

OPERATOR
WELL/LEASE
COUNTY

MEWBOURNE OIL COMPANY
ZIRCON 1 HE STATE 001H
EDDY

080-0142

STATE OF NEW MEXICO
DEVIATION REPORT

30-05-41489

419	1.50
720	1.80
1,210	2.30
1,477	3.40
1,571	1.90
1,952	1.20
2,332	0.80
2,712	0.50
3,092	0.40
3,568	0.40
4,044	0.80
4,899	1.30
5,281	1.60
5,566	1.80
6,427	2.20



STATE OF TEXAS

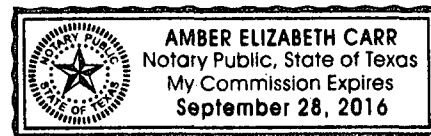
BY: Steve Moore

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on
Steve Moore on behalf of Patterson-UTI Drilling Company LLC.

10/10/13, by

Amber Elizabeth Carr
Notary Public for Midland County, Texas
My Commission Expires:





Company: Mewbourne Oil Company
Lease/Well: Zircon 1 HE State/No 001H

30-015-41489



Rig Name: Patterson #80
State/County: New Mexico/Eddy
Latitude: 32.69, Longitude: -104.02
GRID North is 0.17 Degrees East of True North
VS-Azi: 269.73 Degrees

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: zircon 1 he state #1h-de_01.ut

Minimum Curvature Method

Report Date/Time: 9/23/2013 / 15:18

Vaughn Energy Services

Corpus Christi, Texas

800-606-4976

Surveyor: David Miller

Zircon 1 HE State No 001H / API 30-015-41489



Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	1.28	81.24	99.99	0.17	1.10	-1.10	1.11	81.24	1.28
200.00	1.67	82.13	199.96	0.54	3.65	-3.65	3.68	81.59	0.40
300.00	1.75	76.94	299.91	1.08	6.58	-6.58	6.67	80.64	0.17
400.00	1.84	75.33	399.86	1.84	9.62	-9.63	9.79	79.20	0.10
500.00	1.77	77.64	499.82	2.57	12.68	-12.69	12.94	78.53	0.10
600.00	1.81	77.85	599.77	3.24	15.74	-15.75	16.06	78.38	0.04
700.00	1.84	73.52	699.72	4.03	18.82	-18.84	19.25	77.93	0.14
800.00	2.17	62.12	799.65	5.37	22.04	-22.06	22.68	76.31	0.52
900.00	2.39	54.32	899.58	7.47	25.41	-25.44	26.48	73.62	0.38
1000.00	3.07	63.76	999.46	9.87	29.51	-29.55	31.12	71.50	0.81
1100.00	3.38	65.76	1099.30	12.27	34.60	-34.66	36.71	70.48	0.33
1200.00	3.93	66.66	1199.10	14.84	40.43	-40.50	43.07	69.85	0.55
1300.00	3.12	67.01	1298.91	17.25	46.08	-46.16	49.20	69.47	0.80
1400.00	2.85	68.10	1398.77	19.25	50.90	-50.99	54.41	69.29	0.27
1500.00	2.31	76.63	1498.67	20.64	55.17	-55.27	58.90	69.49	0.66
1600.00	1.81	80.22	1598.61	21.38	58.68	-58.78	62.46	69.99	0.52
1700.00	1.52	85.30	1698.56	21.75	61.56	-61.66	65.29	70.54	0.32
1800.00	1.77	83.21	1798.52	22.04	64.42	-64.52	68.09	71.11	0.26
1900.00	1.14	81.55	1898.49	22.37	66.94	-67.04	70.58	71.52	0.64
2000.00	0.91	84.32	1998.47	22.60	68.71	-68.81	72.33	71.79	0.23
2100.00	0.75	82.55	2098.46	22.76	70.15	-70.25	73.75	72.02	0.16
2200.00	0.84	78.61	2198.45	22.99	71.51	-71.62	75.11	72.18	0.10

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
2300.00	0.62	72.66	2298.45	23.30	72.74	-72.85	76.38	72.24	0.22
2400.00	0.69	74.59	2398.44	23.62	73.84	-73.95	77.53	72.26	0.07
2500.00	0.53	78.14	2498.43	23.87	74.88	-74.99	78.59	72.32	0.16
2600.00	0.54	82.18	2598.43	24.03	75.79	-75.91	79.51	72.41	0.04
2700.00	0.34	89.96	2698.43	24.10	76.56	-76.67	80.26	72.53	0.20
2800.00	0.25	80.46	2798.43	24.13	77.07	-77.18	80.76	72.61	0.11
2900.00	0.23	78.06	2898.42	24.21	77.47	-77.59	81.17	72.65	0.02
3000.00	0.30	72.22	2998.42	24.33	77.92	-78.03	81.63	72.66	0.07
3100.00	0.28	35.79	3098.42	24.61	78.31	-78.43	82.09	72.56	0.18
3200.00	0.14	10.31	3198.42	24.93	78.48	-78.59	82.34	72.38	0.16
3300.00	0.22	7.72	3298.42	25.24	78.52	-78.64	82.48	72.18	0.08
3400.00	0.28	7.84	3398.42	25.67	78.58	-78.70	82.67	71.91	0.06
3500.00	0.25	8.85	3498.42	26.13	78.65	-78.77	82.88	71.62	0.03
3600.00	0.37	1.57	3598.42	26.66	78.69	-78.82	83.09	71.28	0.12
3700.00	0.26	345.88	3698.42	27.20	78.65	-78.77	83.22	70.92	0.14
3800.00	0.38	335.27	3798.41	27.72	78.45	-78.58	83.20	70.54	0.13
3900.00	0.55	315.24	3898.41	28.36	77.98	-78.11	82.97	70.02	0.23
4000.00	0.45	307.62	3998.41	28.94	77.33	-77.46	82.57	69.48	0.12
4100.00	0.47	318.89	4098.40	29.49	76.75	-76.89	82.22	68.98	0.09
4200.00	0.69	328.62	4198.40	30.31	76.17	-76.31	81.97	68.30	0.24
4300.00	1.18	349.52	4298.39	31.83	75.67	-75.82	82.09	67.19	0.59
4400.00	1.70	350.12	4398.35	34.30	75.23	-75.39	82.68	65.49	0.52
4500.00	1.66	1.20	4498.31	37.21	75.00	-75.18	83.73	63.61	0.33
4600.00	1.88	4.65	4598.26	40.30	75.17	-75.35	85.29	61.80	0.24
4700.00	1.93	2.10	4698.21	43.62	75.36	-75.56	87.07	59.94	0.10
4800.00	1.17	1.03	4798.17	46.32	75.44	-75.66	88.52	58.45	0.76
4900.00	1.16	355.66	4898.15	48.35	75.38	-75.61	89.55	57.33	0.11
5000.00	1.18	344.15	4998.13	50.34	75.02	-75.26	90.35	56.14	0.24
5100.00	0.93	324.70	5098.11	52.00	74.27	-74.52	90.67	55.00	0.44
5200.00	0.98	319.84	5198.10	53.32	73.25	-73.50	90.60	53.95	0.10
5300.00	1.40	316.63	5298.08	54.86	71.86	-72.12	90.41	52.64	0.42
5400.00	1.32	299.16	5398.05	56.30	70.02	-70.28	89.85	51.20	0.42
5500.00	1.56	293.08	5498.02	57.40	67.76	-68.03	88.80	49.73	0.28
5600.00	1.61	287.72	5597.98	58.36	65.17	-65.44	87.48	48.15	0.16
5700.00	1.85	283.81	5697.93	59.17	62.26	-62.54	85.90	46.46	0.27
5800.00	2.10	281.50	5797.87	59.93	58.90	-59.18	84.02	44.50	0.26
5900.00	2.64	271.54	5897.79	60.35	54.80	-55.08	81.52	42.24	0.68
6000.00	2.79	265.06	5997.68	60.20	50.07	-50.35	78.31	39.75	0.34
6100.00	2.94	257.32	6097.55	59.43	45.14	-45.42	74.63	37.22	0.42
6200.00	2.23	252.44	6197.45	58.28	40.78	-41.06	71.13	34.98	0.74
6300.00	1.93	246.39	6297.38	57.02	37.38	-37.65	68.18	33.25	0.37
6400.00	1.64	248.17	6397.34	55.81	34.51	-34.77	65.62	31.73	0.29

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
6500.00	2.11	240.92	6497.28	54.38	31.57	-31.83	62.88	30.14	0.52
6578.00	2.47	243.01	6575.22	52.92	28.82	-29.07	60.26	28.57	0.47



COMPANY: Mewbourne Oil Company
WELL: Zircon 1 He State #1H
COUNTY: EDDY COUNTY, NM (NAD27)
DATUM: NAD 1927 (NADCON CONUS)

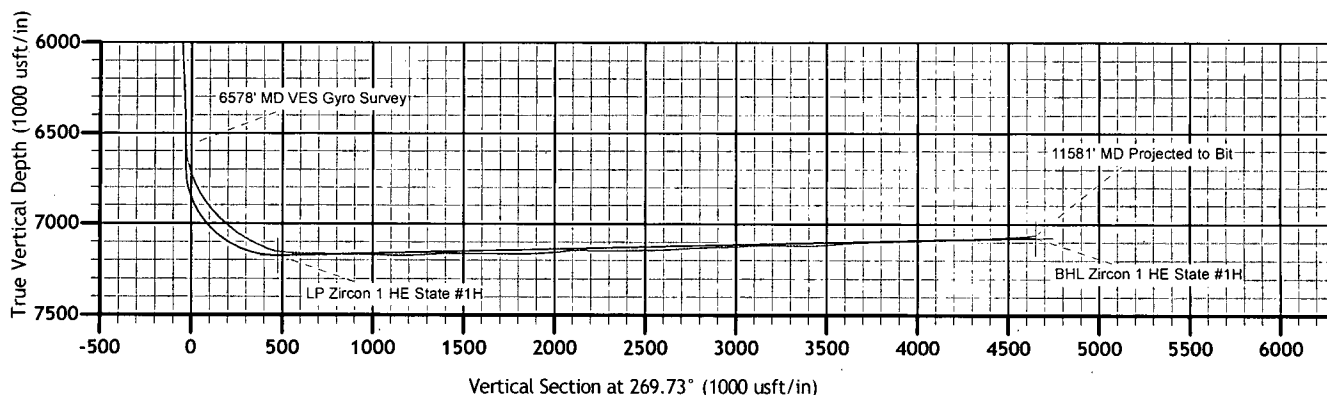
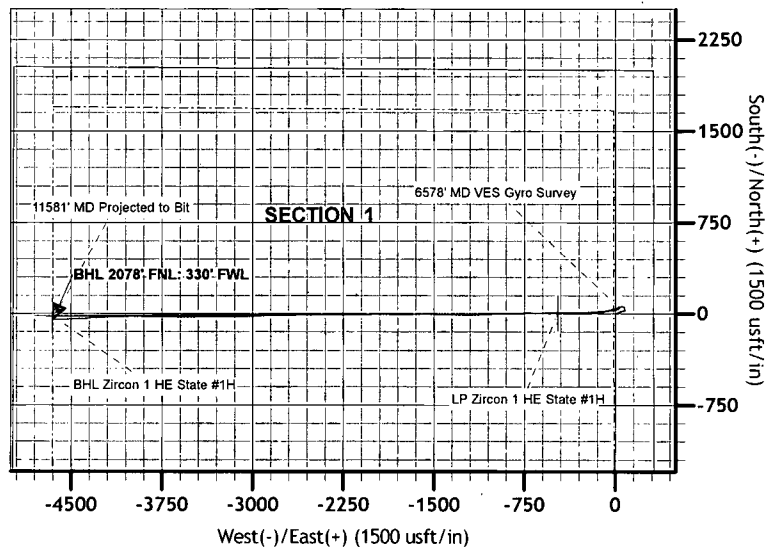
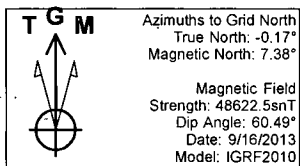


OFFICE: 936.582.7296

RIG: Patterson
GRID CORRECTION: To convert a Magnetic Direction to a Grid Direction, Add 7.38°

GEODETTIC ZONE: New Mexico East 3001					
GL3416 +20 @ 3436.0usft (Patterson# 80)					
GROUND ELEVATION: 3416.0					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	615289.14	596335.80	32° 41' 28.096 N	104° 1' 12.707 W
					Slot

PLAN SECTIONS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	TFace	VSect	Target
1	6578.0	2.47	243.01	6575.2	52.9	28.8	0.00	0.00	-29.1	
2	6600.0	2.47	243.01	6597.2	52.5	28.0	0.00	0.00	-28.2	
3	6656.7	5.94	140.18	6653.8	49.7	28.8	12.20	-123.13	-29.0	
4	7473.3	91.37	269.65	7176.0	3.7	-473.4	11.65	129.21	473.4	LP Zircon 1 HE State #1H
5	11650.9	91.37	269.65	7076.0	-21.6	-4649.8	0.00	0.00	4649.9	BHL Zircon 1 HE State #1H



Mewbourne Oil Company

EDDY COUNTY, NM (NAD27)

SECTION 1

Zircon 1 He State #1H

OH

Design: OH

Standard Survey Report

25 September, 2013

Stryker Directional Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Zircon 1 He State #1H
Project:	EDDY COUNTY, NM (NAD27)	TVD Reference:	GL3416 +20 @ 3436.0usft (Patterson# 80)
Site:	SECTION 1	MD Reference:	GL3416 +20 @ 3436.0usft (Patterson# 80)
Well:	Zircon 1 He State #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	EDDY COUNTY, NM (NAD27), NM-EAST		
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	SECTION 1				
Site Position:		Northing:	613,383.01 usft	Latitude:	32° 41' 9.372 N
From:	Map	Easting:	591,473.15 usft	Longitude:	104° 2' 9.670 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.16 °

Well	Zircon 1 He State #1H					
Well Position	+N/-S	0.0 usft	Northing:	615,289.14 usft	Latitude:	32° 41' 28.096 N
	+E/-W	0.0 usft	Easting:	596,335.80 usft	Longitude:	104° 1' 12.707 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,416.0 usft

Wellbore	OH				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/16/2013	7.55	60.49	48,623

Design	OH				
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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	269.73

Survey Program		Date	9/25/2013		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	6,578.0	VES Gyro #1 (OH)	SRG-GYRO-MS	surface readout gyro multishot	
6,614.0	11,581.0	MWD Survey #2 (OH)	MWD	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	1.28	81.24	100.0	0.2	1.1	-1.1	1.28	1.28	0.00
200.0	1.67	82.13	200.0	0.5	3.7	-3.7	0.39	0.39	0.89
300.0	1.75	76.94	299.9	1.1	6.6	-6.6	0.17	0.08	-5.19
400.0	1.84	75.33	399.9	1.8	9.6	-9.6	0.10	0.09	-1.61
500.0	1.77	77.64	499.8	2.6	12.7	-12.7	0.10	-0.07	2.31
600.0	1.81	77.85	599.8	3.2	15.7	-15.8	0.04	0.04	0.21
700.0	1.84	73.52	699.7	4.0	18.8	-18.8	0.14	0.03	-4.33
800.0	2.17	62.12	799.7	5.4	22.0	-22.1	0.52	0.33	-11.40
900.0	2.39	54.32	899.6	7.5	25.4	-25.4	0.38	0.22	-7.80

Stryker Directional Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Zircon 1 He State #1H
Project:	EDDY COUNTY, NM (NAD27)	TVD Reference:	GL3416 +20 @ 3436.0usft (Patterson# 80)
Site:	SECTION 1	MD Reference:	GL3416 +20 @ 3436.0usft (Patterson# 80)
Well:	Zircon 1 He State #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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	3.07	63.76	999.5	9.9	29.5	-29.5	0.81	0.68	9.44
1,100.0	3.38	65.76	1,099.3	12.3	34.6	-34.6	0.33	0.31	2.00
1,200.0	3.93	66.66	1,199.1	14.8	40.4	-40.5	0.55	0.55	0.90
1,300.0	3.12	67.01	1,298.9	17.2	46.1	-46.2	0.81	-0.81	0.35
1,400.0	2.85	68.10	1,398.8	19.2	50.9	-51.0	0.28	-0.27	1.09
1,500.0	2.31	76.63	1,498.7	20.6	55.2	-55.2	0.66	-0.54	8.53
1,600.0	1.81	80.22	1,598.6	21.4	58.7	-58.8	0.52	-0.50	3.59
1,700.0	1.52	85.30	1,698.6	21.7	61.5	-61.6	0.33	-0.29	5.08
1,800.0	1.77	83.21	1,798.5	22.0	64.4	-64.5	0.26	0.25	-2.09
1,900.0	1.14	81.55	1,898.5	22.4	66.9	-67.0	0.63	-0.63	-1.66
2,000.0	0.91	84.32	1,998.5	22.6	68.7	-68.8	0.24	-0.23	2.77
2,100.0	0.75	82.55	2,098.5	22.8	70.1	-70.2	0.16	-0.16	-1.77
2,200.0	0.84	78.61	2,198.5	23.0	71.5	-71.6	0.11	0.09	-3.94
2,300.0	0.62	72.66	2,298.4	23.3	72.7	-72.8	0.23	-0.22	-5.95
2,400.0	0.69	74.59	2,398.4	23.6	73.8	-73.9	0.07	0.07	1.93
2,500.0	0.53	78.14	2,498.4	23.9	74.9	-75.0	0.16	-0.16	3.55
2,600.0	0.54	82.18	2,598.4	24.0	75.8	-75.9	0.04	0.01	4.04
2,700.0	0.34	89.96	2,698.4	24.1	76.5	-76.7	0.21	-0.20	7.78
2,800.0	0.25	80.46	2,798.4	24.1	77.1	-77.2	0.10	-0.09	-9.50
2,900.0	0.23	78.06	2,898.4	24.2	77.5	-77.6	0.02	-0.02	-2.40
3,000.0	0.30	72.22	2,998.4	24.3	77.9	-78.0	0.07	0.07	-5.84
3,100.0	0.28	35.79	3,098.4	24.6	78.3	-78.4	0.18	-0.02	-36.43
3,200.0	0.14	10.31	3,198.4	24.9	78.5	-78.6	0.17	-0.14	-25.48
3,300.0	0.22	7.72	3,298.4	25.2	78.5	-78.6	0.08	0.08	-2.59
3,400.0	0.28	7.84	3,398.4	25.7	78.6	-78.7	0.06	0.06	0.12
3,500.0	0.25	8.85	3,498.4	26.1	78.6	-78.8	0.03	-0.03	1.01
3,600.0	0.37	1.57	3,598.4	26.7	78.7	-78.8	0.13	0.12	-7.28
3,700.0	0.26	345.88	3,698.4	27.2	78.6	-78.8	0.14	-0.11	-15.69
3,800.0	0.38	335.27	3,798.4	27.7	78.4	-78.6	0.13	0.12	-10.61
3,900.0	0.55	315.24	3,898.4	28.4	78.0	-78.1	0.23	0.17	-20.03
4,000.0	0.45	307.62	3,998.4	28.9	77.3	-77.5	0.12	-0.10	-7.62
4,100.0	0.47	318.89	4,098.4	29.5	76.7	-76.9	0.09	0.02	11.27
4,200.0	0.69	328.62	4,198.4	30.3	76.2	-76.3	0.24	0.22	9.73
4,300.0	1.18	349.52	4,298.4	31.8	75.7	-75.8	0.59	0.49	20.90
4,400.0	1.70	350.12	4,398.4	34.3	75.2	-75.4	0.52	0.52	0.60
4,500.0	1.66	1.20	4,498.3	37.2	75.0	-75.2	0.33	-0.04	11.08
4,600.0	1.88	4.65	4,598.3	40.3	75.2	-75.3	0.24	0.22	3.45
4,700.0	1.93	2.10	4,698.2	43.6	75.4	-75.6	0.10	0.05	-2.55
4,800.0	1.17	1.03	4,798.2	46.3	75.4	-75.6	0.76	-0.76	-1.07
4,900.0	1.16	355.66	4,898.2	48.4	75.4	-75.6	0.11	-0.01	-5.37
5,000.0	1.18	344.15	4,998.1	50.4	75.0	-75.3	0.24	0.02	-11.51
5,100.0	0.93	324.70	5,098.1	52.0	74.3	-74.5	0.43	-0.25	-19.45
5,200.0	0.98	319.84	5,198.1	53.3	73.2	-73.5	0.10	0.05	-4.86

Stryker Directional Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Zircon 1 He State #1H
Project:	EDDY COUNTY, NM (NAD27)	TVD Reference:	GL3416 +20 @ 3436.0usft (Patterson# 80)
Site:	SECTION 1	MD Reference:	GL3416 +20 @ 3436.0usft (Patterson# 80)
Well:	Zircon 1 He State #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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	1.40	316.63	5,298.1	54.9	71.9	-72.1	0.43	0.42	-3.21	
5,400.0	1.32	299.16	5,398.1	56.3	70.0	-70.3	0.42	-0.08	-17.47	
5,500.0	1.56	293.08	5,498.0	57.4	67.8	-68.0	0.28	0.24	-6.08	
5,600.0	1.61	287.72	5,598.0	58.4	65.2	-65.4	0.16	0.05	-5.36	
5,700.0	1.85	283.81	5,697.9	59.2	62.3	-62.5	0.27	0.24	-3.91	
5,800.0	2.10	281.50	5,797.9	59.9	58.9	-59.2	0.26	0.25	-2.31	
5,900.0	2.64	271.54	5,897.8	60.4	54.8	-55.1	0.68	0.54	-9.96	
6,000.0	2.79	265.06	5,997.7	60.2	50.1	-50.4	0.34	0.15	-6.48	
6,100.0	2.94	257.32	6,097.6	59.4	45.1	-45.4	0.41	0.15	-7.74	
6,200.0	2.23	252.44	6,197.5	58.3	40.8	-41.1	0.74	-0.71	-4.88	
6,300.0	1.93	246.39	6,297.4	57.0	37.4	-37.7	0.37	-0.30	-6.05	
6,400.0	1.64	248.17	6,397.3	55.8	34.5	-34.8	0.30	-0.29	1.78	
6,500.0	2.11	240.92	6,497.3	54.4	31.6	-31.8	0.53	0.47	-7.25	
6,578.0	2.47	243.01	6,575.2	52.9	28.8	-29.1	0.47	0.46	2.68	
6,614.0	6.10	251.90	6,611.1	52.0	26.3	-26.6	10.22	10.08	24.69	
6,645.0	10.50	252.10	6,641.8	50.6	22.1	-22.3	14.19	14.19	0.65	
6,677.0	15.90	253.20	6,672.9	48.4	15.1	-15.3	16.89	16.88	3.44	
6,708.0	19.70	253.30	6,702.4	45.7	6.0	-6.2	12.26	12.26	0.32	
6,740.0	22.10	252.90	6,732.3	42.4	-4.9	4.7	7.51	7.50	-1.25	
6,771.0	22.30	256.10	6,761.0	39.3	-16.2	16.0	3.95	0.65	10.32	
6,803.0	24.40	255.40	6,790.4	36.1	-28.5	28.3	6.62	6.56	-2.19	
6,834.0	27.30	252.10	6,818.3	32.3	-41.5	41.3	10.44	9.35	-10.65	
6,866.0	32.20	250.30	6,846.1	27.2	-56.5	56.3	15.56	15.31	-5.63	
6,898.0	35.90	250.10	6,872.6	21.1	-73.3	73.2	11.57	11.56	-0.63	
6,929.0	37.20	252.40	6,897.5	15.2	-90.8	90.7	6.09	4.19	7.42	
6,961.0	39.70	256.10	6,922.6	9.8	-110.0	109.9	10.61	7.81	11.56	
6,993.0	43.00	263.30	6,946.6	6.1	-130.7	130.7	18.08	10.31	22.50	
7,025.0	47.20	270.00	6,969.2	4.8	-153.3	153.3	19.79	13.13	20.94	
7,057.0	49.00	273.90	6,990.6	5.7	-177.1	177.1	10.67	5.63	12.19	
7,088.0	49.30	274.40	7,010.8	7.3	-200.5	200.5	1.56	0.97	1.61	
7,120.0	50.60	274.60	7,031.4	9.3	-224.9	224.9	4.09	4.06	0.63	
7,152.0	54.80	273.30	7,050.8	11.0	-250.3	250.3	13.52	13.13	-4.06	
7,183.0	58.00	272.50	7,068.0	12.3	-276.1	276.0	10.54	10.32	-2.58	
7,215.0	59.40	270.90	7,084.6	13.1	-303.4	303.4	6.11	4.38	-5.00	
7,247.0	61.60	269.10	7,100.3	13.1	-331.3	331.2	8.44	6.88	-5.63	
7,279.0	64.60	267.50	7,114.8	12.3	-359.8	359.7	10.38	9.38	-5.00	
7,311.0	67.40	266.50	7,127.8	10.7	-389.0	388.9	9.20	8.75	-3.13	
7,342.0	70.00	265.80	7,139.1	8.8	-417.8	417.8	8.65	8.39	-2.26	
7,374.0	75.10	265.40	7,148.7	6.5	-448.2	448.2	15.98	15.94	-1.25	
7,406.0	81.00	266.80	7,155.3	4.3	-479.4	479.4	18.93	18.44	4.38	
7,437.0	84.20	268.80	7,159.3	3.2	-510.2	510.1	12.14	10.32	6.45	
7,469.0	85.00	269.10	7,162.3	2.6	-542.0	542.0	2.67	2.50	0.94	
7,494.0	86.00	269.50	7,164.3	2.3	-566.9	566.9	4.31	4.00	1.60	

Stryker Directional Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Zircon 1 He State #1H
Project:	EDDY COUNTY, NM (NAD27)	TVD Reference:	GL3416 +20 @ 3436.0usft (Patterson# 80)
Site:	SECTION 1	MD Reference:	GL3416 +20 @ 3436.0usft (Patterson# 80)
Well:	Zircon 1 He State #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
7,568.0	90.80	274.70	7,166.3	5.0	-640.8	640.8	9.56	6.49	7.03
7,600.0	90.60	270.00	7,166.0	6.3	-672.8	672.7	14.70	-0.63	-14.69
7,662.0	89.40	267.90	7,166.0	5.2	-734.8	734.7	3.90	-1.94	-3.39
7,757.0	88.50	267.50	7,167.7	1.3	-829.7	829.6	1.04	-0.95	-0.42
7,852.0	88.70	268.20	7,170.0	-2.2	-924.6	924.6	0.77	0.21	0.74
7,947.0	87.80	267.70	7,172.9	-5.6	-1,019.5	1,019.5	1.08	-0.95	-0.53
8,041.0	89.90	267.20	7,174.8	-9.8	-1,113.3	1,113.4	2.30	2.23	-0.53
8,136.0	90.70	267.50	7,174.3	-14.2	-1,208.2	1,208.3	0.90	0.84	0.32
8,231.0	94.80	270.70	7,169.8	-15.7	-1,303.1	1,303.1	5.47	4.32	3.37
8,326.0	91.00	273.20	7,164.9	-12.5	-1,397.9	1,397.9	4.79	-4.00	2.63
8,421.0	90.50	272.50	7,163.7	-7.7	-1,492.8	1,492.8	0.91	-0.53	-0.74
8,516.0	90.00	272.10	7,163.3	-3.9	-1,587.7	1,587.7	0.67	-0.53	-0.42
8,611.0	88.50	271.10	7,164.5	-1.3	-1,682.6	1,682.6	1.90	-1.58	-1.05
8,706.0	90.20	270.20	7,165.6	-0.2	-1,777.6	1,777.6	2.02	1.79	-0.95
8,800.0	90.00	269.50	7,165.4	-0.4	-1,871.6	1,871.6	0.77	-0.21	-0.74
8,895.0	95.90	268.80	7,160.6	-1.8	-1,966.4	1,966.4	6.25	6.21	-0.74
8,959.0	95.60	269.50	7,154.1	-2.8	-2,030.1	2,030.1	1.18	-0.47	1.09
9,022.0	94.40	270.20	7,148.7	-3.0	-2,092.9	2,092.9	2.20	-1.90	1.11
9,085.0	90.00	271.10	7,146.2	-2.2	-2,155.8	2,155.8	7.13	-6.98	1.43
9,148.0	88.50	271.20	7,147.1	-1.0	-2,218.8	2,218.8	2.39	-2.38	0.16
9,212.0	89.30	270.70	7,148.3	0.1	-2,282.8	2,282.7	1.47	1.25	-0.78
9,275.0	88.70	269.60	7,149.4	0.3	-2,345.7	2,345.7	1.99	-0.95	-1.75
9,339.0	91.30	268.10	7,149.4	-1.0	-2,409.7	2,409.7	4.69	4.06	-2.34
9,402.0	91.70	267.00	7,147.7	-3.7	-2,472.6	2,472.6	1.86	0.63	-1.75
9,466.0	90.70	266.30	7,146.4	-7.5	-2,536.5	2,536.5	1.91	-1.56	-1.09
9,560.0	95.10	267.90	7,141.6	-12.2	-2,630.3	2,630.3	4.98	4.68	1.70
9,655.0	92.70	268.90	7,135.2	-14.9	-2,725.0	2,725.0	2.74	-2.53	1.05
9,750.0	91.70	267.70	7,131.5	-17.7	-2,819.9	2,819.9	1.64	-1.05	-1.26
9,844.0	91.50	267.90	7,128.9	-21.3	-2,913.8	2,913.8	0.30	-0.21	0.21
9,939.0	92.20	268.10	7,125.8	-24.6	-3,008.7	3,008.7	0.77	0.74	0.21
10,034.0	92.80	268.90	7,121.7	-27.1	-3,103.5	3,103.6	1.05	0.63	0.84
10,129.0	89.80	270.20	7,119.5	-27.8	-3,198.5	3,198.6	3.44	-3.16	1.37
10,224.0	89.20	269.80	7,120.4	-27.8	-3,293.5	3,293.6	0.76	-0.63	-0.42
10,318.0	90.00	269.30	7,121.0	-28.6	-3,387.5	3,387.6	1.00	0.85	-0.53
10,414.0	94.10	269.50	7,117.6	-29.6	-3,483.4	3,483.5	4.28	4.27	0.21
10,508.0	94.00	269.80	7,111.0	-30.1	-3,577.2	3,577.3	0.34	-0.11	0.32
10,603.0	93.20	271.10	7,105.0	-29.4	-3,672.0	3,672.1	1.60	-0.84	1.37
10,698.0	92.30	271.40	7,100.4	-27.3	-3,766.8	3,766.9	1.00	-0.95	0.32
10,792.0	90.40	270.90	7,098.2	-25.4	-3,860.8	3,860.9	2.09	-2.02	-0.53
10,886.0	92.60	269.60	7,095.8	-25.0	-3,954.7	3,954.8	2.72	2.34	-1.38
10,981.0	91.40	268.90	7,092.4	-26.3	-4,049.7	4,049.8	1.46	-1.26	-0.74
11,075.0	92.80	268.40	7,089.0	-28.5	-4,143.6	4,143.7	1.58	1.49	-0.53
11,170.0	89.80	267.50	7,086.8	-31.9	-4,238.5	4,238.6	3.30	-3.16	-0.95
11,265.0	92.40	266.80	7,085.0	-36.6	-4,333.3	4,333.5	2.83	2.74	-0.74

Stryker Directional Survey Report

Company:	Mewbourne Oil Company	Local Co-ordinate Reference:	Well Zircon 1 He State #1H
Project:	EDDY COUNTY, NM (NAD27)	TVD Reference:	GL3416 +20 @ 3436.0usft (Patterson# 80)
Site:	SECTION 1	MD Reference:	GL3416 +20 @ 3436.0usft (Patterson# 80)
Well:	Zircon 1 He State #1H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	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)
11,359.0	94.80	267.00	7,079.1	-41.7	-4,427.0	4,427.2	2.56	2.55	0.21
11,455.0	93.80	267.30	7,071.9	-46.4	-4,522.6	4,522.8	1.09	-1.04	0.31
11,519.0	94.00	267.50	7,067.6	-49.3	-4,586.4	4,586.6	0.44	0.31	0.31
11,581.0	94.00	267.80	7,063.2	-51.9	-4,648.2	4,648.4	0.48	0.00	0.48

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
6,578.0	6,575.2	52.9	28.8	6578' MD VES Gyro Survey
11,581.0	7,063.2	-51.9	-4,648.2	11581' MD Projected to Bit

Operating Company Mewbourne
 Well Name & Number Zircon HE St #1H
 Sales Ticket Number 4707060
 Date 1/0/1900

Company Rep 0
 Field ZIRCON
 BOT Service Rep 0
 District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	7,558.00	9,960	6,230
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,220.22	12,410	10,680
Bott Liner										

TVD	7,165.00	KOP	6,600.00	Open Hole	6.125	Casing Vol. (bbl)	280.6
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Carry Fluid Weight (ppg)	8.4	Propan Content (ppa)		Max Drill Out Size	0
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	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ. (BBL)
Liner Top	1	JR Setting Sleeve_RH Profile	7332.78							

Zone Length										
20		JR Sleeve_S3 Hyd Set Packer	7332.78	9.57	5.813	3.875				
		4-1/2-13.5 LTC Nipple	7342.35	8.07	5.000	3.920				
		8 Joints of 4-1/2-13.5 LTC Casing	7350.42	347.01	5.000	3.920				
	20	3.625 EX Frac Sleeve	7697.43	2.40	5.750		3.525	2375	316	281
		1 Joint of 4-1/2-13.5 LTC Casing	7699.83	77.08	5.000	3.920				
19		Baker Open Hole Packer	7776.91	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	7780.80	115.47	5.000	3.920				
	19	3.500 EX Frac Sleeve	7896.27	2.40	5.750		3.400	2375	294	281
		1 Joint of 4-1/2-13.5 LTC Casing	7898.67	115.53	5.000	3.920				
		Baker Open Hole Packer	8014.20	3.89	5.820	3.875		2154		
18		2 Joints of 4-1/2-13.5 LTC Casing	8018.09	111.22	5.000	3.920				
	18	3.375 EX Frac Sleeve	8129.31	2.40	5.750		3.275	2375	273	281
		1 Joint of 4-1/2-13.5 LTC Casing	8131.71	77.08	5.000	3.920				
		Baker Open Hole Packer	8208.79	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	8212.68	77.02	5.000	3.920				
17		3.250 EX Frac Sleeve	8289.70	2.40	5.750		3.150	2375	252	281
		1 Joint of 4-1/2-13.5 LTC Casing	8292.10	115.82	5.000	3.920				
		Baker Open Hole Packer	8407.92	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	8411.81	76.75	5.000	3.920				
	16	3.125 EX Frac Sleeve	8488.56	2.40	5.750		3.025	2375	233	281
16		2 Joints of 4-1/2-13.5 LTC Casing	8490.96	115.60	5.000	3.920				
		Baker Open Hole Packer	8606.56	3.89	5.820	3.875		2154		

Operating Company Mewbourne
Well Name & Number Zircon 1 HE St #1H
Sales Ticket Number 4707060
Date 1/0/1900

Company Rep 0
Field ZIRCON
BOT Service Rep 0
District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	7,558.00	9,960	6,230
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,220.22	12,410	10,680
Bott Liner										

TVD	7,165.00	KOP	6,600.00	Open Hole	6.125	Casing Vol. (bbl)	280.6
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Carry Fluid Weight (ppg)	8.4	Propant Content (ppa)		Max Drill Out Size	0
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	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press.	Max Rate (BPM)	Displ. (BBL)
15		2 Joints of 4-1/2-13.5 LTC Casing	8610.45	76.99	5.000	3.920				
	15	3.000 EX Frac sleeve	8687.44	2.40	5.750		2.900	2375	214	281
		1 Joint of 4-1/2-13.5 LTC Casing	8689.84	115.71	5.000	3.920				
		Baker Open Hole Packer	8805.55	3.89	5.820	3.875		2154		
14		2 Joints of 4-1/2-13.5 LTC Casing	8809.44	76.85	5.000	3.920				
	14	2.875 EX Frac Sleeve	8886.29	2.40	5.750		2.775	2375	196	281
		2 Joints of 4-1/2-13.5 LTC Casing	8888.69	76.33	5.000	3.920				
		Baker Open Hole Packer	8965.02	3.89	5.820	3.875		2154		
13		2 Joints of 4-1/2-13.5 LTC Casing	8968.91	115.35	5.000	3.920				
	13	2.750 EX Frac Sleeve	9084.26	2.40	5.750		2.650	2375	179	281
		1 Joint of 4-1/2-13.5 LTC Casing	9086.66	115.63	5.000	3.920				
		Baker Open Hole Packer	9202.29	3.89	5.820	3.875		2154		
12		2 Joints of 4-1/2-13.5 LTC Casing	9206.18	115.59	5.000	3.920				
	12	2.625 EX Frac Sleeve	9321.77	2.40	5.750		2.525	2375	162	281
		2 Joints of 4-1/2-13.5 LTC Casing	9324.17	77.02	5.000	3.920				
		Baker Open Hole Packer	9401.19	3.89	5.820	3.875		2154		
11		2 Joints of 4-1/2-13.5 LTC Casing	9405.08	76.96	5.000	3.920				
	11	2.500 EX Frac Sleeve	9482.04	2.40	5.750		2.400	2375	147	281
		1 Joint of 4-1/2-13.5 LTC Casing	9484.44	115.67	5.000	3.920				
		Baker Open Hole Packer	9600.11	3.89	5.820	3.875		2154		
10		2 Joints of 4-1/2-13.5 LTC Casing	9604.00	115.70	5.000	3.920				
	10	2.375 EX Frac Sleeve	9719.70	2.40	5.750		2.275	2375	132	281
		2 Joints of 4-1/2-13.5 LTC Casing	9722.10	76.97	5.000	3.920				
		Baker Open Hole Packer	9799.07	3.89	5.820	3.875		2154		
9		1 Joint of 4-1/2-13.5 LTC Casing	9802.96	115.80	5.000	3.920				
	9	2.250 EX Frac Sleeve	9918.76	2.40	5.750		2.150	2375	118	281

Operating Company Mewbourne
Well Name & Number Zircon 1 HE St #1H
Sales Ticket Number 4707060
Date 1/0/1900

Company Rep 0
Field ZIRCON
BOT Service Rep 0
District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	7,558.00	9,960	6,230
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,220.22	12,410	10,680
Bott Liner										

TVD	7,165.00	KOP	6,600.00	Open Hole	6.125	Casing Vol. (bbl)	280.6
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Carry Fluid Weight (ppg)	8.4	Propan Content (ppa)		Max Drill Out Size	0
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	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press.	Max Rate (BPM)	Displ. (BBL)
8		2 Joints of 4-1/2-13.5 LTC Casing	9921.16	77.03	5.000	3.920				
		Baker Open Hole Packer	9998.19	3.89	5.820	3.875		2154		
		1 Joint of 4-1/2-13.5 LTC Casing	10002.08	115.54	5.000	3.920				
	8	2.125 EX Frac Sleeve	10117.62	2.40	5.750		2.025	2375	104	281
		2 Joints of 4-1/2-13.5 LTC Casing	10120.02	77.28	5.000	3.920				
7		Baker Open Hole Packer	10197.30	3.89	5.820	3.875		2154		
		1 Joint of 4-1/2-13.5 LTC Casing	10201.19	115.46	5.000	3.920				
	7	2.000 EX Frac Sleeve	10316.65	2.40	5.750		1.900	2375	92	281
		2 Joints of 4-1/2-13.5 LTC Casing	10319.05	77.17	5.000	3.920				
		Baker Open Hole Packer	10396.22	3.89	5.820	3.875		2154		
6		1 Joint of 4-1/2-13.5 LTC Casing	10400.11	76.90	5.000	3.920				
	6	1.875 EX Frac Sleeve	10477.01	2.40	5.750		1.775	2375	80	281
		2 Joints of 4-1/2-13.5 LTC Casing	10479.41	115.70	5.000	3.920				
		Baker Open Hole Packer	10595.11	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	10599.00	115.54	5.000	3.920				
5	5	1.750 EX Frac Sleeve	10714.54	2.40	5.750		1.650	2375	69	281
		1 Joint of 4-1/2-13.5 LTC Casing	10716.94	77.01	5.000	3.920				
		Baker Open Hole Packer	10793.95	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	10797.84	115.62	5.000	3.920				
	4	1.625 EX Frac Sleeve	10913.46	2.40	5.750		1.525	2375	59	281
4		2 Joints of 4-1/2-13.5 LTC Casing	10915.86	115.66	5.000	3.920				
		Baker Open Hole Packer	11031.52	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	11035.41	76.94	5.000	3.920				
	3	1.500 DBL Ball Frac Sleeve	11112.35	2.40	5.750		1.400	2375	50	281
		1 Joint of 4-1/2-13.5 LTC Casing	11114.75	114.03	5.000	3.920				
3		Baker Open Hole Packer	11228.78	3.89	5.820	3.875		2154		

Company Rep	0
Field	ZIRCON
BOT Service Rep	0
District Location	Odessa, Texas, USA



Carry Fluid Weight (ppg)	8.4	Propan Content (ppa)		Max Drill Out Size	0
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