

30-015-43495

Mewbourne Oil Company

Eddy County, New Mexico

Sec 28, T23S, R28E

Loving Townsite 21 W0PA FEE #2H

Wellbore #1

Design: Wellbore #1

QES Survey Report

02 May, 2017



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-170395	5/24/2017

Lease	Well Name	County & State
Sec28,T23S,R28E	LovingTownsite21W0PAFEE#2H	Eddy,NM

API No.	Survey Depth Range	Survey Type
30-015-43495	8900 feet to 14540 feet MD	MWD

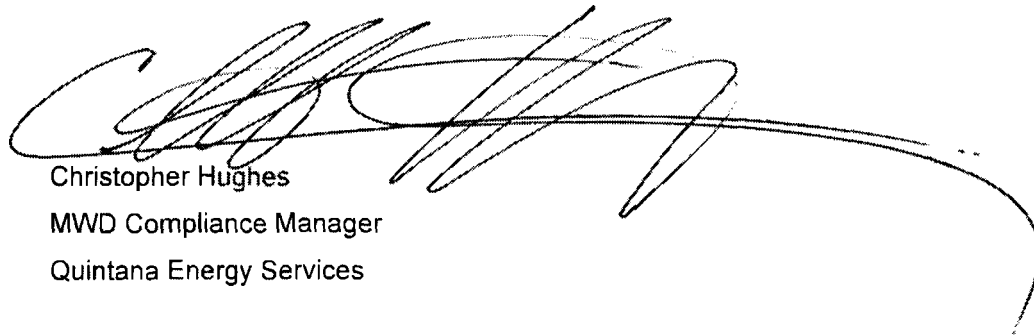
Slidetrack Information	Directional Supervisor/Surveyor
N/A	Brad Reed

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: 2017.05.25 08:42:26 -05'00'



Christopher Hughes
MWD Compliance Manager
Quintana Energy Services



Survey Report

QES

Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Sec 28, T23S, R28E
Well: Loving Townsite 21 W0PA FEE #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Loving Townsite 21 W0PA FEE #2H
TVD Reference: WELL @ 3062.0usft (Patterson #243)
MD Reference: WELL @ 3062.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5002

Project	Eddy County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Sec 28, T23S, R28E		
Site Position:		Northing:	466,637.50 usft
From:	Map	Easting:	577,080.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 16' 57.565 N
		Longitude:	104° 5' 2.093 W
		Grid Convergence:	0.13 °

Well	Loving Townsite 21 W0PA FEE #2H		
Well Position	+N/-S	0.0 usft	Northing: 466,636.90 usft
	+E/-W	0.0 usft	Easting: 577,010.40 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 16' 57.560 N
		Longitude:	104° 5' 2.909 W
		Ground Level:	3,035.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	3/21/2017	7.22
		Dip Angle (°)	60.04
		Field Strength (nT)	47,946

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
Vertical Section:		Tie On Depth:	0.0
	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)
	0.0	0.0	0.0
		Direction (°)	357.64

Survey Program	Date 5/2/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.0	8,900.0	Gyros (Wellbore #1)	Good_gyro
9,010.0	14,540.0	MWD Surveys (Wellbore #1)	MWD default
			Description
			Good Gyro
			MWD - Standard

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.96	97.25	100.0	-0.1	0.8	-0.1	0.96	0.96	0.00
200.0	1.40	117.78	200.0	-0.8	2.7	-0.9	0.60	0.44	20.53
300.0	1.13	129.01	299.9	-2.0	4.6	-2.2	0.37	-0.27	11.23
400.0	0.97	143.70	399.9	-3.3	5.9	-3.5	0.31	-0.16	14.69
500.0	1.35	284.39	499.9	-3.7	5.2	-3.9	2.19	0.38	140.69
600.0	2.87	291.61	599.9	-2.4	1.7	-2.5	1.54	1.52	7.22
700.0	2.95	290.07	699.7	-0.6	-3.0	-0.5	0.11	0.08	-1.54
800.0	1.78	279.23	799.6	0.5	-6.9	0.8	1.25	-1.17	-10.84
900.0	1.69	282.55	899.6	1.1	-9.9	1.5	0.13	-0.09	3.32



Survey Report



Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Sec 28, T23S, R28E
Well: Loving Townsite 21 W0PA FEE #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Loving Townsite 21 W0PA FEE #2H
TVD Reference: WELL @ 3062.0usft (Patterson #243)
MD Reference: WELL @ 3062.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5002

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)
1,000.0	2.42	294.41	999.5	2.3	-13.3	2.8	0.84	0.73	11.86
1,100.0	2.72	297.28	1,099.4	4.2	-17.3	4.9	0.33	0.30	2.87
1,200.0	2.71	294.96	1,199.3	6.3	-21.6	7.2	0.11	-0.01	-2.32
1,300.0	2.80	296.41	1,299.2	8.4	-25.9	9.4	0.11	0.09	1.45
1,400.0	2.82	297.04	1,399.1	10.6	-30.3	11.8	0.04	0.02	0.63
1,500.0	2.68	295.80	1,499.0	12.7	-34.6	14.1	0.15	-0.14	-1.24
1,600.0	2.69	296.58	1,598.9	14.8	-38.8	16.4	0.04	0.01	0.78
1,700.0	2.66	296.81	1,698.7	16.9	-42.9	18.6	0.03	-0.03	0.23
1,800.0	2.62	298.76	1,798.6	19.0	-47.0	21.0	0.10	-0.04	1.95
1,900.0	2.15	295.17	1,898.6	20.9	-50.7	23.0	0.49	-0.47	-3.59
2,000.0	1.81	288.85	1,998.5	22.2	-53.9	24.4	0.40	-0.34	-6.32
2,100.0	1.54	287.33	2,098.4	23.1	-56.7	25.5	0.27	-0.27	-1.52
2,200.0	0.96	269.60	2,198.4	23.5	-58.8	25.9	0.69	-0.58	-17.73
2,300.0	0.86	278.41	2,298.4	23.6	-60.4	26.1	0.17	-0.10	8.81
2,400.0	0.64	282.73	2,398.4	23.9	-61.7	26.4	0.23	-0.22	4.32
2,500.0	0.59	277.87	2,498.4	24.1	-62.7	26.6	0.07	-0.05	-4.86
2,600.0	0.62	275.65	2,598.4	24.2	-63.8	26.8	0.04	0.03	-2.22
2,700.0	0.64	289.40	2,698.4	24.4	-64.8	27.1	0.15	0.02	13.75
2,800.0	0.67	300.10	2,798.4	24.9	-65.9	27.6	0.13	0.03	10.70
2,900.0	0.69	297.51	2,898.4	25.5	-66.9	28.2	0.04	0.02	-2.59
3,000.0	0.68	297.23	2,998.4	26.0	-68.0	28.8	0.01	-0.01	-0.28
3,100.0	0.76	306.03	3,098.4	26.7	-69.0	29.5	0.14	0.08	8.80
3,200.0	0.82	297.06	3,198.3	27.4	-70.2	30.3	0.14	0.06	-8.97
3,300.0	0.79	297.71	3,298.3	28.1	-71.5	31.0	0.03	-0.03	0.65
3,400.0	0.64	307.52	3,398.3	28.7	-72.5	31.7	0.19	-0.15	9.81
3,500.0	0.52	314.03	3,498.3	29.4	-73.3	32.4	0.14	-0.12	6.51
3,600.0	0.60	312.95	3,598.3	30.0	-74.0	33.1	0.08	0.08	-1.08
3,700.0	0.52	312.75	3,698.3	30.7	-74.7	33.8	0.08	-0.08	-0.20
3,800.0	0.49	315.45	3,798.3	31.3	-75.3	34.4	0.04	-0.03	2.70
3,900.0	0.53	315.15	3,898.3	32.0	-76.0	35.1	0.04	0.04	-0.30
4,000.0	0.56	308.39	3,998.3	32.6	-76.7	35.7	0.07	0.03	-6.76
4,100.0	0.65	315.99	4,098.3	33.3	-77.5	36.5	0.12	0.09	7.60
4,200.0	0.51	325.80	4,198.3	34.1	-78.1	37.3	0.17	-0.14	9.81
4,300.0	0.44	302.10	4,298.3	34.6	-78.7	37.9	0.21	-0.07	-23.70
4,400.0	0.42	304.39	4,398.3	35.1	-79.3	38.3	0.03	-0.02	2.29
4,500.0	0.35	291.89	4,498.3	35.4	-79.9	38.6	0.11	-0.07	-12.50
4,600.0	0.35	291.95	4,598.3	35.6	-80.5	38.9	0.00	0.00	0.06
4,700.0	0.45	262.79	4,698.3	35.7	-81.1	39.0	0.22	0.10	-29.16
4,800.0	0.33	280.33	4,798.3	35.7	-81.8	39.0	0.17	-0.12	17.54
4,900.0	0.24	276.18	4,898.3	35.7	-82.3	39.1	0.09	-0.09	-4.15
5,000.0	0.21	332.24	4,998.3	35.9	-82.6	39.3	0.21	-0.03	56.06
5,100.0	0.22	326.08	5,098.3	36.3	-82.8	39.6	0.03	0.01	-6.16
5,200.0	0.34	328.28	5,198.3	36.7	-83.0	40.1	0.12	0.12	2.20



Survey Report



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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.0	0.32	340.56	5,298.3	37.2	-83.3	40.6	0.07	-0.02	12.28
5,400.0	0.58	300.97	5,398.3	37.7	-83.8	41.1	0.39	0.26	-39.59
5,500.0	3.11	291.04	5,498.2	38.9	-86.8	42.5	2.54	2.53	-9.93
5,600.0	3.20	289.43	5,598.1	40.8	-91.9	44.6	0.13	0.09	-1.61
5,700.0	2.91	290.21	5,697.9	42.6	-97.0	46.6	0.29	-0.29	0.78
5,800.0	2.69	286.94	5,797.8	44.2	-101.6	48.4	0.27	-0.22	-3.27
5,900.0	2.37	285.58	5,897.7	45.4	-105.8	49.8	0.33	-0.32	-1.36
6,000.0	2.13	190.07	5,997.7	44.2	-108.1	48.6	3.33	-0.24	-95.51
6,100.0	1.87	185.53	6,097.6	40.7	-108.6	45.2	0.30	-0.26	-4.54
6,200.0	1.88	178.24	6,197.5	37.5	-108.7	41.9	0.24	0.01	-7.29
6,300.0	1.46	181.06	6,297.5	34.5	-108.7	39.0	0.43	-0.42	2.82
6,400.0	1.06	190.61	6,397.5	32.4	-108.9	36.8	0.45	-0.40	9.55
6,500.0	1.09	196.01	6,497.5	30.5	-109.3	35.0	0.11	0.03	5.40
6,600.0	1.30	150.97	6,597.4	28.6	-109.0	33.1	0.94	0.21	-45.04
6,700.0	0.84	99.95	6,697.4	27.5	-107.8	31.9	1.01	-0.46	-51.02
6,800.0	0.79	97.39	6,797.4	27.3	-106.4	31.7	0.06	-0.05	-2.56
6,900.0	0.69	126.38	6,897.4	26.9	-105.2	31.2	0.38	-0.10	28.99
7,000.0	0.20	119.20	6,997.4	26.4	-104.6	30.7	0.49	-0.49	-7.18
7,100.0	0.36	188.62	7,097.4	26.0	-104.5	30.3	0.34	0.16	69.42
7,200.0	0.23	117.67	7,197.4	25.6	-104.3	29.9	0.36	-0.13	-70.95
7,300.0	0.39	69.79	7,297.4	25.6	-103.8	29.9	0.29	0.16	-47.88
7,400.0	1.21	36.97	7,397.4	26.6	-102.9	30.8	0.91	0.82	-32.82
7,500.0	1.76	37.01	7,497.3	28.7	-101.3	32.8	0.55	0.55	0.04
7,600.0	3.08	22.34	7,597.3	32.4	-99.4	36.4	1.45	1.32	-14.67
7,700.0	3.21	20.82	7,697.1	37.5	-97.4	41.5	0.15	0.13	-1.52
7,800.0	2.54	7.99	7,797.0	42.3	-96.0	46.2	0.93	-0.67	-12.83
7,900.0	2.02	22.49	7,896.9	46.1	-95.1	50.0	0.77	-0.52	14.50
8,000.0	0.79	61.94	7,996.9	48.1	-93.8	51.9	1.50	-1.23	39.45
8,100.0	0.79	161.20	8,096.9	47.7	-93.0	51.5	1.20	0.00	99.26
8,200.0	0.81	155.18	8,196.9	46.4	-92.4	50.2	0.09	0.02	-6.02
8,300.0	0.55	218.29	8,296.9	45.4	-92.4	49.2	0.75	-0.26	63.11
8,400.0	0.60	258.67	8,396.8	44.9	-93.2	48.7	0.40	0.05	40.38
8,500.0	1.16	293.46	8,496.8	45.2	-94.7	49.1	0.75	0.56	34.79
8,600.0	1.98	305.98	8,596.8	46.7	-97.0	50.6	0.88	0.82	12.52
8,700.0	1.11	323.47	8,696.8	48.5	-99.0	52.5	0.98	-0.87	17.49
8,800.0	0.29	30.49	8,796.8	49.5	-99.4	53.5	1.03	-0.82	67.02
Gyro Tie-In @ 8900' MD / 8897' TVD									
8,900.0	0.22	80.14	8,896.8	49.7	-99.1	53.7	0.22	-0.07	49.65
9,010.0	1.10	198.50	9,006.7	48.7	-99.2	52.8	1.11	0.80	107.60
9,026.0	1.10	188.50	9,022.7	48.4	-99.3	52.5	1.20	0.00	-62.50
9,058.0	1.10	195.90	9,054.7	47.8	-99.4	51.9	0.44	0.00	23.13
9,089.0	2.10	312.30	9,085.7	47.9	-100.0	52.0	8.94	3.23	375.48
9,120.0	5.70	339.80	9,116.7	49.8	-100.9	53.9	12.77	11.61	88.71



Survey Report



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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)
9,152.0	9.70	342.00	9,148.4	53.8	-102.3	58.0	12.53	12.50	6.88
9,183.0	10.30	349.00	9,178.9	59.0	-103.6	63.2	4.37	1.94	22.58
9,214.0	13.80	344.90	9,209.2	65.3	-105.1	69.6	11.62	11.29	-13.23
9,245.0	17.90	344.40	9,239.0	73.5	-107.4	77.8	13.23	13.23	-1.61
9,277.0	22.00	341.10	9,269.1	83.9	-110.6	88.4	13.28	12.81	-10.31
9,308.0	25.90	338.60	9,297.4	95.7	-115.0	100.3	13.00	12.58	-8.06
9,339.0	30.80	337.60	9,324.7	109.3	-120.5	114.2	15.88	15.81	-3.23
9,370.0	36.00	338.80	9,350.6	125.2	-126.8	130.3	16.91	16.77	3.87
9,401.0	41.00	341.30	9,374.8	143.3	-133.4	148.7	16.89	16.13	8.06
9,433.0	42.80	342.80	9,398.6	163.7	-139.9	169.3	6.44	5.63	4.69
9,464.0	44.40	345.50	9,421.1	184.2	-145.8	190.1	7.92	5.16	8.71
9,495.0	45.30	347.20	9,443.1	205.5	-150.9	211.5	4.84	2.90	5.48
Crossed Lease Line @ 9514' MD / 9456' TVD									
9,514.0	47.50	349.08	9,456.2	218.9	-153.7	225.1	13.60	11.56	9.89
9,526.0	48.90	350.20	9,464.2	227.7	-155.4	233.9	13.60	11.69	9.33
9,558.0	51.40	352.70	9,484.7	252.0	-159.0	258.3	9.85	7.81	7.81
9,589.0	54.50	355.00	9,503.3	276.6	-161.6	283.0	11.62	10.00	7.42
9,620.0	58.70	355.70	9,520.4	302.4	-163.7	308.9	13.68	13.55	2.26
9,651.0	63.70	354.80	9,535.3	329.5	-166.0	336.0	16.33	16.13	-2.90
9,682.0	68.30	353.50	9,547.9	357.6	-168.9	364.3	15.32	14.84	-4.19
9,714.0	72.60	352.70	9,558.7	387.6	-172.5	394.3	13.64	13.44	-2.50
9,745.0	78.50	352.30	9,566.4	417.3	-176.4	424.2	19.07	19.03	-1.29
9,760.0	81.30	352.50	9,569.0	431.9	-178.4	438.9	18.71	18.67	1.33
9,807.0	89.60	353.00	9,572.7	478.4	-184.3	485.6	17.69	17.66	1.06
Crossed Hard Line @ 9878' MD / 9572' TVD									
9,877.6	90.95	354.50	9,572.4	548.6	-192.0	556.0	2.86	1.91	2.13
9,901.0	91.40	355.00	9,571.9	571.8	-194.1	579.4	2.86	1.91	2.13
9,994.0	91.60	354.80	9,569.5	664.4	-202.4	672.2	0.30	0.22	-0.22
10,088.0	89.80	357.40	9,568.3	758.2	-208.8	766.2	3.36	-1.91	2.77
10,182.0	89.20	357.40	9,569.2	852.1	-213.0	860.2	0.64	-0.64	0.00
10,276.0	90.20	358.00	9,569.6	946.0	-216.8	954.2	1.24	1.06	0.64
10,370.0	90.60	358.10	9,569.0	1,040.0	-220.0	1,048.2	0.44	0.43	0.11
10,464.0	90.00	0.40	9,568.5	1,134.0	-221.2	1,142.1	2.53	-0.64	2.45
10,558.0	90.20	1.50	9,568.3	1,227.9	-219.7	1,236.0	1.19	0.21	1.17
10,651.0	88.40	1.80	9,569.5	1,320.9	-217.0	1,328.7	1.96	-1.94	0.32
10,745.0	89.70	2.00	9,571.0	1,414.8	-213.9	1,422.4	1.40	1.38	0.21
10,839.0	87.30	1.30	9,573.5	1,508.8	-211.2	1,516.2	2.66	-2.55	-0.74
10,932.0	89.90	1.60	9,575.8	1,601.7	-208.8	1,608.9	2.81	2.80	0.32
11,026.0	90.20	2.70	9,575.7	1,695.6	-205.3	1,702.6	1.21	0.32	1.17
11,120.0	87.80	2.20	9,577.3	1,789.5	-201.3	1,796.3	2.61	-2.55	-0.53
11,213.0	89.30	2.90	9,579.7	1,882.4	-197.1	1,888.9	1.78	1.61	0.75
11,306.0	93.00	2.20	9,577.8	1,975.3	-193.0	1,981.5	4.05	3.98	-0.75
11,400.0	90.90	1.50	9,574.6	2,069.1	-190.0	2,075.2	2.35	-2.23	-0.74
11,494.0	90.60	0.40	9,573.4	2,163.1	-188.4	2,169.0	1.21	-0.32	-1.17



Survey Report

QES

Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Sec 28, T23S, R28E
Well: Loving Townsite 21 W0PA FEE #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Loving Townsite 21 W0PA FEE #2H
TVD Reference: WELL @ 3062.0usft (Patterson #243)
MD Reference: WELL @ 3062.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5002

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)
11,587.0	86.80	359.40	9,575.5	2,256.1	-188.6	2,261.9	4.23	-4.09	-1.08
11,681.0	87.20	0.10	9,580.4	2,350.0	-189.0	2,355.7	0.86	0.43	0.74
11,775.0	86.50	0.40	9,585.6	2,443.8	-188.6	2,449.5	0.81	-0.74	0.32
11,869.0	87.40	1.10	9,590.6	2,537.7	-187.3	2,543.2	1.21	0.96	0.74
11,962.0	89.10	359.70	9,593.4	2,630.6	-186.7	2,636.1	2.37	1.83	-1.51
12,057.0	89.70	359.90	9,594.4	2,725.6	-187.0	2,731.0	0.67	0.63	0.21
12,152.0	90.30	0.10	9,594.4	2,820.6	-187.0	2,825.9	0.67	0.63	0.21
12,246.0	91.20	0.60	9,593.2	2,914.6	-186.4	2,919.8	1.10	0.96	0.53
12,340.0	91.40	0.60	9,591.0	3,008.6	-185.5	3,013.7	0.21	0.21	0.00
12,434.0	92.60	1.10	9,587.8	3,102.5	-184.1	3,107.4	1.38	1.28	0.53
12,528.0	89.20	0.40	9,586.3	3,196.5	-182.8	3,201.3	3.69	-3.62	-0.74
12,623.0	89.40	1.10	9,587.5	3,291.4	-181.6	3,296.1	0.77	0.21	0.74
12,718.0	89.10	1.50	9,588.7	3,386.4	-179.4	3,390.9	0.53	-0.32	0.42
12,811.0	90.50	1.60	9,589.0	3,479.4	-176.9	3,483.7	1.51	1.51	0.11
12,905.0	89.80	2.20	9,588.8	3,573.3	-173.8	3,577.5	0.98	-0.74	0.64
12,999.0	90.30	2.70	9,588.7	3,667.2	-169.8	3,671.1	0.75	0.53	0.53
13,093.0	89.70	0.40	9,588.7	3,761.2	-167.3	3,764.9	2.53	-0.64	-2.45
13,186.0	90.10	0.80	9,588.9	3,854.2	-166.3	3,857.8	0.61	0.43	0.43
13,281.0	90.60	1.60	9,588.3	3,949.2	-164.3	3,952.6	0.99	0.53	0.84
13,374.0	87.90	0.60	9,589.5	4,042.1	-162.5	4,045.4	3.10	-2.90	-1.08
13,468.0	85.90	358.80	9,594.6	4,136.0	-163.0	4,139.2	2.86	-2.13	-1.91
13,561.0	86.30	359.50	9,600.9	4,228.8	-164.4	4,231.9	0.87	0.43	0.75
13,655.0	86.10	359.40	9,607.1	4,322.5	-165.3	4,325.7	0.24	-0.21	-0.11
13,748.0	89.20	358.10	9,610.9	4,415.4	-167.3	4,418.6	3.61	3.33	-1.40
13,842.0	92.60	359.20	9,609.5	4,509.4	-169.5	4,512.5	3.80	3.62	1.17
13,936.0	89.30	359.50	9,607.9	4,603.4	-170.6	4,606.5	3.53	-3.51	0.32
14,029.0	89.40	359.50	9,609.0	4,696.3	-171.4	4,699.4	0.11	0.11	0.00
14,123.0	90.80	0.80	9,608.8	4,790.3	-171.1	4,793.3	2.03	1.49	1.38
14,217.0	89.20	0.80	9,608.8	4,884.3	-169.8	4,887.2	1.70	-1.70	0.00
14,311.0	87.60	359.70	9,611.4	4,978.3	-169.4	4,981.0	2.07	-1.70	-1.17
14,405.0	83.00	0.10	9,619.1	5,071.9	-169.6	5,074.6	4.91	-4.89	0.43
14,485.0	84.40	359.40	9,627.9	5,151.5	-169.9	5,154.1	1.95	1.75	-0.88
TD @ 14540' MD / 9633' TVD									
14,540.0	84.40	359.40	9,633.3	5,206.2	-170.5	5,208.8	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,900.0	8,896.8	49.7	-99.1	Gyro Tie-in @ 8900' MD / 8897' TVD
9,514.0	9,456.2	218.9	-153.7	Crossed Lease Line @ 9514' MD / 9456' TVD
9,877.6	9,572.4	548.6	-192.0	Crossed Hard Line @ 9878' MD / 9572' TVD
14,540.0	9,633.3	5,206.2	-170.5	TD @ 14540' MD / 9633' TVD



Survey Report

QES

Company: Mewbourne Oil Company
Project: Eddy County, New Mexico
Site: Sec 28, T23S, R28E
Well: Loving Townsite 21 W0PA FEE #2H
Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Loving Townsite 21 W0PA FEE #2H
TVD Reference: WELL @ 3062.0usft (Patterson #243)
MD Reference: WELL @ 3062.0usft (Patterson #243)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: EDM5002

Checked By: _____	Approved By: _____	Date: _____
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