

# **Sandridge Energy, INC.(mid-con.)**

**Comanche County (KS27S)**

**Sec 06-T34S-R19W**

**Clay 3419 1-6H/Job #04140-431-22/Lariat 20**

**Wellbore #1**

**Design: Wellbore #1**

## **Standard Survey Report**

**01 April, 2013**

# Archer Survey Report

<b>Company:</b> Sandridge Energy, INC.(mid-con.)	<b>Local Co-ordinate Reference:</b> Well Clay 3419 1-6H/Job #04140-431-22/Lariat 20
<b>Project:</b> Comanche County (KS27S)	<b>TVD Reference:</b> WELL @ 1828.0usft (Original Well Elev)
<b>Site:</b> Sec 06-T34S-R19W	<b>MD Reference:</b> WELL @ 1828.0usft (Original Well Elev)
<b>Well:</b> Clay 3419 1-6H/Job #04140-431-22/Lariat 20	<b>North Reference:</b> Grid
<b>Wellbore:</b> Wellbore #1	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> Wellbore #1	<b>Database:</b> EDM 5000.1 Single User Db

<b>Project</b> Comanche County (KS27S), KS South		
<b>Map System:</b> US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b> NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b> Kansas South 1502		

<b>Site</b> Sec 06-T34S-R19W					
<b>Site Position:</b>		<b>Northing:</b>	161,114.00 usft	<b>Latitude:</b>	37° 6' 19.446 N
<b>From:</b> Map		<b>Easting:</b>	1,727,844.00 usft	<b>Longitude:</b>	99° 25' 59.472 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	-0.57 °

<b>Well</b> Clay 3419 1-6H/Job #04140-431-22/Lariat 20					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	161,321.00 usft	<b>Latitude:</b> 37° 6' 21.558 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,728,504.00 usft	<b>Longitude:</b> 99° 25' 51.351 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b> 1,810.0 usft

<b>Wellbore</b> Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2013/03/06	5.38	65.06	51,678

<b>Design</b> Wellbore #1					
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0		0.13

<b>Survey Program</b> Date 2013/04/01					
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
879.0	9,620.0	Archer MWD Survey (Wellbore #1)	MWD	MWD - Standard	

<b>Survey</b>										
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	
879.0	0.60	174.10	879.0	-4.6	0.5	-4.6	0.07	0.07	0.00	
<b>First Archer MWD Survey</b>										
1,337.0	1.00	220.80	1,336.9	-10.0	-1.9	-10.0	0.16	0.09	10.20	
1,811.0	1.30	240.30	1,810.8	-15.8	-9.3	-15.8	0.10	0.06	4.11	
2,286.0	1.10	248.10	2,285.7	-20.2	-18.2	-20.2	0.05	-0.04	1.64	
2,761.0	1.30	254.50	2,760.6	-23.3	-27.6	-23.4	0.05	0.04	1.35	
3,236.0	1.10	320.20	3,235.6	-21.2	-35.7	-21.3	0.28	-0.04	13.83	
3,711.0	1.30	332.60	3,710.5	-12.9	-41.1	-13.0	0.07	0.04	2.61	
4,185.0	0.70	317.80	4,184.4	-6.0	-45.5	-6.1	0.14	-0.13	-3.12	

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<b>Site:</b>	Sec 06-T34S-R19W	<b>MD Reference:</b>	WELL @ 1828.0usft (Original Well Elev)
<b>Well:</b>	Clay 3419 1-6H/Job #04140-431-22/Lariat 20	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)
4,220.0	0.50	309.30	4,219.4	-5.8	-45.8	-5.9	0.62	-0.57	-24.29
4,270.0	0.70	296.40	4,269.4	-5.5	-46.2	-5.6	0.48	0.40	-25.80
4,301.0	0.80	315.20	4,300.4	-5.3	-46.6	-5.4	0.85	0.32	60.65
4,333.0	1.70	336.90	4,332.4	-4.7	-46.9	-4.8	3.13	2.81	67.81
4,365.0	3.10	346.70	4,364.3	-3.4	-47.3	-3.5	4.54	4.38	30.63
4,396.0	4.10	348.40	4,395.3	-1.5	-47.7	-1.6	3.24	3.23	5.48
4,428.0	5.10	349.50	4,427.2	1.0	-48.2	0.9	3.14	3.13	3.44
4,459.0	7.10	358.00	4,458.0	4.3	-48.5	4.2	7.06	6.45	27.42
4,491.0	9.20	1.20	4,489.7	8.8	-48.5	8.7	6.71	6.56	10.00
4,523.0	11.90	1.60	4,521.1	14.7	-48.4	14.6	8.44	8.44	1.25
4,554.0	14.20	0.10	4,551.3	21.7	-48.3	21.6	7.50	7.42	-4.84
4,586.0	16.40	0.10	4,582.2	30.1	-48.3	30.0	6.88	6.88	0.00
4,618.0	18.50	1.50	4,612.7	39.7	-48.1	39.6	6.69	6.56	4.38
4,649.0	20.40	3.60	4,641.9	50.0	-47.7	49.9	6.53	6.13	6.77
4,681.0	22.50	4.80	4,671.7	61.7	-46.8	61.6	6.70	6.56	3.75
4,716.0	25.60	5.00	4,703.7	75.9	-45.6	75.8	8.86	8.86	0.57
4,744.0	28.00	4.80	4,728.7	88.5	-44.5	88.4	8.58	8.57	-0.71
4,777.0	30.90	4.10	4,757.4	104.7	-43.2	104.6	8.85	8.79	-2.12
4,808.0	32.60	3.60	4,783.8	120.9	-42.1	120.8	5.55	5.48	-1.61
4,839.0	33.90	3.10	4,809.7	137.9	-41.2	137.8	4.29	4.19	-1.61
4,871.0	36.40	3.10	4,835.9	156.3	-40.2	156.2	7.81	7.81	0.00
4,903.0	39.00	3.40	4,861.2	175.8	-39.0	175.8	8.15	8.13	0.94
4,934.0	40.80	3.00	4,885.0	195.7	-37.9	195.6	5.87	5.81	-1.29
4,966.0	41.20	3.00	4,909.1	216.7	-36.8	216.6	1.25	1.25	0.00
4,998.0	41.90	3.00	4,933.0	237.9	-35.7	237.8	2.19	2.19	0.00
5,029.0	43.60	3.10	4,955.8	258.9	-34.6	258.8	5.49	5.48	0.32
5,061.0	45.50	3.40	4,978.6	281.3	-33.3	281.2	5.97	5.94	0.94
5,092.0	48.40	3.50	4,999.8	303.9	-32.0	303.8	9.36	9.35	0.32
5,124.0	49.10	3.80	5,020.9	327.9	-30.4	327.8	2.30	2.19	0.94
5,156.0	49.20	4.20	5,041.8	352.0	-28.8	352.0	1.00	0.31	1.25
5,187.0	49.70	3.70	5,062.0	375.5	-27.1	375.5	2.03	1.61	-1.61
5,219.0	49.80	4.30	5,082.6	399.9	-25.4	399.9	1.46	0.31	1.88
5,251.0	49.80	4.20	5,103.3	424.3	-23.6	424.2	0.24	0.00	-0.31
5,282.0	49.30	4.10	5,123.4	447.8	-21.9	447.8	1.63	-1.61	-0.32
5,314.0	50.80	3.60	5,143.9	472.3	-20.3	472.2	4.84	4.69	-1.56
5,346.0	54.50	4.20	5,163.4	497.7	-18.5	497.6	11.66	11.56	1.88
5,377.0	58.20	4.00	5,180.5	523.4	-16.7	523.4	11.95	11.94	-0.65
5,409.0	62.00	3.30	5,196.5	551.1	-14.9	551.0	12.03	11.88	-2.19
5,441.0	66.20	2.40	5,210.5	579.8	-13.5	579.8	13.37	13.13	-2.81
5,472.0	69.80	0.80	5,222.1	608.5	-12.7	608.5	12.56	11.61	-5.16
5,504.0	72.70	360.00	5,232.4	638.8	-12.5	638.8	9.37	9.06	-2.50
5,536.0	75.30	359.70	5,241.2	669.6	-12.6	669.6	8.17	8.13	-0.94

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Survey									
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5,567.0	78.20	359.40	5,248.3	699.8	-12.8	699.7	9.40	9.35	-0.97
5,599.0	81.30	359.40	5,254.0	731.3	-13.1	731.2	9.69	9.69	0.00
5,631.0	84.60	359.40	5,257.9	763.0	-13.5	763.0	10.31	10.31	0.00
5,662.0	87.50	359.40	5,260.0	793.9	-13.8	793.9	9.35	9.35	0.00
5,740.0	88.90	359.40	5,262.5	871.9	-14.6	871.8	1.79	1.79	0.00
5,770.0	89.60	359.10	5,262.9	901.9	-15.0	901.8	2.54	2.33	-1.00
5,801.0	89.90	359.00	5,263.0	932.9	-15.5	932.8	1.02	0.97	-0.32
5,831.0	90.50	359.60	5,262.9	962.9	-15.9	962.8	2.83	2.00	2.00
5,862.0	90.60	359.80	5,262.6	993.9	-16.0	993.8	0.72	0.32	0.65
5,892.0	90.80	359.30	5,262.2	1,023.9	-16.3	1,023.8	1.79	0.67	-1.67
5,923.0	91.80	359.70	5,261.5	1,054.9	-16.6	1,054.8	3.47	3.23	1.29
5,953.0	92.00	359.40	5,260.5	1,084.8	-16.8	1,084.8	1.20	0.67	-1.00
5,984.0	92.00	358.40	5,259.5	1,115.8	-17.4	1,115.8	3.22	0.00	-3.23
6,014.0	91.80	359.40	5,258.5	1,145.8	-18.0	1,145.7	3.40	-0.67	3.33
6,045.0	90.50	359.90	5,257.8	1,176.8	-18.1	1,176.7	4.49	-4.19	1.61
6,075.0	89.20	359.90	5,257.9	1,206.8	-18.2	1,206.7	4.33	-4.33	0.00
6,106.0	89.90	359.30	5,258.2	1,237.8	-18.4	1,237.7	2.97	2.26	-1.94
6,136.0	91.10	359.00	5,257.9	1,267.8	-18.9	1,267.7	4.12	4.00	-1.00
6,167.0	90.20	359.20	5,257.6	1,298.8	-19.3	1,298.7	2.97	-2.90	0.65
6,197.0	89.10	359.70	5,257.7	1,328.8	-19.6	1,328.7	4.03	-3.67	1.67
6,228.0	89.10	0.80	5,258.2	1,359.8	-19.5	1,359.7	3.55	0.00	3.55
6,259.0	89.10	0.30	5,258.7	1,390.8	-19.2	1,390.7	1.61	0.00	-1.61
6,289.0	89.50	360.00	5,259.1	1,420.8	-19.1	1,420.7	1.67	1.33	-1.00
6,320.0	89.20	1.60	5,259.4	1,451.8	-18.7	1,451.7	5.25	-0.97	5.16
6,350.0	88.60	1.50	5,260.0	1,481.7	-17.9	1,481.7	2.03	-2.00	-0.33
6,381.0	88.90	0.90	5,260.7	1,512.7	-17.2	1,512.7	2.16	0.97	-1.94
6,411.0	88.70	1.20	5,261.3	1,542.7	-16.7	1,542.7	1.20	-0.67	1.00
6,442.0	88.00	1.60	5,262.2	1,573.7	-15.9	1,573.6	2.60	-2.26	1.29
6,472.0	87.60	1.50	5,263.4	1,603.7	-15.1	1,603.6	1.37	-1.33	-0.33
6,503.0	88.90	2.40	5,264.3	1,634.6	-14.1	1,634.6	5.10	4.19	2.90
6,533.0	89.40	2.00	5,264.7	1,664.6	-12.9	1,664.6	2.13	1.67	-1.33
6,564.0	89.50	2.10	5,265.0	1,695.6	-11.8	1,695.5	0.46	0.32	0.32
6,596.0	89.50	1.40	5,265.3	1,727.6	-10.8	1,727.5	2.19	0.00	-2.19
6,627.0	88.20	1.30	5,265.9	1,758.5	-10.1	1,758.5	4.21	-4.19	-0.32
6,659.0	88.50	0.70	5,266.9	1,790.5	-9.5	1,790.5	2.10	0.94	-1.88
6,691.0	90.30	1.50	5,267.2	1,822.5	-8.9	1,822.5	6.16	5.63	2.50
6,719.0	91.00	1.90	5,266.9	1,850.5	-8.1	1,850.5	2.88	2.50	1.43
6,751.0	90.90	1.80	5,266.4	1,882.5	-7.1	1,882.5	0.44	-0.31	-0.31
6,782.0	90.80	2.10	5,265.9	1,913.5	-6.0	1,913.4	1.02	-0.32	0.97
6,814.0	90.90	1.90	5,265.4	1,945.4	-4.9	1,945.4	0.70	0.31	-0.63
6,846.0	90.90	1.60	5,264.9	1,977.4	-3.9	1,977.4	0.94	0.00	-0.94
6,877.0	90.90	1.40	5,264.4	2,008.4	-3.1	2,008.4	0.65	0.00	-0.65
6,909.0	90.70	1.10	5,264.0	2,040.4	-2.4	2,040.4	1.13	-0.63	-0.94

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6,941.0	90.60	1.30	5,263.6	2,072.4	-1.7	2,072.4	0.70	-0.31	0.63	
6,972.0	90.60	1.00	5,263.3	2,103.4	-1.1	2,103.4	0.97	0.00	-0.97	
7,004.0	89.80	0.70	5,263.2	2,135.4	-0.6	2,135.4	2.67	-2.50	-0.94	
7,036.0	88.90	0.10	5,263.5	2,167.4	-0.4	2,167.4	3.38	-2.81	-1.88	
7,067.0	89.30	360.00	5,264.0	2,198.4	-0.4	2,198.4	1.33	1.29	-0.32	
7,099.0	89.20	359.70	5,264.5	2,230.4	-0.5	2,230.4	0.99	-0.31	-0.94	
7,131.0	90.60	359.40	5,264.5	2,262.4	-0.7	2,262.3	4.47	4.38	-0.94	
7,162.0	90.90	0.30	5,264.1	2,293.4	-0.8	2,293.3	3.06	0.97	2.90	
7,194.0	91.00	0.10	5,263.6	2,325.3	-0.7	2,325.3	0.70	0.31	-0.63	
7,224.0	90.80	360.00	5,263.1	2,355.3	-0.7	2,355.3	0.75	-0.67	-0.33	
7,258.0	90.30	0.50	5,262.8	2,389.3	-0.5	2,389.3	2.08	-1.47	1.47	
7,289.0	89.90	0.40	5,262.7	2,420.3	-0.3	2,420.3	1.33	-1.29	-0.32	
7,321.0	89.80	359.90	5,262.8	2,452.3	-0.2	2,452.3	1.59	-0.31	-1.56	
7,352.0	91.50	360.00	5,262.5	2,483.3	-0.2	2,483.3	5.49	5.48	0.32	
7,384.0	93.80	359.40	5,261.0	2,515.3	-0.4	2,515.3	7.43	7.19	-1.88	
7,416.0	94.90	359.50	5,258.5	2,547.2	-0.7	2,547.2	3.45	3.44	0.31	
7,447.0	94.10	359.20	5,256.1	2,578.1	-1.0	2,578.1	2.76	-2.58	-0.97	
7,479.0	91.60	359.00	5,254.5	2,610.1	-1.5	2,610.1	7.84	-7.81	-0.63	
7,511.0	91.30	359.30	5,253.7	2,642.0	-2.0	2,642.0	1.33	-0.94	0.94	
7,542.0	91.10	359.00	5,253.1	2,673.0	-2.5	2,673.0	1.16	-0.65	-0.97	
7,574.0	90.40	359.10	5,252.6	2,705.0	-3.0	2,705.0	2.21	-2.19	0.31	
7,606.0	90.10	359.20	5,252.5	2,737.0	-3.5	2,737.0	0.99	-0.94	0.31	
7,637.0	90.10	358.80	5,252.5	2,768.0	-4.0	2,768.0	1.29	0.00	-1.29	
7,669.0	90.20	358.70	5,252.4	2,800.0	-4.7	2,800.0	0.44	0.31	-0.31	
7,701.0	90.10	358.30	5,252.3	2,832.0	-5.6	2,832.0	1.29	-0.31	-1.25	
7,732.0	89.50	359.40	5,252.4	2,863.0	-6.2	2,863.0	4.04	-1.94	3.55	
7,764.0	89.40	358.90	5,252.7	2,895.0	-6.6	2,895.0	1.59	-0.31	-1.56	
7,796.0	90.00	359.60	5,252.9	2,927.0	-7.1	2,927.0	2.88	1.88	2.19	
7,827.0	90.00	1.00	5,252.9	2,958.0	-6.9	2,958.0	4.52	0.00	4.52	
7,859.0	90.10	1.10	5,252.8	2,990.0	-6.3	2,990.0	0.44	0.31	0.31	
7,890.0	90.50	0.90	5,252.7	3,021.0	-5.8	3,021.0	1.44	1.29	-0.65	
7,922.0	90.50	1.00	5,252.4	3,053.0	-5.2	3,052.9	0.31	0.00	0.31	
7,954.0	90.60	0.90	5,252.1	3,085.0	-4.7	3,084.9	0.44	0.31	-0.31	
7,985.0	91.10	0.90	5,251.6	3,116.0	-4.2	3,115.9	1.61	1.61	0.00	
8,017.0	91.70	0.60	5,250.8	3,147.9	-3.8	3,147.9	2.10	1.88	-0.94	
8,049.0	90.40	0.90	5,250.3	3,179.9	-3.4	3,179.9	4.17	-4.06	0.94	
8,080.0	90.50	1.00	5,250.0	3,210.9	-2.9	3,210.9	0.46	0.32	0.32	
8,112.0	90.60	1.10	5,249.7	3,242.9	-2.3	3,242.9	0.44	0.31	0.31	
8,144.0	88.60	1.30	5,249.9	3,274.9	-1.6	3,274.9	6.28	-6.25	0.63	
8,175.0	88.20	1.10	5,250.8	3,305.9	-1.0	3,305.9	1.44	-1.29	-0.65	
8,207.0	89.30	0.60	5,251.5	3,337.9	-0.5	3,337.9	3.78	3.44	-1.56	
8,239.0	90.20	1.20	5,251.6	3,369.9	0.0	3,369.9	3.38	2.81	1.88	

# Archer Survey Report

<b>Company:</b>	Sandridge Energy, INC.(mid-con.)	<b>Local Co-ordinate Reference:</b>	Well Clay 3419 1-6H/Job #04140-431-22/Lariat 20
<b>Project:</b>	Comanche County (KS27S)	<b>TVD Reference:</b>	WELL @ 1828.0usft (Original Well Elev)
<b>Site:</b>	Sec 06-T34S-R19W	<b>MD Reference:</b>	WELL @ 1828.0usft (Original Well Elev)
<b>Well:</b>	Clay 3419 1-6H/Job #04140-431-22/Lariat 20	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Wellbore #1	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	Wellbore #1	<b>Database:</b>	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)	
8,270.0	90.90	0.90	5,251.3	3,400.9	0.6	3,400.9	2.46	2.26	-0.97	
8,302.0	91.40	1.20	5,250.7	3,432.9	1.2	3,432.9	1.82	1.56	0.94	
8,334.0	91.40	1.20	5,249.9	3,464.8	1.8	3,464.8	0.00	0.00	0.00	
8,365.0	90.30	1.20	5,249.5	3,495.8	2.5	3,495.8	3.55	-3.55	0.00	
8,397.0	90.20	0.90	5,249.3	3,527.8	3.1	3,527.8	0.99	-0.31	-0.94	
8,429.0	90.70	0.60	5,249.1	3,559.8	3.5	3,559.8	1.82	1.56	-0.94	
8,460.0	91.30	0.40	5,248.5	3,590.8	3.8	3,590.8	2.04	1.94	-0.65	
8,492.0	92.20	0.20	5,247.5	3,622.8	3.9	3,622.8	2.88	2.81	-0.63	
8,524.0	91.50	1.20	5,246.5	3,654.8	4.3	3,654.8	3.81	-2.19	3.13	
8,555.0	91.10	0.90	5,245.8	3,685.8	4.9	3,685.8	1.61	-1.29	-0.97	
8,587.0	90.10	1.00	5,245.5	3,717.8	5.4	3,717.8	3.14	-3.13	0.31	
8,619.0	89.70	1.10	5,245.5	3,749.8	6.0	3,749.8	1.29	-1.25	0.31	
8,650.0	89.90	0.80	5,245.6	3,780.8	6.5	3,780.8	1.16	0.65	-0.97	
8,682.0	90.30	1.00	5,245.6	3,812.7	7.0	3,812.8	1.40	1.25	0.63	
8,714.0	90.90	0.50	5,245.2	3,844.7	7.4	3,844.7	2.44	1.88	-1.56	
8,745.0	90.90	0.60	5,244.8	3,875.7	7.7	3,875.7	0.32	0.00	0.32	
8,777.0	90.80	360.00	5,244.3	3,907.7	7.9	3,907.7	1.90	-0.31	-1.88	
8,809.0	90.70	359.60	5,243.9	3,939.7	7.8	3,939.7	1.29	-0.31	-1.25	
8,840.0	90.20	359.30	5,243.6	3,970.7	7.5	3,970.7	1.88	-1.61	-0.97	
8,872.0	89.50	358.10	5,243.7	4,002.7	6.8	4,002.7	4.34	-2.19	-3.75	
8,904.0	89.80	358.30	5,243.9	4,034.7	5.8	4,034.7	1.13	0.94	0.63	
8,935.0	90.30	357.70	5,243.9	4,065.7	4.7	4,065.7	2.52	1.61	-1.94	
8,967.0	90.10	357.60	5,243.8	4,097.7	3.4	4,097.7	0.70	-0.63	-0.31	
8,999.0	90.10	357.10	5,243.7	4,129.6	1.9	4,129.6	1.56	0.00	-1.56	
9,030.0	90.30	356.90	5,243.6	4,160.6	0.3	4,160.6	0.91	0.65	-0.65	
9,062.0	90.50	356.80	5,243.4	4,192.5	-1.5	4,192.5	0.70	0.63	-0.31	
9,094.0	90.90	356.30	5,243.0	4,224.5	-3.4	4,224.5	2.00	1.25	-1.56	
9,126.0	90.60	356.00	5,242.6	4,256.4	-5.6	4,256.4	1.33	-0.94	-0.94	
9,157.0	89.70	357.20	5,242.5	4,287.3	-7.4	4,287.3	4.84	-2.90	3.87	
9,189.0	89.40	357.00	5,242.7	4,319.3	-9.0	4,319.3	1.13	-0.94	-0.63	
9,220.0	89.90	357.10	5,242.9	4,350.3	-10.6	4,350.2	1.64	1.61	0.32	
9,252.0	90.50	356.50	5,242.8	4,382.2	-12.4	4,382.2	2.65	1.88	-1.88	
9,284.0	90.80	356.70	5,242.5	4,414.1	-14.3	4,414.1	1.13	0.94	0.63	
9,315.0	90.10	357.20	5,242.2	4,445.1	-16.0	4,445.1	2.77	-2.26	1.61	
9,347.0	89.80	357.50	5,242.2	4,477.1	-17.4	4,477.0	1.33	-0.94	0.94	
9,379.0	90.10	357.80	5,242.3	4,509.0	-18.8	4,509.0	1.33	0.94	0.94	
9,410.0	90.70	358.40	5,242.0	4,540.0	-19.8	4,540.0	2.74	1.94	1.94	
9,442.0	91.30	357.70	5,241.5	4,572.0	-20.9	4,571.9	2.88	1.88	-2.19	
9,474.0	91.60	358.50	5,240.7	4,604.0	-21.9	4,603.9	2.67	0.94	2.50	
9,505.0	91.70	358.70	5,239.8	4,634.9	-22.7	4,634.9	0.72	0.32	0.65	
9,537.0	92.70	358.40	5,238.6	4,666.9	-23.5	4,666.8	3.26	3.13	-0.94	
9,570.0	93.20	358.10	5,236.9	4,699.9	-24.5	4,699.8	1.77	1.52	-0.91	

**Last Archer MWD Survey**

# Archer Survey Report

<b>Company:</b> Sandridge Energy, INC.(mid-con.)	<b>Local Co-ordinate Reference:</b> Well Clay 3419 1-6H/Job #04140-431-22/Lariat 20
<b>Project:</b> Comanche County (KS27S)	<b>TVD Reference:</b> WELL @ 1828.0usft (Original Well Elev)
<b>Site:</b> Sec 06-T34S-R19W	<b>MD Reference:</b> WELL @ 1828.0usft (Original Well Elev)
<b>Well:</b> Clay 3419 1-6H/Job #04140-431-22/Lariat 20	<b>North Reference:</b> Grid
<b>Wellbore:</b> Wellbore #1	<b>Survey Calculation Method:</b> Minimum Curvature
<b>Design:</b> Wellbore #1	<b>Database:</b> 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)
9,618.2	93.20	358.10	5,234.2	4,748.0	-26.1	4,747.9	0.00	0.00	0.00
<b>PBHL Clay 1-6H</b>									
9,620.0	93.20	358.10	5,234.1	4,749.7	-26.2	4,749.7	0.00	0.00	0.00
<b>Projection to TD</b>									

## Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
879.0	879.0	-4.6	0.5	First Archer MWD Survey
9,570.0	5,236.9	4,699.9	-24.5	Last Archer MWD Survey
9,620.0	5,234.1	4,749.7	-26.2	Projection to TD

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_