

Sandridge Energy

Starks 3408 4-35H SL 250, 2030 FWL (Final)

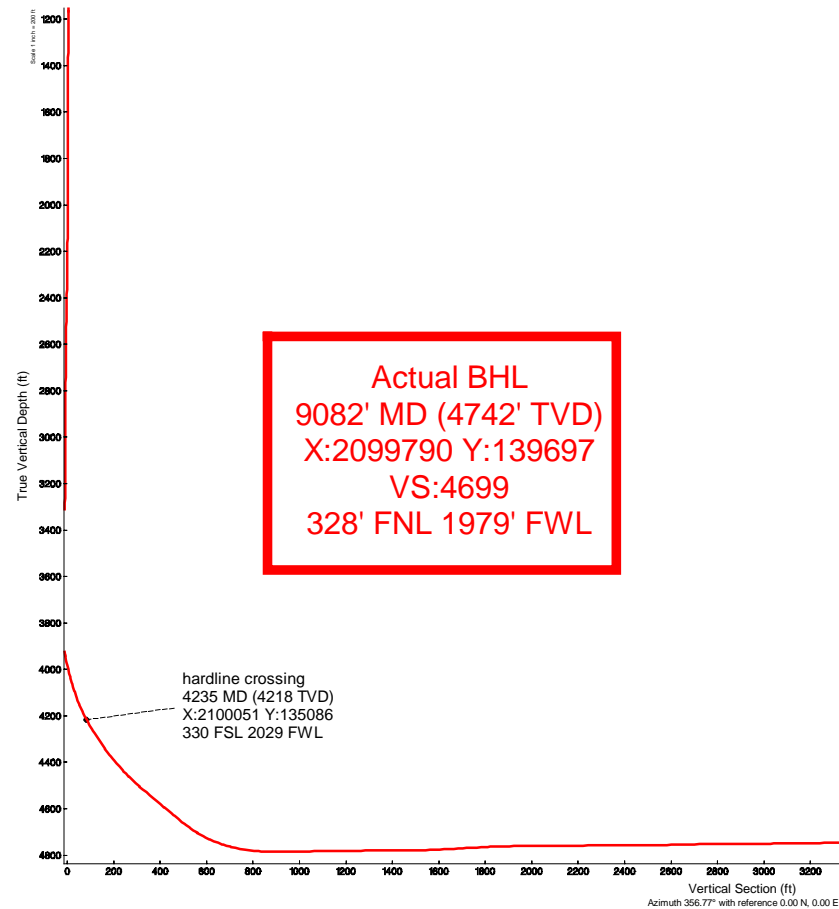
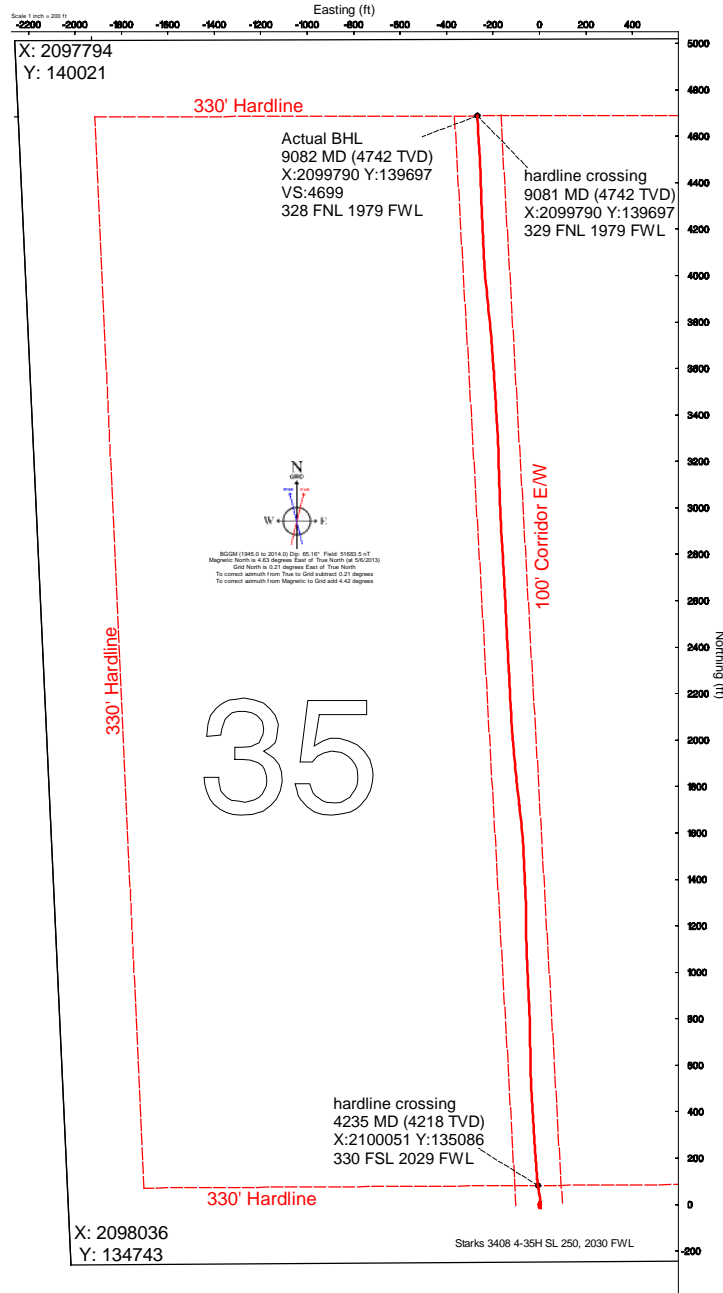
Starks 3408 4-35H SL 250, 2030 FWL

Harper County, Kansas (Sandridge Energy) NAD27 / Grid

Plot reference wellpath is Plan 1		Grid System: NAD27 / Lambert Kansas SP, Southern Zone (1502), US feet
True vertical depths are referenced to Latshaw 38 (KB)		North Reference: Grid north
Measured depths are referenced to Latshaw 38 (KB)		Scale: True distance
Latshaw 38 (KB) to Mean Sea Level: 1297 feet		Depths are in feet
Mean Sea Level to Mud line (At Slot: Starks 3408 4-35H SL 250, 2030 FWL): -1274 feet		Created by: broomari on 5/9/2013
Coordinates are in feet referenced to Slot		

Location Information

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Starks 3408 4-35H Sec. 35-34S-8W		2100056.000	135006.000	37°02'12.962"N	98°09'26.066"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Starks 3408 4-35H SL 250, 2030 FWL	0.00	0.00	2100056.000	135006.000	37°02'12.962"N	98°09'26.066"W
Latshaw 38 (KB) to Mud line (At Slot: Starks 3408 4-35H SL 250, 2030 FWL)			23ft			
Mean Sea Level to Mud line (At Slot: Starks 3408 4-35H SL 250, 2030 FWL)			-1274ft			
Latshaw 38 (KB) to Mean Sea Level			1297ft			





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REFERENCE WELLPATH IDENTIFICATION			
Operator	Sandridge Energy	Slot	Starks 3408 4-35H SL 250, 2030 FWL
Area	Kansas	Well	Subject
Field	Harper County, Kansas (Sandridge Energy) NAD27 / Grid	Wellbore	Starks 3408 4-35H SL 250, 2030 FWL Actual
Facility	Starks 3408 4-35H Sec. 35-34S-8W		

REPORT SETUP INFORMATION			
Projection System	NAD27 / Lambert Kansas SP, Southern Zone (1502), US feet		
North Reference	Grid	Software System	WellArchitect™ 3.0.0
Convergence at slot	0.21° East	User	Adammic
Scale	1.00005	Report Generated	11/Jun/2013 at 2:51:53 PM
Wellbore last revised	05-06-2013	Database/Source file	intokcapp01

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	0.00	0.00	2100056.00	135006.00	37°02'12.962"N	98°09'26.066"W
Facility Reference Pt			2100056.00	135006.00	37°02'12.962"N	98°09'26.066"W
Field Reference Pt			2132248.82	161602.28	37°06'34.560"N	98°02'47.460"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Latshaw 38 (KB) to Facility Vertical Datum	23.00ft
Horizontal Reference Pt	Slot	Latshaw 38 (KB) to Mean Sea Level	1297.00ft
Vertical Reference Pt	Latshaw 38 (KB)	Latshaw 38 (KB) to Mud Line at Slot (Starks 3408 4-35H SL 250, 2030 FWL)	23.00ft
MD Reference Pt	Latshaw 38 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	356.77°



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Facility	Starks 3408 4-35H Sec. 35-34S-8W		

WELLPATH DATA (96 stations) † = interpolated/extrapolated station										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	DLS [°/100ft]	Comments
0.00†	0.000	333.160	0.00	0.00	0.00	0.00	2100056.00	135006.00	0.00	
23.00	0.000	333.160	23.00	0.00	0.00	0.00	2100056.00	135006.00	0.00	
237.00	0.570	333.160	237.00	0.98	0.95	-0.48	2100055.52	135006.95	0.27	
519.00	0.630	333.160	518.98	3.68	3.58	-1.81	2100054.19	135009.58	0.02	
789.00	0.090	333.160	788.97	5.24	5.10	-2.58	2100053.42	135011.10	0.20	
857.00	0.670	333.160	856.97	5.65	5.50	-2.78	2100053.22	135011.50	0.85	
1015.00	1.170	132.060	1014.96	5.35	5.24	-2.00	2100054.00	135011.24	1.15	
1475.00	0.680	222.380	1474.92	0.10	0.08	-0.36	2100055.64	135006.08	0.29	
1951.00	0.310	48.400	1950.91	-1.07	-1.15	-1.30	2100054.70	135004.85	0.21	
2426.00	1.220	176.630	2425.88	-5.33	-5.34	-0.04	2100055.96	135000.65	0.30	
2900.00	0.030	310.400	2899.85	-10.29	-10.30	0.16	2100056.16	134995.70	0.26	
3374.00	1.200	138.400	3373.81	-14.10	-13.93	3.36	2100059.36	134992.07	0.26	
3818.00	0.290	138.820	3817.77	-18.63	-18.26	7.19	2100063.19	134987.74	0.20	
3848.00	0.470	35.110	3847.77	-18.60	-18.21	7.31	2100063.31	134987.79	2.03	
3880.00	3.030	0.610	3879.75	-17.65	-17.26	7.40	2100063.40	134988.74	8.30	
3911.00	6.420	358.530	3910.64	-15.10	-14.71	7.36	2100063.36	134991.29	10.95	
3943.00	9.380	358.150	3942.33	-10.70	-10.31	7.23	2100063.23	134995.69	9.25	
3974.00	11.730	357.210	3972.81	-5.02	-4.64	7.00	2100063.00	135001.36	7.60	
4006.00	13.610	356.320	4004.03	1.99	2.37	6.60	2100062.60	135008.37	5.91	
4037.00	15.650	353.520	4034.02	9.82	10.16	5.89	2100061.89	135016.17	6.96	
4069.00	16.670	352.000	4064.76	18.70	19.00	4.76	2100060.76	135025.00	3.45	
4101.00	18.100	351.430	4095.29	28.22	28.46	3.38	2100059.38	135034.46	4.50	
4132.00	19.820	351.140	4124.61	38.25	38.41	1.86	2100057.86	135044.42	5.56	
4164.00	22.140	350.950	4154.49	49.65	49.73	0.07	2100056.07	135055.73	7.25	
4195.00	25.480	350.970	4182.84	62.10	62.09	-1.89	2100054.11	135068.09	10.77	
4227.00	28.150	351.520	4211.40	76.46	76.36	-4.09	2100051.91	135082.36	8.38	
4235.00†	28.793	351.944	4218.43	80.26	80.13	-4.64	2100051.36	135086.13	8.43	hardline crossing 4235 MD (4218 TVD) X:2100051 Y:135086 330 FSL 2029 FWL
4259.00	30.730	353.120	4239.27	92.14	91.94	-6.18	2100049.82	135097.95	8.43	
4290.00	32.210	354.160	4265.71	108.30	108.02	-7.97	2100048.03	135114.03	5.09	
4322.00	33.080	354.880	4292.65	125.55	125.21	-9.62	2100046.38	135131.21	2.98	
4353.00	34.320	355.970	4318.44	142.75	142.35	-10.99	2100045.01	135148.36	4.45	
4385.00	36.050	356.320	4344.59	161.18	160.75	-12.22	2100043.77	135166.76	5.44	
4416.00	37.580	356.160	4369.41	179.76	179.28	-13.44	2100042.56	135185.29	4.95	
4447.00	39.700	355.690	4393.62	199.11	198.59	-14.82	2100041.18	135204.60	6.90	
4479.00	41.580	355.590	4417.91	219.95	219.37	-16.41	2100039.59	135225.38	5.88	
4510.00	43.330	355.920	4440.78	240.87	240.24	-17.95	2100038.05	135246.25	5.69	
4542.00	45.370	356.110	4463.66	263.24	262.55	-19.51	2100036.49	135268.57	6.39	
4574.00	46.960	356.560	4485.82	286.32	285.59	-20.98	2100035.02	135291.60	5.07	
4606.00	48.210	356.380	4507.40	309.94	309.17	-22.44	2100033.56	135315.18	3.93	
4651.00	50.180	357.060	4536.81	344.00	343.17	-24.38	2100031.62	135349.19	4.52	
4701.00	50.210	356.550	4568.82	382.41	381.52	-26.52	2100029.48	135387.54	0.79	
4746.00	50.230	356.390	4597.61	416.99	416.04	-28.65	2100027.35	135422.06	0.28	
4796.00	50.540	356.610	4629.49	455.51	454.49	-31.00	2100025.00	135460.51	0.71	
4860.00	51.930	357.260	4669.56	505.41	504.31	-33.67	2100022.33	135510.34	2.31	
4891.00	54.710	357.750	4688.08	530.27	529.15	-34.75	2100021.25	135535.18	9.06	



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Area	Kansas	Well	Subject
Field	Harper County, Kansas (Sandridge Energy) NAD27 / Grid	Wellbore	Starks 3408 4-35H SL 250, 2030 FWL Actual
Facility	Starks 3408 4-35H Sec. 35-34S-8W		

WELLPATH DATA (96 stations)										
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	DLS [°/100ft]	Comments
4922.00	58.240	358.060	4705.20	556.10	554.97	-35.69	2100020.31	135561.00	11.42	
4955.00	62.240	358.640	4721.57	584.73	583.60	-36.51	2100019.48	135589.63	12.22	
4986.00	65.430	358.770	4735.24	612.54	611.41	-37.14	2100018.86	135617.45	10.30	
5049.00	72.450	359.030	4757.87	671.25	670.16	-38.27	2100017.73	135676.19	11.15	
5080.00	75.940	359.210	4766.31	701.05	699.98	-38.72	2100017.27	135706.01	11.27	
5144.00	81.280	358.780	4778.94	763.72	762.69	-39.83	2100016.17	135768.72	8.37	
5214.00	86.610	357.980	4786.33	833.27	832.24	-41.80	2100014.20	135838.28	7.70	
5273.00	90.490	356.530	4787.82	892.24	891.14	-44.62	2100011.38	135897.19	7.02	
5365.00	90.990	357.660	4786.63	984.23	983.01	-49.28	2100006.71	135989.06	1.34	
5456.00	90.250	357.580	4785.65	1075.21	1073.93	-53.06	2100002.94	136079.98	0.82	
5549.00	90.620	358.910	4784.94	1168.18	1166.88	-55.91	2100000.09	136172.94	1.48	
5641.00	91.320	359.850	4783.38	1260.07	1258.86	-56.91	2099999.09	136264.93	1.27	
5733.00	90.340	357.150	4782.05	1352.01	1350.81	-59.31	2099996.68	136356.88	3.12	
5825.00	89.780	357.790	4781.95	1444.00	1442.72	-63.37	2099992.62	136448.79	0.92	
5917.00	92.030	356.510	4780.50	1535.98	1534.59	-67.95	2099988.05	136540.67	2.81	
6008.00	92.900	354.150	4776.58	1626.86	1625.19	-75.35	2099980.65	136631.28	2.76	
6100.00	93.050	353.700	4771.81	1718.62	1716.55	-85.07	2099970.92	136722.64	0.51	
6192.00	93.120	353.600	4766.86	1810.35	1807.86	-95.23	2099960.76	136813.95	0.13	
6284.00	90.740	355.110	4763.76	1902.21	1899.35	-104.28	2099951.72	136905.45	3.06	
6377.00	90.370	354.880	4762.86	1995.16	1991.99	-112.39	2099943.61	136998.09	0.47	
6469.00	89.600	356.770	4762.88	2087.14	2083.74	-119.09	2099936.91	137089.85	2.22	
6562.00	91.390	357.150	4762.08	2180.13	2176.60	-124.02	2099931.98	137182.71	1.97	
6654.00	90.900	356.770	4760.24	2272.11	2268.45	-128.90	2099927.10	137274.57	0.67	
6749.00	90.340	357.160	4759.21	2367.11	2363.32	-133.93	2099922.07	137369.44	0.72	
6843.00	89.660	356.870	4759.21	2461.11	2457.19	-138.82	2099917.17	137463.31	0.79	
6938.00	91.040	357.510	4758.63	2556.10	2552.07	-143.48	2099912.52	137558.20	1.60	
7033.00	91.230	356.630	4756.75	2651.08	2646.92	-148.33	2099907.66	137653.06	0.95	
7127.00	91.020	357.130	4754.91	2745.06	2740.77	-153.45	2099902.54	137746.91	0.58	
7222.00	90.490	356.400	4753.65	2840.05	2835.61	-158.81	2099897.18	137841.75	0.95	
7316.00	89.720	356.670	4753.48	2934.05	2929.43	-164.49	2099891.50	137935.58	0.87	
7411.00	91.260	358.100	4752.67	3029.03	3024.33	-168.82	2099887.17	138030.48	2.21	
7505.00	90.800	357.840	4750.98	3123.00	3118.25	-172.15	2099883.84	138124.41	0.56	
7600.00	90.280	359.060	4750.08	3217.95	3213.21	-174.72	2099881.27	138219.37	1.40	
7694.00	91.020	356.860	4749.02	3311.92	3307.14	-178.07	2099877.92	138313.31	2.47	
7788.00	92.160	356.150	4746.41	3405.88	3400.92	-183.80	2099872.20	138407.10	1.43	
7883.00	93.270	357.020	4741.91	3500.77	3495.65	-189.45	2099866.54	138501.83	1.48	
7978.00	90.830	355.570	4738.51	3595.69	3590.38	-195.58	2099860.41	138596.56	2.99	
8073.00	90.180	355.930	4737.67	3690.67	3685.11	-202.62	2099853.37	138691.30	0.78	
8167.00	88.800	354.370	4738.51	3784.63	3778.77	-210.57	2099845.42	138784.96	2.22	
8262.00	88.280	354.260	4740.93	3879.51	3873.27	-219.98	2099836.01	138879.47	0.56	
8357.00	88.550	354.570	4743.56	3974.39	3967.78	-229.22	2099826.77	138973.98	0.43	
8452.00	88.280	356.520	4746.19	4069.33	4062.45	-236.60	2099819.39	139068.66	2.07	
8546.00	90.860	357.360	4746.89	4163.32	4156.31	-241.61	2099814.38	139162.52	2.89	
8641.00	90.090	357.720	4746.11	4258.31	4251.22	-245.69	2099810.30	139257.43	0.89	
8736.00	90.770	357.790	4745.39	4353.29	4346.14	-249.41	2099806.58	139352.36	0.72	



Actual Wellpath Report

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Area	Kansas	Well	Subject
Field	Harper County, Kansas (Sandridge Energy) NAD27 / Grid	Wellbore	Starks 3408 4-35H SL 250, 2030 FWL Actual
Facility	Starks 3408 4-35H Sec. 35-34S-8W		

WELLPATH DATA (96 stations) † = interpolated/extrapolated station										
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8831.00	92.160	357.840	4742.96	4448.24	4441.04	-253.03	2099802.96	139447.26	1.46	
8925.00	89.540	356.640	4741.57	4542.22	4534.91	-257.56	2099798.43	139541.14	3.07	
9020.00	89.850	356.980	4742.07	4637.21	4629.76	-262.84	2099793.14	139636.00	0.48	
9033.00	90.090	356.640	4742.08	4650.21	4642.74	-263.57	2099792.42	139648.98	3.20	
9081.00†	90.090	356.640	4742.01	4698.21	4690.66	-266.38	2099789.61	139696.90	0.00	hardline crossing 9081 MD (4742 TVD) X:2099790 Y:139697 329 FNL 1979 FWL
9082.00	90.090	356.640	4742.00	4699.21	4691.66	-266.44	2099789.55	139697.90	0.00	Actual BHL 9082 MD (4742 TVD) X:2099790 Y:139697 VS:4699 328 FNL 1979 FWL

TARGETS									
Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
PBHL 330' FNL, 1980 FWL		4734.40	4690.76	-264.99	2099791.00	139697.00	37°02'59.351"N	98°09'29.122"W	point

WELLPATH COMPOSITION - Ref Wellbore: Starks 3408 4-35H SL 250, 2030 FWL Actual Ref Wellpath: AWP (Final)				
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
23.00	3374.00	EMS (Standard)	RIG Surveys	Starks 3408 4-35H SL 250, 2030 FWL Actual
3374.00	9033.00	NaviTrak (Standard)	Inteq MWD	Starks 3408 4-35H SL 250, 2030 FWL Actual
9033.00	9082.00	Blind Drilling (std)	Projection to bit	Starks 3408 4-35H SL 250, 2030 FWL Actual