

Mewbourne Oil Co

Andrews County, Texas

Sec 33, Blk 11, University Lands Survey

University B11 28 #2H

Wellbore #1

Survey: MWD

DDC Survey Report

27 December, 2012



DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well University B11 28 #2H
Project:	Andrews County, Texas	TVD Reference:	WELL @ 3311.0usft (Patterson #45)
Site:	Sec 33, Blk 11, University Lands Survey	MD Reference:	WELL @ 3311.0usft (Patterson #45)
Well:	University B11 28 #2H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Andrews County, Texas		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Texas North Central Zone		

Site		Sec 33, Blk 11, University Lands Survey			
Site Position:		Northing:	6,748,815.78 usft	Latitude:	32° 6' 23.777 N
From:	Map	Easting:	641,194.28 usft	Longitude:	102° 47' 15.115 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-2.34 °

Well	University B11 28 #2H					
Well Position	+N-S	0.0 usft	Northing:	6,748,815.78 usft	Latitude:	32° 6' 23.777 N
	+E-W	0.0 usft	Easting:	641,194.28 usft	Longitude:	102° 47' 15.115 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,291.0 usft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/10/2012	7.03	60.17	48,481

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)	Direction (°)	
	0.0	0.0	0.0	346.90	

Survey Program	Date	12/27/2012			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	3,830.0	VES Gyro (Wellbore #1)	Good_gyro	Good Gyro	
3,912.0	7,239.0	MWD (Wellbore #1)	MWD default	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)	
TIE IN @ 3830' MD / 3828' TVD										
3,830.0	1.08	63.35	3,828.4	10.9	62.9	-3.7	0.00	0.00	0.00	
3,912.0	0.70	69.70	3,910.3	11.4	64.1	-3.4	0.48	-0.46	7.74	
3,944.0	0.70	29.60	3,942.3	11.6	64.4	-3.3	1.50	0.00	-125.31	
3,976.0	3.50	331.20	3,974.3	12.6	64.0	-2.2	9.97	8.75	-182.50	
4,007.0	7.10	317.00	4,005.2	14.9	62.2	0.4	12.27	11.61	-45.81	
4,039.0	9.90	323.10	4,036.8	18.5	59.2	4.6	9.18	8.75	19.06	
4,071.0	12.90	328.90	4,068.2	23.8	55.7	10.5	10.02	9.38	18.13	
4,103.0	16.90	330.50	4,099.1	30.9	51.6	18.4	12.56	12.50	5.00	
4,134.0	20.40	331.60	4,128.5	39.6	46.8	27.9	11.35	11.29	3.55	

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Well:	University B11 28 #2H	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)	
4,166.0	23.60	331.70	4,158.1	50.1	41.1	39.5	10.00	10.00	0.31	
4,198.0	27.60	332.30	4,187.0	62.3	34.6	52.9	12.53	12.50	1.88	
4,230.0	31.70	333.30	4,214.8	76.4	27.4	68.2	12.91	12.81	3.13	
4,262.0	35.90	334.60	4,241.4	92.4	19.6	85.6	13.32	13.13	4.06	
4,293.0	40.00	335.40	4,265.8	109.7	11.6	104.2	13.32	13.23	2.58	
4,325.0	44.30	336.80	4,289.5	129.3	2.9	125.3	13.75	13.44	4.38	
CROSSED LEASE LINE @ 4357' MD / 4312' TVD										
4,357.0	47.80	337.70	4,311.8	150.6	-6.0	148.0	11.12	10.94	2.81	
4,389.0	50.70	337.00	4,332.6	172.9	-15.4	171.9	9.21	9.06	-2.19	
4,420.0	53.30	336.10	4,351.7	195.3	-25.1	195.9	8.69	8.39	-2.90	
4,452.0	56.20	336.50	4,370.2	219.3	-35.6	221.6	9.12	9.06	1.25	
4,484.0	59.50	336.80	4,387.2	244.1	-46.3	248.3	10.34	10.31	0.94	
4,515.0	62.10	337.50	4,402.3	269.1	-56.8	274.9	8.62	8.39	2.26	
4,547.0	64.50	339.00	4,416.7	295.6	-67.4	303.2	8.59	7.50	4.69	
4,579.0	66.60	340.70	4,430.0	323.0	-77.5	332.1	8.15	6.56	5.31	
4,611.0	68.30	341.40	4,442.2	350.9	-87.1	361.5	5.68	5.31	2.19	
4,643.0	70.30	342.80	4,453.5	379.4	-96.3	391.3	7.47	6.25	4.38	
4,674.0	73.00	344.80	4,463.3	407.6	-104.5	420.7	10.65	8.71	6.45	
4,706.0	76.90	346.00	4,471.6	437.5	-112.2	451.6	12.71	12.19	3.75	
CROSSED HARD LINE @ 4732' MD / 4477' TVD										
4,732.1	80.07	346.51	4,476.8	462.4	-118.3	477.2	12.29	12.14	1.94	
4,790.0	87.10	347.60	4,483.3	518.4	-131.2	534.7	12.29	12.14	1.89	
4,821.0	91.90	347.90	4,483.6	548.7	-137.8	565.7	15.51	15.48	0.97	
4,885.0	91.10	348.10	4,481.9	611.3	-151.1	629.6	1.29	-1.25	0.31	
4,948.0	88.10	347.00	4,482.3	672.8	-164.7	692.6	5.07	-4.76	-1.75	
5,011.0	90.10	347.60	4,483.3	734.2	-178.5	755.6	3.31	3.17	0.95	
5,074.0	90.80	347.60	4,482.8	795.8	-192.0	818.6	1.11	1.11	0.00	
5,136.0	90.90	347.70	4,481.9	856.3	-205.3	880.6	0.23	0.16	0.16	
5,199.0	89.30	346.50	4,481.8	917.7	-219.4	943.6	3.17	-2.54	-1.90	
5,263.0	88.60	346.20	4,483.0	979.9	-234.5	1,007.6	1.19	-1.09	-0.47	
5,326.0	89.70	346.70	4,483.9	1,041.2	-249.2	1,070.5	1.92	1.75	0.79	
5,389.0	90.70	346.20	4,483.7	1,102.4	-264.0	1,133.5	1.77	1.59	-0.79	
5,452.0	89.90	345.80	4,483.3	1,163.5	-279.2	1,196.5	1.42	-1.27	-0.63	
5,516.0	90.00	345.60	4,483.4	1,225.5	-295.0	1,260.5	0.35	0.16	-0.31	
5,579.0	89.70	345.50	4,483.6	1,286.6	-310.7	1,323.5	0.50	-0.48	-0.16	
5,642.0	89.00	344.60	4,484.3	1,347.4	-327.0	1,386.5	1.81	-1.11	-1.43	
5,706.0	87.40	344.00	4,486.3	1,409.0	-344.3	1,450.4	2.67	-2.50	-0.94	
5,769.0	88.40	345.50	4,488.6	1,469.7	-360.9	1,513.3	2.86	1.59	2.38	
5,832.0	89.00	346.30	4,490.0	1,530.8	-376.2	1,576.2	1.59	0.95	1.27	
5,895.0	89.20	346.70	4,491.0	1,592.1	-390.9	1,639.2	0.71	0.32	0.63	
5,957.0	90.20	347.90	4,491.3	1,652.5	-404.5	1,701.2	2.52	1.61	1.94	
6,020.0	90.30	347.70	4,491.1	1,714.1	-417.9	1,764.2	0.35	0.16	-0.32	
6,084.0	90.30	348.30	4,490.7	1,776.7	-431.2	1,828.2	0.94	0.00	0.94	

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6,147.0	88.70	347.40	4,491.3	1,838.3	-444.4	1,891.2	2.91	-2.54	-1.43	
6,210.0	87.80	347.00	4,493.2	1,899.7	-458.4	1,954.2	1.56	-1.43	-0.63	
6,273.0	88.10	347.00	4,495.5	1,961.1	-472.5	2,017.1	0.48	0.48	0.00	
6,336.0	88.80	347.20	4,497.2	2,022.4	-486.6	2,080.1	1.16	1.11	0.32	
6,399.0	88.70	346.90	4,498.5	2,083.8	-500.7	2,143.1	0.50	-0.16	-0.48	
6,463.0	89.30	347.40	4,499.7	2,146.2	-514.9	2,207.1	1.22	0.94	0.78	
6,526.0	88.80	347.40	4,500.7	2,207.7	-528.7	2,270.1	0.79	-0.79	0.00	
6,589.0	89.60	348.30	4,501.6	2,269.3	-541.9	2,333.0	1.91	1.27	1.43	
6,652.0	89.00	347.40	4,502.3	2,330.9	-555.2	2,396.0	1.72	-0.95	-1.43	
6,715.0	88.30	347.00	4,503.8	2,392.3	-569.1	2,459.0	1.28	-1.11	-0.63	
6,778.0	90.70	348.80	4,504.4	2,453.9	-582.3	2,522.0	4.76	3.81	2.86	
6,842.0	91.50	349.50	4,503.2	2,516.7	-594.4	2,585.9	1.66	1.25	1.09	
6,905.0	89.80	349.50	4,502.4	2,578.6	-605.9	2,648.9	2.70	-2.70	0.00	
6,968.0	89.20	349.50	4,503.0	2,640.6	-617.4	2,711.8	0.95	-0.95	0.00	
7,031.0	88.30	349.30	4,504.4	2,702.5	-628.9	2,774.7	1.46	-1.43	-0.32	
7,095.0	88.50	349.50	4,506.2	2,765.4	-640.7	2,838.6	0.44	0.31	0.31	
7,158.0	88.80	350.20	4,507.6	2,827.4	-651.8	2,901.5	1.21	0.48	1.11	
7,190.0	88.50	350.00	4,508.4	2,858.9	-657.3	2,933.5	1.13	-0.94	-0.63	
TD @ 7239' MD / 4510' TVD										
7,239.0	88.50	350.00	4,509.7	2,907.1	-665.8	2,982.4	0.00	0.00	0.00	

Survey Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
3,830.0	3,828.4	10.9	62.9	TIE IN @ 3830' MD / 3828' TVD	
4,357.0	4,311.8	150.6	-6.0	CROSSED LEASE LINE @ 4357' MD / 4312' TVD	
4,732.1	4,476.8	462.4	-118.3	CROSSED HARD LINE @ 4732' MD / 4477' TVD	
7,239.0	4,509.7	2,907.1	-665.8	TD @ 7239' MD / 4510' TVD	

Checked By: _____	Approved By: _____	Date: _____
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