

Sandridge Energy, INC.(mid-con.)

Hodgman County (KA27N)

Sec 15-T21S-R24W

Frusher 1-15H/ Job #04063-431-22/ Lariat 3

Wellbore #1

Design: Wellbore #1

Standard Survey Report

06 February, 2013

Archer Survey Report

Company: Sandridge Energy, INC.(mid-con.)	Local Co-ordinate Reference: Well Frusher 1-15H/ Job #04063-431-22/ Lariat 3
Project: Hodgman County (KA27N)	TVD Reference: WELL @ 2355.0usft (Original Well Elev)
Site: Sec 15-T21S-R24W	MD Reference: WELL @ 2355.0usft (Original Well Elev)
Well: Frusher 1-15H/ Job #04063-431-22/ Lariat 3	North Reference: Grid
Wellbore: Wellbore #1	Survey Calculation Method: Minimum Curvature
Design: Wellbore #1	Database: EDM 5000.1 Single User Db

Project Hodgman County (KA27N)	
Map System: US State Plane 1927 (Exact solution)	System Datum: Mean Sea Level
Geo Datum: NAD 1927 (NADCON CONUS)	
Map Zone: Kansas South 1502	

Site Sec 15-T21S-R24W		
Site Position:	Northing: 568,263.00 usft	Latitude: 38° 13' 6.139 N
From: Map	Easting: 1,582,193.00 usft	Longitude: 99° 57' 15.528 W
Position Uncertainty: 0.0 usft	Slot Radius: 13-3/16 "	Grid Convergence: -0.89 °

Well Frusher 1-15H/ Job #04063-431-22/ Lariat 3			
Well Position	+N-S 0.0 usft	Northing: 568,438.00 usft	Latitude: 38° 13' 8.624 N
	+E-W 0.0 usft	Easting: 1,587,118.00 usft	Longitude: 99° 56' 13.856 W
Position Uncertainty	0.0 usft	Wellhead Elevation: usft	Ground Level: 2,337.0 usft

Wellbore Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	01/21/13	5.73	65.92	52,261

Design Wellbore #1					
Audit Notes:					
Version: 1.0	Phase: ACTUAL	Tie On Depth: 0.0			
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.0	0.0	0.0	0.51	

Survey Program		Date 02/06/13		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
1,548.0	8,093.0	Archer MWD Survey (Wellbore #1)	MWD	MWD - Standard

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,548.0	0.40	17.30	1,548.0	5.2	1.6	5.2	0.03	0.03	0.00	
First Archer MWD Survey										
2,013.0	0.80	1.80	2,013.0	10.0	2.2	10.0	0.09	0.09	-3.33	
2,478.0	0.80	359.30	2,477.9	16.4	2.3	16.5	0.01	0.00	-0.54	
2,946.0	0.90	9.20	2,945.9	23.3	2.8	23.4	0.04	0.02	2.12	
3,414.0	0.90	40.10	3,413.8	29.8	5.8	29.8	0.10	0.00	6.60	
3,508.0	1.00	44.00	3,507.8	30.9	6.8	31.0	0.13	0.11	4.15	
3,601.0	1.10	31.10	3,600.8	32.3	7.8	32.3	0.28	0.11	-13.87	
3,697.0	3.10	336.40	3,696.7	35.5	7.3	35.5	2.73	2.08	-56.98	
3,728.0	5.20	335.20	3,727.6	37.5	6.3	37.5	6.78	6.77	-3.87	

Archer

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Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
3,759.0	7.30	337.30	3,758.4	40.6	5.0	40.6	6.81	6.77	6.77
3,790.0	9.60	339.40	3,789.1	44.8	3.3	44.9	7.48	7.42	6.77
3,822.0	12.10	338.70	3,820.5	50.4	1.2	50.5	7.82	7.81	-2.19
3,853.0	14.40	338.50	3,850.7	57.1	-1.4	57.0	7.42	7.42	-0.65
3,885.0	16.90	337.20	3,881.5	65.1	-4.7	65.0	7.89	7.81	-4.06
3,916.0	19.80	336.80	3,910.9	74.0	-8.5	74.0	9.36	9.35	-1.29
3,947.0	22.90	337.20	3,939.8	84.4	-12.9	84.3	10.01	10.00	1.29
3,977.0	25.90	338.20	3,967.1	95.9	-17.6	95.7	10.09	10.00	3.33
4,009.0	29.40	340.40	3,995.5	109.8	-22.8	109.6	11.39	10.94	6.88
4,040.0	32.40	342.60	4,022.1	124.9	-27.9	124.6	10.34	9.68	7.10
4,071.0	35.30	345.20	4,047.8	141.5	-32.7	141.2	10.45	9.35	8.39
4,103.0	38.20	347.20	4,073.5	160.1	-37.2	159.7	9.80	9.06	6.25
4,135.0	40.40	349.00	4,098.2	179.9	-41.4	179.5	7.74	6.88	5.63
4,166.0	43.00	349.50	4,121.4	200.2	-45.2	199.7	8.46	8.39	1.61
4,195.0	45.50	350.80	4,142.1	220.1	-48.7	219.6	9.17	8.62	4.48
4,226.0	47.60	351.70	4,163.4	242.3	-52.1	241.9	7.09	6.77	2.90
4,257.0	49.50	353.60	4,184.0	265.4	-55.1	264.9	7.66	6.13	6.13
4,288.0	51.30	355.70	4,203.7	289.2	-57.3	288.6	7.81	5.81	6.77
4,319.0	52.10	358.00	4,222.9	313.4	-58.6	312.9	6.37	2.58	7.42
4,350.0	52.00	358.30	4,242.0	337.9	-59.4	337.3	0.83	-0.32	0.97
4,381.0	51.90	358.10	4,261.1	362.3	-60.2	361.7	0.60	-0.32	-0.65
4,412.0	51.90	358.30	4,280.2	386.7	-60.9	386.1	0.51	0.00	0.65
4,443.0	51.70	358.90	4,299.4	411.0	-61.5	410.4	1.65	-0.65	1.94
4,475.0	51.30	0.80	4,319.3	436.0	-61.6	435.5	4.81	-1.25	5.94
4,507.0	50.30	0.40	4,339.6	460.8	-61.3	460.3	3.27	-3.13	-1.25
4,538.0	49.20	0.30	4,359.6	484.5	-61.2	483.9	3.56	-3.55	-0.32
4,569.0	49.30	0.70	4,379.8	508.0	-61.0	507.4	1.03	0.32	1.29
4,600.0	52.20	1.30	4,399.4	532.0	-60.6	531.4	9.47	9.35	1.94
4,632.0	55.50	1.10	4,418.3	557.8	-60.0	557.3	10.32	10.31	-0.63
4,663.0	58.60	0.90	4,435.2	583.8	-59.6	583.3	10.01	10.00	-0.65
4,694.0	61.90	0.80	4,450.5	610.7	-59.2	610.2	10.65	10.65	-0.32
4,726.0	65.30	0.10	4,464.8	639.4	-59.0	638.8	10.80	10.63	-2.19
4,756.0	69.00	359.90	4,476.4	667.0	-59.0	666.5	12.35	12.33	-0.67
4,788.0	71.70	359.30	4,487.2	697.2	-59.2	696.6	8.62	8.44	-1.88
4,821.0	75.30	358.30	4,496.6	728.8	-59.8	728.2	11.29	10.91	-3.03
4,853.0	79.30	357.50	4,503.6	760.0	-61.0	759.4	12.74	12.50	-2.50
4,884.0	83.10	356.10	4,508.3	790.6	-62.7	790.0	13.04	12.26	-4.52
4,915.0	86.50	356.00	4,511.1	821.4	-64.8	820.7	10.97	10.97	-0.32
5,010.0	91.90	358.80	4,512.5	916.2	-69.1	915.6	6.40	5.68	2.95
5,040.0	92.30	358.70	4,511.4	946.2	-69.8	945.5	1.37	1.33	-0.33
5,071.0	92.70	359.10	4,510.0	977.1	-70.4	976.5	1.82	1.29	1.29
5,101.0	91.30	359.60	4,509.0	1,007.1	-70.7	1,006.5	4.96	-4.67	1.67
5,132.0	90.70	358.80	4,508.4	1,038.1	-71.1	1,037.4	3.23	-1.94	-2.58

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Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,163.0	89.60	359.20	4,508.3	1,069.1	-71.7	1,068.4	3.78	-3.55	1.29
5,193.0	89.10	359.60	4,508.7	1,099.1	-72.0	1,098.4	2.13	-1.67	1.33
5,223.0	89.10	358.60	4,509.2	1,129.1	-72.5	1,128.4	3.33	0.00	-3.33
5,254.0	88.50	358.30	4,509.8	1,160.1	-73.3	1,159.4	2.16	-1.94	-0.97
5,284.0	88.60	358.90	4,510.6	1,190.1	-74.0	1,189.4	2.03	0.33	2.00
5,315.0	88.40	0.00	4,511.4	1,221.0	-74.3	1,220.3	3.61	-0.65	3.55
5,345.0	89.60	0.70	4,511.9	1,251.0	-74.2	1,250.3	4.63	4.00	2.33
5,376.0	90.20	1.20	4,512.0	1,282.0	-73.6	1,281.3	2.52	1.94	1.61
5,406.0	90.40	1.20	4,511.8	1,312.0	-73.0	1,311.3	0.67	0.67	0.00
5,437.0	90.20	1.80	4,511.6	1,343.0	-72.2	1,342.3	2.04	-0.65	1.94
5,467.0	90.20	2.70	4,511.5	1,373.0	-71.0	1,372.3	3.00	0.00	3.00
5,498.0	90.20	2.80	4,511.4	1,404.0	-69.5	1,403.3	0.32	0.00	0.32
5,529.0	89.80	2.50	4,511.4	1,434.9	-68.1	1,434.3	1.61	-1.29	-0.97
5,559.0	89.80	2.20	4,511.5	1,464.9	-66.9	1,464.2	1.00	0.00	-1.00
5,590.0	89.30	2.30	4,511.8	1,495.9	-65.7	1,495.2	1.64	-1.61	0.32
5,620.0	89.10	2.90	4,512.2	1,525.8	-64.3	1,525.2	2.11	-0.67	2.00
5,650.0	89.50	2.80	4,512.6	1,555.8	-62.8	1,555.2	1.37	1.33	-0.33
5,681.0	89.60	2.70	4,512.8	1,586.8	-61.3	1,586.2	0.46	0.32	-0.32
5,712.0	89.20	2.80	4,513.1	1,617.7	-59.8	1,617.1	1.33	-1.29	0.32
5,742.0	89.30	2.90	4,513.5	1,647.7	-58.3	1,647.1	0.47	0.33	0.33
5,773.0	90.20	2.70	4,513.7	1,678.7	-56.8	1,678.1	2.97	2.90	-0.65
5,803.0	91.40	2.00	4,513.2	1,708.6	-55.6	1,708.1	4.63	4.00	-2.33
5,833.0	92.00	1.80	4,512.3	1,738.6	-54.6	1,738.0	2.11	2.00	-0.67
5,863.0	92.00	2.00	4,511.3	1,768.6	-53.6	1,768.0	0.67	0.00	0.67
5,894.0	90.70	2.80	4,510.6	1,799.5	-52.3	1,799.0	4.92	-4.19	2.58
5,924.0	89.60	2.90	4,510.5	1,829.5	-50.8	1,829.0	3.68	-3.67	0.33
5,955.0	89.60	2.90	4,510.7	1,860.4	-49.3	1,859.9	0.00	0.00	0.00
5,985.0	89.40	2.90	4,511.0	1,890.4	-47.7	1,889.9	0.67	-0.67	0.00
6,016.0	89.10	1.80	4,511.4	1,921.4	-46.5	1,920.9	3.68	-0.97	-3.55
6,046.0	89.50	1.40	4,511.7	1,951.4	-45.6	1,950.9	1.89	1.33	-1.33
6,077.0	89.50	1.30	4,512.0	1,982.3	-44.9	1,981.9	0.32	0.00	-0.32
6,107.0	89.10	2.30	4,512.4	2,012.3	-44.0	2,011.9	3.59	-1.33	3.33
6,137.0	89.20	2.60	4,512.8	2,042.3	-42.7	2,041.8	1.05	0.33	1.00
6,168.0	89.50	2.70	4,513.2	2,073.3	-41.2	2,072.8	1.02	0.97	0.32
6,200.0	89.70	2.20	4,513.4	2,105.2	-39.9	2,104.8	1.68	0.63	-1.56
6,231.0	89.70	2.00	4,513.6	2,136.2	-38.7	2,135.8	0.65	0.00	-0.65
6,263.0	89.80	1.70	4,513.7	2,168.2	-37.7	2,167.8	0.99	0.31	-0.94
6,326.0	90.80	2.40	4,513.4	2,231.2	-35.4	2,230.8	1.94	1.59	1.11
6,358.0	90.90	2.20	4,512.9	2,263.1	-34.2	2,262.7	0.70	0.31	-0.63
6,421.0	90.90	2.00	4,511.9	2,326.1	-31.9	2,325.7	0.32	0.00	-0.32
6,452.0	90.90	1.70	4,511.4	2,357.1	-30.9	2,356.7	0.97	0.00	-0.97
6,516.0	91.00	1.70	4,510.4	2,421.0	-29.0	2,420.7	0.16	0.16	0.00
6,548.0	90.80	2.00	4,509.9	2,453.0	-27.9	2,452.7	1.13	-0.63	0.94

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6,611.0	90.10	1.20	4,509.4	2,516.0	-26.2	2,515.6	1.69	-1.11	-1.27	
6,642.0	90.20	1.00	4,509.3	2,547.0	-25.6	2,546.6	0.72	0.32	-0.65	
6,705.0	90.60	1.30	4,508.8	2,610.0	-24.3	2,609.6	0.79	0.63	0.48	
6,737.0	90.90	1.20	4,508.4	2,641.9	-23.6	2,641.6	0.99	0.94	-0.31	
6,800.0	91.00	1.20	4,507.4	2,704.9	-22.3	2,704.6	0.16	0.16	0.00	
6,832.0	90.90	1.00	4,506.8	2,736.9	-21.7	2,736.6	0.70	-0.31	-0.63	
6,895.0	88.80	0.30	4,507.0	2,799.9	-21.0	2,799.6	3.51	-3.33	-1.11	
6,927.0	87.70	0.00	4,508.0	2,831.9	-20.9	2,831.6	3.56	-3.44	-0.94	
6,958.0	88.70	0.70	4,509.0	2,862.9	-20.7	2,862.6	3.94	3.23	2.26	
6,990.0	90.20	1.40	4,509.3	2,894.9	-20.1	2,894.6	5.17	4.69	2.19	
7,022.0	91.00	2.20	4,508.9	2,926.8	-19.1	2,926.6	3.54	2.50	2.50	
7,054.0	91.40	2.00	4,508.3	2,958.8	-17.9	2,958.5	1.40	1.25	-0.63	
7,117.0	90.50	1.20	4,507.2	3,021.8	-16.2	3,021.5	1.91	-1.43	-1.27	
7,148.0	89.90	1.20	4,507.1	3,052.8	-15.5	3,052.5	1.94	-1.94	0.00	
7,180.0	90.00	1.40	4,507.1	3,084.8	-14.8	3,084.5	0.70	0.31	0.63	
7,212.0	90.80	2.20	4,506.9	3,116.7	-13.8	3,116.5	3.54	2.50	2.50	
7,244.0	91.60	3.30	4,506.2	3,148.7	-12.2	3,148.5	4.25	2.50	3.44	
7,275.0	92.00	2.70	4,505.3	3,179.6	-10.6	3,179.4	2.33	1.29	-1.94	
7,307.0	92.30	2.30	4,504.1	3,211.6	-9.2	3,211.4	1.56	0.94	-1.25	
7,338.0	92.30	1.80	4,502.8	3,242.5	-8.1	3,242.3	1.61	0.00	-1.61	
7,370.0	91.90	2.00	4,501.7	3,274.5	-7.1	3,274.3	1.40	-1.25	0.63	
7,401.0	91.50	1.90	4,500.7	3,305.5	-6.0	3,305.3	1.33	-1.29	-0.32	
7,433.0	90.90	1.00	4,500.1	3,337.5	-5.2	3,337.3	3.38	-1.88	-2.81	
7,464.0	90.30	0.30	4,499.7	3,368.5	-4.8	3,368.3	2.97	-1.94	-2.26	
7,496.0	89.40	0.50	4,499.8	3,400.5	-4.6	3,400.3	2.88	-2.81	0.63	
7,528.0	89.10	0.90	4,500.2	3,432.4	-4.2	3,432.3	1.56	-0.94	1.25	
7,559.0	89.20	1.20	4,500.7	3,463.4	-3.7	3,463.3	1.02	0.32	0.97	
7,591.0	89.50	0.90	4,501.1	3,495.4	-3.1	3,495.3	1.33	0.94	-0.94	
7,623.0	89.10	0.50	4,501.5	3,527.4	-2.7	3,527.3	1.77	-1.25	-1.25	
7,654.0	88.50	359.80	4,502.1	3,558.4	-2.6	3,558.3	2.97	-1.94	-2.26	
7,686.0	88.60	0.30	4,502.9	3,590.4	-2.6	3,590.2	1.59	0.31	1.56	
7,717.0	89.20	0.90	4,503.5	3,621.4	-2.3	3,621.2	2.74	1.94	1.94	
7,749.0	89.10	1.10	4,504.0	3,653.4	-1.7	3,653.2	0.70	-0.31	0.63	
7,781.0	88.90	0.70	4,504.5	3,685.4	-1.2	3,685.2	1.40	-0.63	-1.25	
7,813.0	89.60	0.50	4,505.0	3,717.4	-0.9	3,717.2	2.28	2.19	-0.63	
7,844.0	90.30	0.50	4,505.0	3,748.4	-0.6	3,748.2	2.26	2.26	0.00	
7,876.0	90.30	0.60	4,504.8	3,780.4	-0.3	3,780.2	0.31	0.00	0.31	
7,907.0	90.10	0.80	4,504.7	3,811.4	0.1	3,811.2	0.91	-0.65	0.65	
7,939.0	89.00	0.90	4,505.0	3,843.4	0.6	3,843.2	3.45	-3.44	0.31	
7,971.0	88.10	0.60	4,505.8	3,875.4	1.0	3,875.2	2.96	-2.81	-0.94	
8,003.0	87.70	359.40	4,506.9	3,907.3	1.0	3,907.2	3.95	-1.25	-3.75	
8,035.0	86.80	358.10	4,508.5	3,939.3	0.3	3,939.1	4.94	-2.81	-4.06	
Last Archer MWD Survey										
8,093.0	86.80	358.10	4,511.7	3,997.2	-1.6	3,997.0	0.00	0.00	0.00	

Archer

Survey Report

Company: Sandridge Energy, INC.(mid-con.)	Local Co-ordinate Reference: Well Frusher 1-15H/ Job #04063-431-22/ Lariat 3
Project: Hodgman County (KA27N)	TVD Reference: WELL @ 2355.0usft (Original Well Elev)
Site: Sec 15-T21S-R24W	MD Reference: WELL @ 2355.0usft (Original Well Elev)
Well: Frusher 1-15H/ Job #04063-431-22/ Lariat 3	North Reference: Grid
Wellbore: Wellbore #1	Survey Calculation Method: Minimum Curvature
Design: Wellbore #1	Database: EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Projection to TD - PBHL Frusher 1-15H									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1,548.0	1,548.0	5.2	1.6	First Archer MWD Survey
8,035.0	4,508.5	3,939.3	0.3	Last Archer MWD Survey
8,093.0	4,511.7	3,997.2	-1.6	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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