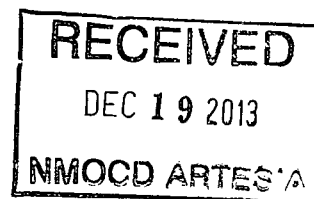


30-015-40651

Wolverine Directional



End of Well
Report

RKI

**Longview Deep Fed 1-21H
Eddy County, NM
Sec 1-T23S-R28E**

Wolverine Directional

Plan vs. Actual And Survey Report

RKI Exploration & Production

Project: Eddy County (NM83E)
 Site: Sec 1-T23S-R28E
 Well: Longview Deep Fed 1-21H
 Wellbore: Wellbore #1
 Design: 08-16-13


 Azimuths to Grid North
 True North: -0.15°
 Magnetic North: 7.40°
 Magnetic Field
 Strength: 48448.0snT
 Dip Angle: 60.16°
 Date: 07/25/2013
 Model: IGRF2010

WOLVERINE
 DIRECTIONAL

WELL DETAILS: Longview Deep Fed 1-21H

+N/-S +E/-W	Northing	Ground Level: 0.0	Easting	Latitude	Longitude
0.0 0.0	487066.50		630331.40	32° 20' 19.278 N	104° 2' 42.653 W
SHL: 1215' FNL / 1260' FWL of Sec 1					
BHL: 1090' FNL / 430' FWL of Sec 12					

RECEIVED
 DEC 19 2013
 NMOCD ARTESIA

SECTION DETAILS

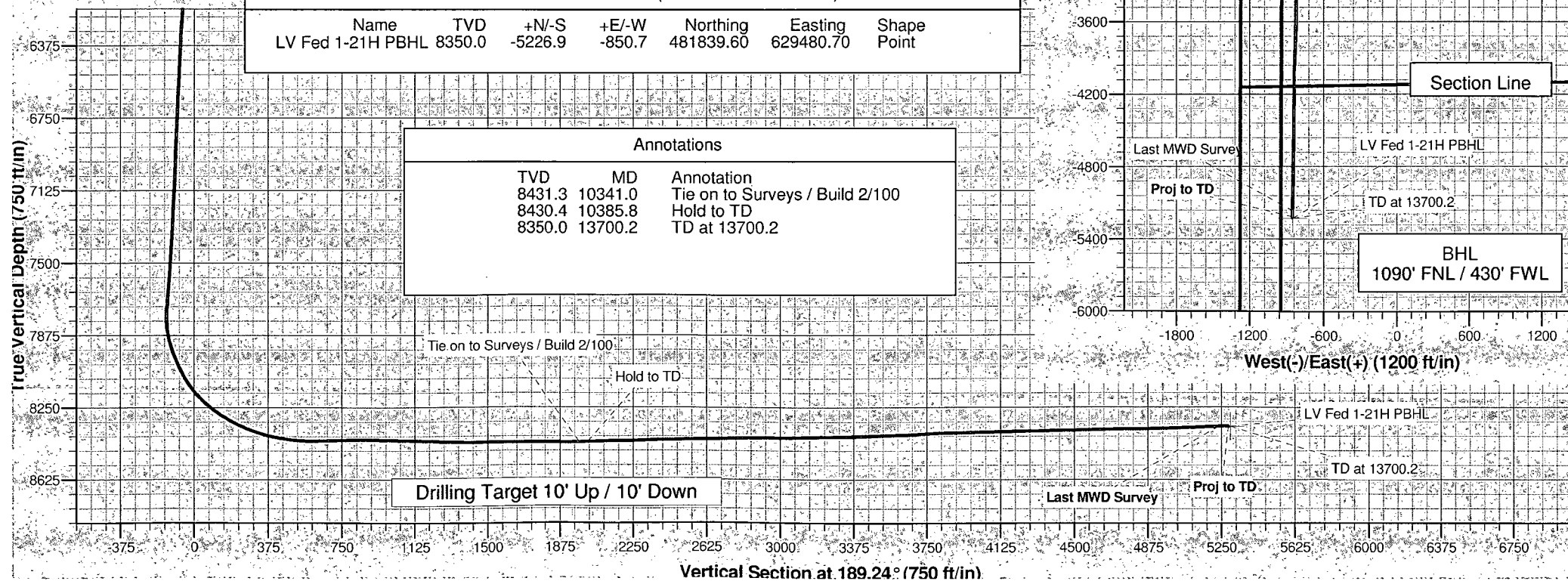
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	10341.0	90.90	180.20	8431.3	-1869.1	-795.1	0.00	0.00	1972.6	
2	10385.8	91.39	180.95	8430.4	-1913.9	-795.5	2.00	56.83	2016.8	
3	13700.2	91.39	180.96	8350.0	-5226.9	-850.7	0.00	99.48	5295.7	LV Fed 1-21H PBHL

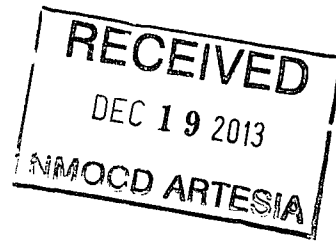
PROJECT TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape Point
LV Fed 1-21H PBHL	8350.0	-5226.9	-850.7	481839.60	629480.70	

Annotations

TVD	MD	Annotation
8431.3	10341.0	Tie on to Surveys / Build 2/100
8430.4	10385.8	Hold to TD
8350.0	13700.2	TD at 13700.2





RKI Exploration & Production

Eddy County (NM83E)

Sec 1-T23S-R28E

Longview Deep Fed 1-21H

Wellbore #1

Survey: MWD Surveys

Standard Survey Report

22 August, 2013

Wolverine Directional, LLC

Survey Report

Company:	RKI Exploration & Production	Local Co-ordinate Reference:	Well Longview Deep Fed 1-21H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 1-T23S-R28E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Longview Deep Fed 1-21H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 2003.21 Single User Db

Design:	Wellbore #1			
Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.0	0.0	0.0	189.24

Survey Program	Date 2013/08/22			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
100.0	13,690.0	MWD Surveys (Wellbore #1)	MWD	MWD - Standard

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
Lentini 1 Fed #15									
1.6	0.01	346.35	1.6	0.0	0.0	0.0	0.36	0.36	0.00
LV Fed 1-21H POP									
100.0	0.36	346.35	100.0	0.3	-0.1	-0.3	0.36	0.36	0.00
First GYRO Survey									
200.0	0.80	345.27	200.0	1.3	-0.3	-1.2	0.44	0.44	-1.08
300.0	0.58	343.91	300.0	2.4	-0.6	-2.3	0.22	-0.22	-1.36
400.0	0.87	345.39	400.0	3.7	-1.0	-3.5	0.29	0.29	1.48
500.0	0.69	327.05	500.0	4.9	-1.5	-4.6	0.31	-0.18	-18.34
600.0	0.26	289.76	600.0	5.5	-2.0	-5.1	0.51	-0.43	-37.29
700.0	0.56	253.16	700.0	5.4	-2.7	-4.9	0.38	0.30	-36.60
800.0	0.97	244.69	800.0	4.9	-3.9	-4.2	0.42	0.41	-8.47
900.0	1.24	235.47	899.9	3.9	-5.6	-3.0	0.32	0.27	-9.22
1,000.0	1.85	239.27	999.9	2.5	-7.9	-1.2	0.62	0.61	3.80
1,100.0	2.37	240.12	1,099.8	0.7	-11.1	1.1	0.52	0.52	0.85
1,200.0	2.70	240.94	1,199.7	-1.5	-14.9	3.9	0.33	0.33	0.82
1,300.0	2.64	240.17	1,299.6	-3.8	-19.0	6.8	0.07	-0.06	-0.77
1,400.0	2.77	239.14	1,399.5	-6.2	-23.0	9.8	0.14	0.13	-1.03
1,500.0	2.83	239.59	1,499.4	-8.7	-27.2	12.9	0.06	0.06	0.45
1,600.0	2.63	237.36	1,599.3	-11.2	-31.3	16.1	0.23	-0.20	-2.23
1,700.0	2.23	236.78	1,699.2	-13.5	-34.9	18.9	0.40	-0.40	-0.58
1,800.0	2.09	234.31	1,799.1	-15.6	-38.0	21.5	0.17	-0.14	-2.47
1,900.0	1.49	211.35	1,899.1	-17.8	-40.1	24.0	0.92	-0.60	-22.96
2,000.0	1.62	157.00	1,999.0	-20.2	-40.3	26.4	1.42	0.13	-54.35
2,100.0	1.99	137.18	2,099.0	-22.8	-38.5	28.7	0.72	0.37	-19.82
2,200.0	2.10	138.38	2,198.9	-25.4	-36.1	30.9	0.12	0.11	1.20
2,300.0	2.82	133.82	2,298.8	-28.5	-33.1	33.4	0.75	0.72	-4.56
2,400.0	3.11	130.03	2,398.7	-31.9	-29.3	36.2	0.35	0.29	-3.79
2,500.0	3.31	128.84	2,498.5	-35.5	-25.0	39.0	0.21	0.20	-1.19
2,600.0	2.97	129.52	2,598.4	-38.9	-20.7	41.8	0.34	-0.34	0.68
2,700.0	2.56	117.00	2,698.3	-41.6	-16.7	43.8	0.73	-0.41	-12.52
2,800.0	2.03	121.61	2,798.2	-43.5	-13.2	45.1	0.56	-0.53	4.61
2,900.0	1.69	120.74	2,898.1	-45.2	-10.5	46.3	0.34	-0.34	-0.87
3,000.0	1.51	120.81	2,998.1	-46.7	-8.1	47.3	0.18	-0.18	0.07
3,100.0	1.14	105.12	3,098.1	-47.6	-6.0	47.9	0.51	-0.37	-15.69
3,200.0	1.00	122.55	3,198.1	-48.3	-4.3	48.4	0.35	-0.14	17.43
3,300.0	0.78	104.72	3,298.0	-49.0	-2.9	48.8	0.35	-0.22	-17.83

Wolverine Directional, LLC

Survey Report

Company:	RKI Exploration & Production	Local Co-ordinate Reference:	Well: Longview Deep Fed 1-21H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 1-T23S-R28E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Longview Deep Fed 1-21H	North Reference:	Grid
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)
3,400.0	0.94	120.86	3,398.0	-49.6	-1.5	49.2	0.29	0.16	16.14
3,500.0	0.53	118.77	3,498.0	-50.2	-0.4	49.6	0.41	-0.41	-2.09
3,600.0	0.64	106.87	3,598.0	-50.6	0.5	49.8	0.16	0.11	-11.90
3,700.0	0.68	109.78	3,698.0	-50.9	1.6	50.0	0.05	0.04	2.91
3,800.0	0.54	133.54	3,798.0	-51.5	2.5	50.4	0.29	-0.14	23.76
3,900.0	0.31	110.84	3,898.0	-51.9	3.1	50.7	0.28	-0.23	-22.70
3,946.0	0.17	169.91	3,944.0	-52.0	3.3	50.8	0.58	-0.30	128.41
Last GYRO Survey									
4,132.0	0.50	265.80	4,130.0	-52.3	2.5	51.3	0.29	0.18	51.55
First MWD Survey									
4,226.0	1.60	295.00	4,224.0	-51.8	0.9	51.0	1.26	1.17	31.06
4,321.0	3.10	295.90	4,318.9	-50.1	-2.6	49.9	1.58	1.58	0.95
4,416.0	4.70	304.10	4,413.7	-46.8	-8.1	47.5	1.78	1.68	8.63
4,510.0	7.20	306.40	4,507.2	-41.2	-16.1	43.2	2.67	2.66	2.45
4,605.0	10.30	305.30	4,601.1	-32.7	-27.8	36.8	3.27	3.26	-1.16
4,699.0	12.00	299.20	4,693.3	-23.1	-43.2	29.7	2.20	1.81	-6.49
4,793.0	12.60	298.80	4,785.1	-13.4	-60.7	23.0	0.64	0.64	-0.43
4,888.0	12.80	299.90	4,877.8	-3.2	-78.9	15.8	0.33	0.21	1.16
4,983.0	12.80	300.10	4,970.4	7.4	-97.1	8.3	0.05	0.00	0.21
5,077.0	12.40	300.80	5,062.2	17.8	-114.8	0.9	0.46	-0.43	0.74
5,172.0	10.10	288.80	5,155.4	25.7	-131.5	-4.2	3.44	-2.42	-12.63
5,266.0	10.60	290.90	5,247.8	31.4	-147.4	-7.3	0.67	0.53	2.23
5,361.0	11.70	291.80	5,341.0	38.1	-164.5	-11.2	1.17	1.16	0.95
5,455.0	11.40	292.00	5,433.1	45.1	-181.9	-15.3	0.32	-0.32	0.21
5,550.0	11.50	292.50	5,526.2	52.3	-199.4	-19.6	0.15	0.11	0.53
5,644.0	11.70	292.90	5,618.3	59.6	-216.8	-24.0	0.23	0.21	0.43
5,739.0	11.90	293.60	5,711.3	67.2	-234.7	-28.7	0.26	0.21	0.74
5,833.0	11.50	294.50	5,803.4	75.0	-252.1	-33.5	0.47	-0.43	0.96
5,928.0	11.50	294.50	5,896.4	82.8	-269.3	-38.5	0.00	0.00	0.00
6,022.0	12.80	296.00	5,988.3	91.3	-287.2	-44.0	1.42	1.38	1.60
6,117.0	12.80	297.30	6,081.0	100.7	-306.0	-50.3	0.30	0.00	1.37
6,211.0	12.80	295.20	6,172.6	109.9	-324.7	-56.4	0.49	0.00	-2.23
6,306.0	12.40	295.50	6,265.4	118.8	-343.4	-62.1	0.43	-0.42	0.32
6,400.0	11.30	292.50	6,357.4	126.7	-361.0	-67.0	1.34	-1.17	-3.19
6,495.0	10.10	294.50	6,450.7	133.7	-377.2	-71.4	1.32	-1.26	2.11
6,589.0	10.30	292.30	6,543.2	140.3	-392.5	-75.4	0.47	0.21	-2.34
6,684.0	11.10	293.20	6,636.6	147.1	-408.7	-79.6	0.86	0.84	0.95
6,778.0	10.30	293.00	6,728.9	154.0	-424.8	-83.7	0.85	-0.85	-0.21
6,873.0	11.20	289.70	6,822.3	160.4	-441.3	-87.4	1.15	0.95	-3.47
6,967.0	12.00	289.70	6,914.3	166.8	-459.1	-90.9	0.85	0.85	0.00
7,062.0	11.30	288.50	7,007.4	173.1	-477.2	-94.2	0.78	-0.74	-1.26
7,157.0	11.10	291.30	7,100.6	179.3	-494.6	-97.6	0.61	-0.21	2.95
7,251.0	12.00	295.00	7,192.7	186.8	-511.9	-102.1	1.24	0.96	3.94
7,346.0	11.50	293.90	7,285.7	194.8	-529.5	-107.2	0.58	-0.53	-1.16
7,440.0	11.10	296.40	7,377.9	202.6	-546.1	-112.2	0.67	-0.43	2.66
7,537.0	11.30	297.40	7,473.0	211.1	-562.9	-117.9	0.29	0.21	1.03
7,630.0	10.60	299.00	7,564.3	219.5	-578.5	-123.7	0.82	-0.75	1.72
7,724.0	11.30	303.10	7,656.6	228.7	-593.8	-130.3	1.11	0.74	4.36
7,756.0	10.40	303.90	7,688.0	232.0	-598.8	-132.8	2.85	-2.81	2.50
7,787.0	10.90	299.00	7,718.5	235.0	-603.7	-134.9	3.34	1.61	-15.81
7,819.0	13.60	286.90	7,749.8	237.5	-609.9	-136.5	11.60	8.44	-37.81
7,850.0	17.50	282.80	7,779.6	239.6	-618.0	-137.2	13.06	12.58	-13.23
7,882.0	20.10	275.10	7,809.9	241.2	-628.1	-137.2	11.22	8.13	-24.06
7,913.0	20.90	262.80	7,839.0	241.0	-638.9	-135.2	14.11	2.58	-39.68

Wolverine Directional, LLC

Survey Report

Company:	RKI Exploration & Production	Local Co-ordinate Reference:	Well Longview Deep Fed 1-21H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 1-T23S-R28E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Longview Deep Fed 1-21H	North Reference:	Grid
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)
7,945.0	21.40	251.00	7,868.8	238.4	-650.1	-130.8	13.38	1.56	-36.88
7,976.0	21.70	241.50	7,897.7	233.8	-660.5	-124.6	11.29	0.97	-30.65
8,008.0	21.70	232.40	7,927.4	227.3	-670.4	-116.7	10.51	0.00	-28.44
8,039.0	22.30	222.00	7,956.2	219.5	-678.9	-107.6	12.70	1.94	-33.55
8,071.0	22.80	210.60	7,985.7	209.6	-686.1	-96.7	13.73	1.56	-35.63
8,102.0	24.30	204.80	8,014.2	198.7	-691.8	-84.9	8.90	4.84	-18.71
8,134.0	25.50	200.40	8,043.2	186.2	-697.0	-71.8	6.90	3.75	-13.75
8,165.0	27.50	197.40	8,070.9	173.1	-701.5	-58.2	7.76	6.45	-9.68
8,197.0	29.60	195.50	8,099.0	158.5	-705.8	-43.0	7.15	6.56	-5.94
8,228.0	32.90	192.80	8,125.5	142.9	-709.7	-27.0	11.56	10.65	-8.71
8,260.0	36.80	190.70	8,151.8	125.0	-713.4	-8.7	12.75	12.19	-6.56
8,291.0	40.60	190.40	8,176.0	105.9	-717.0	10.6	12.27	12.26	-0.97
8,323.0	43.90	191.30	8,199.7	84.8	-721.0	32.1	10.48	10.31	2.81
8,354.0	46.90	191.40	8,221.4	63.2	-725.4	54.2	9.68	9.68	0.32
8,386.0	49.20	191.30	8,242.8	39.8	-730.0	78.0	7.19	7.19	-0.31
8,417.0	51.90	191.10	8,262.5	16.3	-734.7	101.9	8.72	8.71	-0.65
8,449.0	54.70	189.70	8,281.6	-8.9	-739.3	127.5	9.43	8.75	-4.38
8,480.0	57.50	188.30	8,298.9	-34.3	-743.3	153.3	9.78	9.03	-4.52
8,512.0	59.80	188.50	8,315.6	-61.3	-747.3	180.6	7.21	7.19	0.63
8,543.0	62.60	188.50	8,330.5	-88.2	-751.3	207.7	9.03	9.03	0.00
8,575.0	65.10	187.80	8,344.6	-116.6	-755.4	236.5	8.06	7.81	-2.19
8,606.0	66.70	187.20	8,357.3	-144.7	-759.1	264.7	5.46	5.16	-1.94
8,638.0	68.90	186.00	8,369.4	-174.1	-762.5	294.3	7.70	6.88	-3.75
8,670.0	71.30	185.50	8,380.3	-204.1	-765.5	324.4	7.64	7.50	-1.56
8,701.0	73.60	185.30	8,389.6	-233.5	-768.3	353.9	7.44	7.42	-0.65
8,733.0	75.90	185.10	8,398.0	-264.2	-771.1	384.7	7.21	7.19	-0.63
8,764.0	78.20	184.40	8,405.0	-294.3	-773.6	414.8	7.74	7.42	-2.26
8,796.0	80.70	182.80	8,410.8	-325.7	-775.6	446.1	9.23	7.81	-5.00
8,891.0	86.00	182.30	8,421.8	-420.0	-779.8	539.8	5.60	5.58	-0.53
8,923.0	88.10	182.80	8,423.5	-451.9	-781.2	571.5	6.75	6.56	1.56
8,954.0	90.40	182.70	8,423.9	-482.8	-782.7	602.3	7.43	7.42	-0.32
8,986.0	91.30	182.50	8,423.4	-514.8	-784.1	634.1	2.88	2.81	-0.63
9,080.0	92.10	182.30	8,420.6	-608.7	-788.1	727.4	0.88	0.85	-0.21
9,175.0	91.50	180.70	8,417.6	-703.6	-790.5	821.4	1.80	-0.63	-1.68
9,238.0	89.50	181.60	8,417.1	-766.6	-791.8	883.8	3.48	-3.17	1.43
9,270.0	88.10	181.40	8,417.7	-798.6	-792.6	915.5	4.42	-4.38	-0.63
9,301.0	88.10	181.40	8,418.8	-829.5	-793.4	946.2	0.00	0.00	0.00
9,333.0	88.30	180.70	8,419.8	-861.5	-794.0	977.9	2.27	0.63	-2.19
9,364.0	88.60	181.40	8,420.6	-892.5	-794.6	1,008.5	2.46	0.97	2.26
9,396.0	89.00	180.70	8,421.3	-924.5	-795.1	1,040.2	2.52	1.25	-2.19
9,427.0	88.00	179.80	8,422.1	-955.5	-795.3	1,070.8	4.34	-3.23	-2.90
9,459.0	88.00	179.80	8,423.2	-987.4	-795.2	1,102.4	0.00	0.00	0.00
9,490.0	88.50	179.30	8,424.2	-1,018.4	-794.9	1,132.9	2.28	1.61	-1.61
9,522.0	88.70	179.30	8,424.9	-1,050.4	-794.5	1,164.4	0.63	0.63	0.00
9,553.0	87.60	179.10	8,425.9	-1,081.4	-794.1	1,194.9	3.61	-3.55	-0.65
9,585.0	87.60	178.80	8,427.3	-1,113.4	-793.5	1,226.4	0.94	0.00	-0.94
9,616.0	87.60	179.00	8,428.6	-1,144.3	-792.9	1,256.8	0.64	0.00	0.65
9,648.0	87.80	178.40	8,429.9	-1,176.3	-792.2	1,288.3	1.97	0.63	-1.88
9,679.0	87.90	178.40	8,431.0	-1,207.3	-791.3	1,318.7	0.32	0.32	0.00
9,711.0	88.40	179.00	8,432.1	-1,239.2	-790.6	1,350.1	2.44	1.56	1.88
9,742.0	88.70	179.70	8,432.8	-1,270.2	-790.3	1,380.7	2.46	0.97	2.26
9,774.0	90.30	179.80	8,433.1	-1,302.2	-790.1	1,412.2	5.01	5.00	0.31
9,805.0	90.60	180.20	8,432.9	-1,333.2	-790.1	1,442.8	1.61	0.97	1.29
9,837.0	90.70	179.80	8,432.5	-1,365.2	-790.1	1,474.4	1.29	0.31	-1.25

Wolverine Directional, LLC

Survey Report

Company:	RKI Exploration & Production	Local Co-ordinate Reference:	Well: Longview Deep Fed 1-21H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 1-T23S-R28E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Longview Deep Fed 1-21H	North Reference:	Grid
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)
9,868.0	90.90	179.80	8,432.1	-1,396.2	-790.0	1,505.0	0.65	0.65	0.00
9,900.0	90.70	178.80	8,431.6	-1,428.2	-789.6	1,536.5	3.19	-0.63	-3.13
9,931.0	89.50	179.70	8,431.6	-1,459.2	-789.2	1,567.0	4.84	-3.87	2.90
9,963.0	89.50	179.70	8,431.9	-1,491.2	-789.0	1,598.6	0.00	0.00	0.00
9,994.0	89.70	180.90	8,432.1	-1,522.2	-789.2	1,629.2	3.92	0.65	3.87
10,026.0	90.20	180.70	8,432.1	-1,554.2	-789.7	1,660.9	1.68	1.56	-0.63
10,057.0	90.70	180.50	8,431.9	-1,585.2	-790.0	1,691.5	1.74	1.61	-0.65
10,089.0	91.10	180.90	8,431.4	-1,617.2	-790.4	1,723.2	1.77	1.25	1.25
10,120.0	90.10	181.10	8,431.0	-1,648.2	-790.9	1,753.8	3.29	-3.23	0.65
10,152.0	90.60	181.40	8,430.8	-1,680.2	-791.6	1,785.5	1.82	1.56	0.94
10,183.0	89.40	181.20	8,430.8	-1,711.2	-792.3	1,816.2	3.92	-3.87	-0.65
10,215.0	89.20	181.60	8,431.2	-1,743.2	-793.1	1,847.9	1.40	-0.63	1.25
10,246.0	89.40	181.40	8,431.6	-1,774.1	-793.9	1,878.6	0.91	0.65	-0.65
10,278.0	90.00	180.90	8,431.8	-1,806.1	-794.5	1,910.3	2.44	1.88	-1.56
10,309.0	90.50	180.40	8,431.6	-1,837.1	-794.9	1,941.0	2.28	1.61	-1.61
10,341.0	90.90	180.20	8,431.3	-1,869.1	-795.1	1,972.6	1.40	1.25	-0.63
10,372.0	91.50	179.70	8,430.6	-1,900.1	-795.0	2,003.2	2.52	1.94	-1.61
10,404.0	91.70	179.70	8,429.7	-1,932.1	-794.9	2,034.7	0.63	0.63	0.00
10,435.0	91.20	180.40	8,428.9	-1,963.1	-794.9	2,065.3	2.77	-1.61	2.26
10,467.0	91.50	180.40	8,428.2	-1,995.1	-795.1	2,096.9	0.94	0.94	0.00
10,498.0	92.00	180.40	8,427.2	-2,026.1	-795.3	2,127.5	1.61	1.61	0.00
10,591.0	90.30	180.90	8,425.4	-2,119.0	-796.4	2,219.5	1.91	-1.83	0.54
10,685.0	92.90	181.10	8,422.7	-2,213.0	-798.0	2,312.4	2.77	2.77	0.21
10,780.0	90.40	180.50	8,420.0	-2,307.9	-799.4	2,406.4	2.71	-2.63	-0.63
10,874.0	92.40	180.20	8,417.7	-2,401.9	-799.9	2,499.2	2.15	2.13	-0.32
10,969.0	91.10	182.10	8,414.8	-2,496.8	-801.8	2,593.2	2.42	-1.37	2.00
11,063.0	90.70	182.70	8,413.3	-2,590.7	-805.8	2,686.5	0.77	-0.43	0.64
11,158.0	92.10	182.70	8,411.0	-2,685.6	-810.2	2,780.9	1.47	1.47	0.00
11,253.0	91.30	181.20	8,408.2	-2,780.5	-813.5	2,875.1	1.79	-0.84	-1.58
11,348.0	89.30	180.90	8,407.7	-2,875.5	-815.2	2,969.1	2.13	-2.11	-0.32
11,443.0	90.50	180.70	8,407.9	-2,970.5	-816.5	3,063.1	1.28	1.26	-0.21
11,538.0	92.10	180.50	8,405.7	-3,065.4	-817.5	3,156.9	1.70	1.68	-0.21
11,633.0	90.50	180.90	8,403.5	-3,160.4	-818.7	3,250.9	1.74	-1.68	0.42
11,727.0	90.70	179.30	8,402.6	-3,254.4	-818.9	3,343.7	1.72	0.21	-1.70
11,822.0	92.20	178.10	8,400.2	-3,349.3	-816.7	3,437.0	2.02	1.58	-1.26
11,917.0	92.00	180.00	8,396.7	-3,444.2	-815.1	3,530.5	2.01	-0.21	2.00
12,012.0	91.30	181.40	8,393.9	-3,539.2	-816.3	3,624.4	1.65	-0.74	1.47
12,107.0	93.60	181.40	8,389.9	-3,634.1	-818.6	3,718.4	2.42	2.42	0.00
12,201.0	92.40	182.50	8,385.0	-3,727.9	-821.8	3,811.5	1.73	-1.28	1.17
12,295.0	90.70	182.70	8,382.4	-3,821.8	-826.1	3,904.8	1.82	-1.81	0.21
12,389.0	92.10	182.30	8,380.1	-3,915.6	-830.2	3,998.1	1.55	1.49	-0.43
12,485.0	90.70	180.90	8,377.8	-4,011.6	-832.9	4,093.3	2.06	-1.46	-1.46
12,579.0	92.20	180.40	8,375.4	-4,105.5	-833.9	4,186.2	1.68	1.60	-0.53
12,673.0	90.20	180.50	8,373.4	-4,199.5	-834.7	4,279.0	2.13	-2.13	0.11
12,768.0	91.70	180.40	8,371.9	-4,294.5	-835.4	4,372.9	1.58	1.58	-0.11
12,863.0	90.60	180.40	8,369.9	-4,389.5	-836.1	4,466.8	1.16	-1.16	0.00
12,958.0	92.30	179.80	8,367.5	-4,484.4	-836.2	4,560.5	1.90	1.79	-0.63
13,052.0	91.00	182.00	8,364.8	-4,578.4	-837.7	4,653.5	2.72	-1.38	2.34
13,147.0	91.70	181.40	8,362.6	-4,673.3	-840.5	4,747.6	0.97	0.74	-0.63
13,242.0	89.90	180.70	8,361.3	-4,768.3	-842.3	4,841.6	2.03	-1.89	-0.74
13,337.0	91.10	180.40	8,360.4	-4,863.3	-843.2	4,935.5	1.30	1.26	-0.32
13,430.0	92.50	180.40	8,357.5	-4,956.2	-843.8	5,027.4	1.51	1.51	0.00
13,525.0	91.50	181.40	8,354.2	-5,051.1	-845.3	5,121.3	1.49	-1.05	1.05
13,620.0	93.10	181.80	8,350.4	-5,146.0	-848.0	5,215.4	1.74	1.68	0.42

Wolverine Directional, LLC

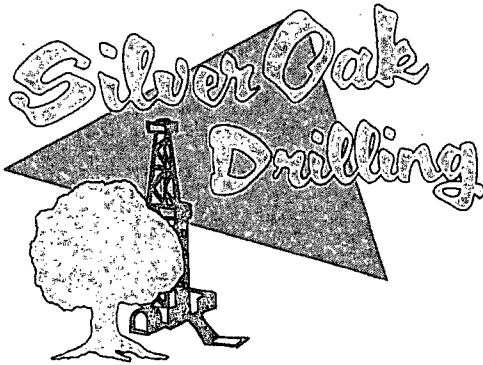
Survey Report

Company:	RKI Exploration & Production	Local Co-ordinate Reference:	Well Longview Deep Fed 1-21H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 1-T23S-R28E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Longview Deep Fed 1-21H	North Reference:	Grid
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)
13,642.0	93.50	181.80	8,349.1	-5,168.0	-848.7	5,237.2	1.82	1.82	0.00
Last MWD Survey									
13,690.0	93.50	181.80	8,346.2	-5,215.9	-850.2	5,284.7	0.00	0.00	0.00
Proj to TD - LV Fed 1-21H PBHL									

Survey Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
100.0	100.0	0.3	-0.1	First GYRO Survey
3,946.0	3,944.0	-52.0	3.3	Last GYRO Survey
4,132.0	4,130.0	-52.3	2.5	First MWD Survey
13,642.0	8,349.1	-5,168.0	-848.7	Last MWD Survey
13,690.0	8,346.2	-5,215.9	-850.2	Proj to TD

Checked By: _____ Approved By: _____ Date: _____



PO Box 1370
Artesia, NM 88211-1370
(575) 748-1288

RECEIVED
SEP 09 2013

August 27, 2013

RKI Exploration
210 Park Ave.
Suite 900
Oklahoma City, OK 73102

RE: Longview Deep Federal 1-21
1215' FNL & 1260' FWL
Sec. 1, T26S, R28E
Eddy County, New Mexico

Dear Sir,

The attached is the Deviation Survey for the above captioned well.

Very truly yours,

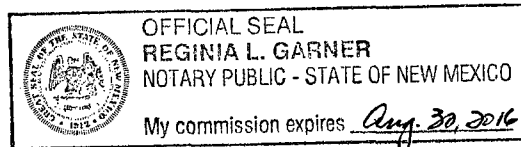
A handwritten signature in black ink, appearing to read "Eddie C. LaRue".

Eddie C. LaRue
Operations Manager

State of New Mexico }
County of Eddy }

The foregoing was acknowledged before me this 27th day of August, 2013.

A handwritten signature in black ink, appearing to read "Regina L. Garner".

Notary Public

LONGVIEW FEDERAL 1-21

Date	Depth	Deviation	Direction	TVD
7/25/2013	201	0.60	0.00	0.00
7/27/2013	423	0.60	0.00	0.00
7/27/2013	700	0.60	0.00	0.00
7/27/2013	976	1.20	0.00	0.00
7/28/2013	1437	3.00	0.00	0.00
7/28/2013	1718	2.10	0.00	0.00
7/29/2013	1972	1.50	0.00	0.00
7/29/2013	2258	2.00	0.00	0.00
7/29/2013	2735	2.50	0.00	0.00
7/30/2013	3210	1.40	0.00	0.00
7/30/2013	3687	0.90	0.00	0.00
8/3/2013	4132	0.50	265.80	0.00
8/3/2013	4226	1.60	295.00	0.00
8/3/2013	4321	3.10	295.90	0.00
8/3/2013	4416	4.70	304.10	0.00
8/3/2013	4510	7.20	306.40	0.00
8/3/2013	4605	10.30	305.30	0.00
8/3/2013	4699	12.00	299.20	0.00
8/3/2013	4793	12.60	298.80	0.00
8/3/2013	4888	12.80	299.90	4877.00
8/3/2013	4983	12.80	300.00	4877.00
8/3/2013	5077	12.40	300.80	5062.00
8/3/2013	5172	10.10	288.80	5155.00
8/4/2013	5266	10.60	290.90	5247.83
8/4/2013	5361	11.70	291.80	5341.00
8/4/2013	5455	11.40	292.00	5433.00
8/4/2013	5550	11.50	292.50	5526.00
8/4/2013	5644	11.70	292.90	5618.33
8/4/2013	5739	11.90	293.60	5711.13
8/4/2013	5883	11.50	294.50	5803.36
8/4/2013	5928	11.50	294.50	5896.45
8/4/2013	6117	12.80	297.30	0.00
8/4/2013	6211	12.80	295.20	0.00
8/4/2013	6306	12.40	295.50	6263.36
8/4/2013	6400	11.30	292.50	6357.35
8/4/2013	6495	10.10	7945.00	6450.70
8/5/2013	6589	10.30	292.30	6543.00
8/5/2013	6684	11.10	293.20	6636.00
8/5/2013	6873	11.20	289.70	6822.00
8/5/2013	6967	12.00	287.90	6914.34
8/5/2013	7062	11.30	288.50	7007.38
8/6/2013	7157	11.10	291.30	7100.00
8/6/2013	7251	12.00	295.00	7192.00

Date	Depth	Deviation	Direction	TVD
8/6/2013	7346	11.50	293.90	0.00
8/6/2013	7440	11.10	296.40	0.00
8/6/2013	7630	10.60	299.00	7564.00
8/6/2013	7739	0.00	0.00	0.00
8/8/2013	7787	10.90	299.00	7718.50
8/8/2013	7850	17.50	282.80	7779.64
8/9/2013	7913	20.90	262.80	7838.00
8/9/2013	8008	21.70	232.40	7927.00
8/9/2013	8071	22.80	201.30	7985.74
8/9/2013	8197	29.60	195.50	8099.04
8/9/2013	8291	40.60	190.40	8175.98
8/10/2013	8386	49.20	191.30	8242.00
8/10/2013	8480	57.50	188.30	8298.00
8/10/2013	8575	65.10	187.80	8344.62
8/10/2013	8670	71.30	185.50	8380.86
8/10/2013	8764	78.20	184.20	8404.96
8/15/2013	8891	86.00	182.30	0.00
8/15/2013	8985	91.30	182.50	8423.00
8/15/2013	9080	92.10	182.30	8420.61
8/15/2013	9175	91.50	180.70	8417.63
8/15/2013	9364	88.60	181.40	8420.00
8/15/2013	9458	88.00	179.80	8423.00
8/15/2013	9553	87.60	179.10	8425.00
8/16/2013	9648	87.80	178.40	8429.01
8/16/2013	9742	88.70	179.70	8432.45
8/16/2013	9837	90.70	179.80	8432.52
8/16/2013	9931	89.50	179.70	8431.58
8/16/2013	10026	90.20	180.70	8432.11
8/16/2013	10120	90.10	181.10	8431.04
8/16/2013	10215	89.20	181.60	8432.31
8/16/2013	10309	90.50	180.40	8431.00
8/16/2013	10404	91.70	179.70	8429.00
8/16/2013	10498	92.00	180.40	8427.00
8/17/2013	10591	90.30	180.90	8425.00
8/17/2013	10685	92.90	181.10	8422.00
8/18/2013	10780	90.40	180.50	8419.00
8/18/2013	10874	92.40	180.20	8417.00
8/18/2013	10969	91.10	182.10	8414.00
8/18/2013	11063	90.70	182.70	8413.00
8/18/2013	11158	92.10	182.70	8411.00
8/18/2013	11253	91.30	181.20	8408.51
8/18/2013	11348	89.30	180.90	8407.66
8/18/2013	11443	90.50	180.70	8407.00
8/18/2013	11538	92.10	180.50	8405.00
8/18/2013	11633	90.50	180.90	8403.00

Date	Depth	Deviation	Direction	TVD
8/19/2013	11822	92.20	178.10	8400.00
8/19/2013	11917	92.00	180.00	8396.00
8/19/2013	12012	91.30	181.40	8393.00
8/19/2013	12107	93.60	181.40	8389.85
8/19/2013	12201	92.40	182.50	8384.00
8/19/2013	12295	90.70	182.80	8382.00
8/20/2013	12389	92.10	182.30	8380.00
8/20/2013	12485	90.70	180.90	8377.00
8/20/2013	12579	92.20	180.40	8875.00
8/20/2013	12673	90.20	180.50	8373.39
8/20/2013	12768	91.70	180.40	8371.82
8/20/2013	12863	90.60	180.40	8369.91
8/20/2013	13052	91.00	182.00	8364.00
8/20/2013	13146	91.70	181.40	8362.00
8/21/2013	13242	89.90	180.70	8361.00
8/21/2013	13337	91.10	180.40	8360.00
8/21/2013	13430	92.50	180.40	8357.00
8/21/2013	13525	91.50	181.40	8354.18
8/21/2013	13620	93.10	181.80	8350.37
8/21/2013	13642	93.50	181.80	8349.10

EOF