Results of Directional Survey

API number:	30-025-40868				
OGRID:		Operator:	MEWBOURNE OIL CO		
		Property:	IRONHOUSE 33 NC STATE COM		# 1H

surface	ULSTR:	N	33	T	18S	R	35E
				225	FSL	1360	FWL
BH Loc	ULSTR:	C	33	T	18S	R	35E
13725	MD	9110.8	TVD	349	FNL	2261	FWL
				4931	FSL		
Top Perf/OH	ULSTR:	N	33	T	18S	R	35E
9645	MD	9263.4	TVD	894	FSL	1727	FWL
Bot Perf/OH	ULSTR:	C	33	T	18S	R	35E
13675	MD	9112.3	TVD	399	FNL	2256	FWL
				4881	FSL		

	MD	N/S	E/W	VD
	9638	662.40	365.20	9263.8
TOP PERFS/OH	**9645**	669.14	367.08	9263.41
	9670	693.20	373.80	9262.00
	13620	4601.20	890.70	9113.90
BOT PERFS/OH	**13675**	4655.81	896.20	9112.33
	13676	4656.80	896.30	9112.30

NEXT TO LAST	13676	4656.80	896.30	9112.30
LAST READING	13725	4705.60	900.90	9110.80
TD	**13725**	4705.60	900.90	9110.80

Surface Location	225	FS	1360	FW
Projected BHL	4931	FS	2261	FW
Location of				
Top Perfs/OH	894	FS	1727	FW
Bottom Perfs/OH	4881	FS	2256	FW

SUMMARY of Subsurface Locations

Surface Location	N-33-18S-35E	225	FS	1360	FW	Vert. Depth
Top Perfs/OH	N-33-18S-35E	894	FS	1727	FW	9263.41
Bottom Perfs/OH	C-33-18S-35E	4881	FS	2256	FW	9112.33
Projected TD	C-33-18S-35E	4931	FS	2261	FW	9110.80

OPERATOR MEWBOURNE OIL COMPANY 047-0100
WELL/LEASE IRONHOUSE 33 NC STATE COM 1H
COUNTY LEA

STATE OF NEW MEXICO
DEVIATION REPORT

352	0.50	7,566	0.88
695	0.75	7,883	0.34
1,063	0.28	8,326	0.29
1,440	1.00		
1,823	0.23		
2,125	0.38		
2,282	0.79		
2,535	1.25		
2,662	1.26		
2,941	2.87		
3,037	3.89		
3,106	2.96		
3,233	3.72		
3,532	2.95		
3,626	2.58		
3,753	2.11		
3,916	2.55		
4,043	3.30		
4,139	3.47		
4,234	3.31		
4,329	3.39		
4,425	2.53		
4,551	2.67		
4,646	2.92		
4,741	2.59		
4,868	3.15		
4,964	3.00		
5,059	2.01		
5,155	2.34		
5,377	2.51		
5,663	2.39		
5,949	1.68		
6,266	1.51		
6,774	1.19		
7,280	0.58		

SUR: N-33-18S-35E, 225/s & 1360/w
BHL: C-33-18S-35E, 4931/s & 2261/w
API # 30-025-40868

BY: Steve Moore

STATE OF TEXAS

COUNTY OF MIDLAND

KB

The foregoing instrument was acknowledged before me on 1/17/13, by Steve Moore on behalf of Patterson-UTI Drilling Company LLC.

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

AMBER ELIZABETH CARR
Notary Public, State of Texas
My Commission Expires
September 28, 2013

RECEIVED
JAN 22 2013
Mewbourne Oil Company
Hobbs

Company: Mewbourne Oil Company
Lease/Well: Ironhouse 33 NC State Com / No. 001H

Rig Name: Patterson 47
State/County: New Mexico / Lea
Latitude: 32.70, Longitude: -103.47
GRID North is 0.47 Degrees East of True North
VS-Azi: 0.00 Degrees

Service Company : RKB = 19'

HOBBS OCD

MAR 2 8 2013

RECEIVED

DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 1/8/2013 / 13:45

Vaughn Energy Services
Gardendale, Texas
432-563-5444
Surveyor: Kyle Willis
Ironhouse 33 NC State Com No. 001H / API 30-025-40868

SUR: N-33-18S-35E, 225/s & 1360/w
BHL: C-33-18S-35E, 4931/s & 2261/w
API # 30-025-40868

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	0.30	265.97	100.00	-0.02	-0.26	-0.02	0.26	265.97	0.30
200.00	0.19	310.61	200.00	0.07	-0.64	0.07	0.64	276.44	0.21
300.00	0.21	325.80	300.00	0.33	-0.87	0.33	0.93	290.83	0.06
400.00	0.22	340.99	400.00	0.67	-1.03	0.67	1.23	302.75	0.06
500.00	0.15	17.35	500.00	0.97	-1.06	0.97	1.44	312.53	0.14
600.00	0.07	53.71	600.00	1.13	-0.97	1.13	1.49	319.27	0.10
700.00	0.08	67.25	700.00	1.19	-0.86	1.19	1.47	324.21	0.02
800.00	0.09	80.80	800.00	1.23	-0.72	1.23	1.43	329.79	0.02
900.00	0.11	161.12	900.00	1.16	-0.61	1.16	1.31	332.22	0.13
1000.00	0.12	241.44	1000.00	1.02	-0.67	1.02	1.22	326.48	0.15
1100.00	0.12	286.77	1100.00	1.00	-0.87	1.00	1.32	318.91	0.09
1200.00	0.12	332.10	1200.00	1.12	-1.02	1.12	1.51	317.68	0.09
1300.00	0.13	42.50	1300.00	1.29	-0.99	1.29	1.62	322.50	0.14
1400.00	0.14	112.91	1400.00	1.32	-0.80	1.32	1.55	328.81	0.15
1500.00	0.13	124.61	1500.00	1.21	-0.60	1.21	1.35	333.73	0.03
1600.00	0.11	136.30	1600.00	1.08	-0.44	1.08	1.17	337.79	0.03
1700.00	0.13	114.60	1699.99	0.96	-0.27	0.96	1.00	344.19	0.05
1800.00	0.14	92.89	1799.99	0.91	-0.05	0.91	0.91	356.87	0.05

VES Survey Date: 12/31/2012

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	0.30	72.45	1899.99	0.98	0.32	0.98	1.04	18.11	0.17
2000.00	0.46	52.02	1999.99	1.31	0.89	1.31	1.58	34.09	0.21
2100.00	0.52	62.65	2099.99	1.76	1.60	1.76	2.38	42.26	0.11
2200.00	0.57	73.28	2199.98	2.11	2.48	2.11	3.26	49.57	0.12
2300.00	0.75	69.25	2299.98	2.49	3.57	2.49	4.35	55.13	0.18
2400.00	0.92	65.21	2399.97	3.06	4.91	3.06	5.78	58.10	0.18
2500.00	1.13	61.59	2499.95	3.86	6.51	3.86	7.56	59.31	0.21
2600.00	1.33	57.97	2599.93	4.94	8.35	4.94	9.71	59.38	0.22
2700.00	1.94	61.74	2699.89	6.36	10.83	6.36	12.56	59.57	0.62
2800.00	2.55	65.50	2799.81	8.08	14.34	8.08	16.46	60.59	0.63
2900.00	3.03	66.46	2899.69	10.06	18.79	10.06	21.31	61.83	0.48
3000.00	3.51	67.41	2999.53	12.29	24.03	12.29	27.00	62.91	0.48
3100.00	3.56	65.63	3099.34	14.75	29.68	14.75	33.15	63.58	0.12
3200.00	3.60	63.86	3199.14	17.41	35.33	17.41	39.39	63.76	0.12
3300.00	3.33	64.43	3298.96	20.05	40.78	20.05	45.44	63.81	0.27
3400.00	3.06	65.00	3398.80	22.43	45.82	22.43	51.01	63.91	0.27
3500.00	2.98	64.69	3498.66	24.67	50.58	24.67	56.28	64.00	0.09
3600.00	2.89	64.37	3598.53	26.87	55.20	26.87	61.39	64.04	0.09
3700.00	2.92	65.02	3698.40	29.04	59.78	29.04	66.46	64.09	0.04
3800.00	2.95	65.66	3798.27	31.18	64.44	31.18	71.58	64.18	0.04
3900.00	3.08	66.04	3898.14	33.33	69.24	33.33	76.84	64.30	0.13
4000.00	3.21	66.42	3997.99	35.54	74.25	35.54	82.32	64.42	0.13
4100.00	3.18	64.95	4097.83	37.83	79.33	37.83	87.89	64.51	0.08
4200.00	3.16	63.48	4197.68	40.24	84.31	40.24	93.42	64.49	0.08
4300.00	3.23	63.44	4297.52	42.73	89.30	42.73	99.00	64.43	0.07
4400.00	3.30	63.40	4397.36	45.28	94.40	45.28	104.70	64.38	0.07
4500.00	3.18	64.11	4497.20	47.78	99.47	47.78	110.35	64.34	0.13
4600.00	3.05	64.82	4597.05	50.12	104.37	50.12	115.79	64.35	0.13
4700.00	2.97	65.41	4696.91	52.33	109.14	52.33	121.03	64.38	0.09
4800.00	2.88	66.01	4796.78	54.43	113.78	54.43	126.13	64.44	0.09
4900.00	2.84	64.96	4896.66	56.50	118.32	56.50	131.12	64.48	0.07
5000.00	2.79	63.90	4996.54	58.62	122.75	58.62	136.03	64.47	0.07
5100.00	2.68	66.43	5096.42	60.63	127.08	60.63	140.81	64.50	0.16
5200.00	2.58	68.97	5196.32	62.37	131.33	62.37	145.39	64.60	0.16
5300.00	2.48	66.18	5296.22	64.05	135.40	64.05	149.79	64.68	0.16
5400.00	2.38	63.40	5396.13	65.85	139.23	65.85	154.02	64.69	0.16
5500.00	2.22	65.39	5496.05	67.58	142.85	67.58	158.03	64.68	0.17
5600.00	2.07	67.38	5595.98	69.09	146.28	69.09	161.77	64.72	0.17
5700.00	2.01	66.03	5695.92	70.49	149.55	70.49	165.33	64.76	0.07

VES Survey Date: 12/31/2012

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	1.96	64.69	5795.86	71.94	152.70	71.94	168.79	64.77	0.07
5900.00	1.96	67.94	5895.80	73.31	155.83	73.31	172.21	64.80	0.11
6000.00	1.97	71.20	5995.74	74.51	159.04	74.51	175.63	64.90	0.11
6100.00	1.80	69.05	6095.69	75.62	162.14	75.62	178.90	64.99	0.18
6200.00	1.64	66.90	6195.64	76.75	164.92	76.75	181.90	65.04	0.18
6300.00	1.54	68.96	6295.60	77.79	167.49	77.79	184.68	65.09	0.11
6400.00	1.44	76.76	6395.57	78.56	169.97	78.56	187.25	65.19	0.23
6500.00	1.37	81.62	6495.54	79.03	172.38	79.03	189.63	65.37	0.14
6600.00	1.30	92.23	6595.51	79.16	174.70	79.16	191.80	65.63	0.26
6700.00	1.28	88.28	6695.49	79.15	176.95	79.15	193.85	65.90	0.09
6800.00	1.25	84.33	6795.46	79.29	179.15	79.29	195.91	66.13	0.09
6900.00	1.02	93.91	6895.44	79.33	181.13	79.33	197.74	66.35	0.30
7000.00	0.79	103.49	6995.43	79.11	182.70	79.11	199.09	66.59	0.27
7100.00	0.70	100.06	7095.42	78.84	183.97	78.84	200.15	66.80	0.11
7200.00	0.60	96.62	7195.41	78.68	185.09	78.68	201.12	66.97	0.10
7300.00	0.52	104.68	7295.41	78.50	186.05	78.50	201.94	67.12	0.11
7400.00	0.44	112.74	7395.41	78.24	186.85	78.24	202.57	67.28	0.11
7500.00	0.44	95.14	7495.40	78.05	187.59	78.05	203.18	67.41	0.13
7600.00	0.44	77.53	7595.40	78.10	188.34	78.10	203.90	67.48	0.13
7700.00	0.33	58.62	7695.40	78.33	188.96	78.33	204.55	67.48	0.17
7800.00	0.21	39.71	7795.40	78.62	189.32	78.62	205.00	67.45	0.14
7900.00	0.33	7.84	7895.40	79.05	189.48	79.05	205.31	67.35	0.19
8000.00	0.46	335.96	7995.39	79.71	189.36	79.71	205.45	67.17	0.25
8100.00	0.49	349.76	8095.39	80.49	189.12	80.49	205.53	66.95	0.12
8200.00	0.52	3.57	8195.39	81.35	189.07	81.35	205.83	66.72	0.12
8300.00	0.61	18.37	8295.38	82.31	189.27	82.31	206.39	66.50	0.18
8400.00	0.71	33.16	8395.37	83.34	189.78	83.34	207.27	66.29	0.20
8500.00	0.83	43.68	8495.37	84.39	190.62	84.39	208.47	66.12	0.18
8600.00	0.95	54.20	8595.35	85.40	191.80	85.40	209.95	66.00	0.20
8650.00	0.95	49.07	8645.35	85.91	192.45	85.91	210.75	65.94	0.17

VES Survey Date: 12/31/2012

Mewbourne Oil Company

LEA COUNTY, NM
SECTION 33
IRONHOUSE 33 NC STATE COM #1H

Wellbore #1

SUR: N-33-18S-35E, 225/s & 1360/w
BHL: C-33-18S-35E, 4931/s & 2261/w
API # 30-025-40868

Survey: As-Drilled Survey

Standard Survey Report

22 January, 2013

Stryker Directional

Survey Report

Company:	Mewbourne Oil Company	**Local Co-ordinate Reference:**	Well IRONHOUSE 33 NC STATE COM #1H
Project:	LEA COUNTY, NM	**TVD Reference:**	WELL @ 3933.0usft (Original Well Elev)
Site:	SECTION 33	**MD Reference:**	WELL @ 3933.0usft (Original Well Elev)
Well:	IRONHOUSE 33 NC STATE COM #1H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	As-Drilled Survey	**Database:**	EDM 5000.1 Single User Db

Project	LEA COUNTY, NM, 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 33				
Site Position:		**Northing:**	618,571.62 usft	**Latitude:**	32° 41' 47.602 N
From:	Map	**Easting:**	807,977.04 usft	**Longitude:**	103° 19' 55.997 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.54 °

Well	IRONHOUSE 33 NC STATE COM #1H					
Well Position	**+N/-S**	0.0 usft	**Northing:**	618,571.62 usft	**Latitude:**	32° 41' 47.602 N
	+E/-W	0.0 usft	**Easting:**	807,977.04 usft	**Longitude:**	103° 19' 55.997 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,913.0 usft

Wellbore	Wellbore #1				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2010	12/13/2012	7.32	60.63	48,773

Design	As-Drilled Survey					
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	65.94		

Survey Program **Date** 1/22/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	8,650.0	Gyro Survey (Wellbore #1)		
8,754.0	13,725.0	As-Drilled Survey (Wellbore #1)		

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)
8,650.0	0.95	49.07	8,645.3	85.9	192.4	210.7	0.00	0.00	0.00
TI @ 8650 MD, 0.95°									
8,754.0	2.00	28.60	8,749.3	88.1	194.0	213.0	1.11	1.01	-19.68
8,786.0	5.60	11.50	8,781.2	90.1	194.5	214.4	11.67	11.25	-53.44
8,818.0	10.50	9.60	8,812.9	94.5	195.3	216.9	15.33	15.31	-5.94
8,849.0	14.90	9.90	8,843.1	101.2	196.5	220.7	14.20	14.19	0.97
8,881.0	18.70	10.50	8,873.8	110.3	198.1	225.9	11.89	11.88	1.88
8,913.0	22.00	11.40	8,903.8	121.2	200.3	232.3	10.36	10.31	2.81
8,945.0	24.40	12.60	8,933.2	133.6	202.9	239.7	7.64	7.50	3.75
8,976.0	26.80	14.00	8,961.1	146.6	206.0	247.8	7.98	7.74	4.52

Company:	Mewbourne Oil Company	**Local Co-ordinate Reference:**	Well IRONHOUSE 33 NC STATE COM #1H
Project:	LEA COUNTY, NM	**TVD Reference:**	WELL @ 3933.0usft (Original Well Elev)
Site:	SECTION 33	**MD Reference:**	WELL @ 3933.0usft (Original Well Elev)
Well:	IRONHOUSE 33 NC STATE COM #1H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	As-Drilled Survey	**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)
9,008.0	29.20	16.10	8,989.4	161.1	209.9	257.3	8.11	7.50	6.56
9,040.0	31.70	18.70	9,017.0	176.6	214.7	268.1	8.83	7.81	8.13
9,072.0	34.50	20.00	9,043.8	193.1	220.5	280.1	9.03	8.75	4.06
9,104.0	37.50	19.80	9,069.7	210.7	226.9	293.1	9.38	9.38	-0.63
9,135.0	40.80	18.40	9,093.7	229.2	233.3	306.5	11.02	10.65	-4.52
9,167.0	44.10	17.30	9,117.3	249.8	239.9	320.9	10.57	10.31	-3.44
9,199.0	48.10	16.40	9,139.5	271.9	246.6	336.0	12.66	12.50	-2.81
9,231.0	52.20	15.90	9,160.0	295.5	253.4	351.9	12.87	12.81	-1.56
9,263.0	55.80	15.70	9,178.8	320.4	260.5	368.5	11.26	11.25	-0.63
9,295.0	59.50	15.90	9,195.9	346.4	267.9	385.8	11.57	11.56	0.63
9,326.0	63.80	16.60	9,210.6	372.6	275.5	403.4	14.01	13.87	2.26
9,358.0	67.00	17.30	9,224.0	400.4	284.0	422.5	10.20	10.00	2.19
9,390.0	69.90	17.90	9,235.7	428.7	293.0	442.3	9.23	9.06	1.88
9,422.0	73.70	18.00	9,245.7	457.7	302.3	462.7	11.88	11.88	0.31
9,453.0	77.50	17.70	9,253.4	486.2	311.5	482.7	12.29	12.26	-0.97
9,485.0	81.80	17.70	9,259.2	516.2	321.1	503.7	13.44	13.44	0.00
9,517.0	85.20	17.50	9,262.8	546.5	330.7	524.8	10.64	10.63	-0.63
9,607.0	91.70	16.10	9,265.2	632.6	356.7	583.6	7.39	7.22	-1.56
9,638.0	93.40	15.60	9,263.8	662.4	365.2	603.5	5.72	5.48	-1.61
9,670.0	93.30	15.60	9,262.0	693.2	373.8	623.9	0.31	-0.31	0.00
9,702.0	93.10	15.20	9,260.2	724.0	382.2	644.2	1.40	-0.63	-1.25
9,733.0	92.90	15.20	9,258.6	753.8	390.4	663.8	0.65	-0.65	0.00
9,765.0	92.70	15.00	9,257.0	784.7	398.7	684.0	0.88	-0.63	-0.63
9,797.0	92.60	15.00	9,255.5	815.6	407.0	704.1	0.31	-0.31	0.00
9,829.0	92.70	15.20	9,254.0	846.4	415.3	724.3	0.70	0.31	0.63
9,860.0	92.50	14.90	9,252.6	876.3	423.3	743.8	1.16	-0.65	-0.97
9,892.0	91.70	14.70	9,251.5	907.3	431.5	763.9	2.58	-2.50	-0.63
9,924.0	91.50	14.20	9,250.6	938.2	439.5	783.8	1.68	-0.63	-1.56
9,955.0	91.90	13.10	9,249.6	968.3	446.8	802.8	3.77	1.29	-3.55
10,019.0	92.00	12.90	9,247.5	1,030.7	461.2	841.3	0.35	0.16	-0.31
10,081.0	91.40	12.20	9,245.6	1,091.2	474.6	878.3	1.49	-0.97	-1.13
10,145.0	91.50	12.10	9,244.0	1,153.7	488.1	916.1	0.22	0.16	-0.16
10,208.0	91.60	11.40	9,242.3	1,215.4	500.9	952.9	1.12	0.16	-1.11
10,271.0	91.80	10.30	9,240.4	1,277.2	512.8	989.0	1.77	0.32	-1.75
10,334.0	93.10	9.40	9,237.7	1,339.2	523.6	1,024.1	2.51	2.06	-1.43
10,398.0	94.30	9.80	9,233.6	1,402.2	534.2	1,059.5	1.98	1.88	0.63
10,461.0	93.00	9.10	9,229.6	1,464.2	544.5	1,094.2	2.34	-2.06	-1.11
10,524.0	91.50	7.70	9,227.1	1,526.5	553.7	1,128.0	3.26	-2.38	-2.22
10,588.0	91.40	7.10	9,225.5	1,589.9	562.0	1,161.4	0.95	-0.16	-0.94
10,651.0	93.00	6.80	9,223.1	1,652.4	569.6	1,193.8	2.58	2.54	-0.48
10,714.0	94.80	6.40	9,218.8	1,714.8	576.8	1,225.8	2.93	2.86	-0.63
10,778.0	94.40	7.00	9,213.7	1,778.2	584.3	1,258.5	1.12	-0.63	0.94
10,841.0	92.20	6.40	9,210.0	1,840.7	591.6	1,290.6	3.62	-3.49	-0.95

Company:	Mewbourne Oil Company	**Local Co-ordinate Reference:**	Well IRONHOUSE 33 NC STATE COM #1H
Project:	LEA COUNTY, NM	**TVD Reference:**	WELL @ 3933.0usft (Original Well Elev)
Site:	SECTION 33	**MD Reference:**	WELL @ 3933.0usft (Original Well Elev)
Well:	IRONHOUSE 33 NC STATE COM #1H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	As-Drilled Survey	**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)
10,904.0	91.70	5.90	9,207.9	1,903.3	598.3	1,322.3	1.12	-0.79	-0.79
10,967.0	93.60	7.10	9,205.0	1,965.8	605.5	1,354.3	3.57	3.02	1.90
11,030.0	92.90	7.10	9,201.4	2,028.2	613.2	1,386.9	1.11	-1.11	0.00
11,094.0	92.70	7.10	9,198.3	2,091.6	621.1	1,419.9	0.31	-0.31	0.00
11,156.0	92.60	7.00	9,195.4	2,153.1	628.7	1,451.9	0.23	-0.16	-0.16
11,219.0	92.50	7.00	9,192.6	2,215.6	636.4	1,484.4	0.16	-0.16	0.00
11,282.0	92.20	6.30	9,190.0	2,278.1	643.7	1,516.6	1.21	-0.48	-1.11
11,346.0	92.60	7.00	9,187.4	2,341.6	651.1	1,549.2	1.26	0.63	1.09
11,409.0	91.10	7.70	9,185.3	2,404.1	659.2	1,582.0	2.63	-2.38	1.11
11,472.0	89.90	7.30	9,184.8	2,466.5	667.4	1,615.0	2.01	-1.90	-0.63
11,535.0	90.70	7.10	9,184.4	2,529.0	675.3	1,647.7	1.31	1.27	-0.32
11,599.0	90.70	7.00	9,183.7	2,592.5	683.1	1,680.8	0.16	0.00	-0.16
11,662.0	91.50	6.10	9,182.5	2,655.1	690.3	1,712.8	1.91	1.27	-1.43
11,725.0	92.00	4.30	9,180.5	2,717.8	696.0	1,743.6	2.96	0.79	-2.86
11,789.0	91.50	3.60	9,178.6	2,781.6	700.4	1,773.7	1.34	-0.78	-1.09
11,852.0	93.10	3.60	9,176.0	2,844.5	704.4	1,802.9	2.54	2.54	0.00
11,915.0	95.10	5.00	9,171.5	2,907.1	709.1	1,832.7	3.87	3.17	2.22
11,978.0	93.70	5.50	9,166.7	2,969.7	714.8	1,863.5	2.36	-2.22	0.79
12,042.0	92.00	6.10	9,163.5	3,033.3	721.3	1,895.3	2.82	-2.66	0.94
12,105.0	91.60	5.70	9,161.5	3,095.9	727.8	1,926.8	0.90	-0.63	-0.63
12,168.0	91.80	5.70	9,159.7	3,158.5	734.0	1,958.0	0.32	0.32	0.00
12,231.0	92.50	6.80	9,157.3	3,221.1	740.9	1,989.8	2.07	1.11	1.75
12,294.0	92.80	6.40	9,154.4	3,283.6	748.1	2,021.9	0.79	0.48	-0.63
12,357.0	92.70	6.10	9,151.4	3,346.2	755.0	2,053.6	0.50	-0.16	-0.48
12,421.0	92.90	5.70	9,148.3	3,409.8	761.5	2,085.6	0.70	0.31	-0.63
12,484.0	92.50	5.40	9,145.3	3,472.4	767.6	2,116.7	0.79	-0.63	-0.48
12,547.0	92.40	4.70	9,142.6	3,535.1	773.2	2,147.3	1.12	-0.16	-1.11
12,611.0	92.40	5.00	9,139.9	3,598.8	778.6	2,178.2	0.47	0.00	0.47
12,674.0	92.50	5.20	9,137.2	3,661.5	784.2	2,208.9	0.35	0.16	0.32
12,737.0	91.50	6.30	9,135.0	3,724.2	790.5	2,240.2	2.36	-1.59	1.75
12,801.0	91.40	6.30	9,133.4	3,787.8	797.5	2,272.5	0.16	-0.16	0.00
12,863.0	91.20	6.10	9,132.0	3,849.4	804.2	2,303.7	0.46	-0.32	-0.32
12,926.0	91.20	6.30	9,130.7	3,912.0	811.0	2,335.5	0.32	0.00	0.32
12,990.0	91.40	5.90	9,129.2	3,975.6	817.8	2,367.6	0.70	0.31	-0.63
13,051.0	92.70	6.40	9,127.0	4,036.2	824.3	2,398.3	2.28	2.13	0.82
13,114.0	91.40	7.70	9,124.8	4,098.7	832.0	2,430.8	2.92	-2.06	2.06
13,177.0	90.80	7.30	9,123.6	4,161.2	840.3	2,463.8	1.14	-0.95	-0.63
13,241.0	91.00	7.00	9,122.6	4,224.7	848.2	2,497.0	0.56	0.31	-0.47
13,304.0	91.20	6.80	9,121.4	4,287.2	855.8	2,529.4	0.45	0.32	-0.32
13,367.0	91.00	6.60	9,120.2	4,349.7	863.1	2,561.6	0.45	-0.32	-0.32
13,430.0	91.40	6.30	9,118.8	4,412.3	870.2	2,593.6	0.79	0.63	-0.48
13,494.0	91.30	6.10	9,117.3	4,475.9	877.1	2,625.8	0.35	-0.16	-0.31
13,557.0	91.70	6.30	9,115.7	4,538.5	883.9	2,657.5	0.71	0.63	0.32

Stryker Directional

Survey Report

Company:	Mewbourne Oil Company	**Local Co-ordinate Reference:**	Well IRONHOUSE 33 NC STATE COM #1H
Project:	LEA COUNTY, NM	**TVD Reference:**	WELL @ 3933.0usft (Original Well Elev)
Site:	SECTION 33	**MD Reference:**	WELL @ 3933.0usft (Original Well Elev)
Well:	IRONHOUSE 33 NC STATE COM #1H	**North Reference:**	Grid
Wellbore:	Wellbore #1	**Survey Calculation Method:**	Minimum Curvature
Design:	As-Drilled Survey	**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)
13,620.0	91.60	6.10	9,113.9	4,601.2	890.7	2,689.3	0.35	-0.16	-0.32
13,676.0	91.70	5.40	9,112.3	4,656.8	896.3	2,717.1	1.26	0.18	-1.25
13,725.0	91.70	5.40	9,110.8	4,705.6	900.9	2,741.2	0.00	0.00	0.00
BHL @ 13725 MD, 91.7°									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
8,650.0	8,645.3	85.9	192.4	TI @ 8650 MD, 0.95°
13,725.0	9,110.8	4,705.6	900.9	BHL @ 13725 MD, 91.7°

Checked By: _____ Approved By: _____ Date: _____

COMPANY: Mewbourne Oil Company
WELL: IRONHOUSE 33 NC STATE COM #1H
COUNTY: LEA COUNTY, NM
DATUM: NAD 1927 (NADCON CONUS)
RIG: Patterson #47
GRID CORRECTION: 6.78° E

OFFICE: 936.582.7296 PLANNING: 214.784.3778

T G M

Azimuths to Grid North
True North: -0.54°
Magnetic North: 6.78°

Magnetic Field
Strength: 48773.3snT
Dip Angle: 60.63°
Date: 12/13/2012
Model: IGRF2010

CREATED BY: BRANDON ESTES

DATE: 14:55, January 22 2013
PLAN: As-Drilled Survey

GEODETIC ZONE: New Mexico East 3001
WELL @ 3933.0usft (Original Well Elev)
GROUND ELEVATION: 3913.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	618571.62	807977.04	32° 41' 47.602 N	103° 19' 55.997 W

CRITICAL POINTS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
8645.3	8650.0	0.95	49.07	85.9	192.4	210.7	219.9	TI @ 8650 MD, 0.95°
9110.8	13725.0	91.70	5.40	4705.6	900.9	2741.2	4905.9	BHL @ 13725 MD, 91.7°