



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

Analysis No: HS190228
Cust No: 35825-11895

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
Well Name: ALAMO 22-8; BHD
County/State: SAN JUAN NM
Location:
Lease/PA/CA:
Formation: FC/DK
Cust. Str. No.: 20041
API # 3004532690

Source: BRADENHEAD
Well Flowing: Y
Pressure: 56 PSIG
Flow Temp: 88 DEG. F
Ambient Temp: 88 DEG. F
Flow Rate: 64 MCF/D
Sample Method: Purge & Fill
Sample Date: 08/13/2019
Sample Time: 3.15 PM
Sampled By: NED H.
Sampled by (CO):

Heat Trace: N
Remarks:

AREA 2 / RUN 202

NMOC
AUG 28 2019
DISTRICT III

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	4.2310	4.2087	0.4670	0.00	0.0409
CO2	0.5988	0.5957	0.1020	0.00	0.0091
Methane	92.1140	91.6296	15.6510	930.35	0.5102
Ethane	0.2264	0.2252	0.0610	4.01	0.0024
Propane	0.6969	0.6932	0.1920	17.53	0.0106
Iso-Butane	0.1805	0.1796	0.0590	5.87	0.0036
N-Butane	0.2015	0.2004	0.0640	6.57	0.0040
I-Pentane	0.1270	0.1263	0.0470	5.08	0.0032
N-Pentane	0.1625	0.1616	0.0590	6.51	0.0040
Hexane Plus	1.4614	1.4537	0.6530	77.03	0.0484
Total	100.0000	99.4740	17.3550	1052.96	0.6364

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0025
BTU/CU.FT IDEAL: 1055.4
BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1058.0
BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1039.6
DRY BTU @ 15.025: 1079.2
REAL SPECIFIC GRAVITY: 0.6378

CYLINDER #: 6151
CYLINDER PRESSURE: 30 PSIG
ANALYSIS DATE: 08/21/2019
ANALYSIS TIME: 09:04:22 AM
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: 08/22/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: ALAMO 22-8; BHD
Stn. No.: 20041
Mtr. No.: API # 3004532690

BRADENHEAD
FC/DK

08/22/2019
35825-11895

Smpl Date: 08/13/2019
Test Date: 08/21/2019
Run No: HS190228

Nitrogen: 4.2310
CO2: 0.5988
Methane: 92.1140
Ethane: 0.2264
Propane: 0.6969
I-Butane: 0.1805
N-Butane: 0.2015
I-Pentane: 0.1270
N-Pentane: 0.1625
Hexane+: 1.4614

BTU: 1058.0
GPM: 17.3550
SPG: 0.6378



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

Analysis No: HS190229
Cust No: 35825-11900

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	CASING
Well Name:	ALAMO 22-8; CSG	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	600 PSIG
Location:		Flow Temp:	88 DEG. F
Lease/PA/CA:		Ambient Temp:	88 DEG. F
Formation:	FC/DK	Flow Rate:	85 MCF/D
Cust. Str. No.:	20041	Sample Method:	PURGE & FILL
	API # 3004532690	Sample Date:	08/13/2019
		Sample Time:	3.15 PM
	AREA 2 / RUN 202	Sampled By:	NED H.
Heat Trace:	N	Sampled by (CO):	
Remarks:	PRESSURED WITH HELIUM TO 30LBS.		

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	4.2230	1.1347	0.4660	0.00	0.0408
CO2	0.5393	0.1449	0.0920	0.00	0.0082
Methane	92.1509	24.7608	15.6590	930.72	0.5104
Ethane	0.1634	0.0439	0.0440	2.89	0.0017
Propane	0.5218	0.1402	0.1440	13.13	0.0079
Iso-Butane	0.1392	0.0374	0.0460	4.53	0.0028
N-Butane	0.1574	0.0423	0.0500	5.13	0.0032
I-Pentane	0.1027	0.0276	0.0380	4.11	0.0026
N-Pentane	0.1381	0.0371	0.0500	5.54	0.0034
Hexane Plus	1.8642	0.5009	0.8330	98.26	0.0617
Total	100.0000	26.8698	17.4220	1064.31	0.6428

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0026	CYLINDER #:	5021
BTU/CU.FT IDEAL:	1066.8	CYLINDER PRESSURE:	0 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1069.5	ANALYSIS DATE:	08/21/2019
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1050.9	ANALYSIS TIME:	09:03:41 AM
DRY BTU @ 15.025:	1090.9	ANALYSIS RUN BY:	RICHARD WILSON
REAL SPECIFIC GRAVITY:	0.6441		

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: 08/22/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: ALAMO 22-8; CSG
Stn. No.: 20041
Mtr. No.: API # 3004532690

CASING
FC/DK

08/22/2019
35825-11900

Smpl Date: 08/13/2019
Test Date: 08/21/2019
Run No: HS190229

Nitrogen: 4.2230
CO2: 0.5393
Methane: 92.1509
Ethane: 0.1634
Propane: 0.5218
I-Butane: 0.1392
N-Butane: 0.1574
I-Pentane: 0.1027
N-Pentane: 0.1381
Hexane+: 1.8642

BTU: 1069.5
GPM: 17.4220
SPG: 0.6441



2030 Afton Place
Farmington, NM 87401
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Analysis No: HS190230
Cust No: 35825-11905

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	TUBING
Well Name:	ALAMO 22-8; TBG	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	50 PSIG
Location:		Flow Temp:	88 DEG. F
Lease/PA/CA:		Ambient Temp:	88 DEG. F
Formation:	FC/DK	Flow Rate:	55 MCF/D
Cust. Stn. No.:	20041	Sample Method:	Purge & Fill
	API # 3004532690	Sample Date:	08/13/2019
		Sample Time:	3.15 PM
	AREA 2 / RUN 202	Sampled By:	NED H.
Heat Trace:	N	Sampled by (CO):	
Remarks:	PRESSURED WITH HELIUM TO 30 LBS.		

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.4125	0.1576	0.0460	0.00	0.0040
CO2	1.4145	0.5405	0.2420	0.00	0.0215
Methane	80.6140	30.8031	13.7150	814.20	0.4465
Ethane	9.5104	3.6340	2.5520	168.31	0.0987
Propane	3.7801	1.4444	1.0450	95.11	0.0576
Iso-Butane	0.6182	0.2362	0.2030	20.10	0.0124
N-Butane	1.0167	0.3885	0.3220	33.17	0.0204
I-Pentane	0.4996	0.1909	0.1830	19.99	0.0124
N-Pentane	0.4122	0.1575	0.1500	16.52	0.0103
Hexane Plus	1.7218	0.6579	0.7710	90.76	0.0570
Total	100.0000	38.2106	19.2290	1258.16	0.7408

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0038	CYLINDER #:	4051
BTU/CU.FT IDEAL:	1261.1	CYLINDER PRESSURE:	6 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1265.9	ANALYSIS DATE:	08/21/2019
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1243.9	ANALYSIS TIME:	09:21:00 AM
DRY BTU @ 15.025:	1291.3	ANALYSIS RUN BY:	PATRICIA KING
REAL SPECIFIC GRAVITY:	0.7433		

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: 08/22/2019

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: ALAMO 22-8; TBG
Stn. No.: 20041
Mtr. No.: API # 3004532690

TUBING
FC/DK

08/22/2019
35825-11905

Smpl Date: 08/13/2019
Test Date: 08/21/2019
Run No: HS190230

Nitrogen: 0.4125
CO2: 1.4145
Methane: 80.6140
Ethane: 9.5104
Propane: 3.7801
I-Butane: 0.6182
N-Butane: 1.0167
I-Pentane: 0.4996
N-Pentane: 0.4122
Hexane+: 1.7218

BTU: 1265.9
GPM: 19.2290
SPG: 0.7433