



OCD Received
7/30/2020

Well Name: BRUINGTON GAS COM 1F;
API #: API # 3004534541
Source: CASING
Sample Type: GAS
Analysis No: HS200090
Cust No: 35825-12420

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: BRUINGTON GAS COM 1F; CSG
County/State: SAN JUAN NM
Location:
Lease/PA/CA:
Formation: BASIN DAKOTA
Cust. Stn. No.: API # 3004534541

Source: CASING
Well Flowing: Y
Pressure: PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 07/21/2020
Sample Time: 12.59 PM
Sampled By: BRIAN V.
Sampled by (CO): HILCORP

AREA 7 / RUN 704

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.3449	0.3388	0.0380	0.00	0.0033
CO2	1.5741	1.5461	0.2700	0.00	0.0239
Methane	79.7391	78.3210	13.5660	805.36	0.4417
Ethane	10.6217	10.4328	2.8510	187.97	0.1103
Propane	3.7784	3.7112	1.0450	95.07	0.0575
Iso-Butane	0.6578	0.6461	0.2160	21.39	0.0132
N-Butane	0.9917	0.9741	0.3140	32.35	0.0199
I-Pentane	0.4405	0.4327	0.1620	17.62	0.0110
N-Pentane	0.3275	0.3217	0.1190	13.13	0.0082
Hexane Plus	1.5243	1.4972	0.6820	80.35	0.0504
Total	100.0000	98.2217	19.2630	1253.25	0.7394

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0038
BTU/CU.FT IDEAL: 1256.1
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1260.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1239.0
DRY BTU @ 15.025: 1286.2
REAL SPECIFIC GRAVITY: 0.7419

CYLINDER #: 7041
CYLINDER PRESSURE: 36 PSIG
ANALYSIS DATE: 07/24/2020
ANALYSIS TIME: 01:50:01 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: 07/29/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	BRUINGTON GAS COM 1F; CSG	CASING	07/29/2020
Stn. No.:	API # 3004534541	BASIN DAKOTA	35825-12420
Mtr. No.:			

Smpl Date:	07/21/2020
Test Date:	07/24/2020
Run No:	HS200090
Nitrogen:	0.3449
CO2:	1.5741
Methane:	79.7391
Ethane:	10.6217
Propane:	3.7784
I-Butane:	0.6578
N-Butane:	0.9917
I-Pentane:	0.4405
N-Pentane:	0.3275
Hexane+:	1.5243
BTU:	1260.9
GPM:	19.2630
SPG:	0.7419



Well Name: BRUINGTON GAS COM 1F;
 API #: API # 3004534541
 Source: TUBING
 Sample Type: GAS
 Analysis No: HS200091
 Cust No: 35825-12425

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: BRUINGTON GAS COM 1F; TBG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation: BASIN DAKOTA
 Cust. Stn. No.: API # 3004534541

Source: TUBING
 Well Flowing: Y
 Pressure: PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method:
 Sample Date: 07/21/2020
 Sample Time: 12.55 PM
 Sampled By: BRIAN V.
 Sampled by (CO): HILCORP

Heat Trace:
 Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4246	0.4173	0.0470	0.00	0.0041
CO2	1.6573	1.6287	0.2840	0.00	0.0252
Methane	79.2299	77.8626	13.4780	800.22	0.4389
Ethane	10.7393	10.5540	2.8820	190.05	0.1115
Propane	4.1246	4.0534	1.1400	103.78	0.0628
Iso-Butane	0.7750	0.7616	0.2540	25.20	0.0156
N-Butane	1.1601	1.1401	0.3670	37.85	0.0233
I-Pentane	0.4855	0.4771	0.1780	19.42	0.0121
N-Pentane	0.3681	0.3617	0.1340	14.76	0.0092
Hexane Plus	1.0356	1.0177	0.4630	54.59	0.0343
Total	100.0000	98.2742	19.2270	1245.87	0.7368

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0037
 BTU/CU.FT IDEAL: 1248.8
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1253.4
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1231.6
 DRY BTU @ 15.025: 1278.5
 REAL SPECIFIC GRAVITY: 0.7392

CYLINDER #: 4219
 CYLINDER PRESSURE: 33 PSIG
 ANALYSIS DATE: 07/24/2020
 ANALYSIS TIME: 01:45:33 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: 07/29/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	BRUINGTON GAS COM 1F; TBG	TUBING	07/29/2020
Stn. No.:	API # 3004534541	BASIN DAKOTA	35825-12425
Mtr. No.:			

Smpl Date:	07/21/2020
Test Date:	07/24/2020
Run No:	HS200091
Nitrogen:	0.4246
CO2:	1.6573
Methane:	79.2299
Ethane:	10.7393
Propane:	4.1246
I-Butane:	0.7750
N-Butane:	1.1601
I-Pentane:	0.4855
N-Pentane:	0.3681
Hexane+:	1.0356
BTU:	1253.4
GPM:	19.2270
SPG:	0.7392



OCD Received
7/30/2020

Well Name: BRUINGTON GAS COM 1F;
API #: API # 3004534541
Source: BRADENHEAD
Sample Type: GAS
Analysis No: HS200089
Cust No: 35825-12415

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: BRUINGTON GAS COM 1F; BHD
County/State: SAN JUAN NM
Location:
Lease/PA/CA:
Formation: BASIN DAKOTA
Cust. Stn. No.: API # 3004534541

Source: BRADENHEAD
Well Flowing: Y
Pressure: PSIG
Flow Temp: DEG. F
Ambient Temp: DEG. F
Flow Rate: MCF/D
Sample Method:
Sample Date: 07/21/2020
Sample Time: 1.04 PM
Sampled By: BRIAN V.
Sampled by (CO): HILCORP

AREA 7 / RUN 704

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2361	0.2287	0.0260	0.00	0.0023
CO2	0.0375	0.0363	0.0060	0.00	0.0006
Methane	86.6878	83.9566	14.7370	875.55	0.4802
Ethane	7.4728	7.2374	2.0040	132.25	0.0776
Propane	3.1970	3.0963	0.8830	80.44	0.0487
Iso-Butane	0.5652	0.5474	0.1850	18.38	0.0113
N-Butane	0.8778	0.8501	0.2770	28.64	0.0176
I-Pentane	0.3186	0.3086	0.1170	12.75	0.0079
N-Pentane	0.2368	0.2293	0.0860	9.49	0.0059
Hexane Plus	0.3704	0.3587	0.1660	19.52	0.0123
Total	100.0000	96.8494	18.4870	1177.01	0.6643

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.003
BTU/CU.FT IDEAL: 1179.7
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1183.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1162.7
DRY BTU @ 15.025: 1207.0
REAL SPECIFIC GRAVITY: 0.6661

CYLINDER #: 5032
CYLINDER PRESSURE: 21 PSIG
ANALYSIS DATE: 07/24/2020
ANALYSIS TIME: 01:34:17 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: 07/29/2020

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	BRUINGTON GAS COM 1F; BHD	BRADENHEAD	07/29/2020
Stn. No.:	API # 3004534541	BASIN DAKOTA	35825-12415
Mtr. No.:			

Smpl Date:	07/21/2020
Test Date:	07/24/2020
Run No:	HS200089
Nitrogen:	0.2361
CO2:	0.0375
Methane:	86.6878
Ethane:	7.4728
Propane:	3.1970
I-Butane:	0.5652
N-Butane:	0.8778
I-Pentane:	0.3186
N-Pentane:	0.2368
Hexane+:	0.3704
BTU:	1183.3
GPM:	18.4870
SPG:	0.6661