

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

NOV 05 2019

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

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-activate an abandoned well. Use form 3160-3 (APD) for such proposals.

5. Lease Serial No.
NMNM16348

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

7. If Unit or CA/Agreement, Name and/or No.
326315

8. Well Name and No.
ARMSTRONG 26/23 WOFF FED COM 2H

9. API Well No.
30-015-46351-00-X1

10. Field and Pool or Exploratory Area
WILDCAT;WOLFCAMP

11. County or Parish, State
EDDY COUNTY, NM

1. Type of Well
 Oil Well Gas Well Other

2. Name of Operator
MEWBOURNE OIL COMPANY
Contact: JACKIE LATHAN
E-Mail: jlathan@mewbourne.com

3a. Address
P O BOX 5270
HOBBS, NM 88241

3b. Phone No. (include area code)
Ph: 575-393-5905

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
Sec 26 T25S R31E SENW 2500FNL 1950FWL
32.101681 N Lat, 103.751091 W Lon

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off	
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity	
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other	
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	Change to Original APD	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Mewbourne Oil Company would like to make the following changes:

- Change BHL from (330' FNL & 1650' FWL, Sec 23) to (1420' FNL & 1350' FWL, Sec 23)
- Change well name from current to Armstrong 26/23 WOFF Fed Com 2H

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

The following are attached:

- Direction plan
- Direction plot
- Casing Assumptions

9 5/8" 40#

**Carlsbad Field Office
OCD Artesia**

All previous COAs still apply, Except for the following: f.p.

14. I hereby certify that the foregoing is true and correct.

**Electronic Submission #489776 verified by the BLM Well Information System
For MEWBOURNE OIL COMPANY, sent to the Hobbs
Committed to AFMSS for processing by PRISCILLA PEREZ on 10/25/2019 (20PP0240SE)**

Name (Printed/Typed) **JAKE MAXEY** Title **REGULATORY**

Signature (Electronic Submission) Date **10/24/2019**

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By JEROMY PORTER Title PETROLEUM ENGINEER Date 10/29/2019

Conditions of approval, if any, are attached. Approval of this notice 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.

Office Hobbs

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.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

RW 11-5-19

Additional data for EC transaction #489776 that would not fit on the form

32. Additional remarks, continued

C-101
C-102
Drilling Program

Revisions to Operator-Submitted EC Data for Sundry Notice #489776

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM016348	NMNM16348
Agreement:		
Operator:	MEWBOURNE OIL COMPANY PO BOX 5270 HOBBS, NM 88241 Ph: 575-393-5905	MEWBOURNE OIL COMPANY P O BOX 5270 HOBBS, NM 88241 Ph: 575.393.5905
Admin Contact:	JACKIE LATHAN AUTHORIZED REPRESENTATIVE E-Mail: jlathan@mewbourne.com Ph: 575-393-5905	JACKIE LATHAN REGULATORY E-Mail: jlathan@mewbourne.com Ph: 575-393-5905
Tech Contact:	JAKE MAXEY ENGINEER E-Mail: jmaxey@mewbourne.com Ph: 575-393-5905 Ext: 5028	JAKE MAXEY REGULATORY E-Mail: jmaxey@mewbourne.com Ph: 575-263-4671
Location:		
State:	NM	NM
County:	EDDY	EDDY
Field/Pool:	PURPLE SAGE; WOLFCAMP GAS	WILDCAT;WOLFCAMP
Well/Facility:	ARMSTRONG 26/23 W0FC FED COM 2H Sec 26 T25S R31E Mer NMP SENW 2500FNL 1950FWL	ARMSTRONG 26/23 W0FF FED COM 2H Sec 26 T25S R31E SENW 2500FNL 1950FWL 32.101681 N Lat, 103.751091 W Lon

Intent As Drilled

API #

Operator Name: Mewbourne Oil Co.	Property Name: Armstrong 26/23 W0FF Fed Com	Well Number 2H
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Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
F	26	25S	31E		2395	S	1350	W	Eddy
Latitude					Longitude				NAD
32.1006043					-103.7530373				83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
F	26	25S	31E		2319	N	1350	W	Eddy
Latitude					Longitude				NAD
32.1015545					-103.7530341				83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
F	26	25S	31E		1420	N	1350	W	Eddy
Latitude					Longitude				NAD
32.1191838					-103.7529747				83

Is this well the defining well for the Horizontal Spacing Unit? N

Is this well an infill well? Y

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name: Mewbourne Oil Company	Property Name: Armstrong 26/23 W1FF Fed Com	Well Number 1H
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KZ 06/29/2018

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 30-015-46351	² Pool Code 98220	³ Pool Name Purple Sage; Wolfcamp Gas
⁴ Property Code 326315	⁵ Property Name ARMSTRONG 26/23 WOFF FED COM	
⁷ GRID NO. 14744	⁸ Operator Name MEWBOURNE OIL COMPANY	⁶ Well Number 2H ⁹ Elevation 3332'

¹⁰ Surface Location

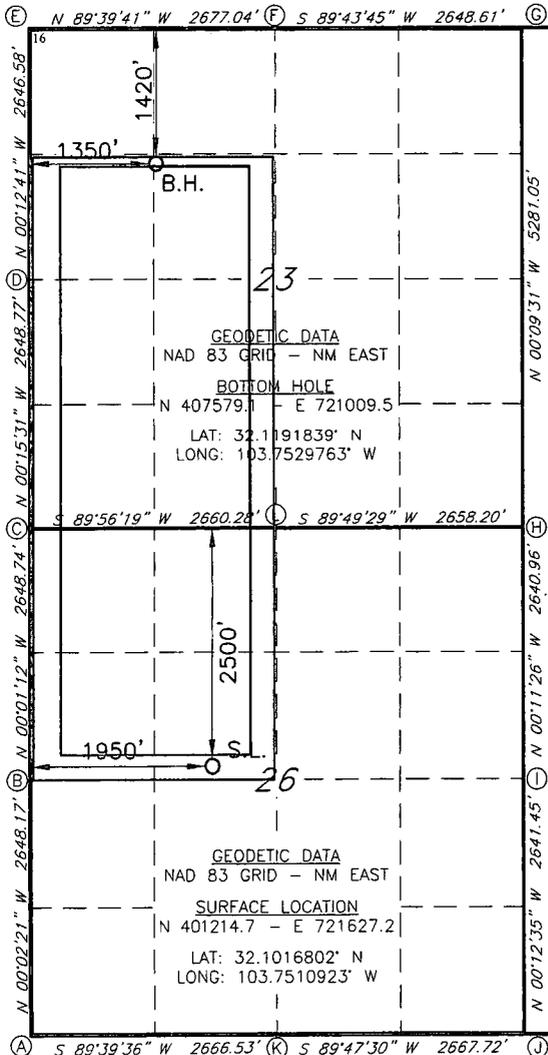
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet From the	East/West line	County
F	26	25S	31E		2500	NORTH	1950	WEST	EDDY

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
F	23	25S	31E		1420	NORTH	1350	WEST	EDDY

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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: *Jake Maxey* Date: 10-15-2019

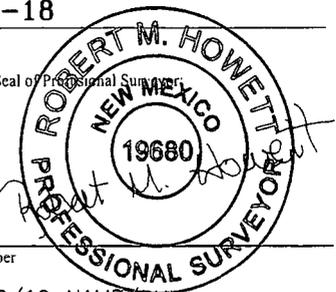
Printed Name: Jake Maxey
E-mail Address: jmaxey@mewbourne.com

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.

12-05-18

Date of Survey: 12-05-18
Signature and Seal of Professional Surveyor



19680

Certificate Number

REV: 9/16/19 NAME/BH/L

LS18121328D

RWP 11-5-19

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	975'	13.375"	48	H40	STC	1.73	3.88	6.88	11.56
12.25"	0'	4218'	9.625"	26 40	L80	LTC	1.41	2.62	4.31	5.43
8.75"	0'	11975'	7"	26	HCP110	LTC	1.34	1.71	2.23	2.67
6.125"	11379'	18410'	4.5"	13.5	P110	LTC	1.34	1.55	3.56	4.44
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

Mewbourne Oil Company

Eddy County, New Mexico NAD 83

Armstrong 26/23 W0FF Fed Com #2H

Sec 26, R25S, R31E

SHL: 2500' FNL & 1950' FWL, Sec 26

BHL: 1420' FNL & 1350' FWL, Sec 23

Plan: Design #1

Standard Planning Report

17 September, 2019

Planning Report

Database:	Hobbs	Local Co-ordinate Reference:	Site Armstrong 26/23 WOFF Fed Com #2H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3359.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 3359.0usft (Original Well Elev)
Site:	Armstrong 26/23 WOFF Fed Com #2H	North Reference:	Grid
Well:	Sec 26, R25S, R31E	Survey Calculation Method:	Minimum Curvature
Wellbore:	BHL: 1420' FNL & 1350' FWL, Sec 23		
Design:	Design #1		

Project:	Eddy County, New Mexico NAD 83		
Map System:	US State Plane 1983	System Datum:	Ground Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site:	Armstrong 26/23 WOFF Fed Com #2H					
Site Position:	From:	Map	Northing:	401,214.70 usft	Latitude:	32.1016803
			Easting:	721,627.20 usft	Longitude:	-103.7510922
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.31 °	

Well:	Sec 26, R25S, R31E					
Well Position	+N-S	0.0 usft	Northing:	401,214.70 usft	Latitude:	32.1016803
	+E-W	0.0 usft	Easting:	721,627.20 usft	Longitude:	-103.7510922
Position Uncertainty	0.0 usft	Wellhead Elevation:	3,359.0 usft	Ground Level:	3,332.0 usft	

Wellbore:	BHL: 1420' FNL & 1350' FWL, Sec 23					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength	
	IGRF2010	9/12/2019	6.64	59.83	47,677	

Design:	Design #1					
Audit Notes:						
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0		
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction		
	(usft)	(usft)	(usft)	(°)		
	0.0	0.0	0.0	354.46		

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.00	0.00	0.00	0.00	
4,712.4	6.19	236.67	4,711.6	-12.2	-18.6	1.50	1.50	0.00	236.67	
10,966.6	6.19	236.67	10,929.4	-382.5	-581.6	0.00	0.00	0.00	0.00	
11,379.0	0.00	0.01	11,341.0	-394.7	-600.2	1.50	-1.50	0.00	180.00	KOP: 2395' FSL & 13:
12,131.4	90.18	359.86	11,819.0	84.8	-601.4	11.99	11.99	0.00	-0.14	
18,410.9	90.18	359.86	11,799.0	6,364.3	-617.2	0.00	0.00	0.00	0.00	BHL: 1420' FNL & 13:

Planning Report

Database	Hobbs	Local Co-ordinate Reference	Site Armstrong 26/23 W0FF Fed Com #2H
Company	Mewbourne Oil Company	TVD Reference:	WELL @ 3359.0usft (Original Well Elev)
Project	Eddy County, New Mexico NAD 83	MD Reference	WELL @ 3359.0usft (Original Well Elev)
Site	Armstrong 26/23 W0FF Fed Com #2H	North Reference	Grid
Well	Sec 26, R25S, R31E	Survey Calculation Method	Minimum Curvature
Wellbore	BHL: 1420' FNL & 1350' FWL, Sec 23		
Design	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
SHL: 2500' FNL & 1950' FWL (26)										
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
4,400.0	1.50	236.67	4,400.0	-0.7	-1.1	-0.6	1.50	1.50	0.00	
4,500.0	3.00	236.67	4,499.9	-2.9	-4.4	-2.4	1.50	1.50	0.00	
4,600.0	4.50	236.67	4,599.7	-6.5	-9.8	-5.5	1.50	1.50	0.00	
4,700.0	6.00	236.67	4,699.3	-11.5	-17.5	-9.8	1.50	1.50	0.00	
4,712.4	6.19	236.67	4,711.6	-12.2	-18.6	-10.4	1.50	1.50	0.00	
4,800.0	6.19	236.67	4,798.7	-17.4	-26.5	-14.8	0.00	0.00	0.00	
4,900.0	6.19	236.67	4,898.1	-23.3	-35.5	-19.8	0.00	0.00	0.00	
5,000.0	6.19	236.67	4,997.5	-29.2	-44.5	-24.8	0.00	0.00	0.00	
5,100.0	6.19	236.67	5,096.9	-35.2	-53.5	-29.8	0.00	0.00	0.00	

Planning Report

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Company	Mewbourne Oil Company	TVD Reference	WELL @ 3359.0usft (Original Well Elev)
Project	Eddy County, New Mexico NAD 83	MD Reference	WELL @ 3359.0usft (Original Well Elev)
Site	Armstrong 26/23 WOFF Fed Com #2H	North Reference	Grid
Well	Sec 26, R25S, R31E	Survey Calculation Method	Minimum Curvature
Wellbore	BHL: 1420' FNL & 1350' FWL, Sec 23		
Design	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,200.0	6.19	236.67	5,196.4	-41.1	-62.5	-34.9	0.00	0.00	0.00	
5,300.0	6.19	236.67	5,295.8	-47.0	-71.5	-39.9	0.00	0.00	0.00	
5,400.0	6.19	236.67	5,395.2	-52.9	-80.5	-44.9	0.00	0.00	0.00	
5,500.0	6.19	236.67	5,494.6	-58.8	-89.5	-49.9	0.00	0.00	0.00	
5,600.0	6.19	236.67	5,594.0	-64.8	-98.5	-55.0	0.00	0.00	0.00	
5,700.0	6.19	236.67	5,693.4	-70.7	-107.5	-60.0	0.00	0.00	0.00	
5,800.0	6.19	236.67	5,792.9	-76.6	-116.5	-65.0	0.00	0.00	0.00	
5,900.0	6.19	236.67	5,892.3	-82.5	-125.5	-70.0	0.00	0.00	0.00	
6,000.0	6.19	236.67	5,991.7	-88.4	-134.5	-75.1	0.00	0.00	0.00	
6,100.0	6.19	236.67	6,091.1	-94.4	-143.5	-80.1	0.00	0.00	0.00	
6,200.0	6.19	236.67	6,190.5	-100.3	-152.5	-85.1	0.00	0.00	0.00	
6,300.0	6.19	236.67	6,290.0	-106.2	-161.5	-90.1	0.00	0.00	0.00	
6,400.0	6.19	236.67	6,389.4	-112.1	-170.5	-95.1	0.00	0.00	0.00	
6,500.0	6.19	236.67	6,488.8	-118.0	-179.5	-100.2	0.00	0.00	0.00	
6,600.0	6.19	236.67	6,588.2	-124.0	-188.5	-105.2	0.00	0.00	0.00	
6,700.0	6.19	236.67	6,687.6	-129.9	-197.5	-110.2	0.00	0.00	0.00	
6,800.0	6.19	236.67	6,787.0	-135.8	-206.5	-115.2	0.00	0.00	0.00	
6,900.0	6.19	236.67	6,886.5	-141.7	-215.5	-120.3	0.00	0.00	0.00	
7,000.0	6.19	236.67	6,985.9	-147.6	-224.5	-125.3	0.00	0.00	0.00	
7,100.0	6.19	236.67	7,085.3	-153.6	-233.5	-130.3	0.00	0.00	0.00	
7,200.0	6.19	236.67	7,184.7	-159.5	-242.5	-135.3	0.00	0.00	0.00	
7,300.0	6.19	236.67	7,284.1	-165.4	-251.5	-140.4	0.00	0.00	0.00	
7,400.0	6.19	236.67	7,383.6	-171.3	-260.5	-145.4	0.00	0.00	0.00	
7,500.0	6.19	236.67	7,483.0	-177.3	-269.5	-150.4	0.00	0.00	0.00	
7,600.0	6.19	236.67	7,582.4	-183.2	-278.5	-155.4	0.00	0.00	0.00	
7,700.0	6.19	236.67	7,681.8	-189.1	-287.5	-160.5	0.00	0.00	0.00	
7,800.0	6.19	236.67	7,781.2	-195.0	-296.5	-165.5	0.00	0.00	0.00	
7,900.0	6.19	236.67	7,880.6	-200.9	-305.5	-170.5	0.00	0.00	0.00	
8,000.0	6.19	236.67	7,980.1	-206.9	-314.5	-175.5	0.00	0.00	0.00	
8,100.0	6.19	236.67	8,079.5	-212.8	-323.6	-180.5	0.00	0.00	0.00	
8,200.0	6.19	236.67	8,178.9	-218.7	-332.6	-185.6	0.00	0.00	0.00	
8,300.0	6.19	236.67	8,278.3	-224.6	-341.6	-190.6	0.00	0.00	0.00	
8,400.0	6.19	236.67	8,377.7	-230.5	-350.6	-195.6	0.00	0.00	0.00	
8,500.0	6.19	236.67	8,477.1	-236.5	-359.6	-200.6	0.00	0.00	0.00	
8,600.0	6.19	236.67	8,576.6	-242.4	-368.6	-205.7	0.00	0.00	0.00	
8,700.0	6.19	236.67	8,676.0	-248.3	-377.6	-210.7	0.00	0.00	0.00	
8,800.0	6.19	236.67	8,775.4	-254.2	-386.6	-215.7	0.00	0.00	0.00	
8,900.0	6.19	236.67	8,874.8	-260.1	-395.6	-220.7	0.00	0.00	0.00	
9,000.0	6.19	236.67	8,974.2	-266.1	-404.6	-225.8	0.00	0.00	0.00	
9,100.0	6.19	236.67	9,073.7	-272.0	-413.6	-230.8	0.00	0.00	0.00	
9,200.0	6.19	236.67	9,173.1	-277.9	-422.6	-235.8	0.00	0.00	0.00	
9,300.0	6.19	236.67	9,272.5	-283.8	-431.6	-240.8	0.00	0.00	0.00	
9,400.0	6.19	236.67	9,371.9	-289.7	-440.6	-245.9	0.00	0.00	0.00	
9,500.0	6.19	236.67	9,471.3	-295.7	-449.6	-250.9	0.00	0.00	0.00	
9,600.0	6.19	236.67	9,570.7	-301.6	-458.6	-255.9	0.00	0.00	0.00	
9,700.0	6.19	236.67	9,670.2	-307.5	-467.6	-260.9	0.00	0.00	0.00	
9,800.0	6.19	236.67	9,769.6	-313.4	-476.6	-265.9	0.00	0.00	0.00	
9,900.0	6.19	236.67	9,869.0	-319.3	-485.6	-271.0	0.00	0.00	0.00	
10,000.0	6.19	236.67	9,968.4	-325.3	-494.6	-276.0	0.00	0.00	0.00	
10,100.0	6.19	236.67	10,067.8	-331.2	-503.6	-281.0	0.00	0.00	0.00	
10,200.0	6.19	236.67	10,167.3	-337.1	-512.6	-286.0	0.00	0.00	0.00	
10,300.0	6.19	236.67	10,266.7	-343.0	-521.6	-291.1	0.00	0.00	0.00	
10,400.0	6.19	236.67	10,366.1	-348.9	-530.6	-296.1	0.00	0.00	0.00	
10,500.0	6.19	236.67	10,465.5	-354.9	-539.6	-301.1	0.00	0.00	0.00	

Planning Report

Database:	Hobbs	Local Coordinate Reference:	Site Armstrong 26/23 WOFF Fed Com #2H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3359.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	MD Reference:	WELL @ 3359.0usft (Original Well Elev)
Site:	Armstrong 26/23 WOFF Fed Com #2H	North Reference:	Grid
Well:	Sec 26, R25S, R31E	Survey/Calculation Method:	Minimum Curvature
Wellbore:	BHL: 1420' FNL & 1350' FWL, Sec 23		
Design:	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,600.0	6.19	236.67	10,564.9	-360.8	-548.6	-306.1	0.00	0.00	0.00	
10,700.0	6.19	236.67	10,664.3	-366.7	-557.6	-311.2	0.00	0.00	0.00	
10,800.0	6.19	236.67	10,763.8	-372.6	-566.6	-316.2	0.00	0.00	0.00	
10,900.0	6.19	236.67	10,863.2	-378.5	-575.6	-321.2	0.00	0.00	0.00	
10,966.6	6.19	236.67	10,929.4	-382.5	-581.6	-324.6	0.00	0.00	0.00	
11,000.0	5.69	236.67	10,962.6	-384.4	-584.5	-326.2	1.50	-1.50	0.00	
11,100.0	4.19	236.67	11,062.2	-389.1	-591.7	-330.2	1.50	-1.50	0.00	
11,200.0	2.69	236.67	11,162.1	-392.4	-596.7	-333.0	1.50	-1.50	0.00	
11,300.0	1.19	236.67	11,262.0	-394.3	-599.5	-334.5	1.50	-1.50	0.00	
11,379.0	0.00	0.01	11,341.0	-394.7	-600.2	-334.9	1.50	-1.50	0.00	
KOP: 2395' FSL & 1350' FWL (23)										
11,400.0	2.52	359.86	11,362.0	-394.2	-600.2	-334.5	11.99	11.99	0.00	
11,425.0	5.51	359.86	11,386.9	-392.5	-600.2	-332.7	11.99	11.99	0.00	
11,450.0	8.51	359.86	11,411.7	-389.4	-600.2	-329.7	11.99	11.99	0.00	
11,475.0	11.51	359.86	11,436.3	-385.1	-600.2	-325.4	11.99	11.99	0.00	
11,500.0	14.50	359.86	11,460.7	-379.5	-600.2	-319.8	11.99	11.99	0.00	
11,525.0	17.50	359.86	11,484.7	-372.6	-600.3	-312.9	11.99	11.99	0.00	
11,550.0	20.50	359.86	11,508.4	-364.4	-600.3	-304.8	11.99	11.99	0.00	
11,575.0	23.49	359.86	11,531.5	-355.1	-600.3	-295.5	11.99	11.99	0.00	
11,600.0	26.49	359.86	11,554.2	-344.5	-600.3	-285.0	11.99	11.99	0.00	
11,625.0	29.49	359.86	11,576.3	-332.8	-600.4	-273.3	11.99	11.99	0.00	
11,650.0	32.48	359.86	11,597.7	-319.9	-600.4	-260.5	11.99	11.99	0.00	
11,675.0	35.48	359.86	11,618.4	-306.0	-600.4	-246.6	11.99	11.99	0.00	
11,700.0	38.48	359.86	11,638.4	-290.9	-600.5	-231.6	11.99	11.99	0.00	
11,725.0	41.47	359.86	11,657.6	-274.9	-600.5	-215.6	11.99	11.99	0.00	
11,750.0	44.47	359.86	11,675.8	-257.8	-600.5	-198.6	11.99	11.99	0.00	
11,775.0	47.47	359.86	11,693.2	-239.8	-600.6	-180.8	11.99	11.99	0.00	
11,800.0	50.46	359.86	11,709.6	-221.0	-600.6	-162.0	11.99	11.99	0.00	
11,825.0	53.46	359.86	11,725.0	-201.3	-600.7	-142.4	11.99	11.99	0.00	
11,850.0	56.46	359.86	11,739.4	-180.8	-600.7	-122.0	11.99	11.99	0.00	
11,875.0	59.45	359.86	11,752.7	-159.6	-600.8	-100.9	11.99	11.99	0.00	
11,900.0	62.45	359.86	11,764.8	-137.8	-600.8	-79.2	11.99	11.99	0.00	
11,925.0	65.44	359.86	11,775.8	-115.3	-600.9	-56.8	11.99	11.99	0.00	
11,950.0	68.44	359.86	11,785.6	-92.3	-601.0	-33.9	11.99	11.99	0.00	
11,975.0	71.44	359.86	11,794.1	-68.9	-601.0	-10.5	11.99	11.99	0.00	
11,995.8	73.93	359.86	11,800.3	-49.0	-601.1	9.2	11.99	11.99	0.00	
FTP: 2549' FNL & 1350' FWL (23)										
12,000.0	74.43	359.86	11,801.5	-45.0	-601.1	13.3	11.99	11.99	0.00	
12,025.0	77.43	359.86	11,807.5	-20.7	-601.1	37.4	11.99	11.99	0.00	
12,050.0	80.43	359.86	11,812.3	3.8	-601.2	61.8	11.99	11.99	0.00	
12,075.0	83.42	359.86	11,815.9	28.6	-601.3	86.5	11.99	11.99	0.00	
12,100.0	86.42	359.86	11,818.1	53.5	-601.3	111.3	11.99	11.99	0.00	
12,125.0	89.42	359.86	11,819.0	78.4	-601.4	136.1	11.99	11.99	0.00	
12,131.4	90.18	359.86	11,819.0	84.8	-601.4	142.5	11.99	11.99	0.00	
12,200.0	90.18	359.86	11,818.8	153.4	-601.6	210.8	0.00	0.00	0.00	
12,300.0	90.18	359.86	11,818.5	253.4	-601.8	310.4	0.00	0.00	0.00	
12,400.0	90.18	359.86	11,818.1	353.4	-602.1	409.9	0.00	0.00	0.00	
12,500.0	90.18	359.86	11,817.8	453.4	-602.3	509.5	0.00	0.00	0.00	
12,600.0	90.18	359.86	11,817.5	553.4	-602.6	609.0	0.00	0.00	0.00	
12,700.0	90.18	359.86	11,817.2	653.4	-602.8	708.6	0.00	0.00	0.00	
12,800.0	90.18	359.86	11,816.9	753.4	-603.1	808.1	0.00	0.00	0.00	
12,900.0	90.18	359.86	11,816.6	853.4	-603.3	907.7	0.00	0.00	0.00	
13,000.0	90.18	359.86	11,816.2	953.4	-603.6	1,007.2	0.00	0.00	0.00	
13,100.0	90.18	359.86	11,815.9	1,053.4	-603.8	1,106.8	0.00	0.00	0.00	

Planning Report

Database	Hobbs	Local Co-ordinate Reference	Site Armstrong 26/23 WOFF Fed Com #2H
Company	Mewbourne Oil Company	TVD Reference	WELL @ 3359.0usft (Original Well Elev)
Project	Eddy County, New Mexico NAD 83	MD Reference	WELL @ 3359.0usft (Original Well Elev)
Site	Armstrong 26/23 WOFF Fed Com #2H	North Reference	Grid
Well	Sec 26, R25S, R31E	Survey Calculation Method	Minimum Curvature
Wellbore	BHL: 1420' FNL & 1350' FWL, Sec 23		
Design	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,200.0	90.18	359.86	11,815.6	1,153.4	-604.1	1,206.4	0.00	0.00	0.00	
13,300.0	90.18	359.86	11,815.3	1,253.4	-604.3	1,305.9	0.00	0.00	0.00	
13,400.0	90.18	359.86	11,815.0	1,353.4	-604.6	1,405.5	0.00	0.00	0.00	
13,500.0	90.18	359.86	11,814.6	1,453.4	-604.8	1,505.0	0.00	0.00	0.00	
13,600.0	90.18	359.86	11,814.3	1,553.4	-605.1	1,604.6	0.00	0.00	0.00	
13,700.0	90.18	359.86	11,814.0	1,653.4	-605.4	1,704.1	0.00	0.00	0.00	
13,800.0	90.18	359.86	11,813.7	1,753.4	-605.6	1,803.7	0.00	0.00	0.00	
13,900.0	90.18	359.86	11,813.4	1,853.4	-605.9	1,903.3	0.00	0.00	0.00	
14,000.0	90.18	359.86	11,813.0	1,953.4	-606.1	2,002.8	0.00	0.00	0.00	
14,100.0	90.18	359.86	11,812.7	2,053.4	-606.4	2,102.4	0.00	0.00	0.00	
14,200.0	90.18	359.86	11,812.4	2,153.4	-606.6	2,201.9	0.00	0.00	0.00	
14,300.0	90.18	359.86	11,812.1	2,253.4	-606.9	2,301.5	0.00	0.00	0.00	
14,400.0	90.18	359.86	11,811.8	2,353.4	-607.1	2,401.0	0.00	0.00	0.00	
14,500.0	90.18	359.86	11,811.5	2,453.4	-607.4	2,500.6	0.00	0.00	0.00	
14,600.0	90.18	359.86	11,811.1	2,553.4	-607.6	2,600.2	0.00	0.00	0.00	
14,700.0	90.18	359.86	11,810.8	2,653.4	-607.9	2,699.7	0.00	0.00	0.00	
14,800.0	90.18	359.86	11,810.5	2,753.4	-608.1	2,799.3	0.00	0.00	0.00	
14,900.0	90.18	359.86	11,810.2	2,853.4	-608.4	2,898.8	0.00	0.00	0.00	
15,000.0	90.18	359.86	11,809.9	2,953.4	-608.6	2,998.4	0.00	0.00	0.00	
15,100.0	90.18	359.86	11,809.5	3,053.4	-608.9	3,097.9	0.00	0.00	0.00	
15,200.0	90.18	359.86	11,809.2	3,153.4	-609.1	3,197.5	0.00	0.00	0.00	
15,300.0	90.18	359.86	11,808.9	3,253.4	-609.4	3,297.0	0.00	0.00	0.00	
15,400.0	90.18	359.86	11,808.6	3,353.4	-609.6	3,396.6	0.00	0.00	0.00	
15,500.0	90.18	359.86	11,808.3	3,453.4	-609.9	3,496.2	0.00	0.00	0.00	
15,600.0	90.18	359.86	11,808.0	3,553.4	-610.1	3,595.7	0.00	0.00	0.00	
15,700.0	90.18	359.86	11,807.6	3,653.4	-610.4	3,695.3	0.00	0.00	0.00	
15,800.0	90.18	359.86	11,807.3	3,753.4	-610.6	3,794.8	0.00	0.00	0.00	
15,900.0	90.18	359.86	11,807.0	3,853.4	-610.9	3,894.4	0.00	0.00	0.00	
16,000.0	90.18	359.86	11,806.7	3,953.4	-611.1	3,993.9	0.00	0.00	0.00	
16,100.0	90.18	359.86	11,806.4	4,053.4	-611.4	4,093.5	0.00	0.00	0.00	
16,200.0	90.18	359.86	11,806.0	4,153.4	-611.6	4,193.1	0.00	0.00	0.00	
16,300.0	90.18	359.86	11,805.7	4,253.4	-611.9	4,292.6	0.00	0.00	0.00	
16,400.0	90.18	359.86	11,805.4	4,353.4	-612.1	4,392.2	0.00	0.00	0.00	
16,500.0	90.18	359.86	11,805.1	4,453.4	-612.4	4,491.7	0.00	0.00	0.00	
16,600.0	90.18	359.86	11,804.8	4,553.4	-612.6	4,591.3	0.00	0.00	0.00	
16,700.0	90.18	359.86	11,804.4	4,653.4	-612.9	4,690.8	0.00	0.00	0.00	
16,800.0	90.18	359.86	11,804.1	4,753.4	-613.1	4,790.4	0.00	0.00	0.00	
16,900.0	90.18	359.86	11,803.8	4,853.4	-613.4	4,890.0	0.00	0.00	0.00	
17,000.0	90.18	359.86	11,803.5	4,953.4	-613.7	4,989.5	0.00	0.00	0.00	
17,100.0	90.18	359.86	11,803.2	5,053.4	-613.9	5,089.1	0.00	0.00	0.00	
17,183.6	90.18	359.86	11,802.9	5,137.0	-614.1	5,172.3	0.00	0.00	0.00	
PPP2: 2638' FNL & 1350' FWL (26)										
17,200.0	90.18	359.86	11,802.9	5,153.4	-614.2	5,188.6	0.00	0.00	0.00	
17,300.0	90.18	359.86	11,802.5	5,253.4	-614.4	5,288.2	0.00	0.00	0.00	
17,400.0	90.18	359.86	11,802.2	5,353.4	-614.7	5,387.7	0.00	0.00	0.00	
17,500.0	90.18	359.86	11,801.9	5,453.4	-614.9	5,487.3	0.00	0.00	0.00	
17,600.0	90.18	359.86	11,801.6	5,553.4	-615.2	5,586.8	0.00	0.00	0.00	
17,700.0	90.18	359.86	11,801.3	5,653.4	-615.4	5,686.4	0.00	0.00	0.00	
17,800.0	90.18	359.86	11,800.9	5,753.4	-615.7	5,786.0	0.00	0.00	0.00	
17,900.0	90.18	359.86	11,800.6	5,853.4	-615.9	5,885.5	0.00	0.00	0.00	
18,000.0	90.18	359.86	11,800.3	5,953.4	-616.2	5,985.1	0.00	0.00	0.00	
18,100.0	90.18	359.86	11,800.0	6,053.4	-616.4	6,084.6	0.00	0.00	0.00	
18,200.0	90.18	359.86	11,799.7	6,153.4	-616.7	6,184.2	0.00	0.00	0.00	

Planning Report

Database	Hobbs	Local Co-ordinate Reference	Site Armstrong 26/23 WOFF Fed Com #2H
Company	Mewbourne Oil Company	TVD Reference	WELL @ 3359.0usft (Original Well Elev)
Project	Eddy County, New Mexico NAD 83	MD Reference	WELL @ 3359.0usft (Original Well Elev)
Site	Armstrong 26/23 WOFF Fed Com #2H	North Reference	Grid
Well	Sec 26, R25S, R31E	Survey Calculation Method	Minimum Curvature
Wellbore	BHL: 1420' FNL & 1350' FWL, Sec 23		
Design	Design #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
18,300.0	90.18	359.86	11,799.4	6,253.4	-616.9	6,283.7	0.00	0.00	0.00	
18,400.0	90.18	359.86	11,799.0	6,353.4	-617.2	6,383.3	0.00	0.00	0.00	
18,410.9	90.18	359.86	11,799.0	6,364.3	-617.2	6,394.2	0.00	0.00	0.00	
BHL: 1420' FNL & 1350' FWL (23)										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
SHL: 2500' FNL & 1950' - plan hits target center - Point	0.00	0.01	0.0	0.0	0.0	401,214.70	721,627.20	32.1016803	-103.7510922	
KOP: 2395' FSL & 1350' - plan hits target center - Point	0.00	0.01	11,341.0	-394.7	-600.2	400,820.00	721,027.00	32.1006043	-103.7530373	
BHL: 1420' FNL & 1350' - plan hits target center - Point	0.00	0.01	11,799.0	6,364.3	-617.2	407,579.00	721,010.00	32.1191838	-103.7529747	
FTP: 2549' FNL & 1350' - plan hits target center - Point	0.00	0.00	11,800.3	-49.0	-601.1	401,165.70	721,026.13	32.1015545	-103.7530341	
PPP2: 2638' FNL & 1350' - plan hits target center - Point	0.00	0.00	11,802.9	5,137.0	-614.1	406,351.70	721,013.08	32.1158101	-103.7529860	

Mewbourne Oil Company, Armstrong 26/35 W0FF Fed Com #2H
Sec 26, T25S, R31E
SL: 2500' FNL & 1950' FWL
BHL: 1420' FNL & 1350' FWL

1. Geologic Formations

TVD of target	11799'	Pilot hole depth	NA
MD at TD:	18410'	Deepest expected fresh water:	325'

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface		
Rustler	899		
Top of Salt	1289		
Castile			
Base of Salt	4044		
Lamar	4293	Oil/Gas	
Bell Canyon	4332	Oil/Gas	
Cherry Canyon	5345	Oil/Gas	
Manzanita Marker	5486		
Brushy Canyon	6837	Oil/Gas	
Bone Spring	8269	Oil/Gas	
1 st Bone Spring Sand	9310	Oil/Gas	
2 nd Bone Spring Sand	9928	Oil/Gas	
3 rd Bone Spring Sand	11194	Oil/Gas	
Abo			
Wolfcamp	11640	Target Zone	
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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

Mewbourne Oil Company, Armstrong 26/35 W0FF Fed Com #2H
Sec 26, T25S, R31E
SL: 2500' FNL & 1950' FWL
BHL: 1420' FNL & 1350' FWL

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
	From	To								
17.5"	0'	975'	13.375"	48	H40	STC	1.73	3.88	6.88	11.56
12.25"	0'	4218'	9.625"	36 40	L80	LTC	1.41	2.62	4.31	5.43
8.75"	0'	11975'	7"	26	HCP110	LTC	1.34	1.71	2.23	2.67
6.125"	11379'	18410'	4.5"	13.5	P110	LTC	1.34	1.55	3.56	4.44
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

Mewbourne Oil Company, Armstrong 26/35 W0FF Fed Com #2H
Sec 26, T25S, R31E
SL: 2500' FNL & 1950' FWL
BHL: 1420' FNL & 1350' FWL

3. Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	520	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
Inter.	695	12.5	2.12	11	10	Lead: Class C + Salt + Gel + Extender + LCM
	200	14.8	1.34	6.3	8	Tail: Class C + Retarder
Prod. Stg 1	370	12.5	2.12	11	9	Lead: Class C + Gel + Retarder + Defoamer + Extender
	400	15.6	1.18	5.2	10	Tail: Class H + Retarder + Fluid Loss + Defoamer
ECP/DV Tool @ 5485'						
Prod. Stg 2	70	12.5	2.12	11	9	Lead: Class C + Gel + Retarder + Defoamer + Extender
	100	14.8	1.34	6.3	8	Tail: Class C + Retarder
Liner	280	11.2	2.97	18	16	Class C + Salt + Gel + Fluid Loss + Retarder + Dispersant + Defoamer + Anti-Settling Agent

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

Casing String	TOC	% Excess
Surface	0'	100%
Intermediate	0'	25%
Production	4018'	25%
Liner	11379'	25%

Mewbourne Oil Company, Armstrong 26/35 W0FF Fed Com #2H
Sec 26, T25S, R31E
SL: 2500' FNL & 1950' FWL
BHL: 1420' FNL & 1350' FWL

4. Pressure Control Equipment

Variance: A variance is requested to use a 5000 psi annular with a 10000 psi BOP stack. See attachment for description.

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	X	
			Double Ram		
			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?
Y	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. <ul style="list-style-type: none"> • Provide description here: See attached schematic.

Mewbourne Oil Company, Armstrong 26/35 W0FF Fed Com #2H
Sec 26, T25S, R31E
SL: 2500' FNL & 1950' FWL
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5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	975	FW Gel	8.6-8.8	28-34	N/C
975	4218	Saturated Brine	10.0	28-34	N/C
4218	11794	Cut Brine	8.6-9.7	28-34	N/C
11794	11819	OBM	10.0-13.0	30-40	<10cc

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 KOP (11379') 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
	Density
	CBL
	Mud log
	PEX

Mewbourne Oil Company, Armstrong 26/35 W0FF Fed Com #2H
Sec 26, T25S, R31E
SL: 2500' FNL & 1950' FWL
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7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7990 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole.

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.

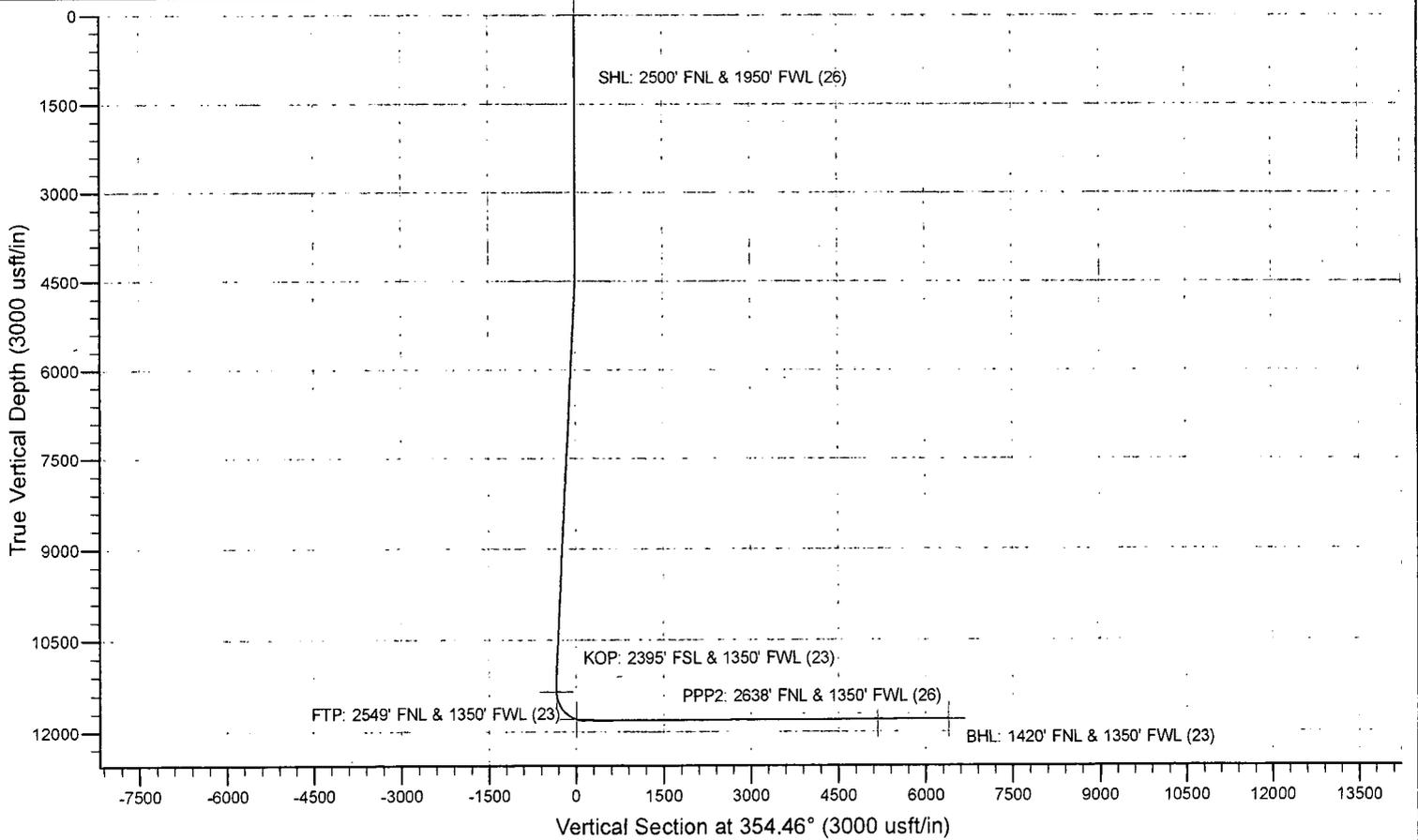
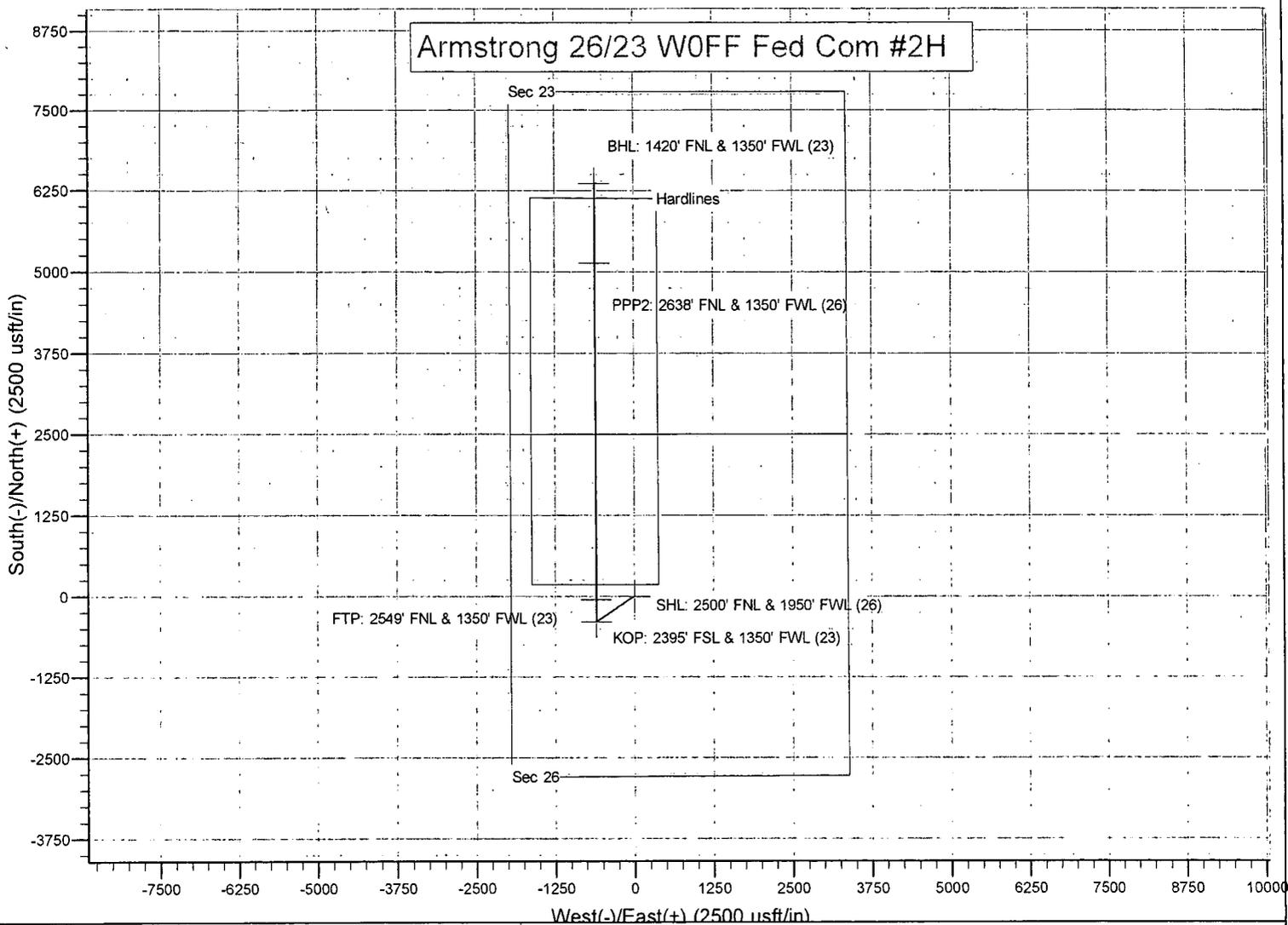
Will be pre-setting casing? If yes, describe.

Attachments

Directional Plan

Other, describe

Armstrong 26/23 W0FF Fed Com #2H



**PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	MEWBOURNE OIL COMPANY
LEASE NO.:	NMNM16348
WELL NAME & NO.:	ARMSTRONG 26/23 W0FF FED COM 2H
SURFACE HOLE FOOTAGE:	2500'/N & 1950'/W
BOTTOM HOLE FOOTAGE	1420'/N & 1350'/W
LOCATION:	Section 26, T.25 S., R.31 E., NMPM
COUNTY:	EDDY County, New Mexico

COA

H2S	<input type="radio"/> Yes	<input checked="" type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input type="radio"/> Low	<input checked="" type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

All previous COAs still apply, except for the following:

A. CASING

1. The 13-3/8 inch surface casing shall be set at approximately **975 feet** (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that

string.

2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- ❖ **In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.**

3. The minimum required fill of cement behind the 7 inch production casing is:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
 - b. Second stage above DV tool:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
4. The minimum required fill of cement behind the 4-1/2 inch production liner is:
 - Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.

B. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

C. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24

hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. 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. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to

Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

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