

OPERATOR
WELL/LEASE
COUNTY

MEWBOURNE OIL COMPANY
Zircon 12/7 GF Fed Com 1H
EDDY

046-0095

STATE OF NEW MEXICO
DEVIATION REPORT

30.015.42207

322	0.38
731	0.62
1,101	2.10
1,486	1.23
1,867	0.52
2,251	0.69
2,630	1.51
3,094	0.36
3,424	0.60
4,314	2.74
4,538	2.72
4,793	1.37
5,047	1.42
5,301	1.04
5,591	0.74
5,876	1.22
6,286	1.35
6,700	0.40
7,145	0.62

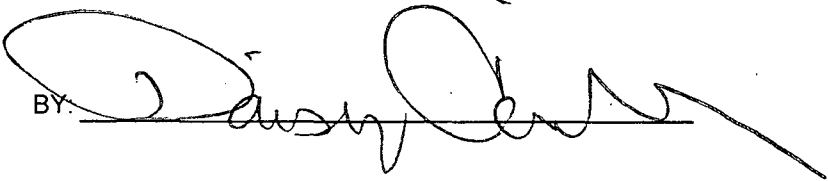
NM OIL CONSERVATION
ARTESIA DISTRICT

JUN 17 2014

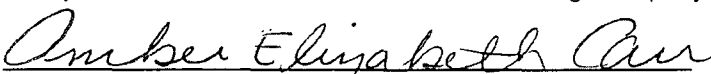
RECEIVED

STATE OF TEXAS

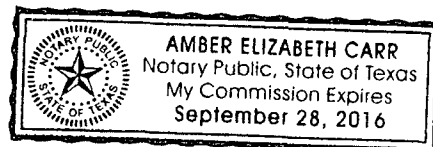
COUNTY OF MIDLAND

BY: 

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

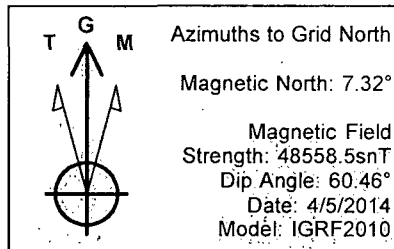

Notary Public for Midland County, Texas
My Commission Expires:

5/8/14, by



Company Name: Mewbourne Oil Co
Zircon 12/7 GF Federal COM #1H
Eddy County, New Mexico
Rig: Patterson #46
Created By: James Dawson
Date: 6/6/2014

Zircon 12/7 GF Federal COM #1H
Eddy County, New Mexico
Q131038 & WT-140324
Design #2



PROJECT DETAILS: Eddy County, New Mexico

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

WELL DETAILS: Zircon 12/7 GF Federal COM #1H

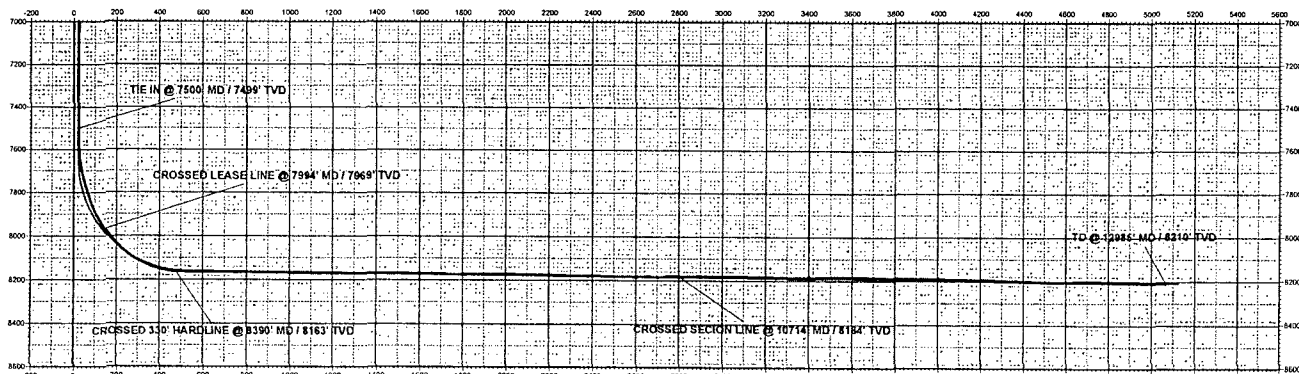
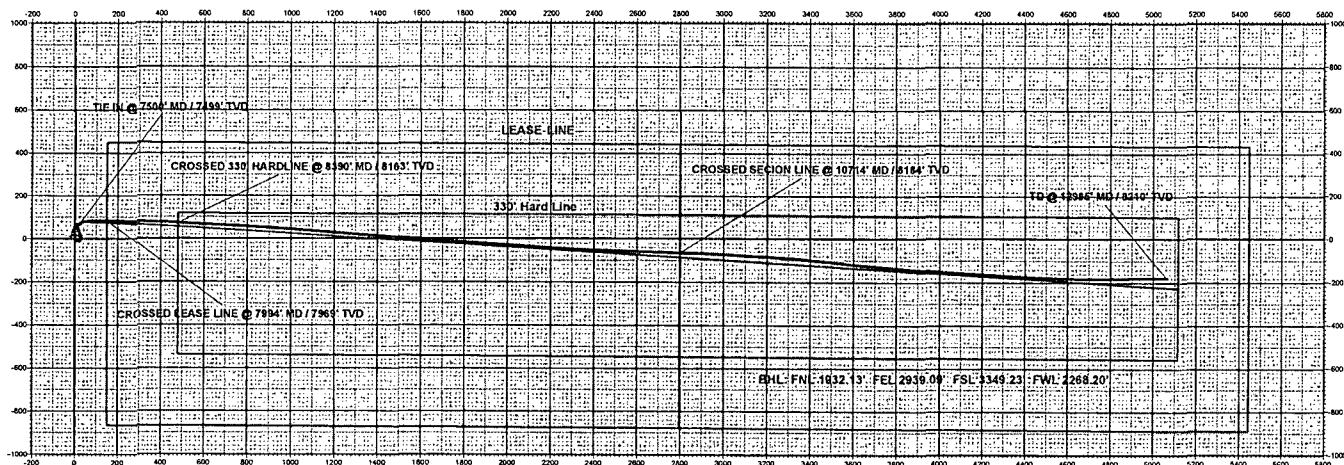
Ground Level: 3339.0
+N-S +E-W Northing Easting Latitude Longitude
0.0 0.0 610247.00 593846.00 32° 40' 38.273 N 104° 1' 42.011 W

DESIGN TARGET DETAILS

Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
PBHL Zircon 12/7 GF Federal Com #1H - plan hls target center	8209.0	-227.7	6116.3	610019.30	698962.34	32° 40' 36.870 N	104° 0' 42.160 W

ANNOTATIONS

MD	Inc	Azi	TVD	+N-S	+E-W	Vsect	Departure	Annotation
7500.0	0.92	26.04	7498.6	73.9	28.0	22.7	135.8	TIE IN @ 7500' MD / 7499' TVD
7894.2	35.65	89.45	7868.0	83.6	148.4	145.6	261.1	CROSSED LEASE LINE @ 7994' MD / 7969' TVD
8390.3	86.77	93.79	8163.1	72.6	479.4	476.7	591.2	CROSSED 330' HARDLINE @ 8390' MD / 8163' TVD
10713.6	90.35	91.36	8184.2	-47.3	2785.0	2798.2	2914.3	CROSSED SECTION LINE @ 10714' MD / 8184' TVD
12985.0	89.80	89.20	8210.4	-162.6	6064.7	6067.8	5185.3	TD @ 12985' MD / 8210' TVD



Vertical Section at 92.55° (200 usf/in)

NM OIL CONSERVATION
ARTESIA DISTRICT

JUN 17 2014

RECEIVED

Mewbourne Oil Co

Eddy County, New Mexico

Sec 12, T19S, R29E

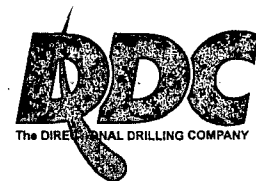
Zircon 12/7 GF Federal COM #1H

Wellbore #1

Design: Wellbore #1

DDC Survey Report

30 April, 2014



DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Zircon 12/7 GF Federal COM #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 3419.0usft (Patterson #46)
Site:	Sec 12, T19S, R29E	MD Reference:	WELL @ 3419.0usft (Patterson #46)
Well:	Zircon 12/7 GF Federal COM #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Eddy County New Mexico		
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 12, T19S, R29E		
Site Position:		Northing:	611,361.60 usft
From:	Map	Easting:	593,842.90 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 40' 49.303 N
		Longitude:	104° 1' 42.010 W
		Grid Convergence:	0.16 °

Well	Zircon 12/7 GF Federal COM #1H		
Well Position	+N/-S	0.0 usft	Northing: 610,247.00 usft
	+E/-W	0.0 usft	Easting: 593,846.00 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 40' 38.273 N
		Longitude:	104° 1' 42.011 W
		Ground Level:	3,399.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	4/5/2014	7.49
			Dip Angle (°)
			60.46
			Field Strength (nT)
			48,558

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)
	0.0	0.0	0.0
			Direction (°)
			92.55

Survey Program	Date: 4/30/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.0	7,500.0	Gyro (Wellbore #1)	Good_gyro
7,572.0	12,985.0	MWD (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	0.11	223.27	100.0	-0.1	-0.1	-0.1	0.11	0.11	0.00
	200.0	0.35	316.45	200.0	0.1	-0.3	-0.3	0.37	0.24	93.18
	300.0	0.44	135.85	300.0	0.0	-0.3	-0.3	0.79	0.09	179.40
	400.0	0.73	155.14	400.0	-0.8	0.3	0.3	0.35	0.29	19.29
	500.0	0.79	150.49	500.0	-2.0	0.9	0.9	0.09	0.06	-4.65
	600.0	0.73	138.23	600.0	-3.1	1.6	1.8	0.17	-0.06	-12.26
	700.0	0.88	134.12	700.0	-4.1	2.6	2.8	0.16	0.15	-4.11
	800.0	0.82	131.14	800.0	-5.1	3.7	3.9	0.07	-0.06	-2.98
	900.0	0.99	126.06	899.9	-6.1	4.9	5.2	0.19	0.17	-5.08

DDC
Survey Report



Company:	Mewbourne Oil Co.	Local Co-ordinate Reference:	Well/Zircon 12/7 GF Federal COM #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3419'0usft (Patterson #46)
Site:	Sec 12, T19S, R29E	MD Reference:	WELL @ 3419'0usft (Patterson #46)
Well:	Zircon 12/7 GF Federal COM #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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	1.15	118.92	999.9	-7.1	6.5	6.8	0.21	0.16	-7.14
1,100.0	1.67	112.14	1,099.9	-8.1	8.7	9.1	0.55	0.52	-6.78
1,200.0	2.02	104.25	1,199.8	-9.1	11.8	12.2	0.43	0.35	-7.89
1,300.0	1.90	106.72	1,299.8	-10.0	15.1	15.5	0.15	-0.12	2.47
1,400.0	1.63	101.37	1,399.7	-10.8	18.1	18.5	0.32	-0.27	-5.35
1,500.0	1.01	100.03	1,499.7	-11.2	20.3	20.8	0.62	-0.62	-1.34
1,600.0	0.58	81.43	1,599.7	-11.3	21.7	22.2	0.50	-0.43	-18.60
1,700.0	0.67	4.92	1,699.7	-10.6	22.2	22.7	0.78	0.09	-76.51
1,800.0	0.64	1.40	1,799.7	-9.5	22.3	22.7	0.05	-0.03	-3.52
1,900.0	0.63	7.74	1,899.7	-8.4	22.4	22.7	0.07	-0.01	6.34
2,000.0	0.66	24.33	1,999.7	-7.3	22.7	23.0	0.19	0.03	16.59
2,100.0	0.93	31.40	2,099.7	-6.1	23.4	23.6	0.29	0.27	7.07
2,200.0	1.35	29.77	2,199.6	-4.4	24.4	24.5	0.42	0.42	-1.63
2,300.0	1.51	21.87	2,299.6	-2.1	25.5	25.5	0.25	0.16	-7.90
2,400.0	1.40	12.04	2,399.6	0.3	26.2	26.2	0.27	-0.11	-9.83
2,500.0	1.08	9.89	2,499.6	2.4	26.6	26.5	0.32	-0.32	-2.15
2,600.0	0.96	19.12	2,599.5	4.1	27.1	26.8	0.20	-0.12	9.23
2,700.0	0.87	18.56	2,699.5	5.7	27.6	27.3	0.09	-0.09	-0.56
2,800.0	0.81	18.94	2,799.5	7.0	28.0	27.7	0.06	-0.06	0.38
2,900.0	0.68	21.33	2,899.5	8.3	28.5	28.1	0.13	-0.13	2.39
3,000.0	0.81	18.97	2,999.5	9.5	28.9	28.5	0.13	0.13	-2.36
3,100.0	1.07	8.78	3,099.5	11.1	29.3	28.8	0.31	0.26	-10.19
3,200.0	1.26	343.71	3,199.5	13.1	29.1	28.5	0.54	0.19	-25.07
3,300.0	1.04	326.69	3,299.5	14.9	28.3	27.6	0.40	-0.22	-17.02
3,400.0	0.72	321.34	3,399.4	16.1	27.4	26.7	0.33	-0.32	-5.35
3,500.0	0.71	312.25	3,499.4	17.0	26.6	25.8	0.11	-0.01	-9.09
3,600.0	0.65	296.01	3,599.4	17.7	25.6	24.8	0.20	-0.06	-16.24
3,700.0	0.57	300.70	3,699.4	18.2	24.7	23.8	0.09	-0.08	4.69
3,800.0	0.92	327.44	3,799.4	19.1	23.8	22.9	0.48	0.35	26.74
3,900.0	1.43	342.50	3,899.4	21.0	23.0	22.1	0.59	0.51	15.06
4,000.0	2.19	352.73	3,999.3	24.1	22.4	21.3	0.82	0.76	10.23
4,100.0	2.41	349.94	4,099.3	28.0	21.8	20.5	0.25	0.22	-2.79
4,200.0	2.19	344.94	4,199.2	32.0	20.9	19.5	0.30	-0.22	-5.00
4,300.0	2.39	344.12	4,299.1	35.8	19.9	18.2	0.20	0.20	-0.82
4,400.0	2.04	343.48	4,399.0	39.5	18.8	17.0	0.35	-0.35	-0.64
4,500.0	1.74	338.25	4,499.0	42.6	17.7	15.8	0.35	-0.30	-5.23
4,600.0	1.46	331.06	4,598.9	45.2	16.5	14.5	0.34	-0.28	-7.19
4,700.0	1.23	335.13	4,698.9	47.3	15.5	13.3	0.25	-0.23	4.07
4,800.0	1.22	335.88	4,798.9	49.2	14.6	12.4	0.02	-0.01	0.75
4,900.0	1.22	338.68	4,898.9	51.2	13.8	11.5	0.06	0.00	2.80
5,000.0	1.42	347.09	4,998.8	53.4	13.1	10.7	0.28	0.20	8.41
5,100.0	1.44	351.02	5,098.8	55.8	12.6	10.1	0.10	0.02	3.93
5,200.0	1.72	345.21	5,198.8	58.5	12.0	9.4	0.32	0.28	-5.81

DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Zircon 12/7 GF Federal COM #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 3419.0usft (Patterson #46)
Site:	Sec 12, T19S, R29E	MD Reference:	WELL @ 3419.0usft (Patterson #46)
Well:	Zircon 12/7 GF Federal 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	0.97	341.16	5,298.7	60.8	11.4	8.7	0.76	-0.75	-4.05	
5,400.0	0.70	346.30	5,398.7	62.1	11.0	8.2	0.28	-0.27	5.14	
5,500.0	0.59	27.32	5,498.7	63.2	11.1	8.2	0.46	-0.11	41.02	
5,600.0	0.81	45.20	5,598.7	64.2	11.8	8.9	0.31	0.22	17.88	
5,700.0	1.14	84.87	5,698.7	64.7	13.3	10.4	0.73	0.33	39.67	
5,800.0	0.97	85.71	5,798.7	64.9	15.1	12.2	0.17	-0.17	0.84	
5,900.0	0.73	57.06	5,898.7	65.3	16.5	13.6	0.48	-0.24	-28.65	
6,000.0	0.95	18.98	5,998.7	66.4	17.3	14.3	0.59	0.22	-38.08	
6,100.0	0.78	24.73	6,098.6	67.8	17.9	14.8	0.19	-0.17	5.75	
6,200.0	1.34	115.34	6,198.6	68.0	19.2	16.2	1.56	0.56	90.61	
6,300.0	1.74	96.88	6,298.6	67.3	21.8	18.8	0.63	0.40	-18.46	
6,400.0	1.65	90.09	6,398.6	67.1	24.7	21.7	0.22	-0.09	-6.79	
6,500.0	1.00	77.07	6,498.5	67.3	27.0	24.0	0.71	-0.65	-13.02	
6,600.0	0.54	49.71	6,598.5	67.8	28.2	25.2	0.58	-0.46	-27.36	
6,700.0	0.43	353.28	6,698.5	68.5	28.5	25.5	0.47	-0.11	-56.43	
6,800.0	0.21	304.75	6,798.5	68.9	28.3	25.2	0.33	-0.22	-48.53	
6,900.0	0.33	302.89	6,898.5	69.2	27.9	24.8	0.12	0.12	-1.86	
7,000.0	0.36	302.40	6,998.5	69.5	27.4	24.3	0.03	0.03	-0.49	
7,100.0	0.40	309.30	7,098.5	69.9	26.9	23.8	0.06	0.04	6.90	
7,200.0	0.49	327.60	7,198.5	70.5	26.4	23.2	0.17	0.09	18.30	
7,300.0	0.57	331.47	7,298.5	71.3	25.9	22.7	0.09	0.08	3.87	
7,400.0	0.81	356.80	7,398.5	72.4	25.7	22.4	0.38	0.24	25.33	
TIE IN @ 7500' MD / 7499' TVD										
7,500.0	0.92	26.04	7,498.5	73.9	26.0	22.7	0.45	0.11	29.24	
7,572.0	1.00	38.10	7,570.5	74.9	26.6	23.3	0.30	0.11	16.75	
7,604.0	3.40	71.30	7,602.4	75.4	27.7	24.3	8.19	7.50	103.75	
7,635.0	7.10	76.20	7,633.3	76.1	30.4	27.0	12.01	11.94	15.81	
7,667.0	10.50	74.60	7,664.9	77.4	35.1	31.7	10.65	10.63	-5.00	
7,699.0	13.30	75.00	7,696.2	79.1	41.5	38.0	8.75	8.75	1.25	
7,730.0	14.80	79.00	7,726.3	80.8	48.8	45.2	5.76	4.84	12.90	
7,763.0	15.30	79.90	7,758.2	82.4	57.3	53.5	1.67	1.52	2.73	
7,794.0	15.60	82.60	7,788.1	83.6	65.4	61.6	2.51	0.97	8.71	
7,826.0	17.90	87.30	7,818.7	84.4	74.6	70.8	8.34	7.19	14.69	
7,858.0	21.40	91.90	7,848.8	84.4	85.4	81.5	11.95	10.94	14.38	
7,890.0	24.50	92.40	7,878.3	84.0	97.8	94.0	9.71	9.69	1.56	
7,922.0	27.40	91.20	7,907.1	83.5	111.8	108.0	9.21	9.06	-3.75	
7,954.0	30.90	89.90	7,935.0	83.4	127.4	123.6	11.11	10.94	-4.06	
7,986.0	34.60	89.40	7,961.9	83.5	144.7	140.9	11.59	11.56	-1.56	
CROSSED LEASE LINE @ 7994' MD / 7969' TVD										
7,994.2	35.55	89.45	7,968.6	83.6	149.4	145.6	11.57	11.56	0.67	
8,018.0	38.30	89.60	7,987.7	83.7	163.7	159.8	11.57	11.56	0.61	
8,050.0	41.70	90.60	8,012.2	83.6	184.3	180.4	10.81	10.63	3.13	
8,081.0	44.90	91.20	8,034.7	83.3	205.5	201.6	10.41	10.32	1.94	
8,113.0	48.60	91.50	8,056.6	82.7	228.8	224.9	11.58	11.56	0.94	

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Zircon 127/GF Federal COM #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 3419.0usft (Patterson #46)
Site:	Sec 12 T19S R29E	MD Reference:	WELL @ 3419.0usft (Patterson #46)
Well:	Zircon 127/GF Federal 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)
8,145.0	52.80	91.90	8,076.9	82.0	253.6	249.7	13.16	13.13	1.25
8,177.0	57.10	91.90	8,095.3	81.1	279.8	275.9	13.44	13.44	0.00
8,209.0	61.10	91.70	8,111.7	80.3	307.2	303.3	12.51	12.50	-0.63
8,241.0	65.40	91.70	8,126.1	79.4	335.8	331.9	13.44	13.44	0.00
8,273.0	69.80	92.10	8,138.3	78.4	365.3	361.5	13.80	13.75	1.25
8,305.0	74.10	92.40	8,148.2	77.3	395.7	391.9	13.47	13.44	0.94
8,336.0	78.40	92.90	8,155.6	75.9	425.8	422.0	13.96	13.87	1.61
8,368.0	82.70	93.30	8,160.8	74.2	457.3	453.5	13.49	13.44	1.25
CROSSED 330' HARDLINE @ 8390' MD / 8163' TVD									
8,390.3	85.77	93.79	8,163.1	72.8	479.4	475.7	13.92	13.75	2.19
8,400.0	87.10	94.00	8,163.7	72.1	489.1	485.4	13.92	13.75	2.18
8,422.0	88.70	94.00	8,164.5	70.6	511.0	507.4	7.27	7.27	0.00
8,500.0	90.20	92.90	8,165.2	65.9	588.9	585.4	2.38	1.92	-1.41
8,563.0	90.10	92.90	8,165.1	62.7	651.8	648.4	0.16	-0.16	0.00
8,626.0	89.70	92.60	8,165.2	59.7	714.7	711.4	0.79	-0.63	-0.48
8,689.0	89.00	92.80	8,165.9	56.7	777.7	774.4	1.16	-1.11	0.32
8,784.0	90.00	93.60	8,166.7	51.4	872.5	869.3	1.35	1.05	0.84
8,879.0	88.90	94.30	8,167.6	44.9	967.3	964.3	1.37	-1.16	0.74
8,974.0	89.00	94.70	8,169.4	37.4	1,062.0	1,059.2	0.43	0.11	0.42
9,070.0	89.70	94.50	8,170.5	29.7	1,157.6	1,155.2	0.76	0.73	-0.21
9,165.0	90.20	94.30	8,170.5	22.4	1,252.4	1,250.1	0.57	0.53	-0.21
9,260.0	90.20	94.20	8,170.2	15.4	1,347.1	1,345.1	0.11	0.00	-0.11
9,354.0	89.30	94.30	8,170.6	8.4	1,440.8	1,439.0	0.96	-0.96	0.11
9,449.0	90.10	93.40	8,171.1	2.1	1,535.6	1,534.0	1.27	0.84	-0.95
9,544.0	88.60	94.50	8,172.2	-4.5	1,630.4	1,629.0	1.96	-1.58	1.16
9,608.0	89.20	94.30	8,173.4	-9.4	1,694.2	1,692.9	0.99	0.94	-0.31
9,671.0	89.40	94.00	8,174.2	-14.0	1,757.0	1,755.9	0.57	0.32	-0.48
9,734.0	90.00	93.80	8,174.5	-18.2	1,819.9	1,818.9	1.00	0.95	-0.32
9,797.0	90.20	93.80	8,174.4	-22.4	1,882.7	1,881.9	0.32	0.32	0.00
9,861.0	89.30	94.30	8,174.7	-26.9	1,946.6	1,945.8	1.61	-1.41	0.78
9,924.0	89.40	93.60	8,175.4	-31.3	2,009.4	2,008.8	1.12	0.16	-1.11
9,987.0	88.90	93.40	8,176.4	-35.1	2,072.3	2,071.8	0.85	-0.79	-0.32
10,051.0	89.30	94.00	8,177.4	-39.3	2,136.1	2,135.8	1.13	0.63	0.94
10,114.0	88.60	94.20	8,178.5	-43.8	2,199.0	2,198.7	1.16	-1.11	0.32
10,176.0	88.70	93.80	8,180.0	-48.1	2,260.8	2,260.7	0.66	0.16	-0.65
10,240.0	90.10	92.60	8,180.6	-51.7	2,324.7	2,324.7	2.88	2.19	-1.88
10,303.0	89.60	92.10	8,180.8	-54.2	2,387.6	2,387.7	1.12	-0.79	-0.79
10,367.0	88.40	91.90	8,181.9	-56.5	2,451.6	2,451.7	1.90	-1.88	-0.31
10,430.0	89.20	91.70	8,183.2	-58.5	2,514.6	2,514.7	1.31	1.27	-0.32
10,493.0	89.30	91.50	8,184.1	-60.2	2,577.5	2,577.6	0.35	0.16	-0.32
10,556.0	89.50	91.70	8,184.7	-62.0	2,640.5	2,640.6	0.45	0.32	0.32
10,619.0	90.10	91.90	8,184.9	-63.9	2,703.5	2,703.6	1.00	0.95	0.32
10,682.0	90.70	92.20	8,184.5	-66.2	2,766.4	2,766.6	1.06	0.95	0.48

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well/Zircon 12/7 GF Federal COM #1H
Project:	Eddy County New Mexico	TVD Reference:	WELL @ 3419.0usft (Patterson #46)
Site:	Sec 12 T19S R29E	MD Reference:	WELL @ 3419.0usft (Patterson #46)
Well:	Zircon 12/7 GF Federal COM #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

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)
CROSSED SECTION LINE @ 10714' MD / 8184' TVD									
10,713.6	90.35	91.95	8,184.2	-67.3	2,798.0	2,798.2	1.37	-1.11	-0.79
10,745.0	90.00	91.70	8,184.1	-68.3	2,829.4	2,829.6	1.37	-1.11	-0.79
10,808.0	89.50	91.50	8,184.4	-70.1	2,892.4	2,892.6	0.85	-0.79	-0.32
10,872.0	89.90	93.00	8,184.7	-72.6	2,956.3	2,956.6	2.43	0.63	2.34
10,935.0	90.50	93.40	8,184.5	-76.1	3,019.2	3,019.6	1.14	0.95	0.63
10,998.0	89.90	93.40	8,184.3	-79.9	3,082.1	3,082.6	0.95	-0.95	0.00
11,061.0	89.00	93.30	8,184.9	-83.5	3,145.0	3,145.6	1.44	-1.43	-0.16
11,124.0	88.10	93.40	8,186.5	-87.2	3,207.9	3,208.6	1.44	-1.43	0.16
11,187.0	88.90	93.60	8,188.1	-91.1	3,270.7	3,271.5	1.31	1.27	0.32
11,250.0	89.00	93.80	8,189.3	-95.1	3,333.6	3,334.5	0.35	0.16	0.32
11,314.0	90.60	96.40	8,189.5	-100.8	3,397.3	3,398.4	4.77	2.50	4.06
11,377.0	91.40	95.90	8,188.4	-107.6	3,459.9	3,461.3	1.50	1.27	-0.79
11,440.0	90.80	95.60	8,187.2	-113.9	3,522.6	3,524.2	1.06	-0.95	-0.48
11,504.0	89.90	95.60	8,186.8	-120.1	3,586.3	3,588.1	1.41	-1.41	0.00
11,567.0	89.00	95.00	8,187.4	-126.0	3,649.0	3,651.0	1.72	-1.43	-0.95
11,630.0	88.00	94.90	8,189.1	-131.4	3,711.8	3,713.9	1.60	-1.59	-0.16
11,694.0	88.60	94.90	8,191.0	-136.8	3,775.5	3,777.9	0.94	0.94	0.00
11,757.0	88.60	95.60	8,192.5	-142.6	3,838.2	3,840.8	1.11	0.00	1.11
11,820.0	89.30	94.20	8,193.7	-148.0	3,901.0	3,903.7	2.48	1.11	-2.22
11,883.0	89.60	93.30	8,194.3	-152.1	3,963.8	3,966.7	1.51	0.48	-1.43
11,947.0	88.90	93.40	8,195.1	-155.9	4,027.7	4,030.7	1.10	-1.09	0.16
12,010.0	89.90	94.20	8,195.8	-160.0	4,090.6	4,093.7	2.03	1.59	1.27
12,073.0	89.30	93.60	8,196.2	-164.3	4,153.4	4,156.6	1.35	-0.95	-0.95
12,137.0	87.80	92.80	8,197.8	-167.9	4,217.3	4,220.6	2.66	-2.34	-1.25
12,200.0	87.90	93.10	8,200.2	-171.1	4,280.2	4,283.6	0.50	0.16	0.48
12,263.0	88.50	93.30	8,202.2	-174.6	4,343.1	4,346.5	1.00	0.95	0.32
12,326.0	88.40	92.80	8,203.9	-178.0	4,405.9	4,409.5	0.81	-0.16	-0.79
12,389.0	89.00	91.90	8,205.3	-180.6	4,468.9	4,472.5	1.72	0.95	-1.43
12,452.0	89.70	92.20	8,206.0	-182.8	4,531.8	4,535.5	1.21	1.11	0.48
12,516.0	90.80	91.90	8,205.7	-185.1	4,595.8	4,599.5	1.78	1.72	-0.47
12,579.0	90.10	90.50	8,205.2	-186.4	4,658.8	4,662.5	2.48	-1.11	-2.22
12,642.0	89.50	89.80	8,205.5	-186.6	4,721.8	4,725.4	1.46	-0.95	-1.11
12,706.0	89.00	89.10	8,206.3	-186.0	4,785.8	4,789.3	1.34	-0.78	-1.09
12,769.0	89.30	88.70	8,207.2	-184.8	4,848.7	4,852.2	0.79	0.48	-0.63
12,833.0	89.20	89.40	8,208.1	-183.7	4,912.7	4,916.0	1.10	-0.16	1.09
12,896.0	89.50	90.30	8,208.8	-183.5	4,975.7	4,979.0	1.51	0.48	1.43
12,931.0	88.80	89.20	8,209.3	-183.4	5,010.7	5,013.9	3.72	-2.00	-3.14
TD @ 12985' MD / 8210' TVD									
12,985.0	88.80	89.20	8,210.4	-182.6	5,064.7	5,067.8	0.00	0.00	0.00

DDC
Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well Zircon 12/7 GF Federal COM #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 3419.0usft (Patterson #46)
Site:	Sec 12, T19S, R29E	MD Reference:	WELL @ 3419.0usft (Patterson #46)
Well:	Zircon 12/7 GF Federal COM #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,500.0	7,498.5	73.9	26.0	TIE IN @ 7500' MD / 7499' TVD
7,994.2	7,968.6	83.6	149.4	CROSSED LEASE LINE @ 7994' MD / 7969' TVD
8,390.3	8,163.1	72.8	479.4	CROSSED 330' HARDLINE @ 8390' MD / 8163' TVD
10,713.6	8,184.2	-67.3	2,798.0	CROSSED SECTION LINE @ 10714' MD / 8184' TVD
12,985.0	8,210.4	-182.6	5,064.7	TD @ 12985' MD / 8210' TVD

Checked By: _____	Approved By: _____	Date: _____
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Operating Company Mewbourne Oil Co.
Well Name & Number Zircon 12/7 GF #1H
Sales Ticket Number 0
Date 4/30/2014

Company Rep Larry sutton
Field Fed Com
BOT Service Rep Blake Born
District Location Odessa, TX



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	110000	6.276	6.151	LTC / 8RD	0.03826	8,472.00	9,960	6,230
Top Liner	4.500	13.50	110000	3.920	3.795	LTC / 8RD	0.01492	4,654.04	12,410	10,680
Bott Liner	0.000	0.00	0	0.000	0.000	0	0.00000	-	-	-

TVD	8210.00	KOP	7543.00	Open Hole	6.125	Casing Vol. (bbl)	316.1
Carry Fluid Weight (ppg)	8.4	Propant Content (ppa)				Max Drill Out Size	0

Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ (BBL)
Liner Top 1	10292414 JR Silv W/ 4.750" ALT Seal Bore ID	8261.96	4.00	5.750	3.913				

Zone Length	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ (BBL)
	H409400024	S-3 HYD SET-CASING PACKER	8265.96	4.68	5.937	3.873		1670		
	H29710014	4-1/2" #13.50 P-110 LTC NIPPLE	8270.64	8.09	4.500	3.920				
		4-1/2" #13.50 P-110 CASING (6 JNT)	8278.73	268.99	4.500	3.920				
20	104686545	3.500" Express Frac Sleeve	8547.72	2.40	5.750		3.400	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	8550.12	136.05	4.500	3.920				
	H40936008	Baker Open Hole Packer	8686.17	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	8690.06	90.73	4.500	3.920				
19	H810090189	3.438" Express Frac Sleeve	8780.79	2.40	5.750		3.338	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	8783.19	136.02	4.500	3.920				
	H40936008	Baker Open Hole Packer	8919.21	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	8923.10	90.37	4.500	3.920				
18	104686527	3.375" Express Frac Sleeve	9013.47	2.40	5.750		3.275	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	9015.87	135.24	4.500	3.920				
	H40936008	Baker Open Hole Packer	9151.11	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	9155.00	90.04	4.500	3.920				
17	H810090191	3.313" Express Frac Sleeve	9245.04	2.40	5.750		3.213	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	9247.44	136.01	4.500	3.920				
	H40936008	Baker Open Hole Packer	9383.45	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	9387.34	90.71	4.500	3.920				
16	104686519	3.250" Express Frac Sleeve	9478.05	2.40	5.750		3.150	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	9480.45	136.01	4.500	3.920				
	H40936008	Baker Open Hole Packer	9616.46	3.89	5.820			2154		

Operating Company Mewbourne Oil Co.
Well Name & Number Zircon 12/7 GF #1H
Sales Ticket Number 0
Date 4/30/2014

Company Rep Larry sutton
Field Fed Com
BOT Service Rep Blake Born
District Location Odessa, TX



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	110000	6.276	6.151	LTC / 8RD	0.03826	8,472.00	9,960	16,230
Top Liner	4.500	13.50	110000	3.920	3.795	LTC / 8RD	0.01492	4,654.04	12,410	10,680
Bott Liner	0.000	0.00	0	0.000	0.000	0	0.00000	-	-	-

TVD	8210.00	KOP	7543.00	Open Hole	6.125	Casing Vol. (bbl)	316.1
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Carry Fluid Weight (ppg)	8.4	Proppant 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)
		4-1/2" #13.50 P-110 CASING (2 JNT)	9620.35	90.16	4.500	3.920				
15	H810090393	3.188" Express Frac Sleeve	9710.51	2.40	5.750		3.088"	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	9712.91	132.92	4.500	3.920				
	H40936008	Baker Open Hole Packer	9845.83	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	9849.72	90.70	4.500	3.920				
14	104686507	3.125" Express Frac Sleeve	9940.42	2.40	5.750		3.025"	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	9942.82	136.02	4.500	3.920				
	H40936008	Baker Open Hole Packer	10078.84	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	10082.73	90.32	4.500	3.920				
13	H810090195	3.063" Express Frac Sleeve	10173.05	2.40	5.750		2.963"	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	10175.45	134.74	4.500	3.920				
	H40936008	Baker Open Hole Packer	10310.19	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	10314.08	89.66	4.500	3.920				
12	104686493	3.000" Express Frac Sleeve	10403.74	2.40	5.750		2.900"	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	10406.14	134.91	4.500	3.920				
	H40936008	Baker Open Hole Packer	10541.05	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	10544.94	90.12	4.500	3.920				
11	H810090197	2.938" Express Frac Sleeve	10635.06	2.40	5.750		2.838"	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	10637.46	131.90	4.500	3.920				
	H40936008	Baker Open Hole Packer	10769.36	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	10773.25	89.32	4.500	3.920				
10	104686480	2.875" Express Frac Sleeve	10862.57	2.40	5.750		2.775"	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	10864.97	134.44	4.500	3.920				
	H40936008	Baker Open Hole Packer	10999.41	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	11003.30	89.35	4.500	3.920				
9	H810090199	2.813" Express Frac Sleeve	11092.65	2.40	5.750		2.713"	2286		316

Operating Company Mewbourne Oil Co.
Well Name & Number Zircon 12/7 GF #1H
Sales Ticket Number 0
Date 4/30/2014

Company Rep Larry sutton
Field Fed Com
BOT Service Rep Blake Born
District Location Odessa, TX



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse			
Casing	7.000	26.00	110000	6.276	6.151	LTC / 8RD	0.03826	8,472.00	9,960	6,230			
Top Liner	4.500	13.50	110000	3.920	3.795	LTC / 8RD	0.01492	4,654.04	12,410	10,680			
Bott Liner	0.000	0.00	0	0.000	0.000	0	0.00000	-	-	-			
TVD		8210.00		KOP		7543.00		Open Hole		6.125	Casing Vol. (bbl)	316.1	
Carry Fluid Weight (ppg)			8.4		Propant Content (ppa)						Max Drill Out Size		0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press	Max Rate (BPM)	Displ (BBL)
8		4-1/2" #13.50 P-110 CASING (3 JNT)	11095.05	134.60	4.500	3.920				
	H40936008	Baker Open Hole Packer	11229.65	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	11233.54	89.40	4.500	3.920				
	104686454	2.750" Express Frac Sleeve	11322.94	2.40	5.750		2.650"	2286		316
7		4-1/2" #13.50 P-110 CASING (3 JNT)	11325.34	133.57	4.500	3.920				
	H40936008	Baker Open Hole Packer	11458.91	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	11462.80	90.37	4.500	3.920				
	H810090201	2.688" Express Frac Sleeve	11553.17	2.40	5.750		2.588"	2286		316
6		4-1/2" #13.50 P-110 CASING (3 JNT)	11555.57	135.42	4.500	3.920				
	H40936008	Baker Open Hole Packer	11690.99	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	11694.88	90.18	4.500	3.920				
	104686442	2.625" Express Frac Sleeve	11785.06	2.40	5.750		2.525"	2286		316
5		4-1/2" #13.50 P-110 CASING (3 JNT)	11787.46	132.68	4.500	3.920				
	H40936008	Baker Open Hole Packer	11920.14	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	11924.03	90.18	4.500	3.920				
	H810090203	2.563" Express Frac Sleeve	12014.21	2.40	5.750		2.463"	2286		316
4		4-1/2" #13.50 P-110 CASING (3 JNT)	12016.61	134.40	4.500	3.920				
	H40936008	Baker Open Hole Packer	12151.01	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	12154.90	90.17	4.500	3.920				
	104686429	2.500" Express Frac Sleeve	12245.07	2.40	5.750		2.400"	2286		316
3		4-1/2" #13.50 P-110 CASING (3 JNT)	12247.47	134.53	4.500	3.920				
	H40936008	Baker Open Hole Packer	12382.00	3.89	5.820			2154		
		4-1/2" #13.50 P-110 CASING (2 JNT)	12385.89	89.63	4.500	3.920				
	H810090205	2.438" Express Frac Sleeve	12475.52	2.40	5.750		2.338"	2286		316
		4-1/2" #13.50 P-110 CASING (3 JNT)	12477.92	133.81	4.500	3.920				
	H40936008	Baker Open Hole Packer	12611.73	3.89	5.820			2154		

Company Rep	Larry sutton
Field	Fed Com
BOT Service Rep	Blake Born
District Location	Odessa, TX

[illegible]



Alpha Sleeve Performance Calculator

Date of Analysis: 7-Apr-14
Engineer: Paul Noseft
Customer: Mewbourne
Well Name: Zircon 12 7 GF Fed Com #1H
Field:
End Connections: 4.5" 13.5# P110 LTC

Well Parameters

Static BHT: 120 deg F

Total Vertical Depth (TVD) @ Alpha Sleeve: 8,200 ft

RIH Completion Fluid Wt.: 8.5 ppg

Cement Wt.: NA ppg

Displacement Completion Fluid Wt.: 8.5 ppg

* Note - this is used to determine the opening pressure

Test and Shift Pressures

Approximate Casing Test Pressure: 7,000 psi

Min. Desired Shift Pressure: 7,000 psi

Max. Topside Pressure**: 8,000 psi

** Note - wellhead or casing pressure limit

Operational Pressures

Circulation Max Pressure: 1,000 psi

Max. Cementation Pumping Pressure: 0 psi

Max. Displacement Pressure: 2,000 psi

Additional Plug Bump Pressure: 0 psi

Notes:

Uncemented installation.

In-Tallic Ball Seat option selected.



Rev. L (11/13)

Option 1 19 Lower Pressure

Min Surface Pressure: 6,278 psi
Nominal Surface Pressure: 6,690 psi
Maximum Surface Pressure: 7,103 psi

Min Absolute Pressure: 9,902 psi
Nominal Absolute Pressure: 10,315 psi
Maximum Absolute Pressure: 10,727 psi

RIH Circulation Buffer: 5,278 psi
Cementation Buffer: #VALUE! psi
Displacement Buffer: 4,278 psi

Testing Percentage of Nominal

Approx. Casing Test Pressure should be under 90%

Max. Req. Pressure Percentage of Max. Allowable Topside Pressure: 89%

Max. Casing Test Pressure: 6,021 psi

Activator Part Number: 10412244

Company Representative: X

Date:

Option 2 20 Closest Selection

Min Surface Pressure: 6,773 psi
Nominal Surface Pressure: 7,206 psi
Maximum Surface Pressure: 7,639 psi

Min Absolute Pressure: 10,397 psi
Nominal Absolute Pressure: 10,830 psi
Maximum Absolute Pressure: 11,264 psi

RIH Circulation Buffer: 5,773 psi
Cementation Buffer: #VALUE! psi
Displacement Buffer: 4,773 psi

Testing Percentage of Nominal

Approx. Casing Test Pressure should be under 90%

Max. Req. Pressure Percentage of Max. Allowable Topside Pressure

Max. Casing Test Pressure: 6,485 psi

Activator Part Number: 10412245

Baker Hughes Representative: X

Date:

Option 3 21 Higher Pressure

Min Surface Pressure: 7,268 psi
Nominal Surface Pressure: 7,722 psi
Maximum Surface Pressure: 8,176 psi

Min Absolute Pressure: 10,892 psi
Nominal Absolute Pressure: 11,346 psi
Maximum Absolute Pressure: 11,800 psi

RIH Circulation Buffer: 6,268 psi
Cementation Buffer: #VALUE! psi
Displacement Buffer: 5,268 psi

Testing Percentage of Nominal

Approx. Casing Test Pressure should be under 90%

Max. Req. Pressure Percentage of Max. Allowable Topside Pressure

Max. Casing Test Pressure: 6,950 psi

Activator Part Number: 10412246



Job Number: SVMO-140747
 Company: Mewbourne Oil & Gas
 Lease/Well: Zircon 2 B1EH ST COM 2H
 Location: Eddy County, NM
 Rig Name: Patterson #41
 RKB: 13.5'
 G.L. or M.S.L.: GL

State/Country: New Mexico/USA
 Declination: 7.36°
 Grid: East To Grid North
 File name: Y:\WINSER-1\2014SU-1\MEWBOU-1\MO\ZIRCON-3\2H.SVY
 Date/Time: 06-Jun-14 / 12:59
 Curve Name: Surface - 6347' M.D. (Rate Gyro)

MS Survey

WINSERVE SURVEY CALCULATIONS
 Minimum Curvature Method
 Vertical Section Plane 90.10
 Vertical Section Referenced to Wellhead
 Rectangular Coordinates Referenced to Wellhead

We hereby certify that our survey data from
 Surface MD to 6347' MD is, to the best of
 our knowledge a true and accurate account of
 the well bore.
 Harley Patterson 6/6/14
 MS Energy Services Date

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	True Vertical Depth	N-S FT	E-W FT	Vertical Section FT	CLOSURE		Dogleg Severity Deg/100
							Distance FT	Direction Deg	
.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
100.00	.27	354.68	100.00	.23	-.02	-.02	.24	354.68	.27
200.00	.51	257.78	200.00	.38	-.48	-.48	.61	308.08	.61
300.00	.59	248.57	299.99	.09	-1.39	-1.39	1.40	273.81	.12
400.00	.61	249.13	399.99	-.29	-2.37	-2.37	2.39	263.14	.02
500.00	.67	242.18	499.98	-.75	-3.38	-3.38	3.47	257.54	.10
600.00	.63	241.97	599.98	-1.28	-4.39	-4.38	4.57	253.75	.04
700.00	.45	229.44	699.97	-1.79	-5.17	-5.17	5.47	250.88	.21
800.00	.29	207.97	799.97	-2.27	-5.59	-5.58	6.03	247.88	.21
900.00	.47	130.20	899.97	-2.76	-5.39	-5.39	6.06	242.90	.50

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	
1000.00	.64	121.72	999.96	-3.32	-4.60	-4.60	5.68	234.22	.19
1100.00	.54	112.80	1099.96	-3.79	-3.69	-3.69	5.30	224.24	.14
1200.00	.52	104.39	1199.95	-4.09	-2.82	-2.81	4.97	214.60	.08
1300.00	.30	117.85	1299.95	-4.32	-2.15	-2.14	4.83	206.43	.24
1400.00	.30	184.55	1399.95	-4.71	-1.94	-1.93	5.09	202.38	.33
1500.00	.55	212.50	1499.95	-5.37	-2.22	-2.21	5.81	202.43	.32
1600.00	.68	226.18	1599.94	-6.19	-2.90	-2.89	6.84	205.13	.20
1700.00	.92	257.99	1699.93	-6.77	-4.12	-4.11	7.92	211.32	.50
1800.00	.97	263.51	1799.92	-7.03	-5.74	-5.73	9.08	219.25	.10
1900.00	.99	271.04	1899.90	-7.11	-7.45	-7.44	10.30	226.33	.13
2000.00	.93	281.44	1999.89	-6.93	-9.11	-9.10	11.45	232.72	.18
2100.00	1.00	288.07	2099.88	-6.50	-10.73	-10.72	12.55	238.79	.13
2200.00	.97	293.09	2199.86	-5.90	-12.34	-12.33	13.68	244.45	.09
2300.00	.95	303.30	2299.85	-5.11	-13.81	-13.80	14.73	249.69	.17
2400.00	1.04	311.55	2399.83	-4.05	-15.18	-15.18	15.72	255.05	.17
2500.00	1.13	317.87	2499.81	-2.72	-16.52	-16.52	16.75	260.65	.15
2600.00	1.10	320.51	2599.79	-1.25	-17.80	-17.79	17.84	265.98	.06
2700.00	.90	322.10	2699.78	.11	-18.89	-18.89	18.89	270.34	.20
2800.00	.84	313.56	2799.77	1.24	-19.90	-19.91	19.94	273.55	.14
2900.00	.82	315.21	2899.76	2.25	-20.94	-20.94	21.06	276.13	.03
3000.00	.79	314.63	2999.75	3.24	-21.93	-21.94	22.17	278.41	.03
3100.00	.71	314.15	3099.74	4.16	-22.87	-22.88	23.24	280.30	.08
3200.00	.77	313.96	3199.73	5.05	-23.80	-23.81	24.33	281.99	.06
3300.00	.81	320.44	3299.72	6.07	-24.73	-24.74	25.46	283.78	.10
3400.00	.78	320.40	3399.71	7.14	-25.61	-25.63	26.59	285.57	.03
3500.00	.99	326.19	3499.70	8.38	-26.53	-26.54	27.82	287.53	.23
3600.00	1.29	324.47	3599.68	10.01	-27.66	-27.68	29.42	289.90	.30
3700.00	1.50	319.76	3699.65	11.93	-29.16	-29.18	31.51	292.24	.24
3800.00	1.49	327.34	3799.62	14.02	-30.71	-30.73	33.76	294.54	.20