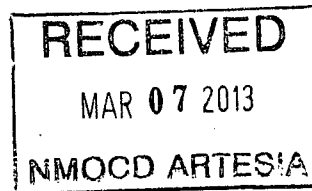




30-015-40868



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)		

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



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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

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



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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

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



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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		Comment
		+N/-S (usft)	+E/-W (usft)	
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: _____