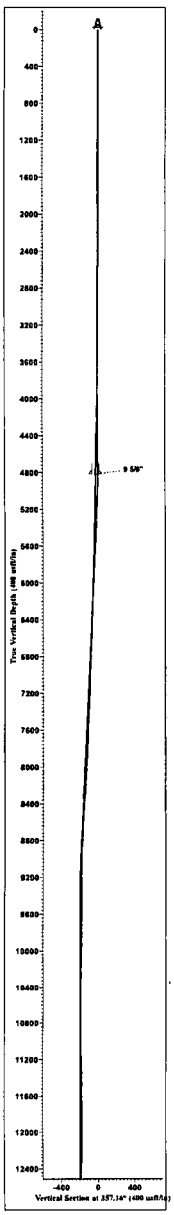
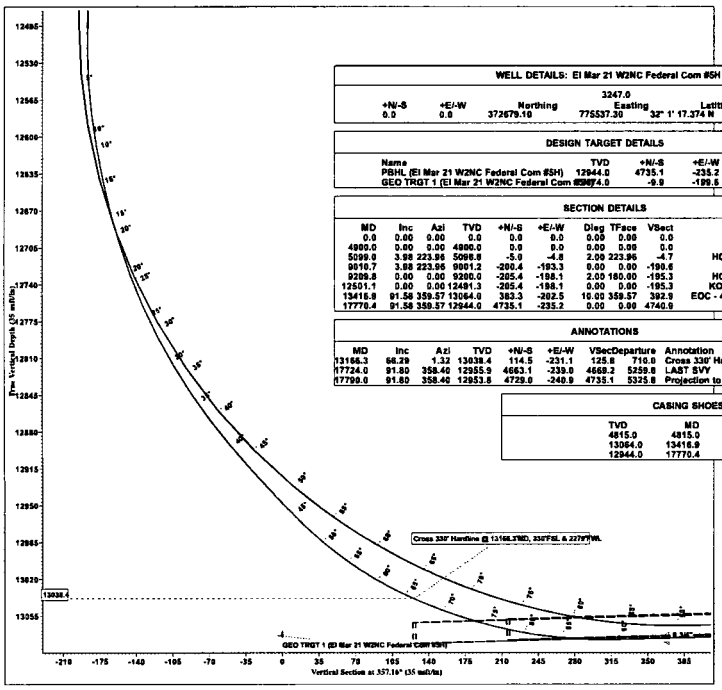
MEWBOURNE OIL COMPANY

INTREPID

Mewbourne Oil Co.
Project: Lea County, NM (NAD 83)
Site: (El Mar 21) Sec-21_T-26-S_R-33-E
Well: El Mar 21 W2NC Federal Com #5H
Wellbore: OWB
Design: AWB
Lat: 32° 1' 17.374 N
Long: 103° 26' 39.467 W
Pad GL: 3247.0
KB: KB @ 3274.0usft (Patterson 231)





WELL DETAILS: El Mar 21 W2NC Federal Com #5H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	372679.10	775537.20	32° 1' 17.374 N	103° 26' 39.467 W

3247.0

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
PBHL (El Mar 21 W2NC Federal Com #5H)	12944.0	4735.1	-235.2	377414.19	775302.10
GEO TRGT 1 (El Mar 21 W2NC Federal Com #5H)	13074.0	-9.9	-199.5	372669.18	775337.71

SECTION DETAILS

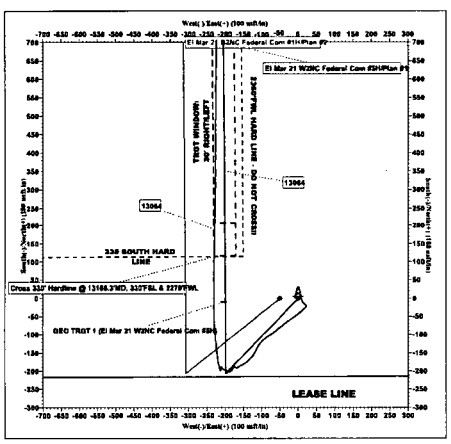
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
4900.0	0.00	0.00	4900.0	0.0	0.0	0.00	0.00	0.0	NUDGE - Build 2.00
5099.0	3.98	223.96	5098.8	-5.0	-4.8	2.00	223.96	-4.7	HOLD - 3911.7 at 5099.0 MD
9010.7	3.98	223.96	9001.2	-200.4	-193.3	0.00	0.00	-190.6	DROP - -2.00
9209.8	0.00	0.00	9200.0	-205.4	-198.1	2.00	180.00	-195.3	HOLD - 3291.3 at 9209.8 MD
12501.1	0.00	0.00	12491.3	-205.4	-198.1	0.00	0.00	-195.3	KOP - DLS 10.00 TFO 358.57
13416.8	91.58	359.57	13064.0	383.3	-202.5	10.00	359.57	392.9	EOC - 4353.5 hold at 13416.8 MD
17770.4	91.58	359.57	12944.0	4735.1	-235.2	0.00	0.00	4740.9	TD at 17770.4

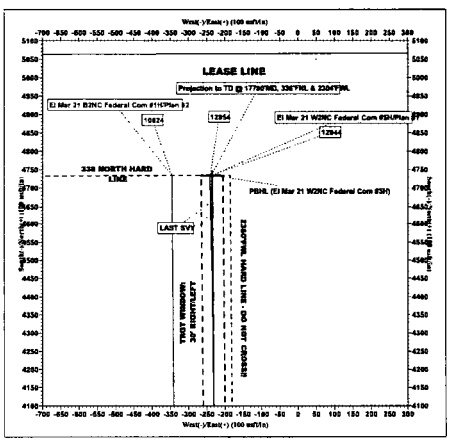
ANNOTATIONS

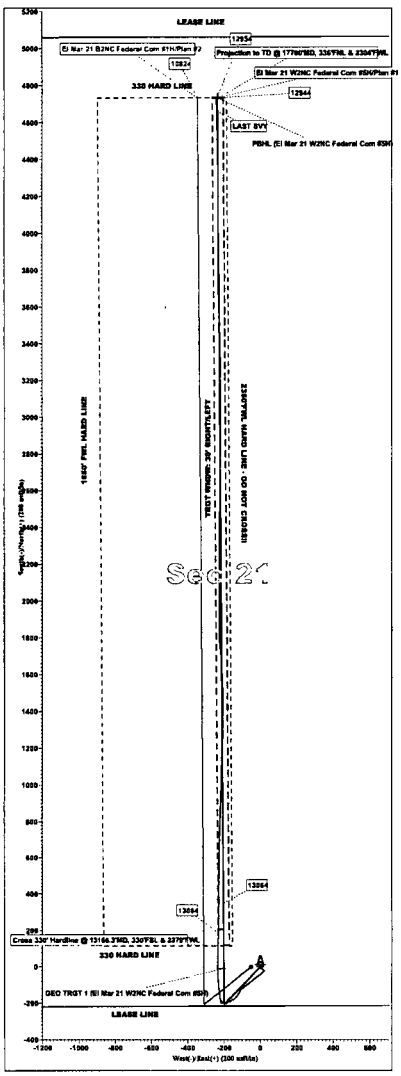
MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
13166.3	66.29	1.32	13038.4	114.5	-231.1	125.8	710.0	Cross 330' Hardline @ 13166.3'MD, 330'FSL & 2279'FWL
17724.0	91.80	358.40	12955.9	4663.1	-239.0	4668.2	5259.8	LAST SVY
17790.0	91.80	358.40	12953.8	4729.0	-240.9	4735.1	5325.8	Projection to TD @ 17790'MD, 338'FNL & 2304'FWL

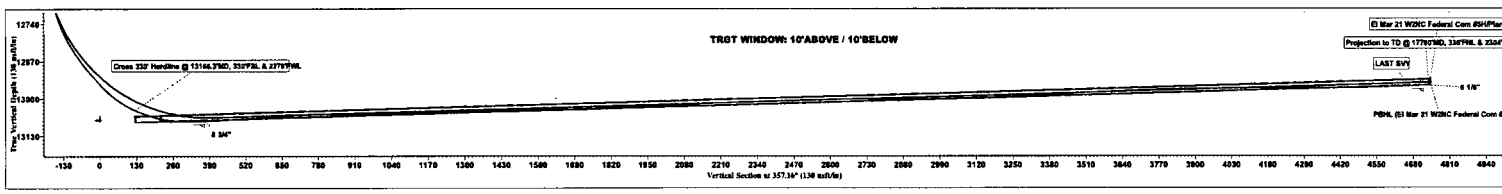
CASING SHOES

TVD	MD	Size
4815.0	4815.0	9-5/8
13064.0	13416.8	6-3/4
12944.0	17770.4	6-1/8









MEWBOURNE OIL COMPANY

Mewbourne Oil Co.

Lea County, NM (NAD 83)
(El Mar 21) Sec-21_T-26-S_R-33-E
El Mar 21 W2NC Federal Com #5H

OWB

Design: AWB

Standard Survey Report

26 June, 2018

INTREPID

Company:	Mewbourne Oil Co.	**Local Co-ordinate Reference:**	Well El Mar 21 W2NC Federal Com #5H
Project:	Lea County, NM (NAD 83)	**TVD Reference:**	KB @ 3274.0usft (Patterson 231)
Site:	(El Mar 21) Sec-21_T-26-S_R-33-E	**MD Reference:**	KB @ 3274.0usft (Patterson 231)
Well:	El Mar 21 W2NC Federal Com #5H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 5000.15 Single User Db

Project	Lea County, NM (NAD 83)		
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	(El Mar 21) Sec-21_T-26-S_R-33-E				
Site Position:		**Northing:**	372,679.00 usft	**Latitude:**	32° 1' 17.377 N
From:	Map	**Easting:**	775,487.30 usft	**Longitude:**	103° 26' 40.048 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.47 °

Well	El Mar 21 W2NC Federal Com #5H					
Well Position	**+N/-S**	0.0 usft	**Northing:**	372,679.10 usft	**Latitude:**	32° 1' 17.374 N
	+E/-W	0.0 usft	**Easting:**	775,537.30 usft	**Longitude:**	103° 26' 39.467 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,247.0 usft

Wellbore	OWB				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	05/10/18	6.78	59.88	47,740.33966874

Design	AWB					
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	357.16		

Survey Program **Date** 06/26/18

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	807.0	Gyro Svys (OWB)	GYRO-NS	OWSG Gyrocompass Gyro
953.0	17,790.0	Intrepid MWD (OWB)	MWD	OWSG 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	0.34	311.94	100.0	0.2	-0.2	0.2	0.34	0.34	0.00
200.0	0.29	326.51	200.0	0.6	-0.6	0.6	0.09	-0.05	14.57
300.0	0.22	348.91	300.0	1.0	-0.8	1.0	0.12	-0.07	22.40
400.0	0.26	355.05	400.0	1.4	-0.8	1.5	0.05	0.04	6.14
500.0	0.27	327.05	500.0	1.8	-1.0	1.9	0.13	0.01	-28.00
600.0	0.29	299.50	600.0	2.2	-1.3	2.2	0.13	0.02	-27.55
700.0	0.21	64.70	700.0	2.4	-1.4	2.4	0.45	-0.08	125.20
807.0	0.22	347.12	807.0	2.7	-1.2	2.7	0.25	0.01	-72.50
953.0	0.50	19.10	953.0	3.5	-1.1	3.6	0.23	0.19	21.90

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Well:	El Mar 21 W2NC Federal Com #5H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 5000.15 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)
1,046.0	0.20	107.50	1,046.0	3.9	-0.8	3.9	0.57	-0.32	95.05
1,141.0	0.30	46.80	1,141.0	4.0	-0.5	4.0	0.28	0.11	-63.89
1,236.0	0.50	307.10	1,236.0	4.4	-0.6	4.4	0.66	0.21	-104.95
1,331.0	0.20	205.60	1,331.0	4.5	-1.0	4.6	0.60	-0.32	-106.84
1,425.0	0.40	256.10	1,425.0	4.3	-1.4	4.3	0.33	0.21	53.72
1,519.0	0.40	318.70	1,519.0	4.4	-1.9	4.5	0.44	0.00	66.60
1,614.0	0.40	277.90	1,614.0	4.7	-2.5	4.9	0.29	0.00	-42.95
1,708.0	0.30	158.00	1,708.0	4.6	-2.7	4.7	0.65	-0.11	-127.55
1,803.0	0.20	66.40	1,803.0	4.4	-2.5	4.5	0.38	-0.11	-96.42
1,901.0	0.10	350.00	1,901.0	4.5	-2.3	4.7	0.21	-0.10	-77.96
1,997.0	0.40	269.90	1,997.0	4.6	-2.7	4.8	0.41	0.31	-83.44
2,092.0	0.30	118.20	2,092.0	4.5	-2.8	4.6	0.71	-0.11	-159.68
2,187.0	0.40	170.90	2,187.0	4.1	-2.5	4.2	0.34	0.11	55.47
2,281.0	0.10	35.90	2,281.0	3.8	-2.4	3.9	0.51	-0.32	-143.62
2,376.0	0.30	313.80	2,376.0	4.0	-2.6	4.2	0.32	0.21	-86.42
2,472.0	0.40	170.80	2,472.0	3.9	-2.7	4.0	0.69	0.10	-148.96
2,567.0	0.60	197.60	2,567.0	3.1	-2.8	3.2	0.32	0.21	28.21
2,662.0	0.10	73.60	2,662.0	2.6	-2.8	2.8	0.70	-0.53	-130.53
2,757.0	0.30	135.10	2,757.0	2.5	-2.6	2.6	0.28	0.21	64.74
2,853.0	0.40	142.70	2,853.0	2.0	-2.2	2.1	0.11	0.10	7.92
2,948.0	0.20	22.80	2,948.0	1.9	-1.9	2.0	0.56	-0.21	-126.21
3,042.0	0.20	347.10	3,042.0	2.2	-1.9	2.3	0.13	0.00	-37.98
3,137.0	0.30	28.70	3,137.0	2.6	-1.8	2.7	0.21	0.11	43.79
3,232.0	0.30	176.20	3,232.0	2.6	-1.7	2.7	0.61	0.00	155.26
3,327.0	0.40	151.60	3,327.0	2.1	-1.5	2.1	0.19	0.11	-25.89
3,422.0	0.40	207.90	3,422.0	1.5	-1.5	1.5	0.40	0.00	59.26
3,517.0	0.70	92.60	3,517.0	1.1	-1.1	1.2	0.99	0.32	-121.37
3,611.0	1.10	106.20	3,610.9	0.9	0.3	0.9	0.48	0.43	14.47
3,706.0	1.80	77.10	3,705.9	0.9	2.7	0.8	1.05	0.74	-30.63
3,801.0	1.10	91.70	3,800.9	1.3	5.0	1.0	0.83	-0.74	15.37
3,896.0	1.90	105.50	3,895.9	0.8	7.5	0.4	0.92	0.84	14.53
3,991.0	1.50	155.50	3,990.8	-0.7	9.5	-1.2	1.56	-0.42	52.63
4,085.0	1.60	175.00	4,084.8	-3.2	10.1	-3.7	0.57	0.11	20.74
4,181.0	1.70	172.30	4,180.7	-5.9	10.4	-6.4	0.13	0.10	-2.81
4,276.0	2.30	144.10	4,275.7	-8.9	11.7	-9.4	1.19	0.63	-29.68
4,371.0	1.50	139.50	4,370.6	-11.4	13.7	-12.0	0.86	-0.84	-4.84
4,465.0	1.50	134.20	4,464.6	-13.1	15.3	-13.9	0.15	0.00	-5.64
4,560.0	2.20	136.70	4,559.5	-15.3	17.5	-16.2	0.74	0.74	2.63
4,655.0	1.60	140.70	4,654.5	-17.7	19.6	-18.6	0.65	-0.63	4.21
4,749.0	1.10	121.80	4,748.5	-19.2	21.2	-20.2	0.71	-0.53	-20.11
4,794.0	1.10	132.90	4,793.5	-19.7	21.9	-20.8	0.47	0.00	24.67
4,848.0	1.50	131.70	4,847.4	-20.5	22.8	-21.6	0.74	0.74	-2.22
4,943.0	0.60	187.70	4,942.4	-21.8	23.6	-23.0	1.33	-0.95	58.95

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Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 5000.15 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)
5,038.0	1.60	225.30	5,037.4	-23.3	22.6	-24.4	1.24	1.05	39.58
5,132.0	1.50	241.90	5,131.4	-24.8	20.6	-25.8	0.49	-0.11	17.66
5,227.0	2.10	225.90	5,226.3	-26.6	18.3	-27.4	0.82	0.63	-16.84
5,322.0	2.70	223.50	5,321.3	-29.4	15.5	-30.1	0.64	0.63	-2.53
5,416.0	2.50	232.20	5,415.2	-32.3	12.3	-32.8	0.47	-0.21	9.26
5,512.0	2.30	224.00	5,511.1	-34.9	9.3	-35.4	0.41	-0.21	-8.54
5,607.0	2.90	226.40	5,606.0	-38.0	6.3	-38.2	0.64	0.63	2.53
5,702.0	3.10	229.60	5,700.8	-41.3	2.6	-41.4	0.27	0.21	3.37
5,797.0	3.00	236.30	5,795.7	-44.3	-1.5	-44.2	0.39	-0.11	7.05
5,892.0	2.80	233.80	5,890.6	-47.1	-5.4	-46.8	0.25	-0.21	-2.63
5,986.0	2.60	239.20	5,984.5	-49.5	-9.1	-49.0	0.34	-0.21	5.74
6,081.0	3.60	236.80	6,079.3	-52.3	-13.4	-51.5	1.06	1.05	-2.53
6,176.0	3.40	232.40	6,174.2	-55.6	-18.2	-54.6	0.35	-0.21	-4.63
6,271.0	3.10	233.40	6,269.0	-58.9	-22.5	-57.7	0.32	-0.32	1.05
6,366.0	2.90	239.00	6,363.9	-61.6	-26.6	-60.2	0.37	-0.21	5.89
6,461.0	2.70	235.00	6,458.8	-64.2	-30.5	-62.6	0.29	-0.21	-4.21
6,556.0	4.10	228.00	6,553.6	-67.7	-34.8	-65.9	1.53	1.47	-7.37
6,651.0	4.00	230.30	6,648.4	-72.1	-39.9	-70.0	0.20	-0.11	2.42
6,744.0	4.20	232.70	6,741.1	-76.2	-45.1	-73.9	0.28	0.22	2.58
6,839.0	4.00	233.90	6,835.9	-80.3	-50.5	-77.7	0.23	-0.21	1.26
6,934.0	3.90	230.50	6,930.7	-84.3	-55.7	-81.4	0.27	-0.11	-3.58
7,029.0	4.30	228.90	7,025.4	-88.7	-60.9	-85.6	0.44	0.42	-1.68
7,123.0	4.60	232.10	7,119.1	-93.3	-66.5	-89.9	0.41	0.32	3.40
7,218.0	4.00	237.90	7,213.9	-97.4	-72.3	-93.7	0.78	-0.63	6.11
7,312.0	3.80	236.10	7,307.6	-100.9	-77.7	-96.9	0.25	-0.21	-1.91
7,407.0	3.70	236.10	7,402.4	-104.4	-82.9	-100.1	0.11	-0.11	0.00
7,501.0	3.70	232.50	7,496.2	-107.9	-87.8	-103.4	0.25	0.00	-3.83
7,596.0	3.40	228.30	7,591.1	-111.7	-92.3	-106.9	0.42	-0.32	-4.42
7,690.0	3.50	228.60	7,684.9	-115.4	-96.5	-110.5	0.11	0.11	0.32
7,787.0	3.70	221.90	7,781.7	-119.7	-100.9	-114.5	0.48	0.21	-6.91
7,882.0	3.40	220.80	7,876.5	-124.1	-104.7	-118.8	0.32	-0.32	-1.16
7,977.0	2.80	218.90	7,971.4	-128.1	-108.0	-122.5	0.64	-0.63	-2.00
8,071.0	2.40	198.60	8,065.3	-131.7	-110.1	-126.1	1.06	-0.43	-21.60
8,165.0	5.10	209.50	8,159.1	-137.2	-112.8	-131.4	2.96	2.87	11.60
8,260.0	4.90	208.30	8,253.7	-144.5	-116.8	-138.5	0.24	-0.21	-1.26
8,356.0	4.70	206.60	8,349.4	-151.6	-120.5	-145.4	0.26	-0.21	-1.77
8,451.0	5.90	223.00	8,444.0	-158.6	-125.6	-152.2	2.02	1.26	17.26
8,546.0	5.50	223.70	8,538.5	-165.5	-132.1	-158.7	0.43	-0.42	0.74
8,640.0	5.00	221.10	8,632.1	-171.8	-137.9	-164.8	0.59	-0.53	-2.77
8,735.0	5.10	238.20	8,726.7	-177.2	-144.2	-169.8	1.58	0.11	18.00
8,831.0	4.30	240.60	8,822.4	-181.2	-150.9	-173.5	0.86	-0.83	2.50
8,925.0	4.40	241.00	8,916.2	-184.7	-157.2	-176.7	0.11	0.11	0.43
9,019.0	3.40	241.40	9,009.9	-187.8	-162.8	-179.5	1.06	-1.06	0.43

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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)
9,115.0	1.00	163.70	9,105.9	-189.9	-165.0	-181.5	3.47	-2.50	-80.94
9,210.0	2.00	271.60	9,200.8	-190.7	-166.4	-182.2	2.63	1.05	113.58
9,305.0	1.10	285.54	9,295.8	-190.4	-169.0	-181.8	1.02	-0.95	14.67
9,399.0	1.20	300.50	9,389.8	-189.6	-170.7	-180.9	0.34	0.11	15.91
9,494.0	0.70	321.20	9,484.8	-188.7	-171.9	-179.9	0.63	-0.53	21.79
9,589.0	1.70	257.10	9,579.8	-188.5	-173.7	-179.7	1.61	1.05	-67.47
9,684.0	2.10	258.30	9,674.7	-189.2	-176.7	-180.2	0.42	0.42	1.26
9,779.0	1.40	248.80	9,769.7	-190.0	-179.5	-180.8	0.80	-0.74	-10.00
9,874.0	0.40	189.10	9,864.7	-190.7	-180.7	-181.5	1.31	-1.05	-62.84
9,968.0	0.80	156.10	9,958.6	-191.7	-180.4	-182.5	0.55	0.43	-35.11
10,064.0	0.90	171.80	10,054.6	-193.0	-180.1	-183.8	0.26	0.10	16.35
10,158.0	1.60	199.60	10,148.6	-195.0	-180.4	-185.8	0.96	0.74	29.57
10,253.0	2.00	220.80	10,243.6	-197.5	-181.9	-188.2	0.81	0.42	22.32
10,348.0	2.30	238.40	10,338.5	-199.7	-184.6	-190.3	0.76	0.32	18.53
10,443.0	2.90	249.40	10,433.4	-201.6	-188.5	-192.0	0.82	0.63	11.58
10,538.0	0.70	336.90	10,528.4	-201.9	-191.0	-192.2	3.11	-2.32	92.11
10,633.0	0.30	47.10	10,623.4	-201.2	-191.0	-191.5	0.70	-0.42	73.89
10,728.0	0.70	115.50	10,718.4	-201.3	-190.3	-191.6	0.69	0.42	72.00
10,823.0	0.50	126.40	10,813.4	-201.8	-189.5	-192.1	0.24	-0.21	11.47
10,919.0	1.00	290.40	10,909.3	-201.7	-189.9	-192.1	1.55	0.52	170.83
11,014.0	2.60	303.60	11,004.3	-200.2	-192.5	-190.5	1.73	1.68	13.89
11,109.0	4.00	301.70	11,099.1	-197.3	-197.1	-187.3	1.48	1.47	-2.00
11,204.0	3.90	285.50	11,193.9	-194.7	-203.0	-184.4	1.18	-0.11	-17.05
11,299.0	1.80	309.30	11,288.8	-192.9	-207.3	-182.4	2.49	-2.21	25.05
11,393.0	1.90	314.60	11,382.7	-190.9	-209.6	-180.2	0.21	0.11	5.64
11,489.0	0.10	230.60	11,478.7	-189.8	-210.8	-179.1	1.97	-1.88	-87.50
11,583.0	0.30	3.30	11,572.7	-189.6	-210.8	-178.9	0.40	0.21	141.17
11,677.0	0.70	335.60	11,666.7	-188.8	-211.0	-178.1	0.49	0.43	-29.47
11,772.0	0.60	334.70	11,761.7	-187.9	-211.5	-177.1	0.11	-0.11	-0.95
11,867.0	0.50	347.60	11,856.7	-187.0	-211.8	-176.3	0.17	-0.11	13.58
11,961.0	0.70	76.80	11,950.7	-186.5	-211.3	-175.8	0.91	0.21	94.89
12,056.0	1.30	191.10	12,045.7	-187.4	-211.0	-176.7	1.80	0.63	120.32
12,151.0	1.50	180.90	12,140.7	-189.7	-211.2	-179.0	0.34	0.21	-10.74
12,246.0	1.30	183.80	12,235.6	-192.0	-211.3	-181.3	0.22	-0.21	3.05
12,341.0	1.40	186.90	12,330.6	-194.3	-211.5	-183.5	0.13	0.11	3.26
12,435.0	1.50	192.80	12,424.6	-196.6	-211.9	-185.8	0.19	0.11	6.28
12,463.0	1.50	200.60	12,452.6	-197.3	-212.1	-186.5	0.73	0.00	27.86
12,526.0	0.80	262.80	12,515.6	-198.1	-212.8	-187.3	2.11	-1.11	98.73
12,557.0	3.90	334.10	12,546.5	-197.2	-213.5	-186.4	12.00	10.00	230.00
12,589.0	7.60	340.80	12,578.4	-194.2	-214.7	-183.3	11.73	11.56	20.94
12,620.0	10.30	342.30	12,609.0	-189.6	-216.2	-178.7	8.74	8.71	4.84
12,652.0	12.20	347.90	12,640.4	-183.6	-217.8	-172.6	6.84	5.94	17.50
12,683.0	14.90	350.30	12,670.5	-176.5	-219.1	-165.4	8.89	8.71	7.74
12,715.0	17.80	351.50	12,701.2	-167.6	-220.5	-156.4	9.12	9.06	3.75

Company:	Mewbourne Oil Co.	**Local Co-ordinate Reference:**	Well El Mar 21 W2NC Federal Com #5H
Project:	Lea County, NM (NAD 83)	**TVD Reference:**	KB @ 3274.0usft (Patterson 231)
Site:	(El Mar 21) Sec-21_T-26-S_R-33-E	**MD Reference:**	KB @ 3274.0usft (Patterson 231)
Well:	El Mar 21 W2NC Federal Com #5H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 5000.15 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)
12,746.0	20.70	352.90	12,730.5	-157.5	-221.9	-146.3	9.47	9.35	4.52
12,778.0	24.30	353.60	12,760.0	-145.3	-223.4	-134.0	11.28	11.25	2.19
12,810.0	27.50	354.40	12,788.8	-131.4	-224.8	-120.1	10.06	10.00	2.50
12,841.0	30.80	353.50	12,815.9	-116.4	-226.4	-105.0	10.74	10.65	-2.90
12,873.0	34.20	355.10	12,842.9	-99.3	-228.1	-87.8	10.96	10.63	5.00
12,904.0	37.41	356.03	12,868.0	-81.2	-229.5	-69.7	10.50	10.35	3.00
12,936.0	40.20	356.82	12,893.0	-61.2	-230.7	-49.7	8.85	8.72	2.47
12,968.0	42.24	358.93	12,917.0	-40.1	-231.5	-28.6	7.71	6.38	6.59
12,999.0	43.34	0.60	12,939.8	-19.1	-231.6	-7.6	5.10	3.55	5.39
13,033.0	45.71	0.90	12,964.0	4.8	-231.3	16.2	7.00	6.97	0.88
13,064.0	50.10	0.40	12,984.8	27.8	-231.0	39.2	14.21	14.16	-1.61
13,096.0	55.30	359.00	13,004.2	53.2	-231.2	64.6	16.62	16.25	-4.38
13,127.0	60.00	359.70	13,020.8	79.4	-231.5	90.8	15.28	15.16	2.26
13,159.0	65.30	1.10	13,035.5	107.8	-231.3	119.1	17.01	16.56	4.38
13,179.0	68.00	1.70	13,043.4	126.2	-230.8	137.5	13.78	13.50	3.00
13,262.0	77.50	1.30	13,068.0	205.3	-228.7	216.4	11.46	11.45	-0.48
13,294.0	82.70	0.90	13,073.5	236.8	-228.1	247.8	16.30	16.25	-1.25
13,326.0	86.50	1.10	13,076.5	268.7	-227.6	279.6	11.89	11.88	0.63
13,358.0	89.60	0.50	13,077.6	300.6	-227.1	311.5	9.87	9.69	-1.88
13,454.0	93.50	0.20	13,075.0	396.6	-226.6	407.3	4.07	4.06	-0.31
13,549.0	94.00	0.40	13,068.8	491.4	-226.1	502.0	0.57	0.53	0.21
13,644.0	93.10	0.50	13,062.9	586.2	-225.3	596.6	0.95	-0.95	0.11
13,740.0	93.30	0.90	13,057.5	682.0	-224.1	692.3	0.47	0.21	0.42
13,834.0	91.30	2.10	13,053.7	775.9	-221.7	786.0	2.48	-2.13	1.28
13,929.0	90.70	2.00	13,052.1	870.8	-218.3	880.6	0.64	-0.63	-0.11
14,024.0	90.40	1.30	13,051.2	965.8	-215.6	975.3	0.80	-0.32	-0.74
14,119.0	91.10	1.40	13,049.9	1,060.8	-213.3	1,070.0	0.74	0.74	0.11
14,214.0	91.80	1.70	13,047.5	1,155.7	-210.7	1,164.7	0.80	0.74	0.32
14,308.0	92.30	1.50	13,044.2	1,249.6	-208.1	1,258.4	0.57	0.53	-0.21
14,403.0	92.70	1.90	13,040.0	1,344.5	-205.3	1,353.0	0.60	0.42	0.42
14,498.0	90.10	358.20	13,037.7	1,439.4	-205.2	1,447.8	4.76	-2.74	-3.89
14,592.0	90.20	358.60	13,037.4	1,533.4	-207.9	1,541.8	0.44	0.11	0.43
14,687.0	91.50	358.50	13,036.0	1,628.3	-210.3	1,636.8	1.37	1.37	-0.11
14,782.0	91.90	353.30	13,033.2	1,723.0	-217.0	1,731.7	5.49	0.42	-5.47
14,876.0	91.80	359.50	13,030.2	1,816.7	-222.9	1,825.6	6.59	-0.11	6.60
14,971.0	92.40	359.80	13,026.7	1,911.7	-223.5	1,920.4	0.71	0.63	0.32
15,066.0	92.40	359.90	13,022.7	2,006.6	-223.8	2,015.2	0.11	0.00	0.11
15,161.0	92.70	0.00	13,018.5	2,101.5	-223.8	2,110.0	0.33	0.32	0.11
15,256.0	92.70	359.60	13,014.0	2,196.4	-224.2	2,204.8	0.42	0.00	-0.42
15,350.0	91.10	0.70	13,010.9	2,290.3	-223.9	2,298.6	2.07	-1.70	1.17
15,445.0	91.70	0.90	13,008.6	2,385.3	-222.6	2,393.4	0.67	0.63	0.21
15,539.0	91.70	0.30	13,005.8	2,479.2	-221.6	2,487.2	0.64	0.00	-0.64
15,635.0	92.10	0.00	13,002.6	2,575.2	-221.4	2,583.0	0.52	0.42	-0.31

Company:	Mewbourne Oil Co.	**Local Co-ordinate Reference:**	Well El Mar 21 W2NC Federal Com #5H
Project:	Lea County, NM (NAD 83)	**TVD Reference:**	KB @ 3274.0usft (Patterson 231)
Site:	(El Mar 21) Sec-21_T-26-S_R-33-E	**MD Reference:**	KB @ 3274.0usft (Patterson 231)
Well:	El Mar 21 W2NC Federal Com #5H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 5000.15 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)
15,730.0	90.30	0.30	13,000.6	2,670.2	-221.1	2,677.8	1.92	-1.89	0.32
15,824.0	90.00	0.60	13,000.4	2,764.2	-220.4	2,771.7	0.45	-0.32	0.32
15,920.0	90.20	0.50	13,000.2	2,860.2	-219.5	2,867.5	0.23	0.21	-0.10
16,014.0	90.80	0.60	12,999.4	2,954.1	-218.6	2,961.4	0.65	0.64	0.11
16,109.0	91.30	359.30	12,997.6	3,049.1	-218.6	3,056.2	1.47	0.53	-1.37
16,204.0	91.80	359.50	12,995.1	3,144.1	-219.6	3,151.1	0.57	0.53	0.21
16,299.0	92.30	359.20	12,991.7	3,239.0	-220.7	3,246.0	0.61	0.53	-0.32
16,393.0	93.30	359.50	12,987.1	3,332.9	-221.8	3,339.8	1.11	1.06	0.32
16,488.0	92.70	359.80	12,982.1	3,427.8	-222.4	3,434.6	0.71	-0.63	0.32
16,583.0	92.80	357.00	12,977.6	3,522.6	-225.0	3,529.4	2.95	0.11	-2.95
16,678.0	92.50	359.20	12,973.2	3,617.5	-228.2	3,624.3	2.33	-0.32	2.32
16,773.0	92.70	358.50	12,968.9	3,712.3	-230.1	3,719.2	0.77	0.21	-0.74
16,867.0	90.90	0.20	12,965.9	3,806.3	-231.1	3,813.1	2.63	-1.91	1.81
16,962.0	90.80	0.40	12,964.5	3,901.3	-230.6	3,907.9	0.24	-0.11	0.21
17,056.0	90.70	0.00	12,963.3	3,995.3	-230.3	4,001.8	0.44	-0.11	-0.43
17,152.0	90.60	359.70	12,962.2	4,091.3	-230.6	4,097.7	0.33	-0.10	-0.31
17,246.0	90.40	359.60	12,961.4	4,185.2	-231.1	4,191.6	0.24	-0.21	-0.11
17,341.0	89.80	359.50	12,961.2	4,280.2	-231.9	4,286.5	0.64	-0.63	-0.11
17,435.0	89.10	358.90	12,962.1	4,374.2	-233.2	4,380.4	0.98	-0.74	-0.64
17,529.0	91.60	359.10	12,961.5	4,468.2	-234.8	4,474.4	2.67	2.66	0.21
17,623.0	91.60	358.80	12,958.9	4,562.2	-236.5	4,568.3	0.32	0.00	-0.32
17,724.0	91.80	358.40	12,955.9	4,663.1	-239.0	4,669.2	0.44	0.20	-0.40
17,790.0	91.80	358.40	12,953.8	4,729.0	-240.9	4,735.1	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL (El Mar 21 W2N	-1.58	359.57	12,944.0	4,735.1	-235.2	377,414.19	775,302.10	32° 2' 4.250 N	103° 26' 41.746 W
- actual wellpath misses target center by 12.9usft at 17790.0usft MD (12953.8 TVD, 4729.0 N, -240.9 E)									
- Rectangle (sides W60.0 H4,620.7 D20.0)									
GEO TRGT 1 (El Mar	1.58	179.57	13,074.0	-9.9	-199.6	372,669.18	775,337.71	32° 1' 17.292 N	103° 26' 41.786 W
- actual wellpath misses target center by 98.7usft at 13088.0usft MD (12999.5 TVD, 46.7 N, -231.1 E)									
- Rectangle (sides W60.0 H4,528.7 D20.0)									

Casing Points

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
4,815.5	4,815.0	9 5/8"	9-5/8	12-1/4
13,416.9	13,076.7	8 3/4"	8-3/4	9-5/8
17,770.4	12,954.4	6 1/8"	6-1/8	7-1/2

Company:	Mewbourne Oil Co.	**Local Co-ordinate Reference:**	Well El Mar 21 W2NC Federal Com #5H
Project:	Lea County, NM (NAD 83)	**TVD Reference:**	KB @ 3274.0usft (Patterson 231)
Site:	(El Mar 21) Sec-21_T-26-S_R-33-E	**MD Reference:**	KB @ 3274.0usft (Patterson 231)
Well:	El Mar 21 W2NC Federal Com #5H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWB	**Database:**	EDM 5000.15 Single User Db

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
13,166.3	13,038.4	114.5	-231.1	Cross 330' Hardline @ 13166.3'MD, 330'FSL & 2279'FWL
17,724.0	12,955.9	4,663.1	-239.0	LAST SVY
17,790.0	12,953.8	4,729.0	-240.9	Projection to TD @ 17790'MD, 336'FNL & 2304'FWL

Checked By: _____ Approved By: _____ Date: _____

PHOENIX
TECHNOLOGY SERVICES USA INC.
3610 Elkins Road, Midland, Texas 79705 T. 432.684.0057 F. 432.686.7964 www.phxtech.com
Celebrating 20 Years of Focused Solutions

June 5, 2018

Mewbourne Oil
Attention: Regulatory Department
701 S Cecil St
Hobbs, New Mexico 88240

Re: Mewbourne Oil
El Mar 21 W2NC Federal Com #5H
Lea County, New Mexico
API #30-025-44750
Job No. 62912

Dear Regulatory Department;

Phoenix Technology Services, Inc. has filed the Survey Data Certification, Surveys, and Lease Plat for the above referenced well with the State of New Mexico Oil Conservation Division – District 1 via certified mail. A copy of the filing is attached for your records.

Name of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Noe Garza	5H	0	807	6/3/18	6/3/18	Gyro

Thank you for the opportunity to be of service. Please contact me if you have any questions or require additional information.

Best Regards,

Brittany Carley

Brittany Carley
Operations Administrator

SURVEY CERTIFICATION FORM

3610 Elkins Road Midland, TX 79705 t:432-684-0057 f: 432-686-7964

PHOENIX TECHNOLOGY SERVICES

Company: Mewbourne

Job #: 62912

Well Name: El Mar 21 W2NC Federal Com # 5H

County/State: Lea Co., New Mexico

Survey Instrument Type: North Seek Rate Gyro

API # 30-025-44750

TIE IN DATA

Measure Depth (ft)	Vertical Depth (ft)	Inclination (°)	Azimuth (°)	N-S Coordinates	E-W Coordinates	Data Source
0	0	0	0	0	0	Surface

First Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
2018-06-03	0	0	0

Last Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
2018-06-03	807	0.22	347.12

Projected TD Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
0	0	0	0

Grid Correction
-0.4

Gyro Operator: Phoenix Technology Services USA Ltd.

Gyro Supervisor: Angel Guebara

To the best of my knowledge I certify this survey data to be correct and true

Date: 6-03-18

Print Name: Noe Garza

Signature:

PHOENIX
TECHNOLOGY SERVICES

Company:	Mewbourne	Job Number:	62912	Date:	06-03-18
Well:	El Mar 21 W2NC Federal Com 5H	Grid Corr.:	-0.40	Calculation Method:	Minimum Curvature
Location:	Lea Co., New Mexico	Lat:	32.04	Proposed Azimuth:	
Rig:	Patterson 231	Long:	-103.58	RKB - MSL in feet:	28.5
				Tie Into:	Surface

Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Angle (deg)	Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
Enter Tie-In Survey on Line 10						**FIELD COPY, NON-DEFINITIVE**							
TIE IN	0			0	0	0	0	0					
Gyro	100.00	0.34	311.94	100	100.00	0.20	0.20 N	0.22 W	0.30	311.94	0.34	0.34	311.94
	200.00	0.29	326.51	100	200.00	0.61	0.61 N	0.58 W	0.84	316.28	0.09	-0.05	14.57
	300.00	0.22	348.91	100	300.00	1.01	1.01 N	0.76 W	1.26	323.05	0.12	-0.07	22.40
	400.00	0.26	355.05	100	400.00	1.42	1.42 N	0.81 W	1.64	330.20	0.05	0.04	6.14
	500.00	0.27	327.05	100	499.99	1.85	1.85 N	0.96 W	2.08	332.47	0.13	0.01	-28.00
	600.00	0.29	299.50	100	599.99	2.17	2.17 N	1.31 W	2.53	328.85	0.13	0.02	-27.55
	700.00	0.21	64.70	100	699.99	2.37	2.37 N	1.36 W	2.74	330.07	0.45	-0.08	-234.80
	807.00	0.22	347.12	107	806.99	2.65	2.65 N	1.23 W	2.93	335.08	0.25	0.01	263.94