



NMOCD REC'D  
10/12/20

Well Name: HUGHES 1 ; TBG  
API #: API #300450793800  
Source: TUBING  
Sample Type: GAS  
Analysis No: SO200193  
Cust No: 15950-12325

**Well/Lease Information**

Customer Name: BP - SOUTH BHD PROJECT	Source: TUBING
Well Name: HUGHES 1 ; TBG	Well Flowing: Y
County/State: NM	Pressure: 89 PSIG
Location:	Flow Temp: DEG. F
Lease/PA/CA:	Ambient Temp: 51 DEG. F
Formation:	Flow Rate: MCF/D
Cust. Stn. No.: API #300450793800	Sample Method: Purge & Fill
75150	Sample Date: 09/24/2020
	Sample Time: 6.20 AM
	Sampled By: SEAN C.
Heat Trace: N	Sampled by (CO): ABC
Remarks:	

**Analysis**

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1423	0.1402	0.0160	0.00	0.0014
CO2	1.3707	1.3503	0.2350	0.00	0.0208
Methane	84.0612	82.8110	14.2940	849.02	0.4656
Ethane	8.5431	8.4160	2.2920	151.19	0.0887
Propane	2.7902	2.7487	0.7710	70.20	0.0425
Iso-Butane	0.7000	0.6896	0.2300	22.76	0.0140
N-Butane	0.7389	0.7279	0.2340	24.11	0.0148
I-Pentane	0.4320	0.4256	0.1580	17.28	0.0108
N-Pentane	0.2398	0.2362	0.0870	9.61	0.0060
Hexane Plus	0.9818	0.9672	0.4390	51.75	0.0325
<b>Total</b>	<b>100.0000</b>	<b>98.5127</b>	<b>18.7560</b>	<b>1195.93</b>	<b>0.6971</b>

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\*@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0033	CYLINDER #:	28
BTU/CU.FT IDEAL:	1198.7	CYLINDER PRESSURE:	90 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1202.7	ANALYSIS DATE:	09/30/2020
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1181.8	ANALYSIS TIME:	09:54:41 AM
DRY BTU @ 15.025:	1226.8	ANALYSIS RUN BY:	RICHARD WILSON
REAL SPECIFIC GRAVITY:	0.6991		

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: 10/06/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT  
WELL ANALYSIS COMPARISON

<b>Lease:</b>	HUGHES 1 ; TBG	TUBING	10/06/2020
<b>Stn. No.:</b>	API		15950-12325
<b>Mtr. No.:</b>	75150		

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<b>Smpl Date:</b>	09/24/2020
<b>Test Date:</b>	09/30/2020
<b>Run No:</b>	SO200193
<b>Nitrogen:</b>	0.1423
<b>CO2:</b>	1.3707
<b>Methane:</b>	84.0612
<b>Ethane:</b>	8.5431
<b>Propane:</b>	2.7902
<b>I-Butane:</b>	0.7000
<b>N-Butane:</b>	0.7389
<b>I-Pentane:</b>	0.4320
<b>N-Pentane:</b>	0.2398
<b>Hexane+:</b>	0.9818
<b>BTU:</b>	1202.7
<b>GPM:</b>	18.7560
<b>SPG:</b>	0.6991



NMOCD REC'D  
10/12/20

Well Name: HUGHES 1 ; CSG  
API #: API #300450793800  
Source: CASING  
Sample Type: GAS  
Analysis No: SO200191  
Cust No: 15950-12315

**Well/Lease Information**

Customer Name:	BP - SOUTH BHD PROJECT	Source:	CASING
Well Name:	HUGHES 1 ; CSG	Well Flowing:	Y
County/State:	NM	Pressure:	117 PSIG
Location:		Flow Temp:	DEG. F
Lease/PA/CA:		Ambient Temp:	51 DEG. F
Formation:		Flow Rate:	MCF/D
Cust. Stn. No.:	API #300450793800 75150	Sample Method:	Purge & Fill
		Sample Date:	09/24/2020
		Sample Time:	6.15 AM
		Sampled By:	SEAN C.
Heat Trace:	N	Sampled by (CO):	ABC
Remarks:			

**Analysis**

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1771	0.1778	0.0200	0.00	0.0017
CO2	0.6436	0.6461	0.1100	0.00	0.0098
Methane	88.0765	88.4176	14.9710	889.57	0.4879
Ethane	6.4673	6.4924	1.7340	114.45	0.0671
Propane	2.5448	2.5547	0.7030	64.03	0.0387
Iso-Butane	0.5635	0.5657	0.1850	18.32	0.0113
N-Butane	0.6231	0.6255	0.1970	20.33	0.0125
I-Pentane	0.2755	0.2766	0.1010	11.02	0.0069
N-Pentane	0.1589	0.1595	0.0580	6.37	0.0040
Hexane Plus	0.4697	0.4715	0.2100	24.76	0.0155
<b>Total</b>	<b>100.0000</b>	<b>100.3874</b>	<b>18.2890</b>	<b>1148.86</b>	<b>0.6554</b>

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\*@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0029	CYLINDER #:	46
BTU/CU.FT IDEAL:	1151.5	CYLINDER PRESSURE:	114 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1154.9	ANALYSIS DATE:	09/30/2020
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1134.8	ANALYSIS TIME:	10:14:22 AM
DRY BTU @ 15.025:	1178.0	ANALYSIS RUN BY:	RICHARD WILSON
REAL SPECIFIC GRAVITY:	0.6571		

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: 10/06/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT  
WELL ANALYSIS COMPARISON

**Lease:** HUGHES 1 ; CSG  
**Stn. No.:** API  
**Mtr. No.:** 75150

CASING

10/06/2020  
15950-12315

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**Smpl Date:** 09/24/2020  
**Test Date:** 09/30/2020  
**Run No:** SO200191  
**Nitrogen:** 0.1771  
**CO2:** 0.6436  
**Methane:** 88.0765  
**Ethane:** 6.4673  
**Propane:** 2.5448  
**I-Butane:** 0.5635  
**N-Butane:** 0.6231  
**I-Pentane:** 0.2755  
**N-Pentane:** 0.1589  
**Hexane+:** 0.4697  
**BTU:** 1154.9  
**GPM:** 18.2890  
**SPG:** 0.6571



NMOCD REC'D  
10/12/20

2030 Afton Place  
Farmington, NM 87401  
(505) 325-6622  
GAS

Analysis No: SO200192  
Cust No: 15950-12320

**Well/Lease Information**

Customer Name:	BP - SOUTH BHD PROJECT	Source:	INTERMEDIATE
Well Name:	HUGHES 1 ; INT	Well Flowing:	
County/State:	NM	Pressure:	115 PSIG
Location:		Flow Temp:	DEG. F
Lease/PA/CA:		Ambient Temp:	51 DEG. F
Formation:		Flow Rate:	MCF/D
Cust. Stn. No.:	API #300450793800 75150	Sample Method:	Purge & Fill
		Sample Date:	09/24/2020
		Sample Time:	6.10 AM
		Sampled By:	SEAN C.
Heat Trace:	N	Sampled by (CO):	ABC
Remarks:			

**Analysis**

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1949	0.1957	0.0210	0.00	0.0019
CO2	0.6283	0.6309	0.1080	0.00	0.0095
Methane	88.1064	88.4749	14.9760	889.87	0.4880
Ethane	6.4282	6.4551	1.7240	113.76	0.0667
Propane	2.5461	2.5567	0.7030	64.06	0.0388
Iso-Butane	0.5627	0.5651	0.1850	18.30	0.0113
N-Butane	0.6236	0.6262	0.1970	20.34	0.0125
I-Pentane	0.2731	0.2742	0.1000	10.93	0.0068
N-Pentane	0.1549	0.1555	0.0560	6.21	0.0039
Hexane Plus	0.4818	0.4838	0.2150	25.40	0.0159
<b>Total</b>	<b>100.0000</b>	<b>100.4181</b>	<b>18.2850</b>	<b>1148.87</b>	<b>0.6554</b>

\* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

\*\*@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0029	CYLINDER #:	1097
BTU/CU.FT IDEAL:	1151.5	CYLINDER PRESSURE:	117 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1154.9	ANALYSIS DATE:	09/30/2020
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1134.8	ANALYSIS TIME:	09:45:19 AM
DRY BTU @ 15.025:	1178.0	ANALYSIS RUN BY:	RICHARD WILSON
REAL SPECIFIC GRAVITY:	0.657		

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: 10/06/2020

GC Method: C6+ Gas



BP - SOUTH BHD PROJECT  
WELL ANALYSIS COMPARISON

**Lease:** HUGHES 1 ; INT  
**Stn. No.:** API  
**Mtr. No.:** 75150

INTERMEDIATE

10/06/2020  
15950-12320

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**Smpl Date:** 09/24/2020  
**Test Date:** 09/30/2020  
**Run No:** SO200192  
**Nitrogen:** 0.1949  
**CO2:** 0.6283  
**Methane:** 88.1064  
**Ethane:** 6.4282  
**Propane:** 2.5461  
**I-Butane:** 0.5627  
**N-Butane:** 0.6236  
**I-Pentane:** 0.2731  
**N-Pentane:** 0.1549  
**Hexane+:** 0.4818  
**BTU:** 1154.9  
**GPM:** 18.2850  
**SPG:** 0.6570