



Well Name: HUMBLE N. KIRTLAND #1E;
 API #: 3004523866
 Source: BRADENHEAD
 Sample Type: GAS
 Analysis No: HS2021184
 Cust No: 35825-10470

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	BRADENHEAD
Well Name:	HUMBLE N. KIRTLAND #1E; BHD	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	133 PSIG
Location:		Flow Temp:	95 DEG. F
Lease/PA/CA:	SF-079070	Ambient Temp:	95 DEG. F
Formation:	DK	Flow Rate:	60 MCF/D
Cust. Stn. No.:	3004523866	Sample Method:	Purge & Fill
	93159	Sample Date:	08/10/2021
	AREA 2 / RUN 0202	Sample Time:	3.25 PM
Heat Trace:	N	Sampled By:	JESSE RANGEL
Remarks:		Sampled by (CO):	HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5687	0.5673	0.0630	0.00	0.0055
CO2	1.3644	1.3611	0.2340	0.00	0.0207
Methane	79.8259	79.6339	13.5780	806.24	0.4422
Ethane	10.1028	10.0785	2.7110	178.79	0.1049
Propane	4.7714	4.7599	1.3190	120.05	0.0726
Iso-Butane	0.7180	0.7163	0.2360	23.35	0.0144
N-Butane	1.2651	1.2621	0.4000	41.27	0.0254
I-Pentane	0.3731	0.3722	0.1370	14.93	0.0093
N-Pentane	0.3305	0.3297	0.1200	13.25	0.0082
Hexane Plus	0.6801	0.6785	0.3040	35.85	0.0225
Total	100.0000	99.7595	19.1020	1233.73	0.7258

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0036	CYLINDER #:	1092
BTU/CU.FT IDEAL:	1236.6	CYLINDER PRESSURE:	123 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1241.1	ANALYSIS DATE:	08/18/2021
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1219.5	ANALYSIS TIME:	04:35:54 PM
DRY BTU @ 15.025:	1266.0	ANALYSIS RUN BY:	RICHARD WILSON
REAL SPECIFIC GRAVITY:	0.7281		

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: 08/25/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	HUMBLE N. KIRTLAND #1E; BHD	BRADENHEAD	08/25/2021
Stn. No.:	3004523866	DK	35825-10470
Mtr. No.:	93159		

Smpl Date:	08/10/2021	08/09/2018
Test Date:	08/18/2021	08/22/2018
Run No:	HS2021184	HS180121
Nitrogen:	0.5687	0.5605
CO2:	1.3644	1.3046
Methane:	79.8259	81.0344
Ethane:	10.1028	9.6029
Propane:	4.7714	4.2735
I-Butane:	0.7180	0.6827
N-Butane:	1.2651	1.2175
I-Pentane:	0.3731	0.3690
N-Pentane:	0.3305	0.3215
Hexane+:	0.6801	0.6334
BTU:	1241.1	1225.9
GPM:	19.1020	18.9690
SPG:	0.7281	0.7173



Well Name: HUMBLE N. KIRTLAND #1E;
 API #: 3004523866
 Source: CASING
 Sample Type: GAS
 Analysis No: HS2021185
 Cust No: 35825-10475

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	CASING
Well Name:	HUMBLE N. KIRTLAND #1E; CSG	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	137 PSIG
Location:		Flow Temp:	95 DEG. F
Lease/PA/CA:	SF-079070	Ambient Temp:	95 DEG. F
Formation:	DK	Flow Rate:	60 MCF/D
Cust. Stn. No.:	3004523866	Sample Method:	Purge & Fill
	93159	Sample Date:	08/10/2021
	AREA 2 / RUN 0202	Sample Time:	3.35 PM
Heat Trace:	N	Sampled By:	VICTOR R
Remarks:		Sampled by (CO):	HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5343	0.5291	0.0590	0.00	0.0052
CO2	1.3858	1.3722	0.2370	0.00	0.0211
Methane	80.0816	79.2970	13.6220	808.82	0.4436
Ethane	10.0298	9.9315	2.6910	177.50	0.1041
Propane	4.5560	4.5114	1.2590	114.63	0.0694
Iso-Butane	0.7025	0.6956	0.2310	22.84	0.0141
N-Butane	1.2188	1.2069	0.3860	39.76	0.0245
I-Pentane	0.3897	0.3859	0.1430	15.59	0.0097
N-Pentane	0.3376	0.3343	0.1230	13.53	0.0084
Hexane Plus	0.7639	0.7564	0.3420	40.27	0.0253
Total	100.0000	99.0203	19.0930	1232.95	0.7252

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0036	CYLINDER #:	590
BTU/CU.FT IDEAL:	1235.8	CYLINDER PRESSURE:	123 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1240.3	ANALYSIS DATE:	08/18/2021
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1218.7	ANALYSIS TIME:	04:32:07 PM
DRY BTU @ 15.025:	1265.1	ANALYSIS RUN BY:	PATRICIA KING
REAL SPECIFIC GRAVITY:	0.7276		

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: 08/25/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	HUMBLE N. KIRTLAND #1E; CSG	CASING	08/25/2021
Stn. No.:	3004523866	DK	35825-10475
Mtr. No.:	93159		

Smpl Date:	08/10/2021	08/09/2018
Test Date:	08/18/2021	08/22/2018
Run No:	HS2021185	HS180122
Nitrogen:	0.5343	0.5618
CO2:	1.3858	1.3113
Methane:	80.0816	80.9681
Ethane:	10.0298	9.6346
Propane:	4.5560	4.3365
I-Butane:	0.7025	0.6837
N-Butane:	1.2188	1.2096
I-Pentane:	0.3897	0.3691
N-Pentane:	0.3376	0.3223
Hexane+:	0.7639	0.6030
BTU:	1240.3	1225.5
GPM:	19.0930	18.9710
SPG:	0.7276	0.7172



Well Name: HUMBLE N. KIRTLAND #1E;
 API #: 3004523866
 Source: TUBING
 Sample Type: GAS
 Analysis No: HS2021186
 Cust No: 35825-10480

Well/Lease Information

Customer Name:	HILCORP (BHD PROJECT)	Source:	TUBING
Well Name:	HUMBLE N. KIRTLAND #1E; TBG	Well Flowing:	Y
County/State:	SAN JUAN NM	Pressure:	131 PSIG
Location:		Flow Temp:	95 DEG. F
Lease/PA/CA:	SF-079070	Ambient Temp:	95 DEG. F
Formation:	DK	Flow Rate:	60 MCF/D
Cust. Stn. No.:	3004523866	Sample Method:	Purge & Fill
	93159	Sample Date:	08/10/2021
	AREA 2 / RUN 0202	Sample Time:	3.30 PM
Heat Trace:	N	Sampled By:	VICTOR R
Remarks:		Sampled by (CO):	HILCORP

Analysis

Component::	Mole%:	Unnormalized %:	**GPM:	*BTU:	*SP Gravity:
Nitrogen	0.5400	0.5348	0.0600	0.00	0.0052
CO2	1.3812	1.3679	0.2370	0.00	0.0210
Methane	80.1200	79.3491	13.6280	809.21	0.4438
Ethane	10.0369	9.9403	2.6930	177.62	0.1042
Propane	4.5474	4.5036	1.2570	114.42	0.0692
Iso-Butane	0.7035	0.6967	0.2310	22.88	0.0141
N-Butane	1.2194	1.2077	0.3860	39.78	0.0245
I-Pentane	0.3875	0.3838	0.1420	15.50	0.0097
N-Pentane	0.3357	0.3325	0.1220	13.46	0.0084
Hexane Plus	0.7284	0.7214	0.3260	38.39	0.0241
Total	100.0000	99.0378	19.0820	1231.26	0.7241

* @ 14.730 PSIA DRY & UNCORRECTED FOR COMPRESSIBILITY

**@ 14.730 PSIA & 60 DEG. F.

COMPRESSIBILITY FACTOR (1/Z):	1.0036	CYLINDER #:	042
BTU/CU.FT IDEAL:	1234.1	CYLINDER PRESSURE:	130 PSIG
BTU/CU.FT (DRY) CORRECTED FOR (1/Z):	1238.4	ANALYSIS DATE:	08/18/2021
BTU/CU.FT (WET) CORRECTED FOR (1/Z):	1216.9	ANALYSIS TIME:	04:39:56 PM
DRY BTU @ 15.025:	1263.2	ANALYSIS RUN BY:	PATRICIA KING
REAL SPECIFIC GRAVITY:	0.7264		

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: 08/25/2021

GC Method: C6+ Gas



HILCORP (BHD PROJECT)
WELL ANALYSIS COMPARISON

Lease:	HUMBLE N. KIRTLAND #1E; TBG	TUBING	08/25/2021
Stn. No.:	3004523866	DK	35825-10480
Mtr. No.:	93159		

Smpl Date:	08/10/2021	08/09/2018
Test Date:	08/18/2021	08/22/2018
Run No:	HS2021186	HS180123
Nitrogen:	0.5400	0.5713
CO2:	1.3812	1.3269
Methane:	80.1200	80.4569
Ethane:	10.0369	9.8832
Propane:	4.5474	4.5102
I-Butane:	0.7035	0.6770
N-Butane:	1.2194	1.2045
I-Pentane:	0.3875	0.3552
N-Pentane:	0.3357	0.3155
Hexane+:	0.7284	0.6993
BTU:	1238.4	1233.2
GPM:	19.0820	19.0340
SPG:	0.7264	0.7225

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
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

COMMENTS

Action 45630

COMMENTS

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 45630
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

COMMENTS

Created By	Comment	Comment Date
mkuehling	same gas all strings	9/3/2021

District I
1625 N. French Dr., Hobbs, NM 88240
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CONDITIONS

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Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 45630
	Action Type: [UF-GA] Gas Analysis (GAS ANALYSIS)

CONDITIONS

Created By	Condition	Condition Date
mkuehling	None	9/3/2021