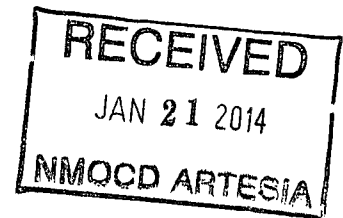


30-015-41587

WOLVERINE DIRECTIONAL

End of Well
Report



RKI Exploration & Production

**Pinnacle State 36-32H
Eddy County, NM
Sec 36-T22S-R28E**

*Wolverine
Directional*

**Plan vs. Actual
And
Survey Report**

RKI Exploration & Production

Project: Eddy County (NM83E)
 Site: Sec 36-T22S-R28E
 Well: Pinnacle State 36-32H
 Wellbore: Wellbore #1
 Design: 09-09-13

T Azimuths to True North
 Magnetic North: 7.55°

Magnetic Field
 Strength: 48451.5snT
 Dip Angle: 60.17°
 Date: 2013/08/20
 Model: IGRF2010



WELL DETAILS: Pinnacle State 36-32H

Ground Level: 0.0

+N/-S +E/-W	Northing	Easting	Latitude	Longitude
0.0 0.0	493416.90	630544.90	32° 21' 22.114 N	104° 2' 39.965 W

SHL: 150' FNL / 1700' FWL
 BHL: 330' FSL / 1715' FWL

SECTION DETAILS

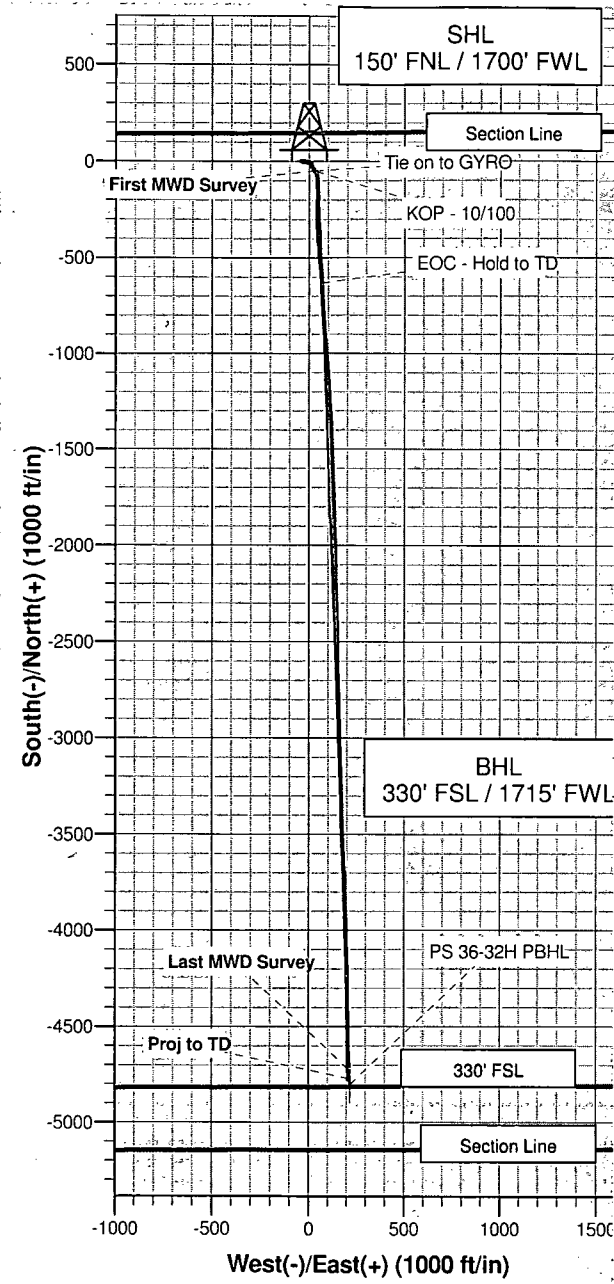
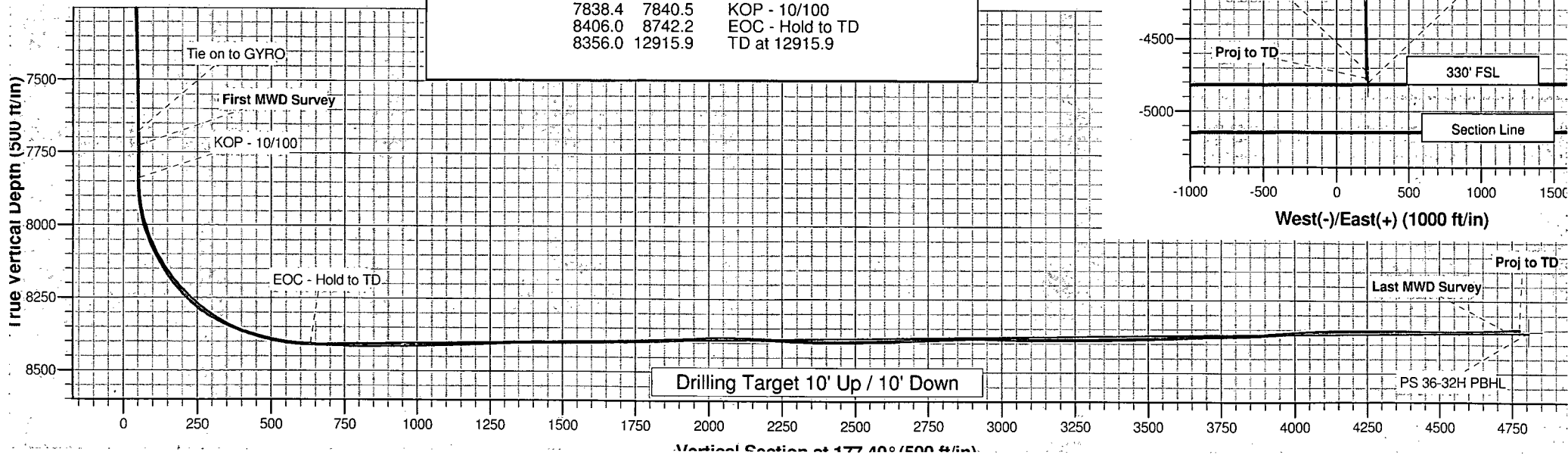
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	7680.0	1.20	114.99	7678.0	-50.5	32.9	0.00	0.00	51.9	
2	7840.5	1.20	114.99	7838.4	-51.9	36.0	0.00	0.00	53.5	
3	8742.2	90.68	177.93	8406.0	-631.1	67.7	10.00	62.93	633.5	
4	12915.9	90.69	177.93	8356.0	-4801.8	218.2	0.00	18.62	4806.8	PS 36-32H PBHL

PROJECT TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PS 36-32H PBHL	8356.0	-4801.8	218.2	488615.70	630776.10	Point

Annotations

TVD	MD	Annotation
7678.0	7680.0	Tie on to GYRO
7838.4	7840.5	KOP - 10/100
8406.0	8742.2	EOC - Hold to TD
8356.0	12915.9	TD at 12915.9



RKI Exploration & Production

Eddy County (NM83E)

Sec 36-T22S-R28E

Pinnacle State 36-32H

Wellbore #1

Survey: MWD Surveys

Standard Survey Report

21 September, 2013

Wolverine Directional, LLC

Survey Report

Company:	RKL Exploration & Production	Local Co-ordinate Reference:	Well Pinnacle State 36-32H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 36-T22S-R28E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Pinnacle State 36-32H	North Reference:	True
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM_2003.21 Single User Db

Design:	Wellbore #1
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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	177.40

Survey Program		Date: 2013/09/24	
From (ft)	To (ft)	Survey (Wellbore)	Tool Name Description
100.0	12,895.0	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	
100.0	0.46	276.39	100.0	0.0	-0.4	-0.1	0.46	0.46	0.00	
First GYRO Survey										
200.0	0.52	284.94	200.0	0.2	-1.2	-0.3	0.09	0.06	8.55	
300.0	0.76	281.81	300.0	0.5	-2.3	-0.6	0.24	0.24	-3.13	
400.0	0.78	283.63	400.0	0.8	-3.6	-0.9	0.03	0.02	1.82	
500.0	0.70	279.26	500.0	1.0	-4.9	-1.2	0.10	-0.08	-4.37	
600.0	0.67	271.37	600.0	1.1	-6.1	-1.4	0.10	-0.03	-7.89	
700.0	0.90	266.69	700.0	1.1	-7.5	-1.4	0.24	0.23	-4.68	
800.0	1.09	264.97	799.9	1.0	-9.2	-1.4	0.19	0.19	-1.72	
900.0	1.40	264.49	899.9	0.8	-11.3	-1.3	0.31	0.31	-0.48	
1,000.0	1.77	265.40	999.9	0.5	-14.1	-1.2	0.37	0.37	0.91	
1,100.0	2.16	266.46	1,099.8	0.3	-17.5	-1.1	0.39	0.39	1.06	
1,200.0	2.21	268.21	1,199.7	0.1	-21.3	-1.1	0.08	0.05	1.75	
1,300.0	2.07	273.32	1,299.7	0.2	-25.1	-1.3	0.24	-0.14	5.11	
1,400.0	1.89	279.67	1,399.6	0.5	-28.5	-1.8	0.28	-0.18	6.35	
1,500.0	1.67	288.43	1,499.6	1.3	-31.5	-2.7	0.35	-0.22	8.76	
1,600.0	1.40	286.72	1,599.5	2.1	-34.1	-3.6	0.27	-0.27	-1.71	
1,700.0	1.20	291.20	1,699.5	2.8	-36.2	-4.5	0.22	-0.20	4.48	
1,800.0	1.07	308.84	1,799.5	3.8	-37.9	-5.5	0.37	-0.13	17.64	
1,900.0	0.94	321.20	1,899.5	5.0	-39.1	-6.8	0.25	-0.13	12.36	
2,000.0	0.89	90.65	1,999.5	5.6	-38.9	-7.4	1.65	-0.05	129.45	
2,100.0	2.72	102.54	2,099.4	5.1	-35.8	-6.7	1.86	1.83	11.89	
2,200.0	3.36	92.66	2,199.3	4.5	-30.5	-5.8	0.82	0.64	-9.88	
2,300.0	3.30	95.63	2,299.1	4.0	-24.8	-5.2	0.18	-0.06	2.97	
2,400.0	2.83	104.29	2,399.0	3.1	-19.5	-4.0	0.66	-0.47	8.66	
2,500.0	2.64	106.80	2,498.8	1.9	-14.9	-2.5	0.22	-0.19	2.51	
2,600.0	2.46	106.25	2,598.7	0.6	-10.6	-1.1	0.18	-0.18	-0.55	
2,700.0	1.84	104.64	2,698.7	-0.4	-7.0	0.1	0.62	-0.62	-1.61	
2,800.0	1.44	108.27	2,798.6	-1.2	-4.3	1.0	0.41	-0.40	3.63	
2,900.0	1.23	108.02	2,898.6	-1.9	-2.1	1.8	0.21	-0.21	-0.25	
3,000.0	1.06	109.77	2,998.6	-2.6	-0.2	2.6	0.17	-0.17	1.75	
3,100.0	0.98	107.05	3,098.6	-3.1	1.5	3.2	0.09	-0.08	-2.72	
3,200.0	0.89	104.40	3,198.6	-3.6	3.1	3.7	0.10	-0.09	-2.65	
3,300.0	0.73	105.64	3,298.5	-3.9	4.5	4.1	0.16	-0.16	1.24	
3,400.0	0.56	108.08	3,398.5	-4.3	5.5	4.5	0.17	-0.17	2.44	
3,500.0	0.44	98.95	3,498.5	-4.5	6.4	4.8	0.14	-0.12	-9.13	
3,600.0	0.35	104.75	3,598.5	-4.6	7.1	4.9	0.10	-0.09	5.80	
3,700.0	0.22	120.59	3,698.5	-4.8	7.5	5.1	0.15	-0.13	15.84	

Wolverine Directional, LLC

Survey Report

Company:	RKI Exploration & Production	Local Co-ordinate Reference:	Well Pinnacle State 36-32H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 36-T22S-R28E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Pinnacle State 36-32H	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)	
3,800.0	0.18	123.47	3,798.5	-5.0	7.8	5.3	0.04	-0.04	2.88	
3,900.0	0.16	145.17	3,898.5	-5.2	8.0	5.5	0.07	-0.02	21.70	
4,000.0	0.07	129.51	3,998.5	-5.3	8.1	5.7	0.09	-0.09	-15.66	
4,100.0	0.20	204.79	4,098.5	-5.5	8.1	5.9	0.19	0.13	75.28	
4,200.0	0.18	211.78	4,198.5	-5.8	8.0	6.2	0.03	-0.02	6.99	
4,300.0	0.26	218.72	4,298.5	-6.1	7.7	6.5	0.08	0.08	6.94	
4,400.0	0.32	193.26	4,398.5	-6.6	7.5	6.9	0.14	0.06	-25.46	
4,500.0	0.41	192.58	4,498.5	-7.2	7.4	7.5	0.09	0.09	-0.68	
4,600.0	0.36	186.76	4,598.5	-7.9	7.3	8.2	0.06	-0.05	-5.82	
4,700.0	0.20	117.91	4,698.5	-8.3	7.4	8.6	0.34	-0.16	-68.85	
4,800.0	0.27	113.89	4,798.5	-8.4	7.8	8.8	0.07	0.07	-4.02	
4,900.0	0.23	129.83	4,898.5	-8.7	8.1	9.0	0.08	-0.04	15.94	
5,000.0	0.46	126.01	4,998.5	-9.0	8.6	9.4	0.23	0.23	-3.82	
5,100.0	0.43	123.25	5,098.5	-9.5	9.2	9.9	0.04	-0.03	-2.76	
5,200.0	0.45	124.21	5,198.5	-9.9	9.9	10.3	0.02	0.02	0.96	
5,300.0	0.42	136.82	5,298.5	-10.4	10.5	10.8	0.10	-0.03	12.61	
5,400.0	0.48	141.86	5,398.5	-11.0	11.0	11.5	0.07	0.06	5.04	
5,500.0	0.45	160.24	5,498.5	-11.7	11.4	12.2	0.15	-0.03	18.38	
5,600.0	0.48	163.69	5,598.5	-12.4	11.6	13.0	0.04	0.03	3.45	
5,700.0	0.53	165.45	5,698.5	-13.3	11.8	13.8	0.05	0.05	1.76	
5,800.0	0.79	166.22	5,798.5	-14.4	12.1	14.9	0.26	0.26	0.77	
5,900.0	0.84	164.55	5,898.5	-15.8	12.5	16.3	0.06	0.05	-1.67	
6,000.0	0.88	165.81	5,998.5	-17.2	12.9	17.8	0.04	0.04	1.26	
6,100.0	0.85	167.88	6,098.5	-18.7	13.2	19.3	0.04	-0.03	2.07	
6,200.0	0.88	165.86	6,198.4	-20.2	13.6	20.8	0.04	0.03	-2.02	
6,300.0	0.95	166.01	6,298.4	-21.7	13.9	22.3	0.07	0.07	0.15	
6,400.0	0.94	148.87	6,398.4	-23.2	14.6	23.9	0.28	-0.01	-17.14	
6,500.0	1.09	139.79	6,498.4	-24.7	15.6	25.3	0.22	0.15	-9.08	
6,600.0	1.06	149.07	6,598.4	-26.2	16.7	26.9	0.18	-0.03	9.28	
6,700.0	0.98	157.28	6,698.4	-27.8	17.5	28.5	0.17	-0.08	8.21	
6,800.0	1.39	152.97	6,798.4	-29.6	18.4	30.4	0.42	0.41	-4.31	
6,900.0	1.55	157.67	6,898.3	-32.0	19.5	32.8	0.20	0.16	4.70	
7,000.0	2.19	138.02	6,998.3	-34.6	21.2	35.6	0.90	0.64	-19.65	
7,100.0	2.41	136.51	7,098.2	-37.6	24.0	38.6	0.23	0.22	-1.51	
7,200.0	1.33	160.39	7,198.1	-40.2	25.8	41.3	1.31	-1.08	23.88	
7,300.0	1.71	152.08	7,298.1	-42.6	26.9	43.8	0.44	0.38	-8.31	
7,400.0	1.73	154.48	7,398.1	-45.3	28.2	46.5	0.07	0.02	2.40	
7,500.0	1.49	140.84	7,498.0	-47.7	29.7	49.0	0.45	-0.24	-13.64	
7,600.0	1.40	131.15	7,598.0	-49.5	31.5	50.9	0.26	-0.09	-9.69	
7,680.0	1.20	114.99	7,678.0	-50.5	33.0	51.9	0.52	-0.25	-20.20	
Last GYRO Survey										
7,730.0	1.10	88.80	7,728.0	-50.7	33.9	52.2	1.06	-0.20	-52.38	
First MWD Survey										
7,761.0	0.90	66.30	7,758.9	-50.6	34.4	52.1	1.41	-0.65	-72.58	
7,793.0	0.70	57.10	7,790.9	-50.4	34.8	51.9	0.74	-0.63	-28.75	
7,824.0	0.80	54.30	7,821.9	-50.1	35.2	51.7	0.34	0.32	-9.03	
7,856.0	0.90	132.70	7,853.9	-50.2	35.5	51.7	3.37	0.31	245.00	
7,887.0	3.50	157.50	7,884.9	-51.2	36.1	52.8	8.74	8.39	80.00	
7,919.0	6.60	164.20	7,916.8	-53.9	36.9	55.5	9.84	9.69	20.94	
7,950.0	10.10	167.20	7,947.5	-58.3	38.0	59.9	11.37	11.29	9.68	
7,982.0	14.10	169.40	7,978.7	-64.8	39.4	66.6	12.58	12.50	6.88	
8,013.0	17.50	170.90	8,008.6	-73.1	40.8	74.9	11.05	10.97	4.84	
8,045.0	20.50	173.30	8,038.8	-83.5	42.2	85.3	9.69	9.38	7.50	
8,076.0	23.60	175.20	8,067.5	-95.0	43.4	96.9	10.26	10.00	6.13	

Wolverine Directional, LLC

Survey Report

Company:	RKI Exploration & Production	Local Co-ordinate Reference:	Well Pinnacle State 36-32H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 36-T22S-R28E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Pinnacle State 36-32H	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)	
8,108.0	26.80	177.20	8,096.5	-108.6	44.3	110.5	10.35	10.00	6.25	
8,139.0	28.90	178.60	8,123.9	-123.1	44.8	125.0	7.09	6.77	4.52	
8,171.0	31.70	179.10	8,151.5	-139.2	45.1	141.1	8.79	8.75	1.56	
8,202.0	34.70	179.10	8,177.5	-156.2	45.4	158.1	9.68	9.68	0.00	
8,234.0	38.40	180.20	8,203.2	-175.3	45.5	177.2	11.74	11.56	3.44	
8,265.0	41.50	181.20	8,226.9	-195.2	45.2	197.0	10.21	10.00	3.23	
8,297.0	44.90	180.90	8,250.3	-217.1	44.8	218.9	10.64	10.63	-0.94	
8,328.0	49.00	180.70	8,271.4	-239.7	44.5	241.5	13.23	13.23	-0.65	
8,360.0	54.00	180.70	8,291.3	-264.7	44.2	266.5	15.63	15.63	0.00	
8,391.0	58.00	180.20	8,308.7	-290.4	44.0	292.1	12.97	12.90	-1.61	
8,423.0	61.60	178.80	8,324.8	-318.1	44.3	319.8	11.87	11.25	-4.38	
8,454.0	64.40	177.20	8,338.8	-345.7	45.2	347.4	10.14	9.03	-5.16	
8,486.0	67.30	176.10	8,351.9	-374.8	46.9	376.6	9.59	9.06	-3.44	
8,518.0	70.10	175.80	8,363.5	-404.6	49.0	406.4	8.79	8.75	-0.94	
8,549.0	72.60	176.10	8,373.5	-433.9	51.1	435.7	8.12	8.06	0.97	
8,581.0	75.00	175.40	8,382.4	-464.5	53.4	466.5	7.79	7.50	-2.19	
8,612.0	77.10	175.60	8,389.9	-494.5	55.7	496.5	6.80	6.77	0.65	
8,644.0	79.80	174.50	8,396.3	-525.7	58.5	527.8	9.08	8.44	-3.44	
8,675.0	82.30	174.90	8,401.1	-556.2	61.3	558.4	8.16	8.06	1.29	
8,707.0	85.60	175.60	8,404.5	-587.9	63.9	590.2	10.54	10.31	2.19	
8,770.0	88.20	177.50	8,407.9	-650.7	67.7	653.1	5.11	4.13	3.02	
8,802.0	88.10	177.20	8,408.9	-682.7	69.2	685.1	0.99	-0.31	-0.94	
8,833.0	88.30	176.80	8,409.9	-713.6	70.8	716.1	1.44	0.65	-1.29	
8,865.0	88.50	176.70	8,410.8	-745.5	72.6	748.1	0.70	0.63	-0.31	
8,896.0	89.60	176.50	8,411.3	-776.5	74.5	779.1	3.61	3.55	-0.65	
8,991.0	90.30	175.80	8,411.4	-871.3	80.8	874.0	1.04	0.74	-0.74	
9,085.0	91.00	175.60	8,410.3	-965.0	87.9	968.0	0.77	0.74	-0.21	
9,180.0	91.60	174.90	8,408.1	-1,059.6	95.7	1,062.9	0.97	0.63	-0.74	
9,275.0	91.70	176.80	8,405.4	-1,154.4	102.6	1,157.8	2.00	0.11	2.00	
9,369.0	92.40	176.70	8,402.0	-1,248.1	107.9	1,251.8	0.75	0.74	-0.11	
9,463.0	90.70	176.80	8,399.5	-1,342.0	113.3	1,345.7	1.81	-1.81	0.11	
9,558.0	89.90	178.40	8,399.0	-1,436.9	117.2	1,440.7	1.88	-0.84	1.68	
9,652.0	90.60	178.10	8,398.6	-1,530.8	120.1	1,534.7	0.81	0.74	-0.32	
9,747.0	91.00	178.10	8,397.3	-1,625.8	123.3	1,629.7	0.42	0.42	0.00	
9,841.0	91.60	177.40	8,395.1	-1,719.7	127.0	1,723.7	0.98	0.64	-0.74	
9,936.0	91.70	178.90	8,392.4	-1,814.6	130.0	1,818.6	1.58	0.11	1.58	
10,031.0	92.90	178.80	8,388.6	-1,909.5	131.9	1,913.5	1.27	1.26	-0.11	
10,125.0	92.30	178.40	8,384.3	-2,003.3	134.2	2,007.4	0.77	-0.64	-0.43	
10,220.0	87.60	178.90	8,384.4	-2,098.3	136.5	2,102.3	4.98	-4.95	0.53	
10,314.0	87.40	178.20	8,388.5	-2,192.2	138.8	2,196.2	0.77	-0.21	-0.74	
10,409.0	87.30	177.90	8,392.9	-2,287.0	142.1	2,291.1	0.33	-0.11	-0.32	
10,503.0	89.30	178.80	8,395.7	-2,380.9	144.8	2,385.0	2.33	2.13	0.96	
10,598.0	90.90	179.30	8,395.5	-2,475.9	146.3	2,480.0	1.76	1.68	0.53	
10,692.0	91.00	178.60	8,394.0	-2,569.9	148.1	2,574.0	0.75	0.11	-0.74	
10,787.0	92.70	178.10	8,390.9	-2,664.8	150.8	2,668.9	1.87	1.79	-0.53	
10,882.0	91.70	178.60	8,387.2	-2,759.7	153.5	2,763.8	1.18	-1.05	0.53	
10,976.0	92.70	178.40	8,383.6	-2,853.6	156.0	2,857.7	1.08	1.06	-0.21	
11,071.0	88.20	178.80	8,382.9	-2,948.5	158.3	2,952.7	4.76	-4.74	0.42	
11,166.0	88.50	178.40	8,385.6	-3,043.5	160.6	3,047.6	0.53	0.32	-0.42	
11,260.0	90.30	178.40	8,386.6	-3,137.4	163.3	3,141.6	1.91	1.91	0.00	
11,355.0	90.60	177.50	8,385.9	-3,232.3	166.7	3,236.6	1.00	0.32	-0.95	
11,450.0	90.30	178.80	8,385.1	-3,327.3	169.7	3,331.6	1.40	-0.32	1.37	
11,544.0	91.00	178.40	8,384.0	-3,421.3	172.0	3,425.5	0.86	0.74	-0.43	
11,639.0	91.60	177.70	8,381.9	-3,516.2	175.2	3,520.5	0.97	0.63	-0.74	

Wolverine Directional, LLC

Survey Report

Company:	RKI Exploration & Production	Local Co-ordinate Reference:	Well Pinnacle State 36-32H
Project:	Eddy County (NM83E)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 36-T22S-R28E	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Pinnacle State 36-32H	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)	
11,733.0	92.70	176.70	8,378.4	-3,610.0	179.8	3,614.4	1.58	1.17	-1.06	
11,828.0	91.40	178.20	8,375.0	-3,704.8	184.1	3,709.4	2.09	-1.37	1.58	
11,922.0	91.00	178.10	8,373.0	-3,798.8	187.1	3,803.3	0.44	-0.43	-0.11	
12,017.0	94.00	176.80	8,368.9	-3,893.6	191.3	3,898.2	3.44	3.16	-1.37	
12,112.0	94.00	178.20	8,362.2	-3,988.2	195.4	3,993.0	1.47	0.00	1.47	
12,206.0	92.60	179.10	8,356.8	-4,082.1	197.7	4,086.8	1.77	-1.49	0.96	
12,301.0	91.30	178.60	8,353.6	-4,177.0	199.6	4,181.7	1.47	-1.37	-0.53	
12,395.0	89.80	179.30	8,352.7	-4,271.0	201.3	4,275.7	1.76	-1.60	0.74	
12,489.0	88.20	178.90	8,354.3	-4,364.9	202.8	4,369.6	1.75	-1.70	-0.43	
12,584.0	89.10	179.10	8,356.6	-4,459.9	204.4	4,464.6	0.97	0.95	0.21	
12,679.0	90.60	179.30	8,356.8	-4,554.9	205.7	4,559.5	1.59	1.58	0.21	
12,773.0	92.30	179.30	8,354.4	-4,648.8	206.9	4,653.4	1.81	1.81	0.00	
12,847.0	93.70	178.40	8,350.6	-4,722.7	208.4	4,727.3	2.25	1.89	-1.22	
Last MWD Survey										
12,895.0	93.70	178.40	8,347.5	-4,770.6	209.7	4,775.2	0.00	0.00	0.00	
Proj to TD - PS 36-32H PBHL										

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
100.0	100.0	0.0	-0.4	First GYRO Survey	
7,680.0	7,678.0	-50.5	33.0	Last GYRO Survey	
7,730.0	7,728.0	-50.7	33.9	First MWD Survey	
12,847.0	8,350.6	-4,722.7	208.4	Last MWD Survey	
12,895.0	8,347.5	-4,770.6	209.7	Proj to TD	

Checked By: _____ Approved By: _____ Date: _____

Wolverine
Directional

Daily
Reports



JOB NO.:	9082013	Report Time:	2400	1 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT\ RANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Sunday, September 08, 2013 at 0000 to Sunday, September 08, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters						
Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	0	Slack Off	0	SPM
End Depth	0.00	Circulating Hours	0.00	RAB	0	SPP	0	FlowRate	0-0	0
Total Drilled:	0.00	Avg. Total ROP:	NA	Mud Data						
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type		PV	0	SOLID	0	
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	0	GAS	0	YP	0	BHT °
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	0	SAND	0	PH	0	Flow T°
Below Rotary Hrs.	0.00	Percent Slide:	NA	Chlorides	0	WL	0			Oil %

PERSONNEL			CASING			BHA	
Lead Directional :	Brad Stephens		Size	Lb/ft	Set Depth	N/A	
Second Directional :	Justin Wood		20	94	80		
MWD Operator1	Jaysun Bedard		13 3/8	54.5	466		
MWD Operator2	Charlie Mcdouglal		9 5/8	40	4019		
Directional Company:	Wolverine		7	26	8739		
Geologist:			Signature:				
Company Man:	Phillip Hughes		Daily Cost			\$20,900.00	
Incl. In:	0	Azm. In:	0	Incl. Out:	0	Azm. Out:	0
						Cummulative Cost:	\$20,900.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
8-Sep-13	00:00	24:00	24.00	7762	7762	Standby	Standby



JOB NO.:	9082013	Report Time:	2400	2 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT\	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Monday, September 09, 2013 at 0000 to Monday, September 09, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	0.00	Rotary Hours	0.00	WOB	0	Pick UP	0	Slack Off	0	SPM	
End Depth	0.00	Circulating Hours	0.25	RAB	0	SPP	0	FlowRate	0 - 320	110	
Total Drilled:	0.00	Avg. Total ROP:	NA	Mud Data							
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type		PV	0	SOLID	0		
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	0	GAS	0	YP	0	BHT°	0
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	0	SAND	0	PH	0	Flow T°	0
Below Rotary Hrs.	9.25	Percent Slide:	NA	Chlorides	0	WL	0		Oil %	0	

PERSONNEL				CASING			BHA		
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	BHA # 1:MMD55DM, 6/7 Lobe, 5 Stg, 1.73" Adj Slick, .29 rev, UBHO, NMDC, NM Flex, Cross Over, 8 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,		
Second Directional :	Justin Wood			20	94	80			
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466			
MWD Operator2	Charlie Mcdougal			9 5/8	40	4019			
Directional Company:	Wolverine			7	26	8739			
Geologist:				Signature:					
Company Man:	Phillip Hughes						Daily Cost	\$14,450.00	
Incl. In:	0	Azm. In:	0	Incl. Out:	1.2	Azm. Out:	114.9	Cummulative Cost:	\$35,350.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
9-Sep-13	00:00	14:45	14.75	7762	7762	Standby	Standby
9-Sep-13	14:45	15:00	0.25	7762	7762	Other	Other - P/U Mtr,NMDC,UBHO, Install Float, Scribe/Orient Directional Tools
9-Sep-13	15:00	15:15	0.25	7762	7762	Other	Other - Install Muleshoe Sleeve & Orient Same
9-Sep-13	15:15	15:30	0.25	7762	7762	Other	Other - Install MWD Tool
9-Sep-13	15:30	16:15	0.75	7762	7762	Other	Other - P/U Flex & Kelly, C/O Kelly Sub
9-Sep-13	16:15	16:30	0.25	7762	7762	Circulating	Circulating - Surface Test MWD, 110 spm, 211/234 psi
9-Sep-13	16:30	16:45	0.25	7762	7762	Other	Other - M/U Bit
9-Sep-13	16:45	18:00	1.25	7762	7762	TIH	TIH - F/Surface - 7481
9-Sep-13	18:00	24:00	6.00	7762	7762	Logging	Logging F/ 7481-7762



JOB NO.:	9082013	Report Time:	2400	3 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT\	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Tuesday, September 10, 2013 at 0000 to Tuesday, September 10, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	7762.00	Rotary Hours	7.50	WOB	19	Pick UP	170	Slack Off	152	SPM	
End Depth	8161.00	Circulating Hours	0.50	RAB	157	SPP	1710	FlowRate	320 - 498	110	
Total Drilled:	399.00	Avg. Total ROP:	24.18	Mud Data							
Total Rotary Drilled:	177.00	Avg. Rotary ROP:	23.60	Type	Brine Water	PV	1	SOLID	4.5		
Total Drilled Sliding:	222.00	Avg. Slide ROP:	24.67	Weight	8.85	GAS	0	YP	0	BHT °	122
Slide Hours:	9.00	Percent Rotary:	44.36	Viscosity	30	SAND	0.5	PH	10	Flow T °	90
Below Rotary Hrs.	24.00	Percent Slide:	55.64	Chlorides	49000	WL	0	Oil %	0		
PERSONNEL				CASING			BHA				
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	BHA # 1:MMD55DM, 6/7 Lobe, 5 Stg, 1.73" Adj Slick, .29 rev, UBHO, NMDC, NM Flex, Cross Over, 8 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,				
Second Directional :	Justin Wood			20	94	80					
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466					
MWD Operator2	Charlie Mcdougal			9 5/8	40	4019					
Directional Company:	Wolverine			Signature:							
Geologist:											
Company Man:	Phillip Hughes						Daily Cost		\$12,750.00		
Incl. In:	1.2	Azm. In:	114.9	Incl. Out:	23.6	Azm. Out:	175.2	Cummulative Cost:	\$48,100.00		

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
10-Sep-13	00:00	04:00	4.00	7762	7762	Logging	Logging F/ 7481 - 7762
10-Sep-13	04:00	05:30	1.50	7762	7783	Drilling	Drilling - (WOB:15;GPM :498;RPM:30)
10-Sep-13	05:30	05:45	0.25	7783	7783	Survey & Conn.	Survey & Conn.@7730_Inc 1.1°_Azm 88.8°
10-Sep-13	05:45	07:00	1.25	7783	7814	Drilling	Drilling - (WOB:15;GPM :498;RPM:30)
10-Sep-13	07:00	07:15	0.25	7814	7814	Survey & Conn.	Survey & Conn.@7761_Inc .9°_Azm 66.3°
10-Sep-13	07:15	07:30	0.25	7814	7818	Drilling	Drilling - (WOB:15;GPM :498;RPM:30)
10-Sep-13	07:30	07:45	0.25	7818	7818	Other	Other - Change Out On Expro Standpipe Sensor
10-Sep-13	07:45	08:30	0.75	7818	7846	Drilling	Drilling - (WOB:15;GPM :498;RPM:30)
10-Sep-13	08:30	09:00	0.50	7846	7846	Rig Service-Inhole	Rig Service-Inhole
10-Sep-13	09:00	09:15	0.25	7846	7846	Survey & Conn.	Survey & Conn.@7793_Inc .7°_Azm 57.1°
10-Sep-13	09:15	10:30	1.25	7846	7866	Sliding	Sliding - (WOB:13;GPM :498;TFO:178M)) Start Of Slide Hanging Up, Got Bit To Bend Buried & Slide Smoothed Out
10-Sep-13	10:30	10:45	0.25	7866	7877	Drilling	Drilling - (WOB:14;GPM :498;RPM:30)
10-Sep-13	10:45	11:00	0.25	7877	7877	Survey & Conn.	Survey & Conn.@7824_Inc .8°_Azm 54.3°
10-Sep-13	11:00	11:45	0.75	7877	7897	Sliding	Sliding - (WOB:13;GPM :498;TFO:178M))
10-Sep-13	11:45	12:15	0.50	7897	7909	Drilling	Drilling - (WOB:14;GPM :498;RPM:30)
10-Sep-13	12:15	12:30	0.25	7909	7909	Survey & Conn.	Survey & Conn.@7856_Inc .9°_Azm 132.7°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
10-Sep-13	12:30	13:45	1.25	7909	7929	Sliding	Sliding - (WOB:13;GPM :498;TFO:178M))
10-Sep-13	13:45	14:15	0.50	7929	7940	Drilling	Drilling - (WOB:14;GPM :498;RPM:30)
10-Sep-13	14:15	14:30	0.25	7940	7940	Survey & Conn.	Survey & Conn.@7887_Inc 3.5°_Azimuth 157.5°
10-Sep-13	14:30	15:45	1.25	7940	7965	Sliding	Sliding - (WOB:15;GPM :498;TFO:10R))
10-Sep-13	15:45	16:15	0.50	7965	7972	Drilling	Drilling - (WOB:19;GPM :322;RPM:20)
10-Sep-13	16:15	16:30	0.25	7972	7972	Survey & Conn.	Survey & Conn.@7919_Inc 6.6°_Azimuth 164.2°
10-Sep-13	16:30	17:30	1.00	7972	7994	Sliding	Sliding - (WOB:17;GPM :322;TFO:10R))
10-Sep-13	17:30	17:45	0.25	7994	8002	Drilling	Drilling - (WOB:19;GPM :322;RPM:25)
10-Sep-13	17:45	18:00	0.25	8002	8002	Survey & Conn.	Survey & Conn.@7950_Inc 10.1°_Azimuth 167.2°
10-Sep-13	18:00	18:45	0.75	8002	8021	Sliding	Sliding - (WOB:17;GPM :322;TFO:10R)
10-Sep-13	18:45	19:15	0.50	8021	8035	Drilling	Drilling - (WOB:19;GPM :322;RPM:25)
10-Sep-13	19:15	19:30	0.25	8035	8035	Survey & Conn.	Survey & Conn.@7982_Inc 14.1°_Azimuth 169.4°
10-Sep-13	19:30	20:00	0.50	8035	8055	Sliding	Sliding - (WOB:17;GPM :322;TFO:10R)
10-Sep-13	20:00	21:15	1.25	8055	8088	Sliding	Sliding - (WOB:17;GPM :322;TFO:10R)
10-Sep-13	21:15	21:45	0.50	8088	8098	Drilling	Drilling - (WOB:19;GPM :322;RPM:25)
10-Sep-13	21:45	22:00	0.25	8098	8098	Survey & Conn.	Survey & Conn.@8045_Inc 20.5°_Azimuth 173.3°
10-Sep-13	22:00	22:30	0.50	8098	8118	Sliding	Sliding - (WOB:17;GPM :322;TFO:10R))
10-Sep-13	22:30	23:00	0.50	8118	8129	Drilling	Drilling - (WOB:19;GPM :322;RPM:25)
10-Sep-13	23:00	23:15	0.25	8129	8129	Survey & Conn.	Survey & Conn.@8076_Inc 23.6°_Azimuth 175.2°
10-Sep-13	23:15	23:45	0.50	8129	8152	Sliding	Sliding - (WOB:17;GPM :322;TFO:10R)
10-Sep-13	23:45	24:00	0.25	8152	8161	Drilling	Drilling - (WOB:19;GPM :322;RPM:25)



JOB NO.:	9082013	Report Time:	2400	4 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT RANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Wednesday, September 11, 2013 at 0000 to Wednesday, September 11, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	8161.00	Rotary Hours	5.25	WOB	28	Pick UP	184	Slack Off	145	SPM	
End Depth	8685.00	Circulating Hours	0.50	RAB	158	SPP	2185	FlowRate	322 - 384	110	
Total Drilled:	524.00	Avg. Total ROP:	27.22	Mud Data							
Total Rotary Drilled:	159.00	Avg. Rotary ROP:	30.29	Type	Brine Water			PV	1	SOLID	4.5
Total Drilled Sliding:	365.00	Avg. Slide ROP:	26.07	Weight	8.85	GAS	0	YP	0	BHT°	122
Slide Hours:	14.00	Percent Rotary:	30.34	Viscosity	30	SAND	0.5	PH	10	Flow T°	90
Below Rotary Hrs.	24.00	Percent Slide:	69.66	Chlorides	49000	WL	0			Oil %	0

PERSONNEL				CASING			BHA		
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	BHA # 1:MMD55DM, 6/7 Lobe, 5 Stg, 1.73" Adj Slick, .29 rev, UBHO, NMDC, NM Flex, Cross Over, 8 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,		
Second Directional :	Justin Wood			20	94	80			
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466			
MWD Operator2	Charlie Mcdougal			9 5/8	40	4019			
Directional Company:	Wolverine			Signature:					
Geologist:									
Company Man:	Phillip Hughes						Daily Cost	\$12,750.00	
Incl. In:	23.6	Azm. In:	175.2	Incl. Out:	77.1	Azm. Out:	175.6	Cummulative Cost:	\$60,850.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
11-Sep-13	00:00	00:15	0.25	8161	8161	Survey & Conn.	Survey & Conn.@8108_Inc 26.8°_Azm 177.2°
11-Sep-13	00:15	01:15	1.00	8161	8183	Sliding	Sliding - (WOB:17;GPM :322;TFO:10R)
11-Sep-13	01:15	01:45	0.50	8183	8192	Drilling	Drilling - (WOB:19;GPM :322;RPM:25)
11-Sep-13	01:45	02:00	0.25	8192	8192	Survey & Conn.	Survey & Conn.@8139_Inc 28.9°_Azm 178.6°
11-Sep-13	02:00	03:00	1.00	8192	8220	Sliding	Sliding - (WOB:17;GPM :322;TFO:360)
11-Sep-13	03:00	03:15	0.25	8220	8224	Drilling	Drilling - (WOB:19;GPM :322;RPM:25)
11-Sep-13	03:15	03:30	0.25	8224	8224	Survey & Conn.	Survey & Conn.@8171_Inc 31.7°_Azm 179.1°
11-Sep-13	03:30	04:45	1.25	8224	8252	Sliding	Sliding - (WOB:17;GPM :322;TFO:360)
11-Sep-13	04:45	05:00	0.25	8252	8255	Drilling	Drilling - (WOB:19;GPM :322;RPM:25)
11-Sep-13	05:00	05:15	0.25	8255	8255	Survey & Conn.	Survey & Conn.@8202_Inc 34.7°_Azm 179.1°
11-Sep-13	05:15	06:00	0.75	8255	8280	Sliding	Sliding - (WOB:28;GPM :384;TFO:5L))
11-Sep-13	06:00	06:15	0.25	8280	8287	Drilling	Drilling - (WOB:24;GPM :384;RPM:25)
11-Sep-13	06:15	06:30	0.25	8287	8287	Survey & Conn.	Survey & Conn.@8234_Inc 38.4°_Azm 180.2°
11-Sep-13	06:30	07:15	0.75	8287	8314	Sliding	Sliding - (WOB:18;GPM :384;TFO:20L))
11-Sep-13	07:15	07:30	0.25	8314	8318	Drilling	Drilling - (WOB:22;GPM :384;RPM:25)
11-Sep-13	07:30	07:45	0.25	8318	8318	Survey & Conn.	Survey & Conn.@8265_Inc 41.5°_Azm 181.2°
11-Sep-13	07:45	08:45	1.00	8318	8350	Sliding	Sliding - (WOB:17;GPM :384;TFO:20L))

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
11-Sep-13	08:45	09:15	0.50	8350	8350	Rig Service-Inhole	Rig Service-Inhole
11-Sep-13	09:15	09:30	0.25	8350	8350	Survey & Conn.	Survey & Conn.@8297_Inc 44.9°_Azm 180.9°
11-Sep-13	09:30	10:00	0.50	8350	8375	Sliding	Sliding - (WOB:24;GPM :384;TFO:5L))
11-Sep-13	10:00	10:15	0.25	8375	8381	Drilling	Drilling - (WOB:16;GPM :384;RPM:25)
11-Sep-13	10:15	10:30	0.25	8381	8381	Survey & Conn.	Survey & Conn.@8328_Inc 49°_Azm 180.7°
11-Sep-13	10:30	11:00	0.50	8381	8401	Sliding	Sliding - (WOB:22;GPM :384;TFO:30L))
11-Sep-13	11:00	11:15	0.25	8401	8413	Drilling	Drilling - (WOB:16;GPM :384;RPM:25)
11-Sep-13	11:15	11:30	0.25	8413	8413	Survey & Conn.	Survey & Conn.@8360_Inc 54°_Azm 180.7°
11-Sep-13	11:30	12:15	0.75	8413	8432	Sliding	Sliding - (WOB:16;GPM :384;TFO:40L))
11-Sep-13	12:15	12:45	0.50	8432	8444	Drilling	Drilling - (WOB:18;GPM :384;RPM:30)
11-Sep-13	12:45	13:00	0.25	8444	8444	Survey & Conn.	Survey & Conn.@8391_Inc 58°_Azm 180.2°
11-Sep-13	13:00	13:45	0.75	8444	8463	Sliding	Sliding - (WOB:16;GPM :384;TFO:40L))
11-Sep-13	13:45	14:15	0.50	8463	8476	Drilling	Drilling - (WOB:21;GPM :384;RPM:30)
11-Sep-13	14:15	14:30	0.25	8476	8476	Survey & Conn.	Survey & Conn.@8423_Inc 61.6°_Azm 178.8°
11-Sep-13	14:30	15:00	0.50	8476	8491	Sliding	Sliding - (WOB:24;GPM :384;TFO:0))
11-Sep-13	15:00	15:30	0.50	8491	8508	Drilling	Drilling - (WOB:18;GPM :384;RPM:30)
11-Sep-13	15:30	15:45	0.25	8508	8508	Survey & Conn.	Survey & Conn.@8454_Inc 64.4°_Azm 177.2°
11-Sep-13	15:45	16:30	0.75	8508	8524	Sliding	Sliding - (WOB:24;GPM :384;TFO:0))
11-Sep-13	16:30	16:45	0.25	8524	8539	Drilling	Drilling - (WOB:18;GPM :384;RPM:30)
11-Sep-13	16:45	17:00	0.25	8539	8539	Survey & Conn.	Survey & Conn.@8486_Inc 67.3°_Azm °
11-Sep-13	17:00	17:45	0.75	8539	8556	Sliding	Sliding - (WOB:28;GPM :384;TFO:0))
11-Sep-13	17:45	18:00	0.25	8556	8571	Drilling	Drilling - (WOB:18;GPM :384;RPM:30)
11-Sep-13	18:00	18:15	0.25	8571	8571	Survey & Conn.	Survey & Conn.@8518_Inc 70.1°_Azm 175.8°
11-Sep-13	18:15	19:15	1.00	8571	8586	Sliding	Sliding - (WOB:28;GPM :384;TFO:0)
11-Sep-13	19:15	19:30	0.25	8586	8602	Drilling	Drilling - (WOB:18;GPM :384;RPM:30)
11-Sep-13	19:30	19:45	0.25	8602	8602	Survey & Conn.	Survey & Conn.@8549_Inc 72.6°_Azm 176.1°
11-Sep-13	19:45	20:30	0.75	8602	8619	Sliding	Sliding - (WOB:28;GPM :384;TFO:0)
11-Sep-13	20:30	21:00	0.50	8619	8634	Drilling	Drilling - (WOB:18;GPM :384;RPM:30)
11-Sep-13	21:00	21:15	0.25	8634	8634	Survey & Conn.	Survey & Conn.@8581_Inc 75°_Azm 175.4°
11-Sep-13	23:00	23:15	0.25	8665	8665	Survey & Conn.	Survey & Conn.@8612_Inc 77.1°_Azm 175.6°
11-Sep-13	23:15	24:00	0.75	8665	8685	Sliding	Sliding - (WOB:28;GPM :384;TFO:0)
11-Sep-13	21:15	22:30	1.25	8634	8654	Sliding	Sliding - (WOB:28;GPM :384;TFO:0)
11-Sep-13	22:30	23:00	0.50	8654	8665	Drilling	Drilling - (WOB:18;GPM :384;RPM:30)



JOB NO.:	9082013	Report Time:	2400	5 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT\ RANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Thursday, September 12, 2013 at 0000 to Thursday, September 12, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	8685.00	Rotary Hours	2.25	WOB	18	Pick UP	184	Slack Off	145	SPM	
End Depth	8760.00	Circulating Hours	4.25	RAB	158	SPP	2185	FlowRate	384 - 384	110	
Total Drilled:	75.00	Avg. Total ROP:	25.00	Mud Data							
Total Rotary Drilled:	50.00	Avg. Rotary ROP:	22.22	Type	Brine Water			PV	1	SOLID	4.5
Total Drilled Sliding:	25.00	Avg. Slide ROP:	33.33	Weight	8.85	GAS	0	YP	0	BHT°	122
Slide Hours:	0.75	Percent Rotary:	66.67	Viscosity	30	SAND	0.5	PH	10	Flow T°	90
Below Rotary Hrs.	13.25	Percent Slide:	33.33	Chlorides	49000	WL	0	Oil %		0	

PERSONNEL				CASING			BHA		
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	BHA # 1:MMD55DM, 6/7 Lobe, 5 Stg, 1.73" Adj Slick, .29 rev, UBHO, NMDC, NM Flex, Cross Over, 8 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,		
Second Directional :	Justin Wood			20	94	80			
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466			
MWD Operator2	Charlie McDougal			9 5/8	40	4019			
Directional Company:	Wolverine			7	26	8739			
Geologist:				Signature:					
Company Man:	Phillip Hughes			Daily Cost		\$12,750.00			
Incl. In:	77.1	Azm. In:	175.6	Incl. Out:	85.6	Azm. Out:	175.6	Cummulative Cost:	\$73,600.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
12-Sep-13	00:00	00:45	0.75	8685	8697	Drilling	Drilling - (WOB:18;GPM :384;RPM:30)
12-Sep-13	00:45	01:00	0.25	8697	8697	Survey & Conn.	Survey & Conn.@8644_Inc 79.8°_Azm 174.5°
12-Sep-13	01:00	01:45	0.75	8697	8722	Sliding	Sliding - (WOB:28;GPM :384;TFO:0)
12-Sep-13	01:45	02:30	0.75	8722	8728	Drilling	Drilling - (WOB:18;GPM :384;RPM:30)
12-Sep-13	02:30	02:45	0.25	8728	8728	Survey & Conn.	Survey & Conn.@8675_Inc 82.3°_Azm 174.9°
12-Sep-13	02:45	03:30	0.75	8728	8760	Drilling	Drilling - (WOB:18;GPM :384;RPM:30)
12-Sep-13	03:30	03:45	0.25	8760	8760	Survey & Conn.	Survey & Conn.@8707_Inc 85.6°_Azm 175.6°
12-Sep-13	03:45	08:00	4.25	8760	8760	Circulating	Circulating
12-Sep-13	08:00	12:30	4.50	8760	8760	POOH	POOH
12-Sep-13	12:30	12:45	0.25	8760	8760	Other	Other - Drain Mtr & Break Off Bit, Axial 1/16" Mtr Drained Good, L/D MWD Tool
12-Sep-13	12:45	13:15	0.50	8760	8760	Other	Other - L/D Flex, NMDC, Mtr
12-Sep-13	13:15	24:00	10.75	8760	8760	Standby	Standby



JOB NO.:	9082013	Report Time:	2400	6 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT\ RANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Friday, September 13, 2013 at 0000 to Friday, September 13, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	0.00	Rotary Hours	0.00	WOB	18	Pick UP	184	Slack Off	145	SPM	
End Depth	0.00	Circulating Hours	0.00	RAB	158	SPP	2185	FlowRate	384 - 384	110	
Total Drilled:	0.00	Avg. Total ROP:	NA	Mud Data							
Total Rotary Drilled:	0.00	Avg. Rotary ROP:	NA	Type	Brine Water			PV	1	SOLID	4.5
Total Drilled Sliding:	0.00	Avg. Slide ROP:	NA	Weight	8.85	GAS	0	YP	0	BHT°	122
Slide Hours:	0.00	Percent Rotary:	NA	Viscosity	30	SAND	0.5	PH	10	Flow T°	90
Below Rotary Hrs.	0.00	Percent Slide:	NA	Chlorides	49000	WL	0			Oil %	0

PERSONNEL				CASING			BHA		
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	N/A		
Second Directional :	Justin Wood			20	94	80			
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466			
MWD Operator2	Charlie Mcdougal			9 5/8	40	4019			
Directional Company:	Wolverine			7	26	8739			
Geologist:				Signature:					
Company Man:	Phillip Hughes			Daily Cost			\$9,900.00		
Incl. In:	85.6	Azm. In:	175.6	Incl. Out:	85.6	Azm. Out:	175.6	Cummulative Cost:	\$83,500.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
13-Sep-13	00:00	24:00	24.00	8760	8760	Standby	Standby



JOB NO.:	9082013	Report Time:	2400	7 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT RANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Saturday, September 14, 2013 at 0000 to Saturday, September 14, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	8760.00	Rotary Hours	6.25	WOB	12	Pick UP	184	Slack Off	145	SPM	
End Depth	9010.00	Circulating Hours	0.50	RAB	158	SPP	2455	FlowRate	249 - 384	85	
Total Drilled:	250.00	Avg. Total ROP:	37.04	Mud Data							
Total Rotary Drilled:	234.00	Avg. Rotary ROP:	37.44	Type	Brine Water			PV	1	SOLID	4.5
Total Drilled Sliding:	16.00	Avg. Slide ROP:	32.00	Weight	8.85	GAS	0	YP	0	BHT°	141.8
Slide Hours:	0.50	Percent Rotary:	93.60	Viscosity	30	SAND	0.5	PH	10	Flow T°	90
Below Rotary Hrs.	16.25	Percent Slide:	6.40	Chlorides	49000	WL	0	Oil %		0	
PERSONNEL				CASING			BHA				
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	BHA # 2:FXM731Z, 7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev, UBHO, NMDC, Flex Collar, Crossover, 16 Stands Push Pipe, Crossover, Safety Sub, Agitator, Shock Sub, Crossover, 37 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,				
Second Directional :	Justin Wood			20	94	80					
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466					
MWD Operator2	Charlie Mcdougal			9 5/8	40	4019					
Directional Company:	Wolverine			7	26	8739					
Geologist:				Signature:							
Company Man:	Phillip Hughes			Daily Cost			\$14,450.00				
Incl. In:	85.6	Azm. In:	175.6	Incl. Out:	90.1	Azm. Out:	175.9	Cummulative Cost:	\$97,950.00		

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
14-Sep-13	00:00	07:45	7.75	8760	8760	Standby	Standby
14-Sep-13	07:45	09:15	1.50	8760	8760	Change BHA	Change BHA
14-Sep-13	09:15	09:45	0.50	8760	8760	Circulating	Circulating test mwd (good test)
14-Sep-13	09:45	16:00	6.25	8760	8760	TIH	TIH
14-Sep-13	16:00	18:00	2.00	8760	8760	Drilling Cement	Drilling - (WOB:7;GPM :249;RPM:35)
14-Sep-13	18:00	20:00	2.00	8760	8818	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
14-Sep-13	20:00	20:15	0.25	8818	8818	Survey & Conn.	Survey & Conn.@8770_Inc 88.2°_Azm 177.5°
14-Sep-13	20:15	20:30	0.25	8818	8850	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
14-Sep-13	20:30	20:45	0.25	8850	8850	Survey & Conn.	Survey & Conn.@8802_Inc 88.1°_Azm 177.2°
14-Sep-13	20:45	21:00	0.25	8850	8881	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
14-Sep-13	21:00	21:15	0.25	8881	8881	Survey & Conn.	Survey & Conn.@8833_Inc 88.3°_Azm 176.8°
14-Sep-13	21:15	21:45	0.50	8881	8897	Sliding	Sliding - (WOB:8;GPM :249;TFO:0))
14-Sep-13	21:45	22:00	0.25	8897	8913	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
14-Sep-13	22:00	22:15	0.25	8913	8913	Survey & Conn.	Survey & Conn.@8865_Inc 88.5°_Azm 176.7°
14-Sep-13	22:15	22:45	0.50	8913	8944	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
14-Sep-13	22:45	23:00	0.25	8944	8944	Survey & Conn.	Survey & Conn.@8896_Inc 89.6°_Azm 176.5°
14-Sep-13	23:00	24:00	1.00	8944	9010	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)



JOB NO.:	9082013	Report Time:	2400	8 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT\ RANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Sunday, September 15, 2013 at 0000 to Sunday, September 15, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	9010.00	Rotary Hours	19.25	WOB	15	Pick UP	160	Slack Off	148	SPM	
End Depth	10079.00	Circulating Hours	0.00	RAB	152	SPP	2775	FlowRate	249 - 264	90	
Total Drilled:	1069.00	Avg. Total ROP:	50.90	Mud Data							
Total Rotary Drilled:	988.00	Avg. Rotary ROP:	51.32	Type	Brine Water			PV	1	SOLID	4.5
Total Drilled Sliding:	81.00	Avg. Slide ROP:	46.29	Weight	8.85	GAS	0	YP	0	BHT°	141.8
Slide Hours:	1.75	Percent Rotary:	92.42	Viscosity	30	SAND	0.5	PH	10	Flow T°	90
Below Rotary Hrs.	24.00	Percent Slide:	7.58	Chlorides	49000	WL	0	Oil %		0	

PERSONNEL				CASING			BHA			
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	BHA # 2:FXM731Z, 7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev, UBHO, NMDC, Flex Collar, Cross Over, 16 Stands Push Pipe, Crossover, Safety Sub, Agitator, Shock Sub, Crossover, 37 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,			
Second Directional :	Justin Wood			20	94	80				
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466				
MWD Operator2	Charlie Mcdougal			9 5/8	40	4019				
Directional Company:	Wolverine			7	26	8739				
Geologist:				Signature:						
Company Man:	Phillip Hughes			Daily Cost		\$12,750.00				
Incl. In:	90.1	Azm. In:	175.9	Incl. Out:	92.9	Azm. Out:	178.8	Cummulative Cost:	\$110,700.00	

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Sep-13	00:00	00:15	0.25	9010	9039	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
15-Sep-13	00:15	00:30	0.25	9039	9039	Survey & Conn.	Survey & Conn.@8991_Inc 90.3°_Azm 175.8°
15-Sep-13	00:30	01:45	1.25	9039	9133	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
15-Sep-13	01:45	02:00	0.25	9133	9133	Survey & Conn.	Survey & Conn.@9085_Inc 91°_Azm 175.6°
15-Sep-13	02:00	03:30	1.50	9133	9228	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
15-Sep-13	03:30	03:45	0.25	9228	9228	Survey & Conn.	Survey & Conn.@9180_Inc 91.6°_Azm 174.9°
15-Sep-13	03:45	04:15	0.50	9228	9249	Sliding	Sliding - (WOB:6;GPM :249;TFO:100R))
15-Sep-13	04:15	05:30	1.25	9249	9323	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
15-Sep-13	05:30	05:45	0.25	9323	9323	Survey & Conn.	Survey & Conn.@9275_Inc 91.7°_Azm 176.8°
15-Sep-13	05:45	07:30	1.75	9323	9417	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
15-Sep-13	07:30	07:45	0.25	9417	9417	Survey & Conn.	Survey & Conn.@9369_Inc 92.4°_Azm 176.7°
15-Sep-13	07:45	08:00	0.25	9417	9437	Sliding	Sliding - (WOB:6;GPM :249;TFO:100R)
15-Sep-13	08:00	09:45	1.75	9437	9511	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
15-Sep-13	09:45	10:00	0.25	9511	9511	Survey & Conn.	Survey & Conn.@9463_Inc 90.7°_Azm 176.8°
15-Sep-13	10:00	10:30	0.50	9511	9531	Sliding	Sliding - (WOB:6;GPM :249;TFO:100R)
15-Sep-13	10:30	12:15	1.75	9531	9606	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
15-Sep-13	12:15	12:30	0.25	9606	9606	Survey & Conn.	Survey & Conn.@9558_Inc 89.9°_Azm 178.4°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
15-Sep-13	12:30	15:00	2.50	9606	9700	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
15-Sep-13	15:00	15:15	0.25	9700	9700	Survey & Conn.	Survey & Conn.@9652_Inc 90.6°_Azm 178.1°
15-Sep-13	15:15	16:45	1.50	9700	9795	Drilling	Drilling - (WOB:12;GPM :249;RPM:45)
15-Sep-13	16:45	17:00	0.25	9795	9795	Survey & Conn.	Survey & Conn.@9747_Inc 91°_Azm 178.1°
15-Sep-13	17:00	18:30	1.50	9795	9889	Drilling	Drilling - (WOB:14;GPM :264;RPM:45)
15-Sep-13	18:30	18:45	0.25	9889	9889	Survey & Conn.	Survey & Conn.@9841_Inc 91.6°_Azm 0°
15-Sep-13	18:45	19:15	0.50	9889	9909	Sliding	Sliding - (WOB:10;GPM :264;TFO:105R))
15-Sep-13	19:15	20:45	1.50	9909	9984	Drilling	Drilling - (WOB:14;GPM :264;RPM:45)
15-Sep-13	20:45	21:00	0.25	9984	9984	Survey & Conn.	Survey & Conn.@9936_Inc 91.7°_Azm 178.9°
15-Sep-13	21:00	23:45	2.75	9984	10079	Drilling	Drilling - (WOB:15;GPM :264;RPM:45)
15-Sep-13	23:45	24:00	0.25	10079	10079	Survey & Conn.	Survey & Conn.@10031_Inc 92.9°_Azm 178.8°



JOB NO.:	9082013	Report Time:	2400	9 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECTRANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Monday, September 16, 2013 at 0000 to Monday, September 16, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	10079.00	Rotary Hours	18.75	WOB	17	Pick UP	172	Slack Off	145	SPM	
End Depth	10922.00	Circulating Hours	0.75	RAB	152	SPP	2800	FlowRate	264 - 264	90	
Total Drilled:	843.00	Avg. Total ROP:	39.67	Mud Data							
Total Rotary Drilled:	739.00	Avg. Rotary ROP:	39.41	Type	Brine Water			PV	1	SOLID	4.5
Total Drilled Sliding:	104.00	Avg. Slide ROP:	41.60	Weight	8.85	GAS	0	YP	0	BHT°	141.8
Slide Hours:	2.50	Percent Rotary:	87.66	Viscosity	30	SAND	0.5	PH	10	Flow T°	90
Below Rotary Hrs.	24.00	Percent Slide:	12.34	Chlorides	49000	WL	0			Oil %	0

PERSONNEL				CASING			BHA		
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	BHA # 2:FXM731Z, 7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev, UBHO, NMDC, Flex Collar, Cross Over, 16 Stands Push Pipe, Crossover, Safety Sub, Agitator, Shock Sub, Crossover, 37 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,		
Second Directional :	Justin Wood			20	94	80			
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466			
MWD Operator2	Charlie Mcdougal			9 5/8	40	4019			
Directional Company:	Wolverine			7	26	8739			
Geologist:				Signature:					
Company Man:	Phillip Hughes			Daily Cost		\$12,750.00			
Incl. In:	92.9	Azm. In:	178.8	Incl. Out:	92.7	Azm. Out:	178.1	Cummulative Cost:	\$123,450.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Sep-13	00:00	00:30	0.50	10079	10103	Sliding	Sliding - (WOB:14;GPM :264;TFO:170R))
16-Sep-13	00:30	02:00	1.50	10103	10173	Drilling	Drilling - (WOB:15;GPM :264;RPM:45)
16-Sep-13	02:00	02:15	0.25	10173	10173	Survey & Conn.	Survey & Conn.@10125_Inc 92.3°_Azm 178.4°
16-Sep-13	02:15	03:00	0.75	10173	10201	Sliding	Sliding - (WOB:28;GPM :264;TFO:160R))
16-Sep-13	03:00	04:45	1.75	10201	10268	Drilling	Drilling - (WOB:15;GPM :264;RPM:45)
16-Sep-13	04:45	05:00	0.25	10268	10268	Survey & Conn.	Survey & Conn.@10220_Inc 87.6°_Azm 178.9°
16-Sep-13	05:00	07:15	2.25	10268	10362	Drilling	Drilling - (WOB:15;GPM :264;RPM:45)
16-Sep-13	07:15	07:45	0.50	10362	10362	Rig Service-Inhole	Rig Service-Inhole
16-Sep-13	07:45	08:00	0.25	10362	10362	Survey & Conn.	Survey & Conn.@10314_Inc 87.4°_Azm 178.2°
16-Sep-13	08:00	09:45	1.75	10362	10457	Drilling	Drilling - (WOB:15;GPM :264;RPM:45)
16-Sep-13	09:45	10:00	0.25	10457	10457	Survey & Conn.	Survey & Conn.@10409_Inc 87.3°_Azm 177.9°
16-Sep-13	10:00	10:30	0.50	10457	10477	Sliding	Sliding - (WOB:15;GPM :264;TFO:40R))
16-Sep-13	10:30	12:15	1.75	10477	10551	Drilling	Drilling - (WOB:16;GPM :264;RPM:45)
16-Sep-13	12:15	12:30	0.25	10551	10551	Survey & Conn.	Survey & Conn.@10503_Inc 89.3°_Azm 178.8°
16-Sep-13	12:30	13:15	0.75	10551	10583	Drilling	Drilling - (WOB:16;GPM :264;RPM:45)
16-Sep-13	13:15	13:30	0.25	10583	10595	Sliding	Sliding - (WOB:15;GPM :264;TFO:30R))
16-Sep-13	13:30	14:45	1.25	10595	10646	Drilling	Drilling - (WOB:17;GPM :264;RPM:45)

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
16-Sep-13	14:45	15:00	0.25	10646	10646	Survey & Conn.	Survey & Conn.@10598_Inc 90.9°_Azimuth 179.3°
16-Sep-13	15:00	17:30	2.50	10646	10740	Drilling	Drilling - (WOB:17;GPM :264;RPM:45)
16-Sep-13	17:30	17:45	0.25	10740	10740	Survey & Conn.	Survey & Conn.@10692_Inc 91°_Azimuth 178.6°
16-Sep-13	17:45	20:45	3.00	10740	10835	Drilling	Drilling - (WOB:17;GPM :264;RPM:45)
16-Sep-13	20:45	21:00	0.25	10835	10835	Circulating	Circulating - Lost 650 psi off btm psi
16-Sep-13	21:00	21:15	0.25	10835	10835	Survey & Conn.	Survey & Conn.@10787_Inc 92.7°_Azimuth 178.1°
16-Sep-13	21:15	21:45	0.50	10835	10855	Sliding	Sliding - (WOB:22;GPM :264;TFO:160R))
16-Sep-13	21:45	24:00	2.25	10855	10922	Drilling	Drilling - (WOB:17;GPM :264;RPM:45)



JOB NO.:	9082013	Report Time:	2400	10 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT\RANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Tuesday, September 17, 2013 at 0000 to Tuesday, September 17, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	10922.00	Rotary Hours	13.50	WOB	22	Pick UP	172	Slack Off	140	SPM	
End Depth	11408.00	Circulating Hours	0.50	RAB	152	SPP	2975	FlowRate	264 - 264	90	
Total Drilled:	486.00	Avg. Total ROP:	33.52	Mud Data							
Total Rotary Drilled:	459.00	Avg. Rotary ROP:	34.00	Type	Brine Water			PV	1	SOLID	4.5
Total Drilled Sliding:	27.00	Avg. Slide ROP:	27.00	Weight	8.85	GAS	0	YP	0	BHT°	141.8
Slide Hours:	1.00	Percent Rotary:	94.44	Viscosity	30	SAND	0.5	PH	10	Flow T°	90
Below Rotary Hrs.	24.00	Percent Slide:	5.56	Chlorides	49000	WL	0			Oil %	0

PERSONNEL				CASING			BHA				
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	BHA # 2:FXM731Z, 7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev, UBHO, NMDC, Flex Collar, Cross Over, 16 Stands Push Pipe, Crossover, Safety Sub, Agitator, Shock Sub, Crossover, 37 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,				
Second Directional :	Keith Loudermilk			20	94	80					
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466					
MWD Operator2	Charlie Mcdougal			9 5/8	40	4019					
Directional Company:	Wolverine			7	26	8739					
Geologist:				Signature:							
Company Man:	Phillip Hughes						Daily Cost	\$12,750.00			
Incl. In:	92.7	Azm. In:	178.1	Incl. Out:	90.6	Azm. Out:	177.5	Cummulative Cost:	\$136,200.00		

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
17-Sep-13	00:00	00:15	0.25	10922	10930	Drilling	Drilling - (WOB:17;GPM :264;RPM:45)
17-Sep-13	00:15	00:30	0.25	10930	10930	Survey & Conn.	Survey & Conn.@10882_Inc 91.7° Azm 178.6°
17-Sep-13	00:30	03:15	2.75	10930	11024	Drilling	Drilling - (WOB:18;GPM :264;RPM:45)
17-Sep-13	03:15	03:30	0.25	11024	11024	Survey & Conn.	Survey & Conn.@10976_Inc 92.7° Azm 178.4°
17-Sep-13	03:30	04:15	0.75	11024	11046	Sliding	Sliding - (WOB:22;GPM :264;TFO:180))
17-Sep-13	04:15	06:15	2.00	11046	11119	Drilling	Drilling - (WOB:18;GPM :264;RPM:45)
17-Sep-13	06:15	06:30	0.25	11119	11119	Survey & Conn.	Survey & Conn.@11071_Inc 88.2° Azm 178.8°
17-Sep-13	06:30	09:00	2.50	11119	11214	Drilling	Drilling - (WOB:18;GPM :264;RPM:45)
17-Sep-13	09:00	09:15	0.25	11214	11214	Survey & Conn.	Survey & Conn.@11166_Inc 88.5° Azm 178.4°
17-Sep-13	09:15	12:15	3.00	11214	11228	Drilling	Drilling - (WOB:18;GPM :264;RPM:45)
17-Sep-13	12:15	12:45	0.50	11228	11228	Rig Service-Inhole	Rig Service-Inhole
17-Sep-13	12:45	13:00	0.25	11228	11228	Survey & Conn.	Survey & Conn.@11260_Inc 90.3° Azm 178.4°
17-Sep-13	13:00	16:00	3.00	11228	11403	Drilling	Drilling - (WOB:18;GPM :264;RPM:45)
17-Sep-13	16:00	16:15	0.25	11403	11403	Survey & Conn.	Survey & Conn.@11355_Inc 90.6° Azm 177.5°
17-Sep-13	16:15	16:30	0.25	11403	11408	Sliding	Sliding - (WOB:22;GPM :264;TFO:180) Lost All Diff PSI While Sliding, Attempt Rotate, No Diff, P/U Off Btm
17-Sep-13	16:30	16:45	0.25	11408	11408	Other	Prep For TOOH
17-Sep-13	16:45	23:00	6.25	11408	11408	POOH	POOH

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
17-Sep-13	23:00	24:00	1.00	11408	11408	Change BHA	C/O Motor And Pull MWD



JOB NO.:	9082013	Report Time:	2400	11 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECTRANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Wednesday, September 18, 2013 at 0000 to Wednesday, September 18, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	11408.00	Rotary Hours	13.50	WOB	19	Pick UP	172	Slack Off	140	SPM	
End Depth	11830.00	Circulating Hours	0.50	RAB	152	SPP	2950	FlowRate	264 - 264	90	
Total Drilled:	422.00	Avg. Total ROP:	28.13	Mud Data							
Total Rotary Drilled:	390.00	Avg. Rotary ROP:	28.89	Type	Brine Water			PV	-1	SOLID	4.5
Total Drilled Sliding:	32.00	Avg. Slide ROP:	21.33	Weight	8.85	GAS	0	YP	0	BHT°	141.8
Slide Hours:	1.50	Percent Rotary:	92.42	Viscosity	30	SAND	0.5	PH	10	Flow T°	90
Below Rotary Hrs.	24.00	Percent Slide:	7.58	Chlorides	49000	WL	0	Oil %	0		

PERSONNEL			CASING			BHA	
Lead Directional :	Brad Stephens		Size	Lb/ft	Set Depth	BHA # 3:FX73, 7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev, UBHO, NMDC, Flex Collar, Cross Over, 16 Stands Push Pipe, Crossover, Safety Sub, Agitator, Shock Sub, Crossover, 37 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,	
Second Directional :	Keith Loudermilk		20	94	80		
MWD Operator1	Jaysun Bedard		13 3/8	54.5	466		
MWD Operator2	Charlie Mcdougal		9 5/8	40	4019		
Directional Company:	Wolverine		7	26	8739		
Geologist:			Signature:				
Company Man:	Richard Milne					Daily Cost	\$14,450.00
Incl. In:	90.6	Azm. In:	177.5	Incl. Out:	92.7	Azm. Out:	176.7
						Cummulative Cost:	\$150,650.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
18-Sep-13	00:00	01:00	1.00	11408	11408	Other	Work On MWD Conections
18-Sep-13	01:00	01:30	0.50	11408	11408	Other	P/U MWD
18-Sep-13	01:30	02:00	0.50	11408	11408	Circulating	Test & M/U Bit
18-Sep-13	02:00	08:00	6.00	11408	11408	TIH	TIH - Fill Pipe Every 3,200'
18-Sep-13	08:00	08:30	0.50	11408	11418	Sliding	Sliding - (WOB:15;GPM :264;TFO:80R))
18-Sep-13	08:30	11:00	2.50	11418	11498	Drilling	Drilling - (WOB:15;GPM :264;RPM:45)
18-Sep-13	11:00	11:15	0.25	11498	11498	Survey & Conn.	Survey & Conn.@11450_Inc 90.3°_Azm 178.8°
18-Sep-13	11:15	14:45	3.50	11498	11592	Drilling	Drilling - (WOB:15;GPM :264;RPM:45)
18-Sep-13	14:45	15:00	0.25	11592	11592	Survey & Conn.	Survey & Conn.@11544_Inc 91°_Azm 178.4°
18-Sep-13	15:00	18:30	3.50	11592	11687	Drilling	Drilling - (WOB:16;GPM :264;RPM:45)
18-Sep-13	18:30	18:45	0.25	11687	11687	Survey & Conn.	Survey & Conn.@11639_Inc 91.6°_Azm 177.7°
18-Sep-13	18:45	21:45	3.00	11687	11781	Drilling	Drilling - (WOB:16; :264;RPM:45)
18-Sep-13	21:45	22:00	0.25	11781	11781	Survey & Conn.	Survey & Conn.@11733_Inc 92.7°_Azm 176.7°
18-Sep-13	22:00	23:00	1.00	11781	11803	Sliding	Sliding - (WOB:22; :264;TFO:140R))
18-Sep-13	23:00	24:00	1.00	11803	11830	Drilling	Drilling - (WOB:19; :264;RPM:50)



JOB NO.:	9082013	Report Time:	2400	12 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT/RANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Thursday, September 19, 2013 at 0000 to Thursday, September 19, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	11830.00	Rotary Hours	17.75	WOB	19	Pick UP	184	Slack Off	138	SPM	
End Depth	12443.00	Circulating Hours	0.50	RAB	164	SPP	2945	FlowRate	264 - 264	90	
Total Drilled:	613.00	Avg. Total ROP:	28.18	Mud Data							
Total Rotary Drilled:	500.00	Avg. Rotary ROP:	28.17	Type	Brine Water			PV	1	SOLID	4.5
Total Drilled Sliding:	113.00	Avg. Slide ROP:	28.25	Weight	8.85	GAS	0	YP	0	BHT°	141.8
Slide Hours:	4.00	Percent Rotary:	81.57	Viscosity	30	SAND	0.5	PH	10	Flow T°	90
Below Rotary Hrs.	24.00	Percent Slide:	18.43	Chlorides	49000	WL	0	Oil %		0	
PERSONNEL				CASING			BHA				
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	BHA # 3:FX73, 7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev, UBHO, NMDC, Flex Collar, Cross Over, 16 Stands Push Pipe, Crossover, Safety Sub, Agitator, Shock Sub, Crossover, 37 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,				
Second Directional :	Keith Loudermilk			20	94	80					
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466					
MWD Operator2	Charlie Mcdougal			9 5/8	40	4019					
Directional Company:	Wolverine			7	26	8739					
Geologist:				Signature:							
Company Man:	Richard Milne						Daily Cost	\$12,750.00			
Incl. In:	92.7	Azm. In:	176.7	Incl. Out:	89.8	Azm. Out:	179.3	Cummulative Cost:	\$163,400.00		

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
19-Sep-13	00:00	01:45	1.75	11830	11876	Drilling	Drilling - (WOB:19;GPM :264;RPM:50)
19-Sep-13	01:45	02:00	0.25	11876	11876	Survey & Conn.	Survey & Conn.@11828_Inc 91.4°_Azm 178.2°
19-Sep-13	02:00	02:30	0.50	11876	11888	Sliding	Sliding - (WOB:22;GPM :264;TFO:150R))
19-Sep-13	02:30	05:15	2.75	11888	11970	Drilling	Drilling - (WOB:19;GPM :264;RPM:50)
19-Sep-13	05:15	05:30	0.25	11970	11970	Survey & Conn.	Survey & Conn.@11922_Inc 91°_Azm 178.1°
19-Sep-13	05:30	08:00	2.50	11970	12065	Drilling	Drilling - (WOB:19;GPM :264;RPM:50)
19-Sep-13	08:00	08:30	0.50	12065	12065	Rig Service-Inhole	Rig Service-Inhole
19-Sep-13	08:30	08:45	0.25	12065	12065	Survey & Conn.	Survey & Conn.@12017_Inc 94°_Azm 176.8°* All Rotation *
19-Sep-13	08:45	09:45	1.00	12065	12091	Sliding	Sliding - (WOB:18;GPM :264;TFO:150R))
19-Sep-13	09:45	12:15	2.50	12091	12160	Drilling	Drilling - (WOB:19;GPM :264;RPM:50)
19-Sep-13	12:15	12:30	0.25	12160	12160	Survey & Conn.	Survey & Conn.@12112_Inc 94°_Azm 178.2°
19-Sep-13	12:30	13:30	1.00	12160	12185	Sliding	Sliding - (WOB:22;GPM :264;TFO:160R))
19-Sep-13	13:30	16:00	2.50	12185	12254	Drilling	Drilling - (WOB:19;GPM :264;RPM:50)
19-Sep-13	16:00	16:15	0.25	12254	12254	Survey & Conn.	Survey & Conn.@12206_Inc 92.6°_Azm 179.1°
19-Sep-13	16:15	17:00	0.75	12254	12278	Sliding	Sliding - (WOB:26;GPM :264;TFO:170R))
19-Sep-13	17:00	19:45	2.75	12278	12349	Drilling	Drilling - (WOB:19;GPM :264;RPM:50)
19-Sep-13	19:45	20:00	0.25	12349	12349	Survey & Conn.	Survey & Conn.@12301_Inc 91.3°_Azm 178.6°

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
19-Sep-13	20:00	20:45	0.75	12349	12375	Sliding	Sliding - (WOB:23;GPM :264;TFO:160R))
19-Sep-13	20:45	23:45	3.00	12375	12443	Drilling	Drilling - (WOB:19;GPM :264;RPM:50)
19-Sep-13	23:45	24:00	0.25	12443	12443	Survey & Conn.	Survey & Conn.@12395_Inc 89.8°_Azm 179.3°



JOB NO.:	9082013	Report Time:	2400	13 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT\ RANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Friday, September 20, 2013 at 0000 to Friday, September 20, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	12443.00	Rotary Hours	15.75	WOB	19	Pick UP	184	Slack Off	138	SPM	
End Depth	12895.00	Circulating Hours	6.50	RAB	164	SPP	2955	FlowRate	264 - 264	90	
Total Drilled:	452.00	Avg. Total ROP:	27.39	Mud Data							
Total Rotary Drilled:	432.00	Avg. Rotary ROP:	27.43	Type	Brine Water			PV	1	SOLID	4.5
Total Drilled Sliding:	20.00	Avg. Slide ROP:	26.67	Weight	8.85	GAS	0	YP	0	BHT°	141.8
Slide Hours:	0.75	Percent Rotary:	95.58	Viscosity	30	SAND	0.5	PH	10	Flow T°	90
Below Rotary Hrs.	24.00	Percent Slide:	4.42	Chlorides	49000	WL	0			Oil %	0

PERSONNEL				CASING			BHA		
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	BHA # 3:FX73, 7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev, UBHO, NMDC, Flex Collar, Cross Over, 16 Stands Push Pipe, Crossover, Safety Sub, Agitator, Shock Sub, Crossover, 37 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,		
Second Directional :				20	94	80			
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466			
MWD Operator2	Charlie Mcdougal			9 5/8	40	4019			
Directional Company:	Wolverine			7	26	8739			
Geologist:				Signature:					
Company Man:	Richard Milne			Daily Cost			\$12,750.00		
Incl. In:	89.8	Azm. In:	179.3	Incl. Out:	93.7	Azm. Out:	178.4	Cummulative Cost:	\$176,150.00

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
20-Sep-13	00:00	00:45	0.75	12443	12463	Sliding	Sliding - (WOB:18;GPM :264;TFO:180))
20-Sep-13	00:45	03:45	3.00	12463	12537	Drilling	Drilling - (WOB:18;GPM :264;RPM:50)
20-Sep-13	03:45	04:00	0.25	12537	12537	Survey & Conn.	Survey & Conn.@12489_Inc 88.2°_Azm 178.9°
20-Sep-13	04:00	04:15	0.25	12537	12541	Drilling	Drilling - (WOB:18;GPM :264;RPM:50)
20-Sep-13	04:15	06:15	2.00	12541	12541	Circulating	Circulating - MWD Gamma Computer Crashed
20-Sep-13	06:15	09:45	3.50	12541	12632	Drilling	Drilling - (WOB:19;GPM :264;RPM:50)
20-Sep-13	09:45	10:00	0.25	12632	12632	Survey & Conn.	Survey & Conn.@12584_Inc 89.1°_Azm 179.1°
20-Sep-13	10:00	13:30	3.50	12632	12727	Drilling	Drilling - (WOB:19;GPM :264;RPM:50)
20-Sep-13	13:30	13:45	0.25	12727	12727	Survey & Conn.	Survey & Conn.@12679_Inc 90.6°_Azm 179.3°
20-Sep-13	13:45	17:00	3.25	12727	12821	Drilling	Drilling - (WOB:19;GPM :264;RPM:50)
20-Sep-13	17:00	17:15	0.25	12821	12821	Survey & Conn.	Survey & Conn.@12773_Inc 92.3°_Azm 179.3°
20-Sep-13	17:15	19:30	2.25	12821	12895	Drilling	Drilling - (WOB:19;GPM :264;RPM:50) TD WELL @ 12,895'
20-Sep-13	19:30	19:45	0.25	12895	12895	MWD Survey	MWD Survey@12847_Inc 93.7°_Azm 178.4°
20-Sep-13	19:45	24:00	4.25	12895	12895	Circulating	Circulating @ TD



JOB NO.:	9082013	Report Time:	2400	14 of 14
Company:	RKI Exploration & Production	API JOB #	30-015-41587	
LOCATION:	Eddy County, NM	WORK ORDER#		
RIG NAME:	Silver Oak #9	FIELD:	Bone Springs	
STATE:	New Mexico	Township:	22S	
COUNTY:	Eddy	SECT\ RANGE:	36	28E
WELL NAME:	Pinnacle State 36-32H			

From Saturday, September 21, 2013 at 0000 to Saturday, September 21, 2013 at 2400

DRILLING SUMMARY				Drilling Parameters							
Start Depth	12443.00	Rotary Hours	15.75	WOB	19	Pick UP	184	Slack Off	138	SPM	
End Depth	12895.00	Circulating Hours	6.50	RAB	164	SPP	2955	FlowRate	264 - 264	90	
Total Drilled:	452.00	Avg. Total ROP:	27.39	Mud Data							
Total Rotary Drilled:	432.00	Avg. Rotary ROP:	27.43	Type	Brine Water			PV	1	SOLID	4.5
Total Drilled Sliding:	20.00	Avg. Slide ROP:	26.67	Weight	8.85	GAS	0	YP	0	BHT°	141.8
Slide Hours:	0.75	Percent Rotary:	95.58	Viscosity	30	SAND	0.5	PH	10	Flow T°	90
Below Rotary Hrs.	24.00	Percent Slide:	4.42	Chlorides	49000	WL	0			Oil %	0

PERSONNEL				CASING			BHA				
Lead Directional :	Brad Stephens			Size	Lb/ft	Set Depth	BHA # 3:FX73, 7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev, UBHO, NMDC, Flex Collar, Cross Over, 16 Stands Push Pipe, Crossover, Safety Sub, Agitator, Shock Sub, Crossover, 37 Stands Push Pipe, 22 Stands HWT, Jars, 5 Joints HWT,				
Second Directional :				20	94	80					
MWD Operator1	Jaysun Bedard			13 3/8	54.5	466					
MWD Operator2	Charlie Mcdougal			9 5/8	40	4019					
Directional Company:	Wolverine			7	26	8739					
Geologist:				Signature:			Daily Cost		\$12,750.00		
Company Man:	Richard Milne						Cummulative Cost:		\$188,900.00		
Incl. In:	93.7	Azm. In:	178.4	Incl. Out:	93.7	Azm. Out:	178.4				

GENERAL COMMENT

Date	Start Time	End Time	Hours	Start Depth	End Depth	Activity Code	COMMENT
21-Sep-13	00:00	07:00	7.00	12895	12895	POOH	POOH - F/12,985' - 2,157'
21-Sep-13	07:00	08:45	1.75	12895	12895	L/D DP	L/D DP - F/2,157' - 94'
21-Sep-13	08:45	09:00	0.25	12895	12895	Other	Other - Drain Mtr & Break Off Bit, L/D MWD Tool
21-Sep-13	09:00	09:15	0.25	12895	12895	Other	Other - L/D Flex, NMDC, UBHO & Mtr
21-Sep-13	09:15	10:00	0.75	12895	12895	Other	Other - When Truck Arrived On Location, Load Directional Tools Onto Truck & Depart Location

Wolverine
Directional

**BHA and
Slide / Rotate
Reports**

Well Information

BHA # 1



JOB NO.: 9082013
Company: RKI Exploration & Production
LOCATION: Eddy County, NM
RIG NAME: Silver Oak #9
STATE: New Mexico
COUNTY: Eddy
WELL NAME: Pinnacle State 36-32H

FIELD: Bone Springs
Township: 22S
SECT. RANGE: 36 28E
Lead DD: Brad Stephens
Co. Man: Phillip Hughes
BHA TYPE: Building Assembly

BHA Summary Information

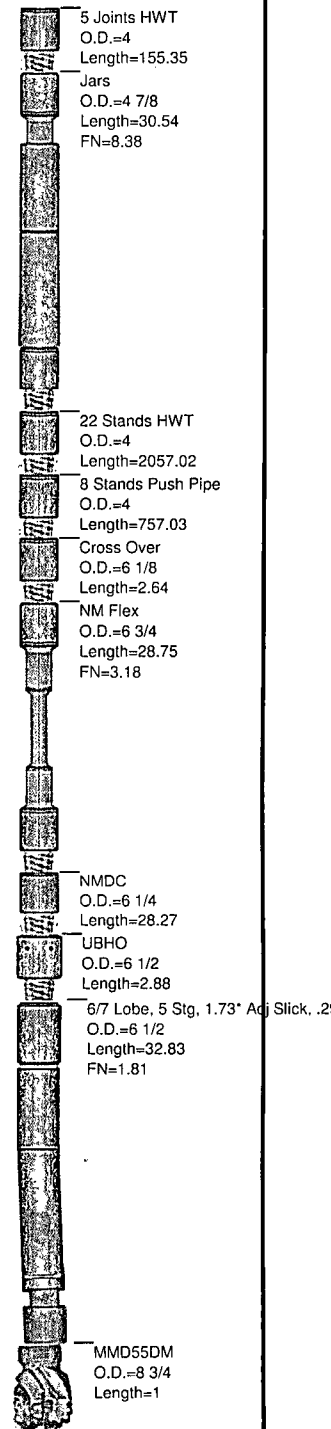
TIME IN - OUT		Rotary Hours		15.00	Start Depth		7762.00	RPM	Flow	
Start Time	End Time	Circ Hrs Tot/Only		44.25 / 5.50	End Depth		8760.00	Range	Rate	
09-Sep-13 @ 14:45	12-Sep-13 @ 13:15	Slide Hours		23.75	Percent Rotary:		38.68	0 -30	0 -498	
		Below Rotary Hrs.		70.50	Percent Slide:		61.32			
Total Drilled:		998.00	Avg. Total ROP:		25.75	Incl.		Azimuth		
Total Rotary Drilled:		386.00	Avg. Rotary ROP:		25.73	IN	OUT	IN	OUT	
Total Drilled Sliding:		612.00	Avg. Slide ROP:		25.77	.0	.0	.00	.00	
SPP	0 -3200	Weights	SO	0 -152	PU	0 -184	RAB	0 -158	Reason POOH	TD

Bit Data				MOTOR DATA				Mud Data			
Security MMD55DM				6/7 Lobe, 5 Stg, 1.73* Adj Slick, .29 rev				Type Brine Water			
Type Bit		PDC		Model: HB21		Pad OD		WT 8.85		GAS 0 Solids 4.5	
TFA		1.855		MFG. Wenzel		7 3/4		Vis 30		SAND 0.5 T ° 90	
JETS		22	22	22	22	Bend ° 1.73		Stator/Rotor 6/7		PV 1 PH 10 Chlor 49000	
		0	0	0	0	Bit to Bend 2.86		Motor Diff 250		YP 0 WL 0 Oil % 0	
Bit Coding		IADC#		423		Rev/GAL		0.29		BHT ° 122	
IR	OR	DL	Loc	BS	G	ODL	PUMPS		PUMP1		PUMP1
0	2	WT	G	X	1	NO	NAME		Golden Horse		Golden Horse
Bit Drop:		59 PSI @ 498 GPM		Sensor Offsets		Type		Triplex		Triplex	
						Liner		5.50		5.50	
Comments		Sensor 53		Sonic 0		Stroke		10.00		10.00	
		Gamma 43		DNSC 7762		Efficency		95.00		95.00	
		Restiv 0		GYRO 0							

Bit To Survey: 53'
 Bit To Gamma: 43'
 Motor rev: .29

BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	MMD55DM	12155334		8 3/4	1.00	1.00	4 1/2 REGP
2	6/7 Lobe, 5 Stg, 1.73* Adj Slick, .29 rev	650-HB21-067		6 1/2	32.83	33.83	4 1/2 XHB
3	UBHO	900-28	2 1/4	6 1/2	2.88	36.71	4 1/2 XHB
4	NMDC	66-30-7856	2 7/8	6 1/4	28.27	64.98	4 1/2 XHB
5	NM Flex	6750013	2 7/8	6 3/4	28.75	93.73	4 1/2 XHB
6	Cross Over	Rig	2 3/4	6 1/8	2.64	96.37	XT-39B
7	8 Stands Push Pipe	RKI	2 7/8	4	757.03	853.40	XT-39B
8	22 Stands HWT	RKI	2 13/16	4	2,057.02	2910.42	XT-39B
9	Jars	KJ11369	2 1/2	4 7/8	30.54	2940.96	XT-39B
10	5 Joints HWT	RKI	2 13/16	4	155.35	3096.31	XT-39B



Well Information

BHA # 2



JOB NO.: 9082013
Company: RKI Exploration & Production
LOCATION: Eddy County, NM
RIG NAME: Silver Oak #9
STATE: New Mexico
COUNTY: Eddy
WELL NAME: Pinnacle State 36-32H

FIELD: Bone Springs
Township: 22S
SECT. RANGE: 36 28E
Lead DD: Brad Stephens
Co. Man: Phillip Hughes
BHA TYPE: Steerable Assembly

BHA Summary Information

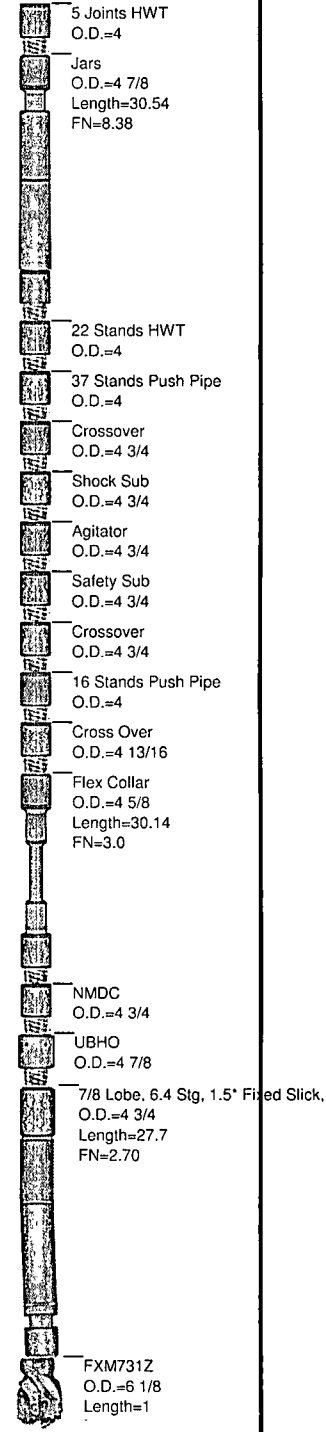
TIME IN - OUT		Rotary Hours	57.75	Start Depth	8760.00	RPM	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only	65.25 / 1.75	End Depth	11408.00	Range	
14-Sep-13 @ 09:15	17-Sep-13 @ 24:00	Slide Hours	5.75	Percent Rotary:	91.39	0 -45	249 -384
		Below Rotary Hrs.	86.75	Percent Slide:	8.61		
Total Drilled:		2648.00	Avg. Total ROP:	41.70	Azimuth		
Total Rotary Drilled:		2420.00	Avg. Rotary ROP:	41.90	IN	OUT	IN OUT
Total Drilled Sliding:		228.00	Avg. Slide ROP:	39.65	.0	.0	.00
SPP	2185 -3010	Weights	SO 140 -152	PU	160 -184	RAB	152 -158
						Reason POOH	DMF

Bit Data				MOTOR DATA				Mud Data					
Security FXM731Z				7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev				Type Brine Water					
Type Bit		PDC		Model: Lightning		Pad OD		WT 8.85		GAS 0 Solids 4.5			
TFA 1.484				MFG: Jaguar		5		Vis 30		SAND 0.5 T° 90			
JETS		22	22	22	22	0	Bend ° 1.5		Stator/Rotor 7/8				
		0	0	0	0	0	Bit to Bend 4.2		Motor Diff 300				
Bit Coding		IADC# 442		Rev/GAL 0.63				BHT° 141.8					
IR	OR	DL	Loc	BS	G	ODL	PUMPS		PUMP1		PUMP1		
2	7	CT	S	X	1	LT	NAME		Golden Horse		Golden Horse		
Bit Drop:		55 PSI @ 384 GPM		Sensor Offsets				Model		F-1000		F-1000	
				Sensor 48		Sonic 0		Type		Triplex		Triplex	
				Gamma 38		DNSC 8760		Liner		5.50		5.50	
				Restiv 0		GYRO 0		Stroke		10.00		10.00	
								Efficency		95.00		95.00	

Bit To Survey Sensor: 48'
 Bit To Gamma Sensor: 38'
 Motor rev: .63

BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	FXM731Z	11709041		6 1/8	1.00	1.00	3 1/2 REGP
2	7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev	92968		4 3/4	27.70	28.70	3 1/2 IFB
3	UBHO	901-15	2 1/4	4 7/8	3.03	31.73	3 1/2 IFB
4	NMDC	DCNS0-0044	2 3/4	4 3/4	30.94	62.67	3 1/2 IFB
5	Flex Collar	D4061	2 11/16	4 5/8	30.14	92.81	3 1/2 IFB
6	Cross Over	PPR376	2 1/4	4 13/16	2.42	95.23	XT-39B
7	16 Stands Push Pipe	RIG	2 7/8	4	1,513.11	1608.34	XT-39B
8	Crossover	NIR - 5718	2 1/2	4 3/4	2.85	1611.19	3 1/2 IFB
9	Safety Sub	1266573-3	2 1/2	4 3/4	1.50	1612.69	3 1/2 IFB
10	Agitator	AGAR0475-0044	2 1/2	4 3/4	10.98	1623.67	3 1/2 IFB
11	Shock Sub	155-4702-00	2 1/2	4 3/4	11.17	1634.84	3 1/2 IFB
12	Crossover	NIR - 4666	2 1/2	4 3/4	1.85	1636.69	XT-39B
13	37 Stands Push Pipe	RIG.	2 7/8	4	3,502.77	5139.46	XT-39B
14	22 Stands HWT	RKI.	2 13/16	4	2,057.02	7196.48	XT-39B
15	Jars	KJ11369	2 1/2	4 7/8	30.54	7227.02	XT-39B
16	5 Joints HWT	RKI,	2 13/16	4	155.35	7382.37	XT-39B



Well Information

BHA # 3



JOB NO.: 9082013
Company: RKI Exploration & Production
LOCATION: Eddy County, NM
RIG NAME: Silver Oak #9
STATE: New Mexico
COUNTY: Eddy
WELL NAME: Pinnacle State 36-32H

FIELD: Bone Springs
Township: 22S
SECT. RANGE: 36 28E
Lead DD: Brad Stephens
Co. Man: Richard Milne
BHA TYPE: Steerable Assembly

BHA Summary Information

TIME IN - OUT		Rotary Hours		47.00	Start Depth		11408.00	RPM	Flow Rate
Start Time	End Time	Circ Hrs Tot/Only		60.75 / 7.50	End Depth		12895.00	Range	
18-Sep-13 @ 00:00	21-Sep-13 @ 10:00	Slide Hours		6.25	Percent Rotary:		88.90	0-50	264 -264
		Below Rotary Hrs.		80.25	Percent Slide:		11.10		
Total Drilled:		1487.00	Avg. Total ROP:		27.92	Incl.		Azimuth	
Total Rotary Drilled:		1322.00	Avg. Rotary ROP:		28.13	IN	OUT	IN	OUT
Total Drilled Sliding:		165.00	Avg. Slide ROP:		26.40	.0	.0	.00	.00

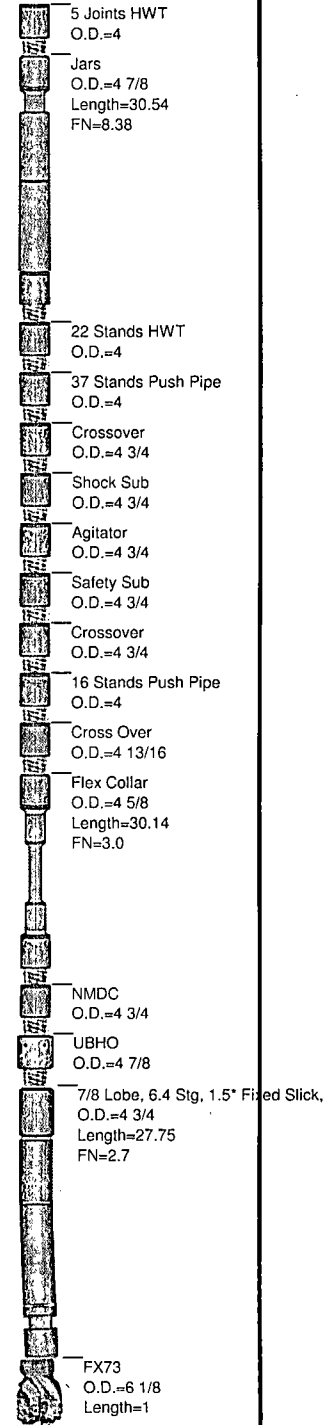
SPP	2810 -3065	Weights	SO	138 -140	PU	172 -184	RAB	152 -164	Reason POOH	TD
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Bit Data				MOTOR DATA				Mud Data			
Security FX73				7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev				Type Brine Water			
Type Bit				Model: Lightning				WT 8.85 GAS 0 Solids 4.5			
TFA 1.502				MFG. Jaguar				Vis 30 SAND 0.5 T ° 90			
JETS				Bend ° 1.5 Stator/Rotor 7/8				PV 1 PH 10 Chlor 49000			
Bit Coding				Rev/GAL 0.63				YP 0 WL 0 Oil % 0			
IR OR DL Loc BS G ODL				NB Stab 0				BHT ° 141.8			
1 4 CT S X 1 WT				Rotor Jet 0							
Bit Drop: 25 PSI @ 264 GPM				Sensor Offsets							
Comments				Sensor 48 Sonic 0							
				Gamma 38 DNSC 11408							
				Restiv 0 GYRO 0							

Bit To Survey Sensor: 48'
 Bit To Gamma: 38'
 Motor Rev: .63

BHA Detail

#	Description	Serial #	I.D.	O.D.	Length	Sum	Top Conn
1	FX73	11544988		6 1/8	1.00	1.00	3 1/2 REGP
2	7/8 Lobe, 6.4 Stg, 1.5" Fixed Slick, .63 rev	92992		4 3/4	27.75	28.75	3 1/2 IFB
3	UBHO	901-15	2 1/4	4 7/8	3.03	31.78	3 1/2 IFB
4	NMDC	DCNS0-0044	2 3/4	4 3/4	30.94	62.72	3 1/2 IFB
5	Flex Collar	D4061	2 11/16	4 5/8	30.14	92.86	3 1/2 IFB
6	Cross Over	PPR376	2 1/4	4 13/16	2.42	95.28	XT-39B
7	16 Stands Push Pipe	RIG	2 7/8	4	1,513.11	1608.39	XT-39B
8	Crossover	NIR - 5718	2 1/2	4 3/4	2.85	1611.24	3 1/2 IFB
9	Safety Sub	1266573-3	2 1/2	4 3/4	1.50	1612.74	3 1/2 IFB
10	Agitator	AGAR0475-0044	2 1/2	4 3/4	10.98	1623.72	3 1/2 IFB
11	Shock Sub	155-4702-00	2 1/2	4 3/4	11.17	1634.89	3 1/2 IFB
12	Crossover	NIR - 4666	2 1/2	4 3/4	1.85	1636.74	XT-39B
13	37 Stands Push Pipe	RIG.	2 7/8	4	3,502.77	5139.51	XT-39B
14	22 Stands HWT	RKI.	2 13/16	4	2,057.02	7196.53	XT-39B
15	Jars	KJ11369	2 1/2	4 7/8	30.54	7227.07	XT-39B
16	5 Joints HWT	RKI,	2 13/16	4	155.35	7382.42	XT-39B





JOB NO.: 9082013
Company: RKI Exploration & Production
LOCATION: Eddy County, NM
RIG NAME: Silver Oak #9
STATE: New Mexico
COUNTY: Country
WELL NAME: Pinnacle State 36-32H

FIELD: Bone Springs
Township: 22S
Range 28E

MOTOR INFORMATION	
Desc:	6/7 Lobe, 5 Stg, 1.73" Adj Stick, .29
Bent Hsg/Sub:	rev 1.7 / 1.7 Bit to Bend: 2.86 3 / 3
Pad OD:	7 3/4 NB Stab:

Slide Report for all BHA's in Job: 9082013

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	10-Sep	Drilling	04:00	05:30	1.50	7762	7783	21	15	14.0	30	200	498	3143		0.00	0.00	0.00	
1	10-Sep	Drilling	05:45	07:00	1.25	7783	7814	31	15	24.8	30	200	498	3143		0.00	0.00	0.00	
1	10-Sep	Drilling	07:15	07:30	0.25	7814	7818	4	15	16.0	30	200	498	3143		0.00	0.00	0.00	
1	10-Sep	Drilling	07:45	08:30	0.75	7818	7846	28	15	37.3	30	200	498	3143		0.00	0.00	0.00	
1	10-Sep	Sliding	09:15	10:30	1.25	7846	7866	20	13	16.0	0	0	498	3125	178M	0.00	0.00	0.00	
1	10-Sep	Drilling	10:30	10:45	0.25	7866	7877	11	14	44.0	30	224	498	3175		0.00	0.00	0.00	
1	10-Sep	Sliding	11:00	11:45	0.75	7877	7897	20	13	26.7	0	0	498	3145	178M	0.00	0.00	0.00	
1	10-Sep	Drilling	11:45	12:15	0.50	7897	7909	12	14	24.0	30	220	498	3178		0.00	0.00	0.00	
1	10-Sep	Sliding	12:30	13:45	1.25	7909	7929	20	13	16.0	30	220	498	3200	178M	0.00	0.00	0.00	
1	10-Sep	Drilling	13:45	14:15	0.50	7929	7940	11	14	22.0	30	237	498	3150		0.00	0.00	0.00	
1	10-Sep	Sliding	14:30	15:45	1.25	7940	7965	25	17	20.0	0	0	498	3075	10R	0.00	0.00	0.00	
1	10-Sep	Drilling	15:45	16:15	0.50	7965	7972	7	19	14.0	25	345	322	1700		0.00	0.00	0.00	
1	10-Sep	Sliding	16:30	17:30	1.00	7972	7994	22	17	22.0	0	0	322	1675	10R	0.00	0.00	0.00	
1	10-Sep	Drilling	17:30	17:45	0.25	7994	8002	8	19	32.0	25	347	322	1710		0.00	0.00	0.00	
1	10-Sep	Sliding	18:00	18:45	0.75	8002	8021	19	17	25.3	25	347	322	1710	10R	0.00	0.00	0.00	
1	10-Sep	Drilling	18:45	19:15	0.50	8021	8035	14	19	28.0	25	347	322	1710		0.00	0.00	0.00	
1	10-Sep	Sliding	19:30	20:00	0.50	8035	8055	20	17	40.0	25	347	322	1710	10R	0.00	0.00	0.00	
1	10-Sep	Sliding	20:00	21:15	1.25	8055	8088	33	17	26.4	25	347	322	1710	10R	0.00	0.00	0.00	
1	10-Sep	Drilling	21:15	21:45	0.50	8088	8098	10	19	20.0	25	347	322	1710		0.00	0.00	0.00	
1	10-Sep	Sliding	22:00	22:30	0.50	8098	8118	20	17	40.0	25	347	322	1710	10R	0.00	0.00	0.00	
1	10-Sep	Drilling	22:30	23:00	0.50	8118	8129	11	19	22.0	25	347	322	1710		0.00	0.00	0.00	
1	10-Sep	Sliding	23:15	23:45	0.50	8129	8152	23	17	46.0	25	347	322	1710	10R	0.00	0.00	0.00	
1	10-Sep	Drilling	23:45	24:00	0.25	8152	8161	9	19	36.0	25	347	322	1710		0.00	0.00	0.00	
1	11-Sep	Sliding	00:15	01:15	1.00	8161	8183	22	17	22.0	25	347	322	1710	360	0.00	0.00	0.00	
1	11-Sep	Drilling	01:15	01:45	0.50	8183	8192	9	19	18.0	25	347	322	1710		0.00	0.00	0.00	
1	11-Sep	Sliding	02:00	03:00	1.00	8192	8220	28	17	28.0	25	347	322	1710	360	0.00	0.00	0.00	

Slide Report for all BHA's in Job: 9082013

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
1	11-Sep	Drilling	03:00	03:15	0.25	8220	8224	4	19	16.0	25	347	322	1710		0.00	0.00	0.00	
1	11-Sep	Sliding	03:30	04:45	1.25	8224	8252	28	17	22.4	25	347	322	1710	360	0.00	0.00	0.00	
1	11-Sep	Drilling	04:45	05:00	0.25	8252	8255	3	19	12.0	25	347	322	1710		0.00	0.00	0.00	
1	11-Sep	Sliding	05:15	06:00	0.75	8255	8280	25	28	33.3	0	0	384	2200	5L	0.00	0.00	0.00	
1	11-Sep	Drilling	06:00	06:15	0.25	8280	8287	7	24	28.0	25	475	384	2315		0.00	0.00	0.00	
1	11-Sep	Sliding	06:30	07:15	0.75	8287	8314	27	18	36.0	0	0	384	2245	20L	0.00	0.00	0.00	
1	11-Sep	Drilling	07:15	07:30	0.25	8314	8318	4	22	16.0	25	385	384	2325		0.00	0.00	0.00	
1	11-Sep	Sliding	07:45	08:45	1.00	8318	8350	32	17	32.0	0	0	384	2275	20L	0.00	0.00	0.00	
1	11-Sep	Sliding	09:30	10:00	0.50	8350	8375	25	24	50.0	0	0	384	2230	5L	0.00	0.00	0.00	
1	11-Sep	Drilling	10:00	10:15	0.25	8375	8381	6	16	24.0	25	350	384	2215		0.00	0.00	0.00	
1	11-Sep	Sliding	10:30	11:00	0.50	8381	8401	20	22	40.0	0	0	384	2275	30L	0.00	0.00	0.00	
1	11-Sep	Drilling	11:00	11:15	0.25	8401	8413	12	16	48.0	25	340	384	2275		0.00	0.00	0.00	
1	11-Sep	Sliding	11:30	12:15	0.75	8413	8432	19	16	25.3	0	0	384	2235	40L	0.00	0.00	0.00	
1	11-Sep	Drilling	12:15	12:45	0.50	8432	8444	12	18	24.0	30	380	384	2218		0.00	0.00	0.00	
1	11-Sep	Sliding	13:00	13:45	0.75	8444	8463	19	22	25.3	0	0	384	2224	40L	0.00	0.00	0.00	
1	11-Sep	Drilling	13:45	14:15	0.50	8463	8476	13	25	26.0	30	356	384	2375		0.00	0.00	0.00	
1	11-Sep	Sliding	14:30	15:00	0.50	8476	8491	15	24	30.0	0	0	384	2215		0.00	0.00	0.00	
1	11-Sep	Drilling	15:00	15:30	0.50	8491	8508	17	18	34.0	30	385	384	2285		0.00	0.00	0.00	
1	11-Sep	Sliding	15:45	16:30	0.75	8508	8524	16	24	21.3	0	0	384	2235		0.00	0.00	0.00	
1	11-Sep	Drilling	16:30	16:45	0.25	8524	8539	15	18	60.0	30	430	384	2350		0.00	0.00	0.00	
1	11-Sep	Sliding	17:00	17:45	0.75	8539	8556	17	28	22.7	0	0	384	2185		0.00	0.00	0.00	
1	11-Sep	Drilling	17:45	18:00	0.25	8556	8571	15	18	60.0	30	0	384	2185		0.00	0.00	0.00	
1	11-Sep	Sliding	18:15	19:15	1.00	8571	8586	15	28	15.0	30	0	384	2185		0.00	0.00	0.00	
1	11-Sep	Drilling	19:15	19:30	0.25	8586	8602	16	18	64.0	30	0	384	2185		0.00	0.00	0.00	
1	11-Sep	Sliding	19:45	20:30	0.75	8602	8619	17	28	22.7	30	0	384	2185		0.00	0.00	0.00	
1	11-Sep	Drilling	20:30	21:00	0.50	8619	8634	15	18	30.0	30	0	384	2185		0.00	0.00	0.00	
1	11-Sep	Sliding	21:15	22:30	1.25	8634	8654	20	28	16.0	30	0	384	2185		0.00	0.00	0.00	
1	11-Sep	Drilling	22:30	23:00	0.50	8654	8665	11	18	22.0	30	0	384	2185		0.00	0.00	0.00	
1	11-Sep	Sliding	23:15	24:00	0.75	8665	8685	20	28	26.7	30	0	384	2185		0.00	0.00	0.00	
1	12-Sep	Drilling	00:00	00:45	0.75	8685	8697	12	18	16.0	30	0	384	2185		0.00	0.00	0.00	
1	12-Sep	Sliding	01:00	01:45	0.75	8697	8722	25	28	33.3	30	0	384	2185		0.00	0.00	0.00	
1	12-Sep	Drilling	01:45	02:30	0.75	8722	8728	6	18	8.0	30	0	384	2185		0.00	0.00	0.00	
1	12-Sep	Drilling	02:45	03:30	0.75	8728	8760	32	18	42.7	30	0	384	2185		0.00	0.00	0.00	
2	14-Sep	Drilling	18:00	20:00	2.00	8760	8818	58	12	29.0	45	105	249	2325		0.00	0.00	0.00	
2	14-Sep	Drilling	20:15	20:30	0.25	8818	8850	32	12	128.0	45	115	249	2440		0.00	0.00	0.00	

Slide Report for all BHA's in Job: 9082013

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	14-Sep	Drilling	20:45	21:00	0.25	8850	8881	31	12	124.0	45	117	249	2430		0.00	0.00	0.00	
2	14-Sep	Sliding	21:15	21:45	0.50	8881	8897	16	8	32.0	0	0	249	2265		0.00	0.00	0.00	
2	14-Sep	Drilling	21:45	22:00	0.25	8897	8913	16	12	64.0	45	115	249	2465		0.00	0.00	0.00	
2	14-Sep	Drilling	22:15	22:45	0.50	8913	8944	31	12	62.0	45	115	249	2465		0.00	0.00	0.00	
2	14-Sep	Drilling	23:00	24:00	1.00	8944	9010	66	12	66.0	45	95	249	2455		0.00	0.00	0.00	
2	15-Sep	Drilling	00:00	00:15	0.25	9010	9039	29	12	116.0	45	95	249	2455		0.00	0.00	0.00	
2	15-Sep	Drilling	00:30	01:45	1.25	9039	9133	94	12	75.2	45	95	249	2365		0.00	0.00	0.00	
2	15-Sep	Drilling	02:00	03:30	1.50	9133	9228	95	12	63.3	45	95	249	2365		0.00	0.00	0.00	
2	15-Sep	Sliding	03:45	04:15	0.50	9228	9249	21	6	42.0	0	0	249	2388	100R	0.00	0.00	0.00	
2	15-Sep	Drilling	04:15	05:30	1.25	9249	9323	74	12	59.2	45	300	249	2510		0.00	0.00	0.00	
2	15-Sep	Drilling	05:45	07:30	1.75	9323	9417	94	12	53.7	45	0	249	2388		0.00	0.00	0.00	
2	15-Sep	Sliding	07:45	08:00	0.25	9417	9437	20	6	80.0	45	0	249	2388	100R	0.00	0.00	0.00	
2	15-Sep	Drilling	08:00	09:45	1.75	9437	9511	74	12	42.3	45	0	249	2388		0.00	0.00	0.00	
2	15-Sep	Sliding	10:00	10:30	0.50	9511	9531	20	6	40.0	45	0	249	2388	100R	0.00	0.00	0.00	
2	15-Sep	Drilling	10:30	12:15	1.75	9531	9606	75	12	42.9	45	0	249	2388		0.00	0.00	0.00	
2	15-Sep	Drilling	12:30	15:00	2.50	9606	9700	94	12	37.6	45	0	249	2388		0.00	0.00	0.00	
2	15-Sep	Drilling	15:15	16:45	1.50	9700	9795	95	12	63.3	45	0	249	2388		0.00	0.00	0.00	
2	15-Sep	Drilling	17:00	18:30	1.50	9795	9889	94	14	62.7	45	408	264	2865		0.00	0.00	0.00	
2	15-Sep	Sliding	18:45	19:15	0.50	9889	9909	20	10	40.0	0	0	264	2685	105R	0.00	0.00	0.00	
2	15-Sep	Drilling	19:15	20:45	1.50	9909	9984	75	14	50.0	45	385	264	2845		0.00	0.00	0.00	
2	15-Sep	Drilling	21:00	23:45	2.75	9984	10079	95	15	34.5	45	375	264	2775		0.00	0.00	0.00	
2	16-Sep	Sliding	00:00	00:30	0.50	10079	10103	24	14	48.0	0	0	264	2675	170R	0.00	0.00	0.00	
2	16-Sep	Drilling	00:30	02:00	1.50	10103	10173	70	15	46.7	45	435	264	2710		0.00	0.00	0.00	
2	16-Sep	Sliding	02:15	03:00	0.75	10173	10201	28	28	37.3	0	0	264	2415	160R	0.00	0.00	0.00	
2	16-Sep	Drilling	03:00	04:45	1.75	10201	10268	67	15	38.3	45	420	264	2415		0.00	0.00	0.00	
2	16-Sep	Drilling	05:00	07:15	2.25	10268	10362	94	15	41.8	45	385	264	2518		0.00	0.00	0.00	
2	16-Sep	Drilling	08:00	09:45	1.75	10362	10457	95	16	54.3	45	385	264	2518		0.00	0.00	0.00	
2	16-Sep	Sliding	10:00	10:30	0.50	10457	10477	20	15	40.0	0	0	264	2795	40R	0.00	0.00	0.00	
2	16-Sep	Drilling	10:30	12:15	1.75	10477	10551	74	16	42.3	45	385	264	2815		0.00	0.00	0.00	
2	16-Sep	Drilling	12:30	13:15	0.75	10551	10583	32	17	42.7	45	385	264	2815		0.00	0.00	0.00	
2	16-Sep	Sliding	13:15	13:30	0.25	10583	10595	12	15	48.0	0	0	264	2710	30R	0.00	0.00	0.00	
2	16-Sep	Drilling	13:30	14:45	1.25	10595	10646	51	17	40.8	45	418	264	2800		0.00	0.00	0.00	
2	16-Sep	Drilling	15:00	17:30	2.50	10646	10740	94	17	37.6	45	418	264	2800		0.00	0.00	0.00	
2	16-Sep	Drilling	17:45	20:45	3.00	10740	10835	95	17	31.7	45	418	264	2800		0.00	0.00	0.00	
2	16-Sep	Sliding	21:15	21:45	0.50	10835	10855	20	22	40.0	45	418	264	2800	160R	0.00	0.00	0.00	

Slide Report for all BHA's in Job: 9082013

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
2	16-Sep	Drilling	21:45	24:00	2.25	10855	10922	67	17	29.8	45	418	264	2800		0.00	0.00	0.00	
2	17-Sep	Drilling	00:00	00:15	0.25	10922	10930	8	18	32.0	45	418	264	2800		0.00	0.00	0.00	
2	17-Sep	Drilling	00:30	03:15	2.75	10930	11024	94	18	34.2	45	418	264	2800		0.00	0.00	0.00	
2	17-Sep	Sliding	03:30	04:15	0.75	11024	11046	22	22	29.3	45	418	264	2800	180	0.00	0.00	0.00	
2	17-Sep	Drilling	04:15	06:15	2.00	11046	11119	73	18	36.5	45	418	264	2800		0.00	0.00	0.00	
2	17-Sep	Drilling	06:30	09:00	2.50	11119	11214	95	18	38.0	45	385	264	3010		0.00	0.00	0.00	
2	17-Sep	Drilling	09:15	12:15	3.00	11214	11228	14	18	4.7	45	385	264	3010		0.00	0.00	0.00	
2	17-Sep	Drilling	13:00	16:00	3.00	11228	11403	175	18	58.3	45	345	264	2975		0.00	0.00	0.00	
2	17-Sep	Sliding	16:15	16:30	0.25	11403	11408	5	22	20.0	45	345	264	2975	180	0.00	0.00	0.00	
3	18-Sep	Sliding	08:00	08:30	0.50	11408	11418	10	15	20.0	0	0	264	2925	80R	0.00	0.00	0.00	
3	18-Sep	Drilling	08:30	11:00	2.50	11418	11498	80	15	32.0	45	500	264	3025		0.00	0.00	0.00	
3	18-Sep	Drilling	11:15	14:45	3.50	11498	11592	94	15	26.9	45	425	264	2825		0.00	0.00	0.00	
3	18-Sep	Drilling	15:00	18:30	3.50	11592	11687	95	16	27.1	45	435	264	2810		0.00	0.00	0.00	
3	18-Sep	Drilling	18:45	21:45	3.00	11687	11781	94	16	31.3	45	435	264	2810		0.00	0.00	0.00	
3	18-Sep	Sliding	22:00	23:00	1.00	11781	11803	22	22	22.0	45	435	264	2810	140R	0.00	0.00	0.00	
3	18-Sep	Drilling	23:00	24:00	1.00	11803	11830	27	19	27.0	50	435	264	2950		0.00	0.00	0.00	
3	19-Sep	Drilling	00:00	01:45	1.75	11830	11876	46	19	26.3	50	435	264	2950		0.00	0.00	0.00	
3	19-Sep	Sliding	02:00	02:30	0.50	11876	11888	12	22	24.0	50	435	264	2950	150R	0.00	0.00	0.00	
3	19-Sep	Drilling	02:30	05:15	2.75	11888	11970	82	19	29.8	50	435	264	2950		0.00	0.00	0.00	
3	19-Sep	Drilling	05:30	08:00	2.50	11970	12065	95	19	38.0	50	475	264	3000		0.00	0.00	0.00	
3	19-Sep	Sliding	08:45	09:45	1.00	12065	12091	26	18	26.0	0	0	264	2815	150R	0.00	0.00	0.00	
3	19-Sep	Drilling	09:45	12:15	2.50	12091	12160	69	19	27.6	50	550	264	2885		0.00	0.00	0.00	
3	19-Sep	Sliding	12:30	13:30	1.00	12160	12185	25	22	25.0	0	0	264	2960	160R	0.00	0.00	0.00	
3	19-Sep	Drilling	13:30	16:00	2.50	12185	12254	69	19	27.6	50	580	264	3065		0.00	0.00	0.00	
3	19-Sep	Sliding	16:15	17:00	0.75	12254	12278	24	26	32.0	0	0	264	3015	170R	0.00	0.00	0.00	
3	19-Sep	Drilling	17:00	19:45	2.75	12278	12349	71	19	25.8	50	365	264	2885		0.00	0.00	0.00	
3	19-Sep	Sliding	20:00	20:45	0.75	12349	12375	26	23	34.7	0	0	264	2945	160R	0.00	0.00	0.00	
3	19-Sep	Drilling	20:45	23:45	3.00	12375	12443	68	19	22.7	50	355	264	2945		0.00	0.00	0.00	
3	20-Sep	Sliding	00:00	00:45	0.75	12443	12463	20	18	26.7	0	0	264	2855	180	0.00	0.00	0.00	
3	20-Sep	Drilling	00:45	03:45	3.00	12463	12537	74	18	24.7	50	345	264	2855		0.00	0.00	0.00	
3	20-Sep	Drilling	04:00	04:15	0.25	12537	12541	4	18	16.0	50	345	264	2855		0.00	0.00	0.00	
3	20-Sep	Drilling	06:15	09:45	3.50	12541	12632	91	19	26.0	50	336	264	2955		0.00	0.00	0.00	
3	20-Sep	Drilling	10:00	13:30	3.50	12632	12727	95	19	27.1	50	336	264	2955		0.00	0.00	0.00	
3	20-Sep	Drilling	13:45	17:00	3.25	12727	12821	94	19	28.9	50	336	264	2955		0.00	0.00	0.00	
3	20-Sep	Drilling	17:15	19:30	2.25	12821	12895	74	19	32.9	50	336	264	2955		0.00	0.00	0.00	

Slide Report for all BHA's in Job: 9082013

Note: Surveys listed are interpolated from the actual surveys

#	Date	Drill Mode	Start Time	End Time	Hours	Start MD	End MD	Depth Drilled	WOB	ROP	RPM	Surf. Torque	Flow Rate	SPP	TFO	INC	AZM	DLS	Note
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Total Drilled:						5133	Avg. Total ROP:				33.01	DEPTH% - TIME %								
Total Rotary Drilled:						4128	Avg. Rotary ROP:				34.47	Percent Rotary:			80.42 - 77.01					
Total Drilled Sliding:						1005	Avg. Slide ROP:				28.11	Percent Slide:			19.58 - 22.99					

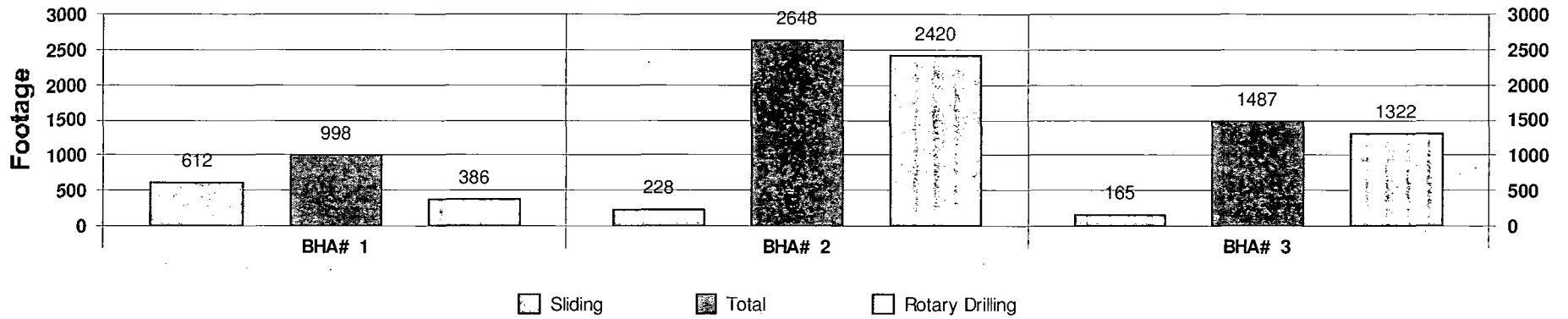
Wolverine *Directional*

Charts
And
Graphs

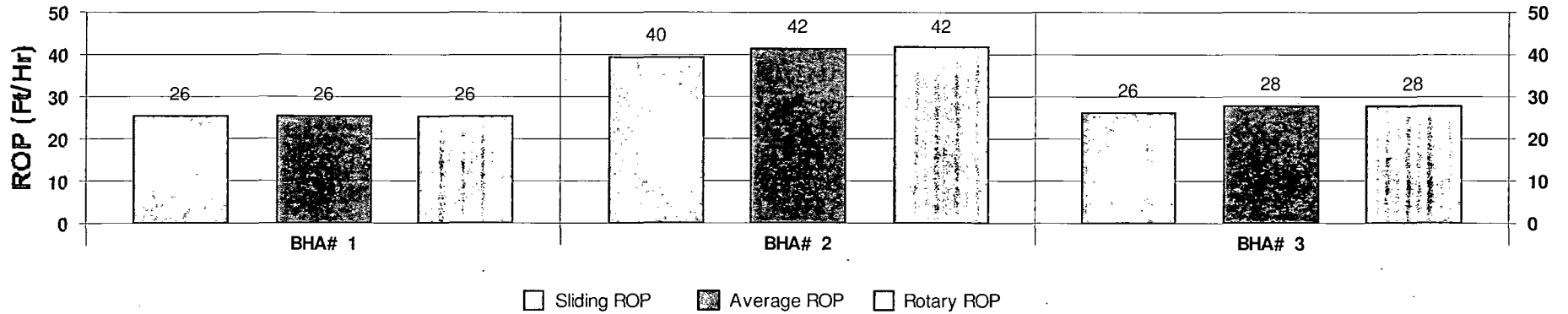


JOB NO.:	9082013	FIELD:	Bone Springs	
Company:	RKI Exploration & Production	Township:	22S	
LOCATION:	Eddy County, NM	SECT RANGE:	36	28E
RIG NAME:	Silver Oak #9	COMMENT		
STATE:	New Mexico			
COUNTY:	Eddy			
WELL NAME:	Pinnacle State 36-32H			

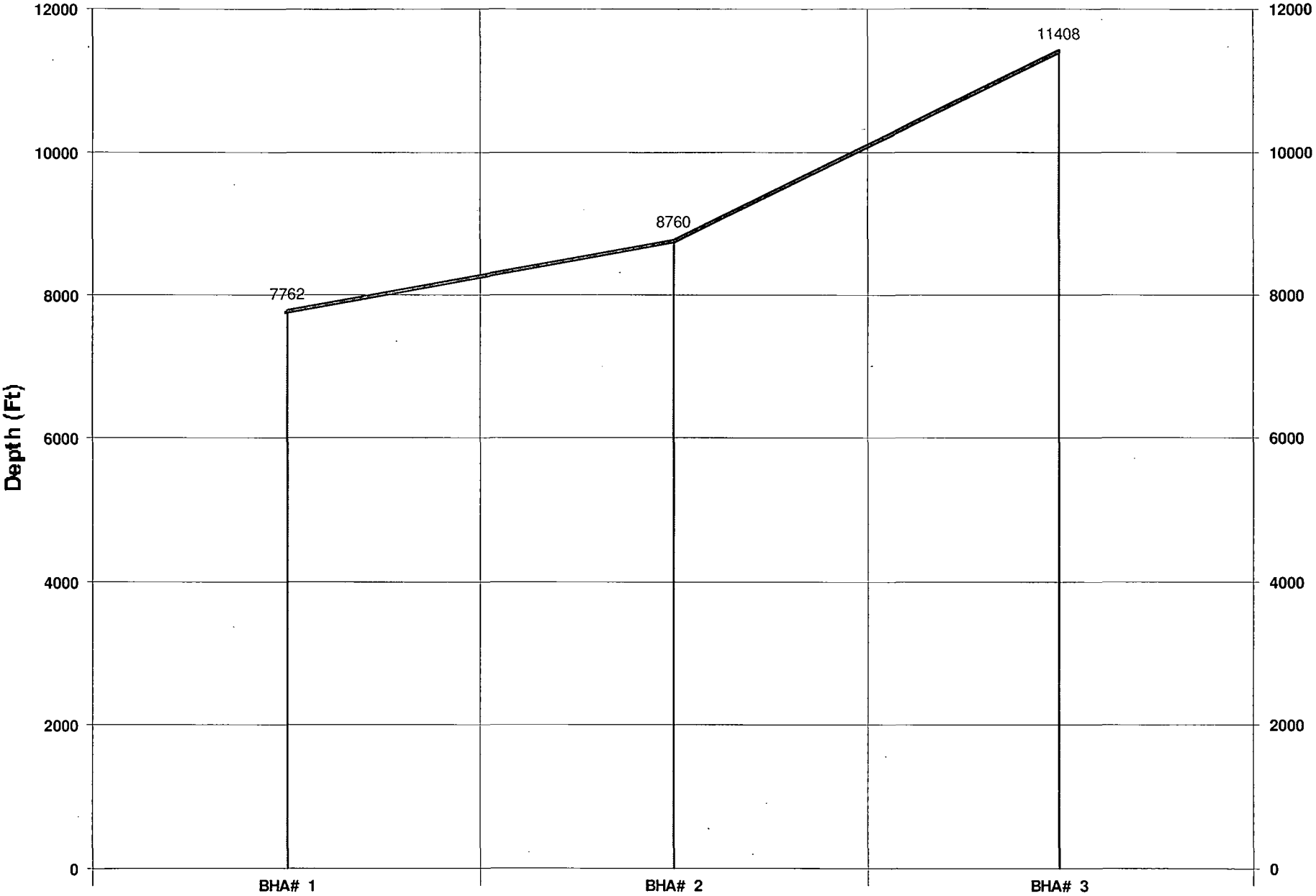
Footage Drilled with BHA



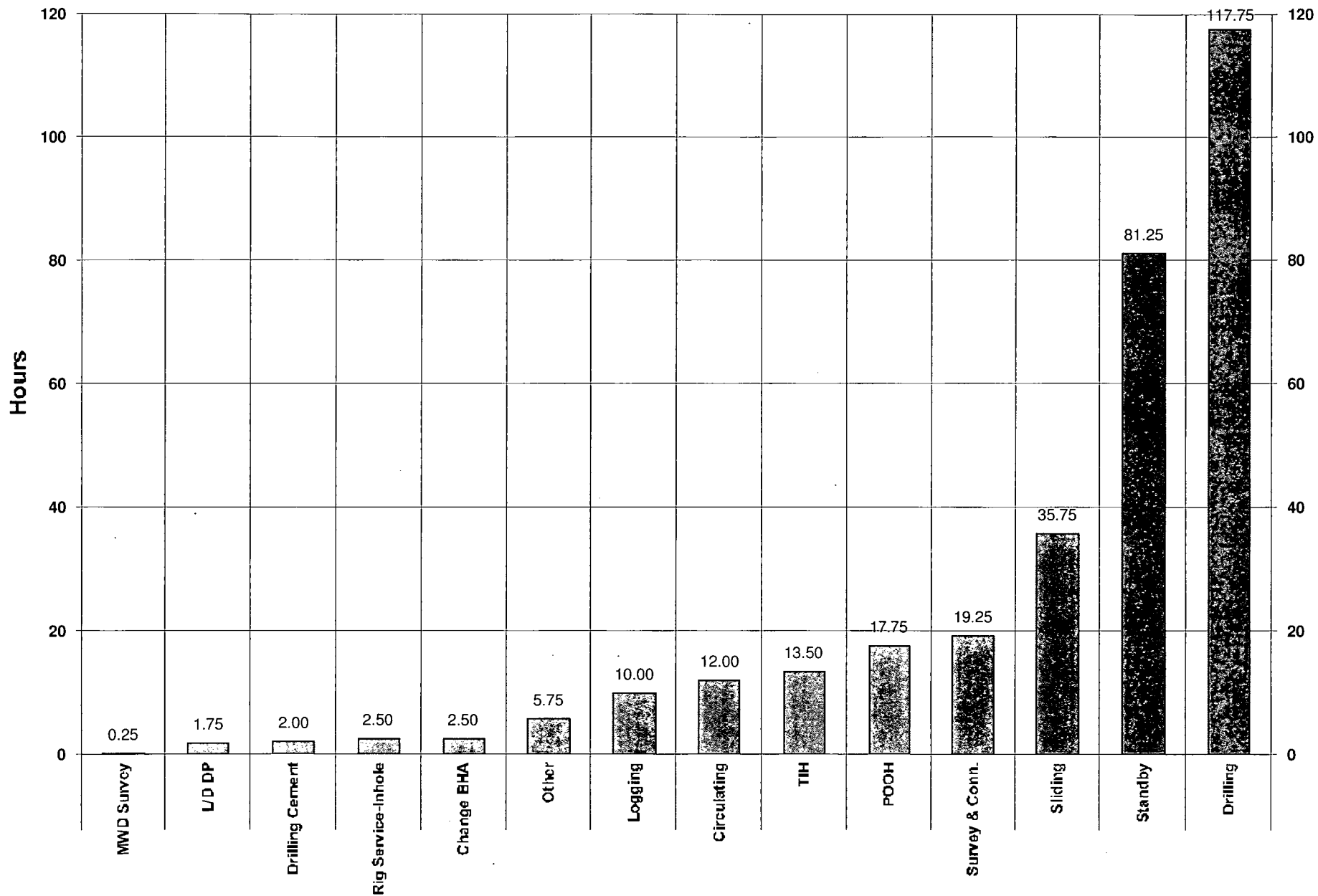
ROP vs BHA



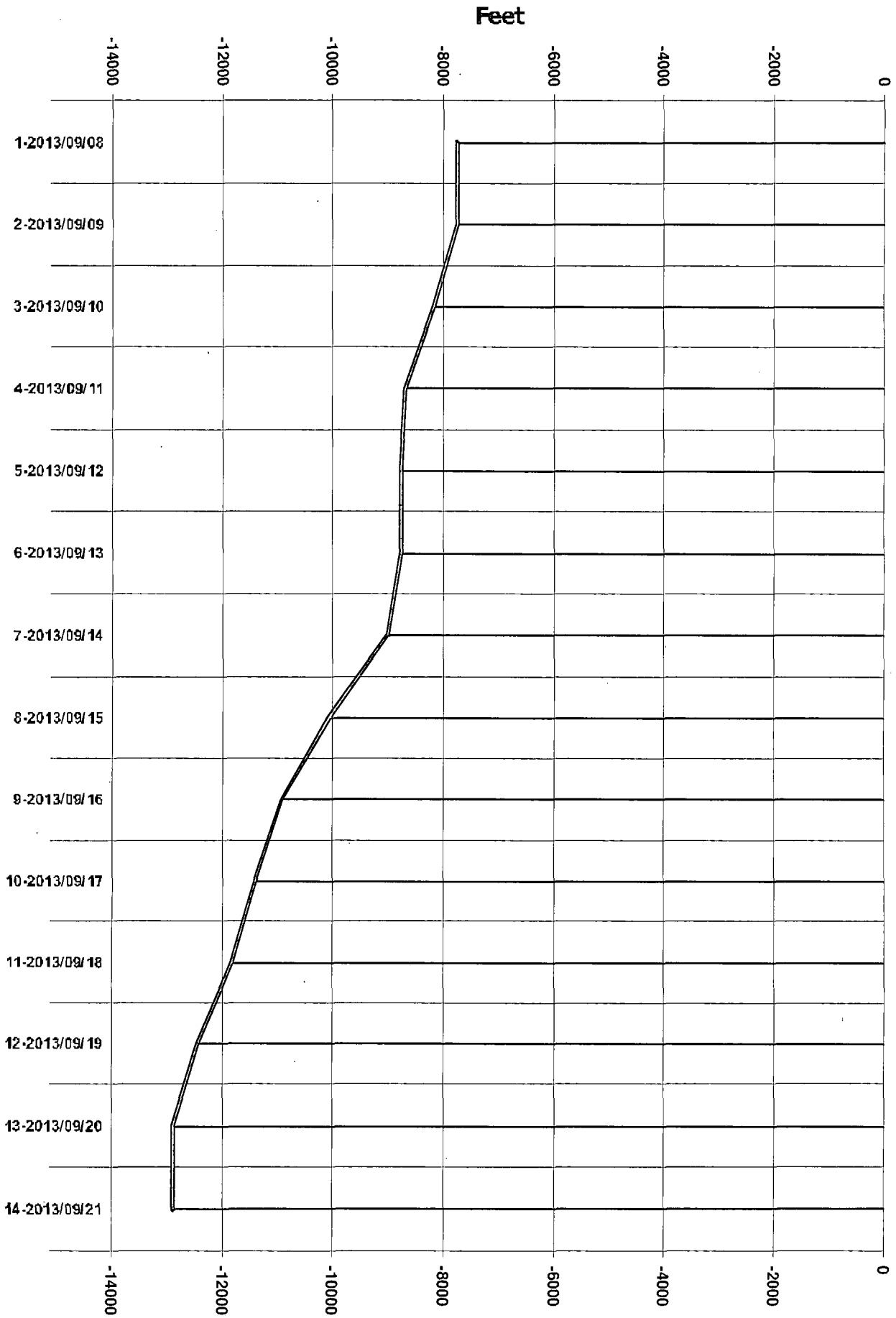
Depth vs BHA



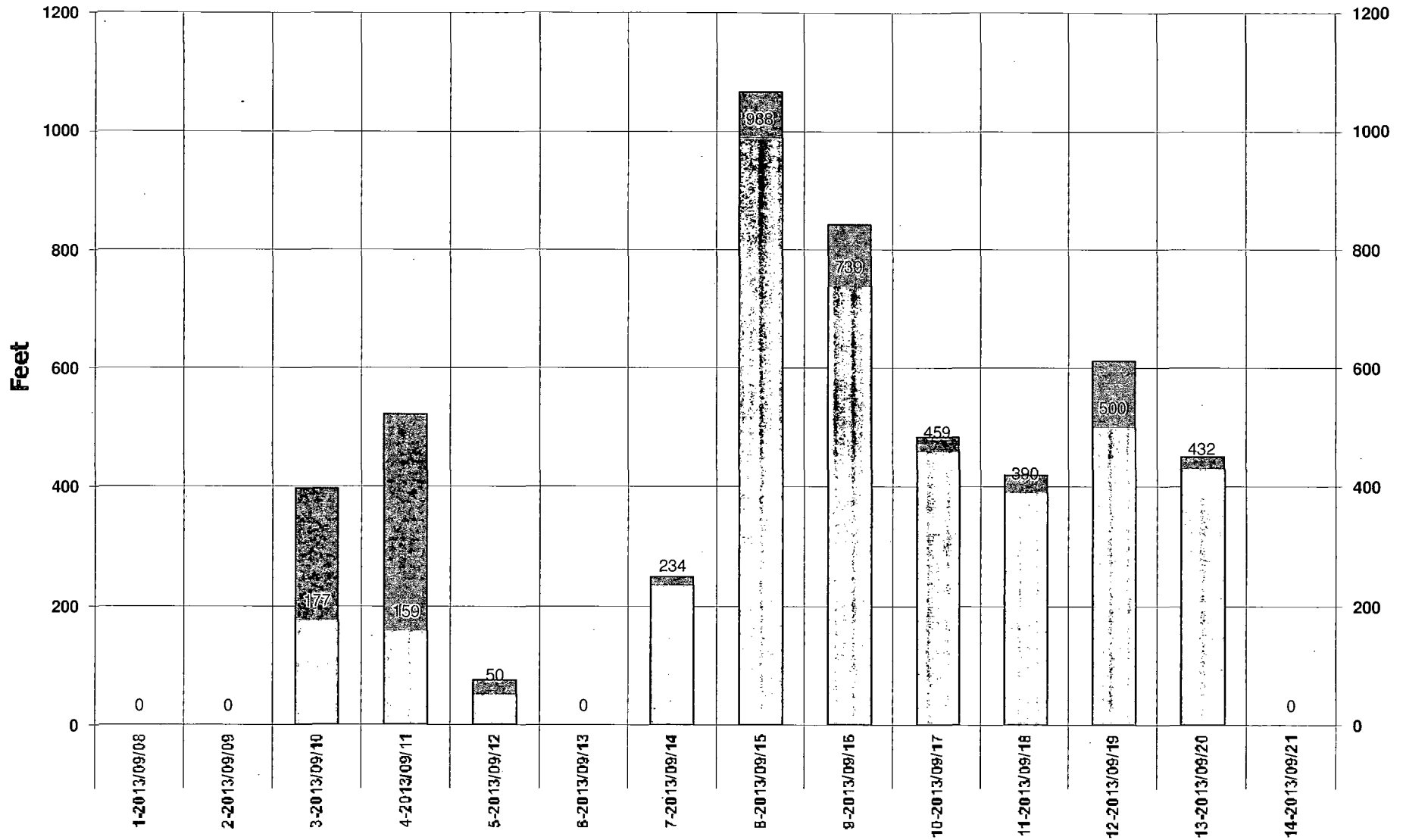
Activity Histogram



Measured Depth vs Days

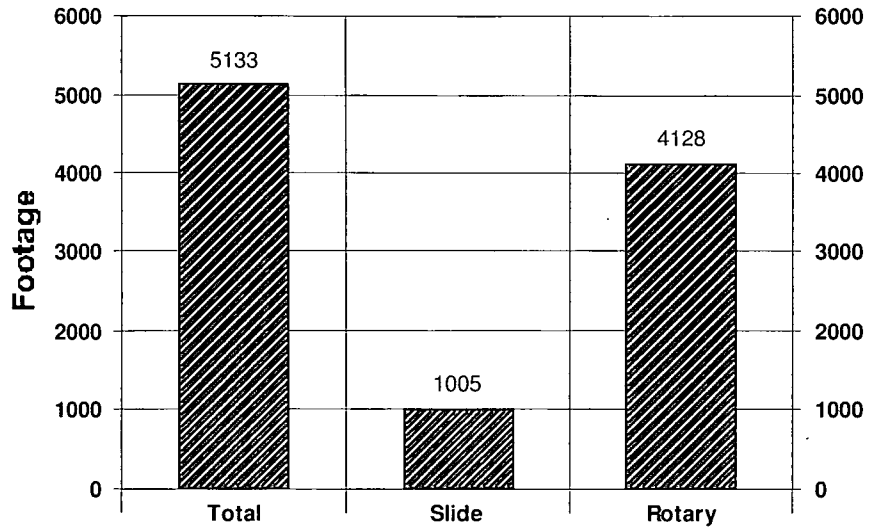


Daily Footage

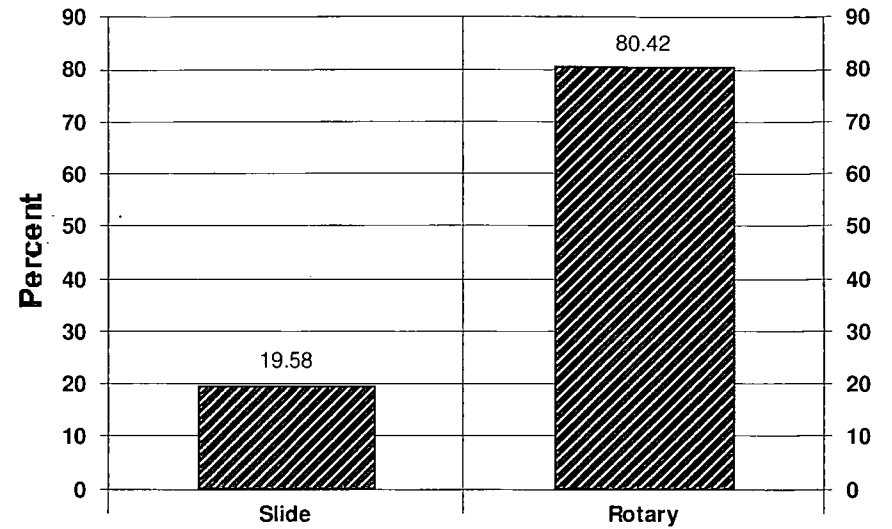


□ Rotary Drilling ■ Sliding

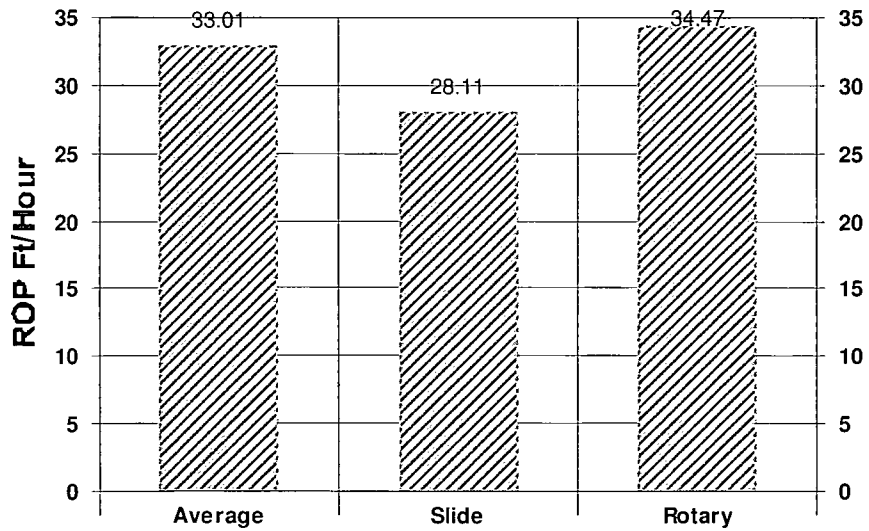
Footage Drilled Totals



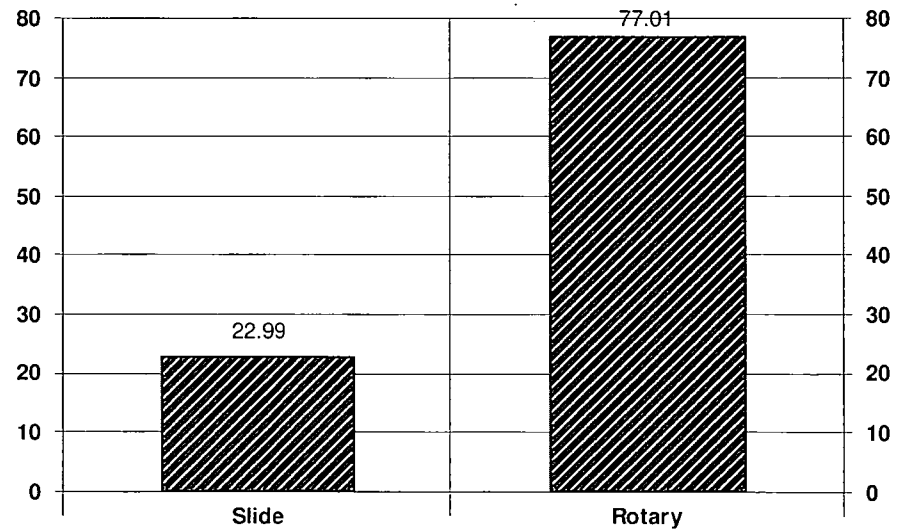
Footage Percent



Rate of Penetration Totals



Time Percent



*Wolverine
Directional*

**Tool
Utilization
Report**



JOB NO.:	9082013
Company:	RKI Exploration & Production
LOCATION:	Eddy County, NM
RIG NAME:	Silver Oak #9
STATE:	New Mexico
COUNTY:	USA
WELL NAME:	Pinnacle State 36-32H

FIELD:	Bone Springs	
Township:	22S	
SECTRANGE:	36	28E

Tool Utilization Report

Bits

11544988 - FX73

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
3	47.00	6.25	60.00	60.25	82.00	1,487.00
1	47.00	6.25	60.00	60.25	82.00	1,487.00

<< Summary for 11544988

11709041 - FXM731Z

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
2	55.75	5.75	64.25	64.25	86.75	2,648.00
1	55.75	5.75	64.25	64.25	86.75	2,648.00

<< Summary for 11709041

12155334 - MMD55DM

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
1	15.00	23.75	43.25	43.25	70.50	998.00
1	15.00	23.75	43.25	43.25	70.50	998.00
3	117.75	35.75	167.50	167.75	239.25	5,133.00

<< Summary for 12155334

<< Summary for Bits

Flex Joints

6750013 - NM Flex

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
1	15.00	23.75	43.25	43.25	70.50	998.00
1	15.00	23.75	43.25	43.25	70.50	998.00

<< Summary for 6750013

D4061 - Flex Collar

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
2	55.75	5.75	64.25	64.25	86.75	2,648.00
3	47.00	6.25	60.00	60.25	82.00	1,487.00
2	102.75	12.00	124.25	124.50	168.75	4,135.00
3	117.75	35.75	167.50	167.75	239.25	5,133.00

<< Summary for D4061

<< Summary for Flex Joints

Tool Utilization Report

Jars

KJ11369 - Jars

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
1	15.00	23.75	43.25	43.25	70.50	998.00
2	55.75	5.75	64.25	64.25	86.75	2,648.00
3	47.00	6.25	60.00	60.25	82.00	1,487.00
3	117.75	35.75	167.50	167.75	239.25	5,133.00
3	117.75	35.75	167.50	167.75	239.25	5,133.00

<< Summary for KJ11369

<< Summary for Jars

Motors

650-HB21-067 - 6/7 Lobe, 5 Stg, 1.73* Adj Slick, .29 rev

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
1	15.00	23.75	43.25	43.25	70.50	998.00
1	15.00	23.75	43.25	43.25	70.50	998.00

<< Summary for 650-HB21-067

92968 - 7/8 Lobe, 6.4 Stg, 1.5* Fixed Slick, .63 rev

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
2	55.75	5.75	64.25	64.25	86.75	2,648.00
1	55.75	5.75	64.25	64.25	86.75	2,648.00

<< Summary for 92968

92992 - 7/8 Lobe, 6.4 Stg, 1.5* Fixed Slick, .63 rev

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
3	47.00	6.25	60.00	60.25	82.00	1,487.00
1	47.00	6.25	60.00	60.25	82.00	1,487.00
3	117.75	35.75	167.50	167.75	239.25	5,133.00

<< Summary for 92992

<< Summary for Motors

Muleshoes

900-28 - UBHO

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
1	15.00	23.75	43.25	43.25	70.50	998.00
1	15.00	23.75	43.25	43.25	70.50	998.00

<< Summary for 900-28

901-15 - UBHO

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
2	55.75	5.75	64.25	64.25	86.75	2,648.00
3	47.00	6.25	60.00	60.25	82.00	1,487.00

Tool Utilization Report

2	102.75	12.00	124.25	124.50	168.75	4,135.00	<< Summary for 901-15
3	117.75	35.75	167.50	167.75	239.25	5,133.00	<< Summary for Muleshoes

Other

1266573-3 - Safety Sub

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	55.75	5.75	64.25	64.25	86.75	2,648.00	
3	47.00	6.25	60.00	60.25	82.00	1,487.00	
2	102.75	12.00	124.25	124.50	168.75	4,135.00	<< Summary for 1266573-3

155-4702-00 - Shock Sub

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	55.75	5.75	64.25	64.25	86.75	2,648.00	
3	47.00	6.25	60.00	60.25	82.00	1,487.00	
2	102.75	12.00	124.25	124.50	168.75	4,135.00	<< Summary for 155-4702-00

66-30-7856 - NMDC

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
1	15.00	23.75	43.25	43.25	70.50	998.00	
1	15.00	23.75	43.25	43.25	70.50	998.00	<< Summary for 66-30-7856

AGAR0475-0044 - Agitator

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	55.75	5.75	64.25	64.25	86.75	2,648.00	
3	47.00	6.25	60.00	60.25	82.00	1,487.00	
2	102.75	12.00	124.25	124.50	168.75	4,135.00	<< Summary for AGAR0475-0044

DCNS0-0044 - NMDC

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	55.75	5.75	64.25	64.25	86.75	2,648.00	
3	47.00	6.25	60.00	60.25	82.00	1,487.00	
2	102.75	12.00	124.25	124.50	168.75	4,135.00	<< Summary for DCNS0-0044

RIG - 16 Stands Push Pipe

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled	
2	55.75	5.75	64.25	64.25	86.75	2,648.00	
3	47.00	6.25	60.00	60.25	82.00	1,487.00	
2	102.75	12.00	124.25	124.50	168.75	4,135.00	<< Summary for RIG

Tool Utilization Report

RIG. - 37 Stands Push Pipe

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
2	55.75	5.75	64.25	64.25	86.75	2,648.00
3	47.00	6.25	60.00	60.25	82.00	1,487.00
2	102.75	12.00	124.25	124.50	168.75	4,135.00

<< Summary for RIG.

RKI - 8 Stands Push Pipe

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
1	15.00	23.75	43.25	43.25	70.50	998.00
1	15.00	23.75	43.25	43.25	70.50	998.00

<< Summary for RKI

RKI, - 5 Joints HWT

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
1	15.00	23.75	43.25	43.25	70.50	998.00
2	55.75	5.75	64.25	64.25	86.75	2,648.00
3	47.00	6.25	60.00	60.25	82.00	1,487.00
3	117.75	35.75	167.50	167.75	239.25	5,133.00

<< Summary for RKI,

RKI. - 22 Stands HWT

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
1	15.00	23.75	43.25	43.25	70.50	998.00
2	55.75	5.75	64.25	64.25	86.75	2,648.00
3	47.00	6.25	60.00	60.25	82.00	1,487.00
3	117.75	35.75	167.50	167.75	239.25	5,133.00
20	882.00	191.00	1,167.00	1,169.00	1,632.00	37,072.00

<< Summary for RKI.

<< Summary for Other

X-Overs

NIR - 4666 - Crossover

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
2	55.75	5.75	64.25	64.25	86.75	2,648.00
3	47.00	6.25	60.00	60.25	82.00	1,487.00
2	102.75	12.00	124.25	124.50	168.75	4,135.00

<< Summary for NIR - 4666

NIR - 5718 - Crossover

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
2	55.75	5.75	64.25	64.25	86.75	2,648.00
3	47.00	6.25	60.00	60.25	82.00	1,487.00

Tool Utilization Report

2	102.75	12.00	124.25	124.50	168.75	4,135.00	<< Summary for NIR - 5718
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PPR376 - Cross Over

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
2	55.75	5.75	64.25	64.25	86.75	2,648.00
3	47.00	6.25	60.00	60.25	82.00	1,487.00
2	102.75	12.00	124.25	124.50	168.75	4,135.00

<< Summary for PPR376

Rig - Cross Over

BHA #	Rotary Hours	Slide Hours	Total Hours	Circ. Hours	Below Rotary	Amount Drilled
1	15.00	23.75	43.25	43.25	70.50	998.00
1	15.00	23.75	43.25	43.25	70.50	998.00
7	323.25	59.75	416.00	416.75	576.75	13,403.00

<< Summary for Rig

<< Summary for X-Overs