



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

Analysis No: HS190280
Cust No: 35825-11585

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: SAN JUAN 29-5 UNIT 49; BHD
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: NMSF080069
Formation: BLANCO MV
Cust. Stn. No.: 85418-01
API # 3003907647

Source: BRADENHEAD
Well Flowing: N
Pressure: 87.5 PSIG
Flow Temp: 81 DEG. F
Ambient Temp: 76 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 09/26/2019
Sample Time: 1.12 PM
Sampled By: JOSH JONES
Sampled by (CO): HILCORP

Heat Trace: N
Remarks:

AREA 12 / RUN 1208

NMOC
OCT 08 2019
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.7941	0.7738	0.0880	0.00	0.0077
CO2	0.0018	0.0018	0.0000	0.00	0.0000
Methane	95.5025	93.0631	16.2220	964.58	0.5290
Ethane	2.5095	2.4454	0.6720	44.41	0.0261
Propane	0.6080	0.5925	0.1680	15.30	0.0093
Iso-Butane	0.1951	0.1901	0.0640	6.34	0.0039
N-Butane	0.1418	0.1382	0.0450	4.63	0.0028
I-Pentane	0.0958	0.0934	0.0350	3.83	0.0024
N-Pentane	0.0389	0.0379	0.0140	1.56	0.0010
Hexane Plus	0.1125	0.1096	0.0500	5.93	0.0037
Total	100.0000	97.4458	17.3580	1046.58	0.5858

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0022
BTU/CU.FT IDEAL: 1049.0
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1051.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1033.0
DRY BTU @ 15.025: 1072.4
REAL SPECIFIC GRAVITY: 0.5869

CYLINDER #: 6039
CYLINDER PRESSURE: 81 PSIG
ANALYSIS DATE: 09/27/2019
ANALYSIS TIME: 08:12:43 AM
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: 09/27/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: SAN JUAN 29-5 UNIT 49; BHD
Stn. No.: 85418-01
Mtr. No.: API # 3003907647

BRADENHEAD
BLANCO MV

09/27/2019
35825-11585

Smpl Date:	09/26/2019	07/08/2019
Test Date:	09/27/2019	07/15/2019
Run No:	HS190280	HS190160
Nitrogen:	0.7941	0.5240
CO2:	0.0018	0.0777
Methane:	95.5025	84.7415
Ethane:	2.5095	8.0050
Propane:	0.6080	4.2429
I-Butane:	0.1951	0.6822
N-Butane:	0.1418	0.9530
I-Pentane:	0.0958	0.2717
N-Pentane:	0.0389	0.1927
Hexane+:	0.1125	0.3093
BTU:	1051.3	1199.0
GPM:	17.3580	18.6300
SPG:	0.5869	0.6798



2030 Afton Place
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(505) 325-6622

Analysis No: HS190282
Cust No: 35825-12055

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: SAN JUAN 29-5 UNIT 49; INT CSG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: NMSF080069
Formation: BLANCO MV
Cust. Stn. No.: 85418-01

Source: INTERMEDIATE CASING
Well Flowing: N
Pressure: 648.7 PSIG
Flow Temp: 81 DEG. F
Ambient Temp: 76 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 09/26/2019
Sample Time: 12.56 PM
Sampled By: JOSH JONES
Sampled by (CO): HILCORP

AREA 12 / RUN 1208

Heat Trace: N
Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1325	0.1309	0.0150	0.00	0.0013
CO2	0.0043	0.0042	0.0010	0.00	0.0001
Methane	96.0981	94.9055	16.3230	970.59	0.5323
Ethane	2.5257	2.4944	0.6770	44.70	0.0262
Propane	0.6229	0.6152	0.1720	15.67	0.0095
Iso-Butane	0.2009	0.1984	0.0660	6.53	0.0040
N-Butane	0.1450	0.1432	0.0460	4.73	0.0029
I-Pentane	0.0990	0.0978	0.0360	3.96	0.0025
N-Pentane	0.0404	0.0399	0.0150	1.62	0.0010
Hexane Plus	0.1312	0.1296	0.0590	6.92	0.0043
Total	100.0000	98.7591	17.4100	1054.72	0.5841

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0022
BTU/CU.FT IDEAL: 1057.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1059.5
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1041.1
DRY BTU @ 15.025: 1080.7
REAL SPECIFIC GRAVITY: 0.5851

CYLINDER #: 4100
CYLINDER PRESSURE: 620 PSIG
ANALYSIS DATE: 09/27/2019
ANALYSIS TIME: 08:00:52 AM
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: 09/27/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	SAN JUAN 29-5 UNIT 49; INT CSG	INTERMEDIATE CASING	09/27/2019
Stn. No.:	85418-01	BLANCO MV	35825-12055
Mtr. No.:			

Smpl Date:	09/26/2019
Test Date:	09/27/2019
Run No:	HS190282
Nitrogen:	0.1325
CO2:	0.0043
Methane:	96.0981
Ethane:	2.5257
Propane:	0.6229
I-Butane:	0.2009
N-Butane:	0.1450
I-Pentane:	0.0990
N-Pentane:	0.0404
Hexane+:	0.1312
BTU:	1059.5
GPM:	17.4100
SPG:	0.5851



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Analysis No: HS190281
Cust No: 35825-11590

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: SAN JUAN 29-5 UNIT 49; CSG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: NMSF080069
Formation: BLANCO MV
Cust. Stn. No.: 85418-01
API # 3003907647

Source: CASING
Well Flowing: N
Pressure: 302.4 PSIG
Flow Temp: 81 DEG. F
Ambient Temp: 76 DEG. F
Flow Rate: 0 MCF/D
Sample Method:
Sample Date: 09/26/2019
Sample Time: 12.51 PM
Sampled By: JOSH JONES
Sampled by (CO): HILCORP

Heat Trace: AREA 12 / RUN 1208
N
Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1115	0.1112	0.0120	0.00	0.0011
CO2	1.2369	1.2330	0.2120	0.00	0.0188
Methane	93.5537	93.2603	15.8930	944.89	0.5182
Ethane	3.9415	3.9291	1.0560	69.75	0.0409
Propane	0.8016	0.7991	0.2210	20.17	0.0122
Iso-Butane	0.1146	0.1142	0.0380	3.73	0.0023
N-Butane	0.1145	0.1141	0.0360	3.74	0.0023
I-Pentane	0.0364	0.0363	0.0130	1.46	0.0009
N-Pentane	0.0225	0.0224	0.0080	0.90	0.0006
Hexane Plus	0.0668	0.0666	0.0300	3.52	0.0022
Total	100.0000	99.6863	17.5190	1048.16	0.5995

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0023
BTU/CU.FT IDEAL: 1050.6
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1053.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1034.7
DRY BTU @ 15.025: 1074.1
REAL SPECIFIC GRAVITY: 0.6006

CYLINDER #: 5029
CYLINDER PRESSURE: 298 PSIG
ANALYSIS DATE: 09/27/2019
ANALYSIS TIME: 07:49:44 AM
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: 09/27/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: SAN JUAN 29-5 UNIT 49; CSG
Stn. No.: 85418-01
Mtr. No.: API # 3003907647

CASING
BLANCO MV

09/27/2019
35825-11590

Smpl Date:	09/26/2019	07/08/2019
Test Date:	09/27/2019	07/15/2019
Run No:	HS190281	HS190161
Nitrogen:	0.1115	0.0872
CO2:	1.2369	1.9260
Methane:	93.5537	91.4069
Ethane:	3.9415	4.2166
Propane:	0.8016	1.1656
I-Butane:	0.1146	0.2665
N-Butane:	0.1145	0.2658
I-Pentane:	0.0364	0.1351
N-Pentane:	0.0225	0.0814
Hexane+:	0.0668	0.4489
BTU:	1053.0	1082.1
GPM:	17.5190	17.7760
SPG:	0.6006	0.6303



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Analysis No: HS190283
Cust No: 35825-11595

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: SAN JUAN 29-5 UNIT 49; TBG
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA: NMSF080069
Formation: BLANCO MV
Cust. Stn. No.: 85418-01
API # 3003907647

Source: TUBING
Well Flowing: N
Pressure: 300.4 PSIG
Flow Temp: 81 DEG. F
Ambient Temp: 76 DEG. F
Flow Rate: 0 MCF/D
Sample Method: Purge & Fill
Sample Date: 09/26/2019
Sample Time: 12.38 PM
Sampled By: JOSH JONES
Sampled by (CO): HILCORP

AREA 12 / RUN 1208

Heat Trace: N

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1586	0.1576	0.0170	0.00	0.0015
CO2	0.0171	0.0170	0.0030	0.00	0.0003
Methane	95.5459	94.9703	16.2290	965.01	0.5292
Ethane	3.3135	3.2935	0.8880	58.64	0.0344
Propane	0.6162	0.6125	0.1700	15.50	0.0094
Iso-Butane	0.1438	0.1429	0.0470	4.68	0.0029
N-Butane	0.0956	0.0950	0.0300	3.12	0.0019
I-Pentane	0.0417	0.0414	0.0150	1.67	0.0010
N-Pentane	0.0143	0.0142	0.0050	0.57	0.0004
Hexane Plus	0.0533	0.0530	0.0240	2.81	0.0018
Total	100.0000	99.3974	17.4280	1052.00	0.5828

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0022
BTU/CU.FT IDEAL: 1054.4
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1056.8
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1038.4
DRY BTU @ 15.025: 1078.0
REAL SPECIFIC GRAVITY: 0.5838

CYLINDER #: 7031
CYLINDER PRESSURE: 298 PSIG
ANALYSIS DATE: 09/27/2019
ANALYSIS TIME: 07:41:26 AM
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: 09/27/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: SAN JUAN 29-5 UNIT 49; TBG
Stn. No.: 85418-01
Mtr. No.: API # 3003907647

TUBING
BLANCO MV

09/27/2019
35825-11595

Smpl Date:	09/26/2019	07/08/2019
Test Date:	09/27/2019	07/15/2019
Run No:	HS190283	HS190162
Nitrogen:	0.1586	0.1310
CO2:	0.0171	1.8888
Methane:	95.5459	91.2982
Ethane:	3.3135	4.3440
Propane:	0.6162	1.2226
I-Butane:	0.1438	0.2644
N-Butane:	0.0956	0.2764
I-Pentane:	0.0417	0.1368
N-Pentane:	0.0143	0.0825
Hexane+:	0.0533	0.3553
BTU:	1056.8	1080.1
GPM:	17.4280	17.7650
SPG:	0.5838	0.6288