



Well Name: WILLIAMS 1; BHD
 API #: 3004510590
 Source: BRADENHEAD
 Sample Type: GAS
 Analysis No: HS20240072
 Cust No: 35825-13775

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	BRADENHEAD
Well Name:	WILLIAMS 1; BHD	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	35 PSIG
Location:		Flow Temp:	63 DEG. F
Lease/PA/CA:	SF078464	Ambient Temp:	47 DEG. F
Formation:	MV/DK	Flow Rate:	0 MCF/D
Cust. Stn. No.:	3004510590	Sample Method:	Purge & Fill
	3661930	Sample Date:	05/02/2024
	AREA 2 / RUN 0203	Sample Time:	8.00 AM
Heat Trace:	N	Sampled By:	SHAWN FINCHER
Remarks:		Sampled by (CO):	HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.6784	0.6720	0.0750	0.00	0.0066
CO2	0.0247	0.0245	0.0040	0.00	0.0004
Methane	91.6176	90.7530	15.5680	925.34	0.5075
Ethane	4.1984	4.1588	1.1250	74.30	0.0436
Propane	1.8502	1.8327	0.5110	46.55	0.0282
Iso-Butane	0.5379	0.5328	0.1760	17.49	0.0108
N-Butane	0.3594	0.3560	0.1140	11.72	0.0072
I-Pentane	0.2650	0.2625	0.0970	10.60	0.0066
N-Pentane	0.1326	0.1313	0.0480	5.32	0.0033
Hexane Plus	0.3358	0.3326	0.1500	17.70	0.0111
Total	100.0000	99.0562	17.8680	1109.02	0.6252

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0026
 BTU/CU.FT IDEAL: 1111.6
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1114.5
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1095.1
 DRY BTU @ 15.025: 1136.8
 REAL SPECIFIC GRAVITY: 0.6266

CYLINDER #: 1067
 CYLINDER PRESSURE: 34 PSIG
 ANALYSIS DATE: 05/13/2024
 ANALYSIS TIME: 09:23:14 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: 05/17/2024

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	WILLIAMS 1; BHD	BRADENHEAD	05/17/2024
Stn. No.:	3004510590	MV/DK	35825-13775
Mtr. No.:	3661930		

Smpl Date:	05/02/2024	06/22/2021
Test Date:	05/13/2024	06/30/2021
Run No:	HS20240072	HS2021129
Nitrogen:	0.6784	0.2380
CO2:	0.0247	0.0056
Methane:	91.6176	92.2907
Ethane:	4.1984	4.0642
Propane:	1.8502	1.8076
I-Butane:	0.5379	0.5385
N-Butane:	0.3594	0.3560
I-Pentane:	0.2650	0.2567
N-Pentane:	0.1326	0.1341
Hexane+:	0.3358	0.3086
BTU:	1114.5	1116.1
GPM:	17.8680	17.8680
SPG:	0.6266	0.6226



Well Name: WILLIAMS 1; CSG
 API #: 3004510590
 Source: CASING
 Sample Type: GAS
 Analysis No: HS20240073
 Cust No: 35825-13780

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: WILLIAMS 1; CSG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA: SF078464
 Formation: MV/DK
 Cust. Stn. No.: 3004510590
 3661930

Source: CASING
 Well Flowing: Y
 Pressure: 100 PSIG
 Flow Temp: 63 DEG. F
 Ambient Temp: 47 DEG. F
 Flow Rate: 0 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 05/02/2024
 Sample Time: 8.00 AM
 Sampled By: SHAWN FINCHER
 Sampled by (CO): WALSH

Heat Trace: AREA 2 / RUN 0203

Remarks: N

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.1999	0.1959	0.0220	0.00	0.0019
CO2	0.6379	0.6250	0.1090	0.00	0.0097
Methane	82.4432	80.7798	14.0210	832.68	0.4567
Ethane	9.8714	9.6722	2.6480	174.69	0.1025
Propane	3.8615	3.7836	1.0670	97.16	0.0588
Iso-Butane	0.6968	0.6827	0.2290	22.66	0.0140
N-Butane	0.9808	0.9610	0.3100	32.00	0.0197
I-Pentane	0.3811	0.3734	0.1400	15.25	0.0095
N-Pentane	0.2645	0.2592	0.0960	10.60	0.0066
Hexane Plus	0.6629	0.6495	0.2970	34.94	0.0219
Total	100.0000	97.9823	18.9390	1219.98	0.7012

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0034
 BTU/CU.FT IDEAL: 1222.8
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1227.0
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1205.7
 DRY BTU @ 15.025: 1251.6
 REAL SPECIFIC GRAVITY: 0.7034

CYLINDER #: 031
 CYLINDER PRESSURE: 98 PSIG
 ANALYSIS DATE: 05/13/2024
 ANALYSIS TIME: 09:41:04 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: 05/17/2024

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	WILLIAMS 1; CSG	CASING	05/17/2024
Stn. No.:	3004510590	MV/DK	35825-13780
Mtr. No.:	3661930		

Smpl Date:	05/02/2024	06/22/2021
Test Date:	05/13/2024	06/30/2021
Run No:	HS20240073	HS2021130
Nitrogen:	0.1999	0.1826
CO2:	0.6379	0.6467
Methane:	82.4432	81.6104
Ethane:	9.8714	9.9497
Propane:	3.8615	3.9314
I-Butane:	0.6968	0.7300
N-Butane:	0.9808	1.0311
I-Pentane:	0.3811	0.4100
N-Pentane:	0.2645	0.2900
Hexane+:	0.6629	1.2181
BTU:	1227.0	1256.3
GPM:	18.9390	19.1360
SPG:	0.7034	0.7222



Well Name: WILLIAMS 1; TBG
 API #: 3004510590
 Source: TUBING
 Sample Type: GAS
 Analysis No: HS20240074
 Cust No: 35825-13785

Well/Lease Information

Customer Name: HILCORP (BHD PROJECT)
 Well Name: WILLIAMS 1; TBG
 County/State: SAN JUAN NM
 Location:
 Lease/PA/CA: SF078464
 Formation: MV/DK
 Cust. Stn. No.: 3004510590
 3661930

Source: TUBING
 Well Flowing: Y
 Pressure: 100 PSIG
 Flow Temp: 63 DEG. F
 Ambient Temp: 47 DEG. F
 Flow Rate: 0 MCF/D
 Sample Method: Purge & Fill
 Sample Date: 05/02/2024
 Sample Time: 8.00 AM
 Sampled By: SHAWN FINCHER
 Sampled by (CO): HILCORP

Heat Trace: N
 AREA 2 / RUN 0203

Remarks:

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.2633	0.2588	0.0290	0.00	0.0025
CO2	1.1337	1.1142	0.1940	0.00	0.0172
Methane	81.0143	79.6224	13.7790	818.24	0.4487
Ethane	10.1750	10.0002	2.7300	180.07	0.1056
Propane	4.1638	4.0923	1.1510	104.77	0.0634
Iso-Butane	0.7254	0.7129	0.2380	23.59	0.0146
N-Butane	1.1119	1.0928	0.3520	36.27	0.0223
I-Pentane	0.4088	0.4018	0.1500	16.36	0.0102
N-Pentane	0.3003	0.2951	0.1090	12.04	0.0075
Hexane Plus	0.7035	0.6914	0.3150	37.08	0.0233
Total	100.0000	98.2819	19.0470	1228.42	0.7154

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z): 1.0035
 BTU/CU.FT IDEAL: 1231.3
 BTU/CU.FT (DRY) CORRECTED FOR (1/Z): 1235.6
 BTU/CU.FT (WET) CORRECTED FOR (1/Z): 1214.1
 DRY BTU @ 15.025: 1260.3
 REAL SPECIFIC GRAVITY: 0.7176

CYLINDER #: 2112
 CYLINDER PRESSURE: 99 PSIG
 ANALYSIS DATE: 05/13/2024
 ANALYSIS TIME: 09:33:38 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: 05/17/2024

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	WILLIAMS 1; TBG	TUBING	05/17/2024
Stn. No.:	3004510590	MV/DK	35825-13785
Mtr. No.:	3661930		

Smpl Date:	05/02/2024	06/22/2021
Test Date:	05/13/2024	06/30/2021
Run No:	HS20240074	HS2021131
Nitrogen:	0.2633	0.2265
CO2:	1.1337	1.1397
Methane:	81.0143	80.6075
Ethane:	10.1750	10.3039
Propane:	4.1638	4.2103
I-Butane:	0.7254	0.7449
N-Butane:	1.1119	1.1402
I-Pentane:	0.4088	0.4247
N-Pentane:	0.3003	0.3136
Hexane+:	0.7035	0.8887
BTU:	1235.6	1247.6
GPM:	19.0470	19.1340
SPG:	0.7176	0.7250

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District II
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Phone:(575) 748-1283 Fax:(575) 748-9720
District III
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 355528

CONDITIONS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 355528
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	not same	8/27/2024