

30 015 41676

RKI Exploration & Production

Eddy County (NM83E)

Sec 22-T26S-R30E

RDU #37

Wellbore #1

Survey: Survey #1



Standard Survey Report

31 December, 2013

Wolverine Directional, LLC

Survey Report

Company:	RKI Exploration & Production	Local Co-ordinate Reference:	Well RDU #37
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 22-T26S-R30E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	RDU #37	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 2003.21 Single User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,465.0	1.00	316.60	4,442.4	3.4	273.2	273.2	0.27	0.00	-15.48
4,559.0	0.60	303.10	4,536.4	4.3	272.2	272.3	0.47	-0.43	-14.36
4,654.0	0.90	322.10	4,631.4	5.1	271.4	271.4	0.41	0.32	20.00
4,749.0	0.80	316.30	4,726.4	6.2	270.5	270.5	0.14	-0.11	-6.11
4,844.0	1.10	324.70	4,821.4	7.4	269.5	269.5	0.35	0.32	8.84
4,939.0	1.10	323.80	4,916.4	8.9	268.4	268.4	0.02	0.00	-0.95
5,032.0	0.60	91.60	5,009.3	9.6	268.4	268.4	1.66	-0.54	137.42
5,127.0	0.70	83.90	5,104.3	9.7	269.4	269.5	0.14	0.11	-8.11
5,221.0	0.90	98.80	5,198.3	9.6	270.7	270.8	0.31	0.21	15.85
5,315.0	0.50	97.40	5,292.3	9.4	271.9	271.9	0.43	-0.43	-1.49
5,409.0	0.50	99.30	5,386.3	9.3	272.7	272.7	0.02	0.00	2.02
5,503.0	0.60	100.20	5,480.3	9.2	273.6	273.6	0.11	0.11	0.96
5,597.0	0.60	116.00	5,574.3	8.9	274.5	274.5	0.18	0.00	16.81
5,690.0	0.90	115.00	5,667.3	8.3	275.6	275.6	0.32	0.32	-1.08
5,785.0	0.50	124.00	5,762.3	7.8	276.6	276.6	0.44	-0.42	9.47
5,878.0	0.60	121.00	5,855.3	7.3	277.4	277.4	0.11	0.11	-3.23
5,973.0	0.70	151.00	5,950.3	6.6	278.1	278.1	0.37	0.11	31.58
6,067.0	0.80	132.70	6,044.3	5.6	278.8	278.9	0.27	0.11	-19.47
6,161.0	0.60	128.20	6,138.3	4.9	279.7	279.7	0.22	-0.21	-4.79
6,255.0	0.80	156.80	6,232.3	4.0	280.4	280.4	0.42	0.21	30.43
6,348.0	1.00	147.30	6,325.3	2.7	281.0	281.1	0.27	0.22	-10.22
6,443.0	0.80	64.40	6,420.2	2.3	282.1	282.1	1.26	-0.21	-87.26
6,537.0	0.80	149.30	6,514.2	2.0	283.0	283.0	1.15	0.00	90.32
6,631.0	0.90	168.60	6,608.2	0.7	283.5	283.5	0.32	0.11	20.53
6,725.0	1.10	158.80	6,702.2	-0.9	284.0	284.0	0.28	0.21	-10.43
6,819.0	1.20	173.30	6,796.2	-2.7	284.4	284.4	0.33	0.11	15.43
6,913.0	1.20	166.00	6,890.2	-4.6	284.8	284.8	0.16	0.00	-7.77
7,007.0	1.30	170.50	6,984.2	-6.6	285.2	285.2	0.15	0.11	4.79
7,102.0	1.20	171.60	7,079.1	-8.7	285.5	285.5	0.11	-0.11	1.16
7,197.0	1.70	172.80	7,174.1	-11.1	285.8	285.8	0.53	0.53	1.26
7,291.0	1.40	179.70	7,268.1	-13.6	286.0	286.0	0.38	-0.32	7.34
7,385.0	1.10	181.80	7,362.0	-15.6	286.0	285.9	0.32	-0.32	2.23
7,488.0	1.20	153.00	7,465.0	-17.6	286.4	286.4	0.56	0.10	-27.96
Last MWD Survey									
7,535.0	1.20	153.00	7,512.0	-18.5	286.9	286.8	0.00	0.00	0.00
Proj to TD - RDU #37 PBHL									

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,010.0	1,009.9	-14.7	2.9	First MWD Survey	
7,488.0	7,465.0	-17.6	286.4	Last MWD Survey	
7,535.0	7,512.0	-18.5	286.9	Proj to TD	

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------