	768.1	ANALYSIS RUN BY:	RICHARD WILSON
REAL SPECIFIC GRAVITY:	0.818		

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: 08/17/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	STATE GAS COM BB 1; INTRM	INTERMEDIATE CASING	08/17/2020
Stn. No.:	API #3004510701	DK	35825-12820
Mtr. No.:	75070		

Smpl Date:	08/07/2020
Test Date:	08/12/2020
Run No:	HS200183
Nitrogen:	40.3534
CO2:	0.0807
Methane:	49.1373
Ethane:	5.1069
Propane:	3.1284
I-Butane:	0.4648
N-Butane:	0.7895
I-Pentane:	0.2558
N-Pentane:	0.2012
Hexane+:	0.4820
BTU:	753.0
GPM:	15.8170
SPG:	0.8180



Well Name: STATE GAS COM BB 1; CSG
 API #: API # 3004510701
 Source: CASING
 Sample Type: GAS
 Analysis No: HS200182
 Cust No: 35825-11885

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	CASING
Well Name:	STATE GAS COM BB 1; CSG	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	138 PSIG
Location:		Flow Temp:	DEG. F
Lease/PA/CA:		Ambient Temp:	DEG. F
Formation:	DK	Flow Rate:	MCF/D
Cust. Stn. No.:	API # 3004510701 75070	Sample Method:	
	AREA 2 / RUN 211	Sample Date:	08/07/2020
		Sample Time:	9.30 AM
Heat Trace:	N	Sampled By:	
Remarks:		Sampled by (CO):	

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2974	0.2910	0.0330	0.00	0.0029
CO2	0.0078	0.0076	0.0010	0.00	0.0001
Methane	82.6060	80.8261	14.0480	834.32	0.4576
Ethane	9.8224	9.6107	2.6350	173.83	0.1020
Propane	4.2098	4.1191	1.1630	105.92	0.0641
Iso-Butane	0.7757	0.7590	0.2550	25.22	0.0156
N-Butane	1.1595	1.1345	0.3670	37.83	0.0233
I-Pentane	0.4248	0.4156	0.1560	17.00	0.0106
N-Pentane	0.3009	0.2944	0.1090	12.06	0.0075
Hexane Plus	0.3957	0.3872	0.1770	20.86	0.0131
Total	100.0000	97.8452	18.9440	1227.04	0.6966

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0034	CYLINDER #:	7044
BTU/CU.FT IDEAL:	1229.9	CYLINDER PRESSURE:	154 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1233.9	ANALYSIS DATE:	08/12/2020
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1212.4	ANALYSIS TIME:	02:56:17 PM
DRY BTU @ 15.025:	1258.6	ANALYSIS RUN BY:	RICHARD WILSON
REAL SPECIFIC GRAVITY:	0.6987		

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: 08/17/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: STATE GAS COM BB 1; CSG
Stn. No.: API # 3004510701
Mtr. No.: 75070

CASING
DK

08/17/2020
35825-11885

Smpl Date:	08/07/2020	08/09/2019
Test Date:	08/12/2020	08/19/2019
Run No:	HS200182	HS190226
Nitrogen:	0.2974	0.3317
CO2:	0.0078	0.6431
Methane:	82.6060	81.0805
Ethane:	9.8224	9.8295
Propane:	4.2098	4.1929
I-Butane:	0.7757	0.7926
N-Butane:	1.1595	1.2888
I-Pentane:	0.4248	0.6070
N-Pentane:	0.3009	0.4318
Hexane+:	0.3957	0.8021
BTU:	1233.9	1257.5
GPM:	18.9440	19.1430
SPG:	0.6987	0.7245



Well Name: STATE GAS COM BB 1; TBG
 API #: API # 3004510701
 Source: TUBING
 Sample Type: GAS
 Analysis No: HS200184
 Cust No: 35825-11890

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	TUBING
Well Name:	STATE GAS COM BB 1; TBG	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	131 PSIG
Location:		Flow Temp:	DEG. F
Lease/PA/CA:		Ambient Temp:	DEG. F
Formation:	DK	Flow Rate:	MCF/D
Cust. Stn. No.:	API # 3004510701	Sample Method:	
	75070	Sample Date:	08/07/2020
		Sample Time:	10.00 AM
	AREA 2 / RUN 211	Sampled By:	
Heat Trace:	N	Sampled by (CO):	
Remarks:			

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3478	0.3434	0.0380	0.00	0.0034
CO2	2.6129	2.5801	0.4470	0.00	0.0397
Methane	79.1091	78.1150	13.4580	799.00	0.4382
Ethane	9.9483	9.8233	2.6700	176.06	0.1033
Propane	4.3171	4.2628	1.1930	108.62	0.0657
Iso-Butane	0.7969	0.7869	0.2620	25.91	0.0160
N-Butane	1.2321	1.2166	0.3900	40.19	0.0247
I-Pentane	0.4753	0.4693	0.1740	19.02	0.0118
N-Pentane	0.3394	0.3351	0.1230	13.61	0.0085
Hexane Plus	0.8211	0.8108	0.3670	43.28	0.0272
Total	100.0000	98.7433	19.1220	1225.69	0.7385

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0037	CYLINDER #:	7055
BTU/CU.FT IDEAL:	1228.5	CYLINDER PRESSURE:	128 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1233.0	ANALYSIS DATE:	08/12/2020
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1211.5	ANALYSIS TIME:	02:47:50 PM
DRY BTU @ 15.025:	1257.7	ANALYSIS RUN BY:	RICHARD WILSON
REAL SPECIFIC GRAVITY:	0.7408		

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: 08/17/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: STATE GAS COM BB 1; TBG
Stn. No.: API # 3004510701
Mtr. No.: 75070

TUBING
DK

08/17/2020
35825-11890

Smpl Date:	08/07/2020	08/09/2019
Test Date:	08/12/2020	08/19/2019
Run No:	HS200184	HS190227
Nitrogen:	0.3478	0.4733
CO2:	2.6129	0.0066
Methane:	79.1091	81.7747
Ethane:	9.9483	9.7685
Propane:	4.3171	4.5601
I-Butane:	0.7969	0.8265
N-Butane:	1.2321	1.1912
I-Pentane:	0.4753	0.4477
N-Pentane:	0.3394	0.3342
Hexane+:	0.8211	0.6172
BTU:	1233.0	1250.4
GPM:	19.1220	19.0520
SPG:	0.7408	0.7111