OPERATOR MEWBOURNE OIL COMPANY 047-0101
WELL/LEASE TAMANO 15 AD FED COM 1H
COUNTY EDDY

STATE OF NEW MEXICO
DEVIATION REPORT 30-015-40868

267	0.97	6,651	3.00
767	1.50	6,746	2.90
811	1.10	6,873	2.70
968	0.80	7,032	2.60
1,259	0.20	7,431	2.50
1,385	0.50		
1,703	1.00		
1,862	1.50		
1,926	1.90		
2,019	2.40		
2,083	2.50		
2,180	2.30		
2,445	1.40		
2,541	1.10		
2,902	1.90		
3,030	1.80		
3,156	1.80		
3,285	1.50		
3,411	1.40		
3,538	1.40		
3,715	1.40		
4,223	2.20		
4,713	2.00		
4,840	2.10		
4,935	2.10		
5,063	2.10		
5,190	2.00		
5,318	2.30		
5,444	2.20		
5,825	1.80		
5,571	2.30		
5,952	2.10		
6,333	2.60		
6,461	3.10		
6,556	2.90		

RECEIVED
MAR 22 2013
NMOCD ARTESIA

BY: Steve Moore

STATE OF TEXAS

COUNTY OF MIDLAND

The foregoing instrument was acknowledged before me on 2/11/13, 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 26, 2016

Received
FEB 15 2013
Mewbourne Oil Company
Hobbs

Company: Mewbourne Oil Company
Lease/Well: Tamano 15 AD Federal Com/No 001H

Rig Name: Patterson 47
State/County: New Mexico/Eddy
Latitude: 32.75, Longitude: -103.85
GRID North Is 0.26 Degrees East of True North
VS-Azi: 0.00 Degrees

Depth Reference : RKB=19 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: tamano 15 ad fed com 1h_ed.ut
Minimum Curvature Method
Report Date/Time: 2/5/2013 / 16:44

Vaughn Energy Services
Fort Worth, Texas
817-741-3610
Surveyor: Robert Hooper
Tamano 15 AD Federal Com No 001H / API 30-015-40868

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	0.64	254.41	100.00	-0.15	-0.54	-0.15	0.56	254.41	0.64
200.00	0.60	211.91	199.99	-0.74	-1.35	-0.74	1.54	241.11	0.45
300.00	0.80	209.76	299.99	-1.79	-1.97	-1.79	2.67	227.71	0.20
400.00	0.64	204.37	399.98	-2.91	-2.55	-2.91	3.87	221.23	0.17
500.00	0.54	195.03	499.97	-3.88	-2.90	-3.88	4.85	216.82	0.14
600.00	0.77	205.45	599.97	-4.95	-3.32	-4.95	5.96	213.85	0.26
700.00	0.98	208.22	699.95	-6.31	-4.01	-6.31	7.48	212.45	0.21
800.00	1.04	200.06	799.94	-7.92	-4.73	-7.92	9.22	210.84	0.16
900.00	0.87	207.34	899.92	-9.45	-5.39	-9.45	10.88	209.70	0.21
1000.00	0.54	190.69	999.92	-10.58	-5.82	-10.58	12.08	208.83	0.38
1100.00	0.63	189.82	1099.91	-11.58	-6.00	-11.58	13.05	207.41	0.09
1200.00	0.57	165.95	1199.91	-12.60	-5.98	-12.60	13.95	205.37	0.25
1300.00	0.54	155.06	1299.90	-13.52	-5.65	-13.52	14.66	202.69	0.11
1400.00	0.04	128.32	1399.90	-13.97	-5.43	-13.97	14.99	201.22	0.51
1500.00	0.29	103.04	1499.90	-14.05	-5.15	-14.05	14.97	200.13	0.26
1600.00	1.15	97.18	1599.89	-14.24	-3.90	-14.24	14.76	195.33	0.86
1700.00	1.20	74.23	1699.87	-14.08	-1.89	-14.08	14.20	187.66	0.47
1800.00	1.72	53.98	1799.84	-12.91	0.33	-12.91	12.91	178.53	0.73
1900.00	1.92	48.82	1899.79	-10.92	2.81	-10.92	11.27	165.56	0.26
2000.00	2.25	54.00	1999.72	-8.66	5.66	-8.66	10.35	146.82	0.37

VES Survey Date: 01/28/2013

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
2100.00	2.10	61.97	2099.65	-6.65	8.86	-6.65	11.08	126.86	0.34
2200.00	1.88	60.18	2199.59	-4.97	11.90	-4.97	12.90	112.66	0.23
2300.00	1.44	56.61	2299.55	-3.47	14.37	-3.47	14.78	103.56	0.46
2400.00	1.43	58.31	2399.51	-2.12	16.48	-2.12	16.61	97.33	0.04
2500.00	1.28	55.45	2499.49	-0.83	18.46	-0.83	18.48	92.59	0.17
2600.00	1.37	56.29	2599.46	0.46	20.37	0.46	20.37	88.71	0.09
2700.00	1.59	53.16	2699.43	1.95	22.47	1.95	22.55	85.03	0.24
2800.00	1.35	59.09	2799.39	3.39	24.59	3.39	24.83	82.15	0.28
2900.00	1.57	56.99	2899.36	4.74	26.75	4.74	27.17	79.95	0.22
3000.00	1.73	54.09	2999.32	6.37	29.12	6.37	29.81	77.65	0.18
3100.00	1.60	58.38	3099.28	7.99	31.53	7.99	32.53	75.78	0.18
3200.00	1.19	56.79	3199.25	9.29	33.59	9.29	34.85	74.54	0.41
3300.00	1.20	54.77	3299.23	10.46	35.31	10.46	36.83	73.50	0.04
3400.00	1.47	57.34	3399.20	11.76	37.24	11.76	39.05	72.48	0.27
3500.00	1.42	56.03	3499.17	13.14	39.35	13.14	41.48	71.53	0.06
3600.00	1.20	48.34	3599.14	14.52	41.15	14.52	43.64	70.56	0.28
3700.00	1.58	63.76	3699.11	15.83	43.17	15.83	45.98	69.87	0.53
3800.00	1.09	51.62	3799.09	17.03	45.15	17.03	48.25	69.34	0.56
3900.00	1.71	60.90	3899.06	18.34	47.20	18.34	50.64	68.76	0.66
4000.00	1.50	51.13	3999.02	19.89	49.53	19.89	53.37	68.12	0.35
4100.00	1.50	57.33	4098.98	21.42	51.64	21.42	55.91	67.47	0.16
4200.00	1.65	52.66	4198.94	23.00	53.89	23.00	58.59	66.89	0.20
4300.00	1.28	56.43	4298.91	24.49	55.97	24.49	61.09	66.37	0.39
4400.00	1.90	57.57	4398.87	26.00	58.29	26.00	63.83	65.97	0.62
4500.00	2.03	51.43	4498.81	27.99	61.08	27.99	67.18	65.38	0.25
4600.00	1.79	54.80	4598.76	30.00	63.74	30.00	70.45	64.80	0.27
4700.00	2.11	54.32	4698.70	31.97	66.52	31.97	73.80	64.33	0.32
4800.00	2.08	57.50	4798.63	34.02	69.54	34.02	77.42	63.93	0.12
4900.00	1.64	60.48	4898.58	35.70	72.31	35.70	80.65	63.73	0.45
5000.00	1.61	64.33	4998.54	37.01	74.82	37.01	83.47	63.68	0.11
5100.00	1.91	63.15	5098.49	38.37	77.57	38.37	86.54	63.68	0.30
5200.00	2.34	63.99	5198.42	40.02	80.89	40.02	90.24	63.68	0.43
5300.00	1.80	65.98	5298.36	41.55	84.15	41.55	93.85	63.72	0.54
5400.00	2.22	66.13	5398.30	42.97	87.36	42.97	97.36	63.81	0.42
5500.00	2.24	67.28	5498.22	44.51	90.93	44.51	101.24	63.92	0.05
5600.00	1.68	62.97	5598.16	45.93	94.04	45.93	104.65	63.97	0.57
5700.00	2.13	42.23	5698.11	47.97	96.59	47.97	107.85	63.59	0.82
5800.00	1.77	41.04	5798.05	50.51	98.85	50.51	111.01	62.93	0.37
5900.00	1.86	24.65	5898.00	53.15	100.55	53.15	113.73	62.14	0.53
6000.00	1.54	26.86	5997.96	55.83	101.83	55.83	116.13	61.26	0.33
6100.00	1.95	26.37	6097.91	58.56	103.20	58.56	118.65	60.43	0.41
6200.00	1.81	10.77	6197.86	61.63	104.25	61.63	121.10	59.41	0.53

VES Survey Date: 01/28/2013

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
6300.00	2.33	6.39	6297.79	65.21	104.77	65.21	123.40	58.10	0.55
6400.00	2.65	9.59	6397.70	69.51	105.38	69.51	126.24	56.59	0.34
6500.00	2.49	7.68	6497.60	73.93	106.05	73.93	129.28	55.12	0.18
6600.00	2.66	4.98	6597.50	78.39	106.54	78.39	132.28	53.66	0.21
6700.00	2.70	353.86	6697.39	83.04	106.49	83.04	135.04	52.05	0.52
6800.00	2.50	354.29	6797.28	87.55	106.03	87.55	137.50	50.45	0.20
6900.00	2.86	353.85	6897.17	92.20	105.54	92.20	140.14	48.86	0.36
7000.00	2.36	357.66	6997.07	96.73	105.19	96.73	142.91	47.40	0.52
7100.00	2.42	354.94	7096.98	100.89	104.92	100.89	145.56	46.12	0.13
7200.00	2.80	1.16	7196.88	105.44	104.78	105.44	148.65	44.82	0.48
7300.00	2.60	14.01	7296.77	110.09	105.38	110.09	152.40	43.75	0.64
7400.00	2.10	14.78	7396.69	114.06	106.40	114.06	155.98	43.01	0.50
7500.00	2.26	14.07	7496.61	117.74	107.34	117.74	159.33	42.36	0.16
7600.00	2.63	23.68	7596.52	121.75	108.74	121.75	163.25	41.77	0.55
7700.00	2.04	35.16	7696.44	125.30	110.69	125.30	167.19	41.46	0.75
7800.00	2.12	50.93	7796.37	127.92	113.15	127.92	170.78	41.49	0.58
7895.00	1.63	46.31	7891.32	129.96	115.48	129.96	173.86	41.62	0.54

VES Survey Date: 01/28/2013

Mewbourne Oil Company

EDDY COUNTY, NM
SECTION 15
TAMANO 15 AD FEDERAL COM #1H

Wellbore #1

Survey: Final Plan v. Actual

Standard Survey Report

18 February, 2013

Stryker Directional
Survey Report

Company:	Mewbourne Oil Company	**Local Co-ordinate Reference:**	Well TAMANO 15 AD FEDERAL COM #1H
Project:	EDDY COUNTY, NM	**TVD Reference:**	WELL @ 3727.0usft (Original Well Elev)
Site:	SECTION 15	**MD Reference:**	WELL @ 3727.0usft (Original Well Elev)
Well:	TAMANO 15 AD FEDERAL 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 EDDY 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 15

Site Position:		**Northing:**	637,920.39 usft	**Latitude:**	32° 45' 10.081 N
From:	Map	**Easting:**	648,947.81 usft	**Longitude:**	103° 50' 55.863 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.26 °

Well TAMANO 15 AD FEDERAL COM #1H

Well Position	**+N/-S**	0.0 usft	**Northing:**	637,920.39 usft	**Latitude:**	32° 45' 10.081 N
	+E/-W	0.0 usft	**Easting:**	648,947.81 usft	**Longitude:**	103° 50' 55.863 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,707.0 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/23/2013	7.56	60.59	48,741

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	267.57

Survey Program Date 2/18/2013

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	7,895.0	Gyro Survey (Wellbore #1)		
7,992.0	13,200.0	Final Plan v. Actual (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)
7,895.0	1.63	46.31	7,891.3	130.0	115.5	-120.9	0.00	0.00	0.00
TI @ 7895 MD, 1.63°									
7,992.0	1.90	56.60	7,988.3	131.9	117.9	-123.3	0.43	0.28	10.61
8,024.0	0.20	36.70	8,020.3	132.2	118.3	-123.8	5.35	-5.31	-62.19
8,056.0	4.10	249.90	8,052.2	131.9	117.3	-122.8	13.34	12.19	-458.75
8,088.0	7.70	264.20	8,084.1	131.2	114.1	-119.5	12.07	11.25	44.69
8,120.0	12.10	268.60	8,115.6	130.9	108.6	-114.0	13.94	13.75	13.75
8,151.0	16.30	270.10	8,145.6	130.9	101.0	-106.5	13.60	13.55	4.84
8,183.0	20.00	270.50	8,176.0	130.9	91.0	-96.5	11.57	11.56	1.25
8,215.0	23.00	267.70	8,205.8	130.7	79.3	-84.8	9.91	9.38	-8.75

Company:	Mewbourne Oil Company	**Local Co-ordinate Reference:**	Well TAMANO 15 AD FEDERAL COM #1H
Project:	EDDY COUNTY, NM	**TVD Reference:**	WELL @ 3727.0usft (Original Well Elev)
Site:	SECTION 15	**MD Reference:**	WELL @ 3727.0usft (Original Well Elev)
Well:	TAMANO 15 AD FEDERAL 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)
8,247.0	26.00	268.70	8,234.9	130.3	66.1	-71.5	9.46	9.38	3.13
8,278.0	29.90	264.70	8,262.3	129.4	51.6	-57.0	13.95	12.58	-12.90
8,310.0	33.60	262.40	8,289.5	127.5	34.8	-40.2	12.16	11.56	-7.19
8,342.0	36.80	261.50	8,315.7	125.0	16.6	-21.8	10.13	10.00	-2.81
8,375.0	39.30	262.20	8,341.6	122.1	-3.6	-1.6	7.69	7.58	2.12
8,406.0	42.90	263.50	8,365.0	119.5	-23.8	18.7	11.94	11.61	4.19
8,438.0	47.70	264.70	8,387.5	117.2	-46.4	41.4	15.23	15.00	3.75
8,470.0	52.30	266.50	8,408.1	115.3	-70.8	65.9	15.01	14.38	5.63
8,502.0	56.30	267.60	8,426.7	114.0	-96.8	91.9	12.81	12.50	3.44
8,533.0	58.40	268.40	8,443.5	113.1	-122.9	118.0	7.11	6.77	2.58
8,565.0	60.90	268.00	8,459.6	112.2	-150.5	145.6	7.89	7.81	-1.25
8,597.0	64.70	267.30	8,474.2	111.1	-178.9	174.0	12.03	11.88	-2.19
8,629.0	68.90	267.30	8,486.9	109.7	-208.3	203.4	13.13	13.13	0.00
8,661.0	71.40	267.30	8,497.7	108.3	-238.3	233.5	7.81	7.81	0.00
8,693.0	74.50	266.10	8,507.1	106.5	-268.9	264.1	10.33	9.69	-3.75
8,724.0	79.20	266.30	8,514.2	104.5	-299.0	294.3	15.17	15.16	0.65
8,756.0	83.00	267.70	8,519.1	102.9	-330.5	325.9	12.64	11.88	4.38
8,781.0	85.30	268.00	8,521.6	101.9	-355.4	350.8	9.28	9.20	1.20
8,855.0	90.50	263.10	8,524.4	96.2	-429.1	424.6	9.65	7.03	-6.62
8,887.0	90.10	263.10	8,524.2	92.3	-460.8	456.5	1.25	-1.25	0.00
8,918.0	89.80	264.00	8,524.2	88.9	-491.6	487.4	3.06	-0.97	2.90
8,950.0	89.10	262.60	8,524.5	85.1	-523.4	519.3	4.89	-2.19	-4.38
9,013.0	88.50	264.00	8,525.8	77.8	-586.0	582.2	2.42	-0.95	2.22
9,076.0	89.20	264.70	8,527.1	71.6	-648.7	645.0	1.57	1.11	1.11
9,140.0	90.40	266.60	8,527.3	66.7	-712.5	709.0	3.51	1.88	2.97
9,203.0	89.80	266.60	8,527.2	63.0	-775.4	772.0	0.95	-0.95	0.00
9,266.0	90.00	265.90	8,527.3	58.9	-838.2	835.0	1.16	0.32	-1.11
9,329.0	90.10	266.50	8,527.3	54.7	-901.1	898.0	0.97	0.16	0.95
9,392.0	89.10	267.20	8,527.7	51.2	-964.0	961.0	1.94	-1.59	1.11
9,455.0	89.70	266.30	8,528.4	47.7	-1,026.9	1,023.9	1.72	0.95	-1.43
9,519.0	89.90	266.80	8,528.6	43.8	-1,090.8	1,087.9	0.84	0.31	0.78
9,614.0	88.70	267.00	8,529.8	38.7	-1,185.6	1,182.9	1.28	-1.26	0.21
9,677.0	88.80	266.60	8,531.1	35.1	-1,248.5	1,245.9	0.65	0.16	-0.63
9,740.0	90.40	265.60	8,531.6	30.9	-1,311.4	1,308.9	2.99	2.54	-1.59
9,803.0	91.10	266.50	8,530.8	26.5	-1,374.2	1,371.8	1.81	1.11	1.43
9,866.0	90.40	265.60	8,529.9	22.2	-1,437.0	1,434.8	1.81	-1.11	-1.43
9,929.0	91.00	265.90	8,529.2	17.5	-1,499.9	1,497.8	1.06	0.95	0.48
9,992.0	92.20	265.40	8,527.4	12.7	-1,562.7	1,560.7	2.06	1.90	-0.79
10,056.0	91.70	265.00	8,525.2	7.4	-1,626.4	1,624.6	1.00	-0.78	-0.63
10,119.0	91.60	264.90	8,523.4	1.8	-1,689.1	1,687.5	0.22	-0.16	-0.16
10,183.0	91.80	265.70	8,521.5	-3.4	-1,752.9	1,751.4	1.29	0.31	1.25
10,246.0	90.60	265.90	8,520.2	-8.0	-1,815.7	1,814.4	1.93	-1.90	0.32
10,309.0	88.80	267.70	8,520.5	-11.5	-1,878.6	1,877.4	4.04	-2.86	2.86

Company:	Mewbourne Oil Company	**Local Co-ordinate Reference:**	Well TAMANO 15 AD FEDERAL COM #1H
Project:	EDDY COUNTY, NM	**TVD Reference:**	WELL @ 3727.0usft (Original Well Elev)
Site:	SECTION 15	**MD Reference:**	WELL @ 3727.0usft (Original Well Elev)
Well:	TAMANO 15 AD FEDERAL 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)
10,372.0	88.90	267.20	8,521.8	-14.3	-1,941.5	1,940.4	0.81	0.16	-0.79
10,436.0	88.70	267.50	8,523.1	-17.3	-2,005.4	2,004.4	0.56	-0.31	0.47
10,499.0	88.10	267.20	8,524.9	-20.2	-2,068.3	2,067.3	1.06	-0.95	-0.48
10,562.0	88.10	267.00	8,527.0	-23.4	-2,131.2	2,130.3	0.32	0.00	-0.32
10,625.0	88.90	266.60	8,528.6	-26.9	-2,194.1	2,193.3	1.42	1.27	-0.63
10,689.0	91.40	268.00	8,528.5	-29.9	-2,258.0	2,257.3	4.48	3.91	2.19
10,752.0	92.60	268.00	8,526.3	-32.1	-2,320.9	2,320.2	1.90	1.90	0.00
10,815.0	91.50	268.00	8,524.0	-34.3	-2,383.9	2,383.2	1.75	-1.75	0.00
10,879.0	90.30	267.90	8,523.0	-36.6	-2,447.8	2,447.2	1.88	-1.88	-0.16
10,942.0	89.10	267.70	8,523.3	-39.0	-2,510.8	2,510.2	1.93	-1.90	-0.32
11,005.0	87.80	267.30	8,525.0	-41.8	-2,573.7	2,573.1	2.16	-2.06	-0.63
11,068.0	88.00	267.00	8,527.3	-44.9	-2,636.6	2,636.1	0.57	0.32	-0.48
11,132.0	88.30	266.30	8,529.4	-48.6	-2,700.4	2,700.1	1.19	0.47	-1.09
11,195.0	89.40	266.60	8,530.7	-52.5	-2,763.3	2,763.0	1.81	1.75	0.48
11,258.0	91.00	266.10	8,530.4	-56.5	-2,826.2	2,826.0	2.66	2.54	-0.79
11,321.0	90.90	265.90	8,529.4	-60.9	-2,889.0	2,889.0	0.35	-0.16	-0.32
11,385.0	89.60	265.60	8,529.1	-65.7	-2,952.8	2,952.9	2.08	-2.03	-0.47
11,448.0	90.50	265.00	8,529.1	-70.8	-3,015.6	3,015.9	1.72	1.43	-0.95
11,511.0	90.20	264.30	8,528.7	-76.7	-3,078.3	3,078.8	1.21	-0.48	-1.11
11,575.0	89.50	263.50	8,528.9	-83.5	-3,142.0	3,142.7	1.66	-1.09	-1.25
11,638.0	91.00	263.60	8,528.6	-90.6	-3,204.6	3,205.5	2.39	2.38	0.16
11,701.0	90.90	263.50	8,527.5	-97.7	-3,267.2	3,268.4	0.22	-0.16	-0.16
11,765.0	90.60	262.60	8,526.7	-105.4	-3,330.7	3,332.2	1.48	-0.47	-1.41
11,828.0	89.30	261.90	8,526.8	-113.9	-3,393.1	3,394.9	2.34	-2.06	-1.11
11,891.0	89.10	262.40	8,527.6	-122.5	-3,455.5	3,457.6	0.85	-0.32	0.79
11,954.0	89.30	263.60	8,528.5	-130.2	-3,518.0	3,520.4	1.93	0.32	1.90
12,017.0	89.00	263.80	8,529.4	-137.1	-3,580.6	3,583.2	0.57	-0.48	0.32
12,080.0	89.10	266.30	8,530.5	-142.5	-3,643.4	3,646.2	3.97	0.16	3.97
12,143.0	90.20	266.80	8,530.9	-146.3	-3,706.3	3,709.1	1.92	1.75	0.79
12,206.0	89.70	267.00	8,530.9	-149.7	-3,769.2	3,772.1	0.85	-0.79	0.32
12,270.0	89.40	266.10	8,531.4	-153.6	-3,833.1	3,836.1	1.48	-0.47	-1.41
12,302.0	91.20	265.60	8,531.3	-155.9	-3,865.0	3,868.1	5.84	5.63	-1.56
12,333.0	91.30	264.90	8,530.6	-158.5	-3,895.9	3,899.1	2.28	0.32	-2.26
12,397.0	91.10	264.90	8,529.2	-164.2	-3,959.6	3,963.0	0.31	-0.31	0.00
12,460.0	90.10	264.70	8,528.6	-169.9	-4,022.3	4,025.9	1.62	-1.59	-0.32
12,523.0	91.60	265.70	8,527.7	-175.1	-4,085.1	4,088.9	2.86	2.38	1.59
12,587.0	92.10	265.00	8,525.6	-180.3	-4,148.9	4,152.8	1.34	0.78	-1.09
12,650.0	91.60	264.90	8,523.6	-185.9	-4,211.6	4,215.7	0.81	-0.79	-0.16
12,713.0	91.70	264.70	8,521.7	-191.6	-4,274.3	4,278.6	0.35	0.16	-0.32
12,777.0	90.90	265.00	8,520.3	-197.3	-4,338.0	4,342.5	1.33	-1.25	0.47
12,840.0	88.80	264.30	8,520.5	-203.2	-4,400.7	4,405.4	3.51	-3.33	-1.11
12,903.0	88.40	264.00	8,522.0	-209.6	-4,463.4	4,468.3	0.79	-0.63	-0.48
12,967.0	88.50	264.70	8,523.7	-215.9	-4,527.1	4,532.1	1.10	0.16	1.09

Stryker Directional

Survey Report

Company:	Mewbourne Oil Company	**Local Co-ordinate Reference:**	Well TAMANO 15 AD FEDERAL COM #1H
Project:	EDDY COUNTY, NM	**TVD Reference:**	WELL @ 3727.0usft (Original Well Elev)
Site:	SECTION 15	**MD Reference:**	WELL @ 3727.0usft (Original Well Elev)
Well:	TAMANO 15 AD FEDERAL 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)
13,030.0	89.10	265.60	8,525.0	-221.2	-4,589.8	4,595.1	1.72	0.95	1.43
13,093.0	90.70	266.50	8,525.2	-225.6	-4,652.7	4,658.0	2.91	2.54	1.43
13,137.0	89.90	266.50	8,524.9	-228.3	-4,696.6	4,702.0	1.82	-1.82	0.00
13,200.0	89.90	266.50	8,525.0	-232.1	-4,759.5	4,765.0	0.00	0.00	0.00
BHL Proj @ 13200 MD, 89.90°									

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
7,895.0				TI @ 7895 MD, 1.63°
13,200.0	8,525.0	-232.1	-4,759.5	BHL Proj @ 13200 MD, 89.90°

Checked By: _____ Approved By: _____ Date: _____

COMPANY: Mewbourne Oil Company
WELL: TAMANO 15 AD FEDERAL COM #1H
COUNTY: EDDY COUNTY, NM
DATUM: NAD 1927 (NADCON CONUS)
RIG: PATTERSON 47
GRID CORRECTION: 7.29° E

OFFICE: 936.582.7296 PLANNING: 214.784.3778

Azimuths to Grid North
True North: -0.26°
Magnetic North: 7.29°

Magnetic Field
Strength: 48741.1snT
Dip Angle: 60.59°
Date: 1/23/2013
Model: IGRF2010

CREATED BY: BRANDON ESTES

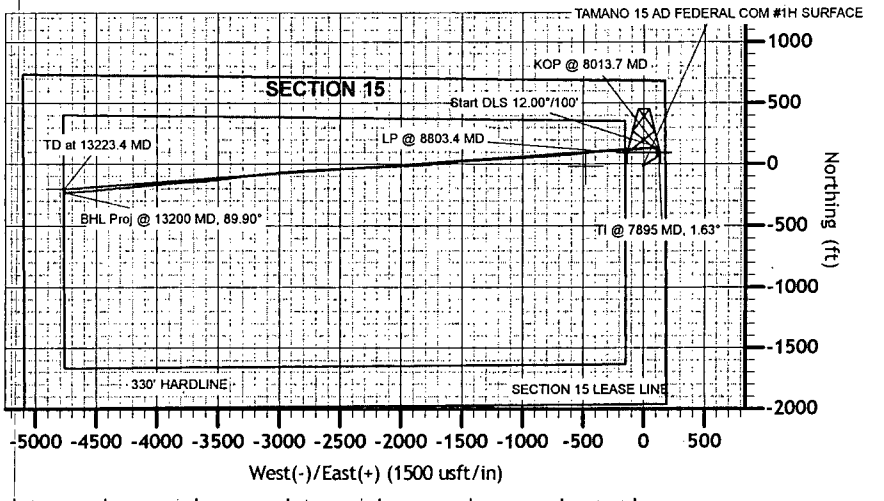
DATE: 16:13, February 18 2013
PLAN: As-Drilled Survey

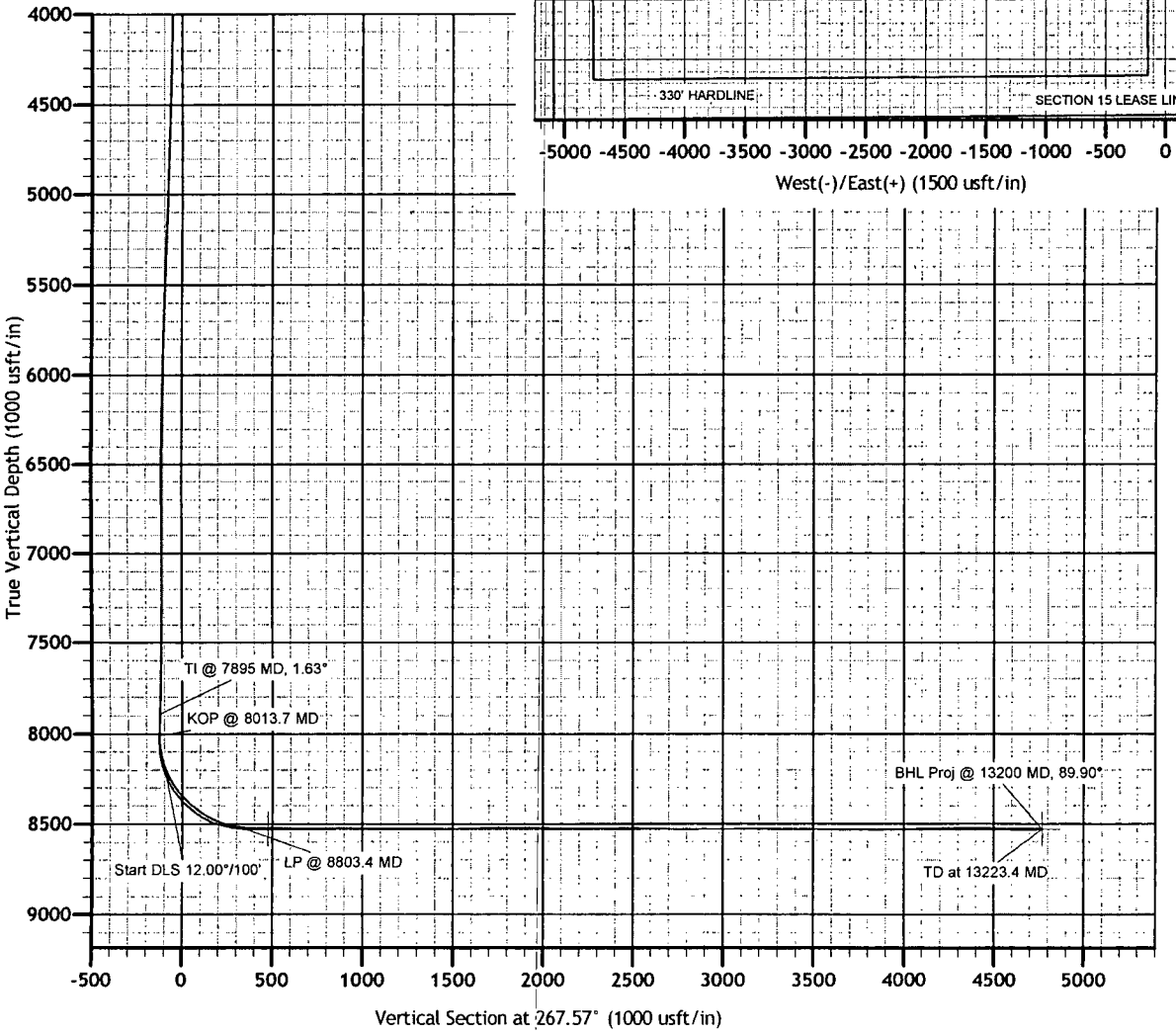
GEODETIC ZONE: New Mexico East 3001
WELL @ 3727.0usft (Original Well Elev)
GROUND ELEVATION: 3707.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	637920.39	648947.81	32° 45' 10.081 N	103° 50' 55.863 W

CRITICAL POINTS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
	7895.0							TI @ 7895 MD, 1.63°
8525.0	13200.0	89.90	266.50	-232.1	-4759.5	-3334.7	4896.9	BHL Proj @ 13200 MD, 89.90°



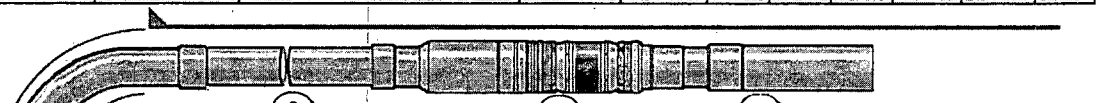


Operating Company	Mewbourne Oil Company	**Company Rep**	0		
Well Name & Number	Tamano 15 AD #1H	**Field**	Bone Spring		
Sales Ticket Number	5281591	**BOT Service Rep**	0		
Date	2/20/2013	**District Location**	Odessa, Texas, USA		

	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	110000	6.276	6.151	LT&C	0.03826	8,844.00	9,960	6,230
Top Liner	4.500	13.50	110000	3.920	3.795	LT&C	0.01493	4,555.09	12,410	10,690
Bott Liner	0.000	0.00	0	0.000	0.000	0	0.00000	-	-	-

TVD		KOP		Open Hole	6.125	Casing Vol. (bbl)	330.0
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	JR Setting Sleeve w/ RH Profile	8624.91	4.00	5.750	4.750				



Zone Length										
	2	S-3 Liner Top Packer	8626.91	4.70	5.813	3.875				
	3	4.5" LTC Spacer Nipple w/ Collar	8633.61	8.10	4.500	4.000				
	3 Jts	4-1/2" 13.5# LTC P-110 Liner	8641.71	114.04	4.500	3.920				
20	2 Jts	4-1/2" 13.5# LTC P-110 Liner	8755.75	74.27	4.500	3.920				
394.34	2 Jts	4-1/2" 13.5# LTC P-110 Liner	8830.02	75.16	4.500	3.920				
	Zone 20	3.625" EX Frac Sleeve	8905.18	3.90	5.750	3.875	3.625	2288	310	330
	3 Jts	4-1/2" 13.5# LTC P-110 Liner	8909.08	114.17	4.500	3.920				
19	#19	582 Open Hole Packer	9023.25	3.89	5.820	3.875		2154		
236.28	3 Jts	4-1/2" 13.5# LTC P-110 Liner	9027.14	114.95	4.500	3.920				
	Zone 19	3.500" EX Frac Sleeve	9142.09	3.90	5.750	3.875	3.400	2288	289	330
	3 Jts	4-1/2" 13.5# LTC P-110 Liner	9145.99	113.54	4.500	3.920				
18	#18	582 Open Hole Packer	9259.53	3.89	5.820	3.875		2154		
193.94	3 Jts	4-1/2" 13.5# LTC P-110 Liner	9263.42	110.58	4.500	3.920				
	Zone 18	3.375" EX Frac Sleeve	9374.00	3.90	5.750	3.875	3.275	2288	268	330
	2 Jts	4-1/2" 13.5# LTC P-110 Liner	9377.90	75.57	4.500	3.920				
17	#17	582 Open Hole Packer	9453.47	3.89	5.820	3.875		2154		
195.37	3 Jts	4-1/2" 13.5# LTC P-110 Liner	9457.36	114.01	4.500	3.920				
	Zone 17	3.250" EX Frac Sleeve	9571.37	3.90	5.750	3.875	3.150	2288	248	330
	2 Jts	4-1/2" 13.5# LTC P-110 Liner	9575.27	73.57	4.500	3.920				
16	#16	582 Open Hole Packer	9648.84	3.89	5.820	3.875		2154		
235.19	3 Jts	4-1/2" 13.5# LTC P-110 Liner	9652.73	114.13	4.500	3.920				
	Zone 16	3.125" EX Frac Sleeve	9766.86	3.90	5.750	3.875	3.025	2288	228	330
	3 Jts	4-1/2" 13.5# LTC P-110 Liner	9770.76	113.27	4.500	3.920				
15	#15	582 Open Hole Packer	9884.03	3.89	5.820	3.875		2154		
194.72	3 Jts	4-1/2" 13.5# LTC P-110 Liner	9887.92	112.76	4.500	3.920				
	Zone 15	3.000" EX Frac Sleeve	10000.68	3.90	5.750	3.875	2.900	2288	210	330
	2 Jts	4-1/2" 13.5# LTC P-110 Liner	10004.58	74.17	4.500	3.920				
14	#14	582 Open Hole Packer	10078.75	3.89	5.820	3.875		2154		
234.64	3 Jts	4-1/2" 13.5# LTC P-110 Liner	10082.64	113.46	4.500	3.920				
	Zone 14	2.875" EX Frac Sleeve	10196.10	3.90	5.750	3.875	2.775	2288	192	330
	3 Jts	4-1/2" 13.5# LTC P-110 Liner	10200.00	113.39	4.500	3.920				
13	#13	582 Open Hole Packer	10313.39	3.89	5.820	3.875		2154		
196.29	3 Jts	4-1/2" 13.5# LTC P-110 Liner	10317.28	114.06	4.500	3.920				

Operating Company	Mewbourne Oil Company	Company Rep	0		
Well Name & Number	Tamano 15 AD #1H	Field	Bone Spring		
Sales Ticket Number	5281591	BOT Service Rep	0		
Date	2/20/2013	District Location	Odessa, Texas, USA		

BAKER HUGHES

	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	110000	6.276	6.151	LT&C	0.03826	8,844.00	9,960	6,230
Top Liner	4.500	13.50	110000	3.920	3.795	LT&C	0.01493	4,555.09	12,410	10,690
Bott Liner	0.000	0.00	0	0.000	0.000	0	0.00000	-	-	-

TVD		KOP		Open Hole	6.125	Casing Vol. (bbl)	330.0
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)
	Zone 13	2.750" EX Frac Sleeve	10431.34	3.90	5.750	3.875	2.650	2286	175	330
	2 Jts	4-1/2" 13.5# LTC P-110 Liner	10435.24	74.44	4.500	3.920				
12	#12	582 Open Hole Packer	10509.68	3.89	5.820	3.875		2154		
233.29	3 Jts	4-1/2" 13.5# LTC P-110 Liner	10513.57	112.84	4.500	3.920				
	Zone 12	2.625" EX Frac Sleeve	10626.41	3.90	5.750	3.875	2.525	2286	159	330
	3 Jts	4-1/2" 13.5# LTC P-110 Liner	10630.31	112.66	4.500	3.920				
11	#11	582 Open Hole Packer	10742.97	3.89	5.820	3.875		2154		
234.11	3 Jts	4-1/2" 13.5# LTC P-110 Liner	10746.86	112.62	4.500	3.920				
	Zone 11	2.500" EX Frac Sleeve	10859.48	3.90	5.750	3.875	2.400	2286	144	330
	3 Jts	4-1/2" 13.5# LTC P-110 Liner	10863.38	113.70	4.500	3.920				
10	#10	582 Open Hole Packer	10977.08	3.89	5.820	3.875		2154		
197.02	3 Jts	4-1/2" 13.5# LTC P-110 Liner	10980.97	113.65	4.500	3.920				
	Zone 10	2.375" EX Frac Sleeve	11094.62	3.90	5.750	3.875	2.275	2286	129	330
	2 Jts	4-1/2" 13.5# LTC P-110 Liner	11098.52	75.58	4.500	3.920				
9	#9	582 Open Hole Packer	11174.10	3.89	5.820	3.875		2154		
236.32	3 Jts	4-1/2" 13.5# LTC P-110 Liner	11177.99	115.19	4.500	3.920				
	Zone 9	2.250" EX Frac Sleeve	11293.18	3.90	5.750	3.875	2.150	2286	115	330
	3 Jts	4-1/2" 13.5# LTC P-110 Liner	11297.08	113.34	4.500	3.920				
8	#8	582 Open Hole Packer	11410.42	3.89	5.820	3.875		2154		
197.87	3 Jts	4-1/2" 13.5# LTC P-110 Liner	11414.31	114.64	4.500	3.920				
	Zone 8	2.125" EX Frac Sleeve	11528.95	3.90	5.750	3.875	2.025	2286	102	330
	2 Jts	4-1/2" 13.5# LTC P-110 Liner	11532.85	75.44	4.500	3.920				
7	#7	582 Open Hole Packer	11608.29	3.89	5.820	3.875		2154		
195.78	3 Jts	4-1/2" 13.5# LTC P-110 Liner	11612.18	112.81	4.500	3.920				
	Zone 7	2.000" EX Frac Sleeve	11724.99	3.90	5.750	3.875	1.900	2286	90	330
	2 Jts	4-1/2" 13.5# LTC P-110 Liner	11728.89	75.18	4.500	3.920				
6	#6	582 Open Hole Packer	11804.07	3.89	5.820	3.875		2154		
236.71	3 Jts	4-1/2" 13.5# LTC P-110 Liner	11807.96	115.36	4.500	3.920				
	Zone 6	1.875" EX Frac Sleeve	11923.32	3.90	5.750	3.875	1.775	2286	79	330
	3 Jts	4-1/2" 13.5# LTC P-110 Liner	11927.22	113.56	4.500	3.920				
5	#5	582 Open Hole Packer	12040.78	3.89	5.820	3.875		2154		
304.99	3 Jts	4-1/2" 13.5# LTC P-110 Liner	12044.67	110.44	4.500	3.920				
	Zone 5	1.750" EX Frac Sleeve	12155.11	3.90	5.750	3.875	1.650	2286	68	330
	5 Jts	4-1/2" 13.5# LTC P-110 Liner	12159.01	186.76	4.500	3.920				
4	#4	582 Open Hole Packer	12345.77	3.89	5.820	3.875		2154		
309.60	6 Jts	4-1/2" 13.5# LTC P-110 Liner	12349.66	226.20	4.500	3.920				
	Zone 4	1.625" EX Frac Sleeve	12575.86	3.90	5.750	3.875	1.525	2286	58	330
	2 Jts	4-1/2" 13.5# LTC P-110 Liner	12579.76	75.61	4.500	3.920				

Operating Company	Mewbourne Oil Company	**Company Rep**	0		
Well Name & Number	Tamano 15 AD #1H	**Field**	Bone Spring		
Sales Ticket Number	5281591	**BOT Service Rep**	0		
Date	2/20/2013	**District Location**	Odessa, Texas, USA		

BAKER HUGHES

	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	110000	6.276	6.151	LT&C	0.03826	8,844.00	-9,960	6,230
Top Liner	4.500	13.50	110000	3.920	3.795	LT&C	0.01493	4,555.09	12,410	10,690
Bott Liner	0.000	0.00	0	0.000	0.000	0	0.00000	-	-	-

TVD		KOP		Open Hole	6.125
Casing Vol. (bbl)	330.0				
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)
3	#3	582 Open Hole Packer	12655.37	3.89	5.820	3.875		2154		
234.67	3 Jts	4-1/2" 13.5# LTC P-110 Liner	12659.26	113.02	4.500	3.920				
	Zone 3	1.500" DB EX Frac Sleeve	12772.28	3.90	5.750	3.875	1.400	2288	49	330
	3 Jts	4-1/2" 13.5# LTC P-110 Liner	12776.18	113.86	4.500	3.920				
2	#2	582 Open Hole Packer	12890.04	3.89	5.820	3.875		2154		
197.48	3 Jts	4-1/2" 13.5# LTC P-110 Liner	12893.93	114.29	4.500	3.920				
	Zone 2	1.375" DB EX Frac Sleeve	13008.22	3.90	5.750	3.875	1.275	2288	41	330
	2 Jts	4-1/2" 13.5# LTC P-110 Liner	13012.12	75.40	4.500	3.920				
1	#1	582 Open Hole Packer	13087.52	3.89	5.820	3.875		2154		
112.48	2 Jts	4-1/2" 13.5# LTC P-110 Liner	13091.41	76.29	4.500	3.920				
	Zone 1	1.250" Express Sleeve	13167.70	2.38			1.150	3048	38	330
		4-1/2" Pup Jt	13170.08	8.08						
		Double Valve Float Shoe	13178.16	1.84						
		Bttm Depth of Shoe	13180.00							
		Well TD	13200.00							
		All Depths Given As Tops								
		Unless Otherwise Noted								