



Project: Heather Prospect (NAD 27)  
 Site: Mills-Wetzel Pad 3  
 Well: Mills-Wetzel 16H  
 Wellbore: OH  
 Design: As Drilled



WELL DETAILS: Mills-Wetzel 16H

+N/-S	+E/-W	Ground Level	1291.00
0.00	0.00	Northing	370004.38
		Easting	1669041.12
		Longitude	80° 40' 22.931" W
		Slot	MW3#16H

ANNOTATIONS

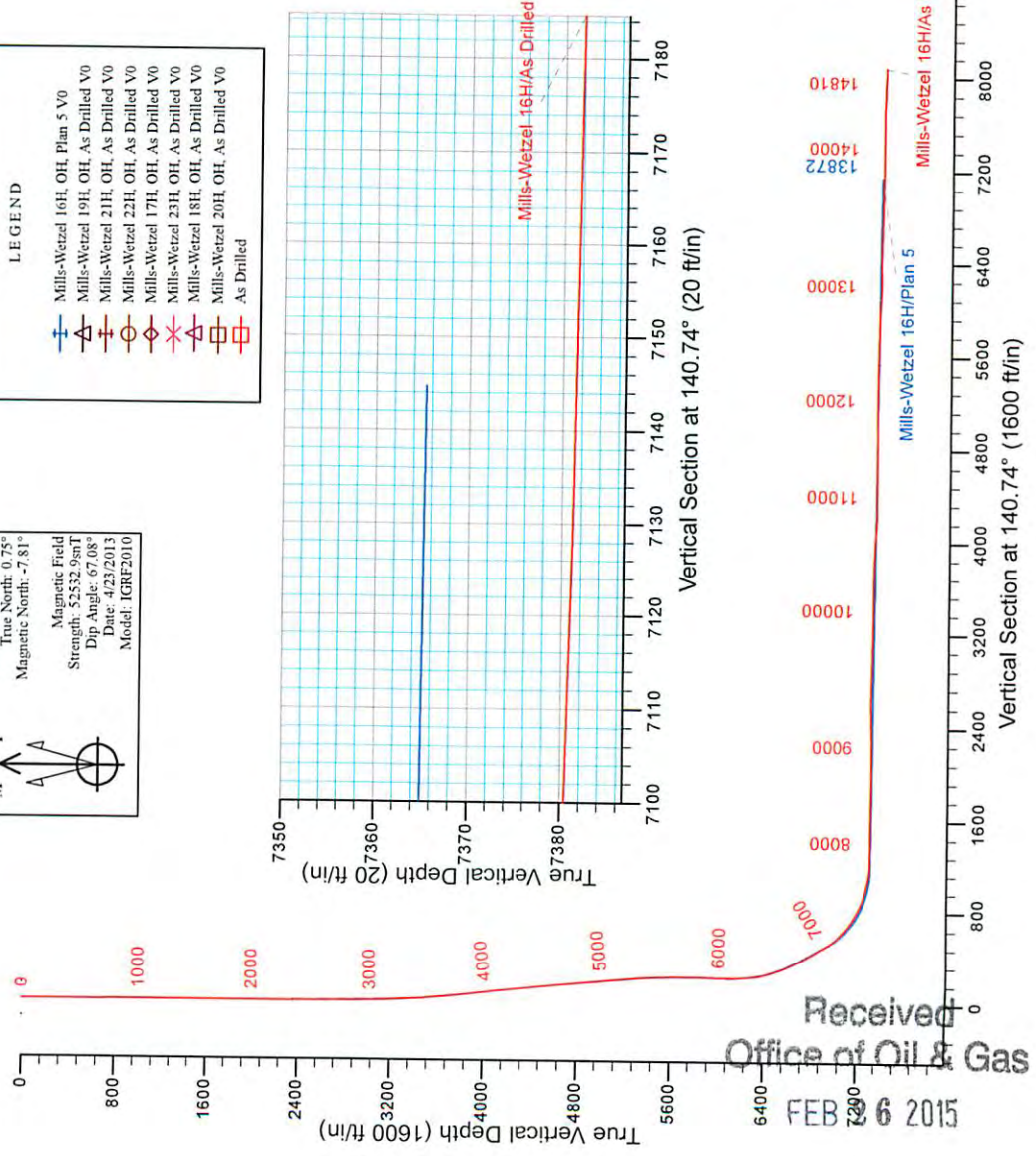
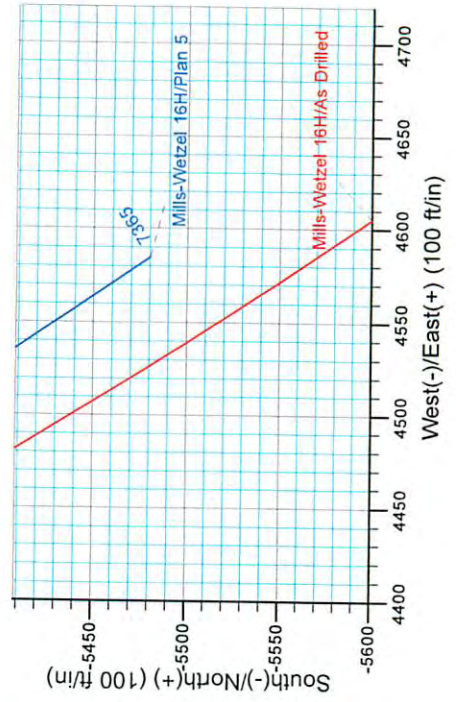
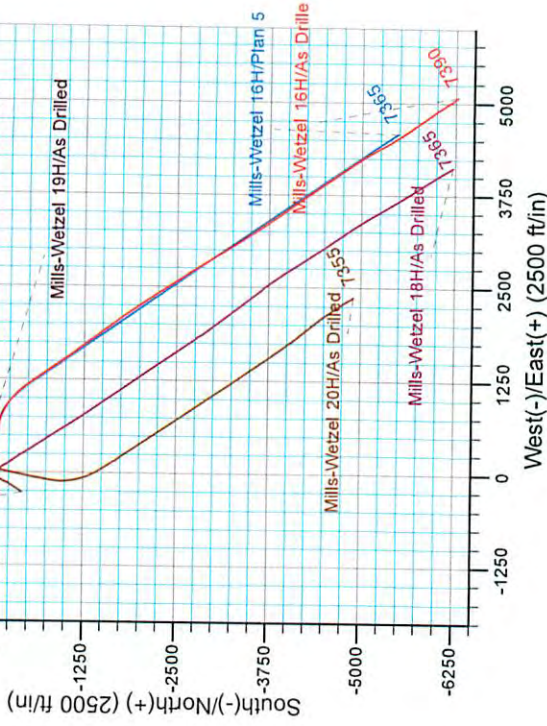
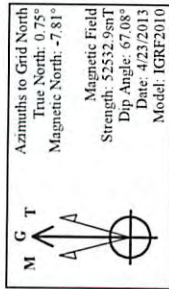
TVD	MD	Inc	Azi	+N/-S	+E/-W	VSection	Departure	Annotation
103.00	103.00	0.09	83.27	0.01	0.08	0.04	0.08	First SDI Gyro Survey
2802.86	2803.00	0.93	75.89	1.69	18.05	10.11	19.66	Last SDI Gyro Survey
2821.61	2821.76	1.26	90.97	1.73	18.40	10.31	20.02	First SDI MWD Survey
7388.88	7389.00	89.26	145.54	6228.35	5039.90	8011.96	8261.08	Last SDI MWD Survey
7389.73	7389.86	89.26	145.54	6281.94	5076.68	8076.72	8326.07	Projection to Bit

PROJECT DETAILS: Heather Prospect (NAD 27)

Geodetic System: US State Plane 1927 (Exact solution)  
 Datum: NAD 1927 (NADCON CONUS)  
 Ellipsoid: Clarke 1866  
 Zone: West Virginia North 4701  
 System Datum: Mean Sea Level

REFERENCE INFORMATION

Coordinate (N/E) Reference: Well Mills-Wetzel 16H - Slo MW3#16H, Grid North  
 Vertical (TVD) Reference: GI 1291' @ KB 18' @ 1309.00ft (Saxon 141)  
 Section (VS) Reference: Slo - MW3#16H @ 0.00N, 0.00E  
 Measured Depth Reference: GI 1291' @ KB 18' @ 1309.00ft (Saxon 141)  
 Calculation Method: Minimum Curvature



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## Stone Energy

Heather Prospect (NAD 27)

Mills-Wetzel Pad 3

Mills-Wetzel 16H - Slot MW3#16H

OH

Design: As Drilled

## Standard Survey Report

06 June, 2013



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Survey Report



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills-Wetzel 16H - Slot MW3#16H
<b>Project:</b>	Heather Prospect (NAD 27)	<b>TVD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Site:</b>	Mills-Wetzel Pad 3	<b>MD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Well:</b>	Mills-Wetzel 16H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Northeast District

<b>Project</b>	Heather Prospect (NAD 27), Wetzel County, West Virginia		
<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>	West Virginia North 4701		

<b>Site</b>	Mills-Wetzel Pad 3				
<b>Site Position:</b>		<b>Northing:</b>	370,004.38 usft	<b>Latitude:</b>	39° 30' 35.809 N
<b>From:</b>	Map	<b>Easting:</b>	1,669,041.12 usft	<b>Longitude:</b>	80° 40' 22.931 W
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	-0.75 °

<b>Well</b>	Mills-Wetzel 16H - Slot MW3#16H					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	370,004.38 usft	<b>Latitude:</b>	39° 30' 35.809 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	1,669,041.12 usft	<b>Longitude:</b>	80° 40' 22.931 W
<b>Position Uncertainty</b>		0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	1,291.00 ft

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	4/23/2013	-8.55	67.08	52.533

<b>Design</b>	As Drilled				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>	
	0.00	0.00	0.00	140.74	

<b>Survey Program</b>	<b>Date</b>	6/6/2013			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
103.00	2,803.00	SDI Keeper Gyro (OH)	SDI Standard Keeper 103	SDI Standard Wireline Keeper ver 1.0.3	
2,821.76	7,208.00	SDI MWD (OH)	MWD SDI	MWD - Standard ver 1.0.1	
7,239.00	14,810.00	Survey 3 - Lateral (OH)	MWD SDI	MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Vertical Section (ft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
103.00	0.09	83.27	103.00	0.01	0.08	0.04	0.09	0.09	0.00	
<b>First SDI Gyro Survey</b>										
203.00	0.07	100.10	203.00	0.01	0.22	0.13	0.03	-0.02	16.83	
303.00	0.21	82.48	303.00	0.02	0.46	0.27	0.14	0.14	-17.62	
403.00	0.20	99.68	403.00	0.02	0.81	0.50	0.06	-0.01	17.20	
503.00	0.06	35.70	503.00	0.03	1.02	0.62	0.18			
603.00	0.09	113.71	603.00	0.04	1.12	0.68	0.10			
703.00	0.13	129.27	703.00	-0.06	1.28	0.86	0.05	0.04	15.56	

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Survey Report



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills-Wetzel 16H - Slot MW3#16H
<b>Project:</b>	Heather Prospect (NAD 27)	<b>TVD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Site:</b>	Mills-Wetzel Pad 3	<b>MD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Well:</b>	Mills-Wetzel 16H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Northeast District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
803.00	0.21	141.42	803.00	-0.28	1.48	1.15	0.09	0.08	12.15
903.00	0.15	102.83	902.99	-0.45	1.72	1.44	0.13	-0.06	-38.59
1,003.00	0.52	99.96	1,002.99	-0.56	2.30	1.89	0.37	0.37	-2.87
1,103.00	0.07	29.46	1,102.99	-0.58	2.77	2.21	0.50	-0.45	-70.50
1,203.00	0.02	3.18	1,202.99	-0.51	2.81	2.17	0.05	-0.05	-26.28
1,303.00	0.12	65.21	1,302.99	-0.45	2.90	2.19	0.11	0.10	62.03
1,403.00	0.20	63.52	1,402.99	-0.33	3.15	2.25	0.08	0.08	-1.69
1,503.00	0.32	15.36	1,502.99	0.02	3.38	2.13	0.24	0.12	-48.16
1,603.00	0.25	73.61	1,602.99	0.35	3.67	2.05	0.28	-0.07	58.25
1,703.00	0.36	118.02	1,702.99	0.26	4.15	2.43	0.25	0.11	44.41
1,803.00	0.30	134.99	1,802.99	-0.07	4.62	2.98	0.11	-0.06	16.97
1,903.00	0.29	126.05	1,902.98	-0.40	5.01	3.48	0.05	-0.01	-8.94
2,003.00	0.13	85.05	2,002.98	-0.54	5.32	3.79	0.21	-0.16	-41.00
2,103.00	0.22	19.76	2,102.98	-0.35	5.50	3.75	0.20	0.09	-65.29
2,203.00	0.67	71.47	2,202.98	0.01	6.12	3.86	0.56	0.45	51.71
2,303.00	1.32	79.38	2,302.97	0.41	7.81	4.62	0.66	0.65	7.91
2,403.00	1.41	81.09	2,402.94	0.81	10.15	5.80	0.10	0.09	1.71
2,503.00	1.44	83.87	2,502.91	1.14	12.62	7.10	0.08	0.03	2.78
2,603.00	0.97	84.45	2,602.88	1.35	14.71	8.26	0.47	-0.47	0.58
2,703.00	0.98	88.00	2,702.87	1.47	16.41	9.25	0.06	0.01	3.55
2,803.00	0.93	75.89	2,802.86	1.69	18.05	10.11	0.21	-0.05	-12.11
<b>Last SDI Gyro Survey</b>									
2,821.76	1.26	90.97	2,821.61	1.73	18.40	10.31	2.32	1.76	80.37
<b>First SDI MWD Survey</b>									
2,832.00	0.89	83.24	2,831.85	1.74	18.59	10.42	3.87	-3.61	-75.49
2,925.00	1.86	93.37	2,924.82	1.73	20.82	11.83	1.07	1.04	10.89
3,016.00	2.05	91.42	3,015.77	1.60	23.92	13.89	0.22	0.21	-2.14
3,108.00	1.93	83.34	3,107.72	1.74	27.10	15.80	0.33	-0.13	-8.78
3,231.00	2.66	97.87	3,230.62	1.59	31.99	19.01	0.75	0.59	11.81
3,323.00	3.53	108.75	3,322.48	0.39	36.79	22.98	1.14	0.95	11.83
3,418.00	5.02	112.45	3,417.22	-2.14	43.40	29.12	1.59	1.57	3.89
3,511.00	6.43	111.27	3,509.75	-5.58	52.01	37.23	1.52	1.52	-1.27
3,606.00	6.46	106.05	3,604.15	-8.99	62.10	46.26	0.62	0.03	-5.49
3,698.00	7.34	103.29	3,695.48	-11.77	72.80	55.18	1.02	0.96	-3.00
3,795.00	8.53	105.98	3,791.55	-15.17	85.74	66.01	1.28	1.23	2.77
3,886.01	8.85	103.30	3,881.52	-18.64	99.05	77.11	0.57	0.35	-2.94
3,979.01	8.91	99.69	3,973.41	-21.50	113.11	88.22	0.60	0.06	-3.88
4,072.01	8.99	96.87	4,065.27	-23.58	127.42	98.89	0.48	0.09	-3.03
4,259.01	7.64	97.36	4,250.30	-26.92	154.26	118.46	0.72	-0.72	0.26
4,447.01	7.73	102.81	4,436.62	-31.33	178.98	137.52	0.39	0.05	2.90
4,538.01	7.40	100.65	4,526.83	-33.77	190.71	146.83	0.48	-0.36	-2.87
4,632.01	7.28	99.17	4,620.06	-35.84	202.53	155.91	0.24	-0.13	-1.57
4,724.01	7.04	97.06	4,711.34	-37.46	213.88	164.35	0.39	-0.26	2.29
4,815.01	6.72	94.84	4,801.68	-38.59	224.72	172.09	0.46	-0.35	-2.44

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Survey Report



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills-Wetzel 16H - Slot MW3#16H
<b>Project:</b>	Heather Prospect (NAD 27)	<b>TVD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Site:</b>	Mills-Wetzel Pad 3	<b>MD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Well:</b>	Mills-Wetzel 16H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Northeast District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,908.01	7.15	102.77	4,894.00	-40.33	235.79	180.44	1.13	0.46	8.53
5,006.01	7.19	103.37	4,991.24	-43.10	247.71	190.12	0.09	0.04	0.61
5,099.01	7.45	103.51	5,083.48	-45.85	259.23	199.55	0.28	0.28	0.15
5,189.01	6.01	104.60	5,172.86	-48.40	269.46	208.00	1.61	-1.60	1.21
5,281.01	4.86	108.49	5,264.44	-50.85	277.82	215.18	1.31	-1.25	4.23
5,376.01	4.71	113.20	5,359.11	-53.66	285.22	222.04	0.44	-0.16	4.96
5,469.01	3.79	114.84	5,451.86	-56.46	291.52	228.19	1.00	-0.99	1.76
5,561.01	2.40	105.08	5,543.72	-58.24	296.14	232.49	1.61	-1.51	-10.61
5,651.01	1.17	74.70	5,633.68	-58.49	298.85	234.40	1.68	-1.37	-33.76
5,744.01	0.99	2.19	5,726.66	-57.43	299.79	234.18	1.38	-0.19	-77.97
5,838.01	1.24	352.11	5,820.65	-55.61	299.68	232.71	0.34	0.27	-10.72
5,929.01	1.14	342.67	5,911.63	-53.77	299.28	231.02	0.24	-0.11	-10.37
6,020.01	1.18	333.82	6,002.61	-52.07	298.60	229.27	0.20	0.04	-9.73
6,052.01	1.19	337.41	6,034.60	-51.47	298.32	228.63	0.23	0.03	11.22
6,098.00	1.11	335.93	6,080.58	-50.62	297.96	227.75	0.19	-0.17	-3.22
6,130.00	1.10	30.28	6,112.58	-50.07	297.99	227.34	3.15	-0.03	169.84
6,162.00	2.16	63.98	6,144.56	-49.54	298.68	227.37	4.33	3.31	105.31
6,193.00	3.73	77.11	6,175.52	-49.06	300.19	227.95	5.48	5.06	42.35
6,225.00	5.58	82.57	6,207.41	-48.63	302.75	229.23	5.94	5.78	17.06
6,257.00	7.36	86.53	6,239.21	-48.30	306.34	231.25	5.73	5.56	12.38
6,289.00	9.03	89.76	6,270.88	-48.17	310.90	234.03	5.41	5.22	10.09
6,321.00	10.42	91.87	6,302.42	-48.25	316.30	237.52	4.48	4.34	6.59
6,352.00	12.25	95.66	6,332.82	-48.67	322.37	241.68	6.37	5.90	12.23
6,384.00	14.07	100.97	6,363.98	-49.74	329.57	247.07	6.82	5.69	16.59
6,416.00	16.29	104.15	6,394.86	-51.58	337.74	253.67	7.41	6.94	9.94
6,448.00	17.66	103.45	6,425.46	-53.81	346.82	261.13	4.33	4.28	-2.19
6,480.00	19.84	102.64	6,455.76	-56.12	356.84	269.27	6.86	6.81	-2.53
6,511.00	21.81	101.98	6,484.74	-58.47	367.61	277.90	6.40	6.35	-2.13
6,543.00	23.56	101.83	6,514.26	-61.02	379.68	287.51	5.47	5.47	-0.47
6,575.00	25.43	101.29	6,543.38	-63.67	392.68	297.79	5.89	5.84	-1.69
6,607.00	27.07	100.40	6,572.08	-66.33	406.58	308.65	5.27	5.13	-2.78
6,639.00	28.60	99.49	6,600.37	-68.91	421.30	319.96	4.96	4.78	-2.84
6,671.00	31.29	98.73	6,628.10	-71.43	437.07	331.89	8.49	8.41	-2.38
6,702.00	34.38	98.95	6,654.14	-74.02	453.67	344.40	9.98	9.97	0.71
6,734.00	36.31	99.93	6,680.24	-77.06	471.93	358.31	6.29	6.03	3.06
6,766.00	36.26	99.99	6,706.04	-80.33	490.59	372.65	0.19	-0.16	0.19
6,798.00	35.83	99.97	6,731.91	-83.60	509.13	386.91	1.34	-1.34	-0.06
6,827.00	35.29	100.06	6,755.50	-86.53	525.74	399.69	1.87	-1.86	0.31
6,859.00	35.03	99.91	6,781.67	-89.72	543.89	413.65	0.86	-0.81	0.17
6,890.00	35.79	99.56	6,806.93	-92.76	561.59	427.20	2.54	2.45	-1.13
6,922.00	37.21	100.20	6,832.65	-96.03	580.34	441.60	4.59	4.44	2.00
6,954.00	37.21	100.32	6,858.14	-99.47	599.38	456.32	0.23	0.00	3.32
6,986.00	37.58	100.11	6,883.56	-102.92	618.51	471.09	1.22	1.16	-0.66

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Survey Report



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<b>Well:</b>	Mills-Wetzel 16H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Northeast District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,018.00	37.72	100.01	6,908.90	-106.34	637.75	485.91	0.48	0.44	-0.31
7,049.00	38.50	100.73	6,933.29	-109.78	656.57	500.49	2.90	2.52	2.32
7,081.00	40.07	103.98	6,958.06	-114.12	676.36	516.37	8.09	4.91	10.16
7,112.00	41.59	106.59	6,981.52	-119.47	695.90	532.88	7.37	4.90	8.42
7,144.00	43.30	109.33	7,005.13	-126.14	716.44	551.04	7.87	5.34	8.56
7,176.00	45.40	111.06	7,028.02	-133.87	737.43	570.30	7.57	6.56	5.41
7,208.00	47.34	113.20	7,050.10	-142.60	758.88	590.64	7.76	6.06	6.69
7,239.00	49.56	114.47	7,070.66	-151.97	780.10	611.33	7.79	7.16	4.10
7,271.00	51.79	115.77	7,090.93	-162.49	802.50	633.65	7.64	6.97	4.06
7,302.00	54.10	117.76	7,109.61	-173.63	824.59	656.25	9.04	7.45	6.42
7,334.00	56.01	119.78	7,127.94	-186.26	847.57	680.57	7.90	5.97	6.31
7,366.00	57.14	121.82	7,145.57	-199.93	870.51	705.68	6.39	3.53	6.38
7,398.00	58.06	123.11	7,162.72	-214.44	893.30	731.33	4.46	2.88	4.03
7,429.00	59.94	124.87	7,178.69	-229.30	915.33	756.78	7.78	6.06	5.68
7,460.00	61.81	126.53	7,193.77	-245.10	937.32	782.93	7.63	6.03	5.35
7,492.00	64.25	127.91	7,208.29	-262.35	960.03	810.65	8.54	7.63	4.31
7,523.00	65.47	129.61	7,221.46	-279.92	981.91	838.10	6.33	3.94	5.48
7,555.00	66.93	130.91	7,234.37	-298.84	1,004.25	866.89	5.88	4.56	4.06
7,587.00	69.27	132.58	7,246.31	-318.61	1,026.39	896.22	8.77	7.31	5.22
7,619.00	71.00	134.34	7,257.18	-339.31	1,048.24	926.07	7.48	5.41	5.50
7,651.00	73.72	135.88	7,266.88	-360.92	1,069.75	956.41	9.66	8.50	4.81
7,682.00	76.10	137.04	7,274.95	-382.61	1,090.37	986.26	8.48	7.68	3.74
7,714.00	77.42	138.60	7,282.28	-405.70	1,111.28	1,017.36	6.29	4.13	4.88
7,745.00	78.41	140.67	7,288.77	-428.79	1,130.91	1,047.67	7.27	3.19	6.68
7,777.00	79.41	142.24	7,294.92	-453.35	1,150.48	1,079.07	5.74	3.13	4.91
7,809.00	81.99	143.45	7,300.09	-478.52	1,169.55	1,110.62	8.88	8.06	3.78
7,840.00	84.59	144.53	7,303.72	-503.42	1,187.65	1,141.36	9.07	8.39	3.48
7,872.00	86.27	145.39	7,306.26	-529.54	1,205.96	1,173.17	5.89	5.25	2.69
7,904.00	87.72	145.92	7,307.94	-555.92	1,223.99	1,205.01	4.82	4.53	1.66
7,935.00	88.73	146.29	7,308.90	-581.64	1,241.27	1,235.85	3.47	3.26	1.19
7,998.00	89.80	146.59	7,309.71	-634.13	1,276.09	1,298.54	1.76	1.70	0.48
8,062.00	89.70	146.22	7,309.99	-687.44	1,311.50	1,362.22	0.60	-0.16	-0.58
8,125.00	89.60	145.99	7,310.37	-739.74	1,346.64	1,424.95	0.40	-0.16	-0.37
8,187.00	90.03	145.66	7,310.57	-791.03	1,381.46	1,486.70	0.87	0.69	-0.53
8,247.00	90.17	145.27	7,310.47	-840.46	1,415.48	1,546.50	0.69	0.23	-0.65
8,307.00	89.87	144.30	7,310.45	-889.47	1,450.08	1,606.35	1.69	-0.50	-1.62
8,367.00	90.00	144.95	7,310.52	-938.40	1,484.81	1,666.21	1.10	0.22	1.08
8,428.00	89.53	145.16	7,310.77	-988.40	1,519.75	1,727.04	0.84	-0.77	0.34
8,490.00	89.80	143.80	7,311.13	-1,038.86	1,555.77	1,788.90	2.24	0.44	-2.19
8,551.00	89.66	143.89	7,311.42	-1,088.11	1,591.76	1,849.81	0.27	-0.23	0.15
8,612.00	88.79	144.00	7,312.24	-1,137.42	1,627.66	1,910.71	1.44	-1.43	0.18
8,673.00	89.63	143.42	7,313.08	-1,186.58	1,663.76	1,971.62	1.67	1.88	0.95
8,734.00	90.24	142.96	7,313.15	-1,235.42	1,700.31	2,032.57	1.25	1.00	0.75

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Survey Report



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills-Wetzel 16H - Slot MW3#16H
<b>Project:</b>	Heather Prospect (NAD 27)	<b>TVD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Site:</b>	Mills-Wetzel Pad 3	<b>MD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Well:</b>	Mills-Wetzel 16H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Northeast District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,795.00	90.17	142.89	7,312.93	-1,284.09	1,737.08	2,093.52	0.16	-0.11	-0.11
8,855.00	90.47	143.05	7,312.60	-1,331.99	1,773.21	2,153.48	0.57	0.50	0.27
8,916.00	89.73	144.80	7,312.49	-1,381.29	1,809.13	2,214.38	3.11	-1.21	2.87
8,977.00	90.27	144.19	7,312.49	-1,430.95	1,844.56	2,275.25	1.34	0.89	-1.00
9,038.00	90.94	144.06	7,311.85	-1,480.37	1,880.30	2,336.14	1.12	1.10	-0.21
9,101.00	90.94	145.93	7,310.82	-1,531.97	1,916.44	2,398.95	2.97	0.00	2.97
9,165.00	90.91	145.73	7,309.78	-1,584.91	1,952.38	2,462.69	0.32	-0.05	-0.31
9,228.00	90.91	145.16	7,308.78	-1,636.79	1,988.11	2,525.47	0.90	0.00	-0.90
9,291.00	90.64	145.19	7,307.93	-1,688.50	2,024.08	2,588.28	0.43	-0.43	0.05
9,355.00	88.96	144.61	7,308.15	-1,740.86	2,060.88	2,652.11	2.78	-2.63	-0.91
9,419.00	88.15	145.36	7,309.77	-1,793.26	2,097.59	2,715.91	1.72	-1.27	1.17
9,482.00	88.39	144.72	7,311.67	-1,844.87	2,133.67	2,778.70	1.08	0.38	-1.02
9,544.00	88.59	144.04	7,313.30	-1,895.25	2,169.77	2,840.56	1.14	0.32	-1.10
9,608.00	88.89	144.37	7,314.71	-1,947.15	2,207.19	2,904.42	0.70	0.47	0.52
9,672.00	89.36	145.47	7,315.69	-1,999.52	2,243.97	2,968.25	1.87	0.73	1.72
9,735.00	90.07	145.90	7,316.00	-2,051.55	2,279.48	3,031.01	1.32	1.13	0.68
9,799.00	89.33	147.38	7,316.34	-2,105.00	2,314.68	3,094.67	2.59	-1.16	2.31
9,862.00	89.40	147.59	7,317.03	-2,158.12	2,348.54	3,157.23	0.35	0.11	0.33
9,925.00	89.46	147.55	7,317.66	-2,211.30	2,382.32	3,219.78	0.11	0.10	-0.06
9,989.00	89.46	147.64	7,318.26	-2,265.33	2,416.62	3,283.32	0.14	0.00	0.14
10,053.00	89.23	147.73	7,319.00	-2,319.41	2,450.83	3,346.84	0.39	-0.36	0.14
10,116.00	89.77	147.65	7,319.55	-2,372.66	2,484.50	3,409.38	0.87	0.86	-0.13
10,148.00	90.20	147.65	7,319.55	-2,399.69	2,501.62	3,441.15	1.34	1.34	0.00
10,180.00	89.90	147.71	7,319.53	-2,426.73	2,518.73	3,472.91	0.96	-0.94	0.19
10,212.00	89.03	147.15	7,319.82	-2,453.70	2,535.96	3,504.69	3.23	-2.72	-1.75
10,244.00	89.19	147.02	7,320.32	-2,480.56	2,553.34	3,536.49	0.64	0.50	-0.41
10,275.00	89.46	146.98	7,320.69	-2,506.55	2,570.23	3,567.31	0.88	0.87	-0.13
10,307.00	89.50	146.84	7,320.98	-2,533.36	2,587.70	3,599.12	0.45	0.13	-0.44
10,339.00	88.99	147.11	7,321.40	-2,560.19	2,605.13	3,630.93	1.80	-1.59	0.84
10,371.00	88.12	146.92	7,322.21	-2,587.02	2,622.55	3,662.73	2.78	-2.72	-0.59
10,403.00	88.05	147.06	7,323.27	-2,613.84	2,639.97	3,694.52	0.49	-0.22	0.44
10,434.00	88.22	147.01	7,324.28	-2,639.84	2,656.83	3,725.32	0.57	0.55	-0.16
10,466.00	88.19	147.05	7,325.29	-2,666.67	2,674.24	3,757.11	0.16	-0.09	0.13
10,497.00	88.25	147.03	7,326.25	-2,692.67	2,691.10	3,787.91	0.20	0.19	-0.06
10,529.00	88.46	147.13	7,327.17	-2,719.52	2,708.48	3,819.70	0.73	0.66	0.31
10,560.00	88.73	147.66	7,327.93	-2,745.63	2,725.18	3,850.48	1.92	0.87	1.71
10,591.00	89.23	148.39	7,328.48	-2,771.92	2,741.59	3,881.22	2.85	1.61	2.35
10,623.00	89.06	149.58	7,328.96	-2,799.34	2,758.08	3,912.89	3.76	-0.53	3.72
10,655.00	88.73	150.65	7,329.57	-2,827.08	2,774.02	3,944.45	3.50	-1.03	3.34
10,687.00	87.51	150.23	7,330.62	-2,854.90	2,789.80	3,975.98	4.03	-3.81	1.31
10,751.00	86.41	149.79	7,334.02	-2,910.25	2,821.74	4,039.05	1.85	-1.72	-0.69
10,783.00	86.57	149.00	7,335.98	-2,937.74	2,838.00	4,070.63	2.51	0.50	-2.47
10,814.00	86.68	148.88	7,337.80	-2,964.25	2,853.97	4,101.26	0.52	0.35	-0.39
10,878.00	87.62	148.67	7,340.98	-3,018.91	2,887.10	4,164.55	1.50	1.47	0.33

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Scientific Drilling International  
Survey Report



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills-Wetzel 16H - Slot MW3#16H
<b>Project:</b>	Heather Prospect (NAD 27)	<b>TVD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Site:</b>	Mills-Wetzel Pad 3	<b>MD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Well:</b>	Mills-Wetzel 16H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Northeast District

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,941.00	87.85	147.77	7,343.47	-3,072.42	2,920.26	4,226.97	1.47	0.37	-1.43
11,004.00	89.09	148.34	7,345.16	-3,125.86	2,953.58	4,289.43	2.17	1.97	0.90
11,067.00	89.87	148.15	7,345.73	-3,179.43	2,986.73	4,351.89	1.27	1.24	-0.30
11,131.00	90.10	147.66	7,345.74	-3,233.65	3,020.74	4,415.39	0.85	0.36	-0.77
11,194.00	90.57	147.34	7,345.38	-3,286.78	3,054.59	4,477.95	0.90	0.75	-0.51
11,257.00	90.20	146.65	7,344.95	-3,339.61	3,088.90	4,540.57	1.24	-0.59	-1.10
11,320.00	90.60	146.86	7,344.51	-3,392.30	3,123.44	4,603.23	0.72	0.63	0.33
11,384.00	89.63	146.92	7,344.39	-3,445.91	3,158.40	4,666.86	1.52	-1.52	0.09
11,447.00	89.50	147.00	7,344.86	-3,498.72	3,192.75	4,729.48	0.24	-0.21	0.13
11,510.00	90.44	146.84	7,344.90	-3,551.51	3,227.13	4,792.12	1.51	1.49	-0.25
11,574.00	89.93	146.21	7,344.69	-3,604.89	3,262.43	4,855.79	1.27	-0.80	-0.98
11,637.00	89.09	145.66	7,345.23	-3,657.08	3,297.72	4,918.53	1.59	-1.33	-0.87
11,700.00	90.00	146.18	7,345.73	-3,709.25	3,333.02	4,981.27	1.66	1.44	0.83
11,763.00	89.77	146.13	7,345.86	-3,761.58	3,368.11	5,043.99	0.37	-0.37	-0.08
11,826.00	89.43	145.64	7,346.30	-3,813.73	3,403.44	5,106.73	0.95	-0.54	-0.78
11,889.00	90.44	145.30	7,346.37	-3,865.64	3,439.15	5,169.52	1.69	1.60	-0.54
11,953.00	91.17	144.84	7,345.47	-3,918.10	3,475.79	5,233.33	1.35	1.14	-0.72
12,016.00	90.27	143.94	7,344.68	-3,969.31	3,512.47	5,296.19	2.02	-1.43	-1.43
12,079.00	89.97	142.46	7,344.54	-4,019.76	3,550.21	5,359.13	2.40	-0.48	-2.35
12,143.00	89.80	142.96	7,344.67	-4,070.68	3,588.98	5,423.10	0.83	-0.27	0.78
12,206.00	88.89	144.17	7,345.39	-4,121.36	3,626.40	5,486.01	2.40	-1.44	1.92
12,270.00	88.36	144.75	7,346.93	-4,173.42	3,663.59	5,549.86	1.23	-0.83	0.91
12,333.00	89.23	144.32	7,348.25	-4,224.72	3,700.13	5,612.71	1.54	1.38	-0.68
12,397.00	89.87	144.40	7,348.76	-4,276.73	3,737.42	5,676.58	1.01	1.00	0.13
12,460.00	90.13	144.84	7,348.76	-4,328.09	3,773.90	5,739.43	0.81	0.41	0.70
12,524.00	88.86	145.59	7,349.32	-4,380.65	3,810.41	5,803.23	2.30	-1.98	1.17
12,555.00	87.62	144.92	7,350.27	-4,406.11	3,828.07	5,834.12	4.55	-4.00	-2.16
12,587.00	87.85	144.99	7,351.54	-4,432.29	3,846.43	5,866.01	0.75	0.72	0.22
12,619.00	88.02	144.80	7,352.69	-4,458.45	3,864.82	5,897.91	0.80	0.53	-0.59
12,651.00	87.62	144.64	7,353.91	-4,484.56	3,883.29	5,929.81	1.35	-1.25	-0.50
12,683.00	88.42	144.93	7,355.01	-4,510.69	3,901.73	5,961.71	2.66	2.50	0.91
12,715.00	87.88	145.49	7,356.05	-4,536.95	3,919.98	5,993.59	2.43	-1.69	1.75
12,746.00	86.30	145.68	7,357.62	-4,562.49	3,937.47	6,024.44	5.13	-5.10	0.61
12,778.00	86.34	145.68	7,359.67	-4,588.87	3,955.48	6,056.26	0.13	0.13	0.00
12,810.00	86.54	145.80	7,361.66	-4,615.26	3,973.46	6,088.07	0.73	0.63	0.38
12,842.00	87.62	145.76	7,363.29	-4,641.69	3,991.43	6,119.91	3.38	3.38	-0.13
12,873.00	88.29	145.78	7,364.40	-4,667.30	4,008.86	6,150.77	2.16	2.16	0.06
12,905.00	89.13	145.25	7,365.12	-4,693.67	4,026.97	6,182.65	3.10	2.63	-1.66
12,936.00	89.33	144.75	7,365.53	-4,719.06	4,044.75	6,213.56	1.74	0.65	-1.61
12,968.00	89.83	144.19	7,365.77	-4,745.10	4,063.35	6,245.49	2.35	1.56	-1.75
13,000.00	90.17	144.48	7,365.77	-4,771.10	4,082.00	6,277.43	1.40	1.06	0.91
13,032.00	90.70	144.75	7,365.53	-4,797.19	4,100.53	6,309.36	1.86	1.66	0.84
13,064.00	90.87	145.42	7,365.09	-4,823.43	4,118.85	6,341.26	2.16	0.53	2.09

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0.91  
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FEB 26 2015





Scientific Drilling International  
Survey Report



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills-Wetzel 16H - Slot MW3#16H
<b>Project:</b>	Heather Prospect (NAD 27)	<b>TVD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Site:</b>	Mills-Wetzel Pad 3	<b>MD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Well:</b>	Mills-Wetzel 16H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Northeast District

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,095.00	89.90	145.48	7,364.88	-4,848.96	4,136.43	6,372.16	3.14	-3.13	0.19
13,127.00	89.60	146.28	7,365.02	-4,875.45	4,154.38	6,404.03	2.67	-0.94	2.50
13,159.00	88.89	146.79	7,365.44	-4,902.14	4,172.02	6,435.86	2.73	-2.22	1.59
13,191.00	88.72	147.53	7,366.11	-4,929.02	4,189.37	6,467.65	2.37	-0.53	2.31
13,223.00	89.09	147.79	7,366.72	-4,956.05	4,206.48	6,499.41	1.41	1.16	0.81
13,254.00	89.40	147.74	7,367.13	-4,982.27	4,223.02	6,530.18	1.01	1.00	-0.16
13,285.00	88.52	147.64	7,367.69	-5,008.47	4,239.58	6,560.95	2.86	-2.84	-0.32
13,317.00	87.72	148.34	7,368.74	-5,035.59	4,256.54	6,592.67	3.32	-2.50	2.19
13,349.00	87.82	148.13	7,369.98	-5,062.78	4,273.37	6,624.37	0.73	0.31	-0.66
13,381.00	88.32	148.05	7,371.06	-5,089.92	4,290.28	6,656.09	1.58	1.56	-0.25
13,413.00	88.79	148.42	7,371.87	-5,117.12	4,307.12	6,687.81	1.87	1.47	1.16
13,445.00	89.56	148.56	7,372.33	-5,144.40	4,323.84	6,719.51	2.45	2.41	0.44
13,476.00	90.00	149.53	7,372.45	-5,170.98	4,339.78	6,750.19	3.44	1.42	3.13
13,508.00	90.03	149.80	7,372.44	-5,198.60	4,355.95	6,781.80	0.85	0.09	0.84
13,540.00	88.56	149.89	7,372.83	-5,226.27	4,372.02	6,813.40	4.60	-4.59	0.28
13,604.00	89.36	149.80	7,374.00	-5,281.60	4,404.16	6,876.58	1.26	1.25	-0.14
13,667.00	88.45	149.04	7,375.20	-5,335.83	4,436.21	6,938.84	1.88	-1.44	-1.21
13,731.00	87.65	147.71	7,377.38	-5,390.29	4,469.75	7,002.24	2.42	-1.25	-2.08
13,794.00	88.29	148.05	7,379.61	-5,443.61	4,503.22	7,064.71	1.15	1.02	0.54
13,858.00	88.96	147.39	7,381.15	-5,497.71	4,537.39	7,128.22	1.47	1.05	-1.03
13,921.00	89.40	146.46	7,382.05	-5,550.49	4,571.77	7,190.84	1.63	0.70	-1.48
13,985.00	90.00	146.02	7,382.38	-5,603.70	4,607.33	7,254.55	1.16	0.94	-0.69
14,048.00	90.91	145.80	7,381.88	-5,655.87	4,642.64	7,317.29	1.49	1.44	-0.35
14,111.00	90.20	143.96	7,381.27	-5,707.39	4,678.88	7,380.12	3.13	-1.13	-2.92
14,174.00	91.14	143.76	7,380.53	-5,758.27	4,716.03	7,443.02	1.53	1.49	-0.32
14,237.00	90.30	144.90	7,379.74	-5,809.44	4,752.77	7,505.89	2.25	-1.33	1.81
14,300.00	88.66	144.83	7,380.31	-5,860.96	4,789.02	7,568.72	2.61	-2.60	-0.11
14,364.00	89.80	144.82	7,381.17	-5,913.27	4,825.89	7,632.55	1.78	1.78	-0.02
14,427.00	88.86	145.32	7,381.91	-5,964.91	4,861.96	7,695.37	1.69	-1.49	0.79
14,491.00	87.62	146.50	7,383.88	-6,017.89	4,897.81	7,759.08	2.67	-1.94	1.84
14,554.00	88.79	146.27	7,385.85	-6,070.33	4,932.67	7,821.74	1.89	1.86	-0.37
14,618.00	89.73	145.90	7,386.68	-6,123.43	4,968.37	7,885.46	1.58	1.47	-0.58
14,681.00	88.52	145.71	7,387.64	-6,175.54	5,003.78	7,948.20	1.94	-1.92	-0.30
14,745.00	89.26	145.54	7,388.88	-6,228.35	5,039.90	8,011.96	1.19	1.16	-0.27
<b>Last SDI MWD Survey</b>									
14,810.00	89.26	145.54	7,389.72	-6,281.94	5,076.68	8,076.72	0.00	0.00	0.00
<b>Projection to Bit</b>									

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Scientific Drilling International  
Survey Report



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills-Wetzel 16H - Slot MW3#16H
<b>Project:</b>	Heather Prospect (NAD 27)	<b>TVD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Site:</b>	Mills-Wetzel Pad 3	<b>MD Reference:</b>	GL 1291' & KB 18' @ 1309.00ft (Saxon 141)
<b>Well:</b>	Mills-Wetzel 16H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OH	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	Northeast District

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
103.00	103.00	0.01	0.08	First SDI Gyro Survey
2,803.00	2,802.86	1.69	18.05	Last SDI Gyro Survey
2,821.76	2,821.61	1.73	18.40	First SDI MWD Survey
14,745.00	7,388.88	-6,228.35	5,039.90	Last SDI MWD Survey
14,810.00	7,389.72	-6,281.94	5,076.68	Projection to Bit

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

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