

SandRidge Energy

Comanche County (KS27S)

Sec 24-R34S-R18W

Brock 3418 1-24H

Wellbore #1

Survey: MWD Surveys

Standard Survey Report

16 June, 2012

Wolverine Directional, LLC

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Brock 3418 1-24H
Project:	Comanche County (KS27S)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 24-R34S-R18W	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Brock 3418 1-24H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 2003.21 Single User Db

Design	Wellbore #1				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.0	0.0	0.0	0.22	

Survey Program		Date 06/16/12		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
1,044.0	9,747.0	MWD Surveys (Wellbore #1)	MWD	MWD - Standard

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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
1,044.0	0.20	186.40	1,044.0	-1.8	-0.2	-1.8	0.02	0.02	0.00
First MWD Survey									
1,234.0	0.00	359.60	1,234.0	-2.1	-0.2	-2.1	0.11	-0.11	0.00
1,520.0	0.10	49.80	1,520.0	-2.0	0.0	-2.0	0.03	0.03	0.00
1,996.0	0.30	35.20	1,996.0	-0.7	1.0	-0.7	0.04	0.04	-3.07
2,472.0	0.50	131.50	2,472.0	-1.1	3.3	-1.0	0.13	0.04	20.23
2,948.0	0.60	106.00	2,948.0	-3.1	7.2	-3.1	0.05	0.02	-5.36
3,424.0	0.40	16.30	3,424.0	-2.2	10.1	-2.2	0.15	-0.04	-18.84
3,900.0	0.80	354.10	3,899.9	2.7	10.2	2.7	0.10	0.08	-4.66
4,090.0	0.80	349.70	4,089.9	5.3	9.8	5.4	0.03	0.00	-2.32
4,186.0	0.80	326.60	4,185.9	6.5	9.3	6.6	0.33	0.00	-24.06
4,281.0	0.60	334.40	4,280.9	7.5	8.8	7.6	0.23	-0.21	8.21
4,376.0	0.90	2.00	4,375.9	8.7	8.6	8.8	0.49	0.32	29.05
4,408.0	1.00	350.90	4,407.9	9.3	8.5	9.3	0.65	0.31	-34.69
4,439.0	0.90	351.00	4,438.9	9.8	8.5	9.8	0.32	-0.32	0.32
4,471.0	1.70	353.00	4,470.9	10.5	8.4	10.5	2.50	2.50	6.25
4,503.0	3.50	0.20	4,502.8	11.9	8.3	12.0	5.71	5.63	22.50
4,535.0	6.20	4.70	4,534.7	14.6	8.4	14.7	8.51	8.44	14.06
4,566.0	8.40	5.70	4,565.5	18.6	8.8	18.6	7.11	7.10	3.23
4,598.0	10.60	5.60	4,597.0	23.8	9.3	23.8	6.88	6.88	-0.31
4,630.0	12.80	5.30	4,628.4	30.3	9.9	30.3	6.88	6.88	-0.94
4,661.0	15.10	4.90	4,658.4	37.7	10.6	37.8	7.43	7.42	-1.29
4,693.0	17.30	4.40	4,689.2	46.6	11.3	46.7	6.89	6.88	-1.56
4,725.0	19.80	4.50	4,719.5	56.8	12.1	56.8	7.81	7.81	0.31
4,756.0	21.90	4.20	4,748.5	67.8	12.9	67.8	6.78	6.77	-0.97
4,788.0	23.90	3.10	4,777.9	80.2	13.7	80.2	6.39	6.25	-3.44
4,820.0	25.90	3.10	4,807.0	93.6	14.5	93.7	6.25	6.25	0.00
4,852.0	27.80	2.90	4,835.5	108.1	15.2	108.1	5.94	5.94	-0.63
4,883.0	29.50	2.80	4,862.7	122.9	16.0	123.0	5.49	5.48	-0.32
4,915.0	31.40	2.90	4,890.3	139.1	16.8	139.2	5.94	5.94	0.31
4,947.0	33.10	2.80	4,917.4	156.2	17.6	156.2	5.32	5.31	-0.31
4,979.0	34.60	3.10	4,943.9	174.0	18.5	174.0	4.72	4.69	0.94
5,011.0	36.10	2.60	4,970.0	192.5	19.5	192.5	4.77	4.69	-1.56
5,042.0	38.30	1.50	4,994.7	211.2	20.1	211.3	7.41	7.10	-3.55
5,074.0	40.50	0.80	5,019.5	231.5	20.5	231.6	7.01	6.88	-2.19
5,106.0	43.00	1.10	5,043.3	252.8	20.9	252.9	7.84	7.81	0.94
5,138.0	44.40	1.00	5,066.5	274.9	21.3	275.0	4.38	4.38	-0.31
5,169.0	46.30	1.10	5,088.3	297.0	21.7	297.0	6.13	6.13	0.32

Wolverine Directional, LLC

Survey Report

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Site:	Sec 24-R34S-R18W	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Brock 3418 1-24H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 2003.21 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,201.0	48.60	0.80	5,109.9	320.5	22.1	320.6	7.22	7.19	-0.94
5,233.0	50.20	1.00	5,130.7	344.8	22.5	344.9	5.02	5.00	0.63
5,265.0	50.20	1.10	5,151.2	369.4	22.9	369.5	0.24	0.00	0.31
5,296.0	50.10	1.10	5,171.1	393.2	23.4	393.3	0.32	-0.32	0.00
5,328.0	50.00	1.00	5,191.6	417.7	23.8	417.8	0.39	-0.31	-0.31
5,360.0	49.90	0.50	5,212.2	442.2	24.1	442.3	1.24	-0.31	-1.56
5,392.0	49.40	0.30	5,232.9	466.6	24.3	466.7	1.63	-1.56	-0.63
5,423.0	50.60	0.00	5,252.8	490.3	24.4	490.4	3.94	3.87	-0.97
5,455.0	53.30	0.10	5,272.6	515.5	24.4	515.6	8.44	8.44	0.31
5,487.0	56.10	0.40	5,291.1	541.7	24.5	541.7	8.78	8.75	0.94
5,519.0	59.20	0.70	5,308.2	568.7	24.8	568.8	9.72	9.69	0.94
5,550.0	63.00	1.20	5,323.2	595.8	25.2	595.9	12.34	12.26	1.61
5,582.0	66.90	1.10	5,336.7	624.8	25.8	624.9	12.19	12.19	-0.31
5,614.0	69.10	0.40	5,348.7	654.5	26.2	654.6	7.17	6.88	-2.19
5,645.0	71.90	0.50	5,359.0	683.7	26.4	683.8	9.04	9.03	0.32
5,677.0	75.20	0.50	5,368.1	714.4	26.7	714.5	10.31	10.31	0.00
5,709.0	78.90	0.80	5,375.3	745.5	27.0	745.6	11.60	11.56	0.94
5,741.0	82.40	0.60	5,380.5	777.1	27.4	777.2	10.95	10.94	-0.63
5,773.0	85.70	0.50	5,383.8	808.9	27.7	809.0	10.32	10.31	-0.31
5,792.0	87.20	0.60	5,385.0	827.9	27.9	828.0	7.91	7.89	0.53
5,853.0	89.90	0.70	5,386.5	888.9	28.6	889.0	4.43	4.43	0.16
5,945.0	92.20	359.50	5,384.8	980.8	28.8	980.9	2.82	2.50	-1.30
6,038.0	91.60	359.10	5,381.7	1,073.8	27.6	1,073.9	0.78	-0.65	-0.43
6,129.0	92.00	358.80	5,378.9	1,164.7	26.0	1,164.8	0.55	0.44	-0.33
6,221.0	90.30	358.90	5,377.0	1,256.7	24.1	1,256.8	1.85	-1.85	0.11
6,313.0	90.60	359.30	5,376.3	1,348.7	22.7	1,348.7	0.54	0.33	0.43
6,404.0	91.40	358.60	5,374.7	1,439.6	21.0	1,439.7	1.17	0.88	-0.77
6,496.0	89.80	359.50	5,373.8	1,531.6	19.5	1,531.7	2.00	-1.74	0.98
6,588.0	90.40	358.90	5,373.6	1,623.6	18.2	1,623.7	0.92	0.65	-0.65
6,680.0	90.90	359.40	5,372.5	1,715.6	16.8	1,715.6	0.77	0.54	0.54
6,776.0	91.60	359.50	5,370.5	1,811.6	15.9	1,811.6	0.74	0.73	0.10
6,870.0	90.00	359.50	5,369.1	1,905.5	15.1	1,905.6	1.70	-1.70	0.00
6,966.0	90.90	359.00	5,368.4	2,001.5	13.8	2,001.6	1.07	0.94	-0.52
7,061.0	91.30	358.90	5,366.6	2,096.5	12.1	2,096.5	0.43	0.42	-0.11
7,157.0	91.90	358.20	5,363.9	2,192.4	9.7	2,192.4	0.96	0.63	-0.73
7,253.0	91.60	358.20	5,361.0	2,288.3	6.6	2,288.3	0.31	-0.31	0.00
7,348.0	89.40	0.00	5,360.1	2,383.3	5.2	2,383.3	2.99	-2.32	1.89
7,444.0	90.00	358.80	5,360.6	2,479.3	4.2	2,479.3	1.40	0.63	-1.25
7,539.0	90.40	358.10	5,360.3	2,574.3	1.6	2,574.3	0.85	0.42	-0.74
7,635.0	91.50	356.80	5,358.7	2,670.2	-2.7	2,670.1	1.77	1.15	-1.35
7,730.0	91.20	357.40	5,356.5	2,765.0	-7.5	2,765.0	0.71	-0.32	0.63
7,826.0	89.20	357.00	5,356.1	2,860.9	-12.2	2,860.8	2.12	-2.08	-0.42
7,922.0	89.50	356.30	5,357.2	2,956.7	-17.8	2,956.6	0.79	0.31	-0.73
8,017.0	91.30	358.90	5,356.6	3,051.6	-21.8	3,051.5	3.33	1.89	2.74
8,113.0	91.70	0.00	5,354.0	3,147.6	-22.7	3,147.5	1.22	0.42	1.15
8,208.0	91.20	0.30	5,351.6	3,242.5	-22.4	3,242.4	0.61	-0.53	0.32
8,304.0	90.60	1.10	5,350.1	3,338.5	-21.3	3,338.4	1.04	-0.63	0.83
8,399.0	91.30	1.00	5,348.6	3,433.5	-19.5	3,433.4	0.74	0.74	-0.11
8,495.0	91.20	1.60	5,346.5	3,529.4	-17.4	3,529.4	0.63	-0.10	0.63
8,591.0	91.70	1.90	5,344.0	3,625.4	-14.4	3,625.3	0.61	0.52	0.31
8,686.0	90.70	3.50	5,342.0	3,720.2	-9.9	3,720.2	1.99	-1.05	1.68
8,782.0	91.30	3.90	5,340.4	3,816.0	-3.8	3,816.0	0.75	0.63	0.42
8,877.0	89.50	3.40	5,339.7	3,910.8	2.3	3,910.8	1.97	-1.89	-0.53
8,973.0	90.20	3.20	5,340.0	4,006.7	7.8	4,006.7	0.76	0.73	-0.21

Wolverine Directional, LLC

Survey Report

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Site: Sec 24-R34S-R18W	MD Reference: WELL @ 0.0ft (Original Well Elev)
Well: Brock 3418 1-24H	North Reference: Grid
Wellbore: Wellbore #1	Survey Calculation Method: Minimum Curvature
Design: Wellbore #1	Database: EDM 2003.21 Single User Db

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,069.0	91.10	3.50	5,338.9	4,102.5	13.4	4,102.5	0.99	0.94	0.31
9,164.0	89.10	4.00	5,338.7	4,197.3	19.6	4,197.3	2.17	-2.11	0.53
9,260.0	89.10	4.10	5,340.2	4,293.0	26.4	4,293.1	0.10	0.00	0.10
9,356.0	89.10	2.20	5,341.7	4,388.9	31.7	4,389.0	1.98	0.00	-1.98
9,451.0	90.90	1.10	5,341.7	4,483.8	34.4	4,483.9	2.22	1.89	-1.16
9,547.0	91.90	0.90	5,339.4	4,579.8	36.1	4,579.9	1.06	1.04	-0.21
9,642.0	92.80	0.80	5,335.5	4,674.7	37.5	4,674.8	0.95	0.95	-0.11
9,697.0	93.30	0.70	5,332.5	4,729.6	38.2	4,729.7	0.93	0.91	-0.18
Last MWD Survey									
9,747.0	93.30	0.70	5,329.7	4,779.5	38.8	4,779.6	0.00	0.00	0.00
Proj to TD - Brock 3418 1-24H PBHL									

Survey Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
1,044.0	1,044.0	-1.8	-0.2	First MWD Survey
9,697.0	5,332.5	4,729.6	38.2	Last MWD Survey
9,747.0	5,329.7	4,779.5	38.8	Proj to TD

Checked By: _____ Approved By: _____ Date: _____