

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OCD Artesia

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on reverse side.**

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. WILLOW LAKE 35 FED COM 2H
2. Name of Operator MEWBOURNE OIL COMPANY Contact: JACKIE LATHAN E-Mail: jlathan@mewbourne.com		9. API Well No. 30-015-38106
3a. Address PO BOX 5270 HOBBS, NM 88241	3b. Phone No. (include area code) Ph: 575-393-5905 Fx: 575-397-6252	10. Field and Pool, or Exploratory BONE SPRING
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 35 T24S R28E SWSW 330FSL 370FWL		11. County or Parish, and State EDDY COUNTY, NM

12. CHECK 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 checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Fracture Treat	<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 A
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	PD

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 shall 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 shall be filed once testing has been completed. Final Abandonment Notices shall 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 change the name of the Willow Lake 35 Fed Com #2H to the Willow Lake 35 MD Fed Com #1H. MOC would like to change the target from a Delaware to 2nd Bone Spring Sands. Please see attached directional plan, casing, cement and mud program.

Bonds on file: NM1693 Nationwide & NMB000919

SEE ATTACHED FOR
CONDITIONS OF APPROVALAccepted for record
NMOCD

RDeade 2/21/2013

RECEIVED

FEB 21 2013

NMOCD ARTESIA

14. I hereby certify that the foregoing is true and correct.		Electronic Submission #191913 verified by the BLM Well Information System For MEWBOURNE OIL COMPANY, sent to the Carlsbad Committed to AFMSS for processing by KURT SIMMONS on 02/12/2013 ()	
Name (Printed/Typed)	JACKIE LATHAN	Title	AUTHORIZED REPRESENTATIVE
Signature	(Electronic Submission)	Date	01/28/2013
THIS SPACE FOR FEDERAL OR STATE OFFICE USE			
Approved By		Title	Date
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	Date
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.		Date	

FEB 20 2013

/s/ Chris Walls

BUREAU OF LAND MANAGEMENT
CARLSBAD FIELD OFFICE

** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED ** OPERATOR-SUBMITTED **

DISTRICT I
1025 N. French Dr., Hobbs, NM 88240

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

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

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

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised October 15, 2009

Submit one copy to appropriate
District Office

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number 30-015-38106	Pool Code 64450	Pool Name Willow Lake Bone Spring
Property Code	Property Name WILLOW LAKE "35" MD Fed Com	Well Number 1H
OGRID No. 14744	Operator Name MEWBOURNE OIL COMPANY	Elevation 2981'

Surface Location

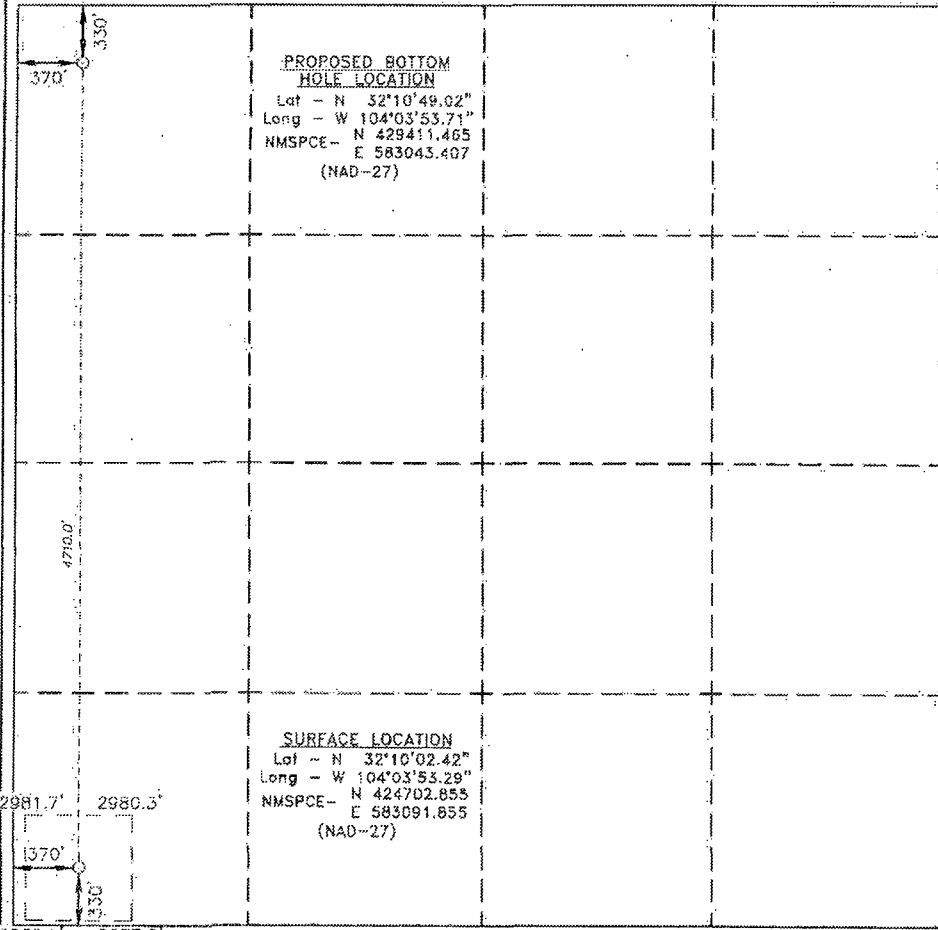
UL or lot No. M	Section 35	Township 24 S	Range 28 E	Lot Idn	Feet from the 330	North/South line SOUTH	Feet from the 370	East/West line WEST	County EDDY
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Bottom Hole Location If Different From Surface

UL or lot No. D	Section 35	Township 24 S	Range 28 E	Lot Idn	Feet from the 330	North/South line NORTH	Feet from the 370	East/West line WEST	County EDDY
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Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

	<p>PROPOSED BOTTOM HOLE LOCATION Lat - N 32°10'49.02" Long - W 104°03'53.71" NMSPCE- N 429411.465 E 583043.407 (NAD-27)</p> <p>SURFACE LOCATION Lat - N 32°10'02.42" Long - W 104°03'53.29" NMSPCE- N 424702.855 E 583091.855 (NAD-27)</p>	<p>OPERATOR CERTIFICATION</p> <p>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.</p> <p><i>Jackie Lathan</i> 2/14/13 Signature Date</p> <p>Jackie Lathan Printed Name</p> <p>SURVEYOR CERTIFICATION</p> <p>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.</p> <p><i>MARY L. JONES</i> Date Surveyed</p> <p><i>MARY L. JONES</i> Signature & Seal of Professional Surveyor</p> <p>Certificate No. Gary L. Jones 7977</p> <p>BASIN SURVEYS</p>
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Willow Lake 35 MD Fed Com #1H
Sec. 35 T24S R28E
Mewbourne Oil Company

MOC proposes to drill a vertical wellbore to 7814' & kick off to horizontal @ 8291' TVD. The well will be drilled to 12795' MD (8291' TVD). See attached directional plan.

Casing Program:

<u>Hole Size</u>	<u>Casing</u>	<u>Wt/Ft</u>	<u>Grade</u>	<u>Depth</u>	<u>Jt Type</u>
17 1/2"	13 3/8" (new)	48#	J55	0'-650'	ST&C
12 1/4"	9 5/8" (new)	36#	J55	0'-2600'	ST&C
8 3/4"	7" (new)	26#	P110	0'-8600'	LT&C
6 1/8"	4 1/2" (new) liner	11.6#	P110	8400'-12795'	LT&C

Minimum casing design factors: Collapse 1.125, Burst 1.0, Tensile strength 1.8.

*Subject to availability of casing.

Cementing Program:

- Surface Casing: 400 sacks class "C" light. Yield at 2.1 cuft/sk. 200 sacks class "C" w/2% CaCL₂. Yield at 1.34 cuft/sk. Cmt circulated to surface with 100% excess.
- Intermediate Casing: 600 sacks Class "C" light. Yield at 2.05 cuft/sk. 200 sacks Class "C" neat. Yield at 1.34 cuft/sk Cmt circulated to surface with 25% excess.
- Deep Intermediate: 600 sacks Class "H" light. Yield at 2.10 cuft/sk. 300 sacks Class "H". Yield at 1.21 cuft/sk Cmt circulated to surface with 25% excess.
- Production Liner: This will be a Packer/Port completion from TD up inside 7" casing with packer type liner hanger.

*Referring to above blends of light cement: (wt% fly ash : wt% cement : wt% bentonite of the total of first two numbers). Generic names of additives are used since the availability of specific company and products are unknown at this time.

Mud Program:

<u>Interval</u>	<u>Type System</u>	<u>Weight</u>	<u>Viscosity</u>	<u>Fluid Loss</u>
0'-650'	FW spud mud	8.6-9.0	32-34	NA
650'-2600	Brine Water	10.0	28-30	NA
2600'- TD	Cut Brine w/Polymer	8.7-9.3	32-35	20

* → Sent Sundry for Name change + target change.
1-28-13
BB.



Mewbourne Oil Company

EDDY COUNTY, NM

SECTION 35

WILLOW LAKE "35" FEDERAL COM #2H

Wellbore #1

Plan: PROPOSAL 1

Standard Planning Report

24 January, 2013





Stryker Directional Planning Report



Database:	EDM5000.1 Single User Db	Local Co-ordinate Reference:	Well: WILLOW LAKE "35" FEDERAL COM #2H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3001.0usft (Original Well Elev)
Project:	EDDY COUNTY, NM	MD Reference:	WELL @ 3001.0usft (Original Well Elev)
Site:	SECTION 35	North Reference:	Grid
Well:	WILLOW LAKE "35" FEDERAL COM #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PROPOSAL 1		

Project:	EDDY COUNTY, NM, NM-EAST		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	SECTION 35				
Site Position:		Northing:	424,702.85 usft	Latitude:	32° 10' 2.424 N
From:	Map	Easting:	583,091.86 usft	Longitude:	104° 3' 53.288 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.14

Well: WILLOW LAKE "35" FEDERAL COM #2H						
Well Position	+N/-S	0.0 usft	Northing:	424,702.85 usft	Latitude:	32° 10' 2.424 N
	+E/-W	0.0 usft	Easting:	583,091.86 usft	Longitude:	104° 3' 53.288 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	2,981.0 usft

Wellbore: Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/22/2013	7.61	60.01	48,370

Design:	PROPOSAL 1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359.41

Plan Sections										
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	
7,813.5	0.00	0.00	7,813.5	0.0	0.0	0.00	0.00	0.00	0.00	
8,563.5	90.00	359.41	8,291.0	477.4	-4.9	12.00	12.00	0.00	359.41	
12,794.9	90.00	359.41	8,291.0	4,708.6	-48.4	0.00	0.00	0.00	0.00	PBHL Willow Lake 35



Stryker Directional Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well: WILLOW LAKE 35 FEDERAL COM #2H
Company:	Mewbourne Oil Company	TVD Reference:	WELL @ 3001.0usft (Original Well Elev)
Project:	EDDY COUNTY, NM	MD Reference:	WELL @ 3001.0usft (Original Well Elev)
Site:	SECTION 35	North Reference:	Grid
Well:	WILLOW LAKE 35 FEDERAL COM #2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PROPOSAL 11		

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
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	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00



Stryker Directional Planning Report



Database:	EDM5000.1 Single User Db.	Local Co-ordinate Reference:	Well: WILLOW LAKE "35" FEDERAL COM
Company:	Mewbourne Oil Company	TVD Reference:	#2H
Project:	EDDY COUNTY, NM	MD Reference:	WELL @ 3001.0usft (Original Well Elev)
Site:	SECTION 35	North Reference:	WELL @ 3001.0usft (Original Well Elev)
Well:	WILLOW LAKE "35" FEDERAL COM #2H	Survey Calculation Method:	Gnd
Wellbore:	Wellbore #1		Minimum Curvature
Design:	PROPOSAL 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)	
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,000.0	0.00	0.00	7,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
7,813.5	0.00	0.00	7,813.5	0.0	0.0	0.0	0.00	0.00	0.00	
KOP @ 7813.5 MD										
7,900.0	10.38	359.41	7,899.5	7.8	-0.1	7.8	12.00	12.00	0.00	
8,000.0	22.38	359.41	7,995.3	35.9	-0.4	35.9	12.00	12.00	0.00	
8,100.0	34.38	359.41	8,083.1	83.4	-0.9	83.4	12.00	12.00	0.00	
8,200.0	46.38	359.41	8,159.2	148.0	-1.5	148.0	12.00	12.00	0.00	
8,300.0	58.38	359.41	8,220.1	227.1	-2.3	227.1	12.00	12.00	0.00	
8,400.0	70.38	359.41	8,263.3	317.1	-3.3	317.1	12.00	12.00	0.00	
8,500.0	82.38	359.41	8,286.8	414.1	-4.3	414.1	12.00	12.00	0.00	
8,563.5	90.00	359.41	8,291.0	477.4	-4.9	477.5	12.00	12.00	0.00	
LIP @ 8563.5 MD										
8,600.0	90.00	359.41	8,291.0	513.9	-5.3	513.9	0.00	0.00	0.00	
8,700.0	90.00	359.41	8,291.0	613.9	-6.3	613.9	0.00	0.00	0.00	
8,800.0	90.00	359.41	8,291.0	713.9	-7.3	713.9	0.00	0.00	0.00	
8,900.0	90.00	359.41	8,291.0	813.9	-8.4	813.9	0.00	0.00	0.00	
9,000.0	90.00	359.41	8,291.0	913.9	-9.4	913.9	0.00	0.00	0.00	
9,100.0	90.00	359.41	8,291.0	1,013.9	-10.4	1,013.9	0.00	0.00	0.00	
9,200.0	90.00	359.41	8,291.0	1,113.9	-11.5	1,113.9	0.00	0.00	0.00	
9,300.0	90.00	359.41	8,291.0	1,213.9	-12.5	1,213.9	0.00	0.00	0.00	
9,400.0	90.00	359.41	8,291.0	1,313.9	-13.5	1,313.9	0.00	0.00	0.00	
9,500.0	90.00	359.41	8,291.0	1,413.9	-14.5	1,413.9	0.00	0.00	0.00	
9,600.0	90.00	359.41	8,291.0	1,513.8	-15.6	1,513.9	0.00	0.00	0.00	
9,700.0	90.00	359.41	8,291.0	1,613.8	-16.6	1,613.9	0.00	0.00	0.00	
9,800.0	90.00	359.41	8,291.0	1,713.8	-17.6	1,713.9	0.00	0.00	0.00	
9,900.0	90.00	359.41	8,291.0	1,813.8	-18.7	1,813.9	0.00	0.00	0.00	
10,000.0	90.00	359.41	8,291.0	1,913.8	-19.7	1,913.9	0.00	0.00	0.00	
10,100.0	90.00	359.41	8,291.0	2,013.8	-20.7	2,013.9	0.00	0.00	0.00	



Stryker Directional Planning Report



Database:	EDM 5000.1 Single User Db	Local/Co-ordinate Reference:	Well/WILLOW LAKE 35 FEDERAL COM
Company:	Mewbourne Oil Company	TVD Reference:	#2H
Project:	EDDY COUNTY, NM	MD Reference:	WELL @ 3001.0usft (Original Well Elev)
Site:	SECTION 35	North Reference:	WELL @ 3001.0usft (Original Well Elev)
Well:	WILLOW LAKE 35 FEDERAL COM #2H	Survey Calculation Method:	Grid
Wellbore:	Wellbore #1		Minimum Curvature
Design:	PROPOSAL 1		

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)
10,200.0	90.00	359.41	8,291.0	2,113.8	-21.7	2,113.9	0.00	0.00	0.00
10,300.0	90.00	359.41	8,291.0	2,213.8	-22.8	2,213.9	0.00	0.00	0.00
10,400.0	90.00	359.41	8,291.0	2,313.8	-23.8	2,313.9	0.00	0.00	0.00
10,500.0	90.00	359.41	8,291.0	2,413.8	-24.8	2,413.9	0.00	0.00	0.00
10,600.0	90.00	359.41	8,291.0	2,513.8	-25.9	2,513.9	0.00	0.00	0.00
10,700.0	90.00	359.41	8,291.0	2,613.8	-26.9	2,613.9	0.00	0.00	0.00
10,800.0	90.00	359.41	8,291.0	2,713.8	-27.9	2,713.9	0.00	0.00	0.00
10,900.0	90.00	359.41	8,291.0	2,813.8	-29.0	2,813.9	0.00	0.00	0.00
11,000.0	90.00	359.41	8,291.0	2,913.8	-30.0	2,913.9	0.00	0.00	0.00
11,100.0	90.00	359.41	8,291.0	3,013.8	-31.0	3,013.9	0.00	0.00	0.00
11,200.0	90.00	359.41	8,291.0	3,113.8	-32.0	3,113.9	0.00	0.00	0.00
11,300.0	90.00	359.41	8,291.0	3,213.8	-33.1	3,213.9	0.00	0.00	0.00
11,400.0	90.00	359.41	8,291.0	3,313.8	-34.1	3,313.9	0.00	0.00	0.00
11,500.0	90.00	359.41	8,291.0	3,413.7	-35.1	3,413.9	0.00	0.00	0.00
11,600.0	90.00	359.41	8,291.0	3,513.7	-36.2	3,513.9	0.00	0.00	0.00
11,700.0	90.00	359.41	8,291.0	3,613.7	-37.2	3,613.9	0.00	0.00	0.00
11,800.0	90.00	359.41	8,291.0	3,713.7	-38.2	3,713.9	0.00	0.00	0.00
11,900.0	90.00	359.41	8,291.0	3,813.7	-39.2	3,813.9	0.00	0.00	0.00
12,000.0	90.00	359.41	8,291.0	3,913.7	-40.3	3,913.9	0.00	0.00	0.00
12,100.0	90.00	359.41	8,291.0	4,013.7	-41.3	4,013.9	0.00	0.00	0.00
12,200.0	90.00	359.41	8,291.0	4,113.7	-42.3	4,113.9	0.00	0.00	0.00
12,300.0	90.00	359.41	8,291.0	4,213.7	-43.4	4,213.9	0.00	0.00	0.00
12,400.0	90.00	359.41	8,291.0	4,313.7	-44.4	4,313.9	0.00	0.00	0.00
12,500.0	90.00	359.41	8,291.0	4,413.7	-45.4	4,413.9	0.00	0.00	0.00
12,600.0	90.00	359.41	8,291.0	4,513.7	-46.4	4,513.9	0.00	0.00	0.00
12,700.0	90.00	359.41	8,291.0	4,613.7	-47.5	4,613.9	0.00	0.00	0.00
12,794.9	90.00	359.41	8,291.0	4,708.6	-48.4	4,708.9	0.00	0.00	0.00
TD at 12794.9 MD									

Design Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	
PBHL Willow Lake 35 M		0.00	0.00	8,291.0	4,708.6	-48.4	429,411.46	583,043.41	32° 10' 49.024 N 104° 3' 53.715 W
- plan hits target center									
- Point									
LP Willow Lake 35 MD F		0.00	0.00	8,291.0	470.0	-4.8	425,172.83	583,087.02	32° 10' 7.076 N 104° 3' 53.330 W
- plan misses target center by 0.1usft at 8556.1usft MD (8290.9 TVD, 470.0 N, -4.8 E)									
- Point									

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Comment
7,813.5	7,813.5	0.0	0.0	KOP @ 7813.5 MD
8,563.5	8,291.0	477.4	-4.9	LP @ 8563.5 MD
12,794.9	8,291.0	4,708.6	-48.4	TD at 12794.9 MD

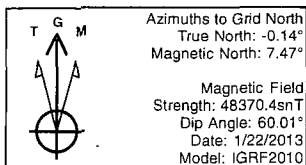


COMPANY: Mewbourne Oil Company
WELL: WILLOW LAKE "35" FEDERAL COM #2H
COUNTY: EDDY COUNTY, NM
DATUM: NAD 1927 (NADCON CONUS)
RIG: Patterson #47
GRID CORRECTION: 7.47° E



OFFICE: 936.582.7296

PLANNING: 214.784.3778

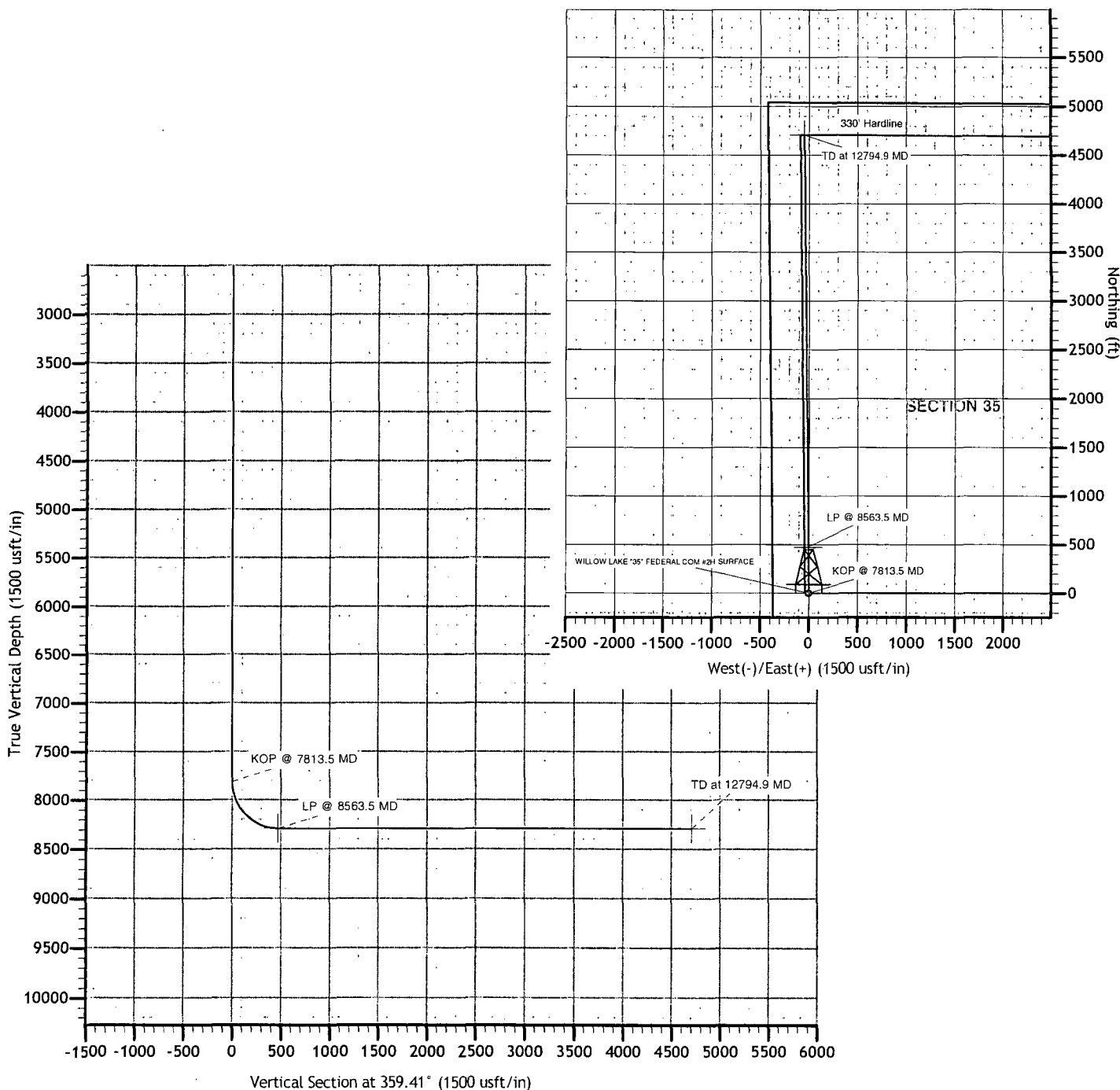


GEODETTIC ZONE: New Mexico East 3001					
WELL @ 3001.0usft (Original Well Elev)					
GROUND ELEVATION: 2981.0					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	424702.85	583091.85	32° 10' 2.424 N	104° 3' 53.288 W

CRITICAL POINTS							
TVD	MD	Inc	Azi	+N/-S	+E/-W	V Sect	Departure
7813.5	7813.5	0.00	0.00	0.0	0.0	0.0	0.0
8291.0	8563.5	90.00	359.41	477.4	-4.9	477.5	477.5
8291.0	12794.9	90.00	359.41	4708.6	-48.4	4708.9	4708.9
							Annotation
							KOP @ 7813.5 MD
							LP @ 8563.5 MD
							TD at 12794.9 MD

CREATED BY: BRANDON ESTES

DATE: 10:33, January 24 2013
PLAN: PROPOSAL 1



CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mewbourne Oil Co
LEASE NO.:	NM25953
WELL NAME & NO.:	1H- Willow Lake 35 MD Fed Com
SURFACE HOLE FOOTAGE:	330' FSL & 370' FWL
BOTTOM HOLE FOOTAGE:	330' FNL & 370' FWL
LOCATION:	Section 35, T. 24 S., R 28 E., NMPM
COUNTY:	Eddy County, New Mexico

Communitization Agreement:

A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales.

I. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

- a. Spudding well
- b. Setting and/or Cementing of all casing strings
- c. BOPE tests

☒ **Eddy County**

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

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, please report measured amounts and formations to the BLM.**
2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a “Major” violation.**
3. 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 is located, this does not include the dog house or stairway area.

4. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) will 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 top and bottom of Salt are to be recorded on the Completion Report.

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. 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.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

HIGH CAVE/KARST

Possible lost circulation in the Castile Group.

1. The 13-3/8 inch surface casing shall be set at approximately 650 feet 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 is to include the lead cement slurry.

- 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.
- 3. The minimum required fill of cement behind the 7 inch production casing is:
 - ☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst. Additional cement may be required – excess calculates to 21%.**
- 4. The minimum required fill of cement behind the **4-1/2** inch production liner is:
 - ☒ Cement is not required; operator is using the Packer-Plus completion system
- 5. 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.

C. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
- 3. 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. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.
- c. The results of the test shall be reported to the appropriate BLM office.
- d. 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.**
- e. 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.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

CRW 022013