

Sandridge Energy, INC.(mid-con.)

Harper Co. (KS27S)

Sec 11-T35S-R08W

LIT Trust 3508 2-14H/ Job #04162-431-22/ Horizon 15

Wellbore #1

Design: Wellbore #1

Standard Survey Report

15 April, 2013

Archer Survey Report

Company: Sandridge Energy, INC.(mid-con.)	Local Co-ordinate Reference: Well LIT Trust 3508 2-14H/ Job #04162-431-22/ Horizon 15
Project: Harper Co. (KS27S)	TVD Reference: WELL @ 1291.0usft (Original Well Elev)
Site: Sec 11-T35S-R08W	MD Reference: WELL @ 1291.0usft (Original Well Elev)
Well: LIT Trust 3508 2-14H/ Job #04162-431-22/ Horizon 15	North Reference: Grid
Wellbore: Wellbore #1	Survey Calculation Method: Minimum Curvature
Design: Wellbore #1	Database: EDM 5000.1 Single User Db

Project Harper Co. (KS27S)	
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 11-T35S-R08W		
Site Position:	Northing: 124,136.00 usft	Latitude: 37° 0' 25.561 N
From: Map	Easting: 2,098,087.00 usft	Longitude: 98° 9' 50.831 W
Position Uncertainty: 0.0 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.21 °

Well LIT Trust 3508 2-14H/ Job #04162-431-22/ Horizon 15			
Well Position	+N/-S 0.0 usft	Northing: 129,327.00 usft	Latitude: 37° 1' 16.716 N
	+E/-W 0.0 usft	Easting: 2,102,704.00 usft	Longitude: 98° 8' 53.674 W
Position Uncertainty	0.0 usft	Wellhead Elevation: usft	Ground Level: 1,271.0 usft

Wellbore Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	2013/03/20	4.57	65.14	51,716

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	179.82	

Survey Program		Date 2013/04/15		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
250.0	733.0	Single Shot Surveys (Wellbore #1)	MWD	MWD - Standard
860.0	9,081.0	Archer MWD Surveys (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	
250.0	0.70	99.80	250.0	-0.3	1.5	0.3	0.28	0.28	0.00	
First Single Shot MWD Survey										
489.0	0.80	99.80	489.0	-0.8	4.6	0.8	0.04	0.04	0.00	
733.0	0.80	99.80	732.9	-1.4	7.9	1.4	0.00	0.00	0.00	
Last Single Shot MWD Survey										
860.0	2.20	99.80	859.9	-1.9	11.2	2.0	1.10	1.10	0.00	
First Archer MWD Survey										

Archer

Survey Report

Company:	Sandridge Energy, INC.(mid-con.)	Local Co-ordinate Reference:	Well LIT Trust 3508 2-14H/ Job #04162-431-22/ Horizon 15
Project:	Harper Co. (KS27S)	TVD Reference:	WELL @ 1291.0usft (Original Well Elev)
Site:	Sec 11-T35S-R08W	MD Reference:	WELL @ 1291.0usft (Original Well Elev)
Well:	LIT Trust 3508 2-14H/ Job #04162-431-22/ Horizon 15	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)	
1,136.0	1.60	94.40	1,135.8	-3.1	20.3	3.2	0.23	-0.22	-1.96	
1,411.0	1.40	98.80	1,410.7	-3.9	27.4	4.0	0.08	-0.07	1.60	
1,885.0	0.40	127.70	1,884.6	-5.8	34.5	5.9	0.23	-0.21	6.10	
2,359.0	0.30	89.10	2,358.6	-6.8	37.0	6.9	0.05	-0.02	-8.14	
2,832.0	0.30	48.60	2,831.6	-6.0	39.2	6.1	0.04	0.00	-8.56	
3,304.0	0.00	346.10	3,303.6	-5.2	40.1	5.3	0.06	-0.06	0.00	
3,778.0	0.70	149.90	3,777.6	-7.7	41.6	7.8	0.15	0.15	0.00	
3,969.0	0.40	146.70	3,968.6	-9.3	42.5	9.4	0.16	-0.16	-1.68	
4,000.0	0.50	150.00	3,999.6	-9.5	42.6	9.6	0.33	0.32	10.65	
4,032.0	1.80	170.50	4,031.5	-10.1	42.8	10.2	4.20	4.06	64.06	
4,064.0	3.70	172.40	4,063.5	-11.6	43.0	11.7	5.94	5.94	5.94	
4,095.0	5.20	174.50	4,094.4	-14.0	43.3	14.1	4.87	4.84	6.77	
4,127.0	6.70	169.70	4,126.2	-17.3	43.7	17.4	4.93	4.69	-15.00	
4,158.0	8.40	167.50	4,157.0	-21.3	44.6	21.4	5.56	5.48	-7.10	
4,190.0	10.60	167.60	4,188.5	-26.4	45.7	26.6	6.88	6.88	0.31	
4,222.0	12.70	169.60	4,219.9	-32.7	47.0	32.9	6.68	6.56	6.25	
4,253.0	15.10	170.40	4,250.0	-40.1	48.3	40.2	7.77	7.74	2.58	
4,284.0	17.50	171.60	4,279.7	-48.7	49.6	48.8	7.82	7.74	3.87	
4,317.0	19.70	173.40	4,311.0	-59.1	51.0	59.3	6.89	6.67	5.45	
4,348.0	21.70	174.50	4,340.0	-70.0	52.1	70.2	6.57	6.45	3.55	
4,380.0	24.00	176.40	4,369.5	-82.4	53.1	82.6	7.55	7.19	5.94	
4,411.0	26.10	177.90	4,397.6	-95.5	53.7	95.7	7.08	6.77	4.84	
4,443.0	27.90	178.70	4,426.1	-110.0	54.2	110.2	5.74	5.63	2.50	
4,474.0	30.20	179.20	4,453.2	-125.1	54.4	125.2	7.46	7.42	1.61	
4,506.0	32.90	179.30	4,480.4	-141.8	54.7	142.0	8.44	8.44	0.31	
4,537.0	35.50	179.60	4,506.1	-159.2	54.8	159.4	8.40	8.39	0.97	
4,569.0	38.40	179.80	4,531.6	-178.5	54.9	178.6	9.07	9.06	0.63	
4,601.0	41.30	180.40	4,556.2	-199.0	54.9	199.1	9.14	9.06	1.88	
4,633.0	44.20	180.00	4,579.7	-220.7	54.8	220.9	9.10	9.06	-1.25	
4,665.0	47.20	180.00	4,602.0	-243.6	54.8	243.8	9.38	9.38	0.00	
4,696.0	50.10	179.40	4,622.5	-266.9	54.9	267.0	9.47	9.35	-1.94	
4,728.0	52.90	180.10	4,642.4	-291.9	55.0	292.1	8.92	8.75	2.19	
4,759.0	56.10	180.70	4,660.4	-317.1	54.9	317.3	10.44	10.32	1.94	
4,791.0	59.10	180.90	4,677.6	-344.1	54.5	344.3	9.39	9.38	0.63	
4,822.0	62.40	181.10	4,692.7	-371.2	54.0	371.3	10.66	10.65	0.65	
4,854.0	65.40	181.60	4,706.8	-399.9	53.3	400.1	9.48	9.38	1.56	
4,886.0	68.00	181.40	4,719.5	-429.3	52.6	429.4	8.15	8.13	-0.63	
4,917.0	70.50	181.50	4,730.4	-458.3	51.8	458.4	8.07	8.06	0.32	
4,949.0	73.60	181.00	4,740.3	-488.7	51.2	488.8	9.80	9.69	-1.56	
4,981.0	75.80	182.00	4,748.8	-519.5	50.4	519.7	7.51	6.88	3.13	
5,012.0	78.00	182.00	4,755.8	-549.7	49.3	549.9	7.10	7.10	0.00	
5,044.0	80.30	181.80	4,761.8	-581.1	48.3	581.3	7.21	7.19	-0.63	
5,075.0	83.10	181.80	4,766.3	-611.8	47.3	611.9	9.03	9.03	0.00	

Archer

Survey Report

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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)	
5,107.0	85.60	181.10	4,769.4	-643.6	46.5	643.8	8.11	7.81	-2.19	
5,138.0	86.90	181.20	4,771.5	-674.5	45.9	674.7	4.21	4.19	0.32	
5,170.0	87.60	181.20	4,773.0	-706.5	45.2	706.6	2.19	2.19	0.00	
5,202.0	88.10	180.80	4,774.2	-738.5	44.7	738.6	2.00	1.56	-1.25	
5,233.0	88.80	181.00	4,775.0	-769.5	44.2	769.6	2.35	2.26	0.65	
5,264.0	89.10	180.80	4,775.6	-800.4	43.7	800.6	1.16	0.97	-0.65	
5,296.0	89.60	180.60	4,776.0	-832.4	43.3	832.6	1.68	1.56	-0.63	
5,327.0	89.50	180.90	4,776.2	-863.4	42.9	863.6	1.02	-0.32	0.97	
5,359.0	88.40	180.80	4,776.8	-895.4	42.4	895.6	3.45	-3.44	-0.31	
5,390.0	87.30	180.70	4,778.0	-926.4	42.0	926.5	3.56	-3.55	-0.32	
5,423.0	87.60	180.70	4,779.4	-959.4	41.6	959.5	0.91	0.91	0.00	
5,482.0	88.30	179.10	4,781.5	-1,018.3	41.7	1,018.5	2.96	1.19	-2.71	
5,577.0	87.90	179.70	4,784.7	-1,113.3	42.7	1,113.4	0.76	-0.42	0.63	
5,672.0	88.60	180.00	4,787.6	-1,208.2	42.9	1,208.4	0.80	0.74	0.32	
5,767.0	87.60	178.90	4,790.7	-1,303.2	43.9	1,303.3	1.56	-1.05	-1.16	
5,862.0	88.50	178.70	4,794.0	-1,398.1	45.8	1,398.2	0.97	0.95	-0.21	
5,956.0	90.90	180.00	4,794.5	-1,492.1	46.9	1,492.2	2.90	2.55	1.38	
6,051.0	90.30	180.70	4,793.5	-1,587.1	46.3	1,587.2	0.97	-0.63	0.74	
6,145.0	88.70	179.90	4,794.3	-1,681.1	45.8	1,681.2	1.90	-1.70	-0.85	
6,240.0	88.30	181.80	4,796.8	-1,776.0	44.4	1,776.1	2.04	-0.42	2.00	
6,336.0	86.20	181.10	4,801.4	-1,871.9	42.0	1,872.0	2.31	-2.19	-0.73	
6,430.0	86.30	181.00	4,807.5	-1,965.6	40.3	1,965.8	0.15	0.11	-0.11	
6,524.0	87.60	181.20	4,812.5	-2,059.5	38.5	2,059.6	1.40	1.38	0.21	
6,618.0	88.90	181.90	4,815.4	-2,153.4	35.9	2,153.5	1.57	1.38	0.74	
6,712.0	91.10	183.00	4,815.4	-2,247.3	31.9	2,247.4	2.62	2.34	1.17	
6,807.0	90.50	182.30	4,814.1	-2,342.2	27.5	2,342.3	0.97	-0.63	-0.74	
6,902.0	91.60	182.60	4,812.3	-2,437.1	23.5	2,437.2	1.20	1.16	0.32	
6,998.0	90.70	183.30	4,810.4	-2,533.0	18.5	2,533.0	1.19	-0.94	0.73	
7,093.0	89.70	183.00	4,810.1	-2,627.8	13.3	2,627.8	1.10	-1.05	-0.32	
7,188.0	89.00	182.40	4,811.1	-2,722.7	8.8	2,722.7	0.97	-0.74	-0.63	
7,282.0	88.70	181.40	4,813.0	-2,816.6	5.7	2,816.6	1.11	-0.32	-1.06	
7,400.0	89.30	182.00	4,815.1	-2,934.6	2.2	2,934.5	0.72	0.51	0.51	
7,496.0	90.50	180.70	4,815.3	-3,030.5	0.0	3,030.5	1.84	1.25	-1.35	
7,591.0	89.00	182.20	4,815.7	-3,125.5	-2.4	3,125.5	2.23	-1.58	1.58	
7,686.0	89.50	182.60	4,816.9	-3,220.4	-6.4	3,220.4	0.67	0.53	0.42	
7,781.0	90.10	183.00	4,817.2	-3,315.3	-11.1	3,315.2	0.76	0.63	0.42	
7,876.0	88.40	182.20	4,818.5	-3,410.2	-15.4	3,410.1	1.98	-1.79	-0.84	
7,971.0	89.20	182.20	4,820.5	-3,505.1	-19.0	3,505.0	0.84	0.84	0.00	
8,066.0	89.70	183.40	4,821.4	-3,600.0	-23.7	3,599.9	1.37	0.53	1.26	
8,161.0	88.80	182.60	4,822.6	-3,694.8	-28.6	3,694.7	1.27	-0.95	-0.84	
8,256.0	90.90	180.70	4,822.9	-3,789.8	-31.4	3,789.7	2.98	2.21	-2.00	
8,351.0	88.30	178.90	4,823.5	-3,884.8	-31.0	3,884.6	3.33	-2.74	-1.89	

Archer Survey Report

Company:	Sandridge Energy, INC.(mid-con.)	Local Co-ordinate Reference:	Well LIT Trust 3508 2-14H/ Job #04162-431-22/ Horizon 15
Project:	Harper Co. (KS27S)	TVD Reference:	WELL @ 1291.0usft (Original Well Elev)
Site:	Sec 11-T35S-R08W	MD Reference:	WELL @ 1291.0usft (Original Well Elev)
Well:	LIT Trust 3508 2-14H/ Job #04162-431-22/ Horizon 15	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)	
8,445.0	88.60	178.70	4,826.1	-3,978.7	-29.1	3,978.6	0.38	0.32	-0.21	
8,540.0	87.80	178.50	4,829.1	-4,073.6	-26.7	4,073.5	0.87	-0.84	-0.21	
8,634.0	89.80	176.50	4,831.0	-4,167.5	-22.6	4,167.4	3.01	2.13	-2.13	
8,730.0	89.30	175.50	4,831.8	-4,263.3	-15.9	4,263.2	1.16	-0.52	-1.04	
8,825.0	91.80	176.10	4,830.9	-4,358.0	-9.0	4,357.9	2.71	2.63	0.63	
8,919.0	92.90	176.00	4,827.0	-4,451.7	-2.5	4,451.7	1.18	1.17	-0.11	
9,015.0	92.00	177.10	4,822.9	-4,547.4	3.2	4,547.4	1.48	-0.94	1.15	
Last Archer MWD Survey										
9,081.0	92.00	177.10	4,820.6	-4,613.3	6.6	4,613.3	0.00	0.00	0.00	
Projection to TD - PBHL LIT Trust 2-14H										

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			Comment
		+N/-S (usft)	+E/-W (usft)		
250.0	250.0	-0.3		1.5	First Single Shot MWD Survey
733.0	732.9	-1.4		7.9	Last Single Shot MWD Survey
860.0	859.9	-1.9		11.2	First Archer MWD Survey
9,015.0	4,822.9	-4,547.4		3.2	Last Archer MWD Survey
9,081.0	4,820.6	-4,613.3		6.6	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
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