



Well Name: JOHNSTON FED 12; BHD
 API #: 3004522987
 Source: BRADENHEAD
 Sample Type: GAS
 Analysis No: HS20230065
 Cust No: 35825-14885

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: JOHNSTON FED 12; BHD
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: 3004522987

Source: BRADENHEAD
 Well Flowing:
 Pressure: 83 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/14/2023
 Sample Time: 2.38 PM
 Sampled By: JAMES WAYNE
 Sampled by (CO): HILCORP

AREA 4 / RUN 405

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1083	0.1074	0.0120	0.00	0.0010
CO2	2.4842	2.4626	0.4250	0.00	0.0377
Methane	85.5084	84.7637	14.5400	863.63	0.4736
Ethane	5.8767	5.8255	1.5760	104.00	0.0610
Propane	2.4423	2.4210	0.6750	61.45	0.0372
Iso-Butane	0.4994	0.4951	0.1640	16.24	0.0100
N-Butane	0.8610	0.8535	0.2720	28.09	0.0173
I-Pentane	0.3895	0.3861	0.1430	15.58	0.0097
N-Pentane	0.3323	0.3294	0.1210	13.32	0.0083
Hexane Plus	1.4979	1.4849	0.6700	78.96	0.0496
Total	100.0000	99.1292	18.5980	1181.27	0.7055

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
 BTU/CU.FT IDEAL: 1184.0
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1187.9
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1167.2
 DRY BTU @ 15.025: 1211.7
 REAL SPECIFIC GRAVITY: 0.7075

CYLINDER #: 51
 CYLINDER PRESSURE: 34 PSIG
 ANALYSIS DATE: 06/15/2023
 ANALYSIS TIME: 08:48:53 AM
 ANALYSIS RUN BY: ALEXIS MITCHELL

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: 06/16/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: JOHNSTON FED 12; BHD
Stn. No.: 3004522987
Mtr. No.:

BRADENHEAD

06/16/2023
35825-14885

Smpl Date: 06/14/2023
Test Date: 06/15/2023
Run No: HS20230065

Nitrogen: 0.1083
CO2: 2.4842
Methane: 85.5084
Ethane: 5.8767
Propane: 2.4423
I-Butane: 0.4994
N-Butane: 0.8610
I-Pentane: 0.3895
N-Pentane: 0.3323
Hexane+: 1.4979

BTU: 1187.9
GPM: 18.5980
SPG: 0.7075



Well Name: JOHNSTON FED 12; CSG

API #: 3004522982

Source: CASING

Sample Type: GAS

Analysis No: HS20230066

Cust No: 35825-14890

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: JOHNSTON FED 12; CSG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: 3004522982

Source: CASING
 Well Flowing:
 Pressure: 86 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/14/2023
 Sample Time: 2.30 PM
 Sampled By: JAMES WAYNE
 Sampled by (CO): HILCORP

AREA 4 / RUN 405

Heat Trace:

Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1065	0.1062	0.0120	0.00	0.0010
CO2	2.6092	2.6015	0.4470	0.00	0.0396
Methane	84.3758	84.1281	14.3460	852.20	0.4674
Ethane	7.0860	7.0652	1.9010	125.40	0.0736
Propane	3.1235	3.1143	0.8630	78.59	0.0476
Iso-Butane	0.5555	0.5539	0.1820	18.06	0.0111
N-Butane	0.8728	0.8702	0.2760	28.47	0.0175
I-Pentane	0.3140	0.3131	0.1150	12.56	0.0078
N-Pentane	0.2426	0.2419	0.0880	9.73	0.0060
Hexane Plus	0.7141	0.7120	0.3190	37.64	0.0236
Total	100.0000	99.7064	18.5490	1162.65	0.6953

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0032
 BTU/CU.FT IDEAL: 1165.3
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1169.1
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1148.8
 DRY BTU @ 15.025: 1192.5
 REAL SPECIFIC GRAVITY: 0.6973

CYLINDER #: 2185
 CYLINDER PRESSURE: 85 PSIG
 ANALYSIS DATE: 06/15/2023
 ANALYSIS TIME: 08:57:11 AM
 ANALYSIS RUN BY: ALEXIS MITCHELL

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: 06/16/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: JOHNSTON FED 12; CSG
Stn. No.: 3004522982
Mtr. No.:

CASING

06/16/2023
35825-14890

Smpl Date: 06/14/2023
Test Date: 06/15/2023
Run No: HS20230066
Nitrogen: 0.1065
CO2: 2.6092
Methane: 84.3758
Ethane: 7.0860
Propane: 3.1235
I-Butane: 0.5555
N-Butane: 0.8728
I-Pentane: 0.3140
N-Pentane: 0.2426
Hexane+: 0.7141
BTU: 1169.1
GPM: 18.5490
SPG: 0.6973



Well Name: JOHNSTON FED 12; TBG

API #: 3004522987

Source: TUBING

Sample Type: GAS

Analysis No: HS20230067

Cust No: 35825-14895

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: JOHNSTON FED 12; TBG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: 3004522987

Source: TUBING
 Well Flowing:
 Pressure: 65 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method: Purge & Fill
 Sample Date: 06/14/2023
 Sample Time: 2.24 PM
 Sampled By: JAMES WAYNE
 Sampled by (CO): HILCORP

AREA 4 / RUN 405

Heat Trace:

Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1077	0.1078	0.0120	0.00	0.0010
CO2	2.6443	2.6478	0.4530	0.00	0.0402
Methane	84.1149	84.2266	14.3030	849.56	0.4659
Ethane	6.9653	6.9745	1.8680	123.26	0.0723
Propane	3.0755	3.0796	0.8500	77.38	0.0468
Iso-Butane	0.5566	0.5573	0.1830	18.10	0.0112
N-Butane	0.9044	0.9056	0.2860	29.50	0.0181
I-Pentane	0.3589	0.3594	0.1320	14.36	0.0089
N-Pentane	0.2918	0.2922	0.1060	11.70	0.0073
Hexane Plus	0.9806	0.9819	0.4390	51.69	0.0325
Total	100.0000	100.1327	18.6320	1175.56	0.7043

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0033
 BTU/CU.FT IDEAL: 1178.3
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1182.2
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1161.6
 DRY BTU @ 15.025: 1205.9
 REAL SPECIFIC GRAVITY: 0.7063

CYLINDER #: 1882
 CYLINDER PRESSURE: 61 PSIG
 ANALYSIS DATE: 06/15/2023
 ANALYSIS TIME: 09:04:33 AM
 ANALYSIS RUN BY: ALEXIS MITCHELL

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: 06/16/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: JOHNSTON FED 12; TBG
Stn. No.: 3004522987
Mtr. No.:

TUBING

06/16/2023
35825-14895

Smpl Date: 06/14/2023
Test Date: 06/15/2023
Run No: HS20230067

Nitrogen: 0.1077
CO2: 2.6443
Methane: 84.1149
Ethane: 6.9653
Propane: 3.0755
I-Butane: 0.5566
N-Butane: 0.9044
I-Pentane: 0.3589
N-Pentane: 0.2918
Hexane+: 0.9806

BTU: 1182.2
GPM: 18.6320
SPG: 0.7063

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1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 236038

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 236038
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	same gas	9/22/2023