

OPERATOR
WELL/LEASE
COUNTY

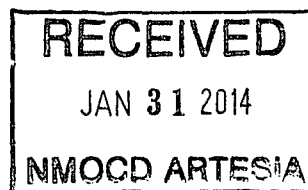
MEWBOURNE OIL COMPANY
ZIRCON 1 HE STATE 002H
EDDY

080-0145

STATE OF NEW MEXICO
DEVIATION REPORT

15-41731

380	0.60
585	1.10
669	0.70
997	1.21
1,240	2.30
1,388	1.90
1,849	2.00
2,269	0.80
2,650	0.30
3,060	0.60
3,441	0.50
3,917	0.90
4,075	1.60
4,450	3.00
4,933	3.10
5,278	3.20
5,410	3.00
5,505	3.40
5,600	3.20
5,980	4.33
6,260	4.38
6,514	3.10
6,800	2.70
7,218	1.10



BY:

Steve Moore

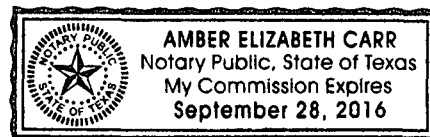
STATE OF TEXAS

COUNTY OF MIDLAND

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

12/19/13, by

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





Stryker Energy Directional Services, LLC

SURVEY CALCULATION REPORT

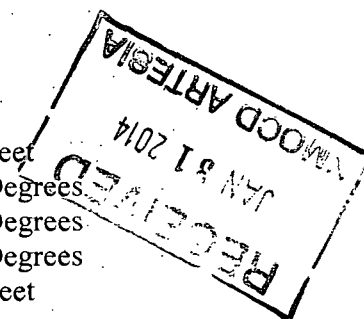
Minimum Curvature Calculations

Operator: Mewbourne Oil Company
 Lease Name: Zircon 1 HE State #2H
 API /Job Number: 30-015-41731 C131174
 Comments: Tie-in to Vaughn Energy Gyro Survey
 Survey Company: Stryker Energy Directional Services, LLC

12/19/13

Target KBTVD: 8,147 Feet
 Target Angle: 91.15 Degrees
 Section Plane: 262.96 Degrees
 Declination Corrected to Grid: 7.37 Degrees
 Bit to Survey Offset: 62 Feet

Lead Driller: Gary Burow



Survey Number	Measured Depth	Drift (Degrees)	Azimuth (Degrees)	Course Length	TVD (Feet)	Vertical Section	+N/-S (Feet)	+E/-W (Feet)	BUR	DLS	KBTVD	+Above -Below Target	Distance From Proposed Line	Distance from Plan
T/I	7567	0.46	304.51	N/A	7,561.73	89.2	137.35	-106.87	N/A	0.0	7563.5	583.5	127.2	-9.38
1	7647	1.60	260.70	80	7,641.72	90.6	137.4	-108.2	1.4	1.6	7643.5	503.5	149.6	13.00
2	7679	5.60	210.40	32	7,673.65	92.0	135.9	-109.5	12.5	14.8	7675.5	471.5	148.3	148.32
3	7711	10.60	204.10	32	7,705.32	94.5	131.9	-111.5	15.6	15.8	7707.2	439.8	144.6	144.56
4	7742	15.40	211.10	31	7,735.52	98.5	125.8	-114.8	15.5	16.3	7737.5	409.5	138.9	138.88
5	7774	20.00	212.90	32	7,766.00	104.6	117.5	-119.9	14.4	14.5	7768.1	378.9	131.3	131.34
6	7806	23.20	211.30	32	7,795.75	112.0	107.5	-126.2	10.0	10.2	7798.0	349.0	122.2	122.20
7	7838	21.70	209.70	32	7,825.32	119.5	97.0	-132.4	-4.7	5.1	7827.7	319.3	112.5	112.51
8	7869	24.00	217.60	31	7,853.89	127.4	87.0	-139.1	7.4	12.4	7856.4	290.6	103.4	103.43
9	7901	27.60	220.40	32	7,882.70	137.4	76.2	-147.8	11.3	11.9	7885.4	261.6	93.8	93.78
10	7933	31.60	223.40	32	7,910.52	149.3	64.5	-158.4	12.5	13.3	7913.5	233.5	83.4	83.43
11	7964	35.90	228.70	31	7,936.29	163.1	52.6	-170.8	13.9	16.8	7939.6	207.5	73.1	73.13
12	7996	37.60	233.10	32	7,961.94	179.3	40.5	-185.7	5.3	9.8	7965.5	181.5	63.0	62.98
13	8028	39.40	237.50	32	7,986.99	197.0	29.2	-202.1	5.6	10.2	7990.9	156.1	53.8	53.76
14	8059	41.80	242.40	31	8,010.53	215.5	19.1	-219.5	7.7	12.9	8014.8	132.2	45.9	45.90
15	8091	44.00	245.20	32	8,033.97	236.1	9.5	-239.1	6.9	9.1	8038.7	108.3	38.8	38.76
16	8123	47.20	248.70	32	8,056.36	258.1	0.6	-260.1	10.0	12.7	8061.5	85.5	32.5	32.47
17	8155	50.50	252.60	32	8,077.42	281.6	-7.4	-282.8	10.3	13.8	8083.1	64.0	27.4	27.36
18	8186	55.40	252.80	31	8,096.09	305.9	-14.7	-306.5	15.8	15.8	8102.2	44.8	23.0	22.95
19	8218	58.50	255.20	32	8,113.54	332.4	-22.1	-332.2	9.7	11.5	8120.2	26.8	18.8	18.79
20	8250	62.90	255.60	32	8,129.20	360.1	-29.1	-359.2	13.8	13.8	8136.4	10.6	15.1	15.12



Stryker Energy Directional Services, LLC

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21	8282	67.70	255.20	32	8,142.57	388.9	-36.5	-387.4	15.0	15.0	8150.3	-3.3	11.3	11.29
22	8313	73.80	255.40	31	8,152.78	417.9	-43.9	-415.7	19.7	19.7	8161.1	-14.1	7.4	7.40
23	8345	79.50	255.90	32	8,160.17	448.8	-51.6	-445.8	17.8	17.9	8169.1	-22.1	3.4	3.44
24	8361	81.80	256.80	16	8,162.77	464.4	-55.3	-461.1	14.4	15.4	8172.1	-25.0	1.6	1.62
25	8435	89.20	263.70	74	8,168.58	538.0	-67.8	-533.8	10.0	13.6	8179.3	-32.3	-1.8	-1.84
26	8467	90.60	265.10	32	8,168.63	570.0	-70.9	-565.6	4.4	6.2	8180.0	-33.0	-1.0	-1.04
27	8530	91.90	265.20	63	8,167.26	633.0	-76.2	-628.4	2.1	2.1	8179.9	-32.9	1.4	1.37
28	8625	92.70	265.20	95	8,163.44	727.8	-84.2	-723.0	0.8	0.8	8178.0	-31.0	5.1	5.08
29	8720	93.90	264.70	95	8,157.98	822.6	-92.5	-817.4	1.3	1.4	8174.4	-27.4	8.4	8.37
30	8815	92.90	264.70	95	8,152.34	917.4	-101.3	-911.8	-1.1	1.1	8170.7	-23.7	11.3	11.25
31	8910	93.30	263.30	95	8,147.20	1,012.2	-111.2	-1,006.2	0.4	1.5	8167.5	-20.4	13.0	12.98
32	9005	93.30	263.70	95	8,141.74	1,107.1	-121.9	-1,100.4	0.0	0.4	8163.9	-16.9	13.9	13.87
33	9100	91.50	262.80	95	8,137.76	1,202.0	-133.1	-1,194.7	-1.9	2.1	8161.8	-14.8	14.3	14.35
34	9195	94.00	262.30	95	8,133.20	1,296.8	-145.4	-1,288.7	2.6	2.7	8159.1	-12.1	13.7	13.67
35	9290	92.10	261.40	95	8,128.15	1,391.7	-158.8	-1,382.6	-2.0	2.2	8156.0	-9.0	11.8	11.83
36	9384	92.80	263.10	94	8,124.13	1,485.6	-171.5	-1,475.7	0.7	2.0	8153.8	-6.8	10.7	10.67
37	9479	89.30	265.40	95	8,122.39	1,580.5	-181.0	-1,570.1	-3.7	4.4	8154.0	-7.0	12.8	12.81
38	9574	92.10	265.10	95	8,121.23	1,675.4	-188.9	-1,664.8	2.9	3.0	8154.7	-7.7	16.6	16.60
39	9668	92.00	265.40	94	8,117.86	1,769.3	-196.6	-1,758.4	-0.1	0.3	8153.3	-6.2	20.4	20.36
40	9763	92.90	267.50	95	8,113.80	1,864.0	-202.5	-1,853.1	0.9	2.4	8151.1	-4.1	26.1	26.13
41	9857	92.10	265.20	94	8,109.70	1,957.7	-208.5	-1,946.8	-0.9	2.6	8148.9	-1.8	31.7	31.68



Stryker Energy Directional Services, LLC

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42	9952	89.80	264.70	95	8,108.13	2,052.6	-216.9	-2,041.4	-2.4	2.5	8149.2	-2.2	35.0	34.98
43	10047	90.70	263.30	95	8,107.71	2,147.6	-226.8	-2,135.9	0.9	1.8	8150.7	-3.6	36.7	36.71
44	10142	94.50	262.40	95	8,103.41	2,242.5	-238.6	-2,230.1	4.0	4.1	8148.3	-1.2	36.5	36.52
45	10237	93.20	262.10	95	8,097.03	2,337.3	-251.4	-2,324.0	-1.4	1.4	8143.8	3.2	35.3	35.35
46	10332	91.60	261.00	95	8,093.05	2,432.1	-265.3	-2,417.8	-1.7	2.0	8141.7	5.3	33.0	33.01
47	10427	90.30	260.30	95	8,091.47	2,527.0	-280.8	-2,511.6	-1.4	1.6	8142.0	5.0	29.2	29.19
48	10522	86.50	260.00	95	8,094.13	2,621.8	-297.0	-2,605.1	-4.0	4.0	8146.6	0.5	24.5	24.53
49	10617	88.90	258.60	95	8,097.94	2,716.5	-314.6	-2,698.3	2.5	2.9	8152.3	-5.2	18.5	18.47
50	10712	92.20	258.70	95	8,097.03	2,811.3	-333.3	-2,791.5	3.5	3.5	8153.3	-6.2	11.3	11.33
51	10807	94.60	259.10	95	8,091.39	2,905.8	-351.6	-2,884.5	2.5	2.6	8149.5	-2.5	4.6	4.62
52	10901	93.30	258.40	94	8,084.92	2,999.4	-369.9	-2,976.5	-1.4	1.6	8144.9	2.1	-2.3	-2.26
53	10996	93.00	257.70	95	8,079.70	3,093.9	-389.5	-3,069.3	-0.3	0.8	8141.6	5.4	-10.4	-10.38
54	11091	93.70	259.30	95	8,074.15	3,188.4	-408.4	-3,162.2	0.7	1.8	8137.9	9.1	-17.8	-17.76
55	11186	92.10	262.10	95	8,069.34	3,283.2	-423.7	-3,255.8	-1.7	3.4	8135.0	12.0	-21.5	-21.50
56	11249	91.50	262.80	63	8,067.36	3,346.1	-432.0	-3,318.2	-1.0	1.5	8134.3	12.7	-22.1	-22.06
57	11281	89.90	262.60	32	8,066.97	3,378.1	-436.1	-3,350.0	-5.0	5.0	8134.5	12.5	-22.2	-22.20
58	11344	89.20	262.40	63	8,067.46	3,441.1	-444.3	-3,412.4	-1.1	1.2	8136.3	10.7	-22.7	-22.71
59	11407	88.50	262.40	63	8,068.73	3,504.1	-452.6	-3,474.8	-1.1	1.1	8138.8	8.2	-23.3	-23.32
60	11471	88.00	262.80	64	8,070.68	3,568.1	-460.9	-3,538.3	-0.8	1.0	8142.1	5.0	-23.7	-23.72
61	11565	88.10	263.50	94	8,073.88	3,662.0	-472.1	-3,631.6	0.1	0.8	8147.1	-0.1	-23.4	-23.41
62	11629	87.80	262.80	64	8,076.17	3,726.0	-479.7	-3,695.1	-0.5	1.2	8150.7	-3.7	-23.2	-23.20



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63	11660	89.10	262.80	31	8,077.01	3,757.0	-483.6	-3,725.8	4.2	4.2	8152.2	-5.1	-23.3	-23.29
64	11692	88.50	262.60	32	8,077.68	3,789.0	-487.6	-3,757.5	-1.9	2.0	8153.5	-6.4	-23.4	-23.43
65	11723	89.00	260.50	31	8,078.36	3,820.0	-492.2	-3,788.2	1.6	7.0	8154.8	-7.7	-24.2	-24.20
66	11755	90.30	261.70	32	8,078.55	3,851.9	-497.1	-3,819.8	4.1	5.5	8155.6	-8.6	-25.2	-25.23
67	11787	92.20	262.40	32	8,077.85	3,883.9	-501.6	-3,851.5	5.9	6.3	8155.5	-8.5	-25.7	-25.74
68	11850	95.80	260.70	63	8,073.46	3,946.7	-510.8	-3,913.6	5.7	6.3	8152.4	-5.4	-27.3	-27.29
69	11945	95.40	263.70	95	8,064.19	4,041.2	-523.6	-4,007.3	-0.4	3.2	8145.0	2.0	-28.5	-28.54
70	12039	94.60	265.90	94	8,056.00	4,134.8	-532.1	-4,100.5	-0.9	2.5	8138.7	8.3	-25.5	-25.53
71	12071	93.60	266.80	32	8,053.71	4,166.7	-534.1	-4,132.4	-3.1	4.2	8137.1	10.0	-23.6	-23.64
72	12103	93.00	268.10	32	8,051.87	4,198.5	-535.6	-4,164.3	-1.9	4.5	8135.9	11.2	-21.1	-21.14
73	12134	92.50	268.60	31	8,050.38	4,229.3	-536.5	-4,195.2	-1.6	2.3	8135.0	12.0	-18.2	-18.23
74	12166	92.10	268.80	32	8,049.10	4,261.2	-537.2	-4,227.2	-1.3	1.4	8134.3	12.7	-15.0	-15.04
75	12197	91.40	270.00	31	8,048.15	4,291.9	-537.5	-4,258.2	-2.3	4.5	8134.0	13.0	-11.6	-11.56
76	12229	89.90	270.00	32	8,047.79	4,323.7	-537.5	-4,290.2	-4.7	4.7	8134.3	12.8	-7.6	-7.64
77	12261	89.30	270.20	32	8,048.01	4,355.5	-537.4	-4,322.2	-1.9	2.0	8135.1	11.9	-3.7	-3.66
78	12292	89.20	270.30	31	8,048.41	4,386.2	-537.3	-4,353.2	-0.3	0.5	8136.2	10.9	0.3	0.27
79	12324	88.50	270.00	32	8,049.06	4,417.9	-537.2	-4,385.2	-2.2	2.4	8137.4	9.6	4.3	4.27
80	12356	87.60	269.60	32	8,050.15	4,449.7	-537.3	-4,417.1	-2.8	3.1	8139.2	7.9	8.1	8.08
81	12419	86.60	269.30	63	8,053.33	4,512.2	-537.9	-4,480.1	-1.6	1.7	8143.6	3.4	15.2	15.19
82	12514	84.90	269.10	95	8,060.37	4,606.4	-539.3	-4,574.8	-1.8	1.8	8152.5	-5.5	25.5	25.49
83	12568	84.60	269.10	54	8,065.31	4,659.8	-540.1	-4,628.5	-0.6	0.6	8158.5	-11.5	31.2	31.24



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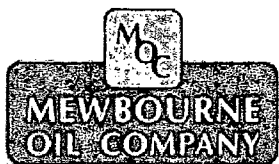
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Bit	12630	85.90	269.10	62	8,070.45	4,721.3	-541.1	-4,690.3	2.1	2.1	8164.9	-17.9	37.9	-335.15

Closure Distance: 4659.9 Feet
 Closure Direction: 263.3 Degrees
 Distance from Line: 31.2 Feet Right of Section Line

Curve				Lateral Targets								
Target	1	2	3	Target	1	2	3	4	5	6	7	8
VS	600.4			MD	9500	10000	10500	11000	11500	12000	12500	12630
TVD	8165			TVD	8115	8105	8095	8085	8075	8065	8055	8053
				INC	85.3							

Closure Distance @ EOH: 4721.4 Feet
 Closure Direction @ EOH: 263.4 Degrees
 Distance from line @ EOH: 37.9 Feet Right of Section Line



Company: Mewbourne
Lease/Well: Zircon 1 HE State /No. 002H
Location: Sec1 T19S R29E
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: 0.00 Degrees



Depth Reference : RKB = 18 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: zircon 1 he state #2h-de_01.ut

Minimum Curvature Method

Report Date/Time: 1/2/2014 / 10:04

Vaughn Energy Services

West, Texas

432-563-5444

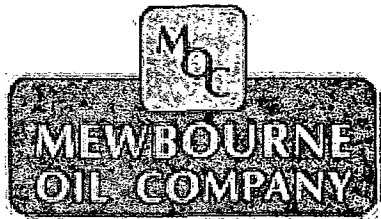
Surveyor: Chris Bankson

Zircon 1 HE State No. 002H / API 30-015-41731

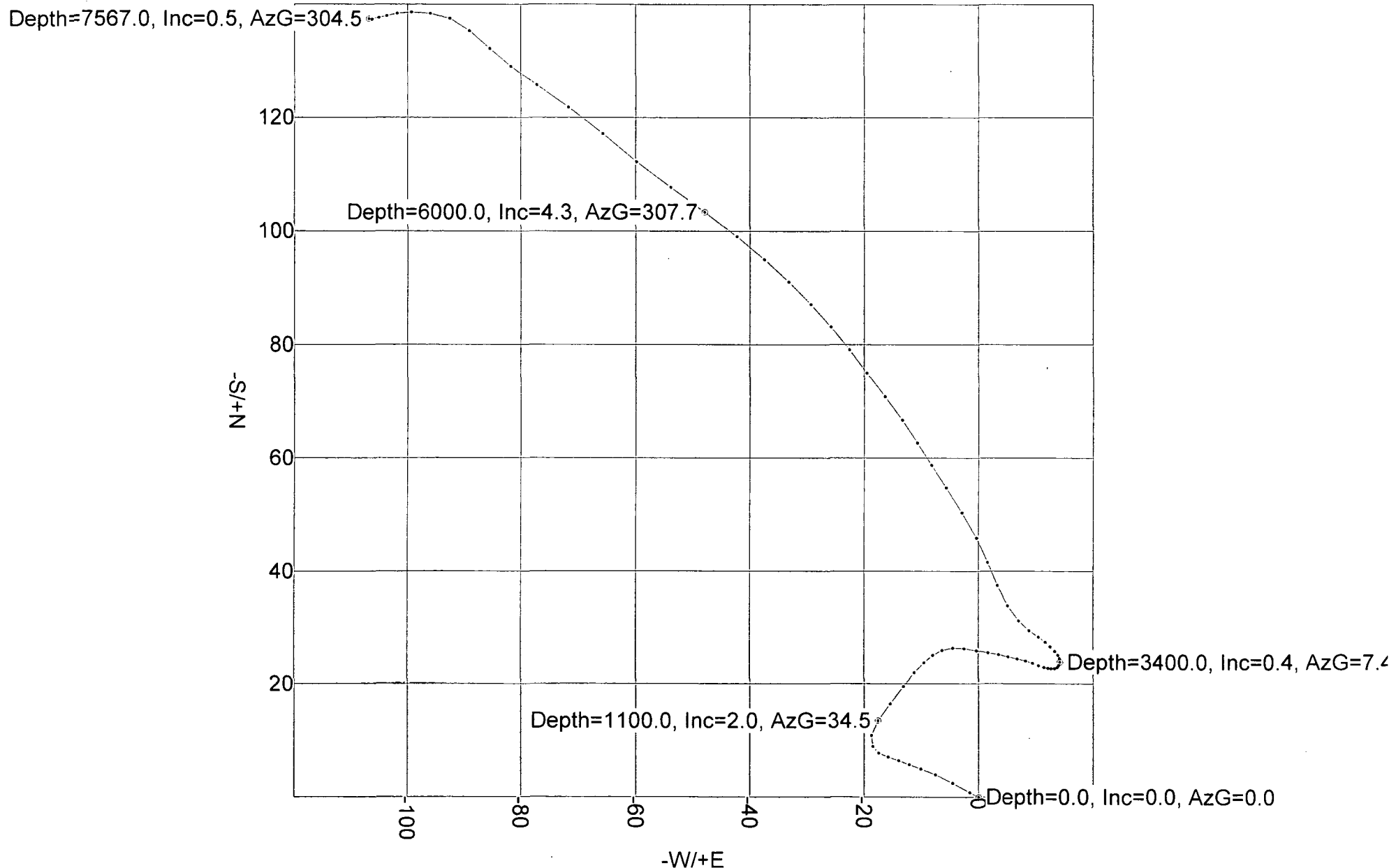
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	1.96	298.25	99.98	0.81	-1.51	0.81	1.71	298.25	1.96
200.00	1.96	300.49	199.92	2.48	-4.48	2.48	5.13	298.99	0.08
300.00	1.89	290.97	299.87	3.94	-7.50	3.94	8.47	297.74	0.33
400.00	1.32	292.54	399.83	4.98	-10.11	4.98	11.27	296.22	0.57
500.00	1.16	288.76	499.80	5.75	-12.13	5.75	13.43	295.34	0.18
600.00	1.11	290.43	599.78	6.41	-14.00	6.41	15.39	294.60	0.06
700.00	1.13	288.31	699.76	7.06	-15.84	7.06	17.34	294.01	0.05
800.00	0.89	298.86	799.75	7.74	-17.46	7.74	19.10	293.91	0.31
900.00	1.00	334.37	899.74	8.90	-18.51	8.90	20.54	295.67	0.58
1000.00	1.37	7.71	999.72	10.86	-18.73	10.86	21.65	300.11	0.77
1100.00	1.97	34.51	1099.67	13.46	-17.60	13.46	22.16	307.41	0.97
1200.00	2.25	35.94	1199.61	16.46	-15.47	16.46	22.59	316.77	0.29
1300.00	2.14	37.42	1299.53	19.53	-13.19	19.53	23.57	325.98	0.13
1400.00	1.49	40.30	1399.48	22.00	-11.22	22.00	24.70	332.99	0.66
1500.00	1.32	47.77	1499.45	23.76	-9.53	23.76	25.60	338.15	0.25
1600.00	1.03	52.26	1599.43	25.09	-7.97	25.09	26.32	342.38	0.30
1700.00	1.10	70.19	1699.41	25.96	-6.35	25.96	26.73	346.26	0.34
1800.00	1.11	85.93	1799.40	26.36	-4.47	26.36	26.74	350.37	0.30

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
1900.00	1.18	99.92	1899.38	26.25	-2.49	26.25	26.37	354.59	0.29
2000.00	1.27	99.87	1999.35	25.88	-0.38	25.88	25.88	359.17	0.09
2100.00	1.10	100.28	2099.33	25.52	1.67	25.52	25.57	3.73	0.17
2200.00	1.05	100.34	2199.31	25.18	3.51	25.18	25.43	7.94	0.05
2300.00	0.95	103.83	2299.30	24.82	5.22	24.82	25.36	11.87	0.12
2400.00	0.94	103.62	2399.29	24.43	6.82	24.43	25.36	15.59	0.01
2500.00	0.80	103.72	2499.27	24.07	8.29	24.07	25.46	19.01	0.13
2600.00	0.68	113.57	2599.27	23.67	9.52	23.67	25.51	21.91	0.18
2700.00	0.63	111.36	2699.26	23.23	10.57	23.23	25.52	24.46	0.05
2800.00	0.53	103.66	2799.25	22.93	11.52	22.93	25.66	26.68	0.13
2900.00	0.31	95.71	2899.25	22.79	12.23	22.79	25.87	28.23	0.22
3000.00	0.33	97.43	2999.25	22.73	12.79	22.73	26.08	29.37	0.03
3100.00	0.37	82.39	3099.25	22.73	13.40	22.73	26.39	30.52	0.10
3200.00	0.23	42.52	3199.25	22.92	13.86	22.92	26.78	31.16	0.25
3300.00	0.31	28.48	3299.25	23.31	14.12	23.31	27.25	31.21	0.11
3400.00	0.37	7.42	3399.24	23.87	14.30	23.87	27.83	30.92	0.14
3500.00	0.37	340.91	3499.24	24.50	14.23	24.50	28.34	30.15	0.17
3600.00	0.39	328.51	3599.24	25.10	13.95	25.10	28.72	29.05	0.08
3700.00	0.63	318.12	3699.24	25.80	13.40	25.80	29.08	27.45	0.25
3800.00	0.66	312.65	3799.23	26.60	12.61	26.60	29.44	25.37	0.07
3900.00	0.70	313.78	3899.22	27.42	11.75	27.42	29.83	23.19	0.04
4000.00	1.02	302.68	3999.21	28.32	10.55	28.32	30.22	20.43	0.36
4100.00	1.26	306.74	4099.19	29.46	8.92	29.46	30.78	16.85	0.25
4200.00	1.68	317.04	4199.16	31.19	7.05	31.19	31.97	12.73	0.50
4300.00	2.16	330.70	4299.10	33.91	5.12	33.91	34.29	8.59	0.66
4400.00	2.44	334.92	4399.02	37.48	3.30	37.48	37.63	5.03	0.33
4500.00	2.64	339.18	4498.92	41.57	1.57	41.57	41.60	2.17	0.27
4600.00	2.78	332.45	4598.81	45.87	-0.37	45.87	45.87	359.54	0.35
4700.00	3.13	328.80	4698.68	50.36	-2.90	50.36	50.44	356.70	0.40
4800.00	2.81	326.72	4798.54	54.75	-5.67	54.75	55.04	354.09	0.34
4900.00	2.63	327.36	4898.43	58.73	-8.25	58.73	59.30	352.01	0.19
5000.00	2.69	327.63	4998.32	62.64	-10.74	62.64	63.55	350.27	0.07
5100.00	2.88	325.64	5098.20	66.69	-13.41	66.69	68.03	348.63	0.21
5200.00	2.97	322.58	5198.07	70.82	-16.41	70.82	72.70	346.96	0.18
5300.00	2.97	323.17	5297.94	74.96	-19.54	74.96	77.46	345.39	0.03
5400.00	2.91	324.00	5397.81	79.09	-22.59	79.09	82.25	344.06	0.07
5500.00	3.00	318.65	5497.67	83.11	-25.81	83.11	87.03	342.75	0.29
5600.00	3.09	317.89	5597.53	87.08	-29.34	87.08	91.89	341.38	0.10
5700.00	3.27	313.56	5697.38	91.04	-33.21	91.04	96.91	339.96	0.30

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
5800.00	3.40	312.60	5797.21	95.01	-37.47	95.01	102.13	338.48	0.15
5900.00	3.79	307.37	5897.01	99.03	-42.28	99.03	107.67	336.88	0.51
6000.00	4.30	307.69	5996.76	103.32	-47.87	103.32	113.87	335.14	0.51
6100.00	4.24	304.35	6096.49	107.70	-53.89	107.70	120.43	333.42	0.26
6200.00	4.30	309.83	6196.21	112.19	-59.82	112.19	127.14	331.93	0.41
6300.00	4.52	310.29	6295.91	117.14	-65.71	117.14	134.31	330.71	0.23
6400.00	4.23	305.10	6395.62	121.82	-71.73	121.82	141.37	329.51	0.49
6500.00	3.50	305.56	6495.39	125.71	-77.24	125.71	147.54	328.43	0.73
6600.00	2.86	306.82	6595.24	128.99	-81.72	128.99	152.69	327.64	0.64
6700.00	2.78	313.67	6695.12	132.16	-85.48	132.16	157.39	327.11	0.35
6800.00	2.70	308.62	6795.00	135.31	-89.08	135.31	162.00	326.64	0.25
6900.00	2.01	293.69	6894.92	137.49	-92.53	137.49	165.72	326.06	0.92
7000.00	2.16	274.74	6994.85	138.35	-96.01	138.35	168.40	325.24	0.70
7100.00	1.66	272.63	7094.80	138.57	-99.34	138.57	170.50	324.36	0.50
7200.00	1.25	255.55	7194.77	138.37	-101.85	138.37	171.81	323.64	0.60
7300.00	0.96	257.12	7294.75	137.91	-103.72	137.91	172.56	323.05	0.30
7400.00	0.71	256.52	7394.74	137.58	-105.14	137.58	173.15	322.61	0.25
7500.00	0.67	258.79	7494.73	137.32	-106.31	137.32	173.66	322.25	0.04
7567.00	0.46	304.51	7561.73	137.39	-106.92	137.39	174.09	322.11	0.72



Vaughn Energy Services
West, Texas
432-563-5444
Surveyor: Chris Bankson
Zircon 1 HE State No. 002H / API 30-015-41731



VES Survey Date: 12/10/2013

Operating Company Mewbourne Oil Co.
Well Name & Number Zircon 1 HE State #2H
Sales Ticket Number 6026137
Date 12/18/2013

Company Rep Travis Ingerson
Field
BOT Service Rep Joseph Haynes
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	8,424.00	9,960	6,230	
Top Liner	4.500	13.50	110000	3.920	3.795	LTC / 8RD	0.01492	4,312.70	12,410	10,680	
TVD	8070.00		KOP		7703.00		Open Hole		6.125	Casing Vol. (bbl)	314.5
Carry Fluid Weight (ppg)			8.4		Propan 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	JR Sleeve_S3 Hyd Set Packer	8220.30	8.66						

Zone Length		4-1/2-13.5 LTC Nipple	8228.96	8.15	4.500	3.920				
		7 Joints of 4-1/2-13.5 LTC Casing	8237.11	275.96	4.500	3.920				
	20	3.625 EX Frac Sleeve	8513.07	2.40	5.750		3.525	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	8515.47	119.79	4.500	3.920				
		Baker Open Hole Packer	8635.26	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	8639.15	79.06	4.500	3.920				
	19	3.500 EX Frac Sleeve	8718.21	2.40	5.750		3.400	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	8720.61	119.82	4.500	3.920				
		Baker Open Hole Packer	8840.43	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	8844.32	80.00	4.500	3.920				
	18	3.375 EX Frac Sleeve	8924.32	2.40	5.750		3.275	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	8926.72	116.66	4.500	3.920				
		Baker Open Hole Packer	9043.38	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	9047.27	121.06	4.500	3.920				
	17	3.250 EX Frac Sleeve	9168.33	2.40	5.750		3.150	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	9170.73	118.01	4.500	3.920				
		Baker Open Hole Packer	9288.74	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	9292.63	79.12	4.500	3.920				
	16	3.125 EX Frac Sleeve	9371.75	2.40	5.750		3.025	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	9374.15	117.98	4.500	3.920				
		Baker Open Hole Packer	9492.13	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	9496.02	79.14	4.500	3.920				
	15	3.000 EX Frac sleeve	9575.16	2.40	5.750		2.900	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	9577.56	119.34	4.500	3.920				

Operating Company Mewbourne Oil Co.
 Well Name & Number Zircon 1 HE State #2H
 Sales Ticket Number 6026137
 Date 12/18/2013

Company Rep Travis Ingerson
 Field
 BOT Service Rep Joseph Haynes
 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	8,424.00	9,960	6,230	
Top Liner	4.500	13.50	110000	3.920	3.795	LTC / 8RD	0.01492	4,312.70	12,410	10,680	
TVD	8070.00		KOP		7703.00		Open Hole		6.125	Casing Vol. (bbl)	314.5
Carry Fluid Weight (ppg)			8.4		Propan Content (ppa)				Max Drill Out Size		0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press.	Max Rate (BPM)	Displ. (BBL)
		Baker Open Hole Packer	9696.90	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	9700.79	115.19	4.500	3.920				
	14	2.875 EX Frac Sleeve	9815.98	2.40	5.750		2.775	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	9818.38	118.80	4.500	3.920				
		Baker Open Hole Packer	9937.18	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	9941.07	80.36	4.500	3.920				
	13	2.750 EX Frac Sleeve	10021.43	2.40	5.750		2.650	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	10023.83	119.45	4.500	3.920				
		Baker Open Hole Packer	10143.28	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	10147.17	79.09	4.500	3.920				
	12	2.625 EX Frac Sleeve	10226.26	2.40	5.750		2.525	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	10228.66	117.63	4.500	3.920				
		Baker Open Hole Packer	10346.29	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	10350.18	119.26	4.500	3.920				
	11	2.500 EX Frac Sleeve	10469.44	2.40	5.750		2.400	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	10471.84	119.19	4.500	3.920				
		Baker Open Hole Packer	10591.03	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	10594.92	79.24	4.500	3.920				
	10	2.375 EX Frac Sleeve	10674.16	2.40	5.750		2.275	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	10676.56	119.98	4.500	3.920				
		Baker Open Hole Packer	10796.54	3.89	5.820	3.875		2154		
		2 Joint of 4-1/2-13.5 LTC Casing	10800.43	81.38	4.500	3.920				
	9	2.250 EX Frac Sleeve	10881.81	2.40	5.750		2.150	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	10884.21	118.50	4.500	3.920				
		Baker Open Hole Packer	11002.71	3.89	5.820	3.875		2154		
		2 Joint of 4-1/2-13.5 LTC Casing	11006.60	80.17	4.500	3.920				
	8	2.125 EX Frac Sleeve	11086.77	2.40	5.750		2.025	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	11089.17	120.25	4.500	3.920				

Operating Company Mewbourne Oil Co.
Well Name & Number Zircon 1 HE State #2H
Sales Ticket Number 6026137
Date 12/18/2013

Company Rep Travis Ingerson
Field
BOT Service Rep Joseph Haynes
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	8,424.00	9,960	6,230
Top Liner	4.500	13.50	110000	3.920	3.795	LTC / 8RD	0.01492	4,312.70	12,410	10,680
TVD	8070.00		KOP		7703.00		Open Hole	6.125	Casing Vol. (bbl)	314.5
Carry Fluid Weight (ppg)			8.4		Propan Content (ppa)				Max Drill Out Size	0

	Comm. Number	Description	Depth	Length	OD	ID	Ball Seat ID	Shear Press.	Max Rate (BPM)	Displ. (BBL)
		Baker Open Hole Packer	11209.42	3.89	5.820	3.875		2154		
		3 Joint of 4-1/2-13.5 LTC Casing	11213.31	118.85	4.500	3.920				
7		2.000 EX Frac Sleeve	11332.16	2.40	5.750		1.900	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	11334.56	119.56	4.500	3.920				
		Baker Open Hole Packer	11454.12	3.89	5.820	3.875		2154		
		2 Joint of 4-1/2-13.5 LTC Casing	11458.01	78.07	4.500	3.920				
6		1.875 EX Frac Sleeve	11536.08	2.40	5.750		1.775	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	11538.48	118.48	4.500	3.920				
		Baker Open Hole Packer	11656.96	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	11660.85	78.62	4.500	3.920				
5		1.750 EX Frac Sleeve	11739.47	2.40	5.750		1.650	2286		
		3 Joint of 4-1/2-13.5 LTC Casing	11741.87	117.49	4.500	3.920				
		Baker Open Hole Packer	11859.36	3.89	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	11863.25	121.62	4.500	3.920				
4		1.625 EX Frac Sleeve	11984.87	2.40	5.750		1.525	2286		
		3 Joints of 4-1/2-13.5 LTC Casing	11987.27	121.06	4.500	3.920				
		Baker Open Hole Packer	12108.33	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	12112.22	82.01	4.500	3.920				
3		1.500 DBL Ball Frac Sleeve	12194.23	2.40	5.750		1.400	2286		
		2 Joint of 4-1/2-13.5 LTC Casing	12196.63	78.16	4.500	3.920				
		Baker Open Hole Packer	12274.79	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	12278.68	79.76	4.500	3.920				
2		1.375 DBL Ball Frac Sleeve	12358.44	2.40	5.750		1.275	2286		
		2 Joints of 4-1/2-13.5 LTC Casing	12360.84	77.08	4.500	3.920				
		Baker Open Hole Packer	12437.92	3.89	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	12441.81	78.42	4.500	3.920				
1		1.250' Frac Sleeve	12520.23	2.40	4.500	1.000				
		4-1/2 13.5 LTC Pup Joint	12522.63	8.11	4.500	3.920				

Company Rep	Travis Ingerson
Field	
BOT Service Rep	Joseph Haynes
District Location	Odessa, TX

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