

SEP 21 2017

RECEIVED

Company Name: Mewbourne Oil Company
Cabra Nino 11 B3MD State Com #1H
Lea County, New Mexico (Nad 83)
Rig: Patterson #243
Created By: Shane Robbins
Date: 8/7/2017

Cabra Nino 11 B3MD State Com #1H
Lea County, New Mexico (Nad 83)
Q170914 & WT-170775
Design #2



PROJECT DETAILS: Lea 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

WELL DETAILS: Cabra Nino 11 B3MD State Com #1H

+N/-S	+E/-W	Northing	Easting	Ground Level	Latitude	Longitude
0.0	0.0	610326.70	814929.40	3532.0	32° 23' 58.419 N	103° 26' 48.810 W

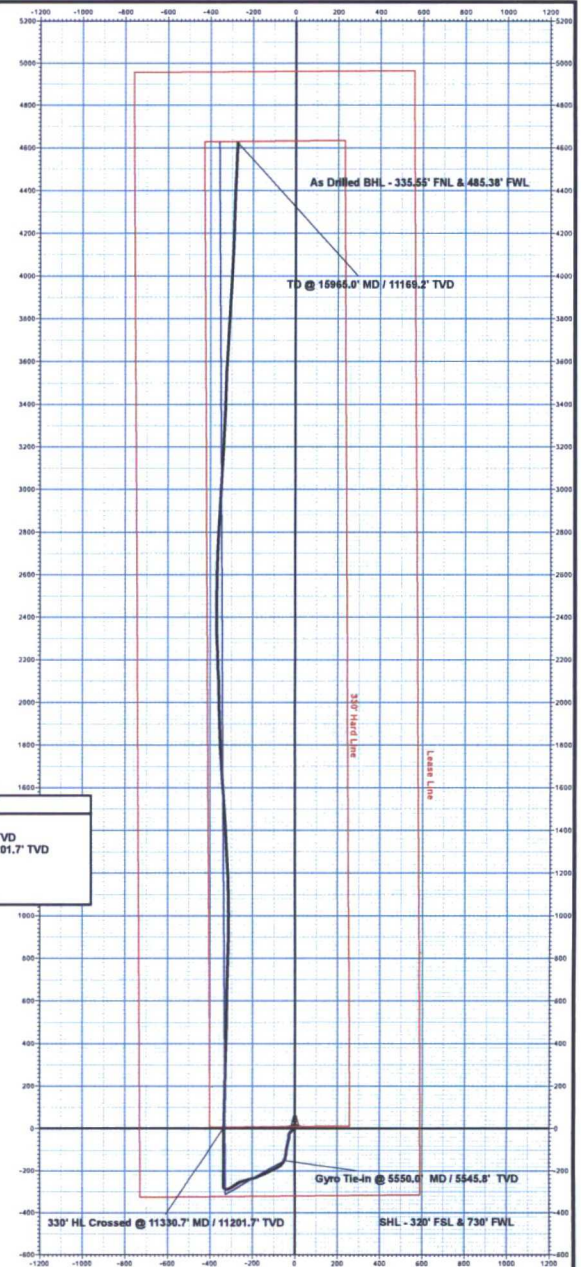
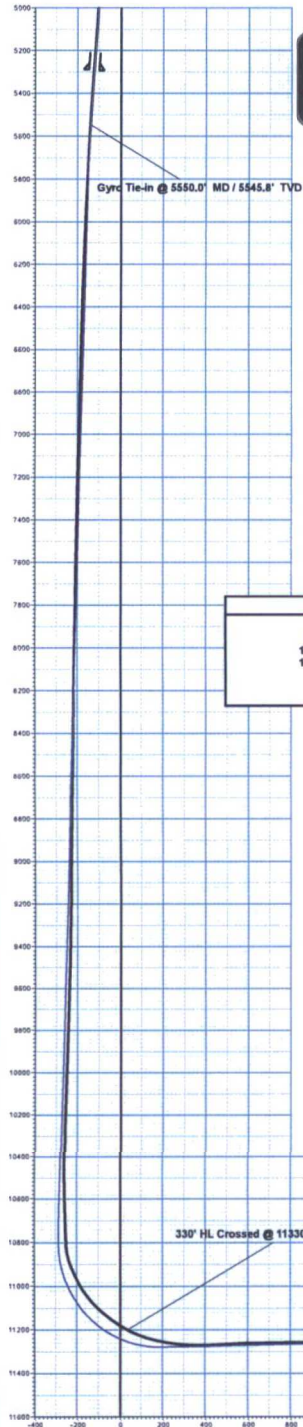
ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	V-Sect	Departure	Annotation
5550.0	4.01	205.88	5545.8	-147.6	-50.0	-143.4	166.0	Gyro Tie-In @ 5550.0' MD / 5545.8' TVD
11330.7	62.47	0.58	11201.7	7.1	-333.3	32.8	784.2	330° HL Crossed @ 11330.7' MD / 11201.7' TVD
15965.0	91.80	3.10	11169.2	4624.1	-272.5	4631.3	5405.1	TD @ 15965.0' MD / 11169.2' TVD

Azimuths to Grid North

Correction: 6.43°
Magnetic Field

Strength: 48051.9snT
Dip Angle: 60.24°
Date: 6/28/2017
Model: IGRF2015





HOBBS OCD

SEP 21 2017

RECEIVED

Mewbourne Oil Company

Lea County, New Mexico (Nad 83)

Sec 11, T22S, R34E

Cabra Nino 11 B3MD State Com #1H

Wellbore #1

Design: Wellbore #1

QES Survey Report

07 August, 2017





Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Cabra Nino 11 B3MD State Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3559.0usft (Patterson #243)
Site:	Sec 11, T22S, R34E	MD Reference:	WELL @ 3559.0usft (Patterson #243)
Well:	Cabra Nino 11 B3MD State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Lea 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 11, T22S, R34E		
Site Position:		Northing:	510,326.70 usft
From:	Map	Easting:	814,929.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 23' 59.419 N
		Longitude:	103° 26' 48.810 W
		Grid Convergence:	0.48 °

Well	Cabra Nino 11 B3MD State Com #1H		
Well Position	+N/-S	0.0 usft	Northing: 510,326.70 usft
	+E/-W	0.0 usft	Easting: 814,929.40 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 23' 59.419 N
		Longitude:	103° 26' 48.810 W
		Ground Level:	3,532.0 usft

Wellbore	Wellbore #1		
-----------------	-------------	--	--

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/28/2017	6.90	60.24	48,051.85586925

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	355.58

Survey Program	Date 8/7/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.0	5,550.0	MS GYRO (Wellbore #1)	Good_gyro
5,748.0	15,965.0	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	0.83	279.61	100.0	0.1	-0.7	0.2	0.83	0.83	0.00	
200.0	0.71	285.86	200.0	0.4	-2.0	0.6	0.15	-0.12	6.25	
300.0	0.93	279.30	300.0	0.7	-3.4	1.0	0.24	0.22	-6.56	
400.0	0.64	261.58	400.0	0.8	-4.8	1.1	0.37	-0.29	-17.72	
500.0	0.15	199.49	500.0	0.6	-5.4	1.0	0.59	-0.49	-62.09	
600.0	0.09	153.66	600.0	0.4	-5.4	0.8	0.11	-0.06	-45.83	
700.0	0.07	151.44	700.0	0.2	-5.3	0.6	0.02	-0.02	-2.22	
800.0	0.05	283.27	800.0	0.2	-5.3	0.6	0.11	-0.02	131.83	
900.0	0.06	286.12	900.0	0.2	-5.4	0.6	0.01	0.01	2.85	

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Cabra Nino 11 B3MD State Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3559.0usft (Patterson #243)
Site:	Sec 11, T22S, R34E	MD Reference:	WELL @ 3559.0usft (Patterson #243)
Well:	Cabra Nino 11 B3MD State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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	0.09	287.23	1,000.0	0.3	-5.5	0.7	0.03	0.03	1.11
1,100.0	0.05	358.23	1,100.0	0.3	-5.6	0.8	0.09	-0.04	71.00
1,200.0	0.06	348.97	1,200.0	0.4	-5.6	0.9	0.01	0.01	-9.26
1,300.0	0.07	27.24	1,300.0	0.5	-5.6	1.0	0.04	0.01	38.27
1,400.0	0.06	46.63	1,400.0	0.6	-5.6	1.0	0.02	-0.01	19.39
1,500.0	0.13	132.95	1,500.0	0.6	-5.4	1.0	0.14	0.07	86.32
1,600.0	0.13	163.26	1,600.0	0.4	-5.3	0.8	0.07	0.00	30.31
1,700.0	0.13	156.93	1,700.0	0.2	-5.2	0.6	0.01	0.00	-6.33
1,800.0	0.20	183.40	1,800.0	-0.1	-5.2	0.3	0.10	0.07	26.47
1,900.0	0.92	219.70	1,900.0	-0.9	-5.7	-0.5	0.77	0.72	36.30
2,000.0	1.59	220.45	1,999.9	-2.6	-7.1	-2.0	0.67	0.67	0.75
2,100.0	1.63	222.01	2,099.9	-4.7	-9.0	-4.0	0.06	0.04	1.56
2,200.0	1.64	220.70	2,199.9	-6.8	-10.9	-6.0	0.04	0.01	-1.31
2,300.0	1.67	221.98	2,299.8	-9.0	-12.8	-8.0	0.05	0.03	1.28
2,400.0	1.67	222.45	2,399.8	-11.2	-14.7	-10.0	0.01	0.00	0.47
2,500.0	1.64	222.97	2,499.7	-13.3	-16.7	-11.9	0.03	-0.03	0.52
2,600.0	1.65	223.42	2,599.7	-15.4	-18.7	-13.9	0.02	0.01	0.45
2,700.0	1.69	222.83	2,699.6	-17.5	-20.7	-15.8	0.04	0.04	-0.59
2,800.0	1.66	223.30	2,799.6	-19.6	-22.7	-17.8	0.03	-0.03	0.47
2,900.0	1.61	219.34	2,899.6	-21.8	-24.5	-19.8	0.12	-0.05	-3.96
3,000.0	1.35	209.32	2,999.5	-23.9	-26.0	-21.8	0.37	-0.26	-10.02
3,100.0	1.30	187.30	3,099.5	-26.0	-26.7	-23.9	0.51	-0.05	-22.02
3,200.0	1.27	184.57	3,199.5	-28.3	-27.0	-26.1	0.07	-0.03	-2.73
3,300.0	1.32	183.42	3,299.5	-30.5	-27.1	-28.3	0.06	0.05	-1.15
3,400.0	1.44	183.45	3,399.4	-32.9	-27.3	-30.7	0.12	0.12	0.03
3,500.0	1.58	183.64	3,499.4	-35.6	-27.4	-33.3	0.14	0.14	0.19
3,600.0	1.66	182.51	3,599.3	-38.4	-27.6	-36.1	0.09	0.08	-1.13
3,700.0	1.71	178.28	3,699.3	-41.3	-27.6	-39.1	0.13	0.05	-4.23
3,800.0	1.81	179.53	3,799.3	-44.4	-27.5	-42.1	0.11	0.10	1.25
3,900.0	1.99	195.03	3,899.2	-47.6	-28.0	-45.3	0.54	0.18	15.50
4,000.0	2.06	194.87	3,999.1	-51.1	-28.9	-48.7	0.07	0.07	-0.16
4,100.0	2.01	190.66	4,099.1	-54.5	-29.7	-52.1	0.16	-0.05	-4.21
4,200.0	2.03	194.66	4,199.0	-58.0	-30.4	-55.4	0.14	0.02	4.00
4,300.0	2.84	186.30	4,298.9	-62.1	-31.2	-59.5	0.88	0.81	-8.36
4,400.0	3.15	188.11	4,398.8	-67.3	-31.8	-64.7	0.32	0.31	1.81
4,500.0	3.30	194.82	4,498.6	-72.8	-32.9	-70.1	0.41	0.15	6.71
4,600.0	4.25	192.14	4,598.4	-79.2	-34.5	-76.3	0.97	0.95	-2.68
4,700.0	4.64	191.63	4,698.1	-86.8	-36.1	-83.8	0.39	0.39	-0.51
4,800.0	4.59	192.54	4,797.8	-94.7	-37.7	-91.5	0.09	-0.05	0.91
4,900.0	4.24	190.74	4,897.5	-102.2	-39.3	-98.9	0.38	-0.35	-1.80
5,000.0	4.03	188.45	4,997.2	-109.3	-40.5	-105.9	0.27	-0.21	-2.29
5,100.0	3.93	187.89	5,097.0	-116.2	-41.5	-112.6	0.11	-0.10	-0.56
5,200.0	4.36	189.38	5,196.7	-123.3	-42.6	-119.7	0.44	0.43	1.49

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Cabra Nino 11 B3MD State Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3559.0usft (Patterson #243)
Site:	Sec 11, T22S, R34E	MD Reference:	WELL @ 3559.0usft (Patterson #243)
Well:	Cabra Nino 11 B3MD State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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	4.13	192.56	5,296.5	-130.6	-44.0	-126.8	0.33	-0.23	3.18
5,400.0	4.16	197.30	5,396.2	-137.6	-45.8	-133.6	0.34	0.03	4.74
5,500.0	4.22	204.36	5,495.9	-144.4	-48.4	-140.2	0.52	0.06	7.06
Gyro Tie-in @ 5550.0' MD / 5545.8' TVD									
5,550.0	4.01	205.69	5,545.8	-147.6	-50.0	-143.4	0.46	-0.42	2.66
5,748.0	3.60	212.80	5,743.4	-159.1	-56.3	-154.3	0.32	-0.21	3.59
5,936.0	3.30	214.90	5,931.0	-168.5	-62.6	-163.2	0.17	-0.16	1.12
6,124.0	4.20	235.10	6,118.6	-176.9	-71.4	-170.9	0.84	0.48	10.74
6,311.0	4.40	240.70	6,305.1	-184.3	-83.2	-177.3	0.25	0.11	2.99
6,499.0	4.30	242.10	6,492.6	-191.1	-95.7	-183.2	0.08	-0.05	0.74
6,687.0	4.00	242.50	6,680.1	-197.5	-107.8	-188.6	0.16	-0.16	0.21
6,874.0	4.00	241.50	6,866.6	-203.6	-119.3	-193.8	0.04	0.00	-0.53
7,062.0	3.80	246.60	7,054.2	-209.2	-130.8	-198.5	0.21	-0.11	2.71
7,250.0	3.40	244.60	7,241.8	-214.1	-141.5	-202.5	0.22	-0.21	-1.06
7,437.0	3.30	243.60	7,428.5	-218.8	-151.4	-206.5	0.06	-0.05	-0.53
7,625.0	3.50	245.00	7,616.1	-223.7	-161.4	-210.6	0.12	0.11	0.74
7,812.0	3.10	250.10	7,802.8	-227.8	-171.4	-213.9	0.27	-0.21	2.73
8,000.0	3.50	248.50	7,990.5	-231.6	-181.5	-216.9	0.22	0.21	-0.85
8,187.0	3.30	251.60	8,177.2	-235.4	-191.9	-219.9	0.15	-0.11	1.66
8,375.0	2.70	256.00	8,364.9	-238.2	-201.3	-222.0	0.34	-0.32	2.34
8,562.0	2.90	257.50	8,551.7	-240.3	-210.2	-223.4	0.11	0.11	0.80
8,750.0	4.00	251.50	8,739.4	-243.4	-221.1	-225.6	0.62	0.59	-3.19
8,937.0	4.70	249.20	8,925.8	-248.2	-234.4	-229.4	0.39	0.37	-1.23
9,125.0	3.50	256.70	9,113.4	-252.2	-247.2	-232.4	0.70	-0.64	3.99
9,319.0	3.30	255.30	9,307.0	-255.0	-258.4	-234.3	0.11	-0.10	-0.72
9,507.0	2.60	235.60	9,494.8	-258.8	-267.1	-237.4	0.65	-0.37	-10.48
9,693.0	4.30	237.80	9,680.4	-264.9	-276.5	-242.8	0.92	0.91	1.18
9,881.0	3.30	233.40	9,868.0	-271.9	-286.8	-249.0	0.55	-0.53	-2.34
10,068.0	3.90	241.10	10,054.6	-278.2	-296.7	-254.5	0.41	0.32	4.12
10,256.0	4.00	240.60	10,242.2	-284.5	-308.0	-259.9	0.06	0.05	-0.27
10,443.0	2.90	253.90	10,428.9	-289.0	-318.2	-263.6	0.72	-0.59	7.11
10,631.0	3.40	304.90	10,616.6	-287.1	-327.4	-261.0	1.46	0.27	27.13
10,771.0	2.70	309.50	10,756.4	-282.6	-333.3	-256.1	0.53	-0.50	3.29
10,805.0	2.80	315.80	10,790.4	-281.5	-334.5	-254.9	0.94	0.29	18.53
10,836.0	5.60	342.50	10,821.3	-279.6	-335.5	-252.9	10.79	9.03	86.13
10,868.0	10.90	357.10	10,852.9	-275.0	-336.1	-248.3	17.68	16.56	45.63
10,899.0	16.80	0.40	10,883.0	-267.6	-336.3	-240.9	19.19	19.03	10.65
10,930.0	22.00	0.30	10,912.3	-257.3	-336.2	-230.7	16.77	16.77	-0.32
10,963.0	25.10	0.40	10,942.5	-244.1	-336.1	-217.5	9.39	9.39	0.30
10,994.0	27.80	1.50	10,970.3	-230.3	-335.9	-203.8	8.85	8.71	3.55
11,026.0	31.00	2.40	10,998.1	-214.6	-335.3	-188.2	10.09	10.00	2.81
11,057.0	34.00	1.90	11,024.3	-198.0	-334.7	-171.6	9.72	9.68	-1.61
11,089.0	38.00	0.30	11,050.2	-179.2	-334.4	-152.9	12.84	12.50	-5.00

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Cabra Nino 11 B3MD State Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3559.0usft (Patterson #243)
Site:	Sec 11, T22S, R34E	MD Reference:	WELL @ 3559.0usft (Patterson #243)
Well:	Cabra Nino 11 B3MD State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)
11,120.0	42.40	0.40	11,073.8	-159.2	-334.2	-133.0	14.20	14.19	0.32
11,152.0	46.10	0.40	11,096.7	-136.9	-334.1	-110.7	11.56	11.56	0.00
11,183.0	49.30	0.80	11,117.6	-114.0	-333.8	-87.9	10.37	10.32	1.29
11,215.0	51.60	0.50	11,138.0	-89.3	-333.6	-63.3	7.22	7.19	-0.94
11,247.0	54.10	0.10	11,157.3	-63.8	-333.4	-37.9	7.88	7.81	-1.25
11,278.0	56.50	359.90	11,175.0	-38.3	-333.4	-12.5	7.76	7.74	-0.65
11,309.0	60.10	0.10	11,191.2	-11.9	-333.4	13.8	11.63	11.61	0.65
330' HL Crossed @ 11330.7' MD / 11201.7' TVD									
11,330.7	62.47	0.58	11,201.7	7.1	-333.3	32.8	11.11	10.94	2.21
11,341.0	63.60	0.80	11,206.3	16.3	-333.2	41.9	11.11	10.94	2.14
11,373.0	68.00	1.50	11,219.4	45.5	-332.6	71.0	13.89	13.75	2.19
11,404.0	71.60	1.30	11,230.2	74.5	-331.9	99.9	11.63	11.61	-0.65
11,436.0	73.80	0.80	11,239.7	105.1	-331.3	130.3	7.03	6.88	-1.56
11,468.0	76.30	0.40	11,247.9	136.0	-331.0	161.1	7.91	7.81	-1.25
11,499.0	78.60	0.60	11,254.7	166.3	-330.8	191.3	7.45	7.42	0.65
11,531.0	80.20	0.60	11,260.5	197.7	-330.4	222.6	5.00	5.00	0.00
11,563.0	82.40	1.00	11,265.4	229.3	-330.0	254.1	6.99	6.88	1.25
11,595.0	85.20	1.30	11,268.8	261.1	-329.4	285.7	8.80	8.75	0.94
11,610.0	86.40	1.70	11,269.9	276.1	-329.0	300.6	8.43	8.00	2.67
11,707.0	91.60	1.50	11,271.6	373.0	-326.3	397.0	5.36	5.36	-0.21
11,801.0	92.90	1.20	11,267.9	466.9	-324.0	490.5	1.42	1.38	-0.32
11,894.0	92.80	1.00	11,263.3	559.8	-322.3	582.9	0.24	-0.11	-0.22
11,988.0	90.50	1.70	11,260.6	653.7	-320.0	676.4	2.56	-2.45	0.74
12,082.0	90.60	1.50	11,259.7	747.7	-317.4	769.9	0.24	0.11	-0.21
12,176.0	91.80	1.50	11,257.7	841.6	-315.0	863.4	1.28	1.28	0.00
12,270.0	91.10	0.80	11,255.4	935.6	-313.1	956.9	1.05	-0.74	-0.74
12,363.0	93.10	359.80	11,252.0	1,028.5	-312.6	1,049.5	2.40	2.15	-1.08
12,457.0	91.30	358.70	11,248.3	1,122.4	-313.8	1,143.3	2.24	-1.91	-1.17
12,551.0	91.50	357.30	11,246.0	1,216.3	-317.1	1,237.1	1.50	0.21	-1.49
12,644.0	91.20	357.30	11,243.9	1,309.2	-321.5	1,330.1	0.32	-0.32	0.00
12,739.0	89.30	356.60	11,243.4	1,404.0	-326.5	1,425.0	2.13	-2.00	-0.74
12,832.0	89.70	356.10	11,244.3	1,496.9	-332.4	1,518.0	0.69	0.43	-0.54
12,926.0	90.60	356.10	11,244.0	1,590.6	-338.8	1,612.0	0.96	0.96	0.00
13,019.0	94.30	355.90	11,240.0	1,683.3	-345.3	1,704.9	3.98	3.98	-0.22
13,113.0	92.20	357.80	11,234.7	1,777.0	-350.5	1,798.7	3.01	-2.23	2.02
13,206.0	87.80	358.50	11,234.7	1,869.9	-353.5	1,891.6	4.79	-4.73	0.75
13,300.0	86.00	358.20	11,239.8	1,963.8	-356.2	1,985.4	1.94	-1.91	-0.32
13,394.0	91.30	358.70	11,242.0	2,057.7	-358.7	2,079.2	5.66	5.64	0.53
13,488.0	91.90	357.50	11,239.4	2,151.6	-361.8	2,173.1	1.43	0.64	-1.28
13,581.0	93.80	357.50	11,234.7	2,244.4	-365.9	2,265.9	2.04	2.04	0.00
13,676.0	91.90	0.10	11,230.0	2,339.2	-367.9	2,360.6	3.39	-2.00	2.74
13,769.0	91.40	359.80	11,227.3	2,432.2	-368.0	2,453.3	0.63	-0.54	-0.32
13,863.0	91.10	359.80	11,225.3	2,526.1	-368.3	2,547.0	0.32	-0.32	0.00
13,957.0	92.40	1.70	11,222.4	2,620.1	-367.1	2,640.6	2.45	1.38	2.02



Survey Report



Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Cabra Nino 11 B3MD State Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3559.0usft (Patterson #243)
Site:	Sec 11, T22S, R34E	MD Reference:	WELL @ 3559.0usft (Patterson #243)
Well:	Cabra Nino 11 B3MD State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)
14,051.0	92.40	1.90	11,218.5	2,714.0	-364.1	2,733.9	0.21	0.00	0.21
14,144.0	96.70	3.60	11,211.1	2,806.5	-359.7	2,825.9	4.97	4.62	1.83
14,238.0	93.30	3.80	11,202.9	2,900.0	-353.6	2,918.6	3.62	-3.62	0.21
14,332.0	90.80	2.60	11,199.6	2,993.8	-348.4	3,011.7	2.95	-2.66	-1.28
14,425.0	90.80	2.90	11,198.3	3,086.6	-343.9	3,104.0	0.32	0.00	0.32
14,520.0	92.10	3.40	11,195.9	3,181.5	-338.7	3,198.1	1.47	1.37	0.53
14,614.0	90.50	2.60	11,193.7	3,275.3	-333.8	3,291.3	1.90	-1.70	-0.85
14,708.0	86.90	1.90	11,195.9	3,369.2	-330.1	3,384.6	3.90	-3.83	-0.74
14,802.0	92.60	1.90	11,196.3	3,463.1	-327.0	3,478.0	6.06	6.06	0.00
14,896.0	95.20	2.90	11,189.9	3,556.8	-323.0	3,571.1	2.96	2.77	1.06
14,990.0	90.80	3.30	11,185.0	3,650.5	-318.0	3,664.1	4.70	-4.68	0.43
15,085.0	90.90	3.40	11,183.5	3,745.3	-312.4	3,758.3	0.15	0.11	0.11
15,179.0	91.40	3.60	11,181.7	3,839.1	-306.7	3,851.4	0.57	0.53	0.21
15,272.0	90.10	3.10	11,180.4	3,932.0	-301.2	3,943.5	1.50	-1.40	-0.54
15,366.0	89.40	2.70	11,180.9	4,025.8	-296.5	4,036.7	0.86	-0.74	-0.43
15,460.0	88.60	3.10	11,182.5	4,119.7	-291.7	4,129.9	0.95	-0.85	0.43
15,553.0	92.30	1.20	11,181.8	4,212.6	-288.2	4,222.3	4.47	3.98	-2.04
15,647.0	92.60	2.00	11,177.7	4,306.5	-285.6	4,315.7	0.91	0.32	0.85
15,741.0	90.90	2.00	11,174.9	4,400.4	-282.3	4,409.1	1.81	-1.81	0.00
15,835.0	91.40	2.20	11,173.0	4,494.3	-278.9	4,502.4	0.57	0.53	0.21
15,915.0	91.80	3.10	11,170.8	4,574.2	-275.2	4,581.8	1.23	0.50	1.13
TD @ 15965.0' MD / 11169.2' TVD									
15,965.0	91.80	3.10	11,169.2	4,624.1	-272.5	4,631.3	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
5,550.0	5,545.8	-147.6	-50.0	Gyro Tie-in @ 5550.0' MD / 5545.8' TVD
11,330.7	11,201.7	7.1	-333.3	330' HL Crossed @ 11330.7' MD / 11201.7' TVD
15,965.0	11,169.2	4,624.1	-272.5	TD @ 15965.0' MD / 11169.2' TVD

Checked By: _____ Approved By: _____ Date: _____



Job Number: SVMO-170507

Company: Mewbourne

Lease/Well: Cabra Nino 11 B3MD State Com 1H

Location: Lea County, NM

Rig Name: Patterson 243

RKB: 26.6'

G.L. or M.S.L.: GL

State/Country: New Mexico/USA

Declination: Declination See Details Below

Grid: East To Grid North

File name: C:\WINSER~1\2017\MEWBOU~1\MO\CABRAN~1\11B3MD~1\1H.SVY

Date/Time: 21-Jul-17 / 16:19

Curve Name: Surface - 5550' M.D. (Rate Gyro)

Lat: 32.399839 Long: -103.446892

MS Energy

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 355.58
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

Declination To True North: 6.94°
 Grid Convergence Factor: 0° 28' 30.01514"
 Total Correction Mag to Grid: 6.43°

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE Distance FT	Direction Deg	Dogleg Severity Deg/100
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.83	279.61	100.00	.12	-.71	.18	.72	279.61	.83
200.00	.71	285.86	199.99	.41	-2.02	.57	2.07	281.48	.15
300.00	.93	279.30	299.98	.71	-3.42	.97	3.49	281.75	.24
400.00	.64	261.58	399.97	.76	-4.77	1.13	4.83	279.06	.37
500.00	.15	199.49	499.97	.56	-5.37	.97	5.40	275.91	.59
600.00	.09	153.66	599.97	.36	-5.38	.78	5.39	273.85	.11
700.00	.07	151.44	699.97	.24	-5.32	.65	5.32	272.56	.02
800.00	.05	283.27	799.97	.19	-5.33	.60	5.33	272.09	.11
900.00	.06	286.12	899.97	.22	-5.42	.64	5.43	272.31	.01
1000.00	.09	287.23	999.96	.26	-5.55	.68	5.55	272.65	.03
1100.00	.05	358.23	1099.96	.32	-5.62	.76	5.63	273.29	.09
1200.00	.06	348.97	1199.96	.42	-5.63	.85	5.65	274.25	.01

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
1300.00	.07	27.24	1299.96	.52	-5.62	.96	5.64	275.33	.04
1400.00	.06	46.63	1399.96	.61	-5.55	1.04	5.58	276.32	.02
1500.00	.13	132.95	1499.96	.57	-5.43	.99	5.46	276.03	.14
1600.00	.13	163.26	1599.96	.39	-5.31	.80	5.33	274.17	.07
1700.00	.13	156.93	1699.96	.17	-5.24	.58	5.24	271.91	.01
1800.00	.20	183.40	1799.96	-.10	-5.20	.30	5.20	268.85	.10
1900.00	.92	219.70	1899.96	-.90	-5.73	-.45	5.80	261.10	.77
2000.00	1.59	220.45	1999.93	-2.57	-7.14	-2.01	7.59	250.20	.67
2100.00	1.63	222.01	2099.89	-4.68	-8.99	-3.98	10.14	242.49	.06
2200.00	1.64	220.70	2199.85	-6.82	-10.88	-5.97	12.84	237.89	.04
2300.00	1.67	221.98	2299.81	-8.99	-12.78	-7.98	15.63	234.88	.05
2400.00	1.67	222.45	2399.77	-11.15	-14.74	-9.98	18.48	232.90	.01
2500.00	1.64	222.97	2499.73	-13.27	-16.70	-11.95	21.33	231.52	.03
2600.00	1.65	223.42	2599.69	-15.37	-18.67	-13.88	24.18	230.54	.02
2700.00	1.69	222.83	2699.64	-17.49	-20.66	-15.85	27.07	229.74	.04
2800.00	1.66	223.30	2799.60	-19.63	-22.65	-17.82	29.97	229.09	.03
2900.00	1.61	219.34	2899.56	-21.77	-24.54	-19.81	32.80	228.42	.12
3000.00	1.35	209.32	2999.53	-23.88	-26.00	-21.81	35.31	227.44	.37
3100.00	1.30	187.30	3099.50	-26.03	-26.73	-23.90	37.31	225.75	.51
3200.00	1.27	184.57	3199.48	-28.26	-26.96	-26.10	39.06	223.64	.07
3300.00	1.32	183.42	3299.45	-30.52	-27.11	-28.34	40.82	221.62	.06
3400.00	1.44	183.45	3399.42	-32.92	-27.26	-30.72	42.74	219.62	.12
3500.00	1.58	183.64	3499.39	-35.55	-27.42	-33.33	44.90	217.64	.14
3600.00	1.66	182.51	3599.35	-38.38	-27.57	-36.14	47.25	215.70	.09
3700.00	1.71	178.28	3699.30	-41.31	-27.59	-39.06	49.68	213.74	.13
3800.00	1.81	179.53	3799.26	-44.38	-27.53	-42.13	52.23	211.81	.11
3900.00	1.99	195.03	3899.20	-47.64	-27.97	-45.34	55.25	210.42	.54
4000.00	2.06	194.87	3999.14	-51.05	-28.88	-48.68	58.66	209.50	.07
4100.00	2.01	190.66	4099.08	-54.52	-29.67	-52.07	62.07	208.56	.16
4200.00	2.03	194.66	4199.01	-57.95	-30.44	-55.43	65.46	207.71	.14
4300.00	2.84	186.30	4298.92	-62.13	-31.16	-59.54	69.50	206.64	.88
4400.00	3.15	188.11	4398.79	-67.31	-31.82	-64.66	74.45	205.30	.32
4500.00	3.30	194.82	4498.63	-72.81	-32.94	-70.06	79.92	204.34	.41
4600.00	4.25	192.14	4598.41	-79.22	-34.46	-76.33	86.39	203.51	.97

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	C L O S U R E		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
4700.00	4.64	191.63	4698.11	-86.80	-36.05	-83.77	93.99	202.56	.39
4800.00	4.59	192.54	4797.79	-94.67	-37.74	-91.48	101.91	201.73	.09
4900.00	4.24	190.74	4897.49	-102.21	-39.30	-98.88	109.50	201.03	.38
5000.00	4.03	188.45	4997.23	-109.32	-40.50	-105.87	116.58	200.33	.27
5100.00	3.93	187.89	5096.99	-116.19	-41.49	-112.64	123.37	199.65	.11
5200.00	4.36	189.38	5196.73	-123.33	-42.58	-119.68	130.47	199.05	.44
5300.00	4.13	192.56	5296.45	-130.60	-43.98	-126.82	137.80	198.61	.33
5400.00	4.16	197.30	5396.19	-137.57	-45.84	-133.63	145.01	198.43	.34
5500.00	4.22	204.36	5495.92	-144.39	-48.44	-140.23	152.30	198.55	.52
Last Survey Depth Recorded									
5550.00	4.01	205.69	5545.79	-147.64	-49.96	-143.35	155.86	198.69	.46



Mewbourne Oil Company

Lea County, New Mexico (Nad 83)

Sec 11, T22S, R34E

Cabra Nino 11 B3MD State Com #1H

Wellbore #1

Survey: MWD Surveys

QES Survey Report

07 August, 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-170775	8/7/2017

Lease	Well Name	County & State
Sec11,T22S,R34E	CabraNino11B3MDStateCom#1H	Lea, New Mexico

API No.	Survey Depth Range	Survey Type
30-025-42598	5550 feet to 15965 feet MD	MWD

Sidetrack Information	Directional Supervisor/Surveyor
N/A	Gordyn Kirschner

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

A handwritten signature in blue ink, appearing to read 'Christopher Hughes', is written over a blue ink stamp that reads 'Christopher Hughes MWD Compliance Manager Quintana Energy Services'.

Christopher Hughes
MWD Compliance Manager
Quintana Energy Services

Digitally signed by Christopher Hughes
DN: cn=Christopher Hughes, o=QES,
ou=compliance, email=chrish@qeslp.com, c=US
Date: 2017.08.07 14:41:57 -05'00'

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Cabra Nino 11 B3MD State Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3559.0usft (Patterson #243)
Site:	Sec 11, T22S, R34E	MD Reference:	WELL @ 3559.0usft (Patterson #243)
Well:	Cabra Nino 11 B3MD State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Lea 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 11, T22S, R34E		
Site Position:		Northing:	510,326.70 usft
From:	Map	Easting:	814,929.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 23' 59.419 N
		Longitude:	103° 26' 48.810 W
		Grid Convergence:	0.48 °

Well	Cabra Nino 11 B3MD State Com #1H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 23' 59.419 N
		Longitude:	103° 26' 48.810 W
		Ground Level:	3,532.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/28/2017	6.90	60.24	48,051.85586925

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	355.58	

Survey Program		Date 8/7/2017		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	5,550.0	MS GYRO (Wellbore #1)	Good_gyro	Good Gyro
5,748.0	15,965.0	MWD Surveys (Wellbore #1)	MWD default	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)
Gyro Tie-in @ 5550.0' MD / 5545.8' TVD									
5,550.0	4.01	205.69	5,545.8	-147.6	-50.0	-143.4	0.00	0.00	0.00
5,748.0	3.60	212.80	5,743.4	-159.1	-56.3	-154.3	0.32	-0.21	3.59
5,936.0	3.30	214.90	5,931.0	-168.5	-62.6	-163.2	0.17	-0.16	1.12
6,124.0	4.20	235.10	6,118.6	-176.9	-71.4	-170.9	0.84	0.48	10.74
6,311.0	4.40	240.70	6,305.1	-184.3	-83.2	-177.3	0.25	0.11	2.99
6,499.0	4.30	242.10	6,492.6	-191.1	-95.7	-183.2	0.08	-0.05	0.74
6,687.0	4.00	242.50	6,680.1	-197.5	-107.8	-188.6	0.16	-0.16	0.21
6,874.0	4.00	241.50	6,866.6	-203.6	-119.3	-193.8	0.04	0.00	-0.53
7,062.0	3.80	246.60	7,054.2	-209.2	-130.8	-198.5	0.21	-0.11	2.71

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Cabra Nino 11 B3MD State Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3559.0usft (Patterson #243)
Site:	Sec 11, T22S, R34E	MD Reference:	WELL @ 3559.0usft (Patterson #243)
Well:	Cabra Nino 11 B3MD State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)
7,250.0	3.40	244.60	7,241.8	-214.1	-141.5	-202.5	0.22	-0.21	-1.06
7,437.0	3.30	243.60	7,428.5	-218.8	-151.4	-206.5	0.06	-0.05	-0.53
7,625.0	3.50	245.00	7,616.1	-223.7	-161.4	-210.6	0.12	0.11	0.74
7,812.0	3.10	250.10	7,802.8	-227.8	-171.4	-213.9	0.27	-0.21	2.73
8,000.0	3.50	248.50	7,990.5	-231.6	-181.5	-216.9	0.22	0.21	-0.85
8,187.0	3.30	251.60	8,177.2	-235.4	-191.9	-219.9	0.15	-0.11	1.66
8,375.0	2.70	256.00	8,364.9	-238.2	-201.3	-222.0	0.34	-0.32	2.34
8,562.0	2.90	257.50	8,551.7	-240.3	-210.2	-223.4	0.11	0.11	0.80
8,750.0	4.00	251.50	8,739.4	-243.4	-221.1	-225.6	0.62	0.59	-3.19
8,937.0	4.70	249.20	8,925.8	-248.2	-234.4	-229.4	0.39	0.37	-1.23
9,125.0	3.50	256.70	9,113.4	-252.2	-247.2	-232.4	0.70	-0.64	3.99
9,319.0	3.30	255.30	9,307.0	-255.0	-258.4	-234.3	0.11	-0.10	-0.72
9,507.0	2.60	235.60	9,494.8	-258.8	-267.1	-237.4	0.65	-0.37	-10.48
9,693.0	4.30	237.80	9,680.4	-264.9	-276.5	-242.8	0.92	0.91	1.18
9,881.0	3.30	233.40	9,868.0	-271.9	-286.8	-249.0	0.55	-0.53	-2.34
10,068.0	3.90	241.10	10,054.6	-278.2	-296.7	-254.5	0.41	0.32	4.12
10,256.0	4.00	240.60	10,242.2	-284.5	-308.0	-259.9	0.06	0.05	-0.27
10,443.0	2.90	253.90	10,428.9	-289.0	-318.2	-263.6	0.72	-0.59	7.11
10,631.0	3.40	304.90	10,616.6	-287.1	-327.4	-261.0	1.46	0.27	27.13
10,771.0	2.70	309.50	10,756.4	-282.6	-333.3	-256.1	0.53	-0.50	3.29
10,805.0	2.80	315.80	10,790.4	-281.5	-334.5	-254.9	0.94	0.29	18.53
10,836.0	5.60	342.50	10,821.3	-279.6	-335.5	-252.9	10.79	9.03	86.13
10,868.0	10.90	357.10	10,852.9	-275.0	-336.1	-248.3	17.68	16.56	45.63
10,899.0	16.80	0.40	10,883.0	-267.6	-336.3	-240.9	19.19	19.03	10.65
10,930.0	22.00	0.30	10,912.3	-257.3	-336.2	-230.7	16.77	16.77	-0.32
10,963.0	25.10	0.40	10,942.5	-244.1	-336.1	-217.5	9.39	9.39	0.30
10,994.0	27.80	1.50	10,970.3	-230.3	-335.9	-203.8	8.85	8.71	3.55
11,026.0	31.00	2.40	10,998.1	-214.6	-335.3	-188.2	10.09	10.00	2.81
11,057.0	34.00	1.90	11,024.3	-198.0	-334.7	-171.6	9.72	9.68	-1.61
11,089.0	38.00	0.30	11,050.2	-179.2	-334.4	-152.9	12.84	12.50	-5.00
11,120.0	42.40	0.40	11,073.8	-159.2	-334.2	-133.0	14.20	14.19	0.32
11,152.0	46.10	0.40	11,096.7	-136.9	-334.1	-110.7	11.56	11.56	0.00
11,183.0	49.30	0.80	11,117.6	-114.0	-333.8	-87.9	10.37	10.32	1.29
11,215.0	51.60	0.50	11,138.0	-89.3	-333.6	-63.3	7.22	7.19	-0.94
11,247.0	54.10	0.10	11,157.3	-63.8	-333.4	-37.9	7.88	7.81	-1.25
11,278.0	56.50	359.90	11,175.0	-38.3	-333.4	-12.5	7.76	7.74	-0.65
11,309.0	60.10	0.10	11,191.2	-11.9	-333.4	13.8	11.63	11.61	0.65
11,341.0	63.60	0.80	11,206.3	16.3	-333.2	41.9	11.11	10.94	2.19
11,373.0	68.00	1.50	11,219.4	45.5	-332.6	71.0	13.89	13.75	2.19
11,404.0	71.60	1.30	11,230.2	74.5	-331.9	99.9	11.63	11.61	-0.65
11,436.0	73.80	0.80	11,239.7	105.1	-331.3	130.3	7.03	6.88	-1.56
11,468.0	76.30	0.40	11,247.9	136.0	-331.0	161.1	7.91	7.81	-1.25
11,499.0	78.60	0.60	11,254.7	166.3	-330.8	191.3	7.45	7.42	0.65

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Cabra Nino 11 B3MD State Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3559.0usft (Patterson #243)
Site:	Sec 11, T22S, R34E	MD Reference:	WELL @ 3559.0usft (Patterson #243)
Well:	Cabra Nino 11 B3MD State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)
11,531.0	80.20	0.60	11,260.5	197.7	-330.4	222.6	5.00	5.00	0.00
11,563.0	82.40	1.00	11,265.4	229.3	-330.0	254.1	6.99	6.88	1.25
11,595.0	85.20	1.30	11,268.8	261.1	-329.4	285.7	8.80	8.75	0.94
11,610.0	86.40	1.70	11,269.9	276.1	-329.0	300.6	8.43	8.00	2.67
11,707.0	91.60	1.50	11,271.6	373.0	-326.3	397.0	5.36	5.36	-0.21
11,801.0	92.90	1.20	11,267.9	466.9	-324.0	490.5	1.42	1.38	-0.32
11,894.0	92.80	1.00	11,263.3	559.8	-322.3	582.9	0.24	-0.11	-0.22
11,988.0	90.50	1.70	11,260.6	653.7	-320.0	676.4	2.56	-2.45	0.74
12,082.0	90.60	1.50	11,259.7	747.7	-317.4	769.9	0.24	0.11	-0.21
12,176.0	91.80	1.50	11,257.7	841.6	-315.0	863.4	1.28	1.28	0.00
12,270.0	91.10	0.80	11,255.4	935.6	-313.1	956.9	1.05	-0.74	-0.74
12,363.0	93.10	359.80	11,252.0	1,028.5	-312.6	1,049.5	2.40	2.15	-1.08
12,457.0	91.30	358.70	11,248.3	1,122.4	-313.8	1,143.3	2.24	-1.91	-1.17
12,551.0	91.50	357.30	11,246.0	1,216.3	-317.1	1,237.1	1.50	0.21	-1.49
12,644.0	91.20	357.30	11,243.9	1,309.2	-321.5	1,330.1	0.32	-0.32	0.00
12,739.0	89.30	356.60	11,243.4	1,404.0	-326.5	1,425.0	2.13	-2.00	-0.74
12,832.0	89.70	356.10	11,244.3	1,496.9	-332.4	1,518.0	0.69	0.43	-0.54
12,926.0	90.60	356.10	11,244.0	1,590.6	-338.8	1,612.0	0.96	0.96	0.00
13,019.0	94.30	355.90	11,240.0	1,683.3	-345.3	1,704.9	3.98	3.98	-0.22
13,113.0	92.20	357.80	11,234.7	1,777.0	-350.5	1,798.7	3.01	-2.23	2.02
13,206.0	87.80	358.50	11,234.7	1,869.9	-353.5	1,891.6	4.79	-4.73	0.75
13,300.0	86.00	358.20	11,239.8	1,963.8	-356.2	1,985.4	1.94	-1.91	-0.32
13,394.0	91.30	358.70	11,242.0	2,057.7	-358.7	2,079.2	5.66	5.64	0.53
13,488.0	91.90	357.50	11,239.4	2,151.6	-361.8	2,173.1	1.43	0.64	-1.28
13,581.0	93.80	357.50	11,234.7	2,244.4	-365.9	2,265.9	2.04	2.04	0.00
13,676.0	91.90	0.10	11,230.0	2,339.2	-367.9	2,360.6	3.39	-2.00	2.74
13,769.0	91.40	359.80	11,227.3	2,432.2	-368.0	2,453.3	0.63	-0.54	-0.32
13,863.0	91.10	359.80	11,225.3	2,526.1	-368.3	2,547.0	0.32	-0.32	0.00
13,957.0	92.40	1.70	11,222.4	2,620.1	-367.1	2,640.6	2.45	1.38	2.02
14,051.0	92.40	1.90	11,218.5	2,714.0	-364.1	2,733.9	0.21	0.00	0.21
14,144.0	96.70	3.60	11,211.1	2,806.5	-359.7	2,825.9	4.97	4.62	1.83
14,238.0	93.30	3.80	11,202.9	2,900.0	-353.6	2,918.6	3.62	-3.62	0.21
14,332.0	90.80	2.60	11,199.6	2,993.8	-348.4	3,011.7	2.95	-2.66	-1.28
14,425.0	90.80	2.90	11,198.3	3,086.6	-343.9	3,104.0	0.32	0.00	0.32
14,520.0	92.10	3.40	11,195.9	3,181.5	-338.7	3,198.1	1.47	1.37	0.53
14,614.0	90.50	2.60	11,193.7	3,275.3	-333.8	3,291.3	1.90	-1.70	-0.85
14,708.0	86.90	1.90	11,195.9	3,369.2	-330.1	3,384.6	3.90	-3.83	-0.74
14,802.0	92.60	1.90	11,196.3	3,463.1	-327.0	3,478.0	6.06	6.06	0.00
14,896.0	95.20	2.90	11,189.9	3,556.8	-323.0	3,571.1	2.96	2.77	1.06
14,990.0	90.80	3.30	11,185.0	3,650.5	-318.0	3,664.1	4.70	-4.68	0.43
15,085.0	90.90	3.40	11,183.5	3,745.3	-312.4	3,758.3	0.15	0.11	0.11
15,179.0	91.40	3.60	11,181.7	3,839.1	-306.7	3,851.4	0.57	0.53	0.21
15,272.0	90.10	3.10	11,180.4	3,932.0	-301.2	3,943.5	1.50	-1.40	-0.54

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Cabra Nino 11 B3MD State Com #1H
Project:	Lea County, New Mexico (Nad 83)	TVD Reference:	WELL @ 3559.0usft (Patterson #243)
Site:	Sec 11, T22S, R34E	MD Reference:	WELL @ 3559.0usft (Patterson #243)
Well:	Cabra Nino 11 B3MD State Com #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)	
15,366.0	89.40	2.70	11,180.9	4,025.8	-296.5	4,036.7	0.86	-0.74	-0.43	
15,460.0	88.60	3.10	11,182.5	4,119.7	-291.7	4,129.9	0.95	-0.85	0.43	
15,553.0	92.30	1.20	11,181.8	4,212.6	-288.2	4,222.3	4.47	3.98	-2.04	
15,647.0	92.60	2.00	11,177.7	4,306.5	-285.6	4,315.7	0.91	0.32	0.85	
15,741.0	90.90	2.00	11,174.9	4,400.4	-282.3	4,409.1	1.81	-1.81	0.00	
15,835.0	91.40	2.20	11,173.0	4,494.3	-278.9	4,502.4	0.57	0.53	0.21	
15,915.0	91.80	3.10	11,170.8	4,574.2	-275.2	4,581.8	1.23	0.50	1.13	
TD @ 15965.0' MD / 11169.2' TVD										
15,965.0	91.80	3.10	11,169.2	4,624.1	-272.5	4,631.3	0.00	0.00	0.00	

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
5,550.0	5,545.8	-147.6	-50.0	Gyro Tie-in @ 5550.0' MD / 5545.8' TVD	
15,965.0	11,169.2	4,624.1	-272.5	TD @ 15965.0' MD / 11169.2' TVD	

Checked By: _____ Approved By: _____ Date: _____