Well Done FOUNDATION P.O. Box 10640 Bozeman, Montana 59719 (406) 460-0903

TO: Jim Griswold, NMOCD

FROM: Curtis Shuck, Chairman

DATE: December 31, 2023

RE: Double L Queen #005 (30-005-60174) Orphan Well Pre-Plugging Methane Monitoring

TECHNICAL MEMORANDUM

The Well Done Foundation, Inc. (WDF) performing contract professional services methane monitoring for the State of New Mexico Energy, Minerals and Natural Resources Department – Oil Conservation Division (OCD) under Purchase Order #10000002000038AA for Orphan Oil & Gas Wells at the Double L Queen Field in Chavez County, New Mexico.

The site conditions found at Double L Queen #005 by the WDF Measure 1 Team on August 31, 2022, at 2:30 P.M. revealed a wellhead with 0% concentrations of Methane gas present at the production valves, the 2-3/8" tubing or from the 4" casing. The WDF Team performed field gas measurements, collected gas samples to confirm the 0% CH4.

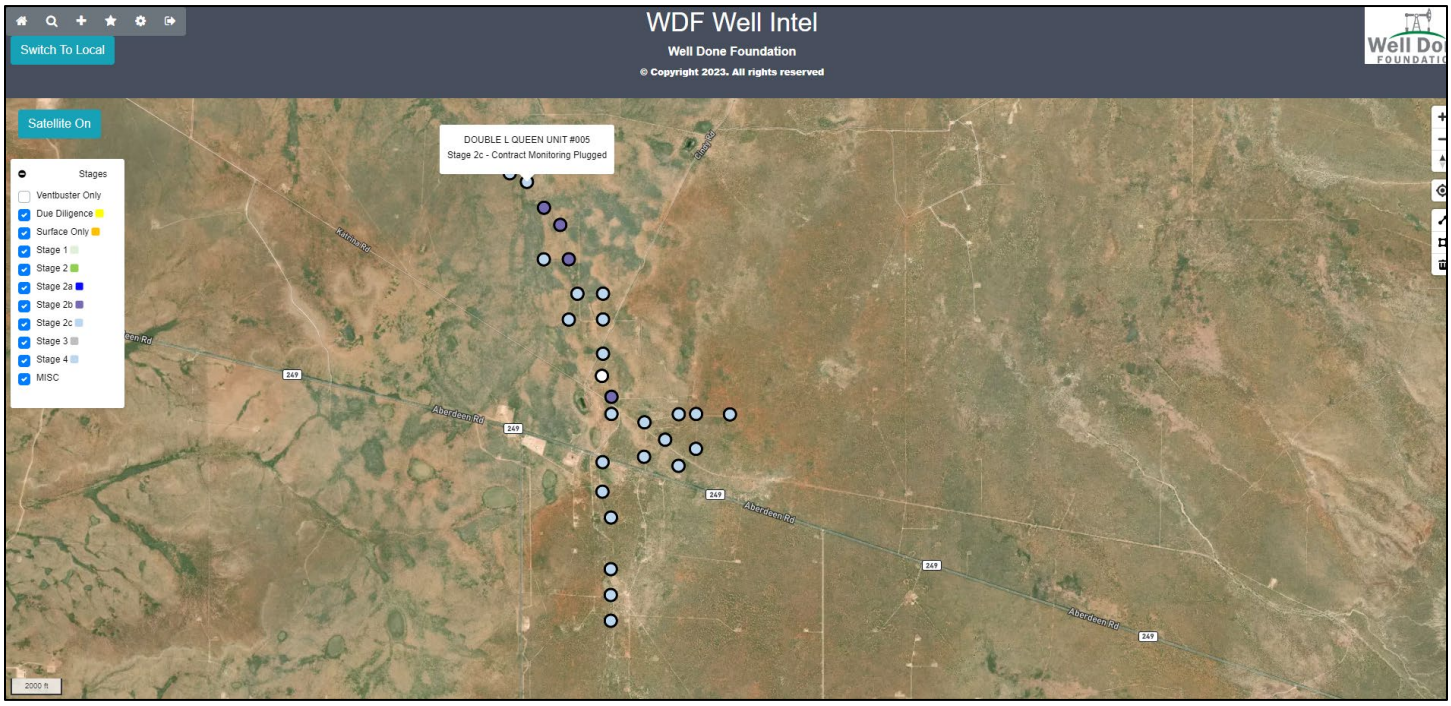

Image 1.1 – Double L Queen Field in Chavez County, NM

The findings from the Pre-Plugging Methane Monitoring Test confirmed 0% Methane. A composite gas sample was collected at the wellhead by WDF during the initial test on August 29, 2022. Methane gas concentration levels were measured at 0.00 ppm, pursuant to Test ID 2022057683 performed by Laboratory Services of Hobbs, NM on September 7, 2022, at 7:40 A.M. however, total explosive gas was measured at 19,040 ppm. Therefore, the adjusted average methane gas emission measured at this wellhead is calculated at **0.00 grams per hour (g/hour)**.[1]

[1] Methane Calculation: 554 grams CH4 per cubic meter (554 x 0.00 = 0.00 g/day total /24 = 0.00 g/hour x 0.0000 (methane concentration) = **0.00 g/hour CH4**). **Methane, gas** weighs 0.000554 *gram per cubic centimeter* or 0.554 *kilogram per cubic meter*, i.e. density of *methane, gas* is equal to 0.554 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 0.0346 *pound per cubic foot* [lb/ft^3], or 0.0003202 *ounce per cubic inch* [oz/inch^3] .

This orphan well does NOT exceed the >1 g/hour federal program reporting requirements for methane emissions reductions as described in Section 40601 (Orphaned well site plugging, remediation, and restoration) of Title V (Methane Reduction Infrastructure) of the 2021 Bipartisan Infrastructure Law (BIL; Public Law 117-58)[2].

BACKGROUND

The Double L Queen #005 (30-005-60174) Orphan Well is located in Chavez County, NM at Latitude 33.0759125, Longitude -103.9847488 was measured and monitored by the WDF Field Team on 8/31/2022 following a Safety Briefing. Per the WDF protocol, the well was photographed from four (4) compass point aspects and closeups capturing the wellhead, field gas analysis results and gas sampling and uploaded to the WDF Well Intel™ IoT site. A Field Gas Analysis was conducted to detect Methane and H2s gas presence and concentration levels using a Honeywell BW Quattro Multi Gas Meter, serial number: QA121-012211.

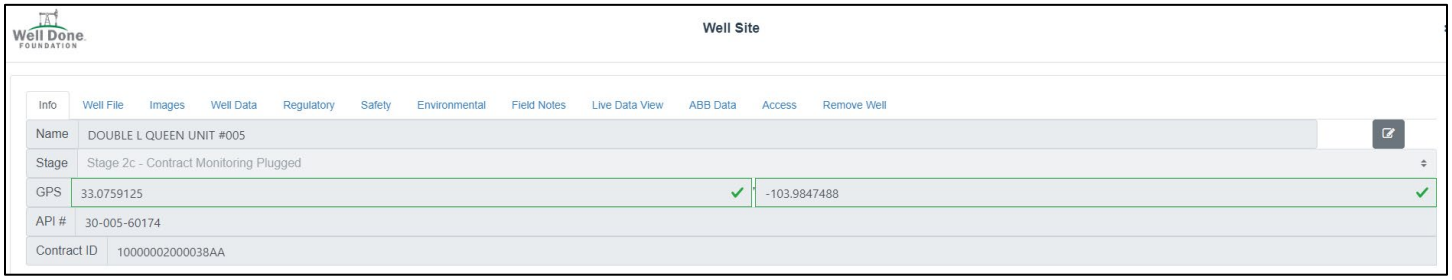

Image 3.1 – WDF Well Intel™ Orphan Well Project Management IoT

The WDF Field Team collected Gas Sample #1 using a 1 Liter Tedlar/TO-Plus Gas Sampling Bag from the 2-3/8" production tubing which was flowing gas past the valve at the beginning of the Flow Test at approximately 2:50 P.M MDT on 8.31.2022 as the well was being prepared for the Measurement.

TECHNICAL FINDINGS

Double L Queen #005 (30-005-60174):

- **Total C1 through C6 Gas Concentration: 19,040 ppm**
- **Total Measured Wellhead Gas Emissions: 0.00 m3/day**
- **Methane Gas Concentration: 0.00 ppm**
- **Calculated Average Wellhead Methane Gas Emissions: 0.00 g/hour**

CONCLUSIONS

- The Double L Queen #005 (30-005-60174) is currently emitting Methane at the average rate of 0.00 g/hour, which is below the Federal minimum threshold for reporting described in Section 40601 (Orphaned well site plugging, remediation, and restoration) of Title V (Methane Reduction Infrastructure) of the 2021 Bipartisan Infrastructure Law (BIL; Public Law 117-58) which is >1g/hour.

[2] These April 11, 2022 Guidelines were developed to meet the federal program reporting requirements for methane emissions reductions as described in Section 40601 (Orphaned well site plugging, remediation, and restoration) of Title V (Methane Reduction Infrastructure) of the 2021 Bipartisan Infrastructure Law (BIL; Public Law 117-58).

FIELD NOTES

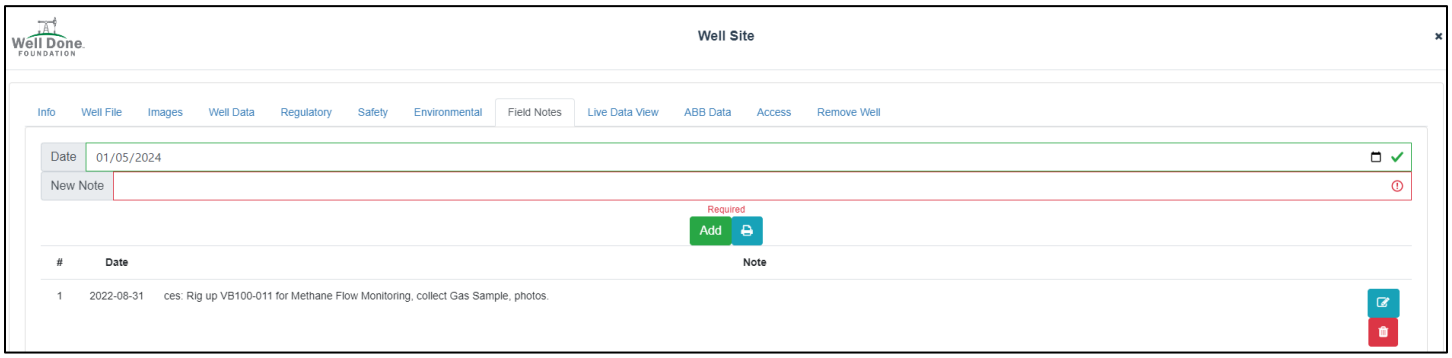

Image 3.1 – Double L Queen #005 (30-005-60174) Field Notes from WDF Well Intel™ Orphan Well Project Management IoT

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

C6+ Gas Analysis Report

14848G	Double L Queen #5 Pre Plug	Double L Queen #5
Sample Point Code	Sample Point Name	Sample Point Location

Laboratory Services	2022057683	Tedlar Bag	Stacy - Spot
Source Laboratory	Lab File No	Container Identity	Sampler

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

Aug 31, 2022 14:00	Aug 31, 2022 14:00	Sep 6, 2022 08:56	Sep 6, 2022
Date Sampled	Date Effective	Date Received	Date Reported

		Torrance	
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)	0.0000	0	
Nitrogen (N2)	98.0590	98.05778	
CO2 (CO2)	0.0370	0.03728	
Methane (C1)	0.0000	0	
Ethane (C2)	0.4180	0.41832	0.1120
Propane (C3)	0.5660	0.56558	0.1560
I-Butane (IC4)	0.0990	0.0994	0.0320
N-Butane (NC4)	0.3030	0.30316	0.0960
I-Pentane (IC5)	0.1010	0.10138	0.0370
N-Pentane (NC5)	0.1200	0.11976	0.0430
Hexanes Plus (C6+)	0.2970	0.29734	0.1290
TOTAL	100.0000	100.0000	0.6050

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
59.00	58.9	59.1	59.00

Calculated Total Sample Properties
GPA2145-16 *Calculated at Contract Conditions

Relative Density Real	Relative Density Ideal
0.9851	0.9851

Molecular Weight: 28.5311

C6+ Group Properties
Assumed Composition

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

Field H2S: 0 PPM

PROTREND STATUS: Passed By Validator on Sep 7, 2022
DATA SOURCE: Imported
PASSED BY VALIDATOR REASON: Close enough to be considered reasonable.
VALIDATOR: Luis Cano
VALIDATOR COMMENTS: ok

Analyzer Information

Device Type:	Gas Chromatograph	Device Make:	Shimadzu
Device Model:	GC-2014	Last Cal Date:	Aug 14, 2022

Source	Date	Notes
Luis Cano	Sep 7, 2022 7:40 am	Methane = 0 PPM

Image 3.2 – Double L Queen #005 (30-005-60174) Laboratory Gas Analysis

August 31, 2022

	Atmospheric conditions and temperature °F	RealFeel °F	Atmospheric pressure inHg	Wind speed mph	Humidity
Night	+66°	+66°	26.6	NE 6.9	87%
Morning	+68°	+68°	26.6	N 6.3	92%
Day	+79°	+81°	26.6	NE 7.6	52%
Evening	+68°	+68°	26.5	NE 6	77%

Hourly forecast for 31.08.2022

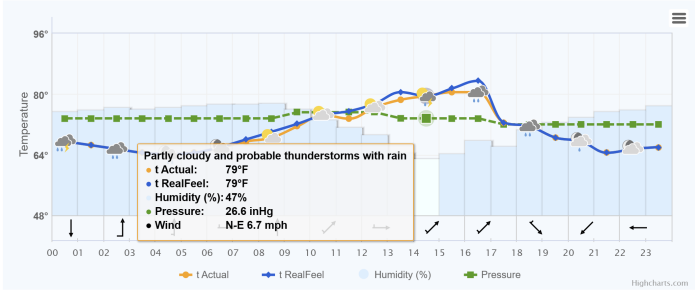

Image 3.3 – Double L Queen #005 (30-005-60174) Location Weather Observations

Appendix A – Site Photos for Double L Queen #005 (30-005-60174)

1) DLQ #005 (30-005-60174) – West Facing

2) DLQ #005 (30-005-60174) – North Facing

3) DLQ #005 (30-005-60174) – Well Head

4) DLQ #005 (30-005-60174) – Gas Sample

LABORATORY SERVICES Natural Gas Analysis
www.permianls.com
575.397.3713 2609 W Marland Hobbs NM 88240

C6+ Gas Analysis Report

Sample Point Code	Sample Point Name	Sample Point Location
14848G	Double L Queen #5 Pre Plug	Double L Queen #5

Source Laboratory	Lab File No	Container Identity	Sampler
Laboratory Services	2022057683	Tedlar Bag	Stacy - Spot

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

Date Sampled	Date Effective	Date Received	Date Reported
Aug 31, 2022 14:00	Aug 31, 2022 14:00	Sep 6, 2022 08:56	Sep 6, 2022

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

Operator	Lab Source Description
Well Done Foundation	NG

Component	Normalized Mol %	Un-Normalized Mol %	GPM
H2S (H2S)	0.0000	0	
Nitrogen (N2)	98.0590	98.05778	
CO2 (CO2)	0.0370	0.03728	
Methane (C1)	0.0000	0	
Ethane (C2)	0.4180	0.41832	0.1120
Propane (C3)	0.5660	0.56558	0.1560
I-Butane (IC4)	0.0990	0.0994	0.0320
N-Butane (NC4)	0.3030	0.30316	0.0960
I-Pentane (IC5)	0.1010	0.10138	0.0370
N-Pentane (NC5)	0.1200	0.11976	0.0430
Hexanes Plus (C6+)	0.2970	0.29734	0.1290
TOTAL	100.0000	100.0000	0.6050

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
59.00	58.9	59.1	59.00

Calculated Total Sample Properties

GPA2145-16 *Calculated at Contract Conditions

Relative Density Real	Relative Density Ideal
0.9851	0.9851

Molecular Weight: 28.5311

C6+ Group Properties

Assumed Composition

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

Field H2S: 0 PPM

PROTREND STATUS:
Passed By Validator on Sep 7, 2022

DATA SOURCE:
Imported

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

VALIDATOR:
Luis Cano

VALIDATOR COMMENTS:
ok

Analyzer Information

Device Type:	Gas Chromatograph	Device Make:	Shimadzu
Device Model:	GC-2014	Last Cal Date:	Aug 14, 2022

Source	Date	Notes
Luis Cano	Sep 7, 2022 7:40 am	Methane = 0 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: 300567
	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.

District I
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State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

QUESTIONS

Action 300567

QUESTIONS

Operator: CANYON E & P COMPANY 251 O'Connor Ridge Blvd. Irving, TX 75038	OGRID: 269864
	Action Number: 300567
	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	**[30-005-60174] DOUBLE L QUEEN UNIT #005**
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	08/31/2022
Latitude	33.0759125
Longitude	-103.9847488

Monitoring Event Details *Please answer all the questions in this group.*	
Flow rate in cubic meters per day (m^3/day)	0.00
Test duration in hours (hr)	2.0
Average flow temperature in degrees Celsius (°C)	21.0
Average gauge flow pressure in kilopascals (kPag)	0.0
Methane concentration in part per million (ppm)	0
Methane emission rate in grams per hour (g/hr)	0.00
Testing Method	Steady State

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