

30-015-40401

Mewbourne Oil Co

Eddy County, New Mexico

Sec 9-25S-28E

San Lorenzo 9 PA Fee #1H

Wellbore #1

Survey: MWD

DDC Survey Report

13 September, 2012



DDC Survey Report



Company:	Mewbourne Oil Co	Local Co-ordinate Reference:	Well San Lorenzo 9 PA Fee #1H
Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 2965.0usft (Patterson #45)
Site:	Sec 9-25S-28E	MD Reference:	WELL @ 2965.0usft (Patterson #45)
Well:	San Lorenzo 9 PA Fee #1H	North Reference:	Gnd
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Project	Eddy County, New Mexico		
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	Sec 9-25S-28E		
Site Position:		Northing:	413,906.40 usft
From:	Map	Easting:	576,749.14 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 8' 15.729 N
		Longitude:	104° 5' 7.369 W
		Grid Convergence:	0.13 °

Well	San Lorenzo 9 PA Fee #1H		
Well Position	+N/-S	0.0 usft	Northing: 413,906.40 usft
	+E/-W	0.0 usft	Easting: 576,749.14 usft
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 8' 15.729 N
		Longitude:	104° 5' 7.369 W
		Ground Level:	2,945.0 usft

Wellbore	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	8/3/2012	7.68
			Dip Angle (°)
			59.99
			Field Strength (nT)
			48,397

Design	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction (°)
			359.67

Survey Program	Date 9/13/2012		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100.0	7,490.0	GYRO (Wellbore #1)	Good_gyro
7,602.0	12,650.0	MWD (Wellbore #1)	MWD default
			Description
			Good Gyro
			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 @ 7490' MD / 7485' TVD									
7,490.0	2.75	293.63	7,485.3	-17.2	30.4	-17.3	0.00	0.00	0.00
7,602.0	1.10	271.90	7,597.2	-16.0	26.9	-16.2	1.59	-1.47	-19.40
7,634.0	1.10	314.50	7,629.2	-15.8	26.3	-16.0	2.50	0.00	133.13
7,666.0	4.60	356.80	7,661.2	-14.3	26.0	-14.5	12.06	10.94	132.19
7,698.0	8.00	2.30	7,693.0	-10.8	26.1	-11.0	10.78	10.63	17.19
7,729.0	11.30	0.50	7,723.5	-5.6	26.2	-5.8	10.69	10.65	-5.81
7,761.0	15.00	355.10	7,754.7	1.6	25.8	1.5	12.17	11.56	-16.88
7,793.0	18.50	351.40	7,785.3	10.8	24.7	10.7	11.43	10.94	-11.56
7,825.0	22.30	350.90	7,815.3	21.8	23.0	21.7	11.89	11.88	-1.56

DDC Survey Report



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Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 2965.0usft (Patterson #45)
Site:	Sec 9-25S-28E	MD Reference:	WELL @ 2965.0usft (Patterson #45)
Well:	San Lorenzo 9 PA Fee #1H	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)
7,856.0	25.30	352.10	7,843.7	34.2	21.2	34.1	9.80	9.68	3.87
7,888.0	28.80	354.40	7,872.2	48.6	19.5	48.5	11.41	10.94	7.19
7,920.0	31.70	355.60	7,899.8	64.7	18.1	64.6	9.26	9.06	3.75
7,952.0	35.90	356.10	7,926.4	82.4	16.8	82.3	13.15	13.13	1.56
7,983.0	39.90	356.10	7,950.9	101.4	15.5	101.3	12.90	12.90	0.00
8,015.0	43.70	356.30	7,974.7	122.7	14.1	122.6	11.88	11.88	0.63
8,047.0	47.90	356.80	7,997.0	145.6	12.7	145.5	13.17	13.13	1.56
CROSSED HARD LINE @ 8063' MD / 8007' TVD									
8,062.5	49.85	357.37	8,007.2	157.3	12.1	157.2	12.87	12.57	3.65
8,078.0	51.80	357.90	8,017.0	169.3	11.6	169.2	12.87	12.59	3.45
8,110.0	55.20	358.80	8,036.0	195.0	10.9	194.9	10.86	10.63	2.81
8,142.0	58.70	359.60	8,053.5	221.8	10.5	221.7	11.14	10.94	2.50
8,174.0	61.50	358.90	8,069.4	249.5	10.2	249.5	8.95	8.75	-2.19
8,205.0	65.10	358.80	8,083.4	277.2	9.6	277.2	11.62	11.61	-0.32
8,237.0	68.60	358.60	8,095.9	306.6	8.9	306.6	10.95	10.94	-0.63
8,269.0	72.30	358.90	8,106.6	336.8	8.3	336.7	11.60	11.56	0.94
8,301.0	76.20	358.90	8,115.3	367.6	7.7	367.5	12.19	12.19	0.00
8,332.0	80.80	358.20	8,121.5	397.9	6.9	397.9	15.00	14.84	-2.26
8,364.0	84.50	358.10	8,125.6	429.6	5.9	429.6	11.57	11.56	-0.31
8,448.0	89.80	358.40	8,129.8	513.5	3.3	513.4	6.32	6.31	0.36
8,512.0	89.40	359.10	8,130.2	577.4	1.9	577.4	1.26	-0.63	1.09
8,575.0	89.10	359.10	8,131.0	640.4	0.9	640.4	0.48	-0.48	0.00
8,638.0	90.00	359.30	8,131.5	703.4	0.1	703.4	1.46	1.43	0.32
8,702.0	90.00	359.10	8,131.5	767.4	-0.8	767.4	0.31	0.00	-0.31
8,765.0	90.20	358.90	8,131.4	830.4	-1.9	830.4	0.45	0.32	-0.32
8,828.0	90.00	358.80	8,131.3	893.4	-3.2	893.4	0.35	-0.32	-0.16
8,892.0	89.90	358.80	8,131.4	957.4	-4.5	957.4	0.16	-0.16	0.00
8,955.0	90.00	358.40	8,131.4	1,020.4	-6.1	1,020.4	0.65	0.16	-0.63
9,019.0	90.40	358.10	8,131.2	1,084.3	-8.0	1,084.4	0.78	0.63	-0.47
9,082.0	90.80	357.90	8,130.6	1,147.3	-10.2	1,147.3	0.71	0.63	-0.32
9,145.0	91.00	358.90	8,129.6	1,210.3	-12.0	1,210.3	1.62	0.32	1.59
9,209.0	90.90	358.60	8,128.5	1,274.2	-13.4	1,274.3	0.49	-0.16	-0.47
9,272.0	90.70	359.60	8,127.6	1,337.2	-14.4	1,337.3	1.62	-0.32	1.59
9,336.0	91.00	0.20	8,126.7	1,401.2	-14.5	1,401.3	1.05	0.47	0.94
9,399.0	90.80	0.70	8,125.7	1,464.2	-14.0	1,464.3	0.85	-0.32	0.79
9,465.0	90.00	0.90	8,125.2	1,530.2	-13.1	1,530.2	1.25	-1.21	0.30
9,529.0	88.50	1.20	8,126.1	1,594.2	-11.9	1,594.2	2.39	-2.34	0.47
9,592.0	88.00	1.00	8,128.0	1,657.1	-10.7	1,657.2	0.85	-0.79	-0.32
9,656.0	87.70	1.00	8,130.4	1,721.1	-9.6	1,721.1	0.47	-0.47	0.00
9,719.0	87.40	0.50	8,133.1	1,784.0	-8.8	1,784.0	0.92	-0.48	-0.79
9,783.0	87.50	0.20	8,135.9	1,847.9	-8.4	1,848.0	0.49	0.16	-0.47
9,847.0	88.30	359.50	8,138.3	1,911.9	-8.5	1,911.9	1.66	1.25	-1.09
9,911.0	89.80	359.30	8,139.3	1,975.9	-9.2	1,975.9	2.36	2.34	-0.31

DDC Survey Report



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Project:	Eddy County, New Mexico	TVD Reference:	WELL @ 2965.0usft (Patterson #45)
Site:	Sec 9-25S-28E	MD Reference:	WELL @ 2965.0usft (Patterson #45)
Well:	San Lorenzo 9 PA Fee #1H	North Reference:	Grd
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)	
9,974.0	89.90	359.10	8,139.5	2,038.9	-10.1	2,038.9	0.35	0.16	-0.32	
10,037.0	90.00	359.10	8,139.6	2,101.9	-11.1	2,101.9	0.16	0.16	0.00	
10,101.0	89.40	358.90	8,139.9	2,165.9	-12.2	2,165.9	0.99	-0.94	-0.31	
10,164.0	89.10	358.60	8,140.7	2,228.8	-13.6	2,228.9	0.67	-0.48	-0.48	
10,228.0	88.40	358.40	8,142.1	2,292.8	-15.2	2,292.9	1.14	-1.09	-0.31	
10,291.0	89.70	358.80	8,143.2	2,355.8	-16.8	2,355.8	2.16	2.06	0.63	
10,355.0	90.60	359.50	8,143.0	2,419.8	-17.7	2,419.8	1.78	1.41	1.09	
10,419.0	90.50	359.10	8,142.4	2,483.8	-18.5	2,483.8	0.64	-0.16	-0.63	
10,483.0	89.00	359.50	8,142.6	2,547.8	-19.3	2,547.8	2.43	-2.34	0.63	
10,546.0	87.90	359.50	8,144.4	2,610.7	-19.8	2,610.8	1.75	-1.75	0.00	
10,609.0	87.20	359.50	8,147.0	2,673.7	-20.4	2,673.7	1.11	-1.11	0.00	
10,673.0	87.50	359.10	8,150.0	2,737.6	-21.2	2,737.7	0.78	0.47	-0.63	
10,737.0	87.30	359.30	8,152.9	2,801.5	-22.1	2,801.6	0.44	-0.31	0.31	
10,801.0	87.90	0.00	8,155.6	2,865.5	-22.4	2,865.5	1.44	0.94	1.09	
10,864.0	88.20	359.50	8,157.7	2,928.4	-22.7	2,928.5	0.93	0.48	-0.79	
10,928.0	89.60	359.80	8,159.0	2,992.4	-23.1	2,992.5	2.24	2.19	0.47	
10,991.0	90.10	358.20	8,159.1	3,055.4	-24.2	3,055.5	2.66	0.79	-2.54	
11,055.0	90.40	358.80	8,158.8	3,119.4	-25.9	3,119.5	1.05	0.47	0.94	
11,118.0	90.60	358.60	8,158.3	3,182.4	-27.3	3,182.5	0.45	0.32	-0.32	
11,182.0	90.50	358.80	8,157.7	3,246.3	-28.8	3,246.5	0.35	-0.16	0.31	
11,245.0	89.50	358.40	8,157.7	3,309.3	-30.3	3,309.4	1.71	-1.59	-0.63	
11,309.0	90.20	359.10	8,157.8	3,373.3	-31.7	3,373.4	1.55	1.09	1.09	
11,372.0	92.00	359.80	8,156.6	3,436.3	-32.3	3,436.4	3.07	2.86	1.11	
11,435.0	91.80	358.90	8,154.6	3,499.2	-33.0	3,499.4	1.46	-0.32	-1.43	
11,499.0	91.30	358.40	8,152.8	3,563.2	-34.5	3,563.3	1.10	-0.78	-0.78	
11,562.0	90.50	357.90	8,151.8	3,626.2	-36.6	3,626.3	1.50	-1.27	-0.79	
11,626.0	90.00	357.20	8,151.6	3,690.1	-39.3	3,690.3	1.34	-0.78	-1.09	
11,689.0	91.60	357.40	8,150.7	3,753.0	-42.3	3,753.2	2.56	2.54	0.32	
11,753.0	92.10	357.70	8,148.6	3,816.9	-45.0	3,817.1	0.91	0.78	0.47	
11,816.0	91.60	359.50	8,146.6	3,879.9	-46.5	3,880.1	2.96	-0.79	2.86	
11,880.0	90.90	1.20	8,145.2	3,943.9	-46.1	3,944.1	2.87	-1.09	2.66	
11,943.0	90.50	1.20	8,144.4	4,006.8	-44.8	4,007.0	0.63	-0.63	0.00	
12,007.0	90.40	0.90	8,143.9	4,070.8	-43.7	4,071.0	0.49	-0.16	-0.47	
12,070.0	89.60	0.50	8,143.9	4,133.8	-42.9	4,134.0	1.42	-1.27	-0.63	
12,134.0	90.50	1.20	8,143.8	4,197.8	-41.9	4,198.0	1.78	1.41	1.09	
12,197.0	89.60	1.00	8,143.8	4,260.8	-40.7	4,261.0	1.46	-1.43	-0.32	
12,261.0	90.80	0.70	8,143.6	4,324.8	-39.8	4,325.0	1.93	1.88	-0.47	
12,324.0	89.60	359.30	8,143.3	4,387.8	-39.8	4,387.9	2.93	-1.90	-2.22	
12,388.0	90.80	359.50	8,143.1	4,451.8	-40.4	4,451.9	1.90	1.88	0.31	
12,451.0	91.70	359.30	8,141.8	4,514.8	-41.1	4,514.9	1.46	1.43	-0.32	
12,514.0	92.70	359.80	8,139.3	4,577.7	-41.6	4,577.9	1.77	1.59	0.79	
12,577.0	92.90	359.80	8,136.3	4,640.6	-41.8	4,640.8	0.32	0.32	0.00	
12,595.0	92.20	359.60	8,135.5	4,658.6	-41.9	4,658.8	4.04	-3.89	-1.11	
TD @ 12650'MD / 8133' TVD										

DDC
Survey Report



Company: Mewbourne Oil Co Project: Eddy County, New Mexico Site: Sec 9-25S-28E Well: San Lorenzo 9 PA Fee #1H Wellbore: Wellbore #1 Design: Wellbore #1	Local Co-ordinate Reference: Well San Lorenzo 9 PA Fee #1H TVD Reference: WELL @ 2965 0usft (Patterson #45) MD Reference: WELL @ 2965 0usft (Patterson #45) North Reference: Grid Survey Calculation Method: Minimum Curvature Database: EDM 5000 1 Single User Db	
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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)
12,650.0	92.20	359.60	8,133.3	4,713.6	-42.3	4,713.7	0.00	0.00	0.00

Survey Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,490.0	7,485.3	-17.2	30.4	TIE IN @ 7490' MD / 7485' TVD
8,062.5	8,007.2	157.3	12.1	CROSSED HARD LINE @ 8063' MD / 8007' TVD
12,650.0	8,133.3	4,713.6	-42.3	TD @ 12650' MD / 8133' TVD

Checked By: _____	Approved By: _____	Date: _____
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Mewbourne Oil Company

Company Name: Mewbourne Oil Co
San Lorenzo 9 PA Fee #1H
Eddy County, New Mexico
Rig Patterson #45
Created By DINA CHANCE
Date: 9/20/2012

San Lorenzo 9 PA Fee #1H
Eddy County, New Mexico
Q120519 & WT-12545
Design #2



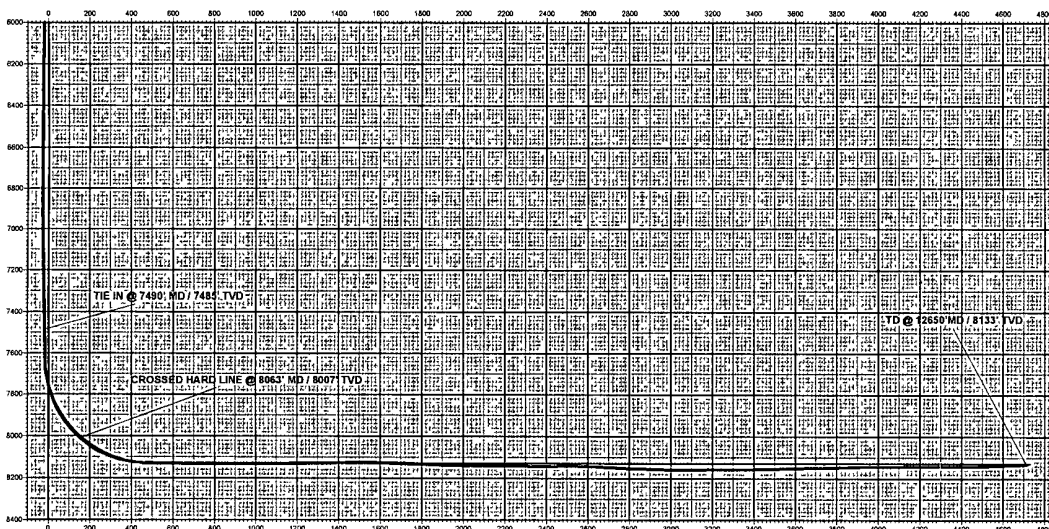
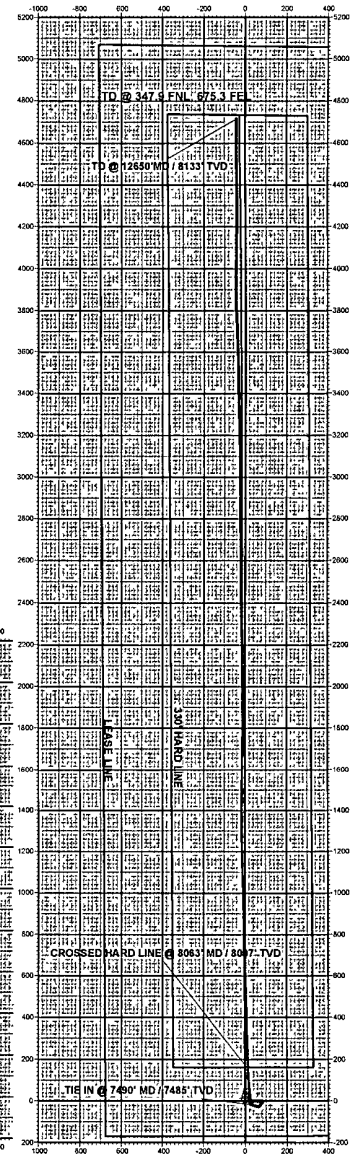
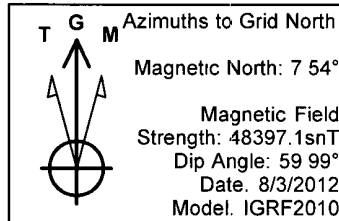
PROJECT DETAILS: Eddy County, New Mexico

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

WELL DETAILS San Lorenzo 9 PA Fee #1H					
Ground Level	2945.0				
+N/-S	+E/-W	Northing	Eastings	Latitude	Longitude
0.0	0.0	413908.40	576743.14	32° 8' 15.729 N	104° 5' 7.368 W

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Eastings	Latitude
PBHL San Lorenzo 9 PA Fee #1H 30.0	4731.3	-27.1	419837.70	576722.00	32° 9' 2.552 N	104° 5' 7.558 W
- plan hits target center						

ANNOTATIONS									
MD	Inc	Asl	TVD	+N/-S	+E/-W	V-Sect	Departure	Annotation	
7490.0	2.75	293.63	7488.3	-17.2	30.4	-17.3	184.4	TIE IN @ 7490 MD / 7485 TVD	
8062.6	49.86	357.37	8007.2	167.3	12.1	167.2	362.8	CROSSED HARD LINE @ 8063 MD / 8007 TVD	
12650.0	92.20	359.60	8133.3	4713.6	-42.3	4713.7	4919.9	TD @ 12650 MD / 8133 TVD	



Vertical Section at 359.67° (200 usft/in)

Operating Company Mewbourne
Well Name & Number San Lorenzon 9 PA Fee #1H
Sales Ticket Number 4707060
Date 8/17/2012

Company Rep Larry Sutton
Field Santo Nino
BOT Service Rep David Sartain
District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse		
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	8,425.00	9,960	6,230		
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,417.59	12,410	10,680		
Bott Liner												
TVD		8,156.00		KOP		7,748.00		Open Hole		6.125	Casing Vol. (bbl)	313.1
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_RH Profile	8184.41	8.00						

Zone Length										
		JR Sleeve_S3 Hyd Set Packer	8192.41	5.63	5.813	3.875				
		4-1/2-13.5 LTC Nipple	8198.04	4.00	5.000	3.920				
		8 Joints of 4-1/2-13.5 LTC Casing	8202.04	304.75	5.000	3.920				
	20	3 625 EX Frac Sleeve	8506.79	3.89	5.750		3.525	2375	316	313
		3 Joint of 4-1/2-13.5 LTC Casing	8510.68	113.58	5.000	3.920				
		Baker Open Hole Packer	8624.26	3.90	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	8628.16	113.79	5.000	3.920				
	19	3.500 EX Frac Sleeve	8741.95	3.89	5.750		3.400	2375	294	313
		3 Joint of 4-1/2-13.5 LTC Casing	8745.84	111.51	5.000	3.920				
		Baker Open Hole Packer	8857.35	3.90	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	8861.25	113.12	5.000	3.920				
	18	3 375 EX Frac Sleeve	8974.37	3.89	5.750		3.275	2375	273	313
		3 Joint of 4-1/2-13.5 LTC Casing	8978.26	114.28	5.000	3.920				
		Baker Open Hole Packer	9092.54	3.90	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	9096.44	115.20	5.000	3.920				
	17	3.250 EX Frac Sleeve	9211.64	3.89	5.750		3.150	2375	252	313
		3 Joint of 4-1/2-13.5 LTC Casing	9215.53	113.62	5.000	3.920				
		Baker Open Hole Packer	9329.15	3.90	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	9333.05	114.04	5.000	3.920				
	16	3.125 EX Frac Sleeve	9447.09	3.89	5.750		3.025	2375	233	313
		3 Joints of 4-1/2-13.5 LTC Casing	9450.98	115.05	5.000	3.920				
		Baker Open Hole Packer	9566.03	3.90	5.820	3.875		2154		

Operating Company Mewbourne
 Well Name & Number San Lorenzon 9 PA Fee #1H
 Sales Ticket Number 4707060
 Date 8/17/2012

Company Rep Larry Sutton
 Field Santo Nino
 BOT Service Rep David Sartain
 District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse		
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	8,425.00	9,960	6,230		
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,417.59	12,410	10,680		
Bott Liner												
TVD		8,156.00		KOP		7,748.00		Open Hole		6.125	Casing Vol. (bbl)	313.1
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)
15		2 Joints of 4-1/2-13.5 LTC Casing	9569.93	76.36	5.000	3.920				
	15	3.000 EX Frac sleeve	9646.29	3.89	5.750		2.900	2375	214	313
		3 Joint of 4-1/2-13.5 LTC Casing	9650.18	114.96	5.000	3.920				
14		Baker Open Hole Packer	9765.14	3.90	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	9769.04	112.80	5.000	3.920				
	14	2.875 EX Frac Sleeve	9881.84	3.89	5.750		2.775	2375	196	313
13		3 Joints of 4-1/2-13.5 LTC Casing	9885.73	112.83	5.000	3.920				
		Baker Open Hole Packer	9998.56	3.90	5.820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	10002.46	114.00	5.000	3.920				
12	13	2.750 EX Frac Sleeve	10116.46	3.89	5.750		2.650	2375	179	313
		2 Joint of 4-1/2-13.5 LTC Casing	10120.35	77.41	5.000	3.920				
		Baker Open Hole Packer	10197.76	3.90	5.820	3.875		2154		
11		3 Joints of 4-1/2-13.5 LTC Casing	10201.66	113.57	5.000	3.920				
	12	2.625 EX Frac Sleeve	10315.23	3.89	5.750		2.525	2375	162	313
		3 Joints of 4-1/2-13.5 LTC Casing	10319.12	113.96	5.000	3.920				
10		Baker Open Hole Packer	10433.08	3.90	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	10436.98	80.30	5.000	3.920				
	11	2.500 EX Frac Sleeve	10517.28	3.89	5.750		2.400	2375	147	313
9		3 Joint of 4-1/2-13.5 LTC Casing	10521.17	129.82	5.000	3.920				
		Baker Open Hole Packer	10650.99	3.90	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	10654.89	87.09	5.000	3.920				
10	10	2.375 EX Frac Sleeve	10741.98	3.89	5.750		2.275	2375	132	313
		2 Joints of 4-1/2-13.5 LTC Casing	10745.87	81.42	5.000	3.920				
		Baker Open Hole Packer	10827.29	3.90	5.820	3.875		2154		
9		3 Joint of 4-1/2-13.5 LTC Casing	10831.19	114.85	5.000	3.920				
	9	2.250 EX Frac Sleeve	10946.04	3.89	5.750		2.150	2375	118	313

Operating Company Mewbourne
 Well Name & Number San Lorenzon 9 PA Fee #1H
 Sales Ticket Number 4707060

Company Rep Larry Sutton
 Field Santo Nino
 BOT Service Rep David Sartain
 Date 8/17/2012
 District Location Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse	
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	8,425.00	9,960	6,230	
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,417.59	12,410	10,680	
Bott Liner											
TVD		8,156.00		KOP		7,748.00		Open Hole	6.125	Casing Vol. (bbl)	313.1
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 Joints of 4-1/2-13.5 LTC Casing	10949 93	114.89	5.000	3.920				
		Baker Open Hole Packer	11064 82	3 90	5.820	3.875		2154		
		3 Joint of 4-1/2-13.5 LTC Casing	11068.72	114.72	5 000	3.920				
8	8	2 125 EX Frac Sleeve	11183.44	3.89	5.750		2.025	2375	104	313
		3 Joints of 4-1/2-13.5 LTC Casing	11187 33	114.73	5.000	3.920				
		Baker Open Hole Packer	11302.06	3.90	5.820	3.875		2154		
		2 Joint of 4-1/2-13.5 LTC Casing	11305 96	76.56	5.000	3 920				
7	7	2 000 EX Frac Sleeve	11382 52	3 89	5.750		1 900	2375	92	313
		3 Joints of 4-1/2-13 5 LTC Casing	11386.41	114.87	5.000	3.920				
		Baker Open Hole Packer	11501.28	3.90	5.820	3.875		2154		
		2 Joint of 4-1/2-13 5 LTC Casing	11505.18	76.53	5.000	3 920				
6	6	1.875 EX Frac Sleeve	11581.71	3.89	5.750		1.775	2375	80	313
		3 Joints of 4-1/2-13 5 LTC Casing	11585.60	113.34	5.000	3.920				
		Baker Open Hole Packer	11698.94	3 90	5 820	3.875		2154		
		3 Joints of 4-1/2-13.5 LTC Casing	11702.84	112.69	5.000	3 920				
5	5	1.750 EX Frac Sleeve	11815.53	3 89	5.750		1.650	2375	69	313
		3 Joint of 4-1/2-13.5 LTC Casing	11819.42	115.87	5 000	3.920				
		Baker Open Hole Packer	11935 29	3 90	5.820	3.875		2154		
		3 Joints of 4-1/2-13 5 LTC Casing	11939 19	112.82	5 000	3.920				
4	4	1.625 EX Frac Sleeve	12052 01	3 89	5.750		1.525	2375	59	313
		2 Joints of 4-1/2-13.5 LTC Casing	12055.90	74.43	5 000	3 920				
		Baker Open Hole Packer	12130.33	3.90	5.820	3.875		2154		
		2 Joints of 4-1/2-13.5 LTC Casing	12134.23	75.32	5.000	3.920				
3	3	1.500 DBL Ball Frac Sleeve	12209 55	3 89	5.750		1.400	2375	50	313
		3 Joint of 4-1/2-13 5 LTC Casing	12213 44	113.71	5.000	3 920				
		Baker Open Hole Packer	12327 15	3 90	5 820	3.875		2154		

Company Rep	Larry Sutton
Field	Santo Nino
BOT Service Rep	David Sartain
District Location	Odessa, Texas, USA



	Size	Weight	Grade	ID	Drift	Thread	Capacity	Length	Burst	Collapse
Casing	7.000	26.00	P-110	6.276	6.151		0.03826	8,425.00	9,960	6,230
Top Liner	4.500	13.50	338000	3.920	3.795	LT&C	0.01492	4,417.59	12,410	10,680
Bott Liner										
TVD		8,156.00	KOP		7,748.00	Open Hole		6.125	Casing Vol. (bbl)	313.1
Carry Fluid Weight (ppg)			8.4	Propanant Content (ppa)				Max Drill Out Size		0



Company: MEWBOURNE OIL COMPANY
Lease/Well: SAN LORENZO 9 PA FEE/1H

Rig Name: PATTERSON 45
State/County: NEW MEXICO / EDDY
Latitude: 32.14
GRID North is 0.13 Degrees East of True North
VS-Azi: 359.67 Degrees



DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: san lorenzo 9pa fee #1h.ut
Minimum Curvature Method
Report Date/Time: 8/2/2012 / 10:37

Vaughn Energy Services
Gardendale, Texas
432-563-5444

Surveyor: Danny Spring
San Lorenzo 9 PA FEE 1H / API 30-015-40401

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	0.34	350.64	100.00	0.30	-0.05	0.30	0.30	350.64	0.34
200.00	0.15	110.32	200.00	0.55	0.02	0.55	0.55	2.51	0.44
300.00	0.47	156.63	300.00	0.12	0.31	0.12	0.33	68.04	0.38
400.00	0.75	207.73	399.99	-0.83	0.17	-0.83	0.85	168.68	0.58
500.00	0.88	225.29	499.98	-1.96	-0.69	-1.95	2.07	199.35	0.28
600.00	0.83	242.82	599.97	-2.83	-1.88	-2.82	3.40	213.59	0.27
700.00	0.19	217.70	699.97	-3.29	-2.62	-3.27	4.21	218.57	0.66
800.00	0.62	249.56	799.96	-3.61	-3.23	-3.59	4.84	221.83	0.47
900.00	0.55	295.61	899.96	-3.59	-4.17	-3.56	5.50	229.29	0.46
1000.00	0.37	338.51	999.96	-3.08	-4.72	-3.05	5.64	236.88	0.38
1100.00	0.90	59.96	1099.95	-2.39	-4.16	-2.36	4.79	240.12	0.92
1200.00	1.27	77.80	1199.93	-1.76	-2.39	-1.75	2.97	233.67	0.49
1300.00	0.15	97.94	1299.92	-1.54	-1.19	-1.54	1.95	217.52	1.13
1400.00	0.93	218.39	1399.92	-2.20	-1.56	-2.19	2.69	215.41	1.01
1500.00	0.70	219.44	1499.91	-3.30	-2.45	-3.29	4.11	216.59	0.23
1600.00	0.88	225.03	1599.90	-4.31	-3.38	-4.29	5.48	218.09	0.19
1700.00	1.06	240.83	1699.89	-5.31	-4.74	-5.28	7.11	221.73	0.32
1800.00	0.98	119.07	1799.88	-6.18	-4.80	-6.15	7.82	217.82	1.79
1900.00	0.90	60.62	1899.87	-6.21	-3.36	-6.19	7.06	208.44	0.92
2000.00	3.59	50.08	1999.78	-3.82	-0.28	-3.82	3.83	184.18	2.71
2100.00	5.16	80.62	2099.50	-1.07	6.56	-1.11	6.65	99.29	2.76
2200.00	7.07	89.50	2198.93	-0.29	17.16	-0.39	17.16	90.96	2.12

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
2300.00	6.31	90.92	2298.25	-0.32	28.81	-0.49	28.81	90.64	0.77
2400.00	5.51	92.28	2397.71	-0.60	39.11	-0.83	39.11	90.88	0.81
2500.00	4.90	95.33	2497.30	-1.19	48.15	-1.47	48.17	91.41	0.68
2600.00	3.83	90.31	2597.01	-1.60	55.74	-1.92	55.77	91.65	1.13
2700.00	3.17	86.84	2696.82	-1.47	61.84	-1.83	61.86	91.36	0.69
2800.00	2.65	85.66	2796.69	-1.14	66.91	-1.53	66.92	90.98	0.52
2900.00	2.28	84.86	2896.60	-0.79	71.20	-1.20	71.21	90.63	0.37
3000.00	1.79	96.69	2996.54	-0.79	74.74	-1.22	74.75	90.61	0.64
3100.00	1.73	90.39	3096.49	-0.98	77.81	-1.43	77.82	90.73	0.20
3200.00	1.23	90.49	3196.46	-1.00	80.40	-1.47	80.41	90.72	0.50
3300.00	1.14	89.73	3296.43	-1.01	82.47	-1.48	82.48	90.70	0.09
3400.00	0.40	81.64	3396.43	-0.95	83.81	-1.44	83.82	90.65	0.75
3500.00	0.63	126.39	3496.42	-1.23	84.60	-1.72	84.61	90.83	0.45
3600.00	0.33	155.57	3596.42	-1.82	85.16	-2.31	85.18	91.23	0.38
3700.00	0.14	161.37	3696.42	-2.20	85.32	-2.70	85.35	91.48	0.19
3800.00	0.21	170.10	3796.42	-2.50	85.39	-2.99	85.43	91.68	0.07
3900.00	0.32	204.58	3896.42	-2.94	85.31	-3.43	85.36	91.97	0.19
4000.00	0.25	268.67	3996.41	-3.20	84.97	-3.69	85.04	92.16	0.31
4100.00	0.23	261.31	4096.41	-3.24	84.57	-3.72	84.63	92.19	0.04
4200.00	0.29	265.16	4196.41	-3.29	84.12	-3.77	84.19	92.24	0.06
4300.00	0.08	210.20	4296.41	-3.37	83.84	-3.85	83.91	92.30	0.25
4400.00	0.58	217.81	4396.41	-3.82	83.50	-4.30	83.58	92.62	0.51
4500.00	0.53	203.01	4496.41	-4.65	83.00	-5.13	83.13	93.21	0.15
4600.00	0.28	190.66	4596.40	-5.32	82.78	-5.79	82.95	93.67	0.27
4700.00	0.37	212.32	4696.40	-5.83	82.56	-6.30	82.77	94.04	0.15
4800.00	0.36	214.43	4796.40	-6.36	82.21	-6.83	82.46	94.42	0.02
4900.00	0.54	250.58	4896.40	-6.77	81.59	-7.24	81.87	94.75	0.32
5000.00	0.46	244.62	4996.39	-7.10	80.79	-7.57	81.10	95.02	0.09
5100.00	0.37	229.87	5096.39	-7.48	80.17	-7.95	80.52	95.33	0.14
5200.00	0.48	201.99	5196.39	-8.08	79.77	-8.54	80.18	95.78	0.23
5300.00	0.61	236.27	5296.38	-8.76	79.17	-9.22	79.65	96.31	0.35
5400.00	0.59	222.78	5396.38	-9.44	78.38	-9.89	78.94	96.87	0.14
5500.00	0.82	215.11	5496.37	-10.40	77.61	-10.85	78.31	97.63	0.24
5600.00	0.99	212.49	5596.36	-11.72	76.74	-12.16	77.63	98.68	0.18
5700.00	1.17	208.49	5696.34	-13.34	75.79	-13.78	76.95	99.98	0.19
5800.00	0.98	202.92	5796.32	-15.02	74.97	-15.46	76.46	101.33	0.21
5900.00	0.87	202.52	5896.31	-16.52	74.34	-16.94	76.16	102.53	0.11
6000.00	1.33	211.49	5996.29	-18.21	73.44	-18.63	75.67	103.93	0.49
6100.00	1.25	203.11	6096.27	-20.20	72.41	-20.62	75.18	105.59	0.21
6200.00	1.04	201.13	6196.25	-22.05	71.65	-22.46	74.97	107.11	0.21
6300.00	0.76	181.80	6296.23	-23.56	71.31	-23.97	75.10	108.28	0.41
6400.00	0.72	206.21	6396.22	-24.79	71.01	-25.20	75.21	109.24	0.31

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
6500.00	0.99	241.44	6496.21	-25.77	69.97	-26.17	74.56	110.21	0.57
6600.00	1.59	243.33	6596.19	-26.80	67.97	-27.19	73.07	111.52	0.61
6700.00	1.91	261.60	6696.14	-27.67	65.08	-28.04	70.72	113.03	0.64
6800.00	2.42	280.76	6796.07	-27.52	61.37	-27.87	67.25	114.15	0.88
6900.00	2.85	279.46	6895.97	-26.72	56.84	-27.04	62.81	115.17	0.44
7000.00	3.03	287.36	6995.84	-25.52	51.87	-25.82	57.80	116.20	0.44
7100.00	2.77	291.51	7095.71	-23.84	47.10	-24.12	52.79	116.85	0.33
7200.00	2.37	288.82	7195.61	-22.29	42.89	-22.54	48.33	117.46	0.42
7300.00	2.89	292.58	7295.50	-20.65	38.60	-20.88	43.78	118.15	0.55
7400.00	2.53	293.29	7395.39	-18.81	34.24	-19.01	39.07	118.78	0.36
7490.00	2.75	293.63	7485.29	-17.16	30.44	-17.34	34.94	119.42	0.24