AE Order Number Banner

Application Number: pPRG1906630832

SWD-1988

MEWBOURNE OIL CO [14744]

State of New Mexico
Energy, Minerals and Natural Resources Department

Administrative Order SWD-1635
July 12, 2016

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Pursuant to the provisions of Division Rule 19.15.26.8B. NMAC, Mewbourne Oil Company (the "Operator") seeks an administrative order to authorize the Red Hills SWD Well No. 2 located 1100 feet from the South line and 900 feet from the West line, Unit M of Section 8, Township 26 South, Range 32 East, NMPM, Lea County, New Mexico, for the disposal of produced water.

THE DIVISION DIRECTOR FINDS THAT:

The application has been duly filed under the provisions of Division rule 19.15.26.8(B) NMAC and satisfactory information has been provided that affected parties as defined in said rule have been notified and no objection was received within the prescribed waiting period. The applicant has presented satisfactory evidence that all requirements prescribed in rule 19.15.26.8 NMAC have been met and the operator is in compliance with rule 19.15.5.9 NMAC.

IT IS THEREFORE ORDERED THAT:

The applicant, Mewbourne Oil Company (OGRID 14744), is hereby authorized to utilize its Red Hills SWD Well No. 2 (API 30-025-pending) located 1100 feet from the South line and 900 feet from the West line, Unit M of Section 8, Township 26 South, Range 32 East, NMPM, Lea County, for disposal of oil field produced water (UIC Class II only) through an open hole interval within the Devonian and Silurian formations approximately 17300 feet to approximately 19350 feet. Injection shall occur through 4 ½-inch or smaller internally-coated tubing and a packer set a maximum of 100 feet above the top of the open-hole interval.

This permit does not allow disposal into the Ellenburger formation (lower Ordovician) or lost circulation intervals directly on top and obviously connected to this formation. The operator shall provide logs and a mudlog over the proposed interval which verify that only the permitted interval is completed for disposal.

Prior to commencing disposal, the operator shall submit mudlog and geophysical logs information, to the Division's District geologist and Santa Fe Bureau Engineering office, showing evidence agreeable that only the permitted formation is open for disposal including a summary of depths (picks) for contacts of the formations which the Division shall use to amend this order for a final description of the depth for the injection interval.

Goetze, Phillip, EMNRD

From: Jones, William V, EMNRD
Sent: Thursday, January 31, 2019 12:36 PM
To: Tim Harrington
Cc: McMillan, Michael, EMNRD; Goetze, Phillip, EMNRD
Subject: RE: RED HILLS SWD #2 SWD-635

Hi Tim,
As you know, from being on the SWD committee,
Concerning running 5-1/2 inch (disposal) tubing into 7-5/8" casing,
We are focusing on permitting this only if the 7-5/8" casing is 39 ppf (or lighter in weight).

Congratulations on using 100% treated produced water in the completions in the Red Hills area.

Hope your new year is going well.

Will

From: Goetze, Phillip, EMNRD
Sent: Thursday, January 31, 2019 11:44 AM
To: Tim Harrington <tharrington@mewbourne.com>
Cc: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>
Subject: RE: RED HILLS SWD #2 SWD-635

Tim:

Only the affected persons not originally noticed since the proposed change in tubing size would expand the influence of the well with the increased rate and total disposal volume. Those previously notice know that you have an approved order and had the opportunity to respond. As far as a plugging assessment document, I look at the long-term obligation to compile as much information including operational life and final P&A. It would be benefit the Division to have a sense of scope for a P&A operation for one these wells, even if it is a repeat. We lose things. PRG

Phillip Goetze, PG
Engineering Bureau, Oil Conservation Division, NM EMNRD
1220 South St. Francis Drive, Santa Fe, NM 87505
Direct: 505.476.3466
E-mail: phillip.goetze@state.nm.us

From: Tim Harrington <tharrington@mewbourne.com>
Sent: Wednesday, January 30, 2019 4:58 PM
To: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>
Subject: [EXT] RE: RED HILLS SWD #2 SWD-635

Phillip:

Thanks for looking at this. As far as the notice, do I have to notice all operators within one mile or just the operators that were not originally notified. Do I need to provide a plugging assessment document?

I will get you something early next week.

Tim Harrington
Reservoir Engineer
Mewbourne Oil Company
3620 Old Bullard Road
PO Box 7698
Tyler, TX 75701

W- 903-561-2900 (Ext 7647)
C – 832-217-6852
tharrington@mewbourne.com

From: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>
Sent: Wednesday, January 30, 2019 5:43 PM
To: Tim Harrington <tharrington@mewbourne.com>
Cc: McMillan, Michael, EMNRD <Michael.McMillan@state.nm.us>; Jones, William V, EMNRD <WilliamV.Jones@state.nm.us>
Subject: RE: RED HILLS SWD #2 SWD-635

Tim:

I looked at the location and find no conflict with regards to the ¾-mile radius and had plotted it in our GIS as capable of going to the larger injection rate. With regards to the additional effort, I would require a letter requesting a change in tubing that includes an updated well diagram (the C-108 portion), a statement to the effect of any portions of the original application has change, a review of notice and the AOR. I would strongly recommend notice of affected parties be assessed for the one-mile radius if it wasn't done that way originally. An assessment for IS potential would also support any amendment of the order. PRG

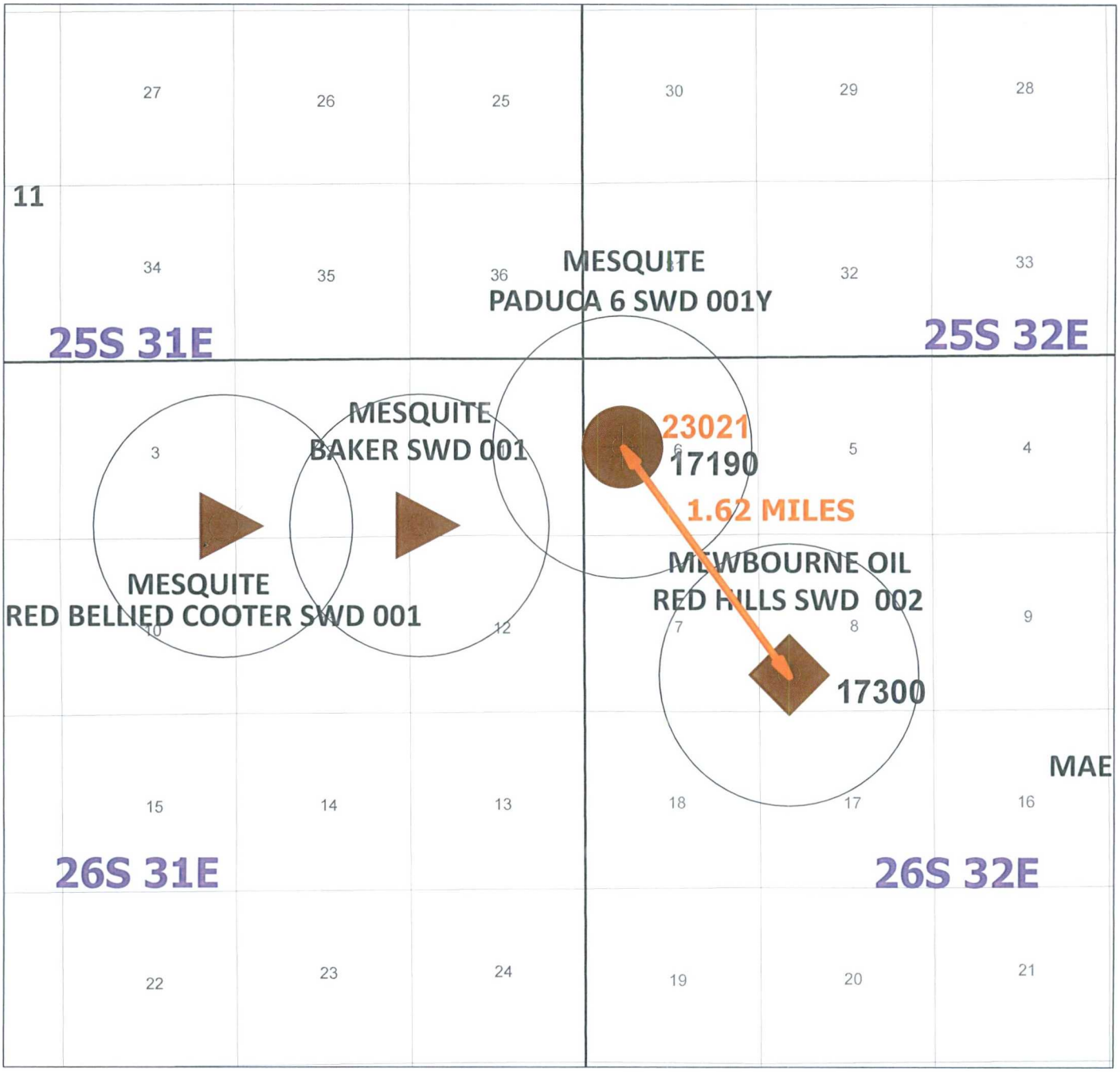
Phillip Goetze, PG
Engineering Bureau, Oil Conservation Division, NM EMNRD
1220 South St. Francis Drive, Santa Fe, NM 87505
Direct: 505.476.3466
E-mail: phillip.goetze@state.nm.us

From: Tim Harrington <tharrington@mewbourne.com>
Sent: Wednesday, January 2, 2019 2:44 PM
To: Goetze, Phillip, EMNRD <Phillip.Goetze@state.nm.us>
Subject: [EXT] RED HILLS SWD #2 SWD-635

Hi Phillip:

I hope that you had time to relax over the holidays.

My company obtained a SWD permit on the above noted well (4 ½" tubing) in July 2016 and obtained a one year extension. Mewbourne has built 6 – 400,000 bbl pits in the Red Hills Area for the storage of cleaned produced water and we are currently treating our new wells with 100% PW. Our current area production is around 40,000 Bwpd, have



PERMITTED DISPOSAL WELL

ACTIVE DISPOSAL WELL

PLUGGED DISPOSAL WELLS

TEMPORARILY ABANDON

SHUT - IN

SWD WELLS IN APPLICATION PROCESS

DEVONIAN SWD WELLS

2018 AVG RATE

TOP INTERVAL

3/4 MILE CIRCLE

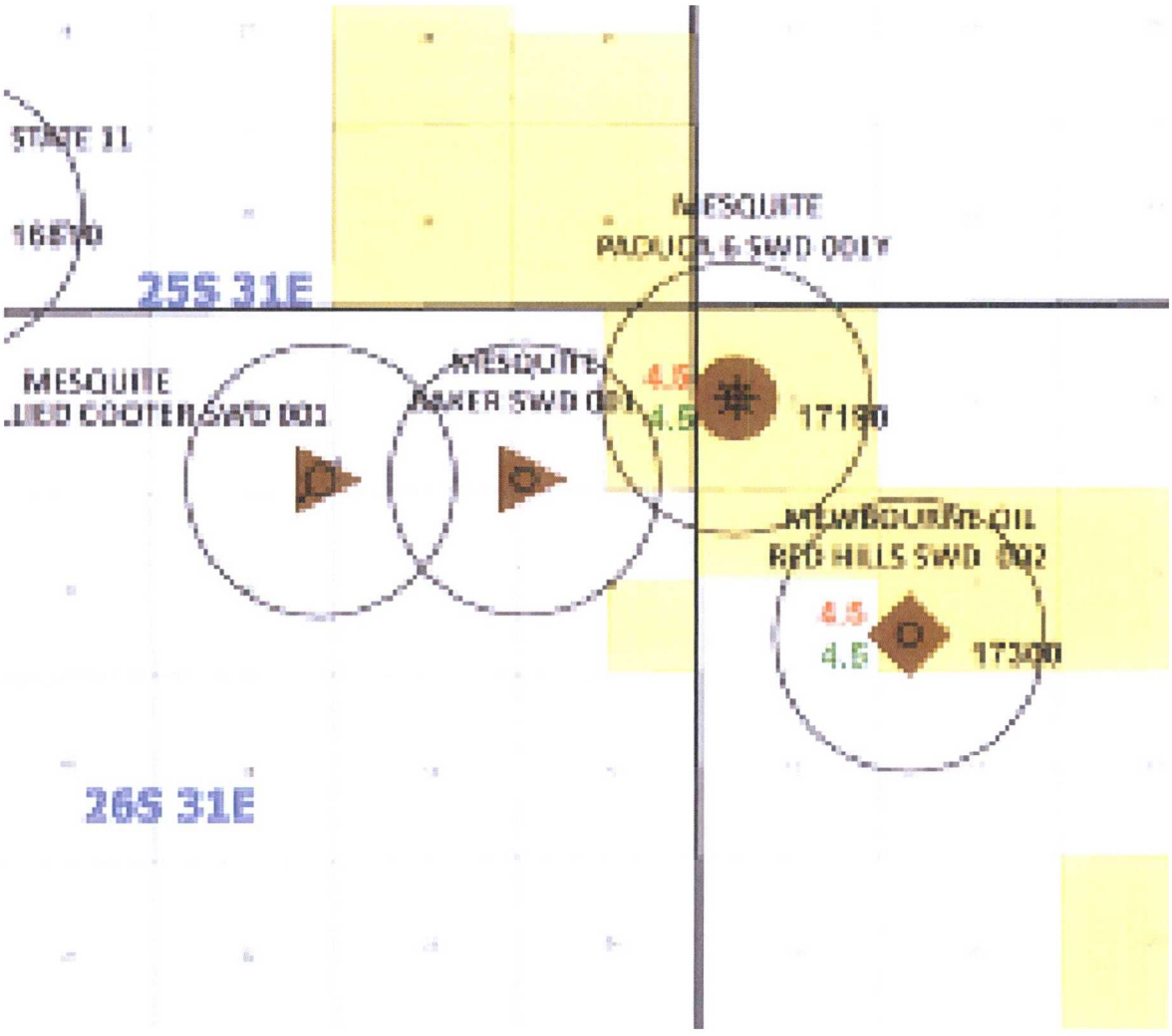
Mewbourne Oil Company

RED HILLS SWD #002
SWD - 1635

Author: Tim Harrington		Date: 8 January, 2019
Tech: S. Daughtry	Scale: 1" = 4500'	

two commercial SWD outlets and we plan to spud this well in the first quarter of 2019 as a backup during periods when we are not cleaning PW or fracture stimulating wells. We have recently obtained a Federal drilling permit that was submitted with a 7" X 5.5" tubing string (copy of well schematic attached). What other approvals do we need to obtain to be able to run a 7" x 5.5" injection string? Thanks.

Devonian SWD applications, active wells, permitted wells with .75 mile radius circles



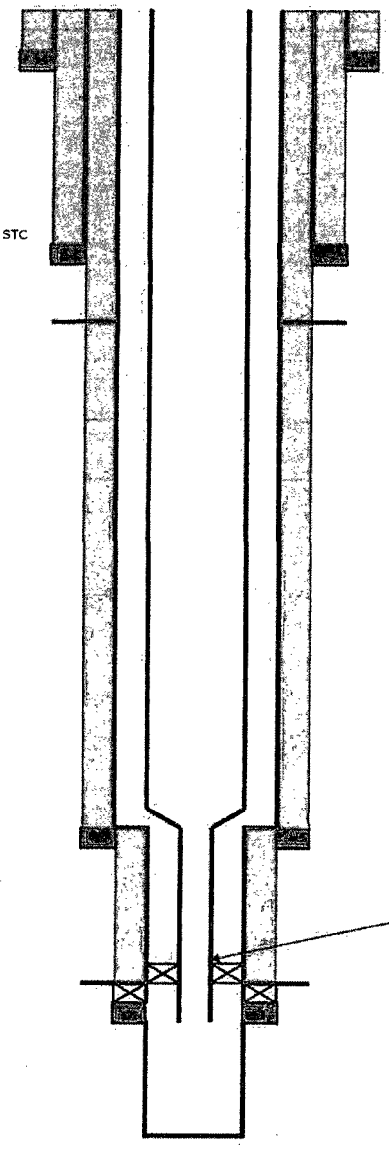
Tim Harrington
Reservoir Engineer
Mewbourne Oil Company
3620 Old Bullard Road
PO Box 7698
Tyler, TX 75701

W- 903-561-2900 (Ext 7647)
C – 832-217-6852
tharrington@mewbourne.com

Mewbourne Oil Company

Well Name: Red Hills SWD #2
Spud: 2019

Last Updated by S. Puryear:11/14/2018



20" 94 & 106.5# J-55 BTC
Set @ 1100'
Cmt w/ 1640 sx

13 3/8" 54.5#, 61# & 68# J55 & HCL80 STC
Set @ 4275'
Cmt w/ 2040 sx

ECP/DV Tool @ 4400'
Cmt 2nd stg w/ 1015 sx

9 5/8" 40# & 43.5 HCL80 LTC
Set @ 11650'
Cmt 1st stg w/ 1525 sx

7 5/8" 39# P-110 UFJ Liner
Set from 11450'-17300'
Cmt w/ 825 sx

6 1/8" Open Hole
TD @ 19350'

Injection String
7" P110 UFJ GB & 5 1/2" P110 UFJ GB
Nickel-Plated Pkr Set @ 17230'

DV Tool @ 17240'
External Csg Pkr Set @ 17280'

Submit 1 Copy To Appropriate District Office
District I – (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II – (575) 748-1283
811 S. First St., Artesia, NM 88210
District III – (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV – (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-103
Revised August 1, 2011

WELL API NO.
30-025-xxxxx

5. Indicate Type of Lease
STATE ☐ FEE ☐ FED

6. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

7. Lease Name or Unit Agreement Name
RED HILLS WEST SWD

1. Type of Well: Oil Well ☐ Gas Well ☐ Other SWD

8. Well Number 2

2. Name of Operator
Mewbourne Oil Company

9. OGRID Number 14744

3. Address of Operator
PO Box 5270, Hobbs, NM 88240

10. Pool name or Wildcat
SWD; DEVONIAN-SILURIAN

4. Well Location
Unit Letter M : 1,100 feet from the S line and 900 feet from the W line
Section 8 Township 26S Range 32E NMPM LEA County

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)*
3208' GR

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☐
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
DOWNHOLE COMMINGLE	☐						
OTHER: Tubing Size Modification	☒			OTHER:	☐		

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Mewbourne Oil Company has an approved Administrative Order (SWD-1635, dated 7/12/2016) to dispose of oil field produced water through an open hole interval within the Devonian and Silurian formation approximately 17,300' to approximately 19,350'. Mewbourne has subsequently obtained a one-year permit extension to 7/12/2019 and intends to spud this well in late February 2019.

Mewbourne Oil Company requests permission to modify the injection string to 7" within the 9 5/8" casing and to 5 ½" within the 7 5/8" liner (well schematic attached). This SWD will be incorporated into the Red Hills Water Management System that has been constructed to re-use treated produced water for fracture stimulation operations. The average Red Hills SWD #2 injection volume will be 20,000 Bwpd and the maximum injection volume will be approximately 45,000 Bwpd when not stimulating. The closest permitted or active Devonian / Silurian SWD is approximately 1.62 miles away from the subject well (plat attached).

The drilling permit for the Red Hills West SWD #2 was approved by the BLM on 12/21/2018 and the permit was approved with the proposed 7" x 5 ½" injection string.

Spud Date: | Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Klay Kirkes TITLE Engineer DATE 1/8/19

Type or print name Klay Kirkes E-mail address: kkirkes@mewbourne.com PHONE: 575-390-6706

For State Use Only

APPROVED BY: TITLE DATE

Conditions of Approval (if any):

Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM105560

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☑ Other INJ-DIS

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☑ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.
RED HILLS WEST SWD
2

2. Name of Operator
MEWBOURNE OIL COMPANY

9. API Well No.

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
PO Box 5270 Hobbs NM 88240	(575)393-5905	SWD; DEVONIAN-SILURIAN / DEVONIAI

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface SWSW / 1100 FSL / 900 FWL / LAT 32.0531182 / LONG -103.702479

At proposed prod. zone SWSW / 1100 FSL / 900 FWL / LAT 32.0531182 / LONG -103.702479

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 8 / T26S / R32E / NMP

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
20 miles	LEA	NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
185 feet	200	320

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
1012 feet	19350 feet / 19350 feet	FED: NM1693

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3208 feet	09/29/2018	60 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Bradley Bishop / Ph: (575)393-5905	07/05/2018

Title
Regulatory

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	12/21/2018

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

APPROVED WITH CONDITIONS

Approval Date: 12/21/2018

(Continued on page 2)

*(Instructions on page 2)

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 & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
		DEVONIAN SWD

4 Property Code	5 Property Name	6 Well Number
	RED HILLS WEST SWD	2

7 OGRID NO.	8 Operator Name	9 Elevation
14744	MEWBOURNE OIL COMPANY	3206'

10 Surface Location

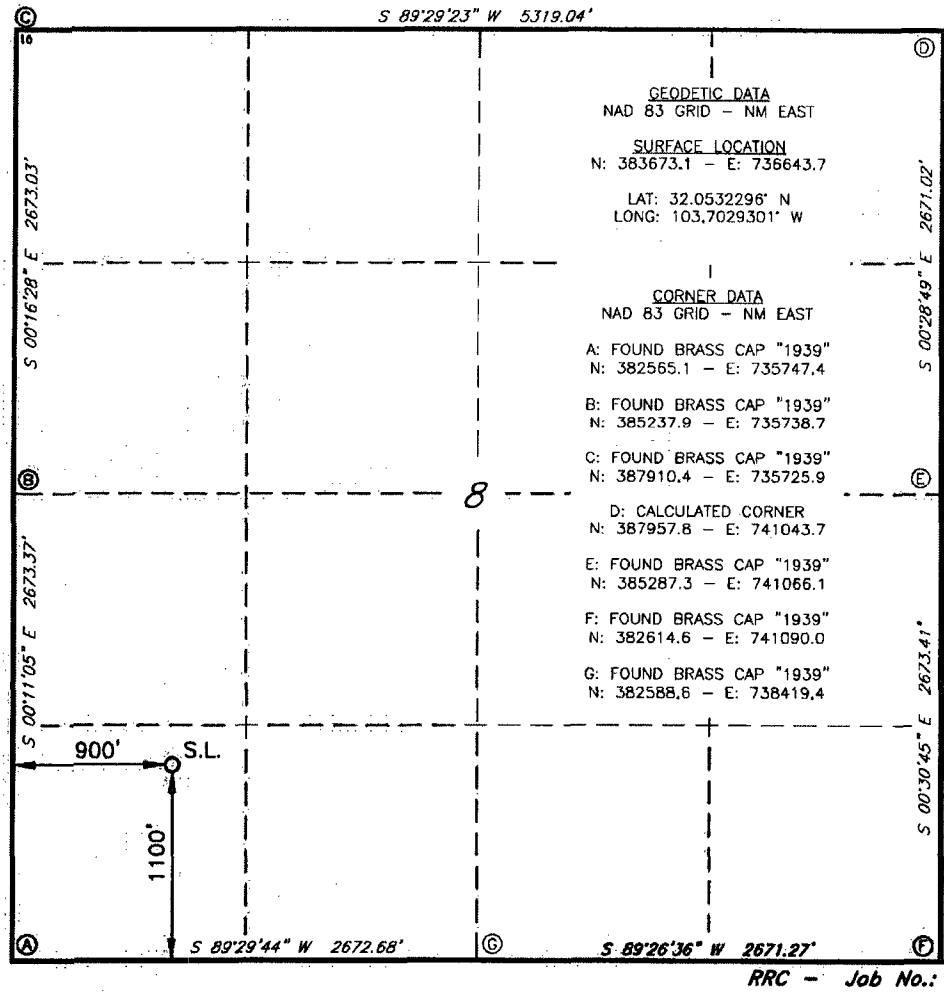
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
M	8	26S	32E		1100	SOUTH	900	WEST	LEA

11 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

12 Dedicated Acres	13 Joint or Infill	14 Consolidation Code	15 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.



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 6-29-18

BRADLEY BISHOP
Printed Name

BBISHOP@MEWBOURNE.COM
E-mail Address

18 SURVEYOR CERTIFICATION

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 belief.

6-26-2018
Date of Survey

Signature and Seal of Professional Surveyor

ROBERT M. HOWETT
NEW MEXICO
19680
PROFESSIONAL SURVEYOR

19680
Certificate Number

RRC – Job No.: LS1605204R

Mewbourne Oil Company

Well Name: Red Hills SWD #2
Spud: 2019

Last Updated by S. Puryear:11/14/2018

20" 94 & 106.5# J-55 BTC
Set @ 1100'
Cmt w/ 1640 sx

13 3/8" 54.5#, 61# & 68# J55 & HCL80 STC
Set @ 4275'
Cmt w/ 2040 sx

ECP/DV Tool @ 4400'
Cmt 2nd stg w/ 1015 sx

9 5/8" 40# & 43.5 HCL80 LTC
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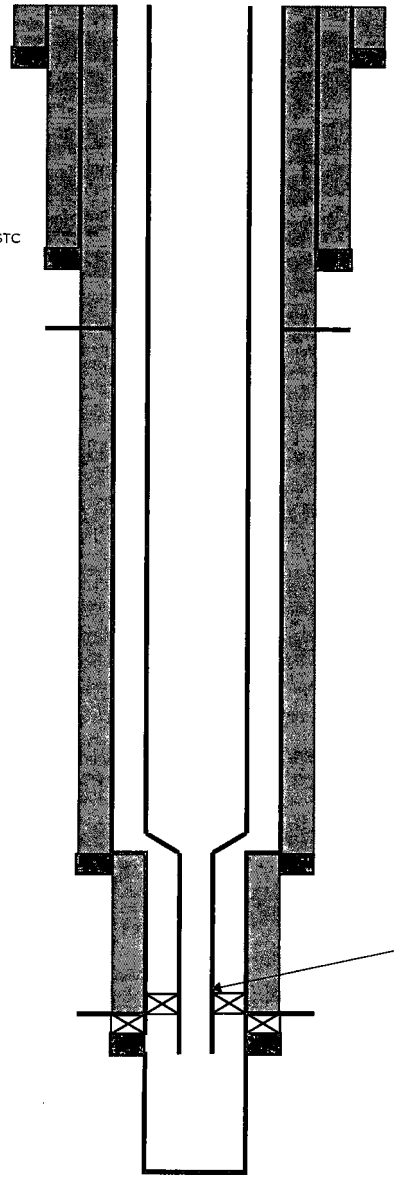

Injection String
7" P110 UFJ GB & 5 1/2" P110 UFJ GB
Nickel-Plated Pkr Set @ 17230'

DV Tool @ 17240'
External Csg Pkr Set @ 17280'

Mewbourne Oil Company, Red Hills West SWD #2
Sec 8, T26S, R32E
SL: 1100' FSL & 900' FWL

1. Geologic Formations

TVD of target	19,350'	Pilot hole depth	NA	
MD at TD:	19,350'	Deepest expected fresh water:	350'	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface		
Rustler	1040		
Salado	1330		
Base of Salt	4150		
Lamar	4350	Oil	
Bell Canyon			
Cherry Canyon			
Manzanita Marker			
Brushy Canyon			
Bone Spring	8390	Oil/Gas	
1st Bone Spring Sand			
2nd Bone Spring Sand			
3rd Bone Spring Sand			
Wolfcamp	11,640	Oil/Gas	
Canyon Shale			
Strawn	14,190	Oil/Gas	
Atoka	14,290	Oil/Gas	
Morrow			
Top Mississippian	16,850		
Woodford	17,170		
Top Devonian	17,300		
Simpson	19,300		
Ellenburger	19,800		

*H2S, water flows, loss of circulation, abnormal pressures, etc.

Mewbourne Oil Company, Red Hills West SWD #2
Sec 8, T26S, R32E
SL: 1100' FSL & 900' FWL

2. Casing Program

Hole Size	Casing Interval From	To	Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
26"	0'	988'	20"	94	J55	BTC	1.13	4.56	13.01	13.73
26"	988'	1100'	20"	106.5	J55	BTC	1.50	4.68	133.80	141.26
17.5"	0'	1932'	13.375"	54.5	J55	STC	1.13	3.01	1.98	3.28
17.5"	1932'	2632'	13.375"	61	J55	STC	1.13	2.50	3.85	6.23
17.5"	2632'	3333'	13.375"	68	J55	STC	1.13	1.76	6.04	9.57
17.5"	3333'	4275'	13.375"	68	HCL80	STC	1.31	2.26	17.06	24.29
12.25"	0'	11,057'	9.625"	40	HCL80	LTC	4.07	1	1.79	1.96
12.25"	11,057'	11,650'	9.625"	43.5	HCL80	LTC	5.38	1.04	36.29	38.96
8.5"	11,450'	17,300'	7.625"	39	P110	FJ	8.20	1.08	3.79	5.40
6.125"	17,300'	19,350'	OPEN HOLE							
BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet				

Collapse Design

	Surf	Inter	Inter 2	Liner
Partial Evacuation P external: Mud Weight Gradient P internal: Dry Gas to 2000'; Mud Weight Gradient Below			X	X
Full Evacuation P external: Mud Weight Gradient P internal: None	X	X		
Cementing P external: Wet Cement P internal: Displacement Fluid (Water)	X	X	X	X

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h
Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	

Mewbourne Oil Company, Red Hills West SWD #2
Sec 8, T26S, R32E
SL: 1100' FSL & 900' FWL

Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	Y
If yes, are the first three strings cemented to surface?	Y
Is 2nd string set 100' to 600' below the base of salt?	Y
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	1550	12.9	1.97	11	10	Lead: Class C + Salt + Gel + Defoamer + LCM
	200	14.8	1.34	6.3	5	Tail: Class C + Retarder
Inter.	1600	11.8	2.45	11	10	Lead: Lite Class C (50:50:10) + Salt + Defoamer + Dispersant
	200	14.2	1.30	6.3	5	Tail: Lite Class C (50:50:1) + Salt + Defoamer + LCM + Retarder
Prod. Stg 1	910	11.5	2.57	11	10	Lead: Lite Class C (60:40:0) + Defoamer + Dispersant + Extender + LCM
	400	14.3	1.27	5.2	10	Tail: Lite Class H (50:50:2) + Salt
ECP/DV Tool @ 4400'						
Prod. Stg 2	1190	12.5	1.63	9	10	Lead: Lite Class C (60:40:0) + Salt + Gel + Extender + LCM
	100	14.8	1.33	8	6	Tail: Class H + Retarder
Liner	115	11.2	2.96	11	10	Lead: Lite Class H (60:40:0) + Salt + Gel + Defoamer + Extender
	200	14.3	1.25	5.2	10	Tail: Lite Class H (50:50:2) + Salt + Defoamer + Retarder

A copy of cement test will be available on location at time of cement job providing pump times & compressive strengths.

Mewbourne Oil Company, Red Hills West SWD #2
Sec 8, T26S, R32E
SL: 1100' FSL & 900' FWL

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	25%
Production	0'	25%
Liner	11,450'	25%

4. Pressure Control Equipment

Y	Variance: A variance is requested for the use of a diverter while drilling the 17.5" hole. See attached for schematic.
Y	Variance: A variance is requested for use of a 5000 psi annular BOP with the 10,000 psi BOP stack. Please see attached description and procedure.

BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
12-1/4"	13-5/8"	10M	Annular	X	5000#
			Blind Ram	X	10000#
			Pipe Ram		
			Double Ram	X	
			Other*		
8-1/2"	13-5/8"	10M	Annular	X	5000#
			Blind Ram	X	10000#
			Pipe Ram		
			Double Ram	X	
			Other*		

*Specify if additional ram is utilized.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
N	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. • Provide description here: See attached schematic.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	1100'	Spud Mud	8.4-8.7	28	N/C
1100'	4275'	Saturated Brine	10.0	29	N/C
4275'	11,650'	Cut Brine	8.7-10.0	30-40	<20
11,650'	17,300'	Cut Brine	10.0-13.0	30-40	<10
17,300'	19,350'	Cut Brine	9.0	29	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	Pason/PVT/Visual Monitoring

6. Logging and Testing Procedures

Logging, Coring and Testing.	
X	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No Logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain
	Coring? If yes, explain

Additional logs planned		Interval
X	Gamma Ray	0' – 19,350'
	Density	
X	CBL	0' – 17,300'
	Mud log	
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	9056 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole. Weighted mud for possible over-pressure in Wolfcamp formation.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
	H2S is present
X	H2S Plan attached

8. Other facets of operation

Is this a walking operation? If yes, describe.
Will be pre-setting casing? If yes, describe.

Attachments
___ Directional Plan
___ Other, describe

Pending Application for High-Volume Devonian Disposal Well
Amended Order SWD-1635 for the Red Hills West SWD No. 2 – Mewbourne Oil Company