

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 30-015-46296		² Pool Code 60660		³ Pool Name Turkey Track Bone Spring	
⁴ Property Code 326124		⁵ Property Name SAPPHIRE 11/12 B3DC STATE COM			⁶ Well Number 2H
⁷ OGRID NO. 14744		⁸ Operator Name MEWBOURNE OIL COMPANY			⁹ Elevation 3365'
¹⁰ Surface Location					
UL or lot no. E	Section 11	Township 19S	Range 29E	Lot Idn	Feet from the 1465
				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. C	Section 12	Township 19S	Range 29E	Lot Idn	Feet from the 574
				North/South line NORTH	Feet from the 2551
				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 order heretofore entered by the division. Signature: Ruby Cab Date: 3/18/20 Printed Name: Ruby Caballero E-mail Address: rcaballero@newbourne.com
¹⁸ SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. 9-17-2019 Date of Survey Signature and Seal of Professional Surveyor 19680 Certificate Number		Job No: LS19090900

Intent ☐ As Drilled ☒

API # 30-015-46296		
Operator Name: Mewbourne Oil Company	Property Name: Sapphire 11/12 B3DC St Com	Well Number #2H

Kick Off Point (KOP)

UL E	Section 11	Township 19S	Range 29E	Lot	Feet 846	From N/S N	Feet 22	From E/W W	County Eddy
Latitude 32.6800747					Longitude -104.0540289			NAD 83	

First Take Point (FTP)

UL E	Section 11	Township 19S	Range 29E	Lot	Feet 717	From N/S N	Feet 359	From E/W W	County Eddy
Latitude 32.6804342					Longitude -104.0529264			NAD 83	

Last Take Point (LTP)

UL C	Section 12	Township 19S	Range 29E	Lot	Feet 636	From N/S	Feet 2517	From E/W W	County Eddy
Latitude 32.6805439					Longitude -104.0287536			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

KZ 06/29/2018



COMPANY: Mewbourne Oil Company
WELL: Sapphire 11/12 B3DC 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°

GEODETTIC ZONE: New Mexico Eastern Zone

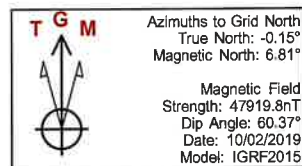
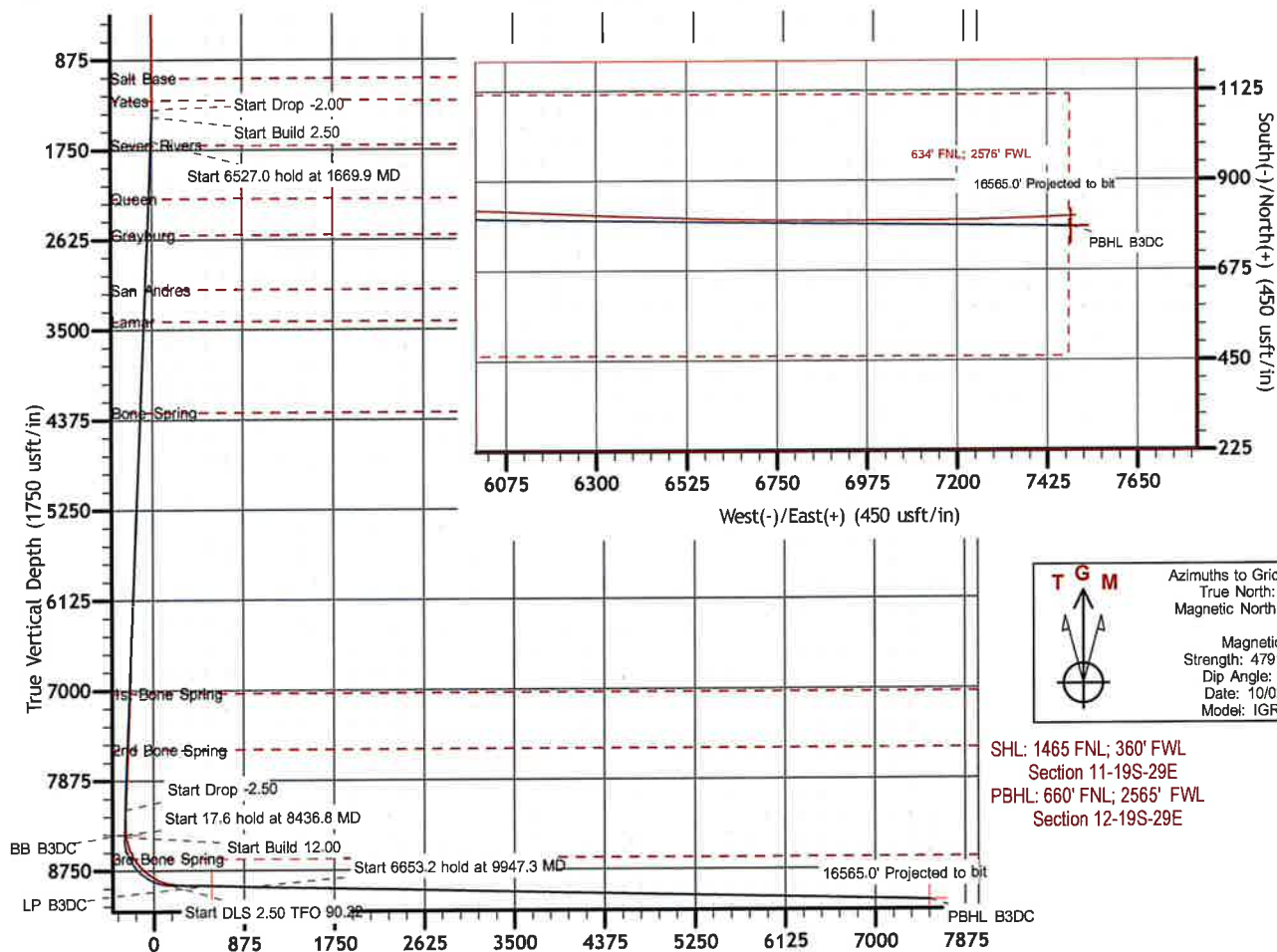
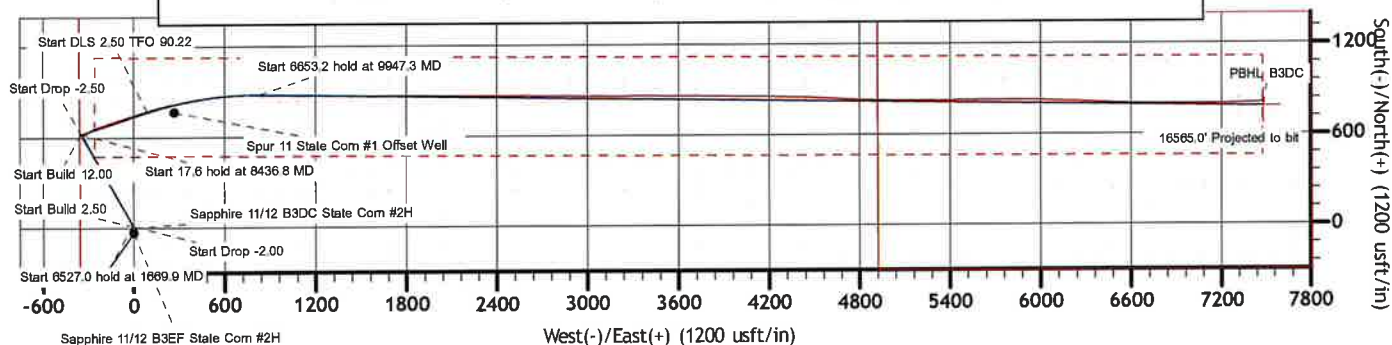
3365+27 @ 3392.0usft (Patterson 217)

GROUND ELEVATION: 3365.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	610639.20	627613.50	32° 40' 42.162 N	104° 3' 10.545 W	

PLAN SECTIONS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	1365.0	1.30	188.20	1364.8	12.7	-0.7	0.00	0.00	0.6	
2	1430.0	0.00	0.00	1429.8	12.0	-0.8	2.00	180.00	0.4	
3	1669.9	6.00	330.19	1669.3	22.9	-7.0	2.50	330.19	-4.6	
4	8196.9	6.00	330.19	8160.5	614.6	-346.1	0.00	0.00	-280.1	
5	8436.8	0.00	0.00	8400.0	625.5	-352.3	2.50	180.00	-285.2	
6	8454.4	0.00	0.00	8417.6	625.5	-352.3	0.00	0.00	-285.2	
7	9194.0	88.75	72.00	8895.0	769.8	91.9	12.00	72.00	171.6	
8	9947.3	88.75	90.84	8911.6	881.7	833.2	2.50	90.22	920.6	
9	16600.5	88.75	90.84	9057.0	784.5	7484.1	0.00	0.00	7525.1	PBHL B3DC



SHL: 1465 FNL; 360' FWL
Section 11-19S-29E
PBHL: 660' FNL; 2565' FWL
Section 12-19S-29E

Vertical Section at 84.02° (1750 usft/in)



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 B3DC State Com #002H
Turkey Track; Bone Spring
Eddy County, New Mexico
API# 30-015-46296

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	163ft. to 16,499ft.	10-13-19 to 11-01-19	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.

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

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 B3DC State Com #2HM191200

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 October 13, 2019, through November 1, 2019 conduct or supervise the taking of a SEDS Original Hole MWD Survey from a depth of 163 feet to a depth of 16,499 feet; 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 B3DC State Com #002H, well API # **30-015-46296** 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**



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 B3DC State Com #2H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference:
TVD Reference: 3365+27 @ 3392.0usft (Patterson 217)
MD Reference: 3365+27 @ 3392.0usft (Patterson 217)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5000

Well Sapphire 11/12 B3DC State Com #2H
3365+27 @ 3392.0usft (Patterson 217)
3365+27 @ 3392.0usft (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 B3DC State Com #2H

Well Position +N/-S 0.0 usft Northing: 610,639.20 usft Latitude: 32° 40' 42.162 N
+E/-W 0.0 usft Easting: 627,613.50 usft Longitude: 104° 3' 10.545 W
Position Uncertainty 0.0 usft Wellhead Elevation: 27.0 usft Ground Level: 3,365.0 usft

Wellbore Original Hole

Magnetics Model Name Sample Date 10/02/19 Declination (°) 6.96 Dip Angle (°) 60.37 Field Strength (nT) 47,919.8068881

Design Original Hole

Audit Notes:

Version: 1.0 Phase: ACTUAL Tie On Depth: 0.0

Vertical Section: Depth From (TVD) (usft) 0.0 +N/-S (usft) 0.0 +E/-W (usft) 0.0 Direction (°) 83.83

Survey Program Date 11/12/19

From (usft) 163.0 **To** (usft) 16,565.0 **Survey (Wellbore)** Survey Surveys (Original Hole) **Tool Name** MWD **Description** 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 Sapphires
Well: Sapphires 11/12 B3DC State Com #2H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Sapphires 11/12 B3DC State Com #2H
TVD Reference: 3365+27 @ 3392.0usft (Patterson 217)
MD Reference: 3365+27 @ 3392.0usft (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 (°)	D Leg (°/100usft)	Northing (usft)	Easting (usft)
	0.0	0.00	0.00	0.00	0.0	0.0	0.0	0.00	0.00	610,639.20	627,613.50
	163.0	1.80	272.90	163.0	0.1	-2.6	2.6	272.90	1.10	610,638.33	627,610.94
	227.0	1.50	9.20	227.0	1.0	-3.4	3.6	286.38	3.85	610,640.21	627,610.07
	405.0	1.20	4.80	404.9	5.2	-2.9	5.9	330.70	0.18	610,644.36	627,610.60
	580.0	1.10	14.70	579.9	8.6	-2.3	8.9	344.94	0.13	610,647.82	627,611.18
	734.0	0.90	11.70	733.8	11.2	-1.7	11.4	351.40	0.13	610,650.43	627,611.80
	923.0	0.70	16.80	922.8	13.8	-1.1	13.8	355.59	0.11	610,652.99	627,612.44
	1,113.0	0.40	23.90	1,112.8	15.5	-0.5	15.5	358.30	0.16	610,654.71	627,613.04
	1,310.0	1.30	188.20	1,309.8	13.9	-0.5	13.9	357.94	0.86	610,653.12	627,613.00
	1,373.0	1.50	183.30	1,372.8	12.4	-0.6	12.4	357.00	0.37	610,651.59	627,612.85
	1,435.0	0.60	289.10	1,434.8	11.7	-1.0	11.7	355.10	2.84	610,650.89	627,612.50
	1,530.0	6.00	327.50	1,529.6	16.0	-4.1	16.6	345.52	5.83	610,655.24	627,609.36
	1,625.0	5.50	327.30	1,624.1	24.1	-9.3	25.8	338.93	0.53	610,663.26	627,604.23
	1,814.0	6.20	333.50	1,812.1	40.8	-18.7	44.9	335.36	0.50	610,680.02	627,594.78
	2,003.0	6.50	334.80	2,000.0	59.6	-27.8	65.8	334.98	0.18	610,698.83	627,585.67
	2,192.0	5.80	330.30	2,187.9	77.6	-37.1	86.0	334.44	0.45	610,716.80	627,576.39
	2,380.0	5.90	329.90	2,374.9	94.2	-46.7	105.1	333.65	0.06	610,733.42	627,566.83
	2,569.0	5.70	330.00	2,562.9	110.7	-58.2	124.2	333.08	0.11	610,749.95	627,557.27
	2,758.0	5.70	329.40	2,751.0	127.0	-65.7	142.9	332.64	0.03	610,766.15	627,547.80
	2,948.0	5.80	329.80	2,938.1	143.2	-75.2	161.8	332.28	0.06	610,782.40	627,538.27
	3,136.0	5.90	330.20	3,127.1	160.0	-84.9	181.1	332.04	0.06	610,799.17	627,528.59
	3,324.0	6.00	332.40	3,314.1	177.1	-94.3	200.6	331.97	0.13	610,816.26	627,519.23
	3,513.0	6.10	332.70	3,502.0	194.7	-103.4	220.5	332.02	0.06	610,833.94	627,510.05
	3,700.0	5.90	327.80	3,688.0	211.7	-113.1	240.0	331.88	0.29	610,850.90	627,500.37
	3,888.0	5.70	328.90	3,875.0	227.9	-123.1	259.0	331.62	0.12	610,867.07	627,490.40
	4,074.0	5.70	334.00	4,060.1	244.1	-131.9	277.5	331.61	0.27	610,883.29	627,481.58
	4,263.0	5.50	324.70	4,248.2	259.9	-141.3	295.8	331.48	0.49	610,899.11	627,472.23



Stryker Energy Directional Services

Survey Report Landscape



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 11 12-18S-29E Sapphires
Well: Sapphires 11/12 B3DC State Com #2H
Wellbore: Original Hole
Design: Original Hole

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

Well Sapphires 11/12 B3DC State Com #2H
3365+27 @ 3392.0usft (Patterson 217)
3365+27 @ 3392.0usft (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)
	4,452.0	5.70	325.90	4,436.3	275.1	-151.8	314.2	331.11	0.12	610,914.28	627,461.74
	4,641.0	6.20	329.50	4,624.3	291.6	-162.2	333.7	330.82	0.33	610,930.84	627,451.29
	4,830.0	6.10	330.00	4,812.2	309.1	-172.4	354.0	330.85	0.06	610,948.33	627,441.09
	5,020.0	5.90	330.10	5,001.1	326.3	-182.3	373.8	330.81	0.11	610,965.54	627,431.18
	5,210.0	5.90	329.50	5,190.1	343.2	-192.1	393.3	330.76	0.03	610,982.42	627,421.35
	5,399.0	5.60	330.50	5,378.2	359.6	-201.6	412.3	330.72	0.17	610,998.82	627,411.88
	5,588.0	6.00	328.80	5,566.2	376.1	-211.3	431.4	330.67	0.23	611,015.29	627,402.22
	5,776.0	6.00	331.70	5,753.2	393.1	-221.0	451.0	330.68	0.16	611,032.35	627,392.48
	5,965.0	5.50	331.80	5,941.2	408.8	-230.0	470.0	330.70	0.26	611,049.03	627,383.51
	6,154.0	5.50	325.10	6,129.4	425.2	-239.4	488.0	330.62	0.34	611,064.44	627,374.05
	6,343.0	5.70	334.80	6,317.5	441.2	-248.6	506.4	330.60	0.51	611,080.36	627,364.87
	6,532.0	5.60	327.90	6,505.6	457.5	-257.5	525.0	330.62	0.36	611,096.67	627,355.98
	6,721.0	5.50	332.60	6,693.7	473.3	-266.6	543.2	330.61	0.25	611,112.52	627,346.91
	6,908.0	4.70	333.00	6,879.9	488.1	-274.2	559.8	330.67	0.43	611,127.30	627,339.30
	7,097.0	7.00	336.80	7,067.9	505.6	-282.2	579.0	330.83	1.23	611,144.79	627,331.25
	7,285.0	4.80	326.00	7,254.9	522.6	-291.2	598.3	330.88	1.31	611,161.84	627,322.34
	7,475.0	5.60	334.90	7,444.2	537.6	-299.5	615.4	330.88	0.60	611,176.83	627,313.96
	7,664.0	7.70	330.70	7,631.9	557.0	-309.6	637.3	330.93	1.14	611,196.22	627,303.85
	7,854.0	6.20	331.70	7,820.5	577.2	-320.7	660.3	330.94	0.79	611,216.36	627,292.76
	8,043.0	6.20	330.70	8,008.4	595.0	-330.8	680.7	330.95	0.06	611,234.24	627,282.82
	8,232.0	4.00	324.80	8,198.6	609.3	-339.4	697.5	330.88	1.20	611,248.53	627,274.13
	8,364.0	2.50	33.10	8,328.4	615.5	-340.5	703.4	331.05	2.92	611,254.71	627,273.05
	8,383.0	2.70	31.50	8,347.4	616.2	-340.0	703.8	331.11	1.12	611,255.44	627,273.51
	8,430.0	5.60	43.70	8,394.3	618.8	-337.8	705.0	331.37	6.42	611,258.04	627,275.67
	8,478.0	12.40	56.30	8,441.7	623.4	-331.9	706.3	331.97	14.67	611,262.60	627,281.58
	8,525.0	18.20	56.30	8,487.0	630.1	-321.5	707.3	332.97	12.39	611,269.26	627,292.03
	8,573.0	22.40	57.30	8,532.0	638.9	-307.4	709.0	334.31	8.78	611,278.14	627,308.11



Stryker Energy Directional Services

Survey Report Landscape



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 11 12-18S-29E Sappshire
Well: Sappshire 11/12 B3DC State Com #2H
Wellbore: Original Hole
Design: Original Hole

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

Well Sappshire 11/12 B3DC State Com #2H
3365+27 @ 3392.0usft (Patterson 217)
3365+27 @ 3392.0usft (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)
	8,620.0	26.30	61.00	8,574.8	648.8	-280.7	711.0	335.86	8.91	611,288.03	627,322.76
	8,668.0	30.80	65.90	8,617.0	659.0	-270.2	712.3	337.71	10.56	611,288.21	627,343.30
	8,715.0	35.80	68.00	8,666.2	669.1	-246.5	713.0	338.78	10.92	611,308.28	627,367.04
	8,762.0	40.20	70.50	8,693.3	679.3	-219.4	713.9	342.10	9.92	611,318.50	627,394.10
	8,809.0	44.10	72.10	8,728.1	689.4	-189.5	715.0	344.63	8.61	611,328.60	627,423.97
	8,857.0	50.10	73.80	8,760.8	699.7	-155.9	716.8	347.44	12.77	611,338.88	627,457.58
	8,904.0	54.60	73.40	8,789.5	710.2	-120.2	720.3	350.39	9.60	611,349.38	627,493.27
	8,952.0	59.80	72.60	8,815.5	722.0	-81.7	726.6	353.55	10.92	611,361.18	627,531.84
	8,999.0	64.20	71.90	8,837.5	734.6	-42.2	735.8	356.72	9.45	611,373.84	627,571.35
	9,046.0	69.20	72.20	8,858.1	747.9	-1.1	747.9	359.92	10.65	611,387.13	627,612.40
	9,093.0	72.70	71.80	8,871.4	761.7	41.1	762.8	3.09	7.49	611,400.88	627,654.65
	9,130.0	77.80	72.70	8,880.9	772.6	75.2	776.2	5.56	13.98	611,411.76	627,698.71
	9,222.0	87.50	75.30	8,892.6	797.7	162.8	814.1	11.54	10.91	611,436.86	627,776.32
	9,317.0	88.90	78.60	8,895.6	819.1	255.3	858.0	17.31	3.77	611,458.30	627,868.80
	9,411.0	90.00	79.80	8,896.5	836.7	347.6	906.0	22.56	1.73	611,475.91	627,961.13
	9,506.0	88.90	80.60	8,897.4	852.9	441.2	980.3	27.35	1.43	611,492.08	628,054.74
	9,601.0	87.80	82.60	8,900.2	868.7	535.2	1,018.7	31.69	2.40	611,505.95	628,148.67
	9,695.0	88.30	86.10	8,903.4	876.0	628.6	1,078.2	35.68	3.76	611,515.20	628,242.15
	9,790.0	88.50	89.50	8,906.0	879.6	723.5	1,139.0	39.44	3.58	611,518.84	628,337.03
	9,884.0	88.30	90.60	8,908.6	879.6	817.5	1,200.8	42.91	1.19	611,518.76	628,430.99
	9,979.0	88.80	90.50	8,911.0	878.6	912.5	1,266.7	46.08	0.54	611,517.85	628,525.95
	10,073.0	89.50	90.60	8,912.4	877.7	1,008.4	1,335.4	48.91	0.75	611,516.94	628,619.94
	10,168.0	88.70	90.50	8,913.9	876.8	1,101.4	1,407.8	51.48	0.85	611,516.03	628,714.92
	10,262.0	88.90	90.70	8,915.9	875.8	1,195.4	1,481.9	53.77	0.30	611,515.05	628,808.89
	10,356.0	89.40	90.80	8,917.3	874.6	1,289.4	1,558.0	55.85	0.54	611,513.82	628,902.88
	10,490.0	89.10	90.60	8,919.0	873.0	1,423.4	1,689.7	58.48	0.27	611,512.18	629,036.85
	10,585.0	88.40	90.70	8,921.1	871.9	1,518.3	1,750.9	60.13	0.74	611,511.10	629,131.82



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 B3DC State Com #2H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference:
TVD Reference: Well Sapphire 11/12 B3DC State Com #2H
MD Reference: 3365+27 @ 3392.0usft (Patterson 217)
North Reference: 3365+27 @ 3392.0usft (Patterson 217)
Survey Calculation Method: Grid
Database: 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)
	10,679.0	88.70	90.00	8,923.5	871.3	1,612.3	1,832.7	61.61	0.81	611,510.53	629,225.79
	10,773.0	88.70	90.10	8,925.6	871.2	1,706.3	1,915.8	62.95	0.11	611,510.45	629,319.77
	10,868.0	88.90	89.90	8,927.6	871.2	1,801.2	2,000.9	64.19	0.30	611,510.45	629,414.75
	10,963.0	88.10	90.50	8,930.1	870.9	1,896.2	2,086.7	65.33	1.05	611,510.12	629,509.71
	11,057.0	87.20	89.50	8,934.0	870.9	1,990.1	2,172.4	66.36	1.43	611,510.12	629,603.63
	11,152.0	88.40	90.30	8,937.6	871.1	2,085.1	2,259.7	67.33	1.52	611,510.28	629,698.56
	11,247.0	88.60	90.30	8,940.1	870.6	2,180.0	2,347.4	68.23	0.21	611,509.78	629,793.52
	11,341.0	88.60	89.90	8,942.4	870.4	2,274.0	2,434.9	69.05	0.43	611,509.82	629,887.50
	11,436.0	88.40	90.20	8,944.9	870.3	2,369.0	2,523.8	69.83	0.38	611,509.54	629,982.46
	11,531.0	88.70	89.90	8,947.3	870.3	2,463.9	2,613.1	70.55	0.45	611,509.45	630,077.43
	11,625.0	88.70	89.70	8,949.4	870.6	2,557.9	2,702.0	71.20	0.21	611,509.78	630,171.41
	11,719.0	88.70	90.80	8,951.5	870.2	2,651.9	2,791.0	71.83	1.17	611,509.37	630,265.38
	11,813.0	88.90	90.50	8,953.5	869.1	2,745.9	2,880.1	72.44	0.38	611,508.31	630,359.35
	11,907.0	88.80	91.00	8,955.4	867.9	2,839.8	2,969.5	73.01	0.54	611,507.08	630,453.33
	12,001.0	89.00	90.70	8,957.2	866.5	2,933.8	3,059.1	73.55	0.38	611,505.68	630,547.30
	12,096.0	89.00	91.20	8,958.9	864.9	3,028.8	3,149.8	74.06	0.53	611,504.11	630,642.27
	12,190.0	88.60	90.60	8,960.8	863.4	3,122.7	3,239.9	74.54	0.77	611,502.63	630,736.24
	12,285.0	88.60	89.50	8,963.2	863.3	3,217.7	3,331.5	74.98	1.16	611,502.55	630,831.21
	12,379.0	88.60	88.80	8,965.4	864.7	3,311.7	3,422.7	75.37	0.74	611,503.94	630,925.17
	12,474.0	88.90	89.60	8,967.5	866.1	3,406.6	3,515.0	75.74	0.90	611,505.27	631,020.14
	12,569.0	88.70	90.70	8,969.5	865.8	3,501.6	3,607.1	76.11	1.18	611,505.02	631,115.11
	12,663.0	88.70	90.90	8,971.6	864.5	3,595.6	3,698.1	76.48	0.21	611,503.71	631,209.08
	12,758.0	88.70	90.90	8,973.8	863.0	3,690.5	3,790.1	76.84	0.00	611,502.22	631,304.04
	12,852.0	88.80	90.70	8,975.8	861.7	3,784.5	3,881.4	77.17	0.24	611,500.90	631,398.01
	12,947.0	88.40	90.50	8,978.2	860.7	3,879.5	3,973.8	77.49	0.47	611,499.91	631,492.98
	13,041.0	88.90	90.20	8,980.4	860.1	3,973.5	4,065.5	77.79	0.62	611,499.34	631,586.95
	13,136.0	89.10	90.20	8,982.0	859.8	4,068.4	4,158.3	78.07	0.21	611,499.00	631,681.94



Stryker Energy Directional Services

Survey Report Landscape



Company:
Project:
Site:
Well:
Wellbore:
Design:

Mewbourne Oil Company
Eddy County, N.M. Nad (83)
Section 11 12-19S-29E Sapphire
Sapphire 11/12 B3DC State Com #2H
Original Hole
Original Hole

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

Well Sapphire 11/12 B3DC State Com #2H
3365+27 @ 3392.0usft (Patterson 217)
3365+27 @ 3392.0usft (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)
13,231.0	88.80	91.40	8,983.8	858.5	4,163.4	4,251.0	78.35	1.30	611,497.68	631,776.91
13,326.0	89.40	91.00	8,985.3	856.5	4,258.4	4,343.7	78.63	0.78	611,495.69	631,871.88
13,421.0	89.10	91.50	8,986.5	854.4	4,353.3	4,436.4	78.90	0.61	611,493.62	631,966.84
13,516.0	89.00	92.40	8,988.1	851.2	4,448.3	4,528.0	79.17	0.85	611,490.38	632,061.78
13,610.0	89.00	92.90	8,989.7	846.8	4,542.2	4,620.4	79.44	0.53	611,486.04	632,155.68
13,705.0	88.90	92.90	8,991.5	842.0	4,637.0	4,712.9	79.71	0.11	611,481.23	632,250.52
13,799.0	88.50	93.60	8,993.6	836.7	4,730.8	4,804.3	79.97	0.86	611,475.91	632,344.35
13,894.0	88.90	92.30	8,995.8	831.8	4,825.7	4,896.9	80.22	1.43	611,471.02	632,439.19
13,988.0	88.40	91.40	8,998.0	828.8	4,919.6	4,988.9	80.44	1.10	611,467.98	632,533.12
14,082.0	88.70	89.90	9,000.4	827.7	5,013.6	5,081.4	80.63	1.63	611,466.92	632,627.08
14,177.0	89.40	90.00	9,001.9	827.8	5,108.6	5,175.2	80.80	0.74	611,467.00	632,722.07
14,271.0	88.70	90.40	9,003.5	827.5	5,202.6	5,267.9	80.98	0.86	611,466.67	632,816.05
14,366.0	88.60	89.90	9,005.7	827.2	5,297.5	5,361.7	81.12	0.54	611,466.42	632,911.02
14,460.0	88.80	89.70	9,007.9	827.6	5,391.5	5,454.6	81.27	0.30	611,466.75	633,005.00
14,555.0	88.70	89.20	9,009.9	828.5	5,486.5	5,548.7	81.41	0.54	611,467.66	633,099.97
14,650.0	88.90	90.50	9,011.9	828.7	5,581.4	5,642.6	81.55	1.38	611,467.91	633,194.95
14,745.0	88.40	90.20	9,014.2	828.1	5,678.4	5,736.5	81.70	0.61	611,467.33	633,289.92
14,839.0	88.20	89.30	9,017.0	828.5	5,770.4	5,829.6	81.83	0.98	611,467.74	633,383.88
14,934.0	88.90	89.90	9,019.4	829.2	5,865.3	5,923.7	81.95	0.97	611,468.41	633,478.84
15,029.0	88.70	90.70	9,021.3	828.7	5,960.3	6,017.7	82.08	0.87	611,467.91	633,573.82
15,124.0	88.70	92.40	9,023.5	826.1	6,055.3	6,111.4	82.23	1.79	611,465.34	633,668.76
15,219.0	88.60	92.90	9,025.7	821.7	6,150.1	6,204.8	82.39	0.54	611,460.95	633,763.63
15,314.0	88.70	92.20	9,028.0	817.5	6,245.0	6,298.3	82.54	0.74	611,456.72	633,858.51
15,408.0	88.60	92.50	9,030.1	813.8	6,336.9	6,388.9	82.68	0.34	611,452.95	633,950.40
15,499.0	88.70	92.10	9,032.3	810.0	6,429.8	6,480.6	82.82	0.44	611,449.22	634,043.30
15,592.0	88.70	92.10	9,034.4	806.6	6,522.7	6,572.4	82.95	0.00	611,445.81	634,136.22
15,685.0	88.60	91.40	9,036.6	803.8	6,615.6	6,664.3	83.07	0.76	611,442.97	634,229.15



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 B3DC State Com #2H
Wellbore: Original Hole
Design: Original Hole

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

Well Sapphire 11/12 B3DC State Com #2H
3365+27 @ 3392.0usft (Patterson 217)
3365+27 @ 3392.0usft (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)
15,780.0	88.90	90.60	9,038.7	802.1	6,710.8	6,758.4	83.18	0.90	611,441.32	634,324.11
15,875.0	88.80	90.30	9,040.6	801.4	6,805.6	6,852.6	83.28	0.33	611,440.57	634,419.09
15,931.0	88.70	90.10	9,041.8	801.2	6,881.6	6,908.2	83.34	0.40	611,440.37	634,475.07
16,025.0	88.90	90.20	9,043.8	800.9	6,955.6	7,001.5	83.43	0.24	611,440.13	634,569.05
16,120.0	88.70	89.80	9,045.8	800.9	7,050.5	7,095.9	83.52	0.47	611,440.13	634,664.03
16,215.0	88.70	89.80	9,048.0	801.4	7,145.5	7,190.3	83.60	0.21	611,440.63	634,759.01
16,309.0	88.40	89.10	9,050.3	802.5	7,239.5	7,283.8	83.67	0.62	611,441.89	634,852.97
16,403.0	87.80	88.20	9,053.4	804.7	7,333.4	7,377.4	83.74	1.15	611,443.91	634,946.89
16,499.0	87.10	87.80	9,057.7	808.1	7,429.2	7,473.1	83.79	0.84	611,447.25	635,042.74
16,565.0	87.10	87.80	9,061.1	810.6	7,495.1	7,538.8	83.83	0.00	611,449.78	635,108.60
16565.0' Projected to bit										

Design Annotations				Local Coordinates	
Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
16,565.0	9,061.1	810.6	7,495.1	16565.0' Projected to bit	

Checked By: _____ Approved By: _____ Date: _____



COMPANY: Mewbourne Oil Company
WELL: Sapphire 11/12 B3DC State Com #2H
COUNTY: Eddy County, N.M. Nad (83)
DATUM: North American Datum 1983
RIG: Patterson 217



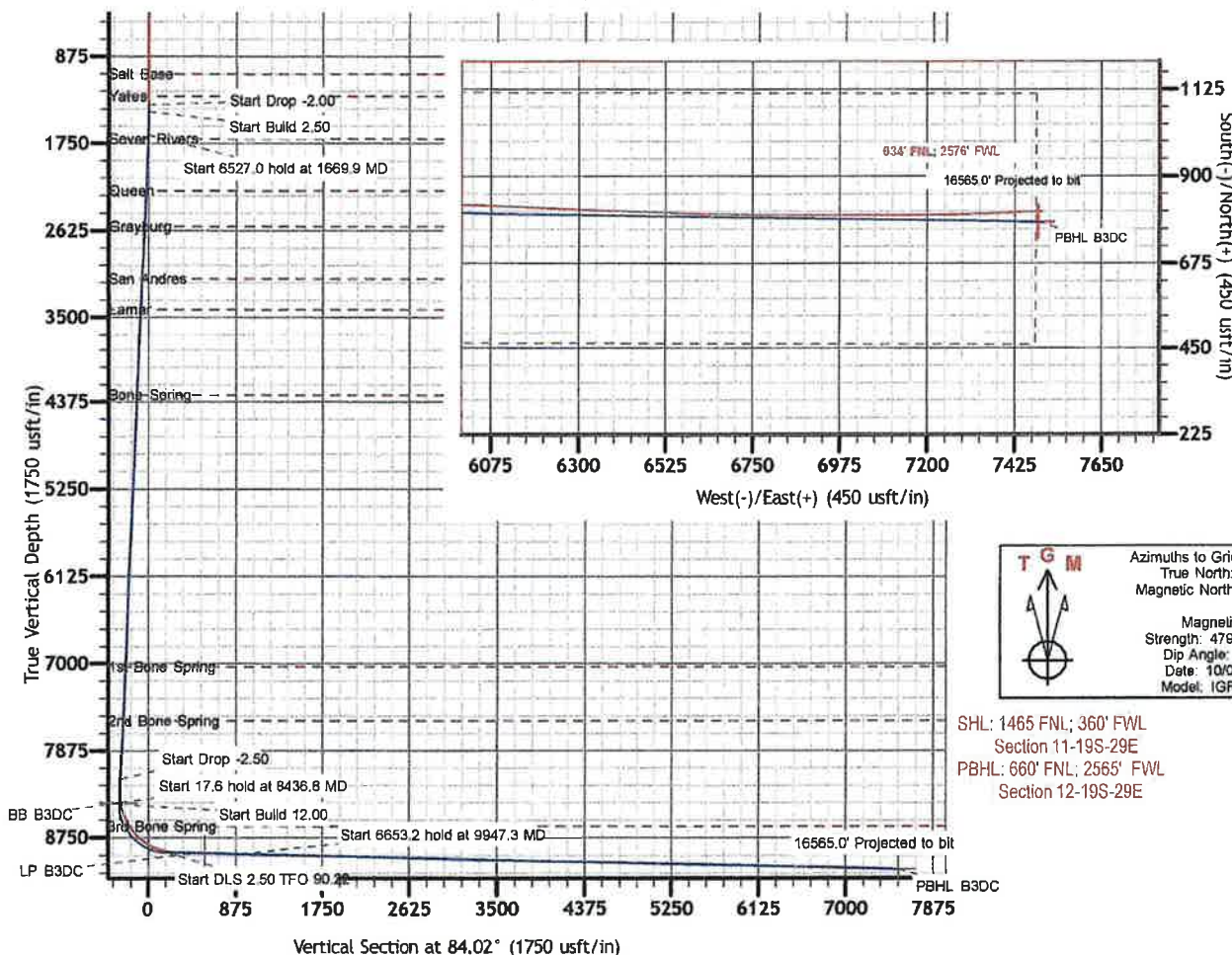
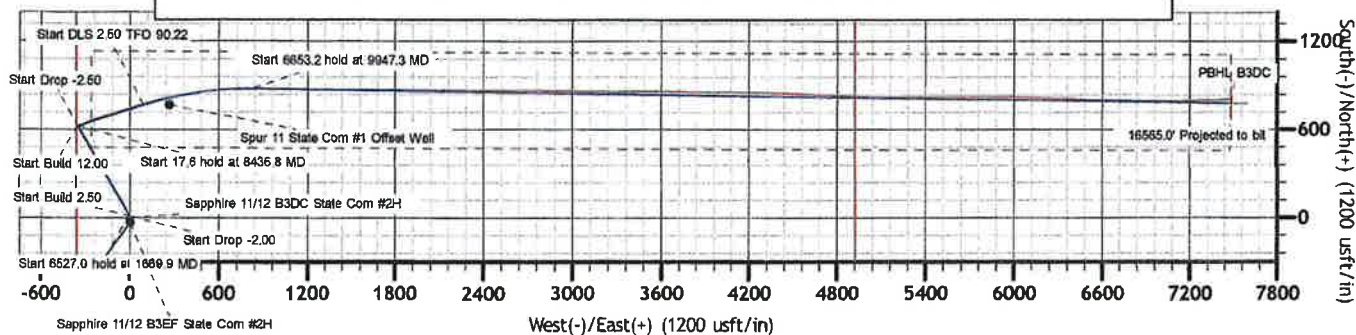
GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 6.81°

GEODETTIC ZONE: New Mexico Eastern Zone
3365+27 @ 3392.0usft (Patterson 217)
GROUND ELEVATION: 3365.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Spot
0.0	0.0	610639.20	627613.50	32° 40' 42.162 N	104° 3' 10.545 W	

PLAN SECTIONS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	1365.0	1.30	188.20	1364.8	12.7	-0.7	0.00	0.00	0.6	
2	1430.0	0.00	0.00	1429.8	12.0	-0.8	2.00	180.00	0.4	
3	1689.9	6.00	330.19	1689.3	22.9	-7.0	2.50	330.19	-4.6	
4	8196.9	6.00	330.19	8160.5	614.6	-346.1	0.00	0.00	-280.1	
5	8436.8	0.00	0.00	8400.0	625.5	-352.3	2.50	180.00	-285.2	
6	8454.4	0.00	0.00	8417.6	625.5	-352.3	0.00	0.00	-285.2	
7	9194.0	88.75	72.00	8895.0	769.8	91.9	12.00	72.00	171.6	
8	9947.3	88.75	90.84	8911.6	881.7	833.2	2.50	90.22	920.6	
9	16600.5	88.75	90.84	9057.0	784.5	7484.1	0.00	0.00	7525.1	PBHL B3DC





Mewbourne Oil Company

Eddy County, N.M. Nad (83)

Section 11 12-19S-29E Sapphire

Sapphire 11/12 B3DC State Com #2H

Original Hole

Design: Original Hole

Standard Survey Report

12 November, 2019





Stryker Energy Directional Services

Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Sapphire 11/12 B3DC State Com #2H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3365+27 @ 3392.0usft (Patterson 217)
Site:	Section 11 12-19S-29E Sapphire	MD Reference:	3365+27 @ 3392.0usft (Patterson 217)
Well:	Sapphire 11/12 B3DC State Com #2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	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 B3DC State Com #2H				
Well Position	+N/-S	0.0 usft	Northing:	610,639.20 usft	Latitude: 32° 40' 42.162 N
	+E/-W	0.0 usft	Easting:	627,613.50 usft	Longitude: 104° 3' 10.545 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	27.0 usft	Ground Level: 3,365.0 usft

Wellbore	Original Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	10/02/19	6.96	60.37	47,919.80668681

Design	Original Hole				
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	83.83	

Survey Program	Date 11/12/19				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
163.0	16,565.0	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	
163.0	1.80	272.90	163.0	0.1	-2.6	-2.5	1.10	1.10	0.00	
227.0	1.50	9.20	227.0	1.0	-3.4	-3.3	3.85	-0.47	150.47	
405.0	1.20	4.80	404.9	5.2	-2.9	-2.3	0.18	-0.17	-2.47	
580.0	1.10	14.70	579.9	8.6	-2.3	-1.4	0.13	-0.06	5.66	
734.0	0.90	11.70	733.8	11.2	-1.7	-0.5	0.13	-0.13	-1.95	
923.0	0.70	16.80	922.8	13.8	-1.1	0.4	0.11	-0.11	2.70	
1,113.0	0.40	23.90	1,112.8	15.5	-0.5	1.2	0.16	-0.16	3.74	
1,310.0	1.30	188.20	1,309.8	13.9	-0.5	1.0	0.86	0.46	83.40	
1,373.0	1.50	183.30	1,372.8	12.4	-0.6	0.7	0.37	0.32	-7.78	



Stryker Energy Directional Services

Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Sapphire 11/12 B3DC State Com #2H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3365+27 @ 3392.0usft (Patterson 217)
Site:	Section 11 12-19S-29E Sapphire	MD Reference:	3365+27 @ 3392.0usft (Patterson 217)
Well:	Sapphire 11/12 B3DC State Com #2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	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)	
1,435.0	0.60	289.10	1,434.8	11.7	-1.0	0.3	2.84	-1.45	170.65	
1,530.0	6.00	327.50	1,529.6	16.0	-4.1	-2.4	5.83	5.68	40.42	
1,625.0	5.50	327.30	1,624.1	24.1	-9.3	-6.6	0.53	-0.53	-0.21	
1,814.0	6.20	333.50	1,812.1	40.8	-18.7	-14.2	0.50	0.37	3.28	
2,003.0	6.50	334.80	2,000.0	59.6	-27.8	-21.3	0.18	0.16	0.69	
2,192.0	5.80	330.30	2,187.9	77.6	-37.1	-28.6	0.45	-0.37	-2.38	
2,380.0	5.90	329.90	2,374.9	94.2	-46.7	-36.3	0.06	0.05	-0.21	
2,569.0	5.70	330.00	2,562.9	110.7	-56.2	-44.0	0.11	-0.11	0.05	
2,758.0	5.70	329.40	2,751.0	127.0	-65.7	-51.7	0.03	0.00	-0.32	
2,946.0	5.80	329.80	2,938.1	143.2	-75.2	-59.4	0.06	0.05	0.21	
3,136.0	5.90	330.20	3,127.1	160.0	-84.9	-67.2	0.06	0.05	0.21	
3,324.0	6.00	332.40	3,314.1	177.1	-94.3	-74.7	0.13	0.05	1.17	
3,513.0	6.10	332.70	3,502.0	194.7	-103.4	-81.9	0.06	0.05	0.16	
3,700.0	5.90	327.80	3,688.0	211.7	-113.1	-89.7	0.29	-0.11	-2.62	
3,888.0	5.70	328.90	3,875.0	227.9	-123.1	-97.9	0.12	-0.11	0.59	
4,074.0	5.70	334.00	4,060.1	244.1	-131.9	-104.9	0.27	0.00	2.74	
4,263.0	5.50	324.70	4,248.2	259.9	-141.3	-112.5	0.49	-0.11	-4.92	
4,452.0	5.70	325.90	4,436.3	275.1	-151.8	-121.3	0.12	0.11	0.63	
4,641.0	6.20	329.50	4,624.3	291.6	-162.2	-129.9	0.33	0.26	1.90	
4,830.0	6.10	330.00	4,812.2	309.1	-172.4	-138.2	0.06	-0.05	0.26	
5,020.0	5.90	330.10	5,001.1	326.3	-182.3	-146.2	0.11	-0.11	0.05	
5,210.0	5.90	329.50	5,190.1	343.2	-192.1	-154.1	0.03	0.00	-0.32	
5,399.0	5.60	330.50	5,378.2	359.6	-201.6	-161.8	0.17	-0.16	0.53	
5,588.0	6.00	328.80	5,566.2	376.1	-211.3	-169.6	0.23	0.21	-0.90	
5,776.0	6.00	331.70	5,753.2	393.1	-221.0	-177.5	0.16	0.00	1.54	
5,965.0	5.50	331.80	5,941.2	409.8	-230.0	-184.6	0.26	-0.26	0.05	
6,154.0	5.50	325.10	6,129.4	425.2	-239.4	-192.3	0.34	0.00	-3.54	
6,343.0	5.70	334.80	6,317.5	441.2	-248.6	-199.8	0.51	0.11	5.13	
6,532.0	5.60	327.90	6,505.6	457.5	-257.5	-206.8	0.36	-0.05	-3.65	
6,721.0	5.50	332.60	6,693.7	473.3	-266.6	-214.2	0.25	-0.05	2.49	
6,908.0	4.70	333.00	6,879.9	488.1	-274.2	-220.1	0.43	-0.43	0.21	
7,097.0	7.00	336.80	7,067.9	505.6	-282.2	-226.3	1.23	1.22	2.01	
7,285.0	4.80	326.00	7,254.9	522.6	-291.2	-233.3	1.31	-1.17	-5.74	
7,475.0	5.60	334.90	7,444.2	537.6	-299.5	-240.0	0.60	0.42	4.68	
7,664.0	7.70	330.70	7,631.9	557.0	-309.6	-248.0	1.14	1.11	-2.22	
7,854.0	6.20	331.70	7,820.5	577.2	-320.7	-256.8	0.79	-0.79	0.53	
8,043.0	6.20	330.70	8,008.4	595.0	-330.6	-264.7	0.06	0.00	-0.53	
8,232.0	4.00	324.80	8,196.6	609.3	-339.4	-271.9	1.20	-1.16	-3.12	
8,364.0	2.50	33.10	8,328.4	615.5	-340.5	-272.3	2.92	-1.14	51.74	
8,383.0	2.70	31.50	8,347.4	616.2	-340.0	-271.8	1.12	1.05	-8.42	
8,430.0	5.60	43.70	8,394.3	618.8	-337.8	-269.3	6.42	6.17	25.96	
8,478.0	12.40	56.30	8,441.7	623.4	-331.9	-263.0	14.67	14.17	26.25	
8,525.0	18.20	58.30	8,487.0	630.1	-321.5	-251.9	12.39	12.34	4.26	
8,573.0	22.40	57.30	8,532.0	638.9	-307.4	-236.9	8.78	8.75	-2.08	



Stryker Energy Directional Services

Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Sapphire 11/12 B3DC State Com #2H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3365+27 @ 3392.0usft (Patterson 217)
Site:	Section 11 12-19S-29E Sapphire	MD Reference:	3365+27 @ 3392.0usft (Patterson 217)
Well:	Sapphire 11/12 B3DC State Com #2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	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)	
8,620.0	26.30	61.00	8,574.8	648.8	-290.7	-219.3	8.91	8.30	7.87	
8,668.0	30.80	65.90	8,617.0	659.0	-270.2	-197.8	10.56	9.38	10.21	
8,715.0	35.80	68.00	8,656.2	669.1	-246.5	-173.1	10.92	10.64	4.47	
8,762.0	40.20	70.50	8,693.3	679.3	-219.4	-145.1	9.92	9.36	5.32	
8,809.0	44.10	72.10	8,728.1	689.4	-189.5	-114.3	8.61	8.30	3.40	
8,857.0	50.10	73.80	8,760.8	699.7	-155.9	-79.8	12.77	12.50	3.54	
8,904.0	54.60	73.40	8,789.5	710.2	-120.2	-43.2	9.60	9.57	-0.85	
8,952.0	59.80	72.60	8,815.5	722.0	-81.7	-3.6	10.92	10.83	-1.67	
8,999.0	64.20	71.90	8,837.5	734.6	-42.2	37.1	9.45	9.36	-1.49	
9,046.0	69.20	72.20	8,856.1	747.9	-1.1	79.3	10.65	10.64	0.64	
9,093.0	72.70	71.80	8,871.4	761.7	41.1	122.8	7.49	7.45	-0.85	
9,130.0	77.80	72.70	8,880.9	772.6	75.2	157.8	13.98	13.78	2.43	
9,222.0	87.50	75.30	8,892.6	797.7	162.8	247.6	10.91	10.54	2.83	
9,317.0	88.90	78.60	8,895.6	819.1	255.3	341.9	3.77	1.47	3.47	
9,411.0	90.00	79.80	8,896.5	836.7	347.6	435.6	1.73	1.17	1.28	
9,506.0	88.90	80.60	8,897.4	852.9	441.2	530.4	1.43	-1.16	0.84	
9,601.0	87.80	82.60	8,900.2	866.7	535.2	625.3	2.40	-1.16	2.11	
9,695.0	88.30	86.10	8,903.4	876.0	628.6	719.2	3.76	0.53	3.72	
9,790.0	88.50	89.50	8,906.0	879.6	723.5	813.9	3.58	0.21	3.58	
9,884.0	88.30	90.60	8,908.6	879.6	817.5	907.3	1.19	-0.21	1.17	
9,979.0	88.80	90.50	8,911.0	878.6	912.5	1,001.6	0.54	0.53	-0.11	
10,073.0	89.50	90.60	8,912.4	877.7	1,006.4	1,095.0	0.75	0.74	0.11	
10,168.0	88.70	90.50	8,913.9	876.8	1,101.4	1,189.3	0.85	-0.84	-0.11	
10,262.0	88.90	90.70	8,915.9	875.8	1,195.4	1,282.6	0.30	0.21	0.21	
10,356.0	89.40	90.80	8,917.3	874.6	1,289.4	1,375.9	0.54	0.53	0.11	
10,490.0	89.10	90.60	8,919.0	873.0	1,423.4	1,509.0	0.27	-0.22	-0.15	
10,585.0	88.40	90.70	8,921.1	871.9	1,518.3	1,603.3	0.74	-0.74	0.11	
10,679.0	88.70	90.00	8,923.5	871.3	1,612.3	1,696.6	0.81	0.32	-0.74	
10,773.0	88.70	90.10	8,925.6	871.2	1,706.3	1,790.1	0.11	0.00	0.11	
10,868.0	88.90	89.90	8,927.6	871.2	1,801.2	1,884.5	0.30	0.21	-0.21	
10,963.0	88.10	90.50	8,930.1	870.9	1,896.2	1,978.9	1.05	-0.84	0.63	
11,057.0	87.20	89.50	8,934.0	870.9	1,990.1	2,072.2	1.43	-0.96	-1.06	
11,152.0	88.40	90.30	8,937.6	871.1	2,085.1	2,166.6	1.52	1.26	0.84	
11,247.0	88.60	90.30	8,940.1	870.6	2,180.0	2,261.0	0.21	0.21	0.00	
11,341.0	88.60	89.90	8,942.4	870.4	2,274.0	2,354.4	0.43	0.00	-0.43	
11,436.0	88.40	90.20	8,944.9	870.3	2,369.0	2,448.8	0.38	-0.21	0.32	
11,531.0	88.70	89.90	8,947.3	870.3	2,463.9	2,543.2	0.45	0.32	-0.32	
11,625.0	88.70	89.70	8,949.4	870.6	2,557.9	2,636.7	0.21	0.00	-0.21	
11,719.0	88.70	90.80	8,951.5	870.2	2,651.9	2,730.1	1.17	0.00	1.17	
11,813.0	88.90	90.50	8,953.5	869.1	2,745.9	2,823.4	0.38	0.21	-0.32	
11,907.0	88.80	91.00	8,955.4	867.9	2,839.8	2,916.7	0.54	-0.11	0.53	
12,001.0	89.00	90.70	8,957.2	866.5	2,933.8	3,010.0	0.38	0.21	-0.32	
12,096.0	89.00	91.20	8,958.9	864.9	3,028.8	3,104.2	0.53	0.00	0.53	



Stryker Energy Directional Services

Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Sapphire 11/12 B3DC State Com #2H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3365+27 @ 3392.0usft (Patterson 217)
Site:	Section 11 12-19S-29E Sapphire	MD Reference:	3365+27 @ 3392.0usft (Patterson 217)
Well:	Sapphire 11/12 B3DC State Com #2H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	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)	
12,190.0	88.60	90.60	8,960.8	863.4	3,122.7	3,197.5	0.77	-0.43	-0.64	
12,285.0	88.60	89.50	8,963.2	863.3	3,217.7	3,291.9	1.16	0.00	-1.16	
12,379.0	88.60	88.80	8,965.4	864.7	3,311.7	3,385.4	0.74	0.00	-0.74	
12,474.0	88.90	89.60	8,967.5	866.1	3,406.6	3,480.0	0.90	0.32	0.84	
12,569.0	88.70	90.70	8,969.5	865.8	3,501.6	3,574.4	1.18	-0.21	1.16	
12,663.0	88.70	90.90	8,971.6	864.5	3,595.6	3,667.7	0.21	0.00	0.21	
12,758.0	88.70	90.90	8,973.8	863.0	3,690.5	3,761.9	0.00	0.00	0.00	
12,852.0	88.80	90.70	8,975.8	861.7	3,784.5	3,855.2	0.24	0.11	-0.21	
12,947.0	88.40	90.50	8,978.2	860.7	3,879.5	3,949.5	0.47	-0.42	-0.21	
13,041.0	88.90	90.20	8,980.4	860.1	3,973.5	4,042.9	0.62	0.53	-0.32	
13,136.0	89.10	90.20	8,982.0	859.8	4,068.4	4,137.3	0.21	0.21	0.00	
13,231.0	88.80	91.40	8,983.8	858.5	4,163.4	4,231.6	1.30	-0.32	1.26	
13,326.0	89.40	91.00	8,985.3	856.5	4,258.4	4,325.8	0.76	0.63	-0.42	
13,421.0	89.10	91.50	8,986.5	854.4	4,353.3	4,420.0	0.61	-0.32	0.53	
13,516.0	89.00	92.40	8,988.1	851.2	4,448.3	4,514.0	0.95	-0.11	0.95	
13,610.0	89.00	92.90	8,989.7	846.8	4,542.2	4,606.9	0.53	0.00	0.53	
13,705.0	88.90	92.90	8,991.5	842.0	4,637.0	4,700.7	0.11	-0.11	0.00	
13,799.0	88.50	93.60	8,993.6	836.7	4,730.8	4,793.4	0.86	-0.43	0.74	
13,894.0	88.90	92.30	8,995.8	831.8	4,825.7	4,887.2	1.43	0.42	-1.37	
13,988.0	88.40	91.40	8,998.0	828.8	4,919.6	4,980.2	1.10	-0.53	-0.96	
14,082.0	88.70	89.90	9,000.4	827.7	5,013.6	5,073.5	1.63	0.32	-1.60	
14,177.0	89.40	90.00	9,001.9	827.8	5,108.6	5,168.0	0.74	0.74	0.11	
14,271.0	88.70	90.40	9,003.5	827.5	5,202.6	5,261.4	0.86	-0.74	0.43	
14,366.0	88.60	89.90	9,005.7	827.2	5,297.5	5,355.8	0.54	-0.11	-0.53	
14,460.0	88.80	89.70	9,007.9	827.6	5,391.5	5,449.2	0.30	0.21	-0.21	
14,555.0	88.70	89.20	9,009.9	828.5	5,486.5	5,543.7	0.54	-0.11	-0.53	
14,650.0	88.90	90.50	9,011.9	828.7	5,581.4	5,638.2	1.38	0.21	1.37	
14,745.0	88.40	90.20	9,014.2	828.1	5,676.4	5,732.6	0.61	-0.53	-0.32	
14,839.0	88.20	89.30	9,017.0	828.5	5,770.4	5,826.0	0.98	-0.21	-0.96	
14,934.0	88.90	89.90	9,019.4	829.2	5,865.3	5,920.5	0.97	0.74	0.63	
15,029.0	88.70	90.70	9,021.3	828.7	5,960.3	6,014.9	0.87	-0.21	0.84	
15,124.0	88.70	92.40	9,023.5	826.1	6,055.3	6,109.0	1.79	0.00	1.79	
15,219.0	88.60	92.90	9,025.7	821.7	6,150.1	6,202.8	0.54	-0.11	0.53	
15,314.0	88.70	92.20	9,028.0	817.5	6,245.0	6,296.7	0.74	0.11	-0.74	
15,406.0	88.60	92.50	9,030.1	813.8	6,336.9	6,387.7	0.34	-0.11	0.33	
15,499.0	88.70	92.10	9,032.3	810.0	6,429.8	6,479.6	0.44	0.11	-0.43	
15,592.0	88.70	92.10	9,034.4	806.6	6,522.7	6,571.6	0.00	0.00	0.00	
15,685.0	88.60	91.40	9,036.6	803.8	6,615.6	6,663.7	0.76	-0.11	-0.75	
15,780.0	88.90	90.60	9,038.7	802.1	6,710.6	6,758.0	0.90	0.32	-0.84	
15,875.0	88.80	90.30	9,040.6	801.4	6,805.6	6,852.3	0.33	-0.11	-0.32	
15,931.0	88.70	90.10	9,041.8	801.2	6,861.6	6,907.9	0.40	-0.18	-0.36	
16,025.0	88.90	90.20	9,043.8	800.9	6,955.6	7,001.3	0.24	0.21	0.11	
16,120.0	88.70	89.80	9,045.8	800.9	7,050.5	7,095.8	0.47	-0.21	-0.42	



Stryker Energy Directional Services
Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 11 12-19S-29E Sapphire
Well: Sapphire 11/12 B3DC State Com #2H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Sapphire 11/12 B3DC State Com #2H
TVD Reference: 3365+27 @ 3392.0usft (Patterson 217)
MD Reference: 3365+27 @ 3392.0usft (Patterson 217)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
16,215.0	88.70	89.60	9,048.0	801.4	7,145.5	7,190.3	0.21	0.00	-0.21
16,309.0	88.40	89.10	9,050.3	802.5	7,239.5	7,283.8	0.62	-0.32	-0.53
16,403.0	87.80	88.20	9,053.4	804.7	7,333.4	7,377.4	1.15	-0.64	-0.96
16,499.0	87.10	87.80	9,057.7	808.1	7,429.2	7,473.0	0.84	-0.73	-0.42
16,565.0	87.10	87.80	9,061.1	810.6	7,495.1	7,538.8	0.00	0.00	0.00
16565.0' Projected to bit									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
16,565.0	9,061.1	810.6	7,495.1	16565.0' Projected to bit

Checked By: _____ Approved By: _____ Date: _____