

Lime Rock Resources

Eddy Co, NM

Malco B 6 P FED

Malco B6P Fed 12

Orig Hole

30-015-43876

NM OIL CONSERVATION
ARTESIA DISTRICT

APR 03 2018

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Design: surveys

Standard Survey Report

08 March, 2018

ACCEL
Directional

Windows User
Survey Report



Company:	Lime Rock Resources	Local Co-ordinate Reference:	Well Malco B6P Fed 12
Project:	Eddy Co, NM	TVD Reference:	12.8' KB @ 3430.80usft (United 33)
Site:	Malco B 6 P FED	MD Reference:	12.8' KB @ 3430.80usft (United 33)
Well:	Malco B6P Fed 12	North Reference:	Grid
Wellbore:	Orig Hole	Survey Calculation Method:	Minimum Curvature
Design:	surveys	Database:	Accel Server EDM

Project	Eddy Co, NM		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site		Malco B 6 P FED			
Site Position:		Northing:	643,926.72 usft	Latitude:	32.770187
From:	Lat/Long	Easting:	547,819.71 usft	Longitude:	-104.312244
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.01 °

Well	Malco B6P Fed 12					
Well Position	+N/-S	0.00 usft	Northing:	643,926.72 usft	Latitude:	32.770187
	+E/-W	0.00 usft	Easting:	547,819.71 usft	Longitude:	-104.312244
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,418.00 usft

Wellbore	Orig Hole				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/23/2018	7.26	60.43	48,110.96490209

Design	surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	15.74	

Survey Program	Date	3/8/2018			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
392.00	4,705.00	accel mwd (Orig Hole)	MWD+IGRF	OWSG MWD + IGRF or WMM	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
392.00	0.40	89.30	392.00	0.02	1.37	0.39	0.10	0.10	0.00	
424.00	0.40	72.90	424.00	0.05	1.59	0.48	0.36	0.00	-51.25	
520.00	2.80	3.60	519.96	2.49	2.05	2.95	2.80	2.50	-72.19	
616.00	3.90	1.40	615.79	8.09	2.28	8.41	1.15	1.15	-2.29	
712.00	3.30	2.80	711.60	14.12	2.50	14.27	0.63	-0.63	1.46	
808.00	3.20	5.00	807.45	19.55	2.86	19.59	0.17	-0.10	2.29	
872.00	3.90	352.20	871.32	23.48	2.72	23.34	1.65	1.09	-20.00	
968.00	3.80	347.30	967.11	29.82	1.58	29.13	0.36	-0.10	-5.10	
1,064.00	3.60	345.50	1,062.91	35.84	0.13	34.53	0.24	-0.21	-1.88	

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Design:	surveys	Database:	Accel Server EDM

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)
1,160.00	3.30	343.20	1,158.73	41.40	-1.42	39.47	0.34	-0.31	-2.40
1,257.00	3.40	344.30	1,255.57	46.85	-3.01	44.27	0.12	0.10	1.13
1,353.00	3.30	346.70	1,351.40	52.28	-4.42	49.12	0.18	-0.10	2.50
1,449.00	3.10	352.00	1,447.25	57.54	-5.41	53.91	0.37	-0.21	5.52
1,544.00	3.30	350.50	1,542.11	62.78	-6.22	58.73	0.23	0.21	-1.58
1,640.00	3.20	352.10	1,637.95	68.16	-7.05	63.69	0.14	-0.10	1.67
1,736.00	2.80	353.80	1,733.82	73.14	-7.67	68.32	0.43	-0.42	1.77
1,831.00	3.70	340.60	1,828.67	78.34	-8.94	72.98	1.23	0.95	-13.89
1,927.00	4.00	339.90	1,924.45	84.40	-11.12	78.22	0.32	0.31	-0.73
2,023.00	4.00	341.00	2,020.22	90.72	-13.36	83.69	0.08	0.00	1.15
2,119.00	3.90	339.90	2,115.99	96.95	-15.57	89.09	0.13	-0.10	-1.15
2,215.00	3.70	339.40	2,211.78	102.91	-17.78	94.23	0.21	-0.21	-0.52
2,311.00	3.40	348.50	2,307.59	108.60	-19.44	99.26	0.66	-0.31	9.48
2,407.00	3.30	347.70	2,403.43	114.09	-20.59	104.23	0.11	-0.10	-0.83
2,503.00	3.40	347.60	2,499.27	119.57	-21.79	109.17	0.10	0.10	-0.10
2,566.00	3.40	347.60	2,562.15	123.22	-22.60	112.47	0.00	0.00	0.00
2,630.00	1.90	341.10	2,626.08	126.08	-23.35	115.02	2.39	-2.34	-10.16
2,662.00	0.40	15.30	2,658.08	126.69	-23.49	115.56	4.95	-4.69	106.88
2,758.00	0.60	70.10	2,754.07	127.18	-22.93	116.19	0.51	0.21	57.08
2,854.00	0.60	69.70	2,850.07	127.53	-21.98	116.78	0.00	0.00	-0.42
2,950.00	0.70	85.60	2,946.06	127.75	-20.93	117.28	0.21	0.10	16.56
3,046.00	1.00	86.00	3,042.05	127.85	-19.51	117.76	0.31	0.31	0.42
3,141.00	0.90	80.40	3,137.04	128.03	-17.95	118.36	0.14	-0.11	-5.89
3,205.00	0.70	327.30	3,201.04	128.44	-17.66	118.84	2.09	-0.31	-176.72
3,301.00	0.70	308.50	3,297.03	129.30	-18.44	119.45	0.24	0.00	-19.58
3,396.00	0.70	312.80	3,392.02	130.06	-19.32	119.94	0.06	0.00	4.53
3,492.00	0.80	296.50	3,488.01	130.76	-20.35	120.33	0.24	0.10	-16.98
3,588.00	0.90	283.00	3,584.00	131.22	-21.68	120.42	0.23	0.10	-14.06
3,684.00	0.70	280.70	3,679.99	131.50	-22.99	120.33	0.21	-0.21	-2.40
3,781.00	1.00	298.40	3,776.98	132.02	-24.32	120.47	0.41	0.31	18.25
3,876.00	0.80	298.30	3,871.97	132.72	-25.63	120.79	0.21	-0.21	-0.11
3,940.00	1.20	168.80	3,935.97	132.28	-25.90	120.29	2.84	0.63	-202.34
4,036.00	0.30	174.40	4,031.96	131.04	-25.68	119.16	0.94	-0.94	5.83
4,132.00	0.40	143.50	4,127.96	130.52	-25.45	118.72	0.22	0.10	-32.19
4,227.00	0.50	155.30	4,222.95	129.88	-25.08	118.21	0.14	0.11	12.42
4,323.00	0.70	153.50	4,318.95	128.97	-24.64	117.45	0.21	0.21	-1.88
4,419.00	0.90	154.60	4,414.94	127.77	-24.06	116.45	0.21	0.21	1.15
4,515.00	0.80	131.40	4,510.93	126.64	-23.23	115.59	0.37	-0.10	-24.17
4,611.00	0.80	129.60	4,606.92	125.77	-22.21	115.03	0.03	0.00	-1.88
4,652.00	0.90	131.40	4,647.91	125.38	-21.75	114.78	0.25	0.24	4.39
4,705.00	0.90	131.40	4,700.91	124.83	-21.13	114.42	0.00	0.00	0.00

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Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
4,705.00	4,700.91	124.83	-21.13	Projected to TD @ 4705' MD, 0.90°, 131.40° Azi

Checked By: _____ Approved By: _____ Date: _____