



Well Name: SAM COOLEY 1; BHD

API #: 3004509671

Source: BRADENHEAD

Sample Type: GAS

Analysis No: HS20230280

Cust No: 35825-15515

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: SAM COOLEY 1; BHD
 County/State:
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: 3004509671

Source: BRADENHEAD
 Well Flowing: Y
 Pressure: 31 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method:
 Sample Date: 11/01/2023
 Sample Time: 8.00 AM
 Sampled By: DAKOTA RHOADES
 Sampled by (CO): HILCORP

AREA 03 / RUN# 0307

Heat Trace:

Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2730	0.2717	0.0300	0.00	0.0026
CO2	0.0283	0.0282	0.0050	0.00	0.0004
Methane	90.0298	89.5970	15.2990	909.30	0.4987
Ethane	6.4860	6.4548	1.7390	114.78	0.0673
Propane	2.1001	2.0900	0.5800	52.84	0.0320
Iso-Butane	0.3236	0.3220	0.1060	10.52	0.0065
N-Butane	0.4047	0.4028	0.1280	13.20	0.0081
I-Pentane	0.1121	0.1116	0.0410	4.49	0.0028
N-Pentane	0.0703	0.0700	0.0260	2.82	0.0018
Hexane Plus	0.1721	0.1713	0.0770	9.07	0.0057
Total	100.0000	99.5194	18.0310	1117.02	0.6259

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0026
 BTU/CU.FT IDEAL: 1119.6
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1122.5
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1103.0
 DRY BTU @ 15.025: 1145.0
 REAL SPECIFIC GRAVITY: 0.6273

CYLINDER #: 4237
 CYLINDER PRESSURE: 25 PSIG
 ANALYSIS DATE: 11/02/2023
 ANALYSIS TIME: 03:36:44 AM
 ANALYSIS RUN BY: SARAH BALLARD

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: 11/07/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: SAM COOLEY 1; BHD
Stn. No.: 3004509671
Mtr. No.:

BRADENHEAD

11/07/2023
35825-15515

Smpl Date: 11/01/2023
Test Date: 11/02/2023
Run No: HS20230280

Nitrogen: 0.2730
CO2: 0.0283
Methane: 90.0298
Ethane: 6.4860
Propane: 2.1001
I-Butane: 0.3236
N-Butane: 0.4047
I-Pentane: 0.1121
N-Pentane: 0.0703
Hexane+: 0.1721

BTU: 1122.5
GPM: 18.0310
SPG: 0.6273



Well Name: SAM COOLEY 1; CSG

API #: 3004509671

Source: CASING

Sample Type: GAS

Analysis No: HS20230282

Cust No: 35825-15525

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: SAM COOLEY 1; CSG
 County/State: AREA 3, RUN 0307
 Location:
 Lease/PA/CA:
 Formation:
 Cust. Stn. No.: 3004509671

Source: CASING
 Well Flowing: Y
 Pressure: 198 PSIG
 Flow Temp: DEG. F
 Ambient Temp: DEG. F
 Flow Rate: MCF/D
 Sample Method:
 Sample Date: 11/01/2023
 Sample Time: 8.00 AM
 Sampled By: DAKOTA RHOADES
 Sampled by (CO): HILCORP

Heat Trace:

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	17.1227	17.2879	1.8880	0.00	0.1656
CO2	0.2130	0.2151	0.0360	0.00	0.0032
Methane	70.8703	71.5539	12.0400	715.79	0.3926
Ethane	7.0646	7.1328	1.8930	125.02	0.0733
Propane	2.7768	2.8036	0.7670	69.87	0.0423
Iso-Butane	0.5718	0.5773	0.1880	18.59	0.0115
N-Butane	0.7178	0.7247	0.2270	23.42	0.0144
I-Pentane	0.2544	0.2569	0.0930	10.18	0.0063
N-Pentane	0.1717	0.1734	0.0620	6.88	0.0043
Hexane Plus	0.2369	0.2392	0.1060	12.49	0.0078
Total	100.0000	100.9648	17.3000	982.24	0.7214

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0024
 BTU/CU.FT IDEAL: 984.5
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 986.9
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 969.7
 DRY BTU @ 15.025: 1006.7
 REAL SPECIFIC GRAVITY: 0.7228

CYLINDER #: 4079
 CYLINDER PRESSURE: 149 PSIG
 ANALYSIS DATE: 11/02/2023
 ANALYSIS TIME: 03:22:41 PM
 ANALYSIS RUN BY: SARAH BALLARD

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: 11/07/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease: SAM COOLEY 1; CSG
Stn. No.: 3004509671
Mtr. No.:

CASING

11/07/2023
35825-15525

Smpl Date: 11/01/2023
Test Date: 11/02/2023
Run No: HS20230282

Nitrogen: 17.1227
CO2: 0.2130
Methane: 70.8703
Ethane: 7.0646
Propane: 2.7768
I-Butane: 0.5718
N-Butane: 0.7178
I-Pentane: 0.2544
N-Pentane: 0.1717
Hexane+: 0.2369

BTU: 986.9
GPM: 17.3000
SPG: 0.7228



Well Name: SAM COOLEY 1; TBG

API #: 3004509671

Source: TUBING

Sample Type: GAS

Analysis No: HS20230281

Cust No: 35825-15520

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)

Well Name: SAM COOLEY 1; TBG

County/State:

Location:

Lease/PA/CA:

Formation:

Cust. Stn. No.: 3004509671

Source: TUBING

Well Flowing: Y

Pressure: 106 PSIG

Flow Temp: DEG. F

Ambient Temp: DEG. F

Flow Rate: MCF/D

Sample Method: Purge & Fill

Sample Date: 11/01/2023

Sample Time: 8.00 AM

Sampled By: DAKOTA RHOADES

Sampled by (CO): HILCORP

AREA 03 / RUN# 0307

Heat Trace:

Remarks:

Analysis

Component:	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.8251	0.8303	0.0910	0.00	0.0080
CO2	0.8306	0.8358	0.1420	0.00	0.0126
Methane	82.7244	83.2450	14.0680	835.52	0.4582
Ethane	8.3502	8.4028	2.2400	147.77	0.0867
Propane	3.6526	3.6756	1.0090	91.90	0.0556
Iso-Butane	0.7985	0.8035	0.2620	25.97	0.0160
N-Butane	1.0026	1.0089	0.3170	32.71	0.0201
I-Pentane	0.4388	0.4416	0.1610	17.56	0.0109
N-Pentane	0.3420	0.3442	0.1240	13.71	0.0085
Hexane Plus	1.0352	1.0417	0.4630	54.57	0.0343
Total	100.0000	100.6294	18.8770	1219.70	0.7110

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0034
 BTU/CU.FT IDEAL: 1222.5
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1226.7
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1205.4
 DRY BTU @ 15.025: 1251.3
 REAL SPECIFIC GRAVITY: 0.7131

CYLINDER #: 7042
 CYLINDER PRESSURE: 131 PSIG
 ANALYSIS DATE: 11/02/2023
 ANALYSIS TIME: 03:29:18 AM
 ANALYSIS RUN BY: SARAH BALLARD

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: 11/07/2023

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	SAM COOLEY 1; TBG	TUBING	11/07/2023
Stn. No.:	3004509671		35825-15520
Mtr. No.:			

Smpl Date: 11/01/2023
Test Date: 11/02/2023
Run No: HS20230281

Nitrogen: 0.8251
CO2: 0.8306
Methane: 82.7244
Ethane: 8.3502
Propane: 3.6526
I-Butane: 0.7985
N-Butane: 1.0026
I-Pentane: 0.4388
N-Pentane: 0.3420
Hexane+: 1.0352

BTU: 1226.7
GPM: 18.8770
SPG: 0.7131

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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 284904

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 284904
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	for record	11/17/2023