



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

Analysis No: HS190163
Cust No: 35825-11600

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: SAN JUAN 29-5 UNIT 68; BHD
County/State: RIO ARRIBA NM
Location:
Lease/PA/CA:
Formation: DK
Cust. Stn. No.: 86-698-01
API # 3003920712
AREA 12 / RUN 1208
Heat Trace: N
Remarks:

Source: BRADENHEAD
Well Flowing: Y
Pressure: 96 PSIG
Flow Temp: 79 DEG. F
Ambient Temp: 69 DEG. F
Flow Rate: 11.5 MCF/D
Sample Method: Purge & Fill
Sample Date: 07/08/2019
Sample Time: 10.45 AM
Sampled By: BRENT HOTTELL
Sampled by (CO): HILCORP

MMOCD
JUL 25 2019
DISTRICT III

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1330	0.1297	0.0150	0.00	0.0013
CO2	0.6414	0.6255	0.1100	0.00	0.0097
Methane	97.4730	95.0641	16.5550	984.48	0.5399
Ethane	1.4878	1.4510	0.3990	26.33	0.0154
Propane	0.1606	0.1566	0.0440	4.04	0.0024
Iso-Butane	0.0407	0.0397	0.0130	1.32	0.0008
N-Butane	0.0265	0.0258	0.0080	0.86	0.0005
I-Pentane	0.0111	0.0108	0.0040	0.44	0.0003
N-Pentane	0.0040	0.0039	0.0010	0.16	0.0001
Hexane Plus	0.0219	0.0214	0.0100	1.15	0.0007
Total	100.0000	97.5285	17.1590	1018.79	0.5713

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0021
BTU/CU.FT IDEAL: 1021.2
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1023.3
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1005.5
DRY BTU @ 15.025: 1043.8
REAL SPECIFIC GRAVITY: 0.5722

CYLINDER #: 4223
CYLINDER PRESSURE: 93 PSIG
ANALYSIS DATE: 07/15/2019
ANALYSIS TIME: 03:10:00 PM
ANALYSIS RUN BY: PATRICIA KING

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: 07/18/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: SAN JUAN 29-5 UNIT 68; BHD
Stn. No.: 86-698-01
Mtr. No.: API # 3003920712

BRADENHEAD
DK

07/18/2019
35825-11600

Smpl Date: 07/08/2019
Test Date: 07/15/2019
Run No: HS190163
Nitrogen: 0.1330
CO2: 0.6414
Methane: 97.4730
Ethane: 1.4878
Propane: 0.1606
I-Butane: 0.0407
N-Butane: 0.0265
I-Pentane: 0.0111
N-Pentane: 0.0040
Hexane+: 0.0219
BTU: 1023.3
GPM: 17.1590
SPG: 0.5722



2030 Afton Place
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Analysis No: HS190165
Cust No: 35825-11610

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	INTERMEDIATE CASING
Well Name:	SAN JUAN 29-5 UNIT 68; INT CASING	Well Flowing:	Y
County/State:	RIO ARRIBA NM	Pressure:	96 PSIG
Location:		Flow Temp:	79 DEG. F
Lease/PA/CA:		Ambient Temp:	69 DEG. F
Formation:	DK	Flow Rate:	11.5 MCF/D
Cust. Stn. No.:	86-698-01	Sample Method:	Purge & Fill
	API # 3003920712	Sample Date:	07/08/2019
	AREA 12 / RUN 1208	Sample Time:	10.30 AM
Heat Trace:	N	Sampled By:	BRENT HOTTELL
Remarks:		Sampled by (CO):	HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1104	0.1081	0.0120	0.00	0.0011
CO2	1.7666	1.7291	0.3020	0.00	0.0268
Methane	96.4385	94.3925	16.3790	974.03	0.5342
Ethane	1.4590	1.4280	0.3910	25.82	0.0151
Propane	0.1451	0.1420	0.0400	3.65	0.0022
Iso-Butane	0.0373	0.0365	0.0120	1.21	0.0007
N-Butane	0.0183	0.0179	0.0060	0.60	0.0004
I-Pentane	0.0091	0.0089	0.0030	0.36	0.0002
N-Pentane	0.0033	0.0032	0.0010	0.13	0.0001
Hexane Plus	0.0124	0.0121	0.0060	0.65	0.0004
Total	100.0000	97.8783	17.1520	1006.46	0.5813

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0021	CYLINDER #:	6088
BTU/CU.FT IDEAL:	1008.8	CYLINDER PRESSURE:	91 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1010.9	ANALYSIS DATE:	07/15/2019
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	993.3	ANALYSIS TIME:	03:02:00 PM
DRY BTU @ 15.025:	1031.1	ANALYSIS RUN BY:	PATRICIA KING
REAL SPECIFIC GRAVITY:	0.5823		

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: 07/18/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	SAN JUAN 29-5 UNIT 68; INT CASING	INTERMEDIATE CASING	07/18/2019
Stn. No.:	86-698-01	DK	35825-11610
Mtr. No.:	API # 3003920712		

Smpl Date:	07/08/2019
Test Date:	07/15/2019
Run No:	HS190165
Nitrogen:	0.1104
CO2:	1.7666
Methane:	96.4385
Ethane:	1.4590
Propane:	0.1451
I-Butane:	0.0373
N-Butane:	0.0183
I-Pentane:	0.0091
N-Pentane:	0.0033
Hexane+:	0.0124
BTU:	1010.9
GPM:	17.1520
SPG:	0.5823



2030 Afton Place
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Analysis No: HS190164
Cust No: 35825-11605

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	CASING & TUBING
Well Name:	SAN JUAN 29-5 UNIT 68; CSG & TBG	Well Flowing:	Y
County/State:	RIO ARriba NM	Pressure:	96 PSIG
Location:		Flow Temp:	79 DEG. F
Lease/PA/CA:		Ambient Temp:	69 DEG. F
Formation:	DK	Flow Rate:	11.5 MCF/D
Cust. Stn. No.:	86-698-01	Sample Method:	
	API # 3003920712	Sample Date:	07/08/2019
		Sample Time:	11.00 AM
	AREA 12 / RUN 1208	Sampled By:	BRENT HOTTELL
Heat Trace:	N	Sampled by (CO):	HILCORP
Remarks:			

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1064	0.1055	0.0120	0.00	0.0010
CO2	1.7076	1.6938	0.2920	0.00	0.0259
Methane	96.5825	95.8010	16.4040	975.48	0.5350
Ethane	1.3896	1.3784	0.3720	24.59	0.0144
Propane	0.1314	0.1303	0.0360	3.31	0.0020
Iso-Butane	0.0370	0.0367	0.0120	1.20	0.0007
N-Butane	0.0172	0.0171	0.0050	0.56	0.0003
I-Pentane	0.0084	0.0083	0.0030	0.34	0.0002
N-Pentane	0.0029	0.0029	0.0010	0.12	0.0001
Hexane Plus	0.0170	0.0169	0.0080	0.90	0.0006
Total	100.0000	99.1909	17.1450	1006.49	0.5803

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0021
BTU/CU.FT IDEAL:	1008.8
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1010.9
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	993.3
DRY BTU @ 15.025:	1031.1
REAL SPECIFIC GRAVITY:	0.5813

CYLINDER #:	7051
CYLINDER PRESSURE:	104 PSIG
ANALYSIS DATE:	07/15/2019
ANALYSIS TIME:	03:06:36 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: 07/18/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	SAN JUAN 29-5 UNIT 68; CSG & TBG	CASING & TUBING	07/18/2019
Stn. No.:	86-698-01	DK	35825-11605
Mtr. No.:	API # 3003920712		

Smpl Date:	07/08/2019
Test Date:	07/15/2019
Run No:	HS190164
Nitrogen:	0.1064
CO2:	1.7076
Methane:	96.5825
Ethane:	1.3896
Propane:	0.1314
I-Butane:	0.0370
N-Butane:	0.0172
I-Pentane:	0.0084
N-Pentane:	0.0029
Hexane+:	0.0170
BTU:	1010.9
GPM:	17.1450
SPG:	0.5813