

Drilling Program
Mewbourne Oil Company
Marathon Road "14" MD Federal #1H
170' FNL & 810' FWL (SHL)
Sec 23-T20S-R34E
Lea County, New Mexico

1. The estimated tops of geological markers are as follows:

Rustler	1590'
Top of Salt	1960'
Bottom of Salt	3400'
Yates	3590'
Seven Rivers	NP
Queen	NP
Capitan	4050'
Grayburg	NP
San Andreas	NP
*Delaware	5550'
*Bone Springs	8280'

2. Estimated depths of anticipated fresh water, oil, or gas:

Water	Fresh water is anticipated @ 125' and will be protected by setting surface casing at 1625' and cementing to surface.
Hydrocarbons	Oil and gas are anticipated in the above (*) formations. These zones will be protected by casing as necessary.

3. Pressure control equipment:

A 2000# WP Annular will be installed after running 13 3/8" casing. A 3000# WP Double Ram BOP and 3000# WP Annular will be installed after running 7" & 9 5/8" casing. Pressure tests will be conducted prior to drilling out under all casing strings. BOP controls will be installed prior to drilling under surface casing and will remain in use until completion of drilling operations. BOPE will be inspected and operated as recommended in Onshore Order #2. A Kelly cock and a sub equipped with a full opening valve sized to fit the drill pipe and collars will be available on the rig floor in the open position when the Kelly is not in use.
Will test the 7" & 9 5/8" BOPE to 3000# and all annulars to 1500# with a third party testing company before drilling below each shoe, but will test again, if needed, in 30 days from the 1st test as per BLM Onshore Oil and Gas Order #2.

4. MOC proposes to drill a vertical wellbore to 10,484' & kick off to horizontal @10,961' TVD. The well will be drilled to 15,888' MD (10,911' TVD). See attached directional plan.

5. Proposed casing and cementing program:

A. Casing Program:

Hole Size	Casing	Wt/Ft.	Grade	Depth	Jt Type
17 1/2"	13 3/8" (new)	61#	J55	0'-1625' 1645'	BT&C
12 1/4"	9 5/8" (new)	40#	K55	0'-4200'	LT&C
12 1/4"	9 5/8" (new)	40#	HCK55	4200'-5400'	LT&C
8 3/4"	7" (new)	26#	P110	0'-10400' MD	LT&C
8 3/4"	7" (new)	26#	P110	10400'-11275' MD	BT&C
6 1/8"	4 1/2" (new)	11.6#	P110	11000'-15888' MD	LT&C

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

*Subject to availability of casing.

B. Cementing Program:

- i. Surface Casing: 600 sacks *Lite "C" (35:65:4) cement w/salt and lost circulation material additives. Yield at 2.05 cuft/sk. 400 sks class "C" Yield at 1.34 cuft/sk. Cmt circulated to surface w/25% excess.
- ii. Intermediate Casing: 1000 sacks *Lite "C" (35:65:4) cement w/lost circulation material additives. Yield at 2.05 cuft/sk. 400 sks class "C" neat. Yield at 1.33 cuft/sk. Cmt circulated to surface w/25% excess.
- iii. Production Casing: 400 sacks *Lite "H" (35:65:6) cement w/salt and fluid loss additives. Yield at 2.47 cuft/sk. 400 sks class "H" w/salt and fluid loss additives. Yield at 1.18 cuft/sk. Cmt calculated to tieback into intermediate casing @ 4000' w/25% excess.
- iv. 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 lite 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.

*Mewbourne Oil Company reserves the right to change cement designs as hole conditions may warrant.

6. Mud Program:

See
COA

Interval	Type System	Weight	Viscosity	Fluid Loss
0'-1625'	FW spud mud	8.6-9.0	32-34	NA
1625'-5400'	Brine water	10.0-10.2	28-30	NA
5400'-10400'	FW	8.3-8.6	28-30	NA
10400'- TD	FW w/Polymer	8.5-8.7	32-35	15

7. Evaluation Program:

Samples: 10' samples from surface casing to TD
Logging: GR, Neutron, & Gyro from KOP -100' (10400') to surface. GR from 10400' to TD.

8. Downhole Conditions

Zones of abnormal pressure: None anticipated
Zones of lost circulation: Anticipated in surface and intermediate holes
Maximum bottom hole temperature: 135 degree F
Maximum bottom hole pressure: 8.3 lbs/gal gradient or less

9. Anticipated Starting Date:

Mewbourne Oil Company intends to drill this well as soon as possible after receiving approval with approximately 60 days involved in drilling operations and an additional 20 days involved in completion operations on the project.



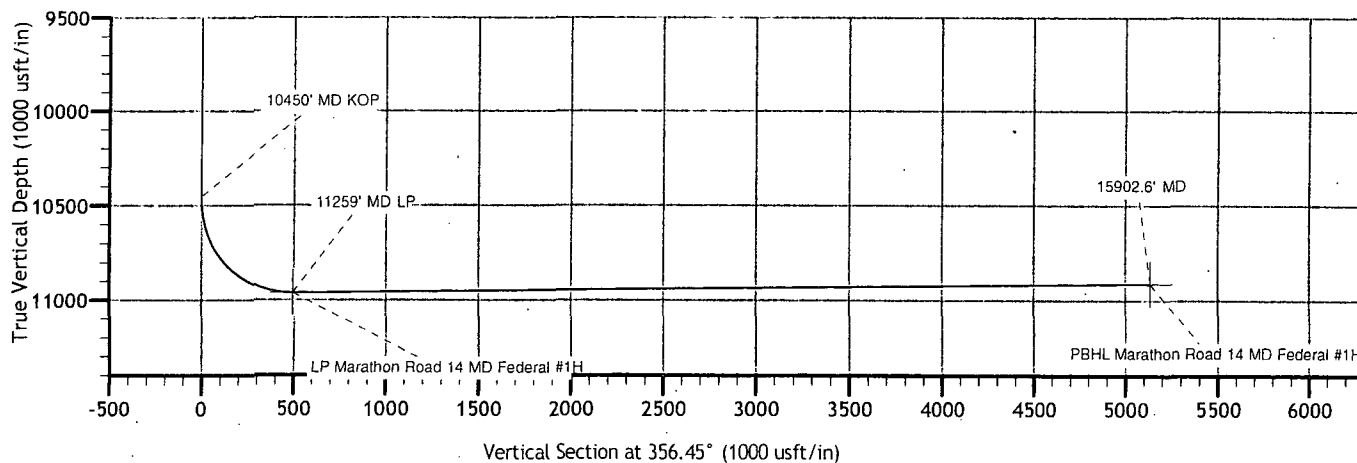
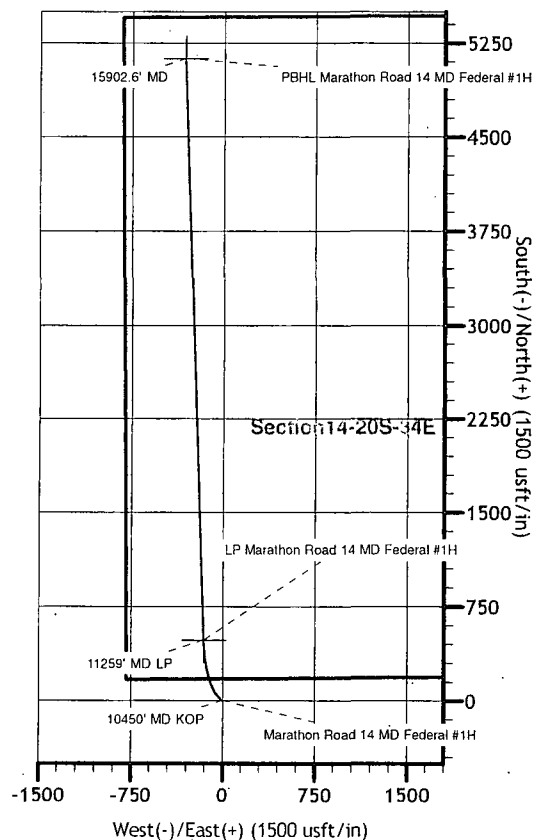
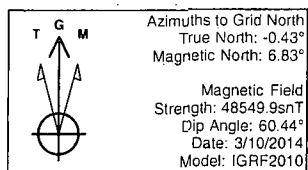
COMPANY: Mewbourne Oil Company
 WELL: Marathon Road 14 MD Federal #1H
 COUNTY: Lea County N.M.
 DATUM: NAD 1927 (NADCON CONUS)
 RIG: Original Well Elev

GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 6.83°



GEODETTIC ZONE: New Mexico East 3001						
GL3651 + 20 @ 3671.0usft (Original Well Elev)						
GROUND ELEVATION: 3651.0						
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	570285.19	745520.43	32° 33' 55.060 N	103° 32' 11.044 W	

PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	10450.0	0.00	0.00	10450.0	0.0	0.0	0.00	0.00	0.0	
3	10680.7	27.85	317.35	10671.7	40.4	-37.2	12.07	317.35	42.7	
4	11259.0	90.62	357.97	10961.0	485.2	-153.8	12.07	43.92	493.8	LP Marathon Road 14 MD Federal #1H
5	15902.6	90.62	357.97	10911.0	5125.5	-318.3	0.00	0.00	5135.4	PBHL Marathon Road 14 MD Federal #1H





**MEWBOURNE
OIL COMPANY**

Mewbourne Oil Company .

Lea County N.M.

Section 14-20S-34E Marathon Road 14 MD

Marathon Road 14 MD Federal #1H

Original Hole

Plan: Plan#1

Standard Planning Report

10 March, 2014





Stryker Directional Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Marathon Road 14 MD Federal #1H
Company:	Mewbourne Oil Company	TVD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Project:	Lea County N.M.	MD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Site:	Section14-20S-34E Marathon Road 14 MD	North Reference:	Grid
Well:	Marathon Road 14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan#1		

Project	Lea County N.M.		
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	Section14-20S-34E Marathon Road 14 MD		
Site Position:	From:	Map	
From:	Map		
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
Northing:	570,285.20 usft	Latitude:	32° 33' 55.060 N
Easting:	745,520.43 usft	Longitude:	103° 32' 11.044 W
Grid Convergence:			0.43 °

Well	Marathon Road 14 MD Federal #1H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	Ground Level:
			3,651.0 usft

Wellbore	Original Hole		
Magnetics	Model Name	Sample Date	Declination
	IGRF2010	3/10/2014	7.26
			Dip Angle
			60.44
			Field Strength
			48,550

Design	Plan#1		
Audit Notes:			
Version:	Phase:	PROTOTYPE	Tie On Depth:
			0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			356.45

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N/-S	+E/-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(usft)	(°)	(°)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,450.0	0.00	0.00	10,450.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,680.7	27.85	317.35	10,671.7	40.4	-37.2	12.07	12.07	0.00	317.35	
11,259.0	90.62	357.97	10,961.0	485.2	-153.8	12.07	10.85	7.02	43.92	LP Marathon Road
15,902.6	90.62	357.97	10,911.0	5,125.5	-318.3	0.00	0.00	0.00	0.00	PBHL Marathon Ro



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Company:	Mewbourne Oil Company	TVD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Project:	Lea County N.M.	MD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Site:	Section14-20S-34E Marathon Road 14 MD	North Reference:	Grid
Well:	Marathon Road 14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan#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
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



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Well:	Marathon Road 14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan#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	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
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



Stryker Directional Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Marathon Road 14 MD Federal #1H
Company:	Mewbourne Oil Company	TVD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Project:	Lea County N.M.	MD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Site:	Section 14-20S-34E Marathon Road 14 MD	North Reference:	Grid
Well:	Marathon Road 14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #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)
10,400.0	0.00	0.00	10,400.0	0.0	0.0	0.0	0.00	0.00	0.00
10,450.0	0.00	0.00	10,450.0	0.0	0.0	0.0	0.00	0.00	0.00
10450' MD KOP									
10,475.0	3.02	317.35	10,475.0	0.5	-0.4	0.5	12.07	12.07	0.00
10,500.0	6.04	317.35	10,499.9	1.9	-1.8	2.0	12.07	12.07	0.00
10,525.0	9.05	317.35	10,524.7	4.3	-4.0	4.6	12.07	12.07	0.00
10,550.0	12.07	317.35	10,549.3	7.7	-7.1	8.1	12.07	12.07	0.00
10,575.0	15.09	317.35	10,573.6	12.0	-11.1	12.7	12.07	12.07	0.00
10,600.0	18.11	317.35	10,597.5	17.3	-15.9	18.2	12.07	12.07	0.00
10,625.0	21.13	317.35	10,621.1	23.5	-21.6	24.8	12.07	12.07	0.00
10,650.0	24.14	317.35	10,644.1	30.5	-28.1	32.2	12.07	12.07	0.00
10,675.0	27.16	317.35	10,666.7	38.5	-35.5	40.6	12.07	12.07	0.00
10,680.7	27.85	317.35	10,671.7	40.4	-37.2	42.7	12.07	12.07	0.00
10,700.0	29.57	320.63	10,688.7	47.4	-43.3	50.0	12.07	8.91	16.97
10,725.0	31.90	324.38	10,710.1	57.6	-51.1	60.6	12.07	9.33	15.00
10,750.0	34.33	327.66	10,731.1	68.9	-58.7	72.4	12.07	9.71	13.13
10,775.0	36.83	330.55	10,751.4	81.4	-66.2	85.3	12.07	10.02	11.57
10,800.0	39.40	333.12	10,771.1	95.0	-73.4	99.4	12.07	10.27	10.28
10,825.0	42.02	335.42	10,790.0	109.7	-80.5	114.5	12.07	10.48	9.20
10,850.0	44.68	337.50	10,808.2	125.4	-87.3	130.6	12.07	10.64	8.31
10,875.0	47.38	339.39	10,825.6	142.1	-94.0	147.7	12.07	10.78	7.56
10,900.0	50.10	341.12	10,842.1	159.8	-100.3	165.7	12.07	10.89	6.93
10,925.0	52.85	342.72	10,857.6	178.4	-106.4	184.7	12.07	10.99	6.39
10,950.0	55.61	344.20	10,872.2	197.9	-112.1	204.4	12.07	11.07	5.94
10,975.0	58.40	345.59	10,885.8	218.1	-117.6	225.0	12.07	11.13	5.56
11,000.0	61.19	346.90	10,898.4	239.1	-122.7	246.2	12.07	11.19	5.24
11,025.0	64.00	348.14	10,909.9	260.8	-127.5	268.2	12.07	11.24	4.96
11,050.0	66.82	349.33	10,920.3	283.1	-131.9	290.7	12.07	11.28	4.73
11,075.0	69.65	350.46	10,929.6	305.9	-136.0	313.8	12.07	11.31	4.54
11,100.0	72.49	351.55	10,937.7	329.3	-139.7	337.3	12.07	11.34	4.37
11,125.0	75.33	352.61	10,944.6	353.1	-143.0	361.2	12.07	11.36	4.24
11,150.0	78.17	353.65	10,950.4	377.2	-145.9	385.5	12.07	11.38	4.13
11,175.0	81.02	354.66	10,954.9	401.7	-148.4	410.1	12.07	11.40	4.04
11,200.0	83.88	355.65	10,958.2	426.4	-150.5	434.9	12.07	11.41	3.98
11,225.0	86.73	356.64	10,960.2	451.2	-152.2	459.8	12.07	11.42	3.94
11,250.0	89.58	357.62	10,961.0	476.2	-153.4	484.8	12.07	11.42	3.92
11,259.0	90.61	357.97	10,961.0	485.2	-153.8	493.8	12.07	11.42	3.91
11259' MD LP									
11,300.0	90.62	357.97	10,960.6	526.1	-155.2	534.7	0.01	0.01	0.00
11,400.0	90.62	357.97	10,959.5	626.1	-158.8	634.7	0.00	0.00	0.00
11,500.0	90.62	357.97	10,958.4	726.0	-162.3	734.7	0.00	0.00	0.00
11,600.0	90.62	357.97	10,957.3	825.9	-165.9	834.6	0.00	0.00	0.00
11,700.0	90.62	357.97	10,956.3	925.9	-169.4	934.6	0.00	0.00	0.00
11,800.0	90.62	357.97	10,955.2	1,025.8	-173.0	1,034.5	0.00	0.00	0.00
11,900.0	90.62	357.97	10,954.1	1,125.7	-176.5	1,134.5	0.00	0.00	0.00
12,000.0	90.62	357.97	10,953.0	1,225.7	-180.0	1,234.5	0.00	0.00	0.00
12,100.0	90.62	357.97	10,951.9	1,325.6	-183.6	1,334.4	0.00	0.00	0.00
12,200.0	90.62	357.97	10,950.9	1,425.5	-187.1	1,434.4	0.00	0.00	0.00
12,300.0	90.62	357.97	10,949.8	1,525.4	-190.7	1,534.3	0.00	0.00	0.00
12,400.0	90.62	357.97	10,948.7	1,625.4	-194.2	1,634.3	0.00	0.00	0.00
12,500.0	90.62	357.97	10,947.6	1,725.3	-197.8	1,734.3	0.00	0.00	0.00
12,600.0	90.62	357.97	10,946.6	1,825.2	-201.3	1,834.2	0.00	0.00	0.00



Stryker Directional Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Marathon Road 14 MD Federal #1H
Company:	Mewbourne Oil Company	TVD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Project:	Lea County N.M.	MD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Site:	Section14-20S-34E Marathon Road 14 MD	North Reference:	Grid
Well:	Marathon Road 14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan#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)
12,700.0	90.62	357.97	10,945.5	1,925.2	-204.8	1,934.2	0.00	0.00	0.00
12,800.0	90.62	357.97	10,944.4	2,025.1	-208.4	2,034.1	0.00	0.00	0.00
12,900.0	90.62	357.97	10,943.3	2,125.0	-211.9	2,134.1	0.00	0.00	0.00
13,000.0	90.62	357.97	10,942.3	2,225.0	-215.5	2,234.0	0.00	0.00	0.00
13,100.0	90.62	357.97	10,941.2	2,324.9	-219.0	2,334.0	0.00	0.00	0.00
13,200.0	90.62	357.97	10,940.1	2,424.8	-222.6	2,434.0	0.00	0.00	0.00
13,300.0	90.62	357.97	10,939.0	2,524.8	-226.1	2,533.9	0.00	0.00	0.00
13,400.0	90.62	357.97	10,937.9	2,624.7	-229.6	2,633.9	0.00	0.00	0.00
13,500.0	90.62	357.97	10,936.9	2,724.6	-233.2	2,733.8	0.00	0.00	0.00
13,600.0	90.62	357.97	10,935.8	2,824.6	-236.7	2,833.8	0.00	0.00	0.00
13,700.0	90.62	357.97	10,934.7	2,924.5	-240.3	2,933.8	0.00	0.00	0.00
13,800.0	90.62	357.97	10,933.6	3,024.4	-243.8	3,033.7	0.00	0.00	0.00
13,900.0	90.62	357.97	10,932.6	3,124.4	-247.4	3,133.7	0.00	0.00	0.00
14,000.0	90.62	357.97	10,931.5	3,224.3	-250.9	3,233.6	0.00	0.00	0.00
14,100.0	90.62	357.97	10,930.4	3,324.2	-254.4	3,333.6	0.00	0.00	0.00
14,200.0	90.62	357.97	10,929.3	3,424.1	-258.0	3,433.6	0.00	0.00	0.00
14,300.0	90.62	357.97	10,928.3	3,524.1	-261.5	3,533.5	0.00	0.00	0.00
14,400.0	90.62	357.97	10,927.2	3,624.0	-265.1	3,633.5	0.00	0.00	0.00
14,500.0	90.62	357.97	10,926.1	3,723.9	-268.6	3,733.4	0.00	0.00	0.00
14,600.0	90.62	357.97	10,925.0	3,823.9	-272.1	3,833.4	0.00	0.00	0.00
14,700.0	90.62	357.97	10,923.9	3,923.8	-275.7	3,933.3	0.00	0.00	0.00
14,800.0	90.62	357.97	10,922.9	4,023.7	-279.2	4,033.3	0.00	0.00	0.00
14,900.0	90.62	357.97	10,921.8	4,123.7	-282.8	4,133.3	0.00	0.00	0.00
15,000.0	90.62	357.97	10,920.7	4,223.6	-286.3	4,233.2	0.00	0.00	0.00
15,100.0	90.62	357.97	10,919.6	4,323.5	-289.9	4,333.2	0.00	0.00	0.00
15,200.0	90.62	357.97	10,918.6	4,423.5	-293.4	4,433.1	0.00	0.00	0.00
15,300.0	90.62	357.97	10,917.5	4,523.4	-296.9	4,533.1	0.00	0.00	0.00
15,400.0	90.62	357.97	10,916.4	4,623.3	-300.5	4,633.1	0.00	0.00	0.00
15,500.0	90.62	357.97	10,915.3	4,723.3	-304.0	4,733.0	0.00	0.00	0.00
15,600.0	90.62	357.97	10,914.3	4,823.2	-307.6	4,833.0	0.00	0.00	0.00
15,700.0	90.62	357.97	10,913.2	4,923.1	-311.1	4,932.9	0.00	0.00	0.00
15,800.0	90.62	357.97	10,912.1	5,023.0	-314.7	5,032.9	0.00	0.00	0.00
15,902.6	90.62	357.97	10,911.0	5,125.5	-318.3	5,135.4	0.00	0.00	0.00
15902.6' MD									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
hi/miss target									
- Shape									
PBHL Marathon Road	0.00	0.00	10,911.0	5,125.5	-318.3	575,410.73	745,202.14	32° 34' 45.800 N	103° 32' 14.315 W
- plan hits target center									
- Point									
LP Marathon Road 14	0.00	0.00	10,961.0	485.2	-153.8	570,770.40	745,366.63	32° 33' 59.873 N	103° 32' 12.799 W
- plan hits target center									
- Point									



Stryker Directional Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Marathon Road 14 MD Federal #1H
Company:	Mewbourne Oil Company	TVD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Project:	Lea County N.M.	MD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Site:	Section14-20S-34E Marathon Road 14 MD	North Reference:	Grid
Well:	Marathon Road 14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan#1		

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,450.0	10,450.0	0.0	0.0	10450' MD KOP
11,259.0	10,961.0	485.2	-153.8	11259' MD LP
15,902.6	10,911.0	5,125.5	-318.3	15902.6' MD



Mewbourne Oil Company .

Lea County N.M.

Section 14-20S-34E Marathon Road 14 MD

Marathon Road 14 MD Federal #1H

Original Hole

Plan: Plan#1

Standard Planning Report - Geographic

10 March, 2014





Stryker Directional Planning Report - Geographic



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Marathon Road 14 MD Federal #1H
Company:	Mewbourne Oil Company	TVD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Project:	Lea County N.M.	MD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Site:	Section14-20S-34E Marathon Road 14 MD	North Reference:	Grid
Well:	Marathon Road 14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan#1		

Project	Lea County N.M.		
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	Section14-20S-34E Marathon Road 14 MD		
Site Position:		Northing:	570,285.20 usft
From:	Map	Easting:	745,520.43 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 33' 55.060 N
		Longitude:	103° 32' 11.044 W
		Grid Convergence:	0.43 °

Well	Marathon Road 14 MD Federal #1H		
Well Position	+N-S	0.0 usft	Northing: 570,285.20 usft
	+E-W	0.0 usft	Easting: 745,520.43 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	Latitude: 32° 33' 55.060 N
			Longitude: 103° 32' 11.044 W
			Ground Level: 3,651.0 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/10/2014	7.26	60.44	48,550

Design	Plan#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	356.45

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	
10,450.0	0.00	0.00	10,450.0	0.0	0.0	0.00	0.00	0.00	0.00	
10,680.7	27.85	317.35	10,671.7	40.4	-37.2	12.07	12.07	0.00	317.35	
11,259.0	90.62	357.97	10,961.0	485.2	-153.8	12.07	10.85	7.02	43.92	LP Marathon Road
15,902.6	90.62	357.97	10,911.0	5,125.5	-318.3	0.00	0.00	0.00	0.00	PBHL Marathon Ro



Stryker Directional

Planning Report - Geographic



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Marathon Road 14 MD Federal #1H
Company:	Mewbourne Oil Company	TVD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Project:	Lea County N.M.	MD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Site:	Section 14-20S-34E Marathon Road 14 MD	North Reference:	Grid
Well:	Marathon Road 14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan#1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
100.0	0.00	0.00	100.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
200.0	0.00	0.00	200.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
300.0	0.00	0.00	300.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
400.0	0.00	0.00	400.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
500.0	0.00	0.00	500.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
600.0	0.00	0.00	600.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
700.0	0.00	0.00	700.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
800.0	0.00	0.00	800.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
900.0	0.00	0.00	900.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
2,100.0	0.00	0.00	2,100.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
2,200.0	0.00	0.00	2,200.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
2,300.0	0.00	0.00	2,300.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
2,400.0	0.00	0.00	2,400.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
2,500.0	0.00	0.00	2,500.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
2,600.0	0.00	0.00	2,600.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
2,700.0	0.00	0.00	2,700.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
2,800.0	0.00	0.00	2,800.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
2,900.0	0.00	0.00	2,900.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
3,000.0	0.00	0.00	3,000.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
3,100.0	0.00	0.00	3,100.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
3,200.0	0.00	0.00	3,200.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
3,300.0	0.00	0.00	3,300.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
3,400.0	0.00	0.00	3,400.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
3,500.0	0.00	0.00	3,500.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
3,600.0	0.00	0.00	3,600.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
3,700.0	0.00	0.00	3,700.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
3,800.0	0.00	0.00	3,800.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
3,900.0	0.00	0.00	3,900.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
4,000.0	0.00	0.00	4,000.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
4,100.0	0.00	0.00	4,100.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
4,200.0	0.00	0.00	4,200.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
4,300.0	0.00	0.00	4,300.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
4,400.0	0.00	0.00	4,400.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
4,500.0	0.00	0.00	4,500.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
4,600.0	0.00	0.00	4,600.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
4,700.0	0.00	0.00	4,700.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
4,800.0	0.00	0.00	4,800.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
4,900.0	0.00	0.00	4,900.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
5,000.0	0.00	0.00	5,000.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
5,100.0	0.00	0.00	5,100.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
5,200.0	0.00	0.00	5,200.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W



Stryker Directional Planning Report - Geographic



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Marathon Road 14 MD Federal #1H
Company:	Mewbourne Oil Company	TVD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Project:	Lea County N.M.	MD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Site:	Section14-20S-34E Marathon Road 14 MD	North Reference:	Grid:
Well:	Marathon Road 14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan#1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,300.0	0.00	0.00	5,300.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
5,400.0	0.00	0.00	5,400.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
5,500.0	0.00	0.00	5,500.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
5,600.0	0.00	0.00	5,600.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
5,700.0	0.00	0.00	5,700.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
5,800.0	0.00	0.00	5,800.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
5,900.0	0.00	0.00	5,900.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
6,000.0	0.00	0.00	6,000.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
6,100.0	0.00	0.00	6,100.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
6,200.0	0.00	0.00	6,200.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
6,300.0	0.00	0.00	6,300.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
6,400.0	0.00	0.00	6,400.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
6,500.0	0.00	0.00	6,500.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
6,600.0	0.00	0.00	6,600.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
6,700.0	0.00	0.00	6,700.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
6,800.0	0.00	0.00	6,800.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
6,900.0	0.00	0.00	6,900.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
7,000.0	0.00	0.00	7,000.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
7,100.0	0.00	0.00	7,100.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
7,200.0	0.00	0.00	7,200.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
7,300.0	0.00	0.00	7,300.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
7,400.0	0.00	0.00	7,400.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
7,500.0	0.00	0.00	7,500.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
7,600.0	0.00	0.00	7,600.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
7,700.0	0.00	0.00	7,700.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
7,800.0	0.00	0.00	7,800.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
7,900.0	0.00	0.00	7,900.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
8,000.0	0.00	0.00	8,000.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
8,100.0	0.00	0.00	8,100.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
8,200.0	0.00	0.00	8,200.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
8,300.0	0.00	0.00	8,300.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
8,400.0	0.00	0.00	8,400.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
8,500.0	0.00	0.00	8,500.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
8,600.0	0.00	0.00	8,600.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
8,700.0	0.00	0.00	8,700.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
8,800.0	0.00	0.00	8,800.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
8,900.0	0.00	0.00	8,900.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
9,000.0	0.00	0.00	9,000.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
9,100.0	0.00	0.00	9,100.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
9,200.0	0.00	0.00	9,200.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
9,300.0	0.00	0.00	9,300.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
9,400.0	0.00	0.00	9,400.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
9,500.0	0.00	0.00	9,500.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
9,600.0	0.00	0.00	9,600.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
9,700.0	0.00	0.00	9,700.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
9,800.0	0.00	0.00	9,800.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
9,900.0	0.00	0.00	9,900.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
10,000.0	0.00	0.00	10,000.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
10,100.0	0.00	0.00	10,100.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
10,200.0	0.00	0.00	10,200.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
10,300.0	0.00	0.00	10,300.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
10,400.0	0.00	0.00	10,400.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W



Stryker Directional

Planning Report - Geographic



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Marathon Road 14 MD Federal #1H
Company:	Mewbourne Oil Company	TVD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Project:	Lea County N.M.	MD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Site:	Section 14-20S-34E Marathon Road 14 MD	North Reference:	Grid
Well:	Marathon Road-14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,450.0	0.00	0.00	10,450.0	0.0	0.0	570,285.20	745,520.43	32° 33' 55.060 N	103° 32' 11.044 W
10450' MD KOP									
10,475.0	3.02	317.35	10,475.0	0.5	-0.4	570,285.68	745,519.98	32° 33' 55.065 N	103° 32' 11.050 W
10,500.0	6.04	317.35	10,499.9	1.9	-1.8	570,287.13	745,518.64	32° 33' 55.080 N	103° 32' 11.065 W
10,525.0	9.05	317.35	10,524.7	4.3	-4.0	570,289.55	745,516.42	32° 33' 55.104 N	103° 32' 11.091 W
10,550.0	12.07	317.35	10,549.3	7.7	-7.1	570,292.92	745,513.31	32° 33' 55.137 N	103° 32' 11.127 W
10,575.0	15.09	317.35	10,573.6	12.0	-11.1	570,297.23	745,509.34	32° 33' 55.180 N	103° 32' 11.173 W
10,600.0	18.11	317.35	10,597.5	17.3	-15.9	570,302.49	745,504.50	32° 33' 55.233 N	103° 32' 11.229 W
10,625.0	21.13	317.35	10,621.1	23.5	-21.6	570,308.66	745,498.81	32° 33' 55.294 N	103° 32' 11.295 W
10,650.0	24.14	317.35	10,644.1	30.5	-28.1	570,315.73	745,492.30	32° 33' 55.365 N	103° 32' 11.370 W
10,675.0	27.16	317.35	10,666.7	38.5	-35.5	570,323.69	745,484.96	32° 33' 55.444 N	103° 32' 11.455 W
10,680.7	27.85	317.35	10,671.7	40.4	-37.2	570,325.62	745,483.19	32° 33' 55.463 N	103° 32' 11.476 W
10,700.0	29.57	320.63	10,688.7	47.4	-43.3	570,332.63	745,477.10	32° 33' 55.533 N	103° 32' 11.546 W
10,725.0	31.90	324.38	10,710.1	57.6	-51.1	570,342.77	745,469.34	32° 33' 55.634 N	103° 32' 11.636 W
10,750.0	34.33	327.66	10,731.1	68.9	-58.7	570,354.09	745,461.72	32° 33' 55.746 N	103° 32' 11.724 W
10,775.0	36.83	330.55	10,751.4	81.4	-66.2	570,366.58	745,454.27	32° 33' 55.871 N	103° 32' 11.810 W
10,800.0	39.40	333.12	10,771.1	95.0	-73.4	570,380.18	745,446.99	32° 33' 56.006 N	103° 32' 11.894 W
10,825.0	42.02	335.42	10,790.0	109.7	-80.5	570,394.87	745,439.92	32° 33' 56.152 N	103° 32' 11.975 W
10,850.0	44.68	337.50	10,808.2	125.4	-87.3	570,410.61	745,433.08	32° 33' 56.308 N	103° 32' 12.054 W
10,875.0	47.38	339.39	10,825.6	142.1	-94.0	570,427.34	745,426.47	32° 33' 56.474 N	103° 32' 12.130 W
10,900.0	50.10	341.12	10,842.1	159.8	-100.3	570,445.03	745,420.13	32° 33' 56.649 N	103° 32' 12.202 W
10,925.0	52.85	342.72	10,857.6	178.4	-106.4	570,463.62	745,414.07	32° 33' 56.834 N	103° 32' 12.272 W
10,950.0	55.61	344.20	10,872.2	197.9	-112.1	570,483.06	745,408.30	32° 33' 57.027 N	103° 32' 12.337 W
10,975.0	58.40	345.59	10,885.8	218.1	-117.6	570,503.30	745,402.84	32° 33' 57.227 N	103° 32' 12.399 W
11,000.0	61.19	346.90	10,898.4	239.1	-122.7	570,524.29	745,397.71	32° 33' 57.435 N	103° 32' 12.457 W
11,025.0	64.00	348.14	10,909.9	260.8	-127.5	570,545.96	745,392.92	32° 33' 57.650 N	103° 32' 12.511 W
11,050.0	66.82	349.33	10,920.3	283.1	-131.9	570,568.25	745,388.48	32° 33' 57.871 N	103° 32' 12.561 W
11,075.0	69.65	350.46	10,929.6	305.9	-136.0	570,591.11	745,384.41	32° 33' 58.097 N	103° 32' 12.607 W
11,100.0	72.49	351.55	10,937.7	329.3	-139.7	570,614.46	745,380.71	32° 33' 58.329 N	103° 32' 12.648 W
11,125.0	75.33	352.61	10,944.6	353.1	-143.0	570,638.25	745,377.41	32° 33' 58.564 N	103° 32' 12.685 W
11,150.0	78.17	353.65	10,950.4	377.2	-145.9	570,662.41	745,374.50	32° 33' 58.804 N	103° 32' 12.716 W
11,175.0	81.02	354.66	10,954.9	401.7	-148.4	570,686.87	745,372.00	32° 33' 59.046 N	103° 32' 12.744 W
11,200.0	83.88	355.65	10,958.2	426.4	-150.5	570,711.56	745,369.90	32° 33' 59.290 N	103° 32' 12.766 W
11,225.0	86.73	356.64	10,960.2	451.2	-152.2	570,736.41	745,368.23	32° 33' 59.536 N	103° 32' 12.783 W
11,250.0	89.58	357.62	10,961.0	476.2	-153.4	570,761.37	745,366.98	32° 33' 59.783 N	103° 32' 12.796 W
11,259.0	90.61	357.97	10,961.0	485.2	-153.8	570,770.36	745,366.63	32° 33' 59.872 N	103° 32' 12.799 W
11259' MD LP									
11,300.0	90.62	357.97	10,960.6	526.1	-155.2	570,811.33	745,365.18	32° 34' 0.278 N	103° 32' 12.812 W
11,400.0	90.62	357.97	10,959.5	626.1	-158.8	570,911.26	745,361.64	32° 34' 1.267 N	103° 32' 12.845 W
11,500.0	90.62	357.97	10,958.4	726.0	-162.3	571,011.19	745,358.09	32° 34' 2.256 N	103° 32' 12.878 W
11,600.0	90.62	357.97	10,957.3	825.9	-165.9	571,111.13	745,354.55	32° 34' 3.245 N	103° 32' 12.910 W
11,700.0	90.62	357.97	10,956.3	925.9	-169.4	571,211.06	745,351.01	32° 34' 4.234 N	103° 32' 12.943 W
11,800.0	90.62	357.97	10,955.2	1,025.8	-173.0	571,310.99	745,347.47	32° 34' 5.223 N	103° 32' 12.976 W
11,900.0	90.62	357.97	10,954.1	1,125.7	-176.5	571,410.92	745,343.92	32° 34' 6.212 N	103° 32' 13.008 W
12,000.0	90.62	357.97	10,953.0	1,225.7	-180.0	571,510.85	745,340.38	32° 34' 7.201 N	103° 32' 13.041 W
12,100.0	90.62	357.97	10,951.9	1,325.6	-183.6	571,610.78	745,336.84	32° 34' 8.190 N	103° 32' 13.074 W
12,200.0	90.62	357.97	10,950.9	1,425.5	-187.1	571,710.71	745,333.30	32° 34' 9.180 N	103° 32' 13.106 W
12,300.0	90.62	357.97	10,949.8	1,525.4	-190.7	571,810.65	745,329.75	32° 34' 10.169 N	103° 32' 13.139 W
12,400.0	90.62	357.97	10,948.7	1,625.4	-194.2	571,910.58	745,326.21	32° 34' 11.158 N	103° 32' 13.172 W
12,500.0	90.62	357.97	10,947.6	1,725.3	-197.8	572,010.51	745,322.67	32° 34' 12.147 N	103° 32' 13.204 W
12,600.0	90.62	357.97	10,946.6	1,825.2	-201.3	572,110.44	745,319.13	32° 34' 13.136 N	103° 32' 13.237 W
12,700.0	90.62	357.97	10,945.5	1,925.2	-204.8	572,210.37	745,315.58	32° 34' 14.125 N	103° 32' 13.270 W



Stryker Directional

Planning Report - Geographic



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Marathon Road 14 MD Federal #1H
Company:	Mewbourne Oil Company	TVD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Project:	Lea County N.M.	MD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Site:	Section 14-20S-34E Marathon Road 14 MD	North Reference:	Grid
Well:	Marathon Road 14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/S (usft)	+E/W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,800.0	90.62	357.97	10,944.4	2,025.1	-208.4	572,310.30	745,312.04	32° 34' 15.114 N	103° 32' 13.302 W
12,900.0	90.62	357.97	10,943.3	2,125.0	-211.9	572,410.23	745,308.50	32° 34' 16.103 N	103° 32' 13.335 W
13,000.0	90.62	357.97	10,942.3	2,225.0	-215.5	572,510.17	745,304.96	32° 34' 17.092 N	103° 32' 13.367 W
13,100.0	90.62	357.97	10,941.2	2,324.9	-219.0	572,610.10	745,301.41	32° 34' 18.081 N	103° 32' 13.400 W
13,200.0	90.62	357.97	10,940.1	2,424.8	-222.6	572,710.03	745,297.87	32° 34' 19.070 N	103° 32' 13.433 W
13,300.0	90.62	357.97	10,939.0	2,524.8	-226.1	572,809.96	745,294.33	32° 34' 20.059 N	103° 32' 13.465 W
13,400.0	90.62	357.97	10,937.9	2,624.7	-229.6	572,909.89	745,290.79	32° 34' 21.048 N	103° 32' 13.498 W
13,500.0	90.62	357.97	10,936.9	2,724.6	-233.2	573,009.82	745,287.24	32° 34' 22.037 N	103° 32' 13.531 W
13,600.0	90.62	357.97	10,935.8	2,824.6	-236.7	573,109.75	745,283.70	32° 34' 23.027 N	103° 32' 13.563 W
13,700.0	90.62	357.97	10,934.7	2,924.5	-240.3	573,209.69	745,280.16	32° 34' 24.016 N	103° 32' 13.596 W
13,800.0	90.62	357.97	10,933.6	3,024.4	-243.8	573,309.62	745,276.62	32° 34' 25.005 N	103° 32' 13.629 W
13,900.0	90.62	357.97	10,932.6	3,124.4	-247.4	573,409.55	745,273.08	32° 34' 25.994 N	103° 32' 13.661 W
14,000.0	90.62	357.97	10,931.5	3,224.3	-250.9	573,509.48	745,269.53	32° 34' 26.983 N	103° 32' 13.694 W
14,100.0	90.62	357.97	10,930.4	3,324.2	-254.4	573,609.41	745,265.99	32° 34' 27.972 N	103° 32' 13.727 W
14,200.0	90.62	357.97	10,929.3	3,424.1	-258.0	573,709.34	745,262.45	32° 34' 28.961 N	103° 32' 13.759 W
14,300.0	90.62	357.97	10,928.3	3,524.1	-261.5	573,809.27	745,258.91	32° 34' 29.950 N	103° 32' 13.792 W
14,400.0	90.62	357.97	10,927.2	3,624.0	-265.1	573,909.21	745,255.36	32° 34' 30.939 N	103° 32' 13.825 W
14,500.0	90.62	357.97	10,926.1	3,723.9	-268.6	574,009.14	745,251.82	32° 34' 31.928 N	103° 32' 13.857 W
14,600.0	90.62	357.97	10,925.0	3,823.9	-272.1	574,109.07	745,248.28	32° 34' 32.917 N	103° 32' 13.890 W
14,700.0	90.62	357.97	10,923.9	3,923.8	-275.7	574,209.00	745,244.74	32° 34' 33.906 N	103° 32' 13.923 W
14,800.0	90.62	357.97	10,922.9	4,023.7	-279.2	574,308.93	745,241.19	32° 34' 34.895 N	103° 32' 13.955 W
14,900.0	90.62	357.97	10,921.8	4,123.7	-282.8	574,408.86	745,237.65	32° 34' 35.884 N	103° 32' 13.988 W
15,000.0	90.62	357.97	10,920.7	4,223.6	-286.3	574,508.80	745,234.11	32° 34' 36.874 N	103° 32' 14.021 W
15,100.0	90.62	357.97	10,919.6	4,323.5	-289.9	574,608.73	745,230.57	32° 34' 37.863 N	103° 32' 14.053 W
15,200.0	90.62	357.97	10,918.6	4,423.5	-293.4	574,708.66	745,227.02	32° 34' 38.852 N	103° 32' 14.086 W
15,300.0	90.62	357.97	10,917.5	4,523.4	-296.9	574,808.59	745,223.48	32° 34' 39.841 N	103° 32' 14.119 W
15,400.0	90.62	357.97	10,916.4	4,623.3	-300.5	574,908.52	745,219.94	32° 34' 40.830 N	103° 32' 14.151 W
15,500.0	90.62	357.97	10,915.3	4,723.3	-304.0	575,008.45	745,216.40	32° 34' 41.819 N	103° 32' 14.184 W
15,600.0	90.62	357.97	10,914.3	4,823.2	-307.6	575,108.38	745,212.85	32° 34' 42.808 N	103° 32' 14.217 W
15,700.0	90.62	357.97	10,913.2	4,923.1	-311.1	575,208.32	745,209.31	32° 34' 43.797 N	103° 32' 14.249 W
15,800.0	90.62	357.97	10,912.1	5,023.0	-314.7	575,308.25	745,205.77	32° 34' 44.786 N	103° 32' 14.282 W
15,902.6	90.62	357.97	10,911.0	5,125.5	-318.3	575,410.73	745,202.14	32° 34' 45.800 N	103° 32' 14.315 W
15902.6 MD									

Design Targets									
Target Name	hit/miss target	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/S (usft)	+E/W (usft)	Northing (usft)	Easting (usft)	Latitude Longitude
PBHL Marathon Road	- plan hits target center	0.00	0.00	10,911.0	5,125.5	-318.3	575,410.73	745,202.14	32° 34' 45.800 N 103° 32' 14.315 W
	- Point								
LP Marathon Road 14	- plan hits target center	0.00	0.00	10,961.0	485.2	-153.8	570,770.40	745,366.63	32° 33' 59.873 N 103° 32' 12.799 W
	- Point								



Stryker Directional

Planning Report - Geographic



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Company:	Mewbourne Oil Company	TVD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Project:	Lea County N.M.	MD Reference:	GL3651 + 20 @ 3671.0usft (Original Well Elev)
Site:	Section14-20S-34E Marathon Road 14 MD	North Reference:	Grid
Well:	Marathon Road 14 MD Federal #1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Hole		
Design:	Plan#1		

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
10,450.0	10,450.0	0.0	0.0	10450' MD KOP
11,259.0	10,961.0	485.2	-153.8	11259' MD LP
15,902.6	10,911.0	5,125.5	-318.3	15902.6' MD

CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Mewbourne Oil Company
LEASE NO.:	NMMN-78273
WELL NAME & NO.:	Marathon Road 14 MD Federal 1H
SURFACE HOLE FOOTAGE:	0170' FNL & 0810' FWL
BOTTOM HOLE FOOTAGE:	0330' FNL & 0660' FWL Sec. 14, T. 20 S., R 34 E.
LOCATION:	Section 23, T. 20 S., R 34 E., NMPM
COUNTY:	Lea County, New Mexico

The original COAs still stand with the following drilling modifications:

I. DRILLING

A. DRILLING OPERATIONS 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)

☒ **Lea County**

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 393-3612

1. **Hydrogen Sulfide (H₂S) monitors shall be installed prior to drilling out the surface shoe. If H₂S is encountered in quantities greater than 10 PPM the well shall be shut in and H₂S equipment shall be installed and flare line must be extended pursuant to Onshore Oil and Gas Order #6. After detection, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items.**
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) 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.

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. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. 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.

Secretary's Potash

Capitan Reef

Possibility of lost circulation in the Red Beds, Capitan Reef, Delaware, and Bone Spring Formations.

1. The **13-3/8** inch surface casing shall be set at approximately **1645** feet (in a **competent bed below the Magenta Dolomite, which is a Member of the Rustler**) 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.

Special Capitan Reef requirements:

If any lost circulation occurs below the Base of the Salt, the operator shall do the following:

- **Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.**
 - **Operator to submit the following:**
 1. **Mud volume every eight hours.**
 2. **Rate of penetration every eight hours.**
 3. **Report any lost circulation per 24 hour period, even if circulation is reestablished. Operator shall switch to fresh water mud at first lost circulation below Base of Salt.**
 4. **Deviation of hole.**
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 potash.**

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

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

☒ Cement should tie-back as proposed by operator. Operator shall provide method of verification.

4. The minimum required fill of cement behind the 4-1/2 inch production Liner is:

☒ Cement not required – Packer/Port system to be used.

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. **In the case where the only BOP installed is an annular preventer, it shall be tested to a minimum of 2000 psi (which may require upgrading to 3M or 5M annular).**

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M) psi**.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** intermediate casing shoe shall be **3000 (3M) psi**.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

a. 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.

b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

- c. 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.
- d. The results of the test shall be reported to the appropriate BLM office.
- e. 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.**
- f. 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.

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.

JAM 051214