

RECEIVED

DEC 16 2019

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

DISTRICT/ARTESIA/OCU

Form C-102

Revised August 1, 2011

Submit one copy to appropriate
District Office

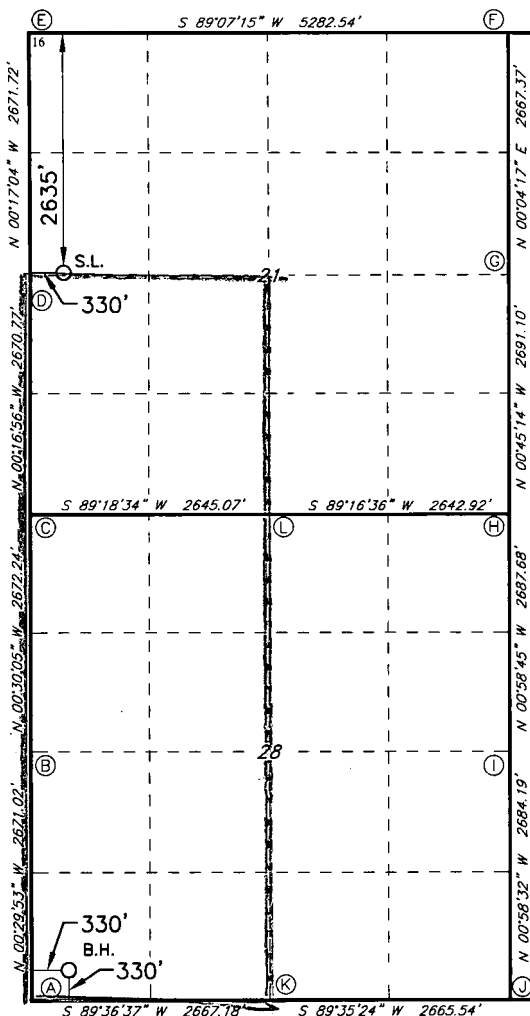
☒ AMENDED REPORT

As Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-015-45763		² Pool Code 98220		³ Pool Name Purple Sage; Wolfcamp (Gas)	
⁴ Property Code 325015		⁵ Property Name KANSAS 21/28 W2LM FEDERAL COM			
⁷ OGRID NO. 14744		⁸ Operator Name MEWBOURNE OIL COMPANY			
⁶ Well Number 1H					
⁹ Elevation 3031'					
¹⁰ Surface Location					
UL or lot no. E	Section 21	Township 24S	Range 28E	Lot Idn	Feet from the 2635
					North/South line NORTH
					Feet From the 330
					East/West line WEST
					County EDDY
¹¹ Bottom Hole Location If Different From Surface					
UL or lot no. M	Section 28	Township 24S	Range 28E	Lot Idn	Feet from the 335
					North/South line SOUTH
					Feet from the 376
					East/West line WEST
					County EDDY
¹² Dedicated Acres 480		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.



GEODETIC DATA
NAD 83 GRID - NM EAST
SURFACE LOCATION
N: 437784.6 - E: 613465.2
LAT: 32.2033319° N
LONG: 104.1001387° W
BOTTOM HOLE
N: 430062.9 - E: 613522.2
LAT: 32.1821055° N
LONG: 104.1000083° W

CORNER DATA
NAD 83 GRID - NM EAST
A: FOUND BRASS CAP "1942"
N 429730.8 - E 613195.2
B: FOUND BRASS CAP "1942"
N 432401.1 - E 613172.0
C: FOUND BRASS CAP "1942"
N 435072.6 - E 613148.6
D: FOUND BRASS CAP "1942"
N: 437742.8 - E: 613135.4
E: CALCULATED CORNER
N: 440413.8 - E: 613122.2
F: CALCULATED CORNER
N: 440494.9 - E: 618402.9
G: FOUND BRASS CAP "1942"
N: 437828.1 - E: 618399.6
H: FOUND BRASS CAP "1942"
N: 435137.9 - E: 618435.0
I: FOUND BRASS CAP "1942"
N 432451.2 - E 618480.9
J: FOUND BRASS CAP "1942"
N 429768.0 - E 618526.6
K: FOUND BRASS CAP "1942"
N 429748.9 - E 615861.7
L: FOUND BRASS CAP "1942"
N 435104.5 - E 615792.9

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: Sackie Lathan Date: 12/10/19
Printed Name: Sackie Lathan

E-mail Address

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.

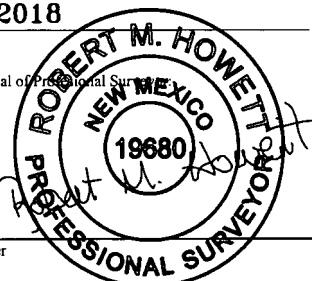
4-05-2018

Date of Survey

Signature and Seal of Professional Surveyor

19680

Certificate Number



RRC - Job No.: LS1804445

RWP 3-12-20

Intent ☐ As Drilled ☒

API #
30-015-45763

Operator Name: Mewbourne Oil Company	Property Name: Kansas 21/28 W1LM Fed Com	Well Number #1H
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Kick Off Point (KOP)

UL E	Section 21	Township 24S	Range 28E	Lot	Feet 2595	From N/S FNL	Feet 316	From E/W FWL	County Eddy
Latitude 32.203442					Longitude -104.100191			NAD 83	

First Take Point (FTP)

UL 21	Section L	Township 24S	Range 28E	Lot	Feet 2266	From N/S FSL	Feet 329	From E/W FWL	County Eddy
Latitude 32.202119					Longitude -104.100146			NAD 83	

Last Take Point (LTP)

UL 2A	Section M	Township 24S	Range 28E	Lot	Feet 446	From N/S FSL	Feet 396	From E/W FWL	County Eddy
Latitude 32.182426					Longitude -104.099858			NAD 83	

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

☒

Is this well an infill well?

☐ No

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

RECEIVED

DEC 16 2019

DISTRICT 7 - ARTESIA O.C.D.

STRYKER

DIRECTIONAL

August 29, 2019

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
Kansas 21 28 W2LM Federal Com #1H
Purple Sage; Wolfcamp
Eddy County, New Mexico
API# 30-015-45763

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>
Glen Thompson	Original Hole	552ft. to 17,171ft.	04-14-19 to 05-03-19	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\Kansas 21 28 W2LM Fed Com #1H\191065

STRYKER ENERGY DIRECTIONAL SERVICES, L.L.C.

P.O. Box 1250

Montgomery, TX 77356

Office (936) 582-7296 * Fax (936)-588-4163



August 29, 2019

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 April 14, 2019, through May 3, 2019 conduct or supervise the taking of a SEDS Original Hole MWD Survey from a depth of 552feet to a depth of 17,171feet; that I am authorized and qualified to make this report; that this survey was conducted at the request of Mewbourne Oil Company, for the Kansas 21 28 W2LM Federal Com #1H, well API # 30-015-45763 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", 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



Microsoft
MWD Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Kansas 21 28 W1LM Fed 1H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Site:	Section 21-28-24S-28E Kansas	MD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Well:	Kansas 21 28 W1LM Fed 1H	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 21-28-24S-28E Kansas		
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Site Position:		Northing:	437,785.10 usft	Latitude:	32° 12' 11.999 N
From:	Map	Easting:	613,495.10 usft	Longitude:	104° 6' 0.151 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.12 °

Well	Kansas 21 28 W1LM Fed 1H					
Well Position	+N/-S	0.0 usft	Northing:	437,784.60 usft	Latitude:	32° 12' 11.995 N
	+E/-W	0.0 usft	Easting:	613,465.20 usft	Longitude:	104° 6' 0.499 W
Position Uncertainty	0.0 usft		Wellhead Elevation:	28.0 usft	Ground Level:	3,031.0 usft

Wellbore	Original Hole				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	02/20/19	7.02	59.94	47,700.03063965

Design	Original Hole				
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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	179.22	

Survey Program	Date 05/03/19				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
552.0	17,225.0	Survey #1 (Original Hole)	MWD+IGRF	OWSG MWD + IGRF or WMM	



Microsoft
MWD Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Kansas 21 28 W1LM Fed 1H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Site:	Section 21-28-24S-28E Kansas	MD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Well:	Kansas 21 28 W1LM Fed 1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
360.0	0.40	304.50	360.0	1.2	-0.9	1.5	323.13	
Mossberg Fed #1 (150° Rad)								
552.0	1.50	293.30	552.0	2.6	-3.8	4.6	304.39	
742.0	1.80	294.10	741.9	4.8	-8.8	10.0	298.58	
931.0	2.10	285.20	930.8	6.9	-14.8	16.3	294.95	
1,121.0	2.00	285.50	1,120.7	8.7	-21.4	23.1	292.14	
1,310.0	2.10	274.30	1,309.5	9.8	-28.0	29.7	289.35	
1,501.0	2.00	289.70	1,500.4	11.2	-34.6	36.4	287.95	
1,692.0	1.80	282.50	1,691.3	13.0	-40.7	42.7	287.71	
1,882.0	0.80	249.50	1,881.3	13.2	-44.9	46.7	286.37	
2,071.0	0.40	210.80	2,070.3	12.1	-46.4	48.0	284.66	
2,261.0	1.70	136.50	2,260.2	9.5	-44.8	45.8	282.00	
2,411.0	2.10	123.30	2,410.1	6.4	-41.0	41.5	278.89	
2,548.0	2.00	131.30	2,547.1	3.5	-37.1	37.3	275.32	
2,736.0	2.10	130.60	2,734.9	-1.0	-32.0	32.0	268.30	
2,925.0	2.20	133.40	2,923.8	-5.7	-26.8	27.4	257.98	
3,115.0	3.90	58.20	3,113.6	-4.8	-18.6	19.2	255.54	
3,305.0	1.80	62.30	3,303.3	0.0	-10.5	10.5	269.96	
3,495.0	1.80	50.60	3,493.2	3.3	-5.5	6.4	300.61	
3,684.0	1.90	51.00	3,682.2	7.1	-0.8	7.2	353.56	
3,873.0	1.80	45.30	3,871.1	11.2	3.7	11.0	18.48	
4,063.0	1.70	50.10	4,061.0	15.1	8.0	17.1	27.99	
4,253.0	1.50	42.80	4,250.9	18.7	11.9	22.2	32.38	
4,443.0	1.50	41.80	4,440.8	22.4	15.2	27.1	34.19	
4,633.0	1.40	48.90	4,630.8	25.8	18.6	31.8	35.84	
4,822.0	0.20	16.50	4,819.7	27.6	20.5	34.4	36.53	
5,012.0	0.30	102.50	5,009.7	27.8	21.0	34.9	37.09	



Microsoft
MWD Report



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Site:	Section 21-28-24S-28E Kansas	MD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Well:	Kansas 21 28 W1LM Fed 1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
5,202.0	0.40	119.10	5,199.7	27.4	22.1	35.2	38.90	
5,391.0	0.20	196.60	5,388.7	26.8	22.6	35.0	40.16	
5,580.0	0.20	142.20	5,577.7	26.2	22.7	34.7	40.92	
5,769.0	0.30	171.20	5,766.7	25.4	23.0	34.3	42.09	
5,958.0	0.20	158.50	5,955.7	24.6	23.2	33.8	43.24	
6,148.0	0.30	178.30	6,145.7	23.8	23.3	33.3	44.36	
6,337.0	1.20	57.70	6,334.7	24.4	25.0	34.9	45.69	
6,526.0	0.90	52.60	6,523.7	26.4	27.8	38.3	46.57	
6,715.0	0.80	108.10	6,712.7	26.9	30.3	40.5	48.40	
6,904.0	1.20	232.60	6,901.7	25.3	30.0	39.3	49.82	
7,093.0	1.50	231.40	7,090.6	22.6	26.5	34.8	49.55	
7,282.0	1.90	274.30	7,279.5	21.3	21.4	30.2	45.21	
7,471.0	1.40	306.00	7,468.4	22.9	16.4	28.2	35.71	
7,660.0	1.20	259.00	7,657.4	23.8	12.6	27.0	27.90	
7,849.0	1.40	283.10	7,846.4	24.0	8.4	25.4	19.37	
8,039.0	1.50	305.90	8,036.3	26.0	4.2	26.3	9.09	
8,229.0	1.50	345.20	8,226.2	29.8	1.5	29.9	2.89	
8,418.0	1.20	323.70	8,415.2	33.8	-0.3	33.8	359.50	
8,607.0	0.90	299.00	8,604.2	36.1	-2.8	36.2	355.62	
8,797.0	1.40	290.50	8,794.1	37.7	-6.2	38.2	350.59	
8,985.0	1.60	285.80	8,982.1	39.2	-10.9	40.7	344.43	
9,102.7	1.45	277.87	9,099.7	39.8	-14.0	42.2	340.67	
B.B. Kansas 21 28 W1LM #1H								
9,153.0	1.40	274.00	9,150.0	40.0	-15.2	42.8	339.15	
9,196.0	1.50	252.40	9,193.0	39.8	-16.3	43.0	337.77	
9,227.0	3.70	186.20	9,224.0	38.7	-16.8	42.2	336.57	
9,259.0	8.00	174.50	9,255.8	35.5	-16.7	39.2	334.82	



Microsoft
MWD Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Kansas 21 28 W1LM Fed 1H
Project:	Eddy County, N.M. Nad: (83)	TVD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Site:	Section 21-28-24S-28E Kansas	MD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Well:	Kansas 21 28 W1LM Fed 1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
9,290.0	12.60	169.60	9,286.3	30.0	-15.9	33.9	332.14	
9,322.0	17.90	167.90	9,317.1	21.8	-14.2	26.0	326.87	
9,353.0	22.30	169.00	9,346.2	11.3	-12.1	16.6	313.14	
9,385.0	25.70	170.40	9,375.5	-1.5	-9.8	9.9	261.34	
9,416.0	28.40	172.20	9,403.1	-15.4	-7.6	17.2	206.36	
9,448.0	31.90	174.00	9,430.7	-31.4	-5.7	31.9	190.34	
9,479.0	35.30	175.20	9,456.6	-48.5	-4.1	48.6	184.86	
9,511.0	39.70	176.40	9,481.9	-67.9	-2.7	67.9	182.28	
9,543.0	43.60	177.70	9,505.8	-89.1	-1.6	89.1	181.04	
9,574.0	46.70	178.60	9,527.7	-111.1	-0.9	111.1	180.47	
9,606.0	49.80	179.30	9,549.0	-134.9	-0.5	134.9	180.20	
9,638.0	52.90	180.40	9,569.0	-159.9	-0.4	159.9	180.15	
9,669.0	56.30	180.70	9,587.0	-185.2	-0.7	185.2	180.20	
9,701.0	60.00	180.90	9,603.8	-212.4	-1.0	212.4	180.28	
9,732.0	63.90	180.80	9,618.4	-239.7	-1.4	239.7	180.35	
9,764.0	67.60	180.60	9,631.6	-268.9	-1.8	268.9	180.38	
9,796.0	72.70	179.90	9,642.4	-299.0	-1.9	299.0	180.37	
9,822.0	76.30	179.50	9,649.4	-324.0	-1.8	324.0	180.32	
9,870.0	81.70	179.90	9,658.5	-371.1	-1.6	371.1	180.24	
9,901.0	83.50	179.80	9,662.5	-401.9	-1.5	401.9	180.21	
9,933.0	84.20	179.60	9,665.9	-433.7	-1.3	433.7	180.17	
9,964.0	84.40	179.50	9,669.0	-464.5	-1.1	464.5	180.13	
10,059.0	87.00	178.90	9,676.1	-559.2	0.3	559.2	179.97	
10,153.0	90.70	179.60	9,678.0	-653.2	1.5	653.2	179.87	
10,247.0	89.80	179.30	9,677.6	-747.2	2.4	747.2	179.82	
10,342.0	89.90	180.70	9,677.9	-842.2	2.4	842.2	179.84	
10,436.0	90.40	180.60	9,677.6	-936.2	1.3	936.2	179.92	



Microsoft
MWD Report



Company: Mewbourne Oil Company
Project: Eddy County, N.M. Nad (83)
Site: Section 21-28-24S-28E Kansas
Well: Kansas 21'28'W1LM Fed 1H
Wellbore: Original Hole
Design: Original Hole

Local Co-ordinate Reference: Well Kansas 21'28'W1LM Fed 1H
TVD Reference: 3031. +28 @ 3059.0usft (Patterson 231)
MD Reference: 3031 +28 @ 3059.0usft (Patterson 231)
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 (°)
10,531.0	87.60	179.90	9,679.3	-1,031.2	0.9	1,031.2	179.95
10,625.0	88.70	180.10	9,682.3	-1,125.1	0.9	1,125.1	179.95
10,719.0	87.80	178.50	9,685.2	-1,219.0	2.1	1,219.0	179.90
10,814.0	86.30	179.40	9,690.1	-1,313.9	3.8	1,313.9	179.83
10,909.0	88.70	179.70	9,694.2	-1,408.8	4.5	1,408.8	179.82
11,003.0	89.40	179.10	9,695.8	-1,502.8	5.5	1,502.8	179.79
11,097.0	88.40	179.00	9,697.6	-1,596.8	7.1	1,596.8	179.75
11,191.0	92.30	179.30	9,697.0	-1,690.7	8.5	1,690.7	179.71
11,286.0	90.90	178.80	9,694.3	-1,785.7	10.1	1,785.7	179.68
11,381.0	90.20	178.10	9,693.4	-1,880.6	12.6	1,880.7	179.62
11,476.0	91.80	178.20	9,691.8	-1,975.6	15.7	1,975.6	179.54
11,570.0	90.20	177.60	9,690.1	-2,069.5	19.1	2,069.6	179.47
11,665.0	89.50	178.10	9,690.4	-2,164.4	22.7	2,164.5	179.40
11,759.0	89.30	177.50	9,691.4	-2,258.3	26.3	2,258.5	179.33
11,853.0	89.50	179.00	9,692.4	-2,352.3	29.2	2,352.5	179.29
11,947.0	89.30	178.00	9,693.3	-2,446.2	31.6	2,446.4	179.26
12,040.0	88.40	177.70	9,695.2	-2,539.2	35.1	2,539.4	179.21
12,134.0	91.00	178.10	9,695.7	-2,633.1	38.6	2,633.4	179.16
12,229.0	91.20	178.40	9,693.9	-2,728.0	41.5	2,728.3	179.13
12,323.0	88.40	174.80	9,694.2	-2,821.8	47.0	2,822.2	179.04
12,418.0	91.30	180.20	9,694.5	-2,916.7	51.2	2,917.1	178.99
12,513.0	91.00	180.90	9,692.5	-3,011.7	50.3	3,012.1	179.04
12,607.0	91.10	181.40	9,690.8	-3,105.6	48.4	3,106.0	179.11
12,702.0	91.10	181.30	9,689.0	-3,200.6	46.1	3,200.9	179.17
12,796.0	87.90	177.60	9,689.8	-3,294.6	47.0	3,294.9	179.18
12,890.0	87.60	178.20	9,693.5	-3,388.4	50.5	3,388.8	179.15
12,985.0	88.40	180.00	9,696.8	-3,483.3	52.0	3,483.7	179.15



Microsoft
MWD Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Kansas 21 28 W1LM Fed 1H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Site:	Section 21-28-24S-28E Kansas	MD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Well:	Kansas 21 28 W1LM Fed 1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

Survey							
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
13,079.0	89.90	180.10	9,698.2	-3,577.3	51.9	3,577.7	179.17
13,174.0	92.10	179.90	9,696.6	-3,672.3	51.9	3,672.7	179.19
13,268.0	90.60	180.80	9,694.3	-3,766.3	51.3	3,766.6	179.22
13,363.0	87.50	179.90	9,695.9	-3,861.3	50.7	3,861.6	179.25
13,457.0	87.30	182.40	9,700.2	-3,955.1	48.9	3,955.4	179.29
13,552.0	91.90	180.90	9,700.9	-4,050.1	46.1	4,050.3	179.35
13,647.0	89.30	179.60	9,699.9	-4,145.0	45.7	4,145.3	179.37
13,741.0	87.90	179.60	9,702.2	-4,239.0	46.4	4,239.3	179.37
13,835.0	90.00	176.30	9,703.9	-4,332.9	49.7	4,333.2	179.34
13,929.0	89.10	168.60	9,704.6	-4,426.0	62.1	4,426.5	179.20
14,023.0	89.00	171.80	9,706.2	-4,518.6	78.1	4,519.3	179.01
14,055.0	88.70	175.00	9,706.8	-4,550.4	81.7	4,551.1	178.97
14,086.0	88.50	179.60	9,707.6	-4,581.4	83.2	4,582.1	178.96
14,117.0	90.70	183.50	9,707.8	-4,612.3	82.4	4,613.1	178.98
14,212.0	91.70	178.30	9,705.8	-4,707.3	80.9	4,708.0	179.02
14,306.0	90.80	182.70	9,703.7	-4,801.2	80.1	4,801.9	179.04
14,400.0	89.50	183.30	9,703.5	-4,895.1	75.1	4,895.7	179.12
14,495.0	90.70	179.20	9,703.3	-4,990.0	73.1	4,990.6	179.16
14,590.0	89.80	177.40	9,702.9	-5,085.0	75.9	5,085.6	179.15
14,684.0	92.30	185.90	9,701.2	-5,178.9	73.2	5,179.4	179.19
14,778.0	89.00	183.90	9,700.1	-5,272.5	65.2	5,272.9	179.29
14,873.0	90.70	185.70	9,700.4	-5,367.1	57.2	5,367.4	179.39
14,967.0	90.20	184.60	9,699.6	-5,460.8	48.8	5,461.0	179.49
15,062.0	89.70	181.30	9,699.7	-5,555.6	43.9	5,555.8	179.55
15,157.0	90.40	180.90	9,699.6	-5,650.6	42.1	5,650.8	179.57
15,252.0	94.60	185.00	9,695.5	-5,745.3	37.2	5,745.5	179.63
15,346.0	88.60	177.70	9,692.9	-5,839.2	35.0	5,839.3	179.66



Microsoft
MWD Report



Company:	Newbourne Oil Company	Local Co-ordinate Reference:	Well Kansas 21 28 W1LM Fed 1H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3031'+28' @ 3059.0usft (Patterson 231)
Site:	Section 21-28-24S-28E, Kansas	MD Reference:	3031'+28' @ 3059.0usft (Patterson 231)
Well:	Kansas 21-28 W1LM Fed 1H	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Original Hole	Database:	EDM5000

Survey								
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)	
15,441.0	87.40	177.20	9,696.2	-5,934.0	39.2	5,934.2	179.62	
15,535.0	85.70	177.00	9,701.8	-6,027.7	43.9	6,027.9	179.58	
15,630.0	89.20	178.40	9,706.1	-6,122.5	47.8	6,122.7	179.55	
15,725.0	92.70	180.20	9,704.5	-6,217.5	48.9	6,217.7	179.55	
15,820.0	89.20	176.40	9,702.9	-6,312.4	51.7	6,312.6	179.53	
15,914.0	92.10	179.90	9,701.9	-6,406.3	54.8	6,406.6	179.51	
16,009.0	91.10	179.70	9,699.2	-6,501.3	55.1	6,501.5	179.51	
16,103.0	91.30	179.40	9,697.2	-6,595.3	55.8	6,595.5	179.51	
16,198.0	90.60	172.70	9,695.7	-6,690.0	62.4	6,690.3	179.47	
16,293.0	89.20	179.70	9,695.8	-6,784.7	68.7	6,785.1	179.42	
16,387.0	88.50	180.20	9,697.7	-6,878.7	68.7	6,879.0	179.43	
16,482.0	91.40	182.80	9,697.8	-6,973.6	66.3	6,974.0	179.46	
16,576.0	90.50	173.10	9,696.2	-7,067.5	69.6	7,067.8	179.44	
16,671.0	90.10	171.90	9,695.7	-7,161.6	82.0	7,162.1	179.34	
16,766.0	90.30	176.90	9,695.4	-7,256.2	91.3	7,256.7	179.28	
16,860.0	88.20	177.30	9,696.6	-7,350.0	96.0	7,350.6	179.25	
16,954.0	89.10	178.30	9,698.8	-7,443.9	99.7	7,444.6	179.23	
17,049.0	86.60	178.50	9,702.4	-7,538.8	102.3	7,539.5	179.22	
17,144.0	85.70	179.40	9,708.8	-7,633.6	104.0	7,634.3	179.22	
17,171.0	85.70	179.70	9,710.8	-7,660.5	104.2	7,661.2	179.22	
17,171 MD Projected to Bit								
17,225.0	85.70	179.70	9,714.9	-7,714.3	104.5	7,715.1	179.22	
PBHL								



COMPANY: Mewbourne Oil Company
 WELL: Kansas 21 28 W1LM Fed 1H
 COUNTY: Eddy County, N.M. Nad (83)
 DATUM: North American Datum 1983
 RIG: Patterson 231



OFFICE: 936.582.7296

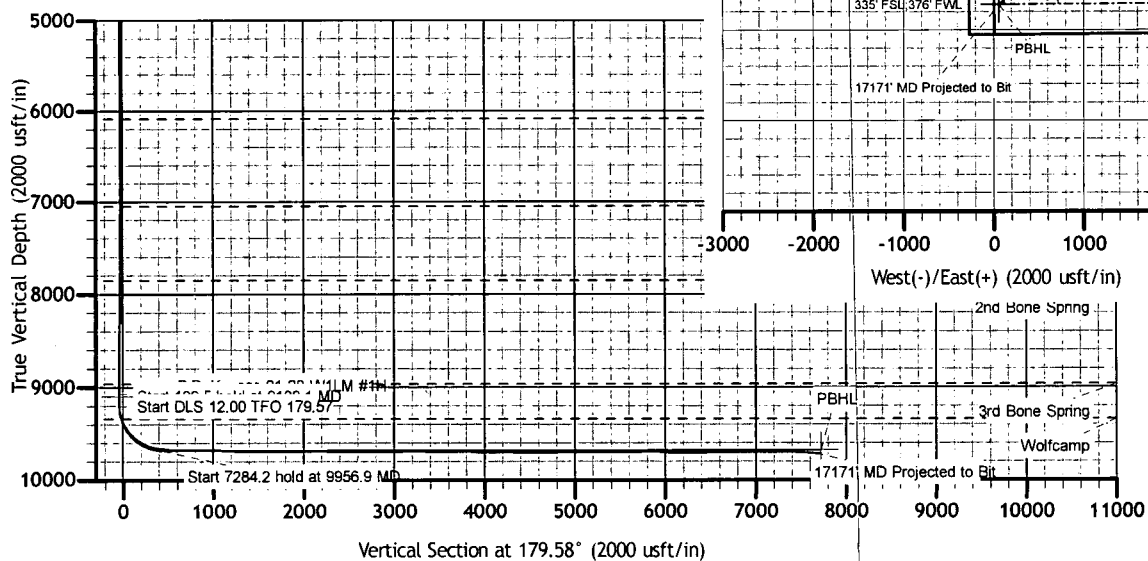
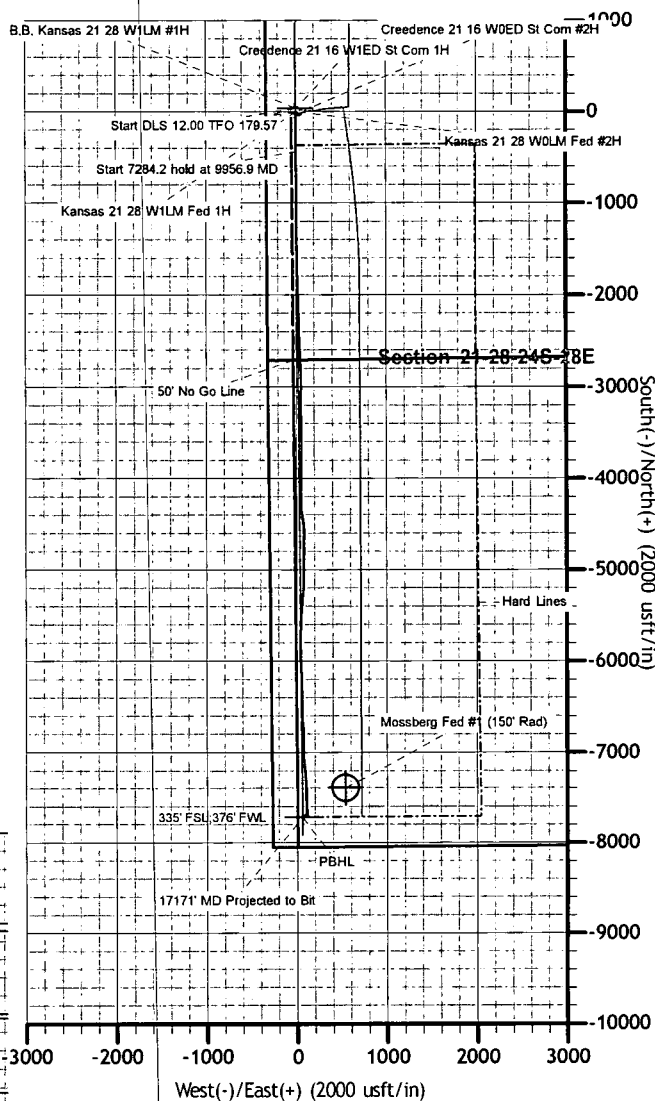
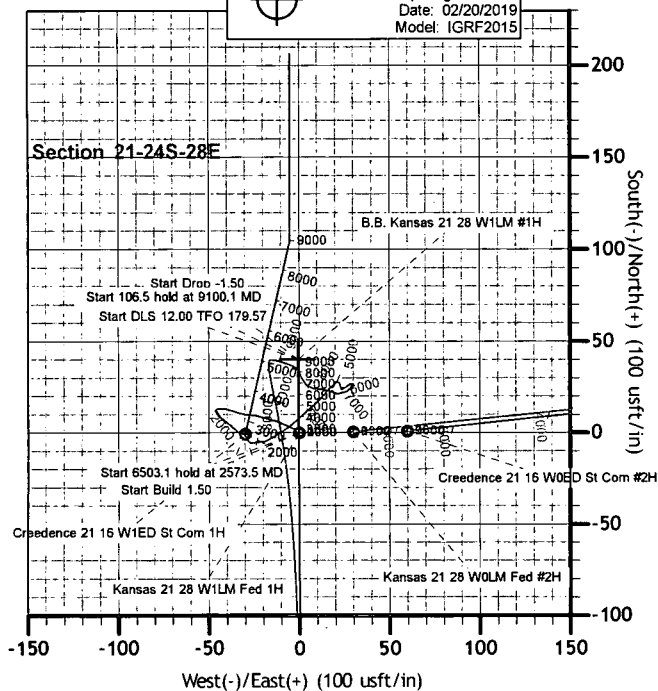
GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 6.89°

GEODETIC ZONE: New Mexico Eastern Zone										
3031 +28 @ 3059.0usft (Patterson 231)										
GROUND ELEVATION: 3031.0										
		+N/-S	+E/-W	Northing	Easting	Latitude	Longitude		Slot	
		0.0	0.0	437784.60	613465.20	32° 12' 11.995 N	104° 6' 0.499 W			
PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	2550.0	0.00	0.00	2550.0	0.0	0.0	0.00	0.00	0.0	
3	2573.5	0.35	359.05	2573.5	0.1	0.0	1.50	359.05	-0.1	
4	9076.6	0.35	359.05	9076.5	40.1	-0.7	0.00	0.00	-40.1	
5	9100.1	0.00	0.00	9100.0	40.2	-0.7	1.50	180.00	-40.2	B.B. Kansas 21 28 W1LM #1H
6	9206.6	0.00	0.00	9206.5	40.2	-0.7	0.00	0.00	-40.2	
7	9956.9	90.04	179.57	9684.0	-437.6	2.9	12.00	179.57	437.6	
8	17241.1	90.04	179.57	9679.0	-7721.6	57.1	0.00	0.00	7721.8	PBHL

SHL: 2635 FNL; 330' FWL
 Section 21-24S-28E
 PBHL: 330' FSL; 330' FWL
 Section 28-24S-28E



Azimuths to Grid North
 True North: -0.12°
 Magnetic North: 6.89°
 Magnetic Field
 Strength: 47700.0nT
 Dip Angle: 59.94°
 Date: 02/20/2019
 Model: IGRF2015





Mewbourne Oil Company

**Eddy County, N.M. Nad (83)
Section 21-28-24S-28E Kansas
Kansas 21 28 W1LM Fed 1H**

Original Hole

Design: Original Hole

Standard Survey Report

03 May, 2019





Microsoft
Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Kansas 21 28 W1LM Fed 1H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Site:	Section 21-28-24S-28E Kansas	MD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Well:	Kansas 21 28 W1LM Fed 1H	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 21-28-24S-28E Kansas		
Site Position:		Northing:	437,785.10 usft
From:	Map	Easting:	613,495.10 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 12' 11.999 N
		Longitude:	104° 6' 0.151 W
		Grid Convergence:	0.12 °

Well	Kansas 21 28 W1LM Fed 1H		
Well Position	+N/-S	0.0 usft	Northing: 437,784.60 usft
	+E/-W	0.0 usft	Easting: 613,465.20 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	28.0 usft
		Latitude:	32° 12' 11.995 N
		Longitude:	104° 6' 0.499 W
		Ground Level:	3,031.0 usft

Wellbore	Original Hole		
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	02/20/19	7.02	59.94	47,700.03063964

Design	Original Hole		
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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	179.22

Survey Program	Date 05/03/19		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
552.0	17,225.0	Survey #1 (Original Hole)	MWD+IGRF
			Description
			OWSG MWD + IGRF or WMM

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)
360.0	0.40	304.50	360.0	1.2	-0.9	-1.2	0.00	0.00	0.00
Mossberg Fed #1 (150' Rad)									
552.0	1.50	293.30	552.0	2.6	-3.8	-2.6	0.58	0.57	-5.83
742.0	1.80	294.10	741.9	4.8	-8.8	-4.9	0.16	0.16	0.42
931.0	2.10	285.20	930.8	6.9	-14.8	-7.1	0.23	0.16	-4.71
1,121.0	2.00	285.50	1,120.7	8.7	-21.4	-9.0	0.05	-0.05	0.16
1,310.0	2.10	274.30	1,309.5	9.8	-28.0	-10.2	0.22	0.05	-5.93
1,501.0	2.00	289.70	1,500.4	11.2	-34.6	-11.7	0.29	-0.05	8.06
1,692.0	1.80	282.50	1,691.3	13.0	-40.7	-13.5	0.16	-0.10	-3.77
1,882.0	0.80	249.50	1,881.3	13.2	-44.9	-13.8	0.64	-0.53	-17.37
2,071.0	0.40	210.80	2,070.3	12.1	-46.4	-12.8	0.29	-0.21	-20.48



Microsoft
Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Kansas 21 28 W1LM Fed 1H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Site:	Section 21-28-24S-28E Kansas	MD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Well:	Kansas 21 28 W1LM Fed 1H	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)
2,261.0	1.70	136.50	2,260.2	9.5	-44.8	-10.1	0.86	0.68	-39.11
2,411.0	2.10	123.30	2,410.1	6.4	-41.0	-7.0	0.39	0.27	-8.80
2,548.0	2.00	131.30	2,547.1	3.5	-37.1	-4.0	0.22	-0.07	5.84
2,736.0	2.10	130.60	2,734.9	-1.0	-32.0	0.5	0.05	0.05	-0.37
2,925.0	2.20	133.40	2,923.8	-5.7	-26.8	5.3	0.08	0.05	1.48
3,115.0	3.90	58.20	3,113.6	-4.8	-18.6	4.5	2.08	0.89	-39.58
3,305.0	1.80	62.30	3,303.3	0.0	-10.5	-0.1	1.11	-1.11	2.16
3,495.0	1.80	50.60	3,493.2	3.3	-5.5	-3.3	0.19	0.00	-6.16
3,684.0	1.90	51.00	3,682.2	7.1	-0.8	-7.1	0.05	0.05	0.21
3,873.0	1.80	45.30	3,871.1	11.2	3.7	-11.1	0.11	-0.05	-3.02
4,063.0	1.70	50.10	4,061.0	15.1	8.0	-15.0	0.09	-0.05	2.53
4,253.0	1.50	42.80	4,250.9	18.7	11.9	-18.6	0.15	-0.11	-3.84
4,443.0	1.50	41.80	4,440.8	22.4	15.2	-22.2	0.01	0.00	-0.53
4,633.0	1.40	48.90	4,630.8	25.8	18.6	-25.5	0.11	-0.05	3.74
4,822.0	0.20	16.50	4,819.7	27.6	20.5	-27.3	0.65	-0.63	-17.14
5,012.0	0.30	102.50	5,009.7	27.8	21.0	-27.5	0.18	0.05	45.26
5,202.0	0.40	119.10	5,199.7	27.4	22.1	-27.1	0.07	0.05	8.74
5,391.0	0.20	196.60	5,388.7	26.8	22.6	-26.5	0.22	-0.11	41.01
5,580.0	0.20	142.20	5,577.7	26.2	22.7	-25.9	0.10	0.00	-28.78
5,769.0	0.30	171.20	5,766.7	25.4	23.0	-25.1	0.08	0.05	15.34
5,958.0	0.20	158.50	5,955.7	24.6	23.2	-24.3	0.06	-0.05	-6.72
6,148.0	0.30	178.30	6,145.7	23.8	23.3	-23.5	0.07	0.05	10.42
6,337.0	1.20	57.70	6,334.7	24.4	25.0	-24.1	0.73	0.48	-63.81
6,526.0	0.90	52.60	6,523.7	26.4	27.8	-26.0	0.17	-0.16	-2.70
6,715.0	0.80	106.10	6,712.7	26.9	30.3	-26.5	0.41	-0.05	28.31
6,904.0	1.20	232.60	6,901.7	25.3	30.0	-24.9	0.95	0.21	66.93
7,093.0	1.50	231.40	7,090.6	22.6	26.5	-22.2	0.16	0.16	-0.63
7,282.0	1.90	274.30	7,279.5	21.3	21.4	-21.0	0.69	0.21	22.70
7,471.0	1.40	306.00	7,468.4	22.9	16.4	-22.6	0.54	-0.26	16.77
7,660.0	1.20	259.00	7,657.4	23.8	12.6	-23.7	0.56	-0.11	-24.87
7,849.0	1.40	283.10	7,846.4	24.0	8.4	-23.9	0.31	0.11	12.75
8,039.0	1.50	305.90	8,036.3	26.0	4.2	-25.9	0.31	0.05	12.00
8,229.0	1.50	345.20	8,226.2	29.8	1.5	-29.8	0.53	0.00	20.68
8,418.0	1.20	323.70	8,415.2	33.8	-0.3	-33.8	0.31	-0.16	-11.38
8,607.0	0.90	299.00	8,604.2	36.1	-2.8	-36.2	0.28	-0.16	-13.07
8,797.0	1.40	290.50	8,794.1	37.7	-6.2	-37.8	0.28	0.26	-4.47
8,985.0	1.60	285.80	8,982.1	39.2	-10.9	-39.3	0.12	0.11	-2.50
9,102.7	1.45	277.87	9,099.7	39.8	-14.0	-40.0	0.22	-0.12	-6.74
B.B. Kansas 21 28 W1LM #1H									
9,153.0	1.40	274.00	9,150.0	40.0	-15.2	-40.2	0.22	-0.11	-7.68
9,196.0	1.50	252.40	9,193.0	39.8	-16.3	-40.1	1.28	0.23	-50.23
9,227.0	3.70	186.20	9,224.0	38.7	-16.8	-38.9	10.92	7.10	-213.55
9,259.0	8.00	174.50	9,255.8	35.5	-16.7	-35.7	13.88	13.44	-36.56



Microsoft
Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Kansas 21 28 W1LM Fed 1H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Site:	Section 21-28-24S-28E Kansas	MD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Well:	Kansas 21 28 W1LM Fed 1H	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)
9,290.0	12.60	169.60	9,286.3	30.0	-15.9	-30.2	15.09	14.84	-15.81
9,322.0	17.90	167.90	9,317.1	21.8	-14.2	-21.9	16.62	16.56	-5.31
9,353.0	22.30	169.00	9,346.2	11.3	-12.1	-11.5	14.25	14.19	3.55
9,385.0	25.70	170.40	9,375.5	-1.5	-9.8	1.4	10.77	10.63	4.38
9,416.0	28.40	172.20	9,403.1	-15.4	-7.6	15.3	9.10	8.71	5.81
9,448.0	31.90	174.00	9,430.7	-31.4	-5.7	31.3	11.30	10.94	5.63
9,479.0	35.30	175.20	9,456.6	-48.5	-4.1	48.4	11.17	10.97	3.87
9,511.0	39.70	176.40	9,481.9	-67.9	-2.7	67.8	13.94	13.75	3.75
9,543.0	43.60	177.70	9,505.8	-89.1	-1.6	89.1	12.48	12.19	4.06
9,574.0	46.70	178.60	9,527.7	-111.1	-0.9	111.0	10.21	10.00	2.90
9,606.0	49.80	179.30	9,549.0	-134.9	-0.5	134.9	9.82	9.69	2.19
9,638.0	52.90	180.40	9,569.0	-159.9	-0.4	159.9	10.05	9.69	3.44
9,669.0	56.30	180.70	9,587.0	-185.2	-0.7	185.2	11.00	10.97	0.97
9,701.0	60.00	180.90	9,603.8	-212.4	-1.0	212.3	11.57	11.56	0.63
9,732.0	63.90	180.80	9,618.4	-239.7	-1.4	239.7	12.58	12.58	-0.32
9,764.0	67.60	180.60	9,631.6	-268.9	-1.8	268.8	11.58	11.56	-0.63
9,796.0	72.70	179.90	9,642.4	-299.0	-1.9	298.9	16.07	15.94	-2.19
9,822.0	76.30	179.50	9,649.4	-324.0	-1.8	324.0	13.93	13.85	-1.54
9,870.0	81.70	179.90	9,658.5	-371.1	-1.6	371.1	11.28	11.25	0.83
9,901.0	83.50	179.80	9,662.5	-401.9	-1.5	401.8	5.82	5.81	-0.32
9,933.0	84.20	179.60	9,665.9	-433.7	-1.3	433.6	2.27	2.19	-0.63
9,964.0	84.40	179.50	9,669.0	-464.5	-1.1	464.5	0.72	0.65	-0.32
10,059.0	87.00	178.90	9,676.1	-559.2	0.3	559.2	2.81	2.74	-0.63
10,153.0	90.70	179.60	9,678.0	-653.2	1.5	653.2	4.01	3.94	0.74
10,247.0	89.80	179.30	9,677.6	-747.2	2.4	747.2	1.01	-0.96	-0.32
10,342.0	89.90	180.70	9,677.9	-842.2	2.4	842.1	1.48	0.11	1.47
10,436.0	90.40	180.60	9,677.6	-936.2	1.3	936.1	0.54	0.53	-0.11
10,531.0	87.60	179.90	9,679.3	-1,031.2	0.9	1,031.1	3.04	-2.95	-0.74
10,625.0	88.70	180.10	9,682.3	-1,125.1	0.9	1,125.0	1.19	1.17	0.21
10,719.0	87.80	178.50	9,685.2	-1,219.0	2.1	1,219.0	1.95	-0.96	-1.70
10,814.0	86.30	179.40	9,690.1	-1,313.9	3.8	1,313.8	1.84	-1.58	0.95
10,909.0	88.70	179.70	9,694.2	-1,408.8	4.5	1,408.7	2.55	2.53	0.32
11,003.0	89.40	179.10	9,695.8	-1,502.8	5.5	1,502.7	0.98	0.74	-0.64
11,097.0	88.40	179.00	9,697.6	-1,596.8	7.1	1,596.7	1.07	-1.06	-0.11
11,191.0	92.30	179.30	9,697.0	-1,690.7	8.5	1,690.7	4.16	4.15	0.32
11,286.0	90.90	178.80	9,694.3	-1,785.7	10.1	1,785.6	1.56	-1.47	-0.53
11,381.0	90.20	178.10	9,693.4	-1,880.6	12.6	1,880.6	1.04	-0.74	-0.74
11,476.0	91.80	178.20	9,691.8	-1,975.6	15.7	1,975.6	1.69	1.68	0.11
11,570.0	90.20	177.60	9,690.1	-2,069.5	19.1	2,069.5	1.82	-1.70	-0.64
11,665.0	89.50	178.10	9,690.4	-2,164.4	22.7	2,164.5	0.91	-0.74	0.53
11,759.0	89.30	177.50	9,691.4	-2,258.3	26.3	2,258.5	0.67	-0.21	-0.64
11,853.0	89.50	179.00	9,692.4	-2,352.3	29.2	2,352.5	1.61	0.21	1.60
11,947.0	89.30	178.00	9,693.3	-2,446.2	31.6	2,446.4	1.08	-0.21	-1.06



Microsoft
Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Kansas 21 28 W1LM Fed 1H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Site:	Section 21-28-24S-28E Kansas	MD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Well:	Kansas 21 28 W1LM Fed 1H	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)
12,040.0	88.40	177.70	9,695.2	-2,539.2	35.1	2,539.4	1.02	-0.97	-0.32
12,134.0	91.00	178.10	9,695.7	-2,633.1	38.6	2,633.4	2.80	2.77	0.43
12,229.0	91.20	178.40	9,693.9	-2,728.0	41.5	2,728.3	0.38	0.21	0.32
12,323.0	88.40	174.80	9,694.2	-2,821.8	47.0	2,822.2	4.85	-2.98	-3.83
12,418.0	91.30	180.20	9,694.5	-2,916.7	51.2	2,917.1	6.45	3.05	5.68
12,513.0	91.00	180.90	9,692.5	-3,011.7	50.3	3,012.1	0.80	-0.32	0.74
12,607.0	91.10	181.40	9,690.8	-3,105.6	48.4	3,106.0	0.54	0.11	0.53
12,702.0	91.10	181.30	9,689.0	-3,200.6	46.1	3,200.9	0.11	0.00	-0.11
12,796.0	87.90	177.60	9,689.8	-3,294.6	47.0	3,294.9	5.20	-3.40	-3.94
12,890.0	87.60	178.20	9,693.5	-3,388.4	50.5	3,388.8	0.71	-0.32	0.64
12,985.0	88.40	180.00	9,696.8	-3,483.3	52.0	3,483.7	2.07	0.84	1.89
13,079.0	89.90	180.10	9,698.2	-3,577.3	51.9	3,577.7	1.60	1.60	0.11
13,174.0	92.10	179.90	9,696.6	-3,672.3	51.9	3,672.7	2.33	2.32	-0.21
13,268.0	90.60	180.80	9,694.3	-3,766.3	51.3	3,766.6	1.86	-1.60	0.96
13,363.0	87.50	179.90	9,695.9	-3,861.3	50.7	3,861.6	3.40	-3.26	-0.95
13,457.0	87.30	182.40	9,700.2	-3,955.1	48.9	3,955.4	2.67	-0.21	2.66
13,552.0	91.90	180.90	9,700.9	-4,050.1	46.1	4,050.3	5.09	4.84	-1.58
13,647.0	89.30	179.60	9,699.9	-4,145.0	45.7	4,145.3	3.06	-2.74	-1.37
13,741.0	87.90	179.60	9,702.2	-4,239.0	46.4	4,239.3	1.49	-1.49	0.00
13,835.0	90.00	176.30	9,703.9	-4,332.9	49.7	4,333.2	4.16	2.23	-3.51
13,929.0	89.10	168.60	9,704.6	-4,426.0	62.1	4,426.5	8.25	-0.96	-8.19
14,023.0	89.00	171.80	9,706.2	-4,518.6	78.1	4,519.3	3.41	-0.11	3.40
14,055.0	88.70	175.00	9,706.8	-4,550.4	81.7	4,551.1	10.04	-0.94	10.00
14,086.0	88.50	179.60	9,707.6	-4,581.4	83.2	4,582.1	14.85	-0.65	14.84
14,117.0	90.70	183.50	9,707.8	-4,612.3	82.4	4,613.0	14.44	7.10	12.58
14,212.0	91.70	178.30	9,705.8	-4,707.3	80.9	4,707.9	5.57	1.05	-5.47
14,306.0	90.80	182.70	9,703.7	-4,801.2	80.1	4,801.9	4.78	-0.96	4.68
14,400.0	89.50	183.30	9,703.5	-4,895.1	75.1	4,895.7	1.52	-1.38	0.64
14,495.0	90.70	179.20	9,703.3	-4,990.0	73.1	4,990.6	4.50	1.26	-4.32
14,590.0	89.80	177.40	9,702.9	-5,085.0	75.9	5,085.6	2.12	-0.95	-1.89
14,684.0	92.30	185.90	9,701.2	-5,178.9	73.2	5,179.4	9.42	2.66	9.04
14,778.0	89.00	183.90	9,700.1	-5,272.5	65.2	5,272.9	4.10	-3.51	-2.13
14,873.0	90.70	185.70	9,700.4	-5,367.1	57.2	5,367.4	2.61	1.79	1.89
14,967.0	90.20	184.60	9,699.6	-5,460.8	48.8	5,460.9	1.29	-0.53	-1.17
15,062.0	89.70	181.30	9,699.7	-5,555.6	43.9	5,555.7	3.51	-0.53	-3.47
15,157.0	90.40	180.90	9,699.6	-5,650.6	42.1	5,650.7	0.85	0.74	-0.42
15,252.0	94.60	185.00	9,695.5	-5,745.3	37.2	5,745.3	6.17	4.42	4.32
15,346.0	88.60	177.70	9,692.9	-5,839.2	35.0	5,839.1	10.05	-6.38	-7.77
15,441.0	87.40	177.20	9,696.2	-5,934.0	39.2	5,934.0	1.37	-1.26	-0.53
15,535.0	85.70	177.00	9,701.8	-6,027.7	43.9	6,027.8	1.82	-1.81	-0.21
15,630.0	89.20	178.40	9,706.1	-6,122.5	47.8	6,122.6	3.97	3.68	1.47
15,725.0	92.70	180.20	9,704.5	-6,217.5	48.9	6,217.6	4.14	3.68	1.89
15,820.0	89.20	176.40	9,702.9	-6,312.4	51.7	6,312.5	5.44	-3.68	-4.00
15,914.0	92.10	179.90	9,701.8	-6,406.3	54.8	6,406.5	4.83	3.09	3.72



Microsoft
Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Kansas 21 28 W1LM Fed 1H
Project:	Eddy County, N.M. Nad (83)	TVD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Site:	Section 21-28-24S-28E Kansas	MD Reference:	3031 +28 @ 3059.0usft (Patterson 231)
Well:	Kansas 21 28 W1LM Fed 1H	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)
16,009.0	91.10	179.70	9,699.2	-6,501.3	55.1	6,501.4	1.07	-1.05	-0.21
16,103.0	91.30	179.40	9,697.2	-6,595.3	55.8	6,595.4	0.38	0.21	-0.32
16,198.0	90.60	172.70	9,695.7	-6,690.0	62.4	6,690.2	7.09	-0.74	-7.05
16,293.0	89.20	179.70	9,695.8	-6,784.7	68.7	6,785.0	7.51	-1.47	7.37
16,387.0	88.50	180.20	9,697.7	-6,878.7	68.7	6,879.0	0.92	-0.74	0.53
16,482.0	91.40	182.80	9,697.8	-6,973.6	66.3	6,973.9	4.10	3.05	2.74
16,576.0	90.50	173.10	9,696.2	-7,067.5	69.6	7,067.7	10.36	-0.96	-10.32
16,671.0	90.10	171.90	9,695.7	-7,161.6	82.0	7,162.1	1.33	-0.42	-1.26
16,766.0	90.30	176.90	9,695.4	-7,256.2	91.3	7,256.7	5.27	0.21	5.26
16,860.0	88.20	177.30	9,696.6	-7,350.0	96.0	7,350.6	2.27	-2.23	0.43
16,954.0	89.10	178.30	9,698.8	-7,443.9	99.7	7,444.6	1.43	0.96	1.06
17,049.0	86.60	178.50	9,702.4	-7,538.8	102.3	7,539.5	2.64	-2.63	0.21
17,144.0	85.70	179.40	9,708.8	-7,633.6	104.0	7,634.3	1.34	-0.95	0.95
17,171.0	85.70	179.70	9,710.8	-7,660.5	104.2	7,661.2	1.11	0.00	1.11
17171' MD Projected to Bit									
17,225.0	85.70	179.70	9,714.9	-7,714.3	104.5	7,715.1	0.00	0.00	0.00
PBHL									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
17,171.0	9,710.8	-7,660.5	104.2	17171' MD Projected to Bit