

Sandridge Energy

Comanche (KS27S)

Sec 19-T31S-19W - GRID

Sean 1-18H

Wellbore #1

Survey: MWD Surveys

Standard Survey Report

07 December, 2011

Wolverine Directional, LLC

Survey Report

Company: Sandridge Energy	Local Co-ordinate Reference: Well Sean 1-18H
Project: Comanche (KS27S)	TVD Reference: WELL @ 0.0ft (Original Well Elev)
Site: Sec 19-T31S-19W - GRID	MD Reference: WELL @ 0.0ft (Original Well Elev)
Well: Sean 1-18H	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	1.44	

Survey Program		Date 2011/12/07			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
947.0	9,860.0	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	
947.0	0.30	237.30	947.0	-1.3	-2.1	-1.4	0.03	0.03	0.00	
First MWD Survey										
1,135.0	0.70	236.10	1,135.0	-2.2	-3.5	-2.3	0.21	0.21	-0.64	
1,419.0	1.30	174.50	1,419.0	-6.4	-4.6	-6.5	0.40	0.21	-21.69	
1,705.0	0.30	209.10	1,704.9	-10.3	-4.6	-10.4	0.37	-0.35	12.10	
1,991.0	0.40	300.30	1,990.9	-10.5	-5.9	-10.6	0.18	0.03	31.89	
2,468.0	0.50	288.30	2,467.9	-9.0	-9.3	-9.2	0.03	0.02	-2.52	
2,944.0	0.30	319.10	2,943.9	-7.4	-12.1	-7.7	0.06	-0.04	6.47	
3,420.0	0.80	38.20	3,419.9	-3.8	-10.8	-4.1	0.17	0.11	16.62	
3,895.0	1.00	30.20	3,894.8	2.4	-6.7	2.2	0.05	0.04	-1.68	
3,927.0	0.80	29.80	3,926.8	2.8	-6.4	2.6	0.63	-0.63	-1.25	
3,959.0	0.80	48.70	3,958.8	3.2	-6.2	3.0	0.82	0.00	59.06	
3,990.0	0.90	25.60	3,989.8	3.5	-5.9	3.4	1.14	0.32	-74.52	
4,022.0	0.90	30.60	4,021.8	4.0	-5.7	3.8	0.25	0.00	15.63	
4,054.0	1.00	49.60	4,053.8	4.4	-5.3	4.2	1.03	0.31	59.38	
4,086.0	0.70	49.40	4,085.8	4.7	-5.0	4.5	0.94	-0.94	-0.63	
4,117.0	0.80	49.00	4,116.8	4.9	-4.6	4.8	0.32	0.32	-1.29	
4,150.0	1.00	38.40	4,149.8	5.3	-4.3	5.2	0.79	0.61	-32.12	
4,181.0	1.90	3.20	4,180.8	6.0	-4.1	5.9	3.96	2.90	-113.55	
4,213.0	4.70	355.70	4,212.7	7.9	-4.2	7.8	8.83	8.75	-23.44	
4,245.0	7.20	0.30	4,244.5	11.2	-4.3	11.1	7.95	7.81	14.38	
4,277.0	9.10	5.50	4,276.2	15.7	-4.0	15.6	6.36	5.94	16.25	
4,308.0	10.80	6.00	4,306.8	21.0	-3.5	20.9	5.49	5.48	1.61	
4,340.0	12.70	6.40	4,338.1	27.5	-2.8	27.4	5.94	5.94	1.25	
4,372.0	15.10	3.50	4,369.1	35.2	-2.1	35.1	7.81	7.50	-9.06	
4,404.0	17.30	3.80	4,399.9	44.1	-1.5	44.0	6.88	6.88	0.94	
4,435.0	19.30	5.00	4,429.3	53.8	-0.8	53.7	6.56	6.45	3.87	
4,467.0	21.40	5.40	4,459.3	64.9	0.2	64.8	6.58	6.56	1.25	
4,499.0	23.40	4.60	4,488.9	77.0	1.3	77.0	6.32	6.25	-2.50	
4,531.0	25.70	4.90	4,518.0	90.3	2.4	90.3	7.20	7.19	0.94	
4,563.0	27.70	5.40	4,546.6	104.6	3.7	104.6	6.29	6.25	1.56	
4,594.0	29.00	5.50	4,573.9	119.2	5.1	119.3	4.20	4.19	0.32	
4,626.0	30.20	5.00	4,601.7	135.0	6.5	135.1	3.83	3.75	-1.56	
4,658.0	32.00	4.30	4,629.1	151.4	7.9	151.6	5.74	5.63	-2.19	
4,690.0	34.40	3.30	4,655.9	168.9	9.0	169.1	7.69	7.50	-3.13	
4,721.0	36.60	2.90	4,681.1	186.9	10.0	187.1	7.14	7.10	-1.29	
4,753.0	38.20	2.90	4,706.5	206.3	11.0	206.5	5.00	5.00	0.00	
4,785.0	40.30	2.70	4,731.3	226.5	12.0	226.8	6.57	6.56	-0.63	

Wolverine Directional, LLC

Survey Report

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Site:	Sec 19-T31S-19W - GRID	MD Reference:	WELL @ 0.0ft (Original Well Elev)
Well:	Sean 1-18H	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)
4,817.0	42.20	3.30	4,755.3	247.6	13.1	247.9	6.06	5.94	1.88
4,848.0	43.80	2.90	4,778.0	268.7	14.2	269.0	5.24	5.16	-1.29
4,880.0	45.50	3.20	4,800.8	291.2	15.4	291.5	5.35	5.31	0.94
4,912.0	47.70	3.10	4,822.8	314.4	16.7	314.7	6.88	6.88	-0.31
4,944.0	49.90	3.00	4,843.8	338.4	18.0	338.8	6.88	6.88	-0.31
4,975.0	50.40	2.80	4,863.7	362.2	19.2	362.6	1.69	1.61	-0.65
5,007.0	49.90	3.00	4,884.2	386.7	20.4	387.1	1.63	-1.56	0.63
5,039.0	49.90	2.30	4,904.8	411.2	21.5	411.6	1.67	0.00	-2.19
5,071.0	49.50	2.60	4,925.5	435.6	22.6	436.0	1.44	-1.25	0.94
5,102.0	49.60	2.80	4,945.6	459.1	23.7	459.6	0.59	0.32	0.65
5,134.0	51.30	3.20	4,966.0	483.8	25.0	484.2	5.40	5.31	1.25
5,166.0	53.60	4.00	4,985.5	509.1	26.6	509.6	7.46	7.19	2.50
5,197.0	56.10	4.10	5,003.4	534.4	28.4	534.9	8.07	8.06	0.32
5,229.0	59.10	3.90	5,020.5	561.3	30.3	561.9	9.39	9.38	-0.63
5,261.0	62.60	3.40	5,036.1	589.2	32.0	589.8	11.02	10.94	-1.56
5,293.0	66.20	2.30	5,049.9	618.0	33.5	618.7	11.67	11.25	-3.44
5,325.0	69.30	2.70	5,062.0	647.6	34.8	648.3	9.76	9.69	1.25
5,356.0	72.40	2.10	5,072.2	676.9	36.0	677.5	10.17	10.00	-1.94
5,388.0	75.50	1.90	5,081.0	707.6	37.1	708.3	9.71	9.69	-0.63
5,420.0	78.40	1.60	5,088.3	738.7	38.0	739.5	9.11	9.06	-0.94
5,452.0	81.60	0.90	5,093.8	770.2	38.7	771.0	10.23	10.00	-2.19
5,477.0	83.30	0.60	5,097.1	795.0	39.0	795.8	6.90	6.80	-1.20
5,541.0	86.20	1.30	5,103.0	858.7	40.1	859.5	4.66	4.53	1.09
5,573.0	86.60	1.10	5,105.0	890.7	40.7	891.4	1.40	1.25	-0.63
5,605.0	86.60	0.60	5,106.9	922.6	41.2	923.4	1.56	0.00	-1.56
5,636.0	86.90	0.90	5,108.6	953.6	41.6	954.3	1.37	0.97	0.97
5,668.0	87.10	0.50	5,110.3	985.5	42.0	986.3	1.40	0.63	-1.25
5,700.0	87.40	0.30	5,111.8	1,017.5	42.2	1,018.2	1.13	0.94	-0.63
5,732.0	86.90	0.30	5,113.4	1,049.4	42.4	1,050.2	1.56	-1.56	0.00
5,763.0	86.70	359.90	5,115.2	1,080.4	42.5	1,081.1	1.44	-0.65	-1.29
5,796.0	86.00	0.40	5,117.3	1,113.3	42.5	1,114.0	2.60	-2.12	1.52
5,828.0	86.30	0.80	5,119.4	1,145.2	42.9	1,146.0	1.56	0.94	1.25
5,860.0	87.70	0.20	5,121.1	1,177.2	43.2	1,177.9	4.76	4.38	-1.88
5,892.0	89.30	0.50	5,121.9	1,209.2	43.3	1,209.9	5.09	5.00	0.94
5,923.0	89.90	0.30	5,122.1	1,240.2	43.6	1,240.9	2.04	1.94	-0.65
5,955.0	90.20	359.90	5,122.1	1,272.2	43.6	1,272.9	1.56	0.94	-1.25
5,987.0	90.40	359.70	5,121.9	1,304.2	43.5	1,304.9	0.88	0.63	-0.63
6,019.0	91.00	359.80	5,121.6	1,336.2	43.4	1,336.9	1.90	1.88	0.31
6,051.0	91.20	359.80	5,120.9	1,368.2	43.3	1,368.8	0.63	0.63	0.00
6,083.0	91.60	359.50	5,120.2	1,400.2	43.1	1,400.8	1.56	1.25	-0.94
6,115.0	91.70	359.70	5,119.2	1,432.2	42.8	1,432.8	0.70	0.31	0.63
6,210.0	90.20	0.40	5,117.7	1,527.1	42.9	1,527.7	1.74	-1.58	0.74
6,306.0	90.50	0.40	5,117.1	1,623.1	43.6	1,623.7	0.31	0.31	0.00
6,401.0	91.60	359.90	5,115.3	1,718.1	43.8	1,718.7	1.27	1.16	-0.53
6,497.0	90.10	359.00	5,113.9	1,814.1	42.9	1,814.6	1.82	-1.56	-0.94
6,593.0	91.50	0.00	5,112.6	1,910.1	42.1	1,910.5	1.79	1.46	1.04
6,689.0	92.10	0.40	5,109.6	2,006.0	42.4	2,006.5	0.75	0.63	0.42
6,720.0	92.20	0.20	5,108.4	2,037.0	42.6	2,037.4	0.72	0.32	-0.65
6,784.0	87.90	359.70	5,108.3	2,101.0	42.5	2,101.4	6.76	-6.72	-0.78
6,816.0	86.80	359.30	5,109.8	2,133.0	42.2	2,133.3	3.66	-3.44	-1.25
6,848.0	86.60	358.00	5,111.7	2,164.9	41.5	2,165.3	4.10	-0.63	-4.06
6,880.0	87.10	358.20	5,113.4	2,196.8	40.4	2,197.1	1.68	1.56	0.63
6,912.0	88.10	358.30	5,114.8	2,228.8	39.5	2,229.1	3.14	3.13	0.31
6,944.0	89.10	359.50	5,115.5	2,260.8	38.8	2,261.0	4.88	3.13	3.75

Wolverine Directional, LLC

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6,975.0	90.40	359.50	5,115.7	2,291.8	38.6	2,292.0	4.19	4.19	0.00
7,007.0	90.70	0.60	5,115.4	2,323.8	38.6	2,324.0	3.56	0.94	3.44
7,039.0	90.60	0.40	5,115.0	2,355.8	38.9	2,356.0	0.70	-0.31	-0.63
7,071.0	90.40	359.90	5,114.7	2,387.8	39.0	2,388.0	1.68	-0.63	-1.56
7,103.0	90.00	0.00	5,114.6	2,419.8	38.9	2,420.0	1.29	-1.25	0.31
7,135.0	89.40	0.20	5,114.8	2,451.8	39.0	2,452.0	1.98	-1.88	0.63
7,167.0	89.10	359.80	5,115.2	2,483.8	39.0	2,484.0	1.56	-0.94	-1.25
7,199.0	89.20	0.20	5,115.7	2,515.8	39.0	2,515.9	1.29	0.31	1.25
7,230.0	89.20	0.50	5,116.1	2,546.7	39.2	2,546.9	0.97	0.00	0.97
7,262.0	89.40	1.80	5,116.5	2,578.7	39.8	2,578.9	4.11	0.63	4.06
7,294.0	90.90	1.80	5,116.4	2,610.7	40.8	2,610.9	4.69	4.69	0.00
7,326.0	92.80	2.40	5,115.4	2,642.7	42.0	2,642.9	6.23	5.94	1.88
7,358.0	93.50	2.90	5,113.6	2,674.6	43.5	2,674.8	2.69	2.19	1.56
7,390.0	93.10	2.80	5,111.8	2,706.5	45.1	2,706.8	1.29	-1.25	-0.31
7,422.0	90.90	2.40	5,110.7	2,738.5	46.5	2,738.8	6.99	-6.88	-1.25
7,453.0	91.20	2.90	5,110.1	2,769.4	47.9	2,769.7	1.88	0.97	1.61
7,485.0	90.20	2.30	5,109.7	2,801.4	49.4	2,801.7	3.64	-3.13	-1.88
7,517.0	89.10	2.30	5,109.9	2,833.4	50.7	2,833.7	3.44	-3.44	0.00
7,549.0	89.50	2.30	5,110.3	2,865.3	52.0	2,865.7	1.25	1.25	0.00
7,581.0	90.00	2.10	5,110.4	2,897.3	53.2	2,897.7	1.68	1.56	-0.63
7,613.0	90.40	1.90	5,110.3	2,929.3	54.3	2,929.7	1.40	1.25	-0.63
7,645.0	91.30	2.30	5,109.8	2,961.3	55.5	2,961.7	3.08	2.81	1.25
7,740.0	88.50	1.30	5,110.0	3,056.2	58.5	3,056.7	3.13	-2.95	-1.05
7,772.0	88.10	0.70	5,111.0	3,088.2	59.0	3,088.7	2.25	-1.25	-1.88
7,836.0	89.80	2.10	5,112.1	3,152.1	60.6	3,152.7	3.44	2.66	2.19
7,868.0	90.50	2.50	5,112.0	3,184.1	61.9	3,184.7	2.52	2.19	1.25
7,932.0	91.10	2.50	5,111.2	3,248.0	64.7	3,248.6	0.94	0.94	0.00
7,964.0	90.90	2.30	5,110.6	3,280.0	66.0	3,280.6	0.88	-0.63	-0.63
8,027.0	89.80	1.70	5,110.2	3,343.0	68.2	3,343.6	1.99	-1.75	-0.95
8,059.0	89.00	1.00	5,110.5	3,375.0	69.0	3,375.6	3.32	-2.50	-2.19
8,123.0	89.10	1.20	5,111.6	3,438.9	70.2	3,439.6	0.35	0.16	0.31
8,219.0	90.20	2.50	5,112.2	3,534.9	73.3	3,535.6	1.77	1.15	1.35
8,314.0	90.70	2.20	5,111.4	3,629.8	77.2	3,630.6	0.61	0.53	-0.32
8,410.0	91.80	2.10	5,109.4	3,725.7	80.8	3,726.6	1.15	1.15	-0.10
8,505.0	92.50	1.60	5,105.8	3,820.6	83.8	3,821.5	0.91	0.74	-0.53
8,537.0	92.60	1.40	5,104.4	3,852.6	84.7	3,853.5	0.70	0.31	-0.63
8,601.0	92.20	2.10	5,101.7	3,916.5	86.6	3,917.4	1.26	-0.63	1.09
8,696.0	91.30	3.20	5,098.8	4,011.3	91.0	4,012.3	1.50	-0.95	1.16
8,792.0	90.00	3.40	5,097.7	4,107.2	96.6	4,108.3	1.37	-1.35	0.21
8,824.0	90.30	3.80	5,097.6	4,139.1	98.6	4,140.3	1.56	0.94	1.25
8,887.0	89.80	2.60	5,097.6	4,202.0	102.1	4,203.2	2.06	-0.79	-1.90
8,983.0	88.00	1.20	5,099.4	4,297.9	105.3	4,299.2	2.38	-1.88	-1.46
9,015.0	88.80	1.60	5,100.3	4,329.9	106.0	4,331.2	2.79	2.50	1.25
9,079.0	88.60	1.40	5,101.7	4,393.8	107.7	4,395.2	0.44	-0.31	-0.31
9,174.0	90.50	1.50	5,102.5	4,488.8	110.1	4,490.2	2.00	2.00	0.11
9,270.0	90.50	1.60	5,101.7	4,584.8	112.7	4,586.2	0.10	0.00	0.10
9,365.0	91.40	1.80	5,100.1	4,679.7	115.5	4,681.1	0.97	0.95	0.21
9,461.0	93.90	2.90	5,095.6	4,775.5	119.5	4,777.0	2.84	2.60	1.15
9,524.0	93.50	2.30	5,091.6	4,838.3	122.3	4,839.9	1.14	-0.63	-0.95
9,556.0	92.90	3.00	5,089.8	4,870.2	123.8	4,871.8	2.88	-1.88	2.19
9,588.0	91.80	3.60	5,088.5	4,902.2	125.6	4,903.8	3.91	-3.44	1.88
9,620.0	90.70	3.20	5,087.8	4,934.1	127.5	4,935.7	3.66	-3.44	-1.25
9,652.0	90.60	3.30	5,087.4	4,966.0	129.3	4,967.7	0.44	-0.31	0.31
9,748.0	91.00	3.70	5,086.1	5,061.9	135.2	5,063.7	0.59	0.42	0.42

Wolverine Directional, LLC

Survey Report

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Wellbore: Wellbore #1
Design: Wellbore #1

Local Co-ordinate Reference: Well Sean 1-18H
TVD Reference: WELL @ 0.0ft (Original Well Elev)
MD Reference: WELL @ 0.0ft (Original Well Elev)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
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)
9,810.0	91.20	3.70	5,084.9	5,123.7	139.2	5,125.6	0.32	0.32	0.00
Last MWD Survey									
9,857.3	91.20	3.70	5,083.9	5,170.9	142.3	5,172.9	0.00	0.00	0.00
Sean 1-18H PBHL									
9,860.0	91.20	3.70	5,083.8	5,173.6	142.4	5,175.5	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)	
947.0	947.0	-1.3	-2.1	First MWD Survey
9,810.0	5,084.9	5,123.7	139.2	Last MWD Survey
9,860.0	5,083.8	5,173.6	142.4	Proj to TD

Checked By: _____ Approved By: _____ Date: _____