

**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 Road, Aztec, NM 87410  
Phone: (505) 334-6178 Fax: (505) 334-6170

**District IV**  
1220 S. St. Francis Dr., Santa Fe, NM 87505  
Phone: (505) 476-3460 Fax: (505) 476-3462

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

**NM OIL CONSERVATION**  
**ARTESIA DISTRICT**

**MAR 26 2018**

Form C-101  
Revised July 18, 2013

**RECEIVED** ☒ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address <b>Murchison Oil &amp; Gas, Inc.</b> <b>7250 Dallas Parkway, Ste. 1400, Plano, TX 75024</b>		<sup>2</sup> OGRID Number <b>15363</b> <sup>3</sup> API Number <b>30-015-34206</b>	
<sup>4</sup> Property Code <b>34953</b>	<sup>5</sup> Property Name <b>Mudcat State Com</b>	<sup>6</sup> Well No. 	

**<sup>7</sup> Surface Location**

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County
<b>P</b>	<b>11</b>	<b>17-S</b>	<b>28-E</b>	<b>16</b>	<b>1300</b>	<b>SOUTH</b>	<b>810</b>	<b>EAST</b>	<b>EDDY</b>

**<sup>8</sup> Proposed Bottom Hole Location**

UL - Lot	Section	Township	Range	Lot Idn	Feet from	N/S Line	Feet From	E/W Line	County

**<sup>9</sup> Pool Information**

<sup>10</sup> Pool Name <b>ANDERSON; WOLFCAMP, NORTH</b>	<sup>11</sup> Pool Code <b>97183</b>
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**Additional Well Information**

<sup>12</sup> Work Type <b>P</b>	<sup>13</sup> Well Type <b>O</b>	<sup>14</sup> Cable/Rotary	<sup>15</sup> Lease Type <b>S</b>	<sup>16</sup> Ground Level Elevation <b>3579</b>
<sup>17</sup> Multiple	<sup>18</sup> Proposed Depth <b>9,980 PB; 10,403 TD</b>	<sup>19</sup> Formation <b>Wolfcamp</b>	<sup>20</sup> Contractor	<sup>21</sup> Spud Date <b>10/20/2005</b>
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☐ We will be using a closed-loop system in lieu of lined pits

**<sup>22</sup> Proposed Casing and Cement Program**

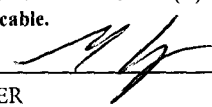
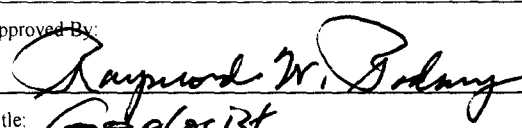
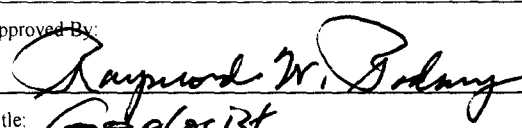
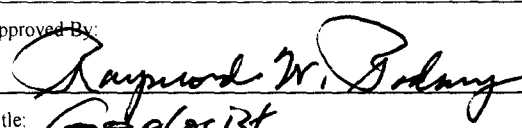
Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
<b>SURF</b>	<b>17.5</b>	<b>13.375</b>	<b>68</b>	<b>222</b>	<b>235</b>	<b>0</b>
<b>INT</b>	<b>12.25</b>	<b>9.625</b>	<b>43.5</b>	<b>2208</b>	<b>1200</b>	<b>0</b>
<b>PROD</b>	<b>8.5</b>	<b>5.5</b>	<b>17</b>	<b>10403</b>	<b>2666</b>	<b>0</b>

**Casing/Cement Program: Additional Comments**

EXISTING CASING & CEMENT SHOWN; NO ADDITIONAL FOOTAGE WILL BE DRILLED. RECOMPLETION PROCEDURE ATTACHED.
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**<sup>23</sup> Proposed Blowout Prevention Program**

Type	Working Pressure	Test Pressure	Manufacturer

<sup>24</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that I have complied with 19.15.14.9 (A) NMAC <input type="checkbox"/> and/or 19.15.14.9 (B) NMAC <input type="checkbox"/> , if applicable. Signature:  Printed name: <b>GARY R. COOPER</b> Title: <b>VICE PRESIDENT OPERATIONS</b> E-mail Address: <b>rcooper@jdmii.com</b> Date: <b>03/22/2018</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">OIL CONSERVATION DIVISION</th> </tr> <tr> <td colspan="2">Approved By: </td> </tr> <tr> <td>Title: <b>Geologist</b></td> <td>Approved Date: <b>3-30-18</b></td> </tr> <tr> <td colspan="2">Expiration Date: <b>3-30-18</b></td> </tr> <tr> <td colspan="2">Conditions of Approval Attached</td> </tr> </table>	OIL CONSERVATION DIVISION		Approved By: 		Title: <b>Geologist</b>	Approved Date: <b>3-30-18</b>	Expiration Date: <b>3-30-18</b>		Conditions of Approval Attached	
OIL CONSERVATION DIVISION											
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Conditions of Approval Attached											

MURCHISON OIL & GAS INC.

Mudcat State Com #1

1300 FSL, 810 FEL

Sec 11 T17S, R28E

Eddy County, NM

Recompletion Procedure

The subject well is completed in the Morrow and is currently uneconomical to produce. The existing perfs will be abandoned and the well will be recompleted in the Wolfcamp.

Casing:                      Surface –                      13 3/8", 68#, K55 @ 222' w/ cmt circ  
   Intermediate -                      9 5/8", 43.5#, L80 @ 2,208' w/ cmt circ  
   Production -                      5 1/2", 17#, N80 & P110 @ 10,403' w/ cement circulated to surface

Tubing:

2 3/8", 4.7#, L80 EUE Mod w/ Arrow Set 1 packer set at 10,003'

Existing perfs:

Morrow – 10146'-10132', 10124'-10119', 10116'-10108'

Proposed perfs:

Wolfcamp – 7510'-7530', 7280'-7290' and 6790'-6895'

PROCEDURE:

1. Notify OCD of activities.
2. MIRU service rig.
3. TOH with tubing and packer.
4. RU wireline and set 10m CIBP at 10,000'. Dump bail 20' cement on plug for T&A of Morrow zone.
5. Perforate 7510'-7530' w/ 2spf and 7280'-7290' w/1spf.
6. Trip in hole w/ packer and set at 7200'.
7. Acidize and ball out w/ bio balls. Shut down frac and wait for degradation of bio balls.
8. Frac with 150,000# 20/40 sand.
9. Set CBP at 6950'.
10. Perforate 6790'-6895' w/ 2spf.
11. Trip in hole w/ packer and set at 6700'.
12. Acidize and ball out w/ bio balls. Shut down frac and wait for degradation of bio balls.
13. Frac with 400,000# 20/40 sand.
14. Drill out CBP and clean out wellbore.
15. TIH with pumping assy, swab well to evaluate
16. Run pump and rods and return well to production.

## PROPOSED WELLBORE DIAGRAM

Mudcat State Com 1

30-015-34206

TAC: 6600'

### **Wolfcamp Formation**

6895'-6790' 105' w/ 2spf 210 holes

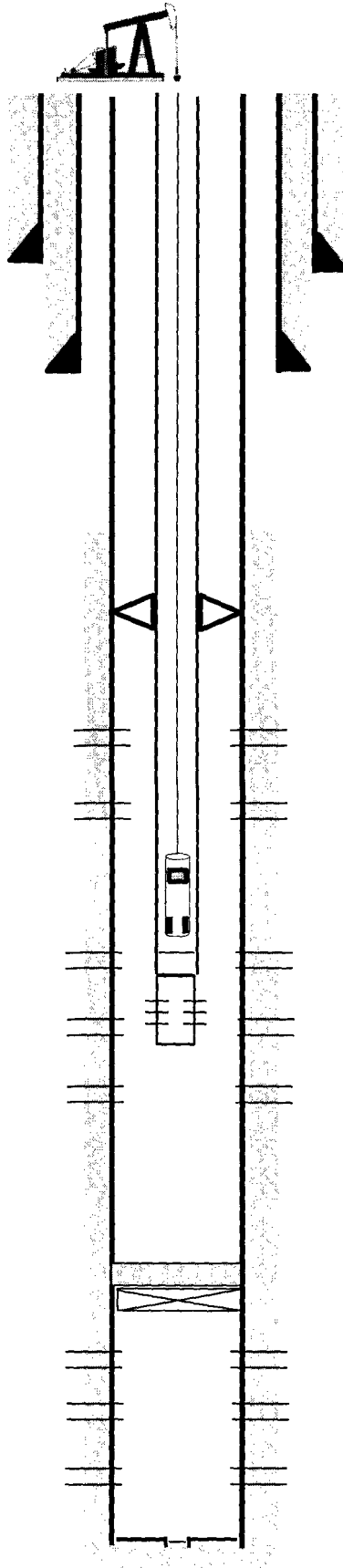
SN: 7200'

7,530'-7,510' 30' w/ 2spf 40 holes

7,290-7,280' 10' w/ 1spf 10 holes

CIBP@ 10,000' w/ 20 ft cmt on top

### **Morrow Formation**



# NM OIL CONSERVATION

ARTESIA DISTRICT

Form C-102

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

State of New Mexico

Revised June 10, 2003

District II  
1301 W. Grand Avenue, Artesia, NM 88210

Energy, Minerals & Natural Resources Department

Appropriate District Office

District III  
1000 Rio Grande Rd., Aztec NM 87410

## OIL CONSERVATION DIVISION

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State Lease - 4 Copies  
Fee Lease - 3 Copies

District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

1220 South St. Francis Dr.

Santa Fe, NM 87505

☒ AMENDED REPORT

### WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-34206	Pool Code 97183	Pool Name ANDERSON; WOLFCAMP, NORTH
Property Code 34953	Property Name MUD CAT STATE COM	Well Number 1
OGRID No. 15363	Operation Name MURCHISON OIL & GAS, INC.	Elevation 3579

#### Surface Location

UL or Lot No.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
P	11	17-S	28-E		1300	SOUTH	810	EAST	EDDY

#### Bottom Hole Location If Different From Surface

UL or Lot No.	Section	Township	Range	Lot Idn.	Feet from the	North/South line	Feet from the	East/West line	County
Dedicated Acres 40	Joint or Infill	Consolidation Code	Order No.						

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTEREST HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

					<b>OPERATOR CERTIFICATION</b> I HEREBY CERTIFY THAT THE INFORMATION CONTAINED HEREIN IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.
					Signature
					Printed Name Gary R. Cooper
					Title and E-mail Address VP Operations, rcooper@jdmii.com
				Date 2/28/2018	
					<b>SURVEYOR CERTIFICATION</b> I HEREBY CERTIFY THAT THE WELL LOCATION SHOWN ON THIS PLAT WAS PLOTTED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION, AND THAT THE SAME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.
					Date of Survey JUNE 28, 2005
					Signature of Professional Surveyor
LAT N32°50'47.4" LON W104°08'28.5"					
Spacing Unit →					810' 1300'

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MAR 26 2018

Submit Original  
to Appropriate  
District Office

RECEIVED

## GAS CAPTURE PLAN

Date: March 22, 2018☒ OriginalOperator & OGRID No.: Murchison Oil & Gas, Inc. (15363)☐ Amended - Reason for Amendment: \_\_\_\_\_

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

*Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).*

**Well(s)/Production Facility – Mudcat State Com 1**

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
<b>Mudcat State Com 1</b>	<b>30-015-34206</b>	<b>P-11-17S-28E</b>	<b>1300 FSL 810 FEL</b>	<b>30</b>	<b>Flared</b>	<b>Pending State ROW approval</b>

**Gathering System and Pipeline Notification**

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to **DCP Midstream, LP (“DCP”)** and will be connected to **DCP’s** low/high pressure gathering system located in **Eddy** County, New Mexico. It will require **5,759.45'** of pipeline to connect the facility to **LOW** pressure gathering system. **Murchison Oil & Gas, Inc. (“Murchison”)** provides (periodically) to **DCP** a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, **Murchison** and **DCP** have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at **DCP’s Artesia** Processing Plant located in Sec.2, Twn. **18S**, Rng. **28 E**, **Eddy** County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

**Flowback Strategy**

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on **DCP’s** system at that time. Based on current information, it is **Murchison’s** belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

**Alternatives to Reduce Flaring**

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines