



RECEIVED

FEB 04 2019

DISTRICT II-ARTESIA O.C.D.

Mewbourne Oil Company

Eddy County, New Mexico (Nad 83)

Sec 2, T24S, R28E

Skynyrd 2 W0DM Fee #1H

Wellbore #1

30-015-44802

Survey: QES MWD Surveys

QES Survey Certification Report

02 August, 2018



Quintana Energy Services

11390 FM 830
Willis, TX 77318
Phone: (936) 856-4332
Fax: (936) 856-8678

**Survey Certification Sheet**

Company	Job Number	Date
Mewbourne Oil Company	WT-180769	8/3/2018

Lease	Well Name	County & State
SEC 2, T-24S, R28E	Skynnard 2 W0DM Fee #1H	Eddy County, NM

API No.	Survey Depth Range	Survey Type
30-015-44802	7394 feet to 13044 feet MD	MWD

Sidetrack Information	Directional Supervisor/Surveyor
Click here to enter text.	Brad Reed

Certification Statement

The data and calculations for this survey have been checked by me and conform to the standards and procedures set forth by Quintana Energy Services (QES). This report represents a true and correct directional survey of this well based on the original data obtained at the well site. Wellbore coordinates are calculated using minimum curvature.

Christopher Hughes

Digitally signed by Christopher Hughes
DN: cn=Christopher Hughes, o=QES,
ou=compliance, email=chrish@qeslp.com, c=US
Date: 2018.08.08 14:50:15 -05'00'

Christopher Hughes
MWD Compliance Manager
Quintana Energy Services



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Skynyrd 2 W0DM Fee #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3043.0usft (Patterson #243)
Site:	Sec 2, T24S, R28E	MD Reference:	WELL @ 3043.0usft (Patterson #243)
Well:	Skynyrd 2 W0DM Fee #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Eddy County, New Mexico (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	Sec 2, T24S, R28E				
Site Position:		Northing:	456,163.00 usft	Latitude:	32° 15' 13.596 N
From:	Map	Easting:	625,124.70 usft	Longitude:	104° 3' 44.254 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16"	Grid Convergence:	0.14 °

Well	Skynyrd 2 W0DM Fee #1H					
Well Position	+N/-S	0.0 usft	Northing:	456,162.70 usft	Latitude:	32° 15' 13.595 N
	+E/-W	0.0 usft	Easting:	625,064.70 usft	Longitude:	104° 3' 44.953 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,016.0 usft	

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	7/6/2018	7.07	60.00	47,798.30909021

Design	Wellbore #1				
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	190.90	

Survey Program	Date	8/2/2018		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
88.0	88.0	Phoenix Gyros (Wellbore #1)	GYRO-NS	OWSG Gyrocompass Gyro
181.0	14,385.0	QES MWD Surveys (Wellbore #1)	OWSG (Rev2) MWD	OWSG MWD - Standard

Survey									
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)		
88.0	0.30	326.30	88.0	0.2	-0.1	0.2	326.30		
Tie-In @ 88.0' MD / 88.0' TVD									
181.0	0.30	7.80	181.0	0.6	-0.2	0.7	340.11		
302.0	1.90	275.40	302.0	1.1	-2.2	2.5	297.52		
486.0	2.40	299.30	485.8	3.3	-8.6	9.2	291.10		
669.0	2.40	315.10	668.7	7.9	-14.6	16.6	298.37		
861.0	2.90	312.80	860.5	14.0	-21.0	25.3	303.74		
1,052.0	2.60	317.90	1,051.3	20.5	-27.5	34.3	306.78		
1,242.0	2.50	326.90	1,241.1	27.2	-32.6	42.5	309.83		
1,432.0	2.70	331.60	1,430.9	34.6	-37.0	50.7	313.08		
1,623.0	2.70	325.60	1,621.7	42.3	-41.7	59.4	315.40		



QES Survey Certification Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Skynyrd 2 W0DM Fee #1H
Project:	Eddy County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3043.0usft (Patterson #243)
Site:	Sec 2, T24S, R28E	MD Reference:	WELL @ 3043.0usft (Patterson #243)
Well:	Skynyrd 2 W0DM Fee #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
1,720.0	3.30	324.40	1,718.5	46.4	-44.6	64.4	316.15
1,908.0	1.90	349.00	1,906.3	53.9	-48.4	72.4	318.10
2,095.0	2.20	13.40	2,093.2	60.4	-48.1	77.3	321.47
2,282.0	2.10	71.40	2,280.1	65.0	-44.0	78.5	325.89
2,470.0	0.70	317.90	2,468.1	67.0	-41.5	78.8	328.19
2,480.0	0.70	294.20	2,478.1	67.0	-41.6	78.9	328.15
2,642.0	1.00	312.40	2,640.1	68.4	-43.6	81.1	327.49
2,829.0	4.10	305.90	2,826.8	73.4	-50.2	89.0	325.63
3,015.0	5.30	295.00	3,012.2	81.0	-63.4	102.8	321.94
3,202.0	5.60	292.40	3,198.4	88.1	-79.6	118.8	317.88
3,389.0	5.70	294.50	3,384.5	95.4	-96.5	135.7	314.66
3,575.0	4.90	287.10	3,569.7	101.6	-112.5	151.6	312.07
3,763.0	5.00	285.90	3,757.0	106.2	-128.1	166.4	309.66
3,949.0	4.90	283.30	3,942.3	110.2	-143.6	181.0	307.51
4,136.0	4.70	281.70	4,128.6	113.6	-158.9	195.3	305.57
4,324.0	4.80	278.20	4,316.0	116.3	-174.2	209.5	303.73
4,511.0	4.80	278.20	4,502.3	118.5	-189.7	223.7	302.00
4,697.0	4.80	277.10	4,687.7	120.6	-205.1	238.0	300.45
4,885.0	4.70	268.50	4,875.0	121.4	-220.6	251.8	298.82
5,072.0	3.80	281.30	5,061.5	122.4	-234.4	264.4	297.57
5,261.0	4.70	287.60	5,250.0	126.0	-247.9	278.1	296.94
5,449.0	4.50	284.30	5,437.4	130.1	-262.4	292.9	296.38
5,637.0	4.10	277.80	5,624.9	132.8	-276.2	306.5	295.69
5,835.0	3.50	271.50	5,822.4	134.0	-289.2	318.8	294.85
6,012.0	4.00	282.90	5,999.1	135.5	-300.7	329.8	294.26
6,202.0	4.80	286.10	6,188.5	139.2	-314.8	344.1	293.85
6,389.0	3.80	290.50	6,375.0	143.5	-328.1	358.1	293.63
6,577.0	3.50	278.30	6,562.6	146.5	-339.6	369.9	293.34
6,765.0	5.20	258.80	6,750.0	145.7	-353.6	382.5	292.39
6,953.0	6.20	272.70	6,937.1	144.5	-372.1	399.2	291.22
7,141.0	4.60	271.30	7,124.3	145.2	-389.8	416.0	290.43
7,329.0	4.80	265.90	7,311.6	144.8	-405.2	430.3	289.66
7,517.0	3.70	285.20	7,499.1	145.8	-418.9	443.5	289.19
7,704.0	2.70	286.80	7,685.8	148.7	-428.9	454.0	289.12
7,892.0	3.30	284.10	7,873.6	151.3	-438.4	463.8	289.03
8,080.0	5.00	270.80	8,061.1	152.7	-451.9	477.0	288.67
8,269.0	4.60	279.00	8,249.4	154.0	-467.6	492.3	288.23
8,456.0	3.00	263.30	8,436.0	154.6	-479.8	504.1	287.86
8,644.0	3.80	276.90	8,623.7	154.8	-490.9	514.7	287.50
8,833.0	3.40	274.10	8,812.3	155.9	-502.7	526.3	287.23
9,021.0	1.70	263.40	9,000.1	156.0	-511.1	534.3	286.97
9,098.0	0.70	262.70	9,077.1	155.8	-512.7	535.8	286.90
9,180.0	3.40	169.90	9,159.1	153.3	-512.7	535.2	286.65
9,211.0	7.60	181.30	9,189.9	150.4	-512.6	534.2	286.35
9,242.0	11.70	186.80	9,220.5	145.2	-513.0	533.2	285.80



QES Survey Certification Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico (Nad 83)
Site: Sec 2, T24S, R28E
Well: Skynyrd 2 W0DM Fee #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Skynyrd 2 W0DM Fee #1H
TVD Reference: WELL @ 3043.0usft (Patterson #243)
MD Reference: WELL @ 3043.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
9,274.0	14.50	189.90	9,251.6	138.0	-514.1	532.3	285.03
9,305.0	17.40	189.60	9,281.4	129.7	-515.5	531.6	284.12
9,337.0	21.30	190.30	9,311.6	119.2	-517.4	530.9	282.98
9,368.0	25.40	192.40	9,340.1	107.2	-519.8	530.8	281.65
9,400.0	29.30	194.70	9,368.5	92.9	-523.3	531.5	280.07
9,431.0	33.30	197.30	9,395.0	77.4	-527.7	533.4	278.35
9,462.0	35.10	199.90	9,420.6	60.9	-533.3	536.8	276.52
9,494.0	38.70	200.30	9,446.2	42.9	-539.9	541.6	274.54
9,525.0	43.30	200.30	9,469.6	23.8	-547.0	547.5	272.49
9,556.0	47.60	200.60	9,491.3	3.1	-554.7	554.7	270.32
9,588.0	51.90	200.80	9,512.0	-19.7	-563.3	563.7	267.99
9,619.0	54.70	200.10	9,530.5	-43.0	-572.0	573.6	265.70
9,650.0	57.90	201.00	9,547.7	-67.2	-581.0	584.9	263.41
9,682.0	62.90	202.80	9,563.5	-93.0	-591.4	598.7	261.07
9,713.0	67.70	204.20	9,576.5	-118.8	-602.7	614.3	258.85
9,744.0	73.10	204.50	9,586.9	-145.4	-614.7	631.7	256.69
9,775.0	77.10	204.70	9,594.8	-172.6	-627.2	650.5	254.61
9,807.0	78.10	202.90	9,601.7	-201.2	-639.8	670.7	252.54
9,838.0	79.40	201.30	9,607.8	-229.4	-651.2	690.4	250.60
9,869.0	81.50	200.60	9,612.9	-257.9	-662.1	710.6	248.72
9,928.0	85.80	201.50	9,619.4	-312.6	-683.2	751.3	245.41
9,959.0	85.30	201.70	9,621.8	-341.4	-694.6	773.9	243.83
10,022.0	86.30	197.30	9,626.5	-400.6	-715.6	820.0	240.76
10,116.0	89.40	194.70	9,630.0	-490.9	-741.4	889.2	236.49
10,210.0	89.00	192.70	9,631.3	-582.2	-763.7	960.3	232.68
10,304.0	88.60	194.10	9,633.3	-673.6	-785.5	1,034.7	229.39
10,397.0	90.60	193.30	9,633.9	-763.9	-807.5	1,111.6	226.59
10,491.0	92.20	190.80	9,631.6	-855.8	-827.1	1,190.2	224.02
10,584.0	88.00	184.30	9,631.4	-947.9	-839.3	1,266.1	221.52
10,679.0	92.50	183.40	9,631.0	-1,042.7	-845.7	1,342.6	219.04
10,772.0	92.30	179.00	9,627.1	-1,135.6	-847.6	1,417.1	216.74
10,866.0	88.40	177.80	9,626.6	-1,229.5	-845.0	1,491.9	214.50
10,960.0	87.30	178.10	9,630.1	-1,323.4	-841.7	1,568.4	212.46
11,054.0	88.40	179.60	9,633.6	-1,417.3	-839.8	1,647.4	210.65
11,148.0	92.20	181.50	9,633.1	-1,511.3	-840.7	1,729.4	209.09
11,242.0	91.10	181.50	9,630.4	-1,605.2	-843.1	1,813.2	207.71
11,336.0	89.40	179.90	9,630.0	-1,699.2	-844.3	1,897.4	206.42
11,429.0	92.10	181.10	9,628.8	-1,792.2	-845.1	1,981.4	205.25
11,522.0	89.70	179.20	9,627.3	-1,885.1	-845.3	2,066.0	204.15
11,617.0	88.60	178.50	9,628.7	-1,980.1	-843.4	2,152.3	203.07
11,710.0	89.20	179.70	9,630.5	-2,073.1	-842.0	2,237.5	202.10
11,804.0	91.80	180.30	9,629.7	-2,167.1	-842.0	2,324.9	201.23
11,898.0	90.00	180.10	9,628.2	-2,261.1	-842.3	2,412.8	200.43
11,992.0	88.80	181.80	9,629.2	-2,355.0	-843.9	2,501.7	199.71



QES Survey Certification Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico (Nad 83)
Site: Sec 2, T24S, R28E
Well: Skynyrd 2 W0DM Fee #1H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Skynyrd 2 W0DM Fee #1H
TVD Reference: WELL @ 3043.0usft (Patterson #243)
MD Reference: WELL @ 3043.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM 5000.1 Single User Db

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	N/S (usft)	E/W (usft)	Closure Distance (usft)	Closure Azimuth (°)
12,086.0	89.70	182.50	9,630.4	-2,449.0	-847.4	2,591.4	199.09
12,180.0	90.80	182.50	9,630.0	-2,542.9	-851.5	2,681.6	198.51
12,274.0	90.00	181.50	9,629.4	-2,636.8	-854.8	2,771.9	197.96
12,368.0	88.50	181.10	9,630.6	-2,730.8	-856.9	2,862.1	197.42
12,462.0	91.30	182.00	9,630.8	-2,824.7	-859.4	2,952.6	196.92
12,557.0	90.90	181.10	9,628.9	-2,919.7	-862.0	3,044.3	196.45
12,651.0	89.80	180.60	9,628.4	-3,013.7	-863.4	3,134.9	195.99
12,745.0	90.60	181.80	9,628.0	-3,107.6	-865.4	3,225.9	195.56
12,839.0	91.40	182.70	9,626.4	-3,201.5	-869.1	3,317.4	195.19
12,933.0	89.80	182.70	9,625.4	-3,295.4	-873.5	3,409.2	194.85
13,027.0	90.40	183.10	9,625.3	-3,389.3	-878.2	3,501.2	194.53
13,122.0	88.80	182.70	9,625.9	-3,484.2	-883.1	3,594.3	194.22
13,216.0	89.30	180.90	9,627.5	-3,578.1	-886.0	3,686.2	193.91
13,310.0	89.90	178.50	9,628.1	-3,672.1	-885.5	3,777.4	193.56
13,404.0	89.30	178.10	9,628.8	-3,766.1	-882.7	3,868.1	193.19
13,498.0	90.10	176.00	9,629.3	-3,859.9	-877.9	3,958.5	192.81
13,592.0	88.10	177.60	9,630.8	-3,953.8	-872.6	4,048.9	192.45
13,686.0	90.00	181.80	9,632.3	-4,047.7	-872.1	4,140.6	192.16
13,781.0	89.30	182.50	9,632.9	-4,142.7	-875.7	4,234.2	191.94
13,875.0	92.10	184.60	9,631.8	-4,236.5	-881.5	4,327.2	191.75
13,969.0	89.30	184.30	9,630.6	-4,330.2	-888.8	4,420.4	191.60
14,063.0	89.00	184.80	9,632.0	-4,423.8	-896.3	4,513.7	191.45
14,158.0	87.80	184.10	9,634.6	-4,518.5	-903.6	4,608.0	191.31
14,251.0	87.80	183.80	9,638.2	-4,611.2	-910.0	4,700.2	191.16
14,330.0	88.40	183.40	9,640.8	-4,690.0	-915.0	4,778.5	191.04
14,385.0	88.40	184.00	9,642.4	-4,744.9	-918.6	4,833.0	190.96

TD @ 14385.0' MD / 9642.4' TVD

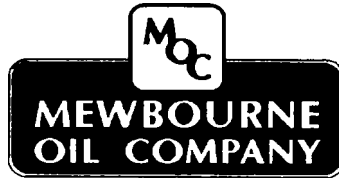
Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
88.0	88.0	0.2	-0.1	Tie-In @ 88.0' MD / 88.0' TVD
14,385.0	9,642.4	-4,744.9	-918.6	TD @ 14385.0' MD / 9642.4' TVD

Checked By: _____ Approved By: _____ Date: _____

Company Name: Mewbourne Oil Company
 Skynryd 2 WODM Fee #1H
 Eddy County, New Mexico (Nad 83)
 Rig: Patterson #243
 Created By: Shane Robbins
 Date: 8/2/2018

Skynryd 2 WODM Fee #1H
 Eddy County, New Mexico (Nad 83)
 Q180916 & WT-180769
 Design #2



Azimuths to Grid North

Correction: 6.93°
 Magnetic Field

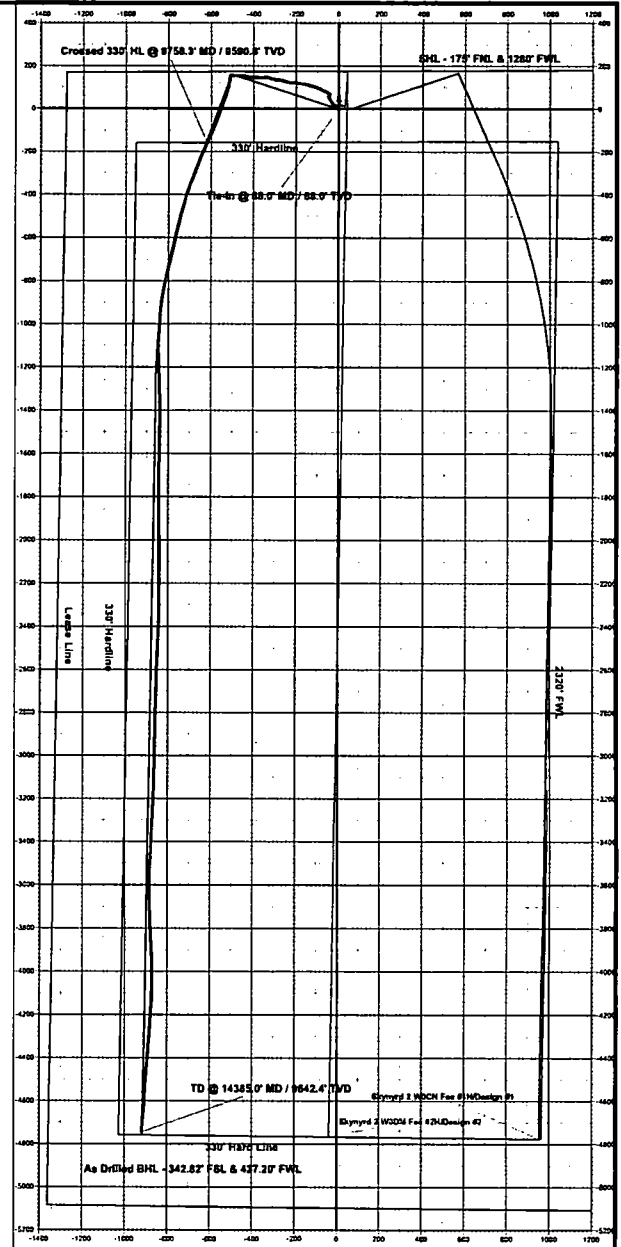
Strength: 47798.3nT
 Dip Angle: 60.00°
 Date: 7/6/2018
 Model: IGRF2015

WELL DETAILS: Skynryd 2 WODM Fee #1H

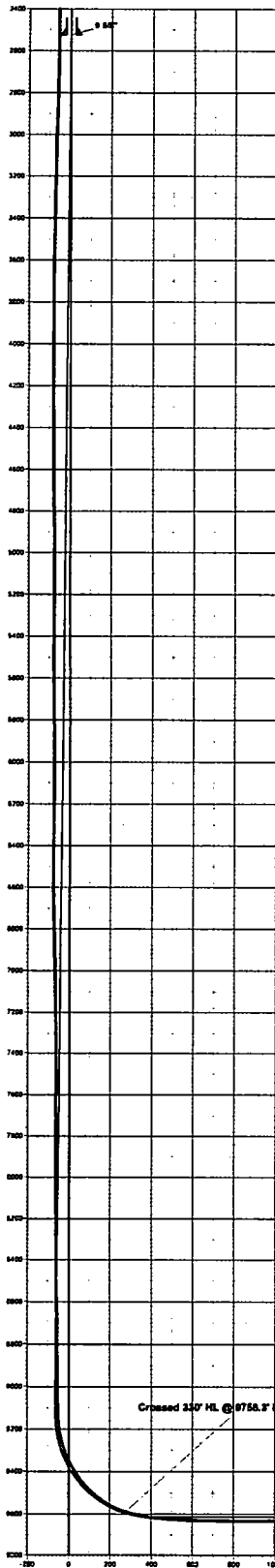
Northings	Eastings	Latitude	Longitude
456162.70	825064.70	33° 32' 15" N	104° 2' 44.953" W

PROJECT DETAILS: Eddy County, New Mexico (Nad 83)

Geodetic System: US State Plane 1983
 Datum: North American Datum 1983
 Ellipsoid: GRS 1980
 Zone: New Mexico Eastern Zone
 System Datum: Mean Sea Level



ANNOTATIONS							
MD	Inc	Adj	TVD	+N-S	+E-W	VSectDeparture	Annotation
88.9	0.30	328.30	98.0	0.2	0.2	0.2	Tie-in @ 88.9' MD / 98.0' TVD
9758.3	74.85	204.59	9590.8	-157.8	-820.4	272.3	Crossed 330' HL @ 9758.3' MD / 9590.8' TVD
14385.0	88.40	184.00	9642.4	-4744.9	-918.8	4833.0	TD @ 14385.0' MD / 9642.4' TVD



Vertical Section at 190.90° (200 uft/in)