

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

5. Lease Serial No.
NMNM027507 **NM107393**

6. If Indian, Allottee or Tribe Name

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

8. Lease Name and Well No.
Red Hills West 21 W1DM Fed Com #3H

9. API Well No.

10. Field and Pool, or Exploratory

11. Sec., T. R. M. or Blk. and Survey or Area
Sec 21 T26S R32E

12. County or Parish
Lea

13. State
NM

1a. Type of work: ☒ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☒ Single Zone ☐ Multiple Zone

2. Name of Operator Mewbourne Oil Company

3a. Address
PO Box 5270
Hobbs, NM 88241

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

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

At surface 185' FNL & 500' FWL, Sec 21 T26S R32E

At proposed prod. zone 330' FSL & 500' FWL, Sec 21 T26S R32E

14. Distance in miles and direction from nearest town or post office*
29 miles SW of Jal, NM

15. Distance from proposed*
location to nearest
property or lease line, ft.
(Also to nearest drig. unit line, if any)

185'

16. No. of acres in lease
1,178.92 acres

17. Spacing Unit dedicated to this well

320

18. Distance from proposed location*
to nearest well, drilling, completed,
applied for, on this lease, ft.

120' - Red Hills West 21
DM #1H

19. Proposed Depth
12,073' - TVD
16,658' - MD

20. BLM/BIA Bond No. on file
NM1693 nationwide, NMB-000919

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3153' - GL

22. Approximate date work will start*
09/28/2015

23. Estimated duration
60 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, must be attached to this form:

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 required by the BLM.

25. Signature

Bradley Bishop

Name (Printed/Typed)
Bradley Bishop

Date

7-24-15

Approved by (Signature)

Steve Caffey
FIELD MANAGER

Name (Printed/Typed)

Office

CARLSBAD FIELD OFFICE

Date

OCT 27 2015

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.

APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

*(Instructions on page 2)

Carlsbad Controlled Water Basin

Approval Subject to General Requirements
& Special Stipulations Attached

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Mewbourne Oil Company, Red Hills West 21 W1DM Fed Com #3H

Sec 21, T26S, R32E

SL: 185' FNL & 500' FWL

BHL: 330' FSL & 500' FWL

HOBSOCD

OCT 30 2015

1. Geologic Formations

TVD of target	12073'	Pilot hole depth	NA
MD at TD:	16658'	Deepest expected fresh water:	225'

RECEIVED

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface		
Rustler	708		
Top of Salt	1021		
Castile			
Base of Salt	4128		
Lamar	4361	Oil	
Bell Canyon	4398		
Cherry Canyon	5383		
Manzanita Marker	5553		
Brushy Canyon	7016		
Bone Spring	8438	Oil/Gas	
1 st Bone Spring Sand	9378		
2 nd Bone Spring Sand	10030		
3 rd Bone Spring Sand	11520		
Abo			
Wolfcamp	11614	Target Zone	
Devonian			
Fusselman			
Ellenburger			
Granite Wash			

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

Mewbourne Oil Company, Red Hills West 21 W1DM Fed Com #3H
Sec 21, T26S, R32E
SL: 185' FNL & 500' FWL
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2. Casing Program

See COA

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0'	735' 875'	13.375"	48	H40	STC	1.94	4.53	9.13
12.25"	0'	3453'	9.625"	36	J55	LTC	1.13	1.96	2.87
12.25"	3453'	4285'	9.625"	40	J55	LTC	1.15	1.77	15.62
8.75"	0'	11500'	7"	26	HCP110	LTC	1.30	1.67	2.15
8.75"	11500'	12401'	7"	26	HCP110	BTC	1.24	1.59	35.43
6.125"	11500'	16658'	4.5"	13.5	P110	LTC	1.70	1.98	4.84
BLM Minimum Safety Factor							1.125	1	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?	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?	

Mewbourne Oil Company, Red Hills West 21 W1DM Fed Com #3H

Sec 21, T26S, R32E

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3. Cementing Program

Casing	# Sk	Wt. lb/ gal	Yld ft ³ / sack	H ₂ O gal/ sk	500# Comp. Strength (hours)	Slurry Description
Surf.	360	12.5	2.12	11	10	Lead: Class C (35:65:4) + 5% Sodium Chloride +5#/sk LCM +0.25lb/sk Cello-Flake
	200	14.8	1.34	6.3	8	Tail: Class C + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
Inter.	670	12.5	2.12	11	10	Lead: Class C (35:65:4) + 5% Sodium Chloride +5#/sk LCM +0.25lb/sk Cello-Flake
	200	14.8	1.34	6.3	8	Tail: Class C + 0.25 lb/sk Cello Flake + 0.005 lb/sk Static Free
Prod.	520	12.5	2.12	11	9	Lead: 60:40:0 Class C + 15.00 lb/sk BA-90 + 4.00% MPS-5 + 3.00% SMS + 5.00% A-10 + 1.00% BA-10A + 0.80% ASA-301 + 2.90% R-21 + 8.00 lb/sk LCM-1 + 0.005 lb/sk Static Free
	400	15.6	1.18	5.2	10	Tail: Class H + 0.65% FL-52 + 0.10% R-3 + 0.005 lb/sk Static Free
Liner	210	11.2	2.97	18	16	Class C (60:40:0)+4% MPA5+1.2% BA10A+10#/sk BA90+5%A10+0.65%ASA301+1.5%SMS+1.2%R21

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	4085'	25%
Liner	11500'	25%

Mewbourne Oil Company, Red Hills West 21 W1DM Fed Com #3H
Sec 21, T26S, R32E
SL: 185' FNL & 500' FWL
BHL: 330' FSL & 500' FWL

4. Pressure Control Equipment

Variance: None

BOP installed and tested before drilling which hole?	Size?	System Rated WP	Type	✓	Tested to:
<i>See COA</i> 12-1/4"	13-5/8"	3M	Annular	X	1250#
			Blind Ram		<i>must test to 2000 psi</i>
			Pipe Ram		
			Double Ram		
			Other*		
8-3/4"	11"	5M	Annular	X	2500#
			Blind Ram	X	5000#
			Pipe Ram	X	
			Double Ram		
			Other*		
6-1/8"	11"	5M	Annular	X	2500#
			Blind Ram	X	5000#
			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.

Mewbourne Oil Company, Red Hills West 21 W1DM Fed Com #3H

Sec 21, T26S, R32E

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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	735 735 875'	FW Gel	8.6-8.8	28-34	N/C
735	4285	Saturated Brine	10.0	28-34	N/C
4285	11500	Cut Brine	8.6-9.5	28-34	N/C
11500	16658	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
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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	11500'(KOP) to TD
Density	
CBL	

Mewbourne Oil Company, Red Hills West 21 W1DM Fed Com #3H

Sec 21, T26S, R32E

SL: 185' FNL & 500' FWL

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	Mud log	
	PEX	

7. Drilling Conditions

See
COA

Condition	Specify what type and where?
BH Pressure at deepest TVD	5191 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.

See
COA

Hydrogen Sulfide (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S 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.	
☒	H ₂ S is present
X	H ₂ S Plan attached

8. Other facets of operation

Is this a walking operation? If yes, describe. **No**

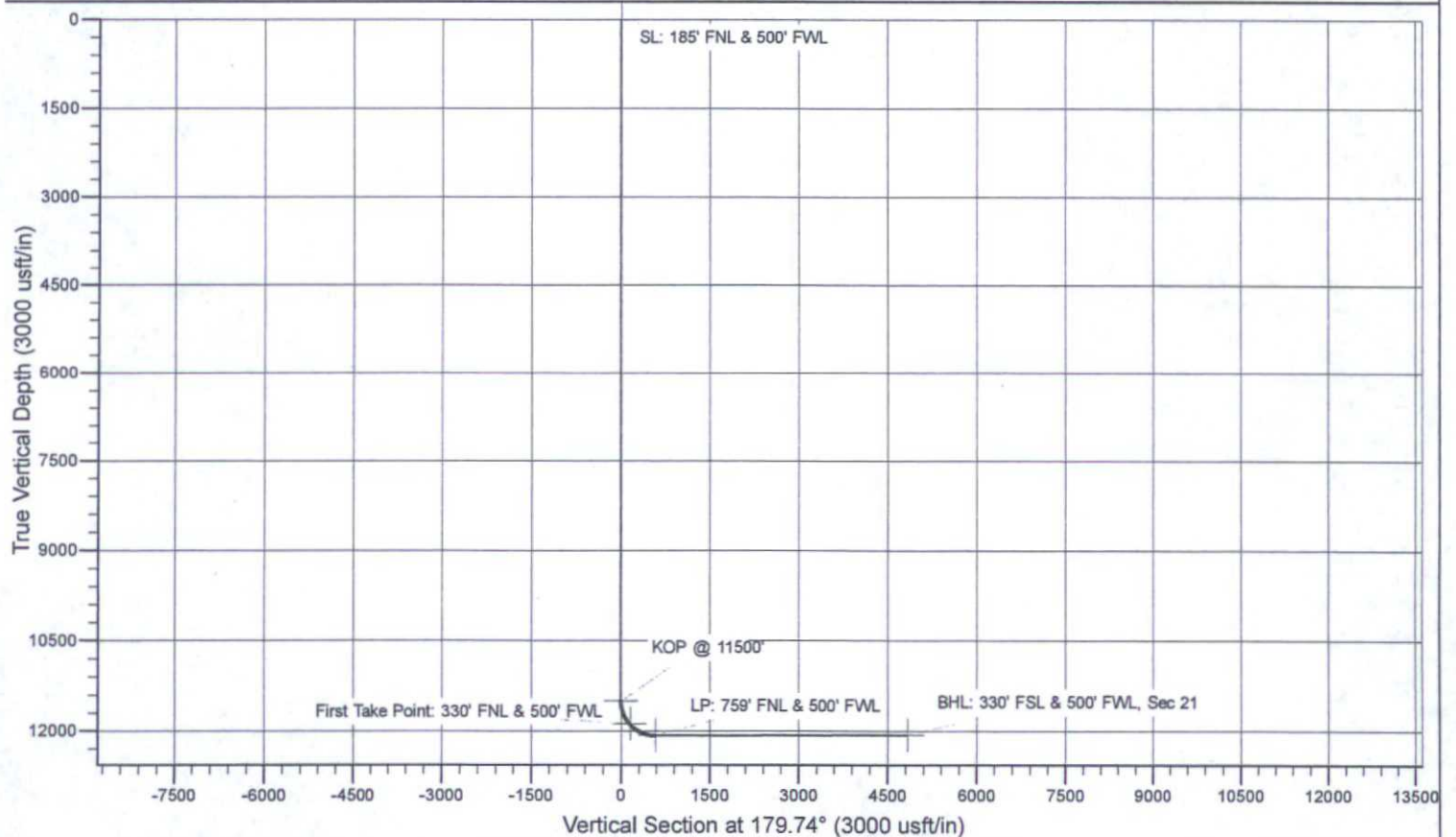
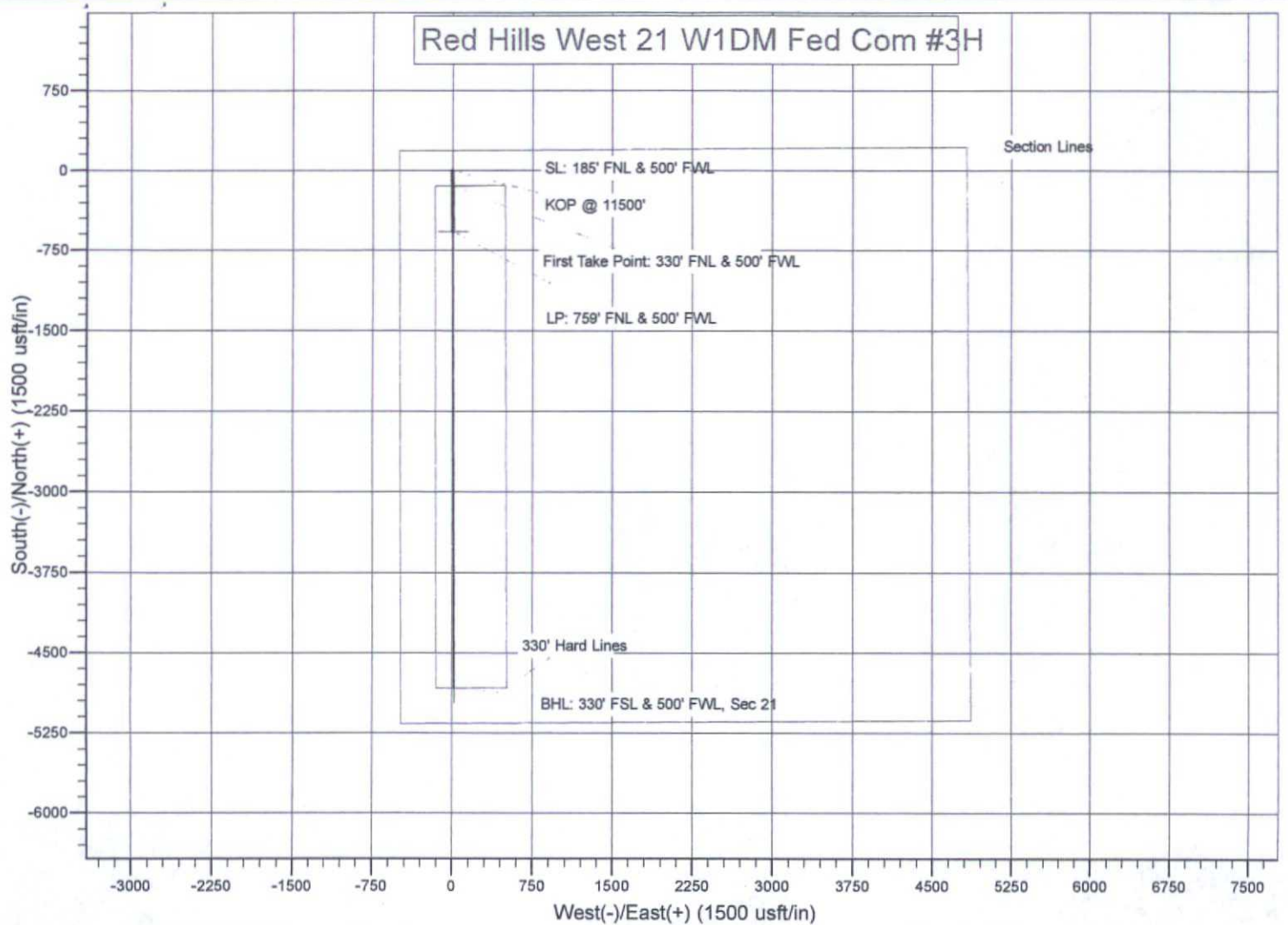
Will be pre-setting casing? If yes, describe. **No**

Attachments

☒ Directional Plan

☐ Other, describe

Red Hills West 21 W1DM Fed Com #3H



Mewbourne Oil Company

Lea County, New Mexico

Red Hills West 21 W1DM Fed Com #3H

Sec 21, T26S, R32E

SL: 185' FNL & 500' FWL

BHL: 330' FSL & 500' FWL

Plan: Design #1

Standard Planning Report

16 July, 2015

Planning Report

Database: Hobbs
 Company: Mewbourne Oil Company
 Project: Lea County, New Mexico
 Site: Red Hills West 21 W1DM Fed Com #3H
 Well: Sec 21, T26S, R32E
 Wellbore: BHL: 330' FSL & 500' FWL
 Design: Design #1

Local Co-ordinate Reference: Site Red Hills West 21 W1DM Fed Com #3H
 TVD Reference: WELL @ 3178.0usft (Original Well Elev)
 MD Reference: WELL @ 3178.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Project	Lea County, New Mexico		
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	Red Hills West 21 W1DM Fed Com #3H				
Site Position:		Northing:	377,031.00 usft	Latitude:	32° 2' 5.722 N
From:	Map	Easting:	700,442.00 usft	Longitude:	103° 41' 11.385 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.34 °

Well	Sec 21, T26S, R32E					
Well Position	+N/-S	0.0 usft	Northing:	377,031.00 usft	Latitude:	32° 2' 5.722 N
	+E/-W	0.0 usft	Easting:	700,442.00 usft	Longitude:	103° 41' 11.385 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	3,178.0 usft	Ground Level:	3,153.0 usft	

Wellbore	BHL: 330' FSL & 500' FWL				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/16/2015	7.12	59.89	48,084

Design	Design #1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	179.74	

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	
11,500.0	0.00	0.00	11,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
12,401.4	90.13	179.74	12,073.0	-574.3	2.6	10.00	10.00	0.00	179.74	
16,658.1	90.13	179.74	12,063.0	-4,831.0	22.0	0.00	0.00	0.00	0.00	BHL: 330' FSL & 500'

Planning Report

Database: Hobbs
 Company: Mewbourne Oil Company
 Project: Lea County, New Mexico
 Site: Red Hills West 21 W1DM Fed Com #3H
 Well: Sec 21, T26S, R32E
 Wellbore: BHL: 330' FSL & 500' FWL
 Design: Design #1

Local Co-ordinate Reference: Site Red Hills West 21 W1DM Fed Com #3H
 TVD Reference: WELL @ 3178.0usft (Original Well Elev)
 MD Reference: WELL @ 3178.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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
SL: 185' FNL & 500' FWL									
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

Planning Report

Database: Hobbs
 Company: Mewbourne Oil Company
 Project: Lea County, New Mexico
 Site: Red Hills West 21 W1DM Fed Com #3H
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 Wellbore: BHL: 330' FSL & 500' FWL
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 Survey Calculation Method: Minimum Curvature

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
7,900.0	0.00	0.00	7,900.0	0.0	0.0	0.0	0.00	0.00	0.00
8,000.0	0.00	0.00	8,000.0	0.0	0.0	0.0	0.00	0.00	0.00
8,100.0	0.00	0.00	8,100.0	0.0	0.0	0.0	0.00	0.00	0.00
8,200.0	0.00	0.00	8,200.0	0.0	0.0	0.0	0.00	0.00	0.00
8,300.0	0.00	0.00	8,300.0	0.0	0.0	0.0	0.00	0.00	0.00
8,400.0	0.00	0.00	8,400.0	0.0	0.0	0.0	0.00	0.00	0.00
8,500.0	0.00	0.00	8,500.0	0.0	0.0	0.0	0.00	0.00	0.00
8,600.0	0.00	0.00	8,600.0	0.0	0.0	0.0	0.00	0.00	0.00
8,700.0	0.00	0.00	8,700.0	0.0	0.0	0.0	0.00	0.00	0.00
8,800.0	0.00	0.00	8,800.0	0.0	0.0	0.0	0.00	0.00	0.00
8,900.0	0.00	0.00	8,900.0	0.0	0.0	0.0	0.00	0.00	0.00
9,000.0	0.00	0.00	9,000.0	0.0	0.0	0.0	0.00	0.00	0.00
9,100.0	0.00	0.00	9,100.0	0.0	0.0	0.0	0.00	0.00	0.00
9,200.0	0.00	0.00	9,200.0	0.0	0.0	0.0	0.00	0.00	0.00
9,300.0	0.00	0.00	9,300.0	0.0	0.0	0.0	0.00	0.00	0.00
9,400.0	0.00	0.00	9,400.0	0.0	0.0	0.0	0.00	0.00	0.00
9,500.0	0.00	0.00	9,500.0	0.0	0.0	0.0	0.00	0.00	0.00
9,600.0	0.00	0.00	9,600.0	0.0	0.0	0.0	0.00	0.00	0.00
9,700.0	0.00	0.00	9,700.0	0.0	0.0	0.0	0.00	0.00	0.00
9,800.0	0.00	0.00	9,800.0	0.0	0.0	0.0	0.00	0.00	0.00
9,900.0	0.00	0.00	9,900.0	0.0	0.0	0.0	0.00	0.00	0.00
10,000.0	0.00	0.00	10,000.0	0.0	0.0	0.0	0.00	0.00	0.00
10,100.0	0.00	0.00	10,100.0	0.0	0.0	0.0	0.00	0.00	0.00
10,200.0	0.00	0.00	10,200.0	0.0	0.0	0.0	0.00	0.00	0.00
10,300.0	0.00	0.00	10,300.0	0.0	0.0	0.0	0.00	0.00	0.00
10,400.0	0.00	0.00	10,400.0	0.0	0.0	0.0	0.00	0.00	0.00
10,500.0	0.00	0.00	10,500.0	0.0	0.0	0.0	0.00	0.00	0.00
10,600.0	0.00	0.00	10,600.0	0.0	0.0	0.0	0.00	0.00	0.00

Planning Report

Database: Hobbs
 Company: Mewbourne Oil Company
 Project: Lea County, New Mexico
 Site: Red Hills West 21 W1DM Fed Com #3H
 Well: Sec 21, T26S, R32E
 Wellbore: BHL: 330' FSL & 500' FWL
 Design: Design #1

Local Co-ordinate Reference: Site Red Hills West 21 W1DM Fed Com #3H
 TVD Reference: WELL @ 3178.0usft (Original Well Elev)
 MD Reference: WELL @ 3178.0usft (Original Well Elev)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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)
10,700.0	0.00	0.00	10,700.0	0.0	0.0	0.0	0.00	0.00	0.00
10,800.0	0.00	0.00	10,800.0	0.0	0.0	0.0	0.00	0.00	0.00
10,900.0	0.00	0.00	10,900.0	0.0	0.0	0.0	0.00	0.00	0.00
11,000.0	0.00	0.00	11,000.0	0.0	0.0	0.0	0.00	0.00	0.00
11,100.0	0.00	0.00	11,100.0	0.0	0.0	0.0	0.00	0.00	0.00
11,200.0	0.00	0.00	11,200.0	0.0	0.0	0.0	0.00	0.00	0.00
11,300.0	0.00	0.00	11,300.0	0.0	0.0	0.0	0.00	0.00	0.00
11,400.0	0.00	0.00	11,400.0	0.0	0.0	0.0	0.00	0.00	0.00
11,500.0	0.00	0.00	11,500.0	0.0	0.0	0.0	0.00	0.00	0.00
KOP @ 11500'									
11,600.0	10.00	179.74	11,599.5	-8.7	0.0	8.7	10.00	10.00	0.00
11,700.0	20.00	179.74	11,696.0	-34.5	0.2	34.5	10.00	10.00	0.00
11,800.0	30.00	179.74	11,786.5	-76.7	0.3	76.7	10.00	10.00	0.00
11,900.0	40.00	179.74	11,868.3	-134.0	0.6	134.0	10.00	10.00	0.00
11,916.8	41.67	179.74	11,881.0	-145.0	0.7	145.0	10.00	10.00	0.00
First Take Point: 330' FNL & 500' FWL									
12,000.0	50.00	179.74	11,938.9	-204.6	0.9	204.6	10.00	10.00	0.00
12,100.0	60.00	179.74	11,996.2	-286.4	1.3	286.4	10.00	10.00	0.00
12,200.0	70.00	179.74	12,038.4	-377.0	1.7	377.0	10.00	10.00	0.00
12,300.0	80.00	179.74	12,064.3	-473.4	2.2	473.4	10.00	10.00	0.00
12,400.0	90.00	179.74	12,073.0	-572.9	2.6	572.9	10.00	10.00	0.00
12,401.4	90.13	179.74	12,073.0	-574.3	2.6	574.3	10.00	10.00	0.00
LP: 759' FNL & 500' FWL									
12,500.0	90.13	179.74	12,072.8	-672.9	3.1	672.9	0.00	0.00	0.00
12,600.0	90.13	179.74	12,072.5	-772.9	3.5	772.9	0.00	0.00	0.00
12,700.0	90.13	179.74	12,072.3	-872.9	4.0	872.9	0.00	0.00	0.00
12,800.0	90.13	179.74	12,072.1	-972.9	4.4	972.9	0.00	0.00	0.00
12,900.0	90.13	179.74	12,071.8	-1,072.9	4.9	1,072.9	0.00	0.00	0.00
13,000.0	90.13	179.74	12,071.6	-1,172.9	5.3	1,172.9	0.00	0.00	0.00
13,100.0	90.13	179.74	12,071.4	-1,272.9	5.8	1,272.9	0.00	0.00	0.00
13,200.0	90.13	179.74	12,071.1	-1,372.9	6.3	1,372.9	0.00	0.00	0.00
13,300.0	90.13	179.74	12,070.9	-1,472.9	6.7	1,472.9	0.00	0.00	0.00
13,400.0	90.13	179.74	12,070.7	-1,572.9	7.2	1,572.9	0.00	0.00	0.00
13,500.0	90.13	179.74	12,070.4	-1,672.9	7.6	1,672.9	0.00	0.00	0.00
13,600.0	90.13	179.74	12,070.2	-1,772.9	8.1	1,772.9	0.00	0.00	0.00
13,700.0	90.13	179.74	12,069.9	-1,872.9	8.5	1,872.9	0.00	0.00	0.00
13,800.0	90.13	179.74	12,069.7	-1,972.9	9.0	1,972.9	0.00	0.00	0.00
13,900.0	90.13	179.74	12,069.5	-2,072.9	9.4	2,072.9	0.00	0.00	0.00
14,000.0	90.13	179.74	12,069.2	-2,172.9	9.9	2,172.9	0.00	0.00	0.00
14,100.0	90.13	179.74	12,069.0	-2,272.9	10.4	2,272.9	0.00	0.00	0.00
14,200.0	90.13	179.74	12,068.8	-2,372.9	10.8	2,372.9	0.00	0.00	0.00
14,300.0	90.13	179.74	12,068.5	-2,472.9	11.3	2,472.9	0.00	0.00	0.00
14,400.0	90.13	179.74	12,068.3	-2,572.9	11.7	2,572.9	0.00	0.00	0.00
14,500.0	90.13	179.74	12,068.1	-2,672.9	12.2	2,672.9	0.00	0.00	0.00
14,600.0	90.13	179.74	12,067.8	-2,772.9	12.6	2,772.9	0.00	0.00	0.00
14,700.0	90.13	179.74	12,067.6	-2,872.9	13.1	2,872.9	0.00	0.00	0.00
14,800.0	90.13	179.74	12,067.4	-2,972.9	13.5	2,972.9	0.00	0.00	0.00
14,900.0	90.13	179.74	12,067.1	-3,072.9	14.0	3,072.9	0.00	0.00	0.00
15,000.0	90.13	179.74	12,066.9	-3,172.9	14.4	3,172.9	0.00	0.00	0.00
15,100.0	90.13	179.74	12,066.7	-3,272.9	14.9	3,272.9	0.00	0.00	0.00
15,200.0	90.13	179.74	12,066.4	-3,372.9	15.4	3,372.9	0.00	0.00	0.00
15,300.0	90.13	179.74	12,066.2	-3,472.9	15.8	3,472.9	0.00	0.00	0.00
15,400.0	90.13	179.74	12,066.0	-3,572.9	16.3	3,572.9	0.00	0.00	0.00

Planning Report

Database: Hobbs
Company: Mewbourne Oil Company
Project: Lea County, New Mexico
Site: Red Hills West 21 W1DM Fed Com #3H
Well: Sec 21, T26S, R32E
Wellbore: BHL: 330' FSL & 500' FWL
Design: Design #1

Local Co-ordinate Reference: Site Red Hills West 21 W1DM Fed Com #3H
TVD Reference: WELL @ 3178.0usft (Original Well Elev)
MD Reference: WELL @ 3178.0usft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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)
15,500.0	90.13	179.74	12,065.7	-3,672.9	16.7	3,672.9	0.00	0.00	0.00
15,600.0	90.13	179.74	12,065.5	-3,772.9	17.2	3,772.9	0.00	0.00	0.00
15,700.0	90.13	179.74	12,065.3	-3,872.9	17.6	3,872.9	0.00	0.00	0.00
15,800.0	90.13	179.74	12,065.0	-3,972.9	18.1	3,972.9	0.00	0.00	0.00
15,900.0	90.13	179.74	12,064.8	-4,072.9	18.5	4,072.9	0.00	0.00	0.00
16,000.0	90.13	179.74	12,064.5	-4,172.9	19.0	4,172.9	0.00	0.00	0.00
16,100.0	90.13	179.74	12,064.3	-4,272.9	19.5	4,272.9	0.00	0.00	0.00
16,200.0	90.13	179.74	12,064.1	-4,372.9	19.9	4,372.9	0.00	0.00	0.00
16,300.0	90.13	179.74	12,063.8	-4,472.9	20.4	4,472.9	0.00	0.00	0.00
16,400.0	90.13	179.74	12,063.6	-4,572.9	20.8	4,572.9	0.00	0.00	0.00
16,500.0	90.13	179.74	12,063.4	-4,672.9	21.3	4,672.9	0.00	0.00	0.00
16,600.0	90.13	179.74	12,063.1	-4,772.9	21.7	4,772.9	0.00	0.00	0.00
16,658.1	90.13	179.74	12,063.0	-4,831.0	22.0	4,831.1	0.00	0.00	0.00

BHL: 330' FSL & 500' FWL, Sec 21

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (")	Dip Dir. (")	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SL: 185' FNL & 500' FWL - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	377,031.00	700,442.00	32° 2' 5.722 N	103° 41' 11.385 W
KOP @ 11500' - plan hits target center - Point	0.00	0.00	11,500.0	0.0	0.0	377,031.00	700,442.00	32° 2' 5.722 N	103° 41' 11.385 W
First Take Point: 330' FN - plan hits target center - Point	0.00	0.00	11,881.0	-145.0	0.7	376,886.00	700,442.70	32° 2' 4.287 N	103° 41' 11.387 W
BHL: 330' FSL & 500' Fv - plan hits target center - Point	0.00	0.00	12,063.0	-4,831.0	22.0	372,200.00	700,464.00	32° 1' 17.913 N	103° 41' 11.466 W
LP: 759' FNL & 500' FWL - plan hits target center - Point	0.00	0.00	12,073.0	-574.3	2.6	376,456.70	700,444.60	32° 2' 0.039 N	103° 41' 11.395 W