

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

EMNRD-OCD ARTESIA

REC'D: 4/15/2020

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☒ AMENDED REPORT

As Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-46295		² Pool Code 60660		³ Pool Name Turkey Track; Bone spring	
⁴ Property Code 326123		⁵ Property Name SAPPHIRE 11/12 B3EF STATE COM			
⁷ OGRID NO. 14744		⁸ Operator Name MEWBOURNE OIL COMPANY			
⁹ Elevation 3364'					
¹⁰ Surface Location					
UL or lot no. E	Section 11	Township 19S	Range 29E	Lot Idn	Feet from the 1495
				North/South line NORTH	Feet From the 360
				East/West line WEST	County EDDY
¹¹ Bottom Hole Location If Different From Surface					
UL or lot no. F	Section 12	Township 19S	Range 29E	Lot Idn	Feet from the 1986
				North/South line NORTH	Feet from the 2550
				East/West line WEST	County EDDY
¹² Dedicated Acres 240		¹³ Joint or Infill		¹⁴ Consolidation Code	
¹⁵ Order No.					

No allowable will be assigned to this completion until all interest have been consolidated or a non-standard unit has been approved by the division.

¹⁶ CORNER DATA NAD 83 GRID - NM EAST A: FOUND 1/2" REBAR N: 606848.2 - E: 627266.7 B: FOUND 1/2" REBAR N: 612102.4 - E: 627248.6 C: FOUND 12"x5"x9" LIMESTONE ROCK N: 612112.8 - E: 629887.6 D: FOUND 1/2" REBAR N: 612096.5 - E: 632531.2 E: FOUND 1/2" REBAR N: 612083.0 - E: 635199.6 F: FOUND BRASS CAP "1916" N: 612069.4 - E: 637838.3 G: FOUND BRASS CAP "1916" N: 609427.4 - E: 637829.9 H: FOUND BRASS CAP "1916" N: 606787.6 - E: 637820.9 I: FOUND 1" IRON PIPE N: 606817.4 - E: 632546.4 J: FOUND 1/2" REBAR N: 606833.5 - E: 629906.6		17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling agreement heretofore entered by the division. Signature: <u>Ruby Caballero</u> Date: <u>3/19/20</u> Printed Name: <u>Ruby Caballero</u> E-mail Address: <u>rcaballero@mewbourne.com</u>
18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 9-17-2019 Date of Survey Signature and Seal of Professional Surveyor: <u>Robert M. Howett</u> Certificate Number: 19680		

Job No: LS19090901

Intent ☐ As Drilled ☒

API #
30-015-46295

Operator Name: Mewbourne Oil Company	Property Name: Sapphire 11/12 B3EF St Com	Well Number 2H
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Kick Off Point (KOP)

UL E	Section 11	Township 19S	Range 29E	Lot	Feet 1803	From N/S N	Feet 20	From E/W W	County Eddy
Latitude 32.6774569					Longitude -104.0540394			NAD 83	

First Take Point (FTP)

UL E	Section 11	Township 19S	Range 29E	Lot	Feet 1909	From N/S N	Feet 375	From E/W W	County Eddy
Latitude 32.6771572					Longitude -104.0528617			NAD 83	

Last Take Point (LTP)

UL F	Section 12	Township 19S	Range 29E	Lot	Feet 1986	From N/S N	Feet 241	From E/W W	County Eddy
Latitude 32.6768347					Longitude -104.0287939			NAD 83	

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

Is this well an infill well? ☐

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

API #		
Operator Name:	Property Name:	Well Number



February 5, 2020

New Mexico Energy, Minerals and Natural Resources Department
Attn: Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

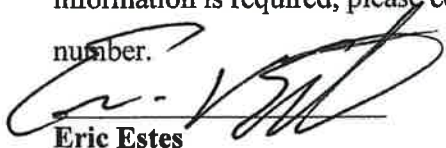
Attn: Jackie Lathan

Re: Mewbourne Oil Company
Sapphire 11 12 B3EF State Com #002H
Turkey Track; Bone Spring
Eddy County, New Mexico
API# 30-015-46295

Enclosed please find the original and one (1) copy of the survey performed on the reference well by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C. Other information required by your office is as follows:

<u>Name & Title</u>	<u>Drainhole No.</u>	<u>Survey Depths</u>	<u>Dates Performed</u>	<u>Type Survey</u>
Noah Tullos	Original Hole	155ft. to 16,595ft.	11-05-19 to 11-22-19	MWD Survey

A certified plat on which the bottom-hole location is oriented to both surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.


Eric Estes

Enclosures

CC:

Mewbourne Oil Company
Attn: Frosty Lathan
P.O. Box 5720
Hobbs, NM 88241

Mewbourne Oil Company
Attn: Robin Terrell
P.O. Box 5720
Hobbs, NM 88241

NMEMaNRD\Mewbourne Oil Company\Sapphire 11 12 B3EF State Com #2H\M191201

STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.
P.O. Box 1250
Montgomery, TX 77356
Office (936) 582-7296 * Fax (936)-588-4163



February 5, 2020

Survey Certification Report

STATE OF TEXAS
COUNTY OF Montgomery

I, Eric Estes, certify that I am employed by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C., and that I did on the day(s) of November 5, 2019, through November 22, 2019 conduct or supervise the taking of a SEDS Original Hole MWD Survey from a depth of 155feet to a depth of 16,595feet; that I am authorized and qualified to make this report; that this survey was conducted at the request of Mewbourne Oil Company, for the Sapphire 11 12 B3EF State Com #002H, well API # **30-015-46295** in Eddy County, New Mexico; and that I have reviewed this report and find that it conforms to the principles as set forth by STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

A handwritten signature in black ink, appearing to read "Eric Estes", is written over a horizontal line.

Eric Estes

STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.
P.O. Box 1250
Montgomery, TX 77356
Office (936) 582-7296 * Fax (936)-588-4163



OCD Permitting

[Home](#) > [Searches](#) > [Wells](#) > [Well Details](#)

30-015-46295 SAPPHIRE 11 12 B3EF STATE COM #002H [326123]

General Well Information

Operator:	[14744] MEWBOURNE OIL CO	Direction:	Horizontal
Status:	New	Multi-Lateral:	No
Well Type:	Oil	Mineral Owner:	State
Work Type:	New	Surface Owner:	
Surface Location:	E-11-19S-29E 1495 FNL 360 FWL		
Lat/Long:	32.6782958,-104.0529289 NAD83		
GL Elevation:	3364	Sing/Mult Compl:	Single
KB Elevation:		Potash Waiver:	False
DF Elevation:			

Proposed Formation and/or Notes

3RD BONE SPRING SAND

Depths

Proposed:	16656	True Vertical Depth:	0
Measured Vertical Depth:	0	Plugback Measured:	0

Formation Tops

Formation	Top	Producing	Method Obtained
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Event Dates

Initial APD Approval:	09/23/2019	Current APD Expiration:	09/24/2021
Most Recent APD Approval:	09/24/2019		
APD Cancellation:			
APD Extension Approval:		Gas Capture Plan Received:	09/23/2019
Spud:		TA Expiration:	
Approved Temporary Abandonment:			
Shut In:		PNR Expiration:	
Plug and Abandoned Intent Received:		Last MIT/BHT:	
Well Plugged:			
Site Release:			
Last Inspection:			

History

Effective Date	Property	Well Number	Operator	C-101 Work Type	Well Type	Well Status	Apd Cancelled	Plug Date
09/24/2019	[326123] SAPPHIRE 11 12 B3EF STATE COM	#002H	[14744] MEWBOURNE OIL CO	New	Oil	New		

Comments



Searches ▾

Operator Data ▾

Hearing Fee Application

Company: [14744] MEWBOURNE OIL CO
 Address: P.O. Box 5270
 Hobbs, NM 88241
 Country: U.S.A.

Main Phone: 575-393-5905
 Main Fax: 575-393-7259

Central Contact

Name: Robin Terrell
 Title: Hobbs Distric Manager
 E-Mail Address: rterrell@mewbourne.com

Phone Number: 575-393-5905
 Cell Number: 575-390-4816
 Fax Number: 575-393-7259

Hobbs Contact

Name: Robin Terrell
 Title:
 E-Mail Address: rterrell@mewbourne.com

Phone Number: 575-393-5905
 Cell Number: 575-390-4816
 Fax Number: 575-393-7259

Artesia Contact

Name: Robin Terrell
 Title:
 E-Mail Address: rterrell@mewbourne.com

Phone Number: 575-393-5905
 Cell Number: 575-390-4816
 Fax Number: 575-393-7259

Pits

Pit On Site: Number 1

Pit Type: Closed Loop
 Registration Denied:
 Closure Approved:
 Closure Denied:

Status: Active

Event Dates

Registered:
 Open: 09/23/2019

Approved: 09/23/2019
 Closed (most recent rig release):

Notes

Date	Detail
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Casing

No Casing Found

Well Completions

[50660] TURKEY TRACK; BONE SPRING

Status: New, Not Drilled
 Bottomhole Location: F-12-19S-29E 1980 FNL 2557 FWL
 Lat/Long: 32.6786509,-104.0286235 NAD83
 Acreage: 240 11-19S-29E Units: E F G H
 12-19S-29E Units: E F

Last Produced:

DHC:

Consolidation Code:
 Production Method:

Well Test Data

Qui

- [Gene](#)
- [Histo](#)
- [Comu](#)
- [Quest](#)
- [Pita](#)
- [Cank](#)
- [Well](#)
- [Flow](#)
- [Com](#)
- [Com](#)
- [Orde](#)
- [Prod](#)
- [Trans](#)
- [Point](#)

Ast

- [Well](#)
- [Well](#)
- [Well](#)

New

- [New](#)
- [New](#)
- [New](#)
- [New](#)



Stryker Energy Directional Services

Survey Report Landscape



Company: Newbourn Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 11 12-19S-29E Sapphire
Well: Sapphire 11/12 B3EF State Com #2H
Wellbore: Original Hole
Design: As Drilled

Local Co-ordinate Reference:
TVD Reference: 3384+27 @ 3391.0usft (Patterson 217)
MD Reference: 3384+27 @ 3391.0usft (Patterson 217)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Well Sapphire 11/12 B3EF State Com #2H
3384+27 @ 3391.0usft (Patterson 217)
3384+27 @ 3391.0usft (Patterson 217)
Grid
Minimum Curvature
EDM5000

Project: Eddy County, N.M. Nad (83)
Map System: US State Plane 1983
Geo Datum: North American Datum 1983
Map Zone: New Mexico Eastern Zone

System Datum: Mean Sea Level

Site: Section 11 12-19S-29E Sapphire

Site Position: Northing: 610,639.20 usft Latitude: 32° 40' 42.162 N
From: Easting: 627,613.50 usft Longitude: 104° 3' 10.545 W
Position Uncertainty: Map Slot Radius: 13-3/16 " Grid Convergence: 0.15 °

Well: Sapphire 11/12 B3EF State Com #2H

Well Position: +N-S 0.0 usft Northing: 610,608.10 usft Latitude: 32° 40' 41.865 N
Well Position: +E-W 0.0 usft Easting: 627,613.70 usft Longitude: 104° 3' 10.544 W
Position Uncertainty: 0.0 usft Wellhead Elevation: 27.0 usft Ground Level: 3,364.0 usft

Wellbore: Original Hole

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/03/19	6.96	60.37	47,919.48164221

Design: As Drilled

Audit Notes:	Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)		
	0.0	0.0	0.0	93.90		

Survey Program	From (usft)	To (usft)	Date	12/03/19	Survey (Wellbore)	Tool Name	Description
	155.0	16,630.0	Stryker Surveys (Original Hole)	MWD	MWD v3:standard declination		



Stryker Energy Directional Services

Survey Report Landscape



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 11 12-19S-29E Sapphire
Well: Sapphire 11/12 BSEF State Com #2H
Wellbore: Original Hole
Design: As Drilled

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Sapphire 11/12 BSEF State Com #2H
3364+27 @ 3391.0usft (Patterson 217)
3364+27 @ 3381.0usft (Patterson 217)
Grid
Minimum Curvature
EDM5000

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	D Leg (°/100usft)	Northing (usft)	Easting (usft)
	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.0	0.00	610,609.10	627,613.70
	155.0	0.10	77.50	155.0	0.0	0.1	0.1	77.50	0.06	610,608.13	627,613.83
	233.0	0.20	72.50	233.0	0.1	0.3	0.3	75.50	0.13	610,609.18	627,614.03
	412.0	0.20	253.00	412.0	0.1	0.3	0.3	75.03	0.22	610,609.19	627,614.03
	592.0	0.10	335.90	592.0	0.1	0.0	0.1	345.09	0.12	610,609.24	627,613.66
	741.0	0.30	338.60	741.0	0.8	-0.2	0.7	338.48	0.13	610,609.72	627,613.47
	931.0	0.10	38.00	931.0	1.2	-0.3	1.3	345.60	0.14	610,610.31	627,613.39
	1,120.0	0.40	55.10	1,120.0	1.7	0.3	1.8	10.87	0.16	610,610.82	627,614.03
	1,309.0	0.30	100.30	1,309.0	2.0	1.4	2.4	34.04	0.15	610,611.11	627,615.06
	1,370.0	0.30	59.30	1,370.0	2.1	1.7	2.6	38.69	0.34	610,611.16	627,615.35
	1,439.0	1.50	227.90	1,439.0	1.6	1.1	1.9	36.28	2.60	610,610.65	627,614.84
	1,535.0	3.90	225.00	1,534.9	-1.6	-2.1	2.6	232.73	2.50	610,607.50	627,611.60
	1,629.0	4.30	217.50	1,628.6	-6.7	-6.5	9.3	224.36	0.71	610,602.44	627,607.19
	1,818.0	4.50	231.50	1,817.1	-16.9	-16.6	23.7	224.54	0.58	610,592.21	627,597.08
	2,007.0	4.60	233.80	2,005.5	-26.0	-28.5	38.6	227.69	0.11	610,583.11	627,585.16
	2,195.0	4.10	234.70	2,192.9	-34.3	-40.1	52.8	228.45	0.27	610,574.78	627,573.59
	2,383.0	3.80	230.30	2,380.5	-42.2	-50.4	65.7	230.07	0.23	610,566.92	627,563.31
	2,573.0	4.00	230.50	2,570.1	-50.4	-60.3	78.6	230.12	0.11	610,558.88	627,553.35
	2,761.0	4.00	231.40	2,757.6	-58.7	-70.5	91.8	230.24	0.03	610,550.42	627,543.17
	2,950.0	4.10	235.10	2,946.1	-66.7	-81.2	105.1	230.62	0.15	610,542.44	627,532.47
	3,140.0	4.20	230.20	3,135.6	-75.0	-92.1	118.8	230.85	0.19	610,534.10	627,521.56
	3,328.0	4.00	234.70	3,323.1	-83.2	-102.8	132.2	231.01	0.20	610,525.90	627,510.92
	3,517.0	4.30	227.60	3,511.7	-91.8	-113.4	145.9	231.01	0.31	610,517.32	627,500.31
	3,703.0	4.10	228.60	3,697.2	-100.9	-123.5	159.5	230.76	0.11	610,508.22	627,490.17
	3,890.0	3.40	229.50	3,883.8	-108.9	-132.8	171.7	230.64	0.38	610,500.19	627,480.94
	4,077.0	3.50	229.80	4,070.4	-116.2	-141.3	183.0	230.58	0.05	610,492.91	627,472.38
	4,266.0	3.10	230.80	4,259.1	-123.1	-149.7	193.8	230.56	0.21	610,485.95	627,463.99



Stryker Energy Directional Services

Survey Report Landscape



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 11 12-19S-29E Sapphire
Well: Sapphire 11/12 B3EF State Com #2H
Wellbore: Original Hole
Design: As Drilled

Local Co-ordinate Reference:
TVD Reference: 3364+27 @ 3391.0usft (Patterson 217)
MD Reference: 3364+27 @ 3391.0usft (Patterson 217)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Well Sapphire 11/12 B3EF State Com #2H
3364+27 @ 3391.0usft (Patterson 217)
3364+27 @ 3391.0usft (Patterson 217)
Grid
Minimum Curvature
EDM5000

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
4,455.0	3.50	216.60	4,447.8	-131.0	-157.1	204.6	230.18	0.48	610,478.09	627,456.59
4,645.0	3.10	221.10	4,637.5	-139.5	-163.9	215.3	229.60	0.25	610,469.57	627,449.76
4,835.0	2.90	213.60	4,827.2	-147.4	-170.0	225.0	229.07	0.23	610,461.69	627,443.72
5,024.0	4.10	226.10	5,015.9	-156.1	-177.5	236.4	228.67	0.75	610,453.02	627,436.21
5,213.0	4.20	225.80	5,204.4	-165.6	-187.3	250.0	228.52	0.05	610,443.51	627,426.38
5,402.0	3.80	228.20	5,392.9	-174.6	-197.0	263.2	228.45	0.23	610,434.51	627,416.75
5,592.0	3.30	226.90	5,582.5	-182.5	-205.6	275.0	228.41	0.27	610,426.58	627,408.06
5,779.0	4.40	239.50	5,769.1	-189.8	-215.8	287.4	228.66	0.74	610,419.26	627,397.95
5,968.0	3.90	236.80	5,957.6	-197.0	-227.4	300.9	229.09	0.28	610,412.06	627,386.32
6,158.0	3.60	233.30	6,147.2	-204.1	-237.6	313.2	229.33	0.20	610,404.86	627,376.13
6,347.0	3.30	226.50	6,335.9	-211.4	-246.3	324.6	229.35	0.27	610,397.67	627,367.43
6,535.0	2.90	230.30	6,523.6	-218.2	-253.9	334.7	229.32	0.24	610,390.91	627,359.85
6,724.0	4.80	232.50	6,712.2	-226.1	-263.8	347.4	229.41	1.01	610,383.04	627,349.89
6,912.0	3.30	227.30	6,899.7	-234.5	-274.0	360.7	229.44	0.82	610,374.58	627,339.68
7,100.0	3.20	218.50	7,087.4	-242.3	-281.3	371.2	229.28	0.27	610,366.80	627,332.43
7,280.0	3.60	219.30	7,277.1	-251.1	-288.3	382.3	228.95	0.21	610,358.04	627,325.35
7,479.0	3.30	217.50	7,465.7	-260.0	-295.4	393.5	228.65	0.17	610,349.13	627,318.28
7,669.0	4.90	230.60	7,655.2	-269.5	-305.0	407.0	228.54	0.97	610,339.64	627,308.68
7,858.0	5.00	225.10	7,843.5	-280.4	-317.1	423.3	228.51	0.26	610,328.70	627,296.61
8,047.0	4.10	222.10	8,031.9	-291.2	-327.5	438.2	228.35	0.49	610,317.88	627,286.25
8,236.0	3.10	219.30	8,220.5	-300.2	-335.2	450.0	228.16	0.54	610,308.91	627,278.48
8,425.0	1.20	233.10	8,409.4	-305.3	-340.0	457.0	228.08	1.03	610,303.76	627,273.66
8,479.0	1.20	233.10	8,463.4	-306.0	-340.9	458.1	228.09	0.00	610,303.09	627,272.76
8,526.0	5.50	135.50	8,510.3	-307.9	-339.8	458.5	227.81	12.30	610,301.18	627,273.94
8,574.0	12.00	127.50	8,557.7	-312.6	-334.2	457.6	226.91	13.74	610,298.50	627,279.52
8,621.0	18.30	124.70	8,603.1	-319.8	-324.2	455.4	225.40	13.49	610,289.32	627,269.47
8,669.0	22.00	117.60	8,648.1	-328.2	-310.1	451.5	223.37	9.23	610,280.86	627,303.64



Stryker Energy Directional Services

Survey Report Landscape



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 11 12-19S-29E Sapphire
Well: Sapphire 11/12 B3EF State Com #2H
Wellbore: Original Hole
Design: As Drilled

Local Co-ordinate Reference:
TVD Reference: 3364+27 @ 3391.0usft (Patterson 217)
MD Reference: 3364+27 @ 3391.0usft (Patterson 217)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
	8,716.0	27.60	110.20	8,690.8	-336.1	-292.0	445.2	220.99	13.60	610,273.01	627,321.68
	8,763.0	33.10	105.30	8,731.3	-343.2	-269.4	436.3	218.13	12.82	610,265.86	627,344.30
	8,810.0	37.50	101.20	8,769.7	-349.4	-243.0	425.6	214.81	10.63	610,259.69	627,370.73
	8,858.0	42.30	101.60	8,806.5	-355.5	-212.8	414.3	210.90	10.01	610,253.60	627,400.90
	8,905.0	46.70	103.30	8,840.0	-362.6	-180.6	405.1	208.48	9.70	610,246.48	627,433.05
	8,952.0	51.60	105.20	8,870.8	-371.4	-146.2	399.1	201.49	10.86	610,237.71	627,487.49
	8,999.0	56.70	105.20	8,898.3	-381.4	-109.5	396.8	196.01	10.85	610,227.73	627,504.24
	9,047.0	62.20	104.90	8,922.7	-392.1	-69.6	398.2	190.06	11.47	610,217.00	627,544.15
	9,094.0	67.20	104.70	8,942.8	-402.9	-28.5	404.0	184.04	10.65	610,206.15	627,585.22
	9,142.0	72.80	104.00	8,959.2	-414.1	15.2	414.4	177.90	11.75	610,194.98	627,628.90
	9,189.0	76.90	103.20	8,971.4	-424.8	59.3	428.9	172.05	8.88	610,184.32	627,672.98
	9,236.0	81.00	103.30	8,980.4	-435.4	104.2	447.6	166.54	8.73	610,173.75	627,717.88
	9,289.0	83.50	103.10	8,984.9	-442.8	136.0	463.2	162.93	7.60	610,166.28	627,749.71
	9,359.0	90.20	97.30	8,989.8	-458.7	224.4	510.6	153.94	9.84	610,150.40	627,838.07
	9,454.0	89.50	98.70	8,990.1	-471.9	318.4	569.3	145.99	1.65	610,137.18	627,932.14
	9,549.0	87.90	98.60	8,992.3	-486.2	412.3	637.5	139.70	1.69	610,122.89	628,026.03
	9,643.0	87.70	97.90	8,995.9	-499.7	505.3	710.6	134.68	0.77	610,109.42	628,118.99
	9,737.0	87.80	96.90	8,999.5	-511.8	598.4	787.4	130.54	1.07	610,097.32	628,212.13
	9,832.0	87.60	95.50	9,003.4	-522.0	692.8	867.5	127.00	1.49	610,087.07	628,306.50
	9,926.0	87.60	93.30	9,007.3	-529.2	786.4	947.9	123.94	2.34	610,079.86	628,400.13
	10,021.0	87.40	90.90	9,011.4	-532.7	881.3	1,029.8	121.15	2.53	610,076.38	628,494.97
	10,115.0	87.30	88.20	9,015.8	-532.0	975.2	1,110.8	118.61	2.87	610,077.12	628,588.86
	10,210.0	88.10	87.50	9,019.6	-528.4	1,070.0	1,193.4	116.28	1.12	610,080.68	628,683.71
	10,304.0	88.70	87.80	9,022.2	-524.6	1,163.9	1,276.6	114.28	0.71	610,084.54	628,777.60
	10,399.0	88.70	88.00	9,024.4	-521.1	1,258.8	1,352.4	112.49	0.21	610,088.02	628,872.51
	10,494.0	88.50	88.20	9,026.7	-517.9	1,353.7	1,449.4	110.94	0.30	610,091.17	628,967.43
	10,588.0	88.50	88.00	9,029.2	-514.8	1,447.6	1,536.5	109.58	0.21	610,094.28	629,061.35



Stryker Energy Directional Services

Survey Report Landscape



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 11 12-19S-29E Sapphires
Well: Sapphires 11/12 B3EF State Com #2H
Wellbore: Original Hole
Design: As Drilled

Local Co-ordinate Reference:
TVD Reference: 3384+27 @ 3391.0usft (Patterson 217)
MD Reference: 3364+27 @ 3391.0usft (Patterson 217)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Well Sapphires 11/12 B3EF State Com #2H
3384+27 @ 3391.0usft (Patterson 217)
3364+27 @ 3391.0usft (Patterson 217)
Grid
Minimum Curvature
EDM5000

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
	10,682.0	88.50	88.30	9,031.6	-511.8	1,541.6	1,624.3	108.37	0.32	610,097.31	629,155.26
	10,777.0	88.40	87.80	9,034.2	-508.6	1,636.5	1,713.7	107.26	0.54	610,100.55	629,250.17
	10,871.0	88.60	88.20	9,036.7	-505.3	1,730.4	1,802.6	106.28	0.48	610,103.83	629,344.08
	10,966.0	88.40	88.40	9,039.1	-502.5	1,825.3	1,893.2	105.39	0.30	610,106.64	629,439.01
	11,061.0	88.70	89.10	9,041.5	-500.4	1,920.3	1,984.4	104.61	0.80	610,108.71	629,533.96
	11,155.0	88.70	89.30	9,043.7	-499.1	2,014.2	2,075.1	103.92	0.21	610,110.03	629,627.92
	11,250.0	88.70	89.20	9,045.8	-497.8	2,109.2	2,167.1	103.28	0.11	610,111.27	629,722.89
	11,344.0	88.70	89.20	9,048.0	-496.5	2,203.2	2,258.4	102.70	0.00	610,112.58	629,816.88
	11,439.0	87.60	89.20	9,051.0	-495.2	2,298.1	2,350.8	102.16	1.16	610,113.91	629,911.80
	11,534.0	87.10	89.20	9,055.4	-493.9	2,393.0	2,443.4	101.66	0.53	610,115.23	630,006.69
	11,628.0	89.70	89.10	9,058.1	-492.5	2,486.9	2,535.2	101.20	2.77	610,116.63	630,100.63
	11,723.0	90.60	89.30	9,057.8	-491.1	2,581.9	2,628.2	100.77	0.97	610,117.95	630,195.62
	11,817.0	89.80	89.50	9,057.5	-490.2	2,675.9	2,720.4	100.38	0.88	610,118.94	630,289.61
	11,911.0	88.70	89.70	9,058.7	-489.5	2,769.9	2,812.8	100.02	1.19	610,119.59	630,383.60
	12,005.0	88.50	90.50	9,061.0	-489.7	2,863.9	2,905.4	99.70	0.88	610,119.43	630,477.57
	12,099.0	88.80	90.80	9,062.4	-490.7	2,957.9	2,998.3	99.42	1.42	610,118.36	630,571.55
	12,193.0	90.30	91.30	9,062.3	-492.5	3,051.8	3,091.3	99.17	0.75	610,116.64	630,665.54
	12,288.0	88.80	92.20	9,063.1	-495.4	3,146.8	3,185.5	98.95	1.84	610,113.74	630,760.49
	12,383.0	88.10	91.40	9,065.6	-498.3	3,241.7	3,279.8	98.74	1.12	610,110.76	630,855.40
	12,477.0	88.60	89.80	9,068.3	-499.3	3,335.7	3,372.8	98.51	1.78	610,109.77	630,949.36
	12,572.0	91.10	89.70	9,068.6	-498.9	3,430.6	3,466.7	98.27	2.63	610,110.19	631,044.35
	12,667.0	92.20	90.40	9,065.8	-499.0	3,525.6	3,560.7	98.06	1.37	610,110.10	631,139.31
	12,761.0	87.70	90.10	9,065.9	-498.4	3,619.6	3,653.9	97.86	4.80	610,109.69	631,233.28
	12,856.0	86.10	90.50	9,071.1	-499.9	3,714.4	3,747.9	97.67	1.74	610,109.20	631,328.14
	12,951.0	86.10	90.60	9,077.5	-500.8	3,809.2	3,842.0	97.49	0.11	610,108.29	631,422.91
	13,045.0	86.00	90.50	9,084.0	-501.7	3,903.0	3,935.1	97.32	0.15	610,107.39	631,516.69
	13,140.0	87.10	90.10	9,089.7	-502.2	3,997.8	4,029.2	97.16	1.23	610,106.89	631,611.51



Stryker Energy Directional Services

Survey Report Landscape



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 11 12-19S-29E Sapphire
Well: Sapphire 11/12 B3EF State Com #2H
Wellbore: Original Hole
Design: As Drilled

Local Co-ordinate Reference:
TVD Reference: 3364+27 @ 3391.0usft (Patterson 217)
MD Reference: 3364+27 @ 3391.0usft (Patterson 217)
Survey Calculation Method: Grid
Database: Minimum Curvature EDM5000

Well Sapphire 11/12 B3EF State Com #2H
3364+27 @ 3391.0usft (Patterson 217)
3364+27 @ 3391.0usft (Patterson 217)
Grid
Minimum Curvature
EDM5000

Survey	MD (usft)	Inc (°)	Azi (azimuth)	TVD (usft)	N/S (usft)	EW (usft)	Closure Distance (usft)	Closure Azimuth (°)	D Leg (°/100usft)	Northing (usft)	Easting (usft)
	13,235.0	88.40	90.30	9,093.5	-502.5	4,092.7	4,123.5	97.00	1.38	610,106.56	631,706.43
	13,330.0	88.40	90.20	9,096.1	-503.0	4,187.7	4,217.8	96.85	0.11	610,106.15	631,801.40
	13,425.0	88.10	90.40	9,099.0	-503.5	4,282.7	4,312.1	96.70	0.38	610,105.65	631,896.35
	13,519.0	88.00	90.20	9,102.2	-503.9	4,376.6	4,405.5	96.57	0.24	610,105.16	631,990.29
	13,614.0	88.10	90.20	9,105.4	-504.3	4,471.5	4,499.9	96.43	0.11	610,104.83	632,085.24
	13,709.0	88.20	90.50	9,108.5	-504.9	4,566.5	4,594.3	96.31	0.33	610,104.25	632,180.19
	13,803.0	88.10	90.30	9,111.5	-505.5	4,660.4	4,687.8	96.19	0.24	610,103.59	632,274.14
	13,897.0	88.30	90.20	9,114.5	-505.9	4,754.4	4,781.2	96.07	0.24	610,103.18	632,368.09
	13,992.0	88.90	90.30	9,116.8	-506.3	4,849.4	4,875.7	95.96	0.64	610,102.77	632,463.06
	14,086.0	88.00	90.00	9,119.4	-506.6	4,943.3	4,969.2	95.85	1.01	610,102.52	632,557.02
	14,181.0	88.20	90.20	9,122.5	-506.7	5,038.3	5,063.7	95.74	0.30	610,102.35	632,651.97
	14,275.0	88.30	90.30	9,125.4	-507.2	5,132.2	5,157.2	95.64	0.15	610,101.94	632,745.93
	14,369.0	88.50	90.40	9,128.0	-507.7	5,226.2	5,250.8	95.55	0.24	610,101.37	632,839.89
	14,464.0	88.30	90.50	9,130.7	-508.5	5,321.1	5,345.4	95.46	0.24	610,100.62	632,934.85
	14,559.0	88.30	90.10	9,133.5	-509.0	5,416.1	5,440.0	95.37	0.42	610,100.13	633,029.80
	14,654.0	88.10	90.00	9,136.5	-509.1	5,511.1	5,534.5	95.28	0.24	610,100.04	633,124.76
	14,749.0	88.10	90.00	9,139.6	-509.1	5,606.0	5,629.1	95.19	0.00	610,100.04	633,219.71
	14,843.0	88.30	90.30	9,142.6	-509.3	5,700.0	5,722.7	95.11	0.38	610,099.80	633,313.66
	14,938.0	88.40	90.30	9,145.3	-509.8	5,794.9	5,817.3	95.03	0.11	610,099.30	633,408.62
	15,033.0	88.60	90.00	9,147.8	-510.0	5,889.9	5,911.9	94.95	0.38	610,099.05	633,503.58
	15,128.0	88.80	90.40	9,149.9	-510.4	5,984.9	6,006.6	94.87	0.47	610,098.72	633,598.56
	15,223.0	88.60	90.00	9,152.1	-510.7	6,079.8	6,101.2	94.80	0.47	610,098.39	633,693.53
	15,317.0	88.70	90.30	9,154.3	-511.0	6,173.8	6,194.9	94.73	0.34	610,098.14	633,787.51
	15,410.0	88.60	90.00	9,156.5	-511.2	6,266.8	6,287.6	94.66	0.34	610,097.90	633,880.48
	15,503.0	88.70	90.10	9,158.7	-511.3	6,359.8	6,380.3	94.60	0.15	610,097.82	633,973.46
	15,596.0	88.70	90.00	9,160.8	-511.4	6,452.7	6,473.0	94.53	0.11	610,097.74	634,066.43
	15,689.0	88.70	90.00	9,162.9	-511.4	6,545.7	6,565.7	94.47	0.00	610,097.74	634,159.41



Stryker Energy Directional Services

Survey Report Landscape



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nod (83)
Site: Section 11 12-19S-29E Sapphire
Well: Sapphire 11/12 B3EF State Com #2H
Wellbore: Original Hole
Design: As Drilled

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Sapphire 11/12 B3EF State Com #2H
3384+27 @ 3391.0ustf (Patterson 217)
3384+27 @ 3391.0ustf (Patterson 217)
Grid
Minimum Curvature
EDM5000

Survey	MD (ustf)	Inc (°)	Azi (azimuth) (°)	TVD (ustf)	N/S (ustf)	E/W (ustf)	Closure Distance (ustf)	Closure Azimuth (°)	D Leg (°/100ustf)	Northing (ustf)	Easting (ustf)
	15,784.0	88.80	90.00	9,165.0	-511.4	6,640.7	6,660.3	94.40	0.11	810,097.74	634,254.38
	15,879.0	88.60	90.30	9,167.1	-511.6	6,735.7	6,755.1	94.34	0.38	810,097.49	634,349.36
	15,973.0	88.90	90.10	9,169.2	-511.9	6,829.6	6,848.8	94.29	0.38	810,097.16	634,443.34
	16,068.0	88.90	90.30	9,171.0	-512.3	6,924.6	6,943.5	94.23	0.21	810,096.83	634,538.32
	16,163.0	88.80	90.00	9,172.9	-512.5	7,019.6	7,038.3	94.18	0.33	810,096.58	634,633.30
	16,257.0	89.00	90.10	9,174.7	-512.6	7,113.6	7,132.0	94.12	0.24	810,096.50	634,727.28
	16,351.0	88.70	89.90	9,176.6	-512.6	7,207.6	7,225.8	94.07	0.38	810,096.50	634,821.26
	16,446.0	88.90	89.60	9,178.5	-512.2	7,302.5	7,320.5	94.01	0.38	810,096.91	634,916.24
	16,540.0	89.00	89.30	9,180.3	-511.3	7,396.5	7,414.2	93.95	0.34	810,097.81	635,010.22
	16,595.0	89.00	89.90	9,181.3	-510.9	7,451.5	7,469.0	93.92	1.09	810,098.20	635,065.21
	16,630.0	89.00	89.90	9,181.9	-510.8	7,486.5	7,503.9	93.90	0.00	810,098.26	635,100.21
16630.0' Projected to bit											

Design Annotations	Measured Depth (ustf)	Vertical Depth (ustf)	Local Coordinates +N/-S (ustf)	+E/-W (ustf)	Comment
	16,630.0	9,181.9	-510.8	7,486.5	16630.0' Projected to bit

Checked By: _____

Approved By: _____

Date: _____

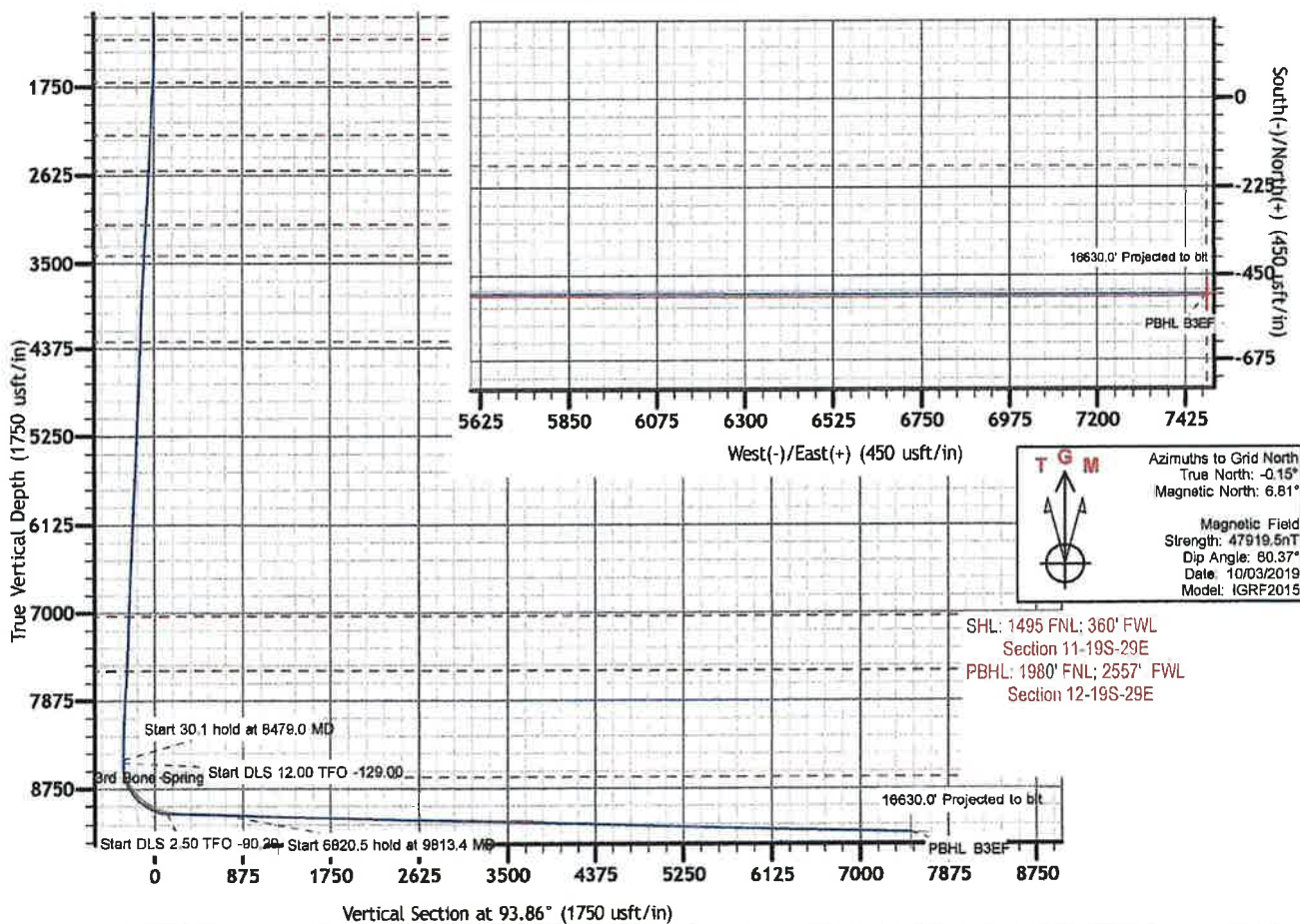
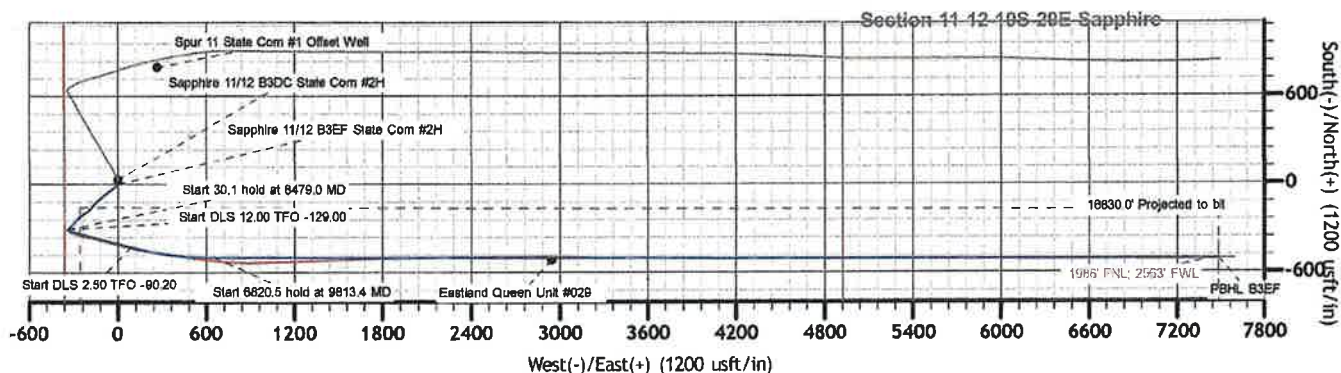


COMPANY: Mewbourne Oil Company
WELL: Sapphire 11/12 B3EF State Com #2H
COUNTY: Eddy County, N.M. Nad (83)
DATUM: North American Datum 1983
RIG: Patterson 217

STRYKER
DIRECTIONAL
OFFICE: 936.582.7296

GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 6.81°

GEODETIC ZONE: New Mexico Eastern Zone										
3384+27 @ 3391.0usft (Patterson 217)										
GROUND ELEVATION: 3364.0										
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot			
	0.0	0.0	610609.10	627613.70	32° 40' 41.865 N	104° 3' 10.544 W				
PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	8479.0	1.20	233.10	8483.4	-306.0	-340.9	0.00	0.00	-319.6	
2	8525.1	1.20	233.10	8509.5	-306.6	-341.7	0.00	0.00	-320.3	
3	9268.8	88.49	104.12	8993.0	-427.4	107.2	12.00	-129.00	135.8	
4	9830.5	88.49	90.07	9007.9	-486.6	683.0	2.50	-90.17	895.0	
5	16649.7	88.49	90.07	9167.0	-505.0	7479.9	0.00	0.00	7496.9	PBHL B3EF



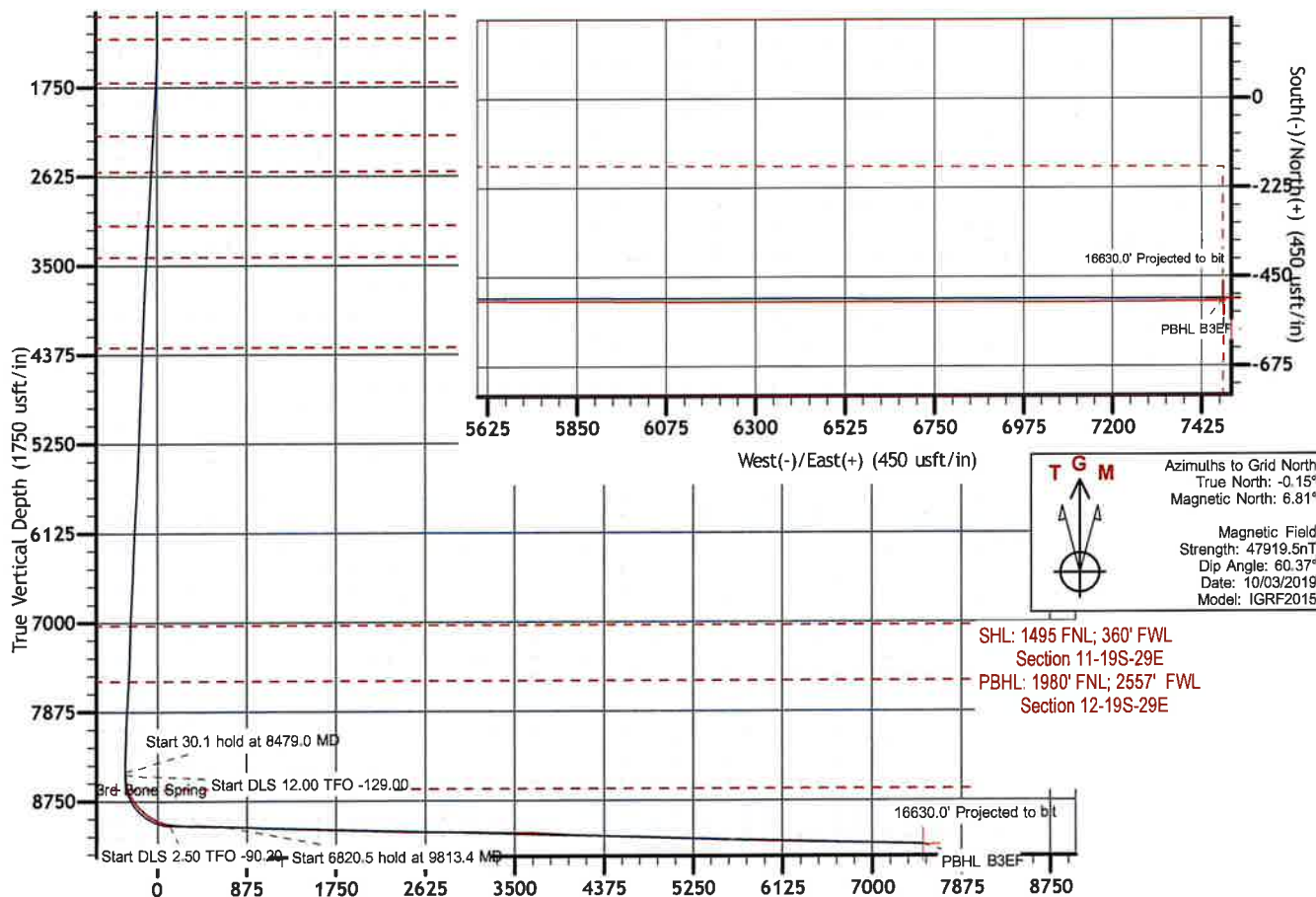
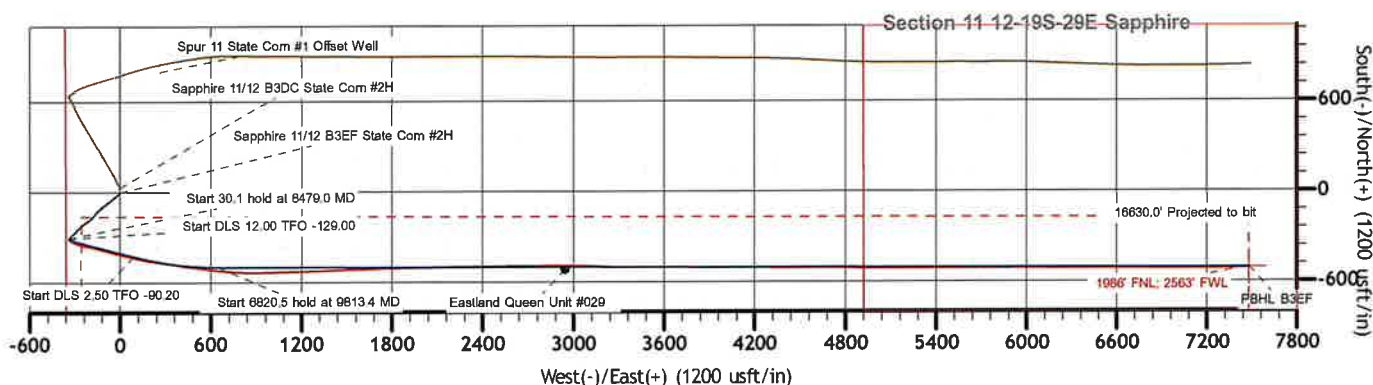


COMPANY: Mewbourne Oil Company
 WELL: Sapphire 11/12 B3EF State Com #2H
 COUNTY: Eddy County, N.M. Nad (83)
 DATUM: North American Datum 1983
 RIG: Patterson 217



GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 6.81°

GEODETIC ZONE: New Mexico Eastern Zone										
3364+27 @ 3391.0usft (Patterson 217)										
GROUND ELEVATION: 3364.0										
		+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		Slot	
		0.0	0.0	610609.10	627613.70	32° 40' 41.865 N	104° 3' 10.544 W			
PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	8479.0	1.20	233.10	8463.4	-306.0	-340.9	0.00	0.00	-319.6	
2	8525.1	1.20	233.10	8509.5	-306.6	-341.7	0.00	0.00	-320.3	
3	9268.8	88.49	104.12	8993.0	-427.4	107.2	12.00	-129.00	135.8	
4	9830.5	88.49	90.07	9007.9	-496.6	663.0	2.50	-90.17	695.0	
5	16649.7	88.49	90.07	9187.0	-505.0	7479.9	0.00	0.00	7496.9	PBHL B3EF



TGM
 Azimuths to Grid North
 True North: -0.15°
 Magnetic North: 6.81°
 Magnetic Field
 Strength: 47919.5nT
 Dip Angle: 60.37°
 Date: 10/03/2019
 Model: IGRF2015

SHL: 1495 FNL; 360' FWL
 Section 11-19S-29E
 PBHL: 1980' FNL; 2557' FWL
 Section 12-19S-29E

Vertical Section at 93.86° (1750 usft/in)



Mewbourne Oil Company

Eddy County, N.M. Nad (83)

Section 11 12-19S-29E Sapphire

Sapphire 11/12 B3EF State Com #2H

Original Hole

Design: As Drilled

Standard Survey Report

03 December, 2019





Stryker Energy Directional Services

Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Sapphire 11/12 B3EF State Com #2H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3364+27 @ 3391.0usft (Patterson 217)
Site:	Section 11 12-19S-29E Sapphire	MD Reference:	3364+27 @ 3391.0usft (Patterson 217)
Well:	Sapphire 11/12 B3EF State Com #2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	EDM5000

Project	Eddy County, N.M. Nad (83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Section 11 12-19S-29E Sapphire				
Site Position:		Northing:	610,639.20 usft	Latitude:	32° 40' 42.162 N	
From:	Map	Easting:	627,613.50 usft	Longitude:	104° 3' 10.545 W	
Position Uncertainty:		0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.15 °

Well	Sapphire 11/12 B3EF State Com #2H					
Well Position	+N/-S	0.0 usft	Northing:	610,609.10 usft	Latitude:	32° 40' 41.865 N
	+E/-W	0.0 usft	Easting:	627,613.70 usft	Longitude:	104° 3' 10.544 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	27.0 usft	Ground Level:	3,364.0 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/03/19	6.96	60.37	47,919.48164221

Design	As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	93.90	

Survey Program	Date 12/03/19				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
155.0	16,630.0	Stryker Surveys (Original Hole)	MWD	MWD v3:standard declination	

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
155.0	0.10	77.50	155.0	0.0	0.1	0.1	0.06	0.06	0.00
233.0	0.20	72.50	233.0	0.1	0.3	0.3	0.13	0.13	-6.41
412.0	0.20	253.00	412.0	0.1	0.3	0.3	0.22	0.00	-100.28
592.0	0.10	335.90	592.0	0.1	0.0	0.0	0.12	-0.06	46.06
741.0	0.30	338.60	741.0	0.6	-0.2	-0.3	0.13	0.13	1.81
931.0	0.10	38.00	931.0	1.2	-0.3	-0.4	0.14	-0.11	31.26
1,120.0	0.40	55.10	1,120.0	1.7	0.3	0.2	0.16	0.16	9.05
1,309.0	0.30	100.30	1,309.0	2.0	1.4	1.2	0.15	-0.05	23.92
1,370.0	0.30	59.30	1,370.0	2.1	1.7	1.5	0.34	0.00	-67.21



Stryker Energy Directional Services

Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Sapphire 11/12 B3EF State Com #2H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3364+27 @ 3391.0usft (Patterson 217)
Site:	Section 11 12-19S-29E Sapphire	MD Reference:	3364+27 @ 3391.0usft (Patterson 217)
Well:	Sapphire 11/12 B3EF State Com #2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	EDM5000

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)
1,439.0	1.50	227.90	1,439.0	1.6	1.1	1.0	2.60	1.74	244.35
1,535.0	3.90	225.00	1,534.9	-1.6	-2.1	-2.0	2.50	2.50	-3.02
1,629.0	4.30	217.50	1,628.6	-6.7	-6.5	-6.0	0.71	0.43	-7.98
1,818.0	4.50	231.50	1,817.1	-16.9	-16.6	-15.4	0.58	0.11	7.41
2,007.0	4.60	233.80	2,005.5	-26.0	-28.5	-26.7	0.11	0.05	1.22
2,195.0	4.10	234.70	2,192.9	-34.3	-40.1	-37.7	0.27	-0.27	0.48
2,383.0	3.80	230.30	2,380.5	-42.2	-50.4	-47.4	0.23	-0.16	-2.34
2,573.0	4.00	230.50	2,570.1	-50.4	-60.3	-56.8	0.11	0.11	0.11
2,761.0	4.00	231.40	2,757.6	-58.7	-70.5	-66.4	0.03	0.00	0.48
2,950.0	4.10	235.10	2,946.1	-66.7	-81.2	-76.5	0.15	0.05	1.96
3,140.0	4.20	230.20	3,135.6	-75.0	-92.1	-86.8	0.19	0.05	-2.58
3,328.0	4.00	234.70	3,323.1	-83.2	-102.8	-96.9	0.20	-0.11	2.39
3,517.0	4.30	227.60	3,511.7	-91.8	-113.4	-106.9	0.31	0.16	-3.76
3,703.0	4.10	228.60	3,697.2	-100.9	-123.5	-116.4	0.11	-0.11	0.54
3,890.0	3.40	229.50	3,883.8	-108.9	-132.8	-125.0	0.38	-0.37	0.48
4,077.0	3.50	229.80	4,070.4	-116.2	-141.3	-133.1	0.05	0.05	0.16
4,266.0	3.10	230.80	4,259.1	-123.1	-149.7	-141.0	0.21	-0.21	0.53
4,455.0	3.50	216.60	4,447.8	-131.0	-157.1	-147.8	0.48	0.21	-7.51
4,645.0	3.10	221.10	4,637.5	-139.5	-163.9	-154.1	0.25	-0.21	2.37
4,835.0	2.90	213.60	4,827.2	-147.4	-170.0	-159.5	0.23	-0.11	-3.95
5,024.0	4.10	226.10	5,015.9	-156.1	-177.5	-166.5	0.75	0.63	6.61
5,213.0	4.20	225.80	5,204.4	-165.6	-187.3	-175.6	0.05	0.05	-0.16
5,402.0	3.80	228.20	5,392.9	-174.6	-197.0	-184.6	0.23	-0.21	1.27
5,592.0	3.30	226.90	5,582.5	-182.5	-205.6	-192.7	0.27	-0.26	-0.68
5,779.0	4.40	239.50	5,769.1	-189.8	-215.8	-202.3	0.74	0.59	6.74
5,968.0	3.90	236.80	5,957.6	-197.0	-227.4	-213.4	0.28	-0.26	-1.43
6,158.0	3.60	233.30	6,147.2	-204.1	-237.6	-223.1	0.20	-0.16	-1.84
6,347.0	3.30	226.50	6,335.9	-211.4	-246.3	-231.3	0.27	-0.16	-3.60
6,535.0	2.90	230.30	6,523.6	-218.2	-253.9	-238.4	0.24	-0.21	2.02
6,724.0	4.80	232.50	6,712.2	-226.1	-263.8	-247.8	1.01	1.01	1.16
6,912.0	3.30	227.30	6,899.7	-234.5	-274.0	-257.4	0.82	-0.80	-2.77
7,100.0	3.20	218.50	7,087.4	-242.3	-281.3	-264.1	0.27	-0.05	-4.68
7,290.0	3.60	219.30	7,277.1	-251.1	-288.3	-270.6	0.21	0.21	0.42
7,479.0	3.30	217.50	7,465.7	-260.0	-295.4	-277.0	0.17	-0.16	-0.95
7,669.0	4.90	230.60	7,655.2	-269.5	-305.0	-286.0	0.97	0.84	6.89
7,858.0	5.00	225.10	7,843.5	-280.4	-317.1	-297.3	0.26	0.05	-2.91
8,047.0	4.10	222.10	8,031.9	-291.2	-327.5	-306.9	0.49	-0.48	-1.59
8,236.0	3.10	219.30	8,220.5	-300.2	-335.2	-314.0	0.54	-0.53	-1.48
8,425.0	1.20	233.10	8,409.4	-305.3	-340.0	-318.5	1.03	-1.01	7.30
8,479.0	1.20	233.10	8,463.4	-306.0	-340.9	-319.3	0.00	0.00	0.00
8,526.0	5.50	135.50	8,510.3	-307.9	-339.8	-318.0	12.30	9.15	-207.66
8,574.0	12.00	127.50	8,557.7	-312.6	-334.2	-312.1	13.74	13.54	-16.67
8,621.0	18.30	124.70	8,603.1	-319.8	-324.2	-301.7	13.49	13.40	-5.96
8,669.0	22.00	117.60	8,648.1	-328.2	-310.1	-287.0	9.23	7.71	-14.79



Stryker Energy Directional Services

Survey Report



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Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3364+27 @ 3391.0usft (Patterson 217)
Site:	Section 11 12-19S-29E Sapphire	MD Reference:	3364+27 @ 3391.0usft (Patterson 217)
Well:	Sapphire 11/12 B3EF State Com #2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	EDM5000

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)
8,716.0	27.60	110.20	8,690.8	-336.1	-292.0	-268.5	13.60	11.91	-15.74
8,763.0	33.10	105.30	8,731.3	-343.2	-269.4	-245.4	12.82	11.70	-10.43
8,810.0	37.50	101.20	8,769.7	-349.4	-243.0	-218.6	10.63	9.36	-8.72
8,858.0	42.30	101.60	8,806.5	-355.5	-212.8	-188.1	10.01	10.00	0.83
8,905.0	46.70	103.30	8,840.0	-362.6	-180.6	-155.5	9.70	9.36	3.62
8,952.0	51.60	105.20	8,870.8	-371.4	-146.2	-120.6	10.86	10.43	4.04
8,999.0	56.70	105.20	8,898.3	-381.4	-109.5	-83.2	10.85	10.85	0.00
9,047.0	62.20	104.90	8,922.7	-392.1	-69.6	-42.7	11.47	11.46	-0.63
9,094.0	67.20	104.70	8,942.8	-402.9	-28.5	-1.0	10.65	10.64	-0.43
9,142.0	72.80	104.00	8,959.2	-414.1	15.2	43.4	11.75	11.67	-1.46
9,189.0	76.90	103.20	8,971.4	-424.8	59.3	88.1	8.88	8.72	-1.70
9,236.0	81.00	103.30	8,980.4	-435.4	104.2	133.6	8.73	8.72	0.21
9,269.0	83.50	103.10	8,984.9	-442.8	136.0	165.8	7.60	7.58	-0.61
9,359.0	90.20	97.30	8,989.8	-458.7	224.4	255.1	9.84	7.44	-6.44
9,454.0	89.50	98.70	8,990.1	-471.9	318.4	349.8	1.65	-0.74	1.47
9,549.0	87.90	98.60	8,992.3	-486.2	412.3	444.5	1.69	-1.68	-0.11
9,643.0	87.70	97.90	8,995.9	-499.7	505.3	538.1	0.77	-0.21	-0.74
9,737.0	87.80	96.90	8,999.5	-511.8	598.4	631.9	1.07	0.11	-1.06
9,832.0	87.60	95.50	9,003.4	-522.0	692.8	726.7	1.49	-0.21	-1.47
9,926.0	87.60	93.30	9,007.3	-529.2	786.4	820.6	2.34	0.00	-2.34
10,021.0	87.40	90.90	9,011.4	-532.7	881.3	915.5	2.53	-0.21	-2.53
10,115.0	87.30	88.20	9,015.8	-532.0	975.2	1,009.1	2.87	-0.11	-2.87
10,210.0	88.10	87.50	9,019.6	-528.4	1,070.0	1,103.5	1.12	0.84	-0.74
10,304.0	88.70	87.80	9,022.2	-524.6	1,163.9	1,196.9	0.71	0.64	0.32
10,399.0	88.70	88.00	9,024.4	-521.1	1,258.8	1,291.4	0.21	0.00	0.21
10,494.0	88.50	88.20	9,026.7	-517.9	1,353.7	1,385.8	0.30	-0.21	0.21
10,588.0	88.50	88.00	9,029.2	-514.8	1,447.6	1,479.3	0.21	0.00	-0.21
10,682.0	88.50	88.30	9,031.6	-511.8	1,541.6	1,572.8	0.32	0.00	0.32
10,777.0	88.40	87.80	9,034.2	-508.6	1,636.5	1,667.3	0.54	-0.11	-0.53
10,871.0	88.60	88.20	9,036.7	-505.3	1,730.4	1,760.8	0.48	0.21	0.43
10,966.0	88.40	88.40	9,039.1	-502.5	1,825.3	1,855.3	0.30	-0.21	0.21
11,061.0	88.70	89.10	9,041.5	-500.4	1,920.3	1,949.9	0.80	0.32	0.74
11,155.0	88.70	89.30	9,043.7	-499.1	2,014.2	2,043.5	0.21	0.00	0.21
11,250.0	88.70	89.20	9,045.8	-497.8	2,109.2	2,138.2	0.11	0.00	-0.11
11,344.0	88.70	89.20	9,048.0	-496.5	2,203.2	2,231.8	0.00	0.00	0.00
11,439.0	87.60	89.20	9,051.0	-495.2	2,298.1	2,326.5	1.16	-1.16	0.00
11,534.0	87.10	89.20	9,055.4	-493.9	2,393.0	2,421.1	0.53	-0.53	0.00
11,628.0	89.70	89.10	9,058.1	-492.5	2,486.9	2,514.7	2.77	2.77	-0.11
11,723.0	90.60	89.30	9,057.8	-491.1	2,581.9	2,609.4	0.97	0.95	0.21
11,817.0	89.80	89.50	9,057.5	-490.2	2,675.9	2,703.1	0.88	-0.85	0.21
11,911.0	88.70	89.70	9,058.7	-489.5	2,769.9	2,796.8	1.19	-1.17	0.21
12,005.0	88.50	90.50	9,061.0	-489.7	2,863.9	2,890.6	0.88	-0.21	0.85
12,099.0	89.80	90.80	9,062.4	-490.7	2,957.9	2,984.4	1.42	1.38	0.32



Stryker Energy Directional Services

Survey Report



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Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3364+27 @ 3391.0usft (Patterson 217)
Site:	Section 11 12-19S-29E Sapphire	MD Reference:	3364+27 @ 3391.0usft (Patterson 217)
Well:	Sapphire 11/12 B3EF State Com #2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	EDM5000

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)
12,193.0	90.30	91.30	9,062.3	-492.5	3,051.8	3,078.3	0.75	0.53	0.53
12,288.0	88.80	92.20	9,063.1	-495.4	3,146.8	3,173.2	1.84	-1.58	0.95
12,383.0	88.10	91.40	9,065.6	-498.3	3,241.7	3,268.1	1.12	-0.74	-0.84
12,477.0	88.60	89.80	9,068.3	-499.3	3,335.7	3,361.9	1.78	0.53	-1.70
12,572.0	91.10	89.70	9,068.6	-498.9	3,430.6	3,456.7	2.63	2.63	-0.11
12,667.0	92.20	90.40	9,065.8	-499.0	3,525.6	3,551.4	1.37	1.16	0.74
12,761.0	87.70	90.10	9,065.9	-499.4	3,619.6	3,645.2	4.80	-4.79	-0.32
12,856.0	86.10	90.50	9,071.1	-499.9	3,714.4	3,739.9	1.74	-1.68	0.42
12,951.0	86.10	90.60	9,077.5	-500.8	3,809.2	3,834.5	0.11	0.00	0.11
13,045.0	86.00	90.50	9,084.0	-501.7	3,903.0	3,928.1	0.15	-0.11	-0.11
13,140.0	87.10	90.10	9,089.7	-502.2	3,997.8	4,022.7	1.23	1.16	-0.42
13,235.0	88.40	90.30	9,093.5	-502.5	4,092.7	4,117.5	1.38	1.37	0.21
13,330.0	88.40	90.20	9,096.1	-503.0	4,187.7	4,212.2	0.11	0.00	-0.11
13,425.0	88.10	90.40	9,099.0	-503.5	4,282.7	4,307.0	0.38	-0.32	0.21
13,519.0	88.00	90.20	9,102.2	-503.9	4,376.6	4,400.7	0.24	-0.11	-0.21
13,614.0	88.10	90.20	9,105.4	-504.3	4,471.5	4,495.5	0.11	0.11	0.00
13,709.0	88.20	90.50	9,108.5	-504.9	4,566.5	4,590.3	0.33	0.11	0.32
13,803.0	88.10	90.30	9,111.5	-505.5	4,660.4	4,684.0	0.24	-0.11	-0.21
13,897.0	88.30	90.20	9,114.5	-505.9	4,754.4	4,777.8	0.24	0.21	-0.11
13,992.0	88.90	90.30	9,116.8	-506.3	4,849.4	4,872.6	0.64	0.63	0.11
14,086.0	88.00	90.00	9,119.4	-506.6	4,943.3	4,966.3	1.01	-0.96	-0.32
14,181.0	88.20	90.20	9,122.5	-506.7	5,038.3	5,061.1	0.30	0.21	0.21
14,275.0	88.30	90.30	9,125.4	-507.2	5,132.2	5,154.8	0.15	0.11	0.11
14,369.0	88.50	90.40	9,128.0	-507.7	5,226.2	5,248.6	0.24	0.21	0.11
14,464.0	88.30	90.50	9,130.7	-508.5	5,321.1	5,343.4	0.24	-0.21	0.11
14,559.0	88.30	90.10	9,133.5	-509.0	5,416.1	5,438.2	0.42	0.00	-0.42
14,654.0	88.10	90.00	9,136.5	-509.1	5,511.1	5,532.9	0.24	-0.21	-0.11
14,749.0	88.10	90.00	9,139.6	-509.1	5,606.0	5,627.7	0.00	0.00	0.00
14,843.0	88.30	90.30	9,142.6	-509.3	5,700.0	5,721.4	0.38	0.21	0.32
14,938.0	88.40	90.30	9,145.3	-509.8	5,794.9	5,816.2	0.11	0.11	0.00
15,033.0	88.60	90.00	9,147.8	-510.0	5,889.9	5,910.9	0.38	0.21	-0.32
15,128.0	88.80	90.40	9,149.9	-510.4	5,984.9	6,005.7	0.47	0.21	0.42
15,223.0	88.60	90.00	9,152.1	-510.7	6,079.8	6,100.5	0.47	-0.21	-0.42
15,317.0	88.70	90.30	9,154.3	-511.0	6,173.8	6,194.3	0.34	0.11	0.32
15,410.0	88.60	90.00	9,156.5	-511.2	6,266.8	6,287.0	0.34	-0.11	-0.32
15,503.0	88.70	90.10	9,158.7	-511.3	6,359.8	6,379.8	0.15	0.11	0.11
15,596.0	88.70	90.00	9,160.8	-511.4	6,452.7	6,472.6	0.11	0.00	-0.11
15,689.0	88.70	90.00	9,162.9	-511.4	6,545.7	6,565.3	0.00	0.00	0.00
15,784.0	88.80	90.00	9,165.0	-511.4	6,640.7	6,660.1	0.11	0.11	0.00
15,879.0	88.60	90.30	9,167.1	-511.6	6,735.7	6,754.9	0.38	-0.21	0.32
15,973.0	88.90	90.10	9,169.2	-511.9	6,829.6	6,848.6	0.38	0.32	-0.21
16,068.0	88.90	90.30	9,171.0	-512.3	6,924.6	6,943.4	0.21	0.00	0.21
16,163.0	88.80	90.00	9,172.9	-512.5	7,019.6	7,038.2	0.33	-0.11	-0.32



Stryker Energy Directional Services

Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Sapphire 11/12 B3EF State Com #2H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3364+27 @ 3391.0usft (Patterson 217)
Site:	Section 11 12-19S-29E Sapphire	MD Reference:	3364+27 @ 3391.0usft (Patterson 217)
Well:	Sapphire 11/12 B3EF State Com #2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	EDM5000

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Bulld Rate (°/100usft)	Turn Rate (°/100usft)
16,257.0	89.00	90.10	9,174.7	-512.6	7,113.6	7,132.0	0.24	0.21	0.11
16,351.0	88.70	89.90	9,176.6	-512.6	7,207.6	7,225.7	0.38	-0.32	-0.21
16,446.0	88.90	89.60	9,178.6	-512.2	7,302.5	7,320.5	0.38	0.21	-0.32
16,540.0	89.00	89.30	9,180.3	-511.3	7,396.5	7,414.2	0.34	0.11	-0.32
16,595.0	89.00	89.90	9,181.3	-510.9	7,451.5	7,469.0	1.09	0.00	1.09
16,630.0	89.00	89.90	9,181.9	-510.8	7,486.5	7,503.9	0.00	0.00	0.00
16630.0' Projected to bit									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
16,630.0	9,181.9	-510.8	7,486.5	16630.0' Projected to bit

Checked By: _____ Approved By: _____ Date: _____