

SandRidge Energy

Comanche County (KS27S)

Sec 2-T31S-R20W - GRID

Amelia Grace 1-2H

Wellbore #1

Survey: MWD Surveys

Standard Survey Report

10 April, 2012

Wolverine Directional, LLC

Survey Report

Company: SandRidge Energy	Local Co-ordinate Reference: Well Amelia Grace 1-2H
Project: Comanche County (KS27S)	TVD Reference: WELL @ 0.0ft (Original Well Elev)
Site: Sec 2-T31S-R20W - GRID	MD Reference: WELL @ 0.0ft (Original Well Elev)
Well: Amelia Grace 1-2H	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)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.0	0.0	0.0	180.84	

Survey Program	Date 2012/04/10			
From	To	Survey (Wellbore)	Tool Name	Description
(ft)	(ft)			
1,140.0	9,560.0	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	
1,140.0	0.30	302.90	1,140.0	1.6	-2.5	-1.6	0.03	0.03	0.00	
First MWD Survey										
1,425.0	2.40	200.40	1,424.9	-3.6	-5.2	3.6	0.87	0.74	-35.96	
1,711.0	0.80	158.40	1,710.8	-11.0	-6.6	11.1	0.66	-0.56	-14.69	
1,901.0	0.50	175.70	1,900.8	-13.1	-6.0	13.2	0.19	-0.16	9.11	
2,187.0	0.60	171.40	2,186.8	-15.8	-5.7	15.9	0.04	0.03	-1.50	
2,473.0	0.40	155.20	2,472.8	-18.2	-5.1	18.3	0.08	-0.07	-5.66	
2,759.0	0.70	139.90	2,758.7	-20.5	-3.5	20.5	0.12	0.10	-5.35	
3,045.0	0.50	122.10	3,044.7	-22.5	-1.3	22.5	0.09	-0.07	-6.22	
3,330.0	1.00	108.30	3,329.7	-23.9	2.1	23.9	0.19	0.18	-4.84	
3,616.0	0.60	79.60	3,615.7	-24.4	5.9	24.3	0.19	-0.14	-10.03	
3,901.0	0.60	75.00	3,900.7	-23.8	8.8	23.6	0.02	0.00	-1.61	
3,997.0	0.80	107.30	3,996.7	-23.8	10.0	23.7	0.45	0.21	33.65	
4,090.0	0.80	113.10	4,089.6	-24.3	11.2	24.1	0.09	0.00	6.24	
4,186.0	0.50	104.20	4,185.6	-24.6	12.2	24.5	0.33	-0.31	-9.27	
4,217.0	0.70	81.10	4,216.6	-24.6	12.5	24.5	1.00	0.65	-74.52	
4,250.0	0.50	112.80	4,249.6	-24.7	12.9	24.5	1.15	-0.61	96.06	
4,282.0	1.80	162.90	4,281.6	-25.2	13.1	25.0	4.78	4.06	156.56	
4,314.0	4.60	175.90	4,313.6	-27.0	13.4	26.8	8.98	8.75	40.63	
4,345.0	6.60	180.50	4,344.4	-30.0	13.4	29.8	6.61	6.45	14.84	
4,377.0	8.10	183.10	4,376.2	-34.1	13.3	33.9	4.80	4.69	8.13	
4,409.0	9.60	185.50	4,407.8	-39.0	12.9	38.8	4.83	4.69	7.50	
4,441.0	11.60	186.10	4,439.2	-44.8	12.3	44.6	6.26	6.25	1.88	
4,473.0	14.50	186.60	4,470.4	-52.0	11.5	51.8	9.07	9.06	1.56	
4,504.0	17.00	187.50	4,500.2	-60.4	10.5	60.2	8.10	8.06	2.90	
4,536.0	19.10	187.90	4,530.7	-70.2	9.2	70.0	6.57	6.56	1.25	
4,568.0	21.00	186.10	4,560.7	-81.1	7.8	81.0	6.24	5.94	-5.63	
4,599.0	23.00	183.50	4,589.5	-92.6	6.9	92.5	7.17	6.45	-8.39	
4,631.0	24.90	183.10	4,618.7	-105.6	6.1	105.5	5.96	5.94	-1.25	
4,663.0	27.00	184.00	4,647.5	-119.6	5.3	119.5	6.68	6.56	2.81	
4,695.0	28.60	185.30	4,675.8	-134.5	4.0	134.4	5.35	5.00	4.06	
4,726.0	29.00	187.00	4,703.0	-149.3	2.4	149.3	2.94	1.29	5.48	
4,758.0	30.80	186.80	4,730.7	-165.1	0.5	165.1	5.63	5.63	-0.63	
4,790.0	33.10	186.00	4,757.8	-182.0	-1.4	182.0	7.31	7.19	-2.50	
4,822.0	35.80	185.10	4,784.2	-200.0	-3.1	200.0	8.59	8.44	-2.81	
4,853.0	38.00	185.00	4,809.0	-218.5	-4.7	218.6	7.10	7.10	-0.32	
4,885.0	39.50	184.40	4,834.0	-238.5	-6.4	238.6	4.83	4.69	-1.88	
4,917.0	41.60	183.10	4,858.3	-259.2	-7.7	259.3	7.07	6.56	-4.06	

Wolverine Directional, LLC

Survey Report

Company:	SandRidge Energy	Local Co-ordinate Reference:	Well Amelia Grace 1-2H
Project:	Comanche County (KS27S)	TVD Reference:	WELL @ 0.0ft (Original Well Elev)
Site:	Sec 2-T31S-R20W - GRID	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Amelia Grace 1-2H	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)	
4,948.0	44.30	181.90	4,881.0	-280.3	-8.7	280.4	9.10	8.71	-3.87	
4,980.0	47.30	181.00	4,903.3	-303.3	-9.2	303.4	9.59	9.38	-2.81	
5,012.0	49.90	180.10	4,924.4	-327.3	-9.5	327.4	8.39	8.13	-2.81	
5,044.0	51.50	179.90	4,944.7	-352.0	-9.5	352.1	5.02	5.00	-0.63	
5,076.0	51.60	179.40	4,964.6	-377.1	-9.3	377.2	1.26	0.31	-1.56	
5,107.0	51.40	179.10	4,983.9	-401.4	-9.0	401.4	0.99	-0.65	-0.97	
5,139.0	51.10	179.00	5,003.9	-426.3	-8.6	426.4	0.97	-0.94	-0.31	
5,171.0	50.80	178.80	5,024.1	-451.2	-8.1	451.2	1.06	-0.94	-0.63	
5,202.0	50.40	178.60	5,043.8	-475.1	-7.6	475.2	1.38	-1.29	-0.65	
5,234.0	52.00	178.50	5,063.8	-500.0	-6.9	500.1	5.01	5.00	-0.31	
5,266.0	55.30	178.30	5,082.8	-525.8	-6.2	525.8	10.32	10.31	-0.63	
5,298.0	58.80	179.00	5,100.2	-552.6	-5.6	552.7	11.09	10.94	2.19	
5,329.0	62.70	180.10	5,115.3	-579.7	-5.4	579.7	12.96	12.58	3.55	
5,361.0	66.30	180.40	5,129.1	-608.6	-5.5	608.6	11.28	11.25	0.94	
5,393.0	69.10	180.70	5,141.3	-638.2	-5.8	638.2	8.79	8.75	0.94	
5,425.0	71.70	181.10	5,152.0	-668.3	-6.3	668.3	8.21	8.13	1.25	
5,456.0	74.40	180.90	5,161.0	-697.9	-6.8	698.0	8.73	8.71	-0.65	
5,488.0	76.90	180.60	5,169.0	-728.9	-7.2	729.0	7.87	7.81	-0.94	
5,520.0	79.30	180.80	5,175.6	-760.2	-7.6	760.3	7.52	7.50	0.63	
5,552.0	81.70	181.10	5,180.8	-791.8	-8.1	791.8	7.56	7.50	0.94	
5,563.0	82.50	181.20	5,182.3	-802.7	-8.3	802.7	7.33	7.27	0.91	
5,634.0	85.80	181.70	5,189.6	-873.3	-10.1	873.3	4.70	4.65	0.70	
5,665.0	88.00	181.50	5,191.3	-904.2	-11.0	904.3	7.13	7.10	-0.65	
5,695.0	89.70	182.30	5,191.9	-934.2	-11.9	934.3	6.26	5.67	2.67	
5,726.0	89.80	182.00	5,192.0	-965.2	-13.1	965.3	1.02	0.32	-0.97	
5,757.0	89.80	181.70	5,192.1	-996.2	-14.1	996.3	0.97	0.00	-0.97	
5,849.0	89.80	182.40	5,192.4	-1,088.1	-17.4	1,088.2	0.76	0.00	0.76	
5,941.0	90.20	182.00	5,192.4	-1,180.0	-20.9	1,180.2	0.61	0.43	-0.43	
6,032.0	90.20	181.60	5,192.1	-1,271.0	-23.8	1,271.2	0.44	0.00	-0.44	
6,124.0	90.30	180.70	5,191.7	-1,363.0	-25.6	1,363.2	0.98	0.11	-0.98	
6,216.0	89.00	181.30	5,192.3	-1,455.0	-27.2	1,455.2	1.56	-1.41	0.65	
6,308.0	88.80	181.00	5,194.0	-1,546.9	-29.1	1,547.2	0.39	-0.22	-0.33	
6,400.0	88.40	180.80	5,196.3	-1,638.9	-30.5	1,639.2	0.49	-0.43	-0.22	
6,492.0	88.00	180.10	5,199.2	-1,730.8	-31.3	1,731.1	0.88	-0.43	-0.76	
6,584.0	89.00	180.90	5,201.6	-1,822.8	-32.1	1,823.1	1.39	1.09	0.87	
6,676.0	88.90	180.80	5,203.3	-1,914.8	-33.4	1,915.1	0.15	-0.11	-0.11	
6,772.0	87.80	181.60	5,206.0	-2,010.7	-35.4	2,011.0	1.42	-1.15	0.83	
6,867.0	89.10	180.60	5,208.6	-2,105.7	-37.3	2,106.0	1.73	1.37	-1.05	
6,963.0	89.40	179.30	5,209.9	-2,201.6	-37.2	2,201.9	1.39	0.31	-1.35	
7,059.0	89.40	179.20	5,210.9	-2,297.6	-35.9	2,297.9	0.10	0.00	-0.10	
7,154.0	88.80	178.20	5,212.4	-2,392.6	-33.8	2,392.8	1.23	-0.63	-1.05	
7,250.0	88.90	177.70	5,214.3	-2,488.5	-30.3	2,488.7	0.53	0.10	-0.52	
7,346.0	90.40	178.40	5,214.9	-2,584.4	-27.1	2,584.6	1.72	1.56	0.73	
7,441.0	90.00	176.90	5,214.5	-2,679.4	-23.2	2,679.4	1.63	-0.42	-1.58	
7,537.0	89.40	178.20	5,215.0	-2,775.3	-19.1	2,775.3	1.49	-0.63	1.35	
7,633.0	89.40	178.50	5,216.0	-2,871.2	-16.3	2,871.2	0.31	0.00	0.31	
7,728.0	89.70	179.60	5,216.8	-2,966.2	-14.7	2,966.1	1.20	0.32	1.16	
7,824.0	89.30	180.10	5,217.6	-3,062.2	-14.5	3,062.1	0.67	-0.42	0.52	
7,919.0	90.40	182.50	5,217.9	-3,157.2	-16.6	3,157.1	2.78	1.16	2.53	
8,015.0	88.80	183.10	5,218.5	-3,253.1	-21.3	3,253.0	1.78	-1.67	0.63	
8,111.0	88.80	182.20	5,220.6	-3,348.9	-25.8	3,348.9	0.94	0.00	-0.94	
8,207.0	89.30	182.30	5,222.1	-3,444.8	-29.5	3,444.9	0.53	0.52	0.10	
8,302.0	89.20	182.30	5,223.4	-3,539.8	-33.3	3,539.9	0.11	-0.11	0.00	
8,398.0	89.20	182.40	5,224.7	-3,635.7	-37.3	3,635.8	0.10	0.00	0.10	

Wolverine Directional, LLC

Survey Report

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8,494.0	89.50	181.60	5,225.8	-3,731.6	-40.6	3,731.8	0.89	0.31	-0.83
8,589.0	90.00	181.40	5,226.2	-3,826.6	-43.1	3,826.8	0.57	0.53	-0.21
8,685.0	90.40	181.70	5,225.9	-3,922.5	-45.7	3,922.8	0.52	0.42	0.31
8,780.0	90.50	182.60	5,225.2	-4,017.5	-49.3	4,017.7	0.95	0.11	0.95
8,876.0	88.50	184.70	5,226.0	-4,113.2	-55.4	4,113.6	3.02	-2.08	2.19
8,972.0	88.30	184.60	5,228.7	-4,208.9	-63.2	4,209.4	0.23	-0.21	-0.10
9,068.0	88.80	184.00	5,231.1	-4,304.6	-70.4	4,305.2	0.81	0.52	-0.63
9,163.0	88.90	183.10	5,233.0	-4,399.4	-76.2	4,400.0	0.95	0.11	-0.95
9,259.0	88.90	182.50	5,234.8	-4,495.3	-80.9	4,496.0	0.62	0.00	-0.63
9,354.0	89.30	181.60	5,236.3	-4,590.2	-84.3	4,590.9	1.04	0.42	-0.95
9,450.0	90.30	181.10	5,236.7	-4,686.2	-86.6	4,686.9	1.16	1.04	-0.52
9,511.0	90.40	180.20	5,236.3	-4,747.2	-87.3	4,747.9	1.48	0.16	-1.48
Last MWD Survey									
9,559.8	90.40	180.20	5,236.0	-4,796.0	-87.4	4,796.7	0.00	0.00	0.00
Amelia Grace 1-2H PBHL									
9,560.0	90.40	180.20	5,236.0	-4,796.1	-87.4	4,796.9	0.00	0.00	0.00
Proj to TD									

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
1,140.0	1,140.0	1.6	-2.5	First MWD Survey	
9,511.0	5,236.3	-4,747.2	-87.3	Last MWD Survey	
9,560.0	5,236.0	-4,796.1	-87.4	Proj to TD	

Checked By: _____ Approved By: _____ Date: _____