Test Report

Start Date: Sat Apr 01 2023 01:39:18 GMT+0000 (Coordinated Universal Time)
End Date: Sat Apr 01 2023 18:11:29 GMT+0000 (Coordinated Universal Time)
Device: VB100-0005
Well Licensee: NMOCR
Well Name: Union Happy 002
UWI: 30-005-60623
Well License Number: 30-005-60622
Surface Location: WHITE LAKE RANCH
Bottom Hole Location: unknown

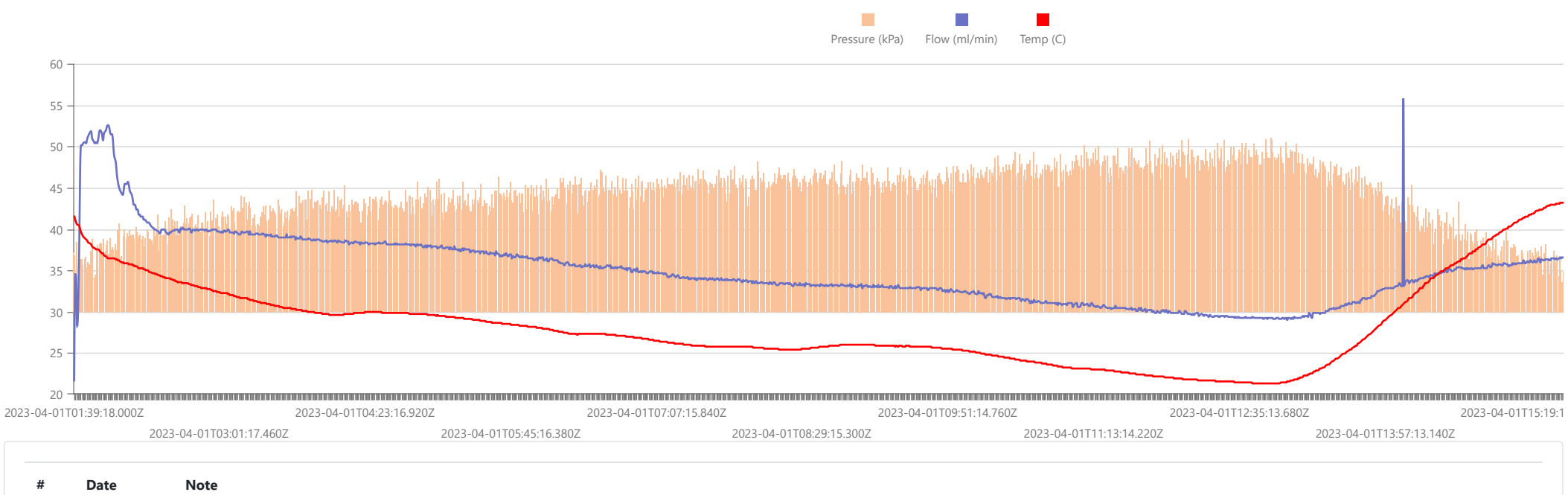
Test Operator: cee
Authorized By: NMOCD
Test Reason: IIJA PRE PLUG
Scope Of Work: 12- hour
AFE Number: 52100-00007298
GPS: 33.64656,-104.03792
Notes: GTG - H2S!
Prepared By: Curtis Shuck, QMS

Flow / Pressure Test

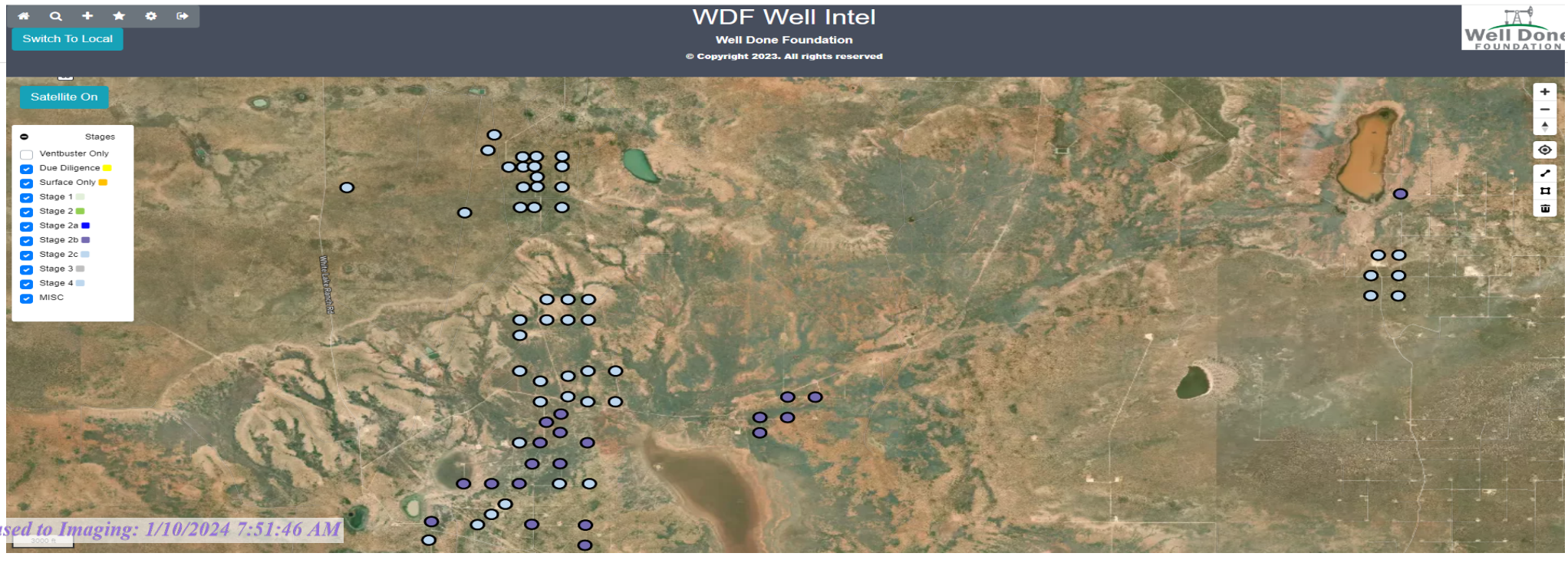
Flow Duration	Average Flowrate	Average Pressure	Average Flow Temperature	Average CH4 Mass
16 hrs 31 minutes	35.3014	5.0213	11.2336	433.34 g/hr
Duration	m3/d	kPag	°C	

Methane Calculation: 717 grams CH4 per cubic meter (717 g/m^3 x 35.3014 m^3/day = 25311.10 g/day total /24 = 1054.63 g/hour x 0.41089 (methane concentration) = **433.34 g/hour CH4**). **Methane, gas** weighs 0.000717 *gram per cubic centimeter* or 0.717 *kilgram per cubic meter*, i.e. density of *methane, gas* is equal to 0.717 kg/m^3; at 0°C (32°F or 273.15K) at standard atmospheric pressure. In imperial or US customary measurement system, the density is equal to 0.0448 *pound per cubic foot* [lb/ft^3], or 0.0004144 *ounce per cubic inch* [oz/$inch^3$].

Flow / Pressure / Temperature Timeseries



#	Date	Note
1	2023-04-01	On location at 11:30 am. Full Air. Secure well that had been producing into a flow line to nowhere through the leaking tubing valve, daylighting at union in Happy number one tank battery. Pull gas sample number two from running test. Rig down VB 100 Dash 005. Secure the tubing head from which the test was being run. Photograph the well. Place ribbon markers on the Welhead that indicate presence of H2 S gas. WILDCAT OUT!
2	2023-03-31	Back at location with Full Air to rig up VB100-005 for a 12-Hour Test at leaking tubing.
3	2023-03-18	Collect Gas Sample for Lab from leaking tubing. Need Full Air to safely work on this well!



LABORATORY SERVICES Natural Gas Analysis

www.permianls.com
575.397.3713 2609 W Marland Hobbs NM 88240

C6+ Gas Analysis Report **April 01, 2023**

16019G	Union #002 Pre Plug	Union #002 (1130)
Sample Point Code	Sample Point Name	Sample Point Location

Laboratory Services	2023066470	Tedlar Bag	CES - Spot
Source Laboratory	Lab File No	Container Identity	Sampler
USA	USA	USA	Kentucky
District	Area Name	Field Name	Facility Name
Mar 31, 2023 12:30	Mar 31, 2023 12:30	Apr 3, 2023 13:35	Apr 3, 2023
Date Sampled	Date Effective	Date Received	Date Reported
		Luis	
Ambient Temp (°F)	Flow Rate (Mcf)	Analyst	Press PSI @ Temp °F Source Conditions
Well Done Foundation		NG	
Operator		Lab Source Description	

Component	Normalized Mol %	Un-Normalized Mol %	GPM
H2S (H2S)	0.5000	0.5	
Nitrogen (N2)	41.1780	41.38731	
CO2 (CO2)	6.9210	6.95513	
Methane (C1)	40.0210	40.22132	
Ethane (C2)	5.5590	5.58678	1.4860
Propane (C3)	2.8660	2.88029	0.7890
I-Butane (IC4)	0.3580	0.35955	0.1170
N-Butane (NC4)	0.8250	0.82887	0.2600
I-Pentane (IC5)	0.2280	0.22898	0.0830
N-Pentane (NC5)	0.2670	0.2684	0.0970
Hexanes Plus (C6+)	1.2770	1.28336	0.5540
TOTAL	100.0000	100.5000	3.3860

Method(s): Gas C6+ - GPA 2261, Extended Gas - GPA 2286, Calculations - GPA 2172

Gross Heating Values (Real, BTU/ft³)

14.696 PSI @ 60.00 Â°F		14.73 PSI @ 60.00 Â°F	
Dry	Saturated	Dry	Saturated
704.3	693.1	705.9	694.7

Calculated Total Sample Properties

GPA2145-16 *Calculated at Contract Conditions

Relative Density Real	Relative Density Ideal
0.9113	0.9097
Molecular Weight	
26.3421	

C6+ Group Properties

Assumed Composition

C6 - 60.000% C7 - 30.000% C8 - 10.000%

Field H2S
5000 PPM

PROTREND STATUS:
Passed By Validator on Apr 5, 2023

DATA SOURCE:
Imported

PASSED BY VALIDATOR REASON:
Close enough to be considered reasonable.

VALIDATOR:
Brooke Rush

VALIDATOR COMMENTS:
OK

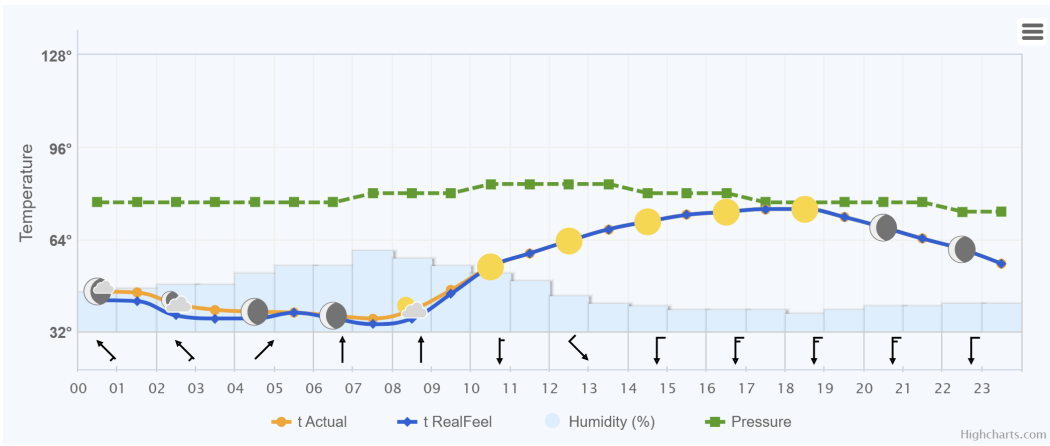
Analyzer Information

Device Type:	Gas Chromatograph	Device Make:	Shimadzu
Device Model:	GC-2014	Last Cal Date:	Feb 13, 2023

Source	Date	Notes
Brooke Rush	Apr 5, 2023 9:10 am	Methane = 400,210 PPM

	Atmospheric conditions and temperature °F		RealFeel °F	Atmospheric pressure inHg	Wind speed mph	Humidity
Night		+46°	+43°	26.4	NW 7.4	12%
Morning		+36°	+34°	26.5	N 3.8	22%
Day		+68°	+68°	26.6	S 10.7	8%
Evening		+72°	+72°	26.4	S 16.6	6%

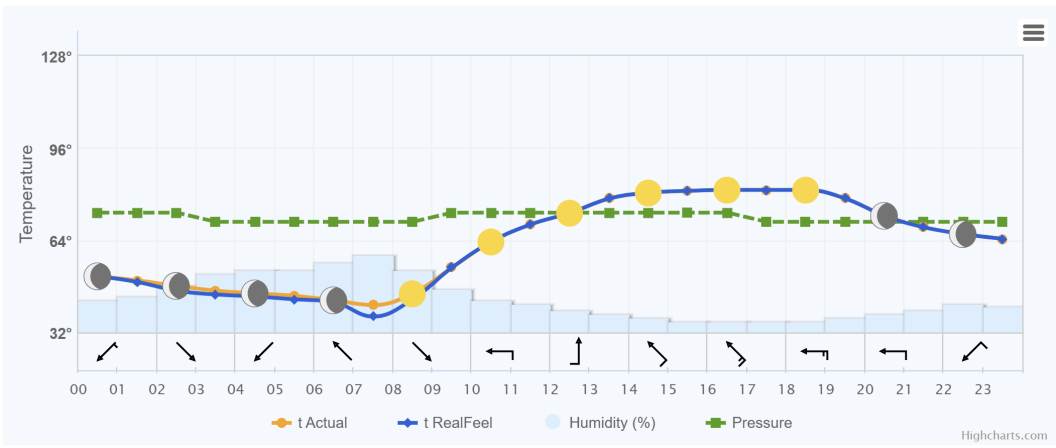
Hourly forecast for 01.04.2023



April 02, 2023

	Atmospheric conditions and temperature °F		RealFeel °F	Atmospheric pressure inHg	Wind speed mph	Humidity
Night		+50°	+50°	26.3	S 7.4	10%
Morning		+41°	+37°	26.2	E 4	21%
Day		+79°	+79°	26.3	NW 11	5%
Evening		+79°	+79°	26.2	W 13.4	4%

Hourly forecast for 02.04.2023



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C6+ Gas Analysis Report

Sample Point Code	Sample Point Name	Sample Point Location
16409G	Union Happy #002	Union Happy #002

Source Laboratory	Lab File No	Container Identity	Sampler
Laboratory Services	2023066045	Tedlar Bag	CES - Spot

District	Area Name	Field Name	Facility Name
USA	USA	USA	New Mexico

Date Sampled	Date Effective	Date Received	Date Reported
Mar 18, 2023	Mar 18, 2023	Mar 24, 2023 09:56	Mar 24, 2023

Ambient Temp (°F)	Flow Rate (Mcf)	Analyst	Press PSI @ Temp °F Source Conditions
		System Administrator	

Operator	Lab Source Description
Well Done Foundation	NG

Component	Normalized Mol %	Un-Normalized Mol %	GPM
H2S (H2S)	0.0750	0.075	
Nitrogen (N2)	41.4730	41.504	
CO2 (CO2)	9.0980	9.105	
Methane (C1)	41.0890	41.119	
Ethane (C2)	4.9010	4.905	1.3100
Propane (C3)	2.2780	2.28	0.6270
I-Butane (IC4)	0.2320	0.232	0.0760
N-Butane (NC4)	0.4280	0.428	0.1350
I-Pentane (IC5)	0.1080	0.108	0.0390
N-Pentane (NC5)	0.0860	0.086	0.0310
Hexanes Plus (C6+)	0.2320	0.232	0.1010
TOTAL	100.0000	100.0740	2.3190

Method(s): Gas C6+ - GPA 2261, Extended Gas - GPA 2286, Calculations - GPA 2172

Gross Heating Values (Real, BTU/ft³)

14.696 PSI @ 60.00 Â°F		14.73 PSI @ 60.00 Â°F	
Dry	Saturated	Dry	Saturated
602.8	593.4	604.2	594.8

Calculated Total Sample Properties

GPA2145-16 *Calculated at Contract Conditions

Relative Density Real	Relative Density Ideal
0.8802	0.8790

Molecular Weight: 25.4572

C6+ Group Properties

Assumed Composition

C6 - 60.000% C7 - 30.000% C8 - 10.000%

Field H2S: 750 PPM

PROTREND STATUS:
Passed By Validator on Mar 27, 2023

DATA SOURCE:
Imported

PASSED BY VALIDATOR REASON:
First sample taken @ this point, composition looks reasonable

VALIDATOR:
Brooke Rush

VALIDATOR COMMENTS:
OK

Analyzer Information

Device Type: Device Make:
Device Model: Last Cal Date:

Source	Date	Notes
Brooke Rush	Mar 27, 2023 2:29 pm	Methane = 410,890 PPM

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

DEFINITIONS

Operator: CANYON E & P COMPANY 251 O'Connor Ridge Blvd. Irving, TX 75038	OGRID: 269864
	Action Number: 301927
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

DEFINITIONS

The Orphan Well Mitigation Activity (OMA) forms are a subset of the OCD's forms exclusively designed for activities related to State of New Mexico's contracted plugging and reclamation activities. Specifically, these forms are used for orphan wells or associated facilities which are in a "Reclamation Fund Approved" status. This status represents wells or facilities where the OCD has acquired a hearing order allowing the OCD to perform plugging or reclamation on wells and associated facilities that no longer have a viable operator to perform the necessary work. These forms are not to be utilized for any other purpose.

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QUESTIONS

Action 301927

QUESTIONS

Operator: CANYON E & P COMPANY 251 O'Connor Ridge Blvd. Irving, TX 75038	OGRID: 269864
	Action Number: 301927
	Action Type: [UF-OMA] Pre-Plug Methane Monitoring (UF-OMA-MMA)

QUESTIONS

Prerequisites	
[OGRID] Well Operator	**[269864] CANYON E & P COMPANY**
[API] Well Name and Number	**[30-005-60622] UNION HAPPY #002**
Well Status	**Plugged (not released)**

Monitoring Event Information *Please answer all the questions in this group.*	
Reason For Filing	**Pre-Plug Methane Monitoring**
Date of monitoring	04/01/2023
Latitude	33.64656
Longitude	-104.03792

Monitoring Event Details *Please answer all the questions in this group.*	
Flow rate in cubic meters per day (m^3/day)	35.30
Test duration in hours (hr)	16.5
Average flow temperature in degrees Celsius (°C)	11.2
Average gauge flow pressure in kilopascals (kPag)	5.0
Methane concentration in part per million (ppm)	410,890
Methane emission rate in grams per hour (g/hr)	433.34
Testing Method	Steady State

Monitoring Contractor *Please answer all the questions in this group.*	
Name of monitoring contractor	Well Done New Mexico LLC