

Project: Heather Prospect (NAD 27)  
 Site: Mills-Wetzel Pad 3  
 Well: Mills-Wetzel 17H  
 Wellbore: OH  
 Design: As Drilled

WELL DETAILS: Mills-Wetzel 17H

+N/-S	+E/-W	Ground Level	1291.00
0.00	0.00	Northing	370018.99
		Eastng	1669027.46
		Longitude	80° 40' 25.108" W
		Slot	MW3#17H

ANNOTATIONS

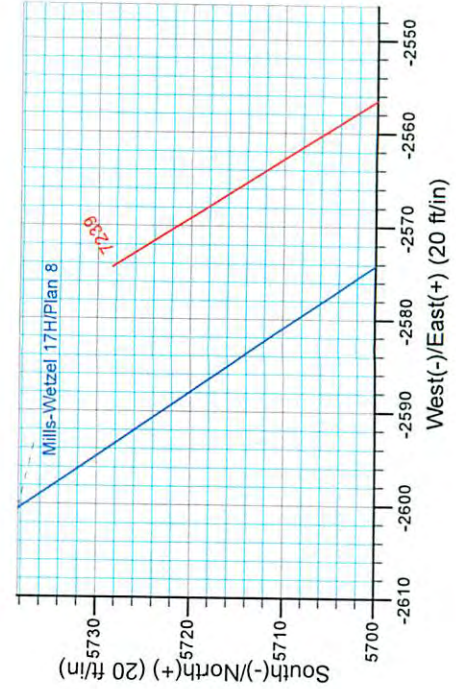
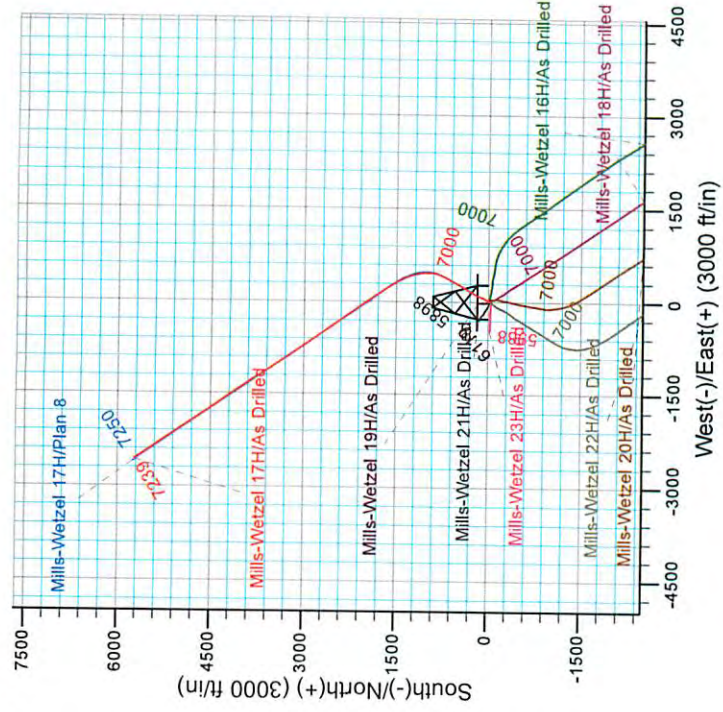
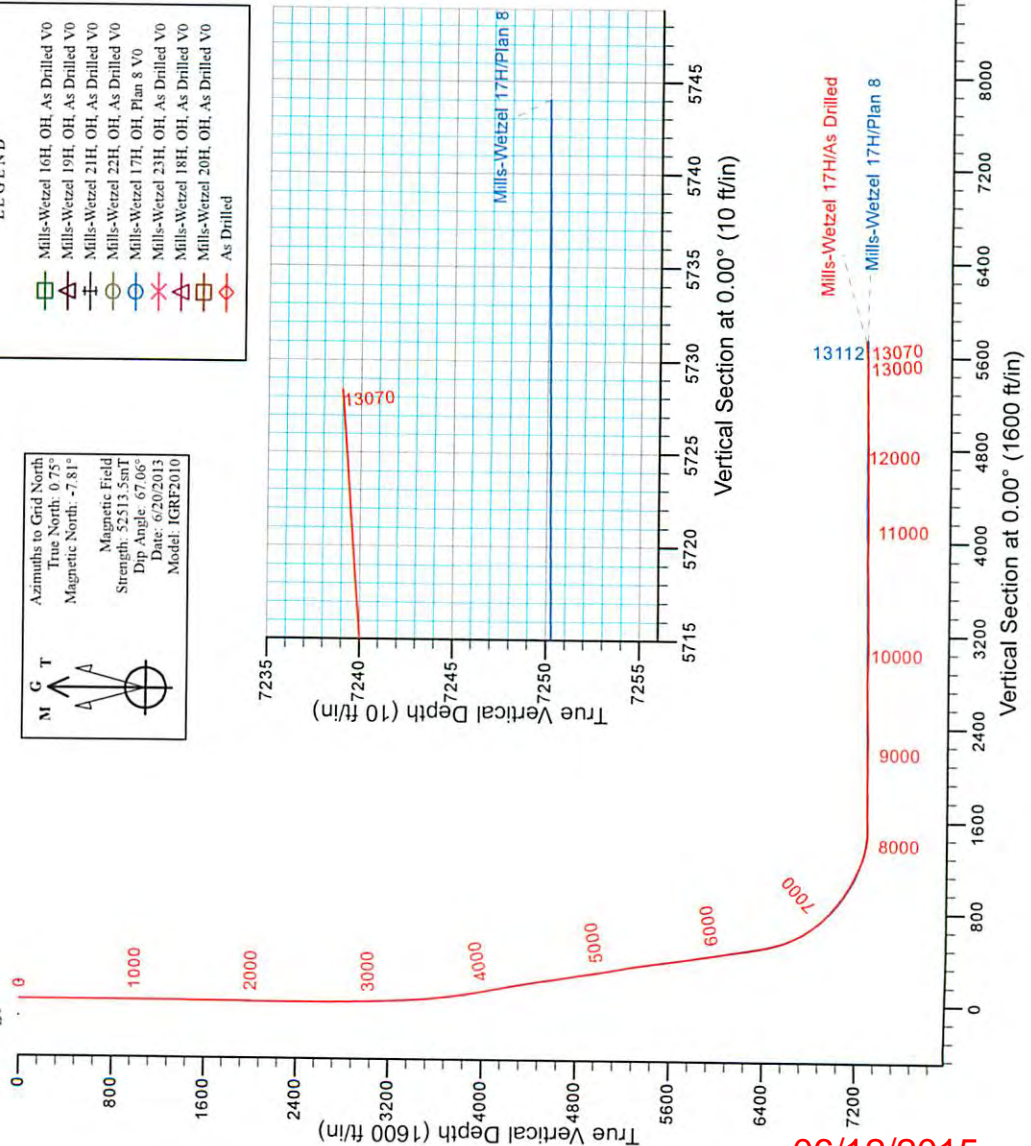
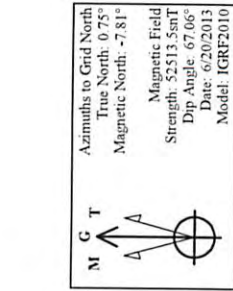
Inc	MD	TVD	Azi	+N/-S	+E/-W	VScal	Departure	Annotation
0.00	18.00	18.00	0.00	0.00	0.00	0.00	0.00	Ground Level
0.12	103.00	103.00	136.50	-0.06	0.06	0.06	0.09	First SDI Gyro Survey
10.75	5875.70	5916.21	28.11	404.11	231.05	404.11	488.95	Last SDI Gyro Survey
10.77	5901.03	5942.00	26.35	408.39	233.26	408.39	493.76	First SDI MWD Survey
93.60	7243.40	73000.00	327.71	5669.33	-2557.14	5669.33	6715.82	Last SDI MWD Survey
93.60	7239.01	73070.00	327.71	5728.38	-2574.46	5728.38	6785.68	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 17H - Slot MW3#17H, Grid North  
 Vertical (TVD) Reference: GL 1291' & KB 18' @ 1309.00ft (Saxon 141)  
 Section (VS) Reference: Slot - MW3#17H(0.00N, 0.00E)  
 Measured Depth Reference: GL 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 17H - Slot MW3#17H

OH

Design: As Drilled

## Standard Survey Report

02 July, 2013



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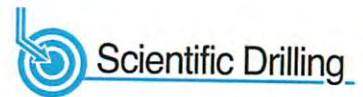
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Survey Report



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills-Wetzel 17H - Slot MW3#17H
<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 17H	<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 17H - Slot MW3#17H					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	370,018.99 usft	<b>Latitude:</b>	39° 30' 35.951 N
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	1,669,027.46 usft	<b>Longitude:</b>	80° 40' 23.108 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	6/20/2013	-8.56	67.06	52,514

<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	0.00	

<b>Survey Program</b>	<b>Date</b>	7/2/2013			
<b>From (ft)</b>	<b>To (ft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
18.00	5,916.26	Survey #3 - Gyro (OH)	SDI Standard Keeper 103	SDI Standard Wireline Keeper ver 1.0.3	
5,942.00	13,070.00	Survey 4 - SDI MWD (OH)	MWD SDI	MWD - Standard ver 1.0.1	

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)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18.00	0.00	0.00	18.00	0.00	0.00	0.00	0.00	0.00	0.00	
<b>Ground Level</b>										
103.00	0.12	136.50	103.00	-0.06	0.06	-0.06	0.14	0.14	0.00	
<b>First SDI Gyro Survey</b>										
203.00	0.10	95.10	203.00	-0.15	0.22	-0.15	0.08	-0.02	-41.40	
303.00	0.09	112.31	303.00	-0.19	0.38	-0.19	0.03	-0.01	17.21	
403.00	0.10	103.55	403.00	-0.24	0.54	-0.24	0.02	0.01	-8.76	
503.00	0.21	79.22	503.00	-0.22	0.80	-0.22	0.13	0.11	-24.33	

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Survey Report



<b>Company:</b> Stone Energy	<b>Local Co-ordinate Reference:</b> Well Mills-Wetzel 17H - Slot MW3#17H
<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 17H	<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)
603.00	0.19	91.82	603.00	-0.19	1.15	-0.19	0.05	-0.02	12.60
703.00	0.16	103.21	703.00	-0.23	1.45	-0.23	0.05	-0.03	11.39
803.00	0.11	79.87	803.00	-0.25	1.68	-0.25	0.07	-0.05	-23.34
903.00	0.27	103.11	902.99	-0.28	2.00	-0.28	0.17	0.16	23.24
1,003.00	0.29	88.44	1,002.99	-0.33	2.49	-0.33	0.07	0.02	-14.67
1,103.00	0.21	90.28	1,102.99	-0.32	2.92	-0.32	0.08	-0.08	1.84
1,203.00	0.47	85.97	1,202.99	-0.29	3.52	-0.29	0.26	0.26	-4.31
1,303.00	0.33	96.85	1,302.99	-0.30	4.21	-0.30	0.16	-0.14	10.88
1,403.00	0.59	117.93	1,402.98	-0.58	4.95	-0.58	0.31	0.26	21.08
1,503.00	0.58	122.92	1,502.98	-1.09	5.83	-1.09	0.05	-0.01	4.99
1,603.00	0.64	119.99	1,602.97	-1.65	6.74	-1.65	0.07	0.06	-2.93
1,703.00	0.42	212.83	1,702.97	-2.23	7.02	-2.23	0.78	-0.22	92.84
1,803.00	0.55	164.12	1,802.97	-3.00	6.96	-3.00	0.42	0.13	-48.71
1,903.00	0.62	161.86	1,902.96	-3.98	7.26	-3.98	0.07	0.07	-2.26
2,003.00	0.63	165.34	2,002.96	-5.02	7.56	-5.02	0.04	0.01	3.48
2,103.00	0.41	150.25	2,102.95	-5.87	7.88	-5.87	0.26	-0.22	-15.09
2,203.00	0.71	118.32	2,202.95	-6.47	8.60	-6.47	0.42	0.30	-31.93
2,303.00	1.52	101.65	2,302.93	-7.03	10.45	-7.03	0.86	0.81	-16.67
2,403.00	1.43	97.97	2,402.90	-7.47	12.98	-7.47	0.13	-0.09	-3.68
2,503.00	1.37	82.74	2,502.87	-7.50	15.40	-7.50	0.38	-0.06	-15.23
2,603.00	1.50	71.05	2,602.83	-6.92	17.83	-6.92	0.32	0.13	-11.69
2,703.00	1.60	56.53	2,702.80	-5.73	20.23	-5.73	0.40	0.10	-14.52
2,803.00	1.80	51.25	2,802.75	-3.97	22.62	-3.97	0.25	0.20	-5.28
2,903.00	1.42	16.31	2,902.72	-1.80	24.19	-1.80	1.03	-0.38	-34.94
3,003.00	1.39	0.17	3,002.69	0.60	24.54	0.60	0.40	-0.03	-16.14
3,103.00	1.44	357.10	3,102.66	3.07	24.48	3.07	0.09	0.05	-3.07
3,203.00	2.81	18.60	3,202.59	6.65	25.20	6.65	1.56	1.37	21.50
3,303.00	3.05	19.57	3,302.46	11.48	26.88	11.48	0.25	0.24	0.97
3,403.00	4.38	22.06	3,402.24	17.52	29.20	17.52	1.34	1.33	2.49
3,503.00	4.48	20.35	3,501.95	24.72	31.99	24.72	0.17	0.10	-1.71
3,603.00	6.19	24.01	3,601.51	33.31	35.55	33.31	1.74	1.71	3.66
3,703.00	7.84	29.94	3,700.76	44.15	41.14	44.15	1.80	1.65	5.93
3,803.00	9.32	31.05	3,799.64	57.00	48.73	57.00	1.49	1.48	1.11
3,903.00	10.93	26.03	3,898.08	72.45	57.06	72.45	1.83	1.61	-5.02
4,003.00	12.12	20.67	3,996.06	90.80	64.93	90.80	1.60	1.19	-5.36
4,103.00	11.33	20.53	4,093.98	109.82	72.08	109.82	0.79	-0.79	-0.14
4,203.00	11.08	20.95	4,192.07	127.99	78.96	127.99	0.26	-0.25	0.42
4,303.00	11.40	19.47	4,290.15	146.28	85.69	146.28	0.43	0.32	-1.48
4,403.00	10.73	20.45	4,388.29	164.32	92.24	164.32	0.70	-0.67	0.98
4,503.00	9.41	28.99	4,486.75	180.20	99.45	180.20	1.99	-1.32	8.54
4,603.00	10.24	29.83	4,585.29	195.06	107.84	195.06	0.84	0.84	0.84
4,703.00	10.43	26.53	4,683.67	210.87	116.30	210.87	0.62	0.19	0.19
4,803.00	10.77	32.52	4,781.96	226.85	125.37	226.85	1.15	0.34	5.99

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Survey Report



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills-Wetzel 17H - Slot MW3#17H
<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 17H	<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)
4,903.00	11.61	34.13	4,880.06	243.05	136.04	243.05	0.90	0.84	1.61
5,003.00	11.58	30.86	4,978.02	260.00	146.83	260.00	0.66	-0.03	-3.27
5,103.00	11.60	27.80	5,075.98	277.51	156.67	277.51	0.62	0.02	-3.06
5,203.00	11.84	25.18	5,173.90	295.69	165.72	295.69	0.58	0.24	-2.62
5,303.00	11.03	24.67	5,271.91	313.66	174.08	313.66	0.82	-0.81	-0.51
5,403.00	9.74	32.88	5,370.28	329.46	182.66	329.46	1.96	-1.29	8.21
5,503.00	9.31	34.70	5,468.90	343.22	191.86	343.22	0.52	-0.43	1.82
5,603.00	9.82	34.59	5,567.51	356.89	201.31	356.89	0.51	0.51	-0.11
5,703.00	9.81	33.28	5,666.04	371.03	210.82	371.03	0.22	-0.01	-1.31
5,803.00	10.66	32.45	5,764.45	385.96	220.46	385.96	0.86	0.85	-0.83
5,916.21	10.75	28.11	5,875.70	404.11	231.05	404.11	0.72	0.08	-3.83
<b>Last SDI Gyro Survey</b>									
5,916.26	10.75	28.11	5,875.74	404.11	231.06	404.11	0.72	0.11	-3.80
5,942.00	10.77	26.35	5,901.03	408.39	233.26	408.39	1.28	0.08	-6.84
<b>First SDI MWD Survey</b>									
6,006.00	11.42	31.38	5,963.84	419.15	239.21	419.15	1.82	1.02	7.86
6,069.00	9.90	31.48	6,025.75	429.10	245.29	429.10	2.41	-2.41	0.16
6,133.00	9.25	31.93	6,088.86	438.16	250.88	438.16	1.02	-1.02	0.70
6,196.00	9.60	30.28	6,151.01	446.99	256.21	446.99	0.70	0.56	-2.62
6,260.00	10.21	29.17	6,214.05	456.55	261.66	456.55	1.00	0.95	-1.73
6,323.00	10.90	27.03	6,275.99	466.73	267.09	466.73	1.26	1.10	-3.40
6,387.00	11.33	25.90	6,338.79	477.78	272.59	477.78	0.75	0.67	-1.77
6,417.00	11.01	25.53	6,368.22	483.01	275.11	483.01	1.09	-1.07	-1.23
6,448.00	11.35	25.87	6,398.63	488.43	277.72	488.43	1.12	1.10	1.10
6,478.00	12.51	25.72	6,427.98	494.01	280.41	494.01	3.87	3.87	-0.50
6,507.00	14.18	25.55	6,456.20	500.05	283.31	500.05	5.76	5.76	-0.59
6,538.00	16.04	25.82	6,486.12	507.33	286.81	507.33	6.00	6.00	0.87
6,568.00	18.05	26.34	6,514.80	515.23	290.68	515.23	6.72	6.70	1.73
6,598.00	19.76	26.88	6,543.19	523.92	295.04	523.92	5.73	5.70	1.80
6,629.00	21.59	26.17	6,572.19	533.71	299.92	533.71	5.96	5.90	-2.29
6,659.00	23.77	26.78	6,599.87	544.06	305.08	544.06	7.31	7.27	2.03
6,689.00	25.42	27.39	6,627.14	555.18	310.77	555.18	5.56	5.50	2.03
6,720.00	27.26	28.03	6,654.92	567.35	317.16	567.35	6.01	5.94	2.06
6,751.00	29.26	28.17	6,682.23	580.30	324.08	580.30	6.46	6.45	0.45
6,781.00	30.77	27.99	6,708.20	593.54	331.14	593.54	5.04	5.03	-0.60
6,812.00	32.60	28.67	6,734.58	607.87	338.87	607.87	6.01	5.90	2.19
6,842.00	34.22	28.62	6,759.62	622.37	346.79	622.37	5.40	5.40	-0.17
6,873.00	36.14	28.87	6,784.96	638.02	355.38	638.02	6.21	6.19	0.81
6,904.00	38.39	28.66	6,809.63	654.48	364.41	654.48	7.27	7.26	-0.68
6,934.00	40.99	28.38	6,832.71	671.31	373.56	671.31	8.69	8.67	-0.93
6,964.00	42.80	27.92	6,855.04	688.97	383.00	688.97	6.12	6.03	-1.53
6,995.00	44.57	27.35	6,877.46	707.94	392.93	707.94	5.85	5.71	-1.84
7,026.00	45.69	26.67	6,899.33	727.52	402.91	727.52	3.93	3.81	3.19
7,056.00	46.50	26.38	6,920.13	746.86	412.56	746.86	2.79	2.70	-0.97

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Survey Report



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<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)
7,086.00	47.00	25.36	6,940.69	766.52	422.10	766.52	2.99	1.67	-3.40
7,117.00	48.11	21.78	6,961.61	787.48	431.23	787.48	9.24	3.58	-11.55
7,147.00	48.77	18.65	6,981.52	808.54	438.99	808.54	8.11	2.20	-10.43
7,177.00	49.69	15.53	7,001.11	830.25	445.66	830.25	8.45	3.07	-10.40
7,208.00	50.92	12.84	7,020.91	853.38	451.50	853.38	7.77	3.97	-8.68
7,238.00	52.15	10.34	7,039.58	876.39	456.21	876.39	7.71	4.10	-8.33
7,268.00	53.15	8.08	7,057.78	899.92	460.02	899.92	6.85	3.33	-7.53
7,299.00	54.60	5.19	7,076.06	924.79	462.91	924.79	8.86	4.68	-9.32
7,329.00	56.11	2.54	7,093.11	949.41	464.57	949.41	8.84	5.03	-8.83
7,360.00	57.45	0.63	7,110.10	975.33	465.28	975.33	6.73	4.32	-6.16
7,390.00	58.75	358.34	7,125.95	1,000.80	465.05	1,000.80	7.80	4.33	-7.63
7,421.00	60.10	355.92	7,141.72	1,027.45	463.71	1,027.45	8.01	4.35	-7.81
7,452.00	61.58	353.65	7,156.83	1,054.41	461.25	1,054.41	7.98	4.77	-7.32
7,484.00	62.88	352.01	7,171.74	1,082.50	457.71	1,082.50	6.09	4.06	-5.13
7,516.00	63.77	350.27	7,186.10	1,110.75	453.31	1,110.75	5.60	2.78	-5.44
7,547.00	65.34	348.20	7,199.42	1,138.24	448.07	1,138.24	7.87	5.06	-6.68
7,579.00	66.39	346.54	7,212.51	1,166.74	441.69	1,166.74	5.76	3.28	-5.19
7,611.00	67.83	345.21	7,224.96	1,195.33	434.49	1,195.33	5.91	4.50	-4.16
7,643.00	69.34	343.69	7,236.64	1,224.02	426.50	1,224.02	6.47	4.72	-4.75
7,675.00	71.75	341.62	7,247.30	1,252.82	417.51	1,252.82	9.69	7.53	-6.47
7,707.00	73.57	340.61	7,256.84	1,281.72	407.62	1,281.72	6.44	5.69	-3.16
7,738.00	76.05	339.23	7,264.96	1,309.81	397.35	1,309.81	9.08	8.00	-4.45
7,770.00	78.05	337.95	7,272.13	1,338.84	385.96	1,338.84	7.37	6.25	-4.00
7,802.00	80.16	336.79	7,278.18	1,367.85	373.87	1,367.85	7.49	6.59	-3.63
7,833.00	82.05	335.72	7,282.97	1,395.88	361.54	1,395.88	6.99	6.10	-3.45
7,865.00	83.57	334.36	7,286.98	1,424.66	348.14	1,424.66	6.35	4.75	-4.25
7,897.00	85.63	332.63	7,289.99	1,453.17	333.92	1,453.17	8.39	6.44	-5.41
7,929.00	88.02	331.65	7,291.76	1,481.41	318.99	1,481.41	8.07	7.47	-3.06
7,960.00	90.07	329.30	7,292.28	1,508.38	303.72	1,508.38	10.06	6.61	-7.58
7,991.00	90.70	328.02	7,292.07	1,534.85	287.60	1,534.85	4.60	2.03	-4.13
8,054.00	91.31	328.49	7,290.96	1,588.42	254.46	1,588.42	1.22	0.97	0.75
8,118.00	90.81	328.03	7,289.78	1,642.84	220.79	1,642.84	1.06	-0.78	-0.72
8,181.00	90.81	327.74	7,288.89	1,696.19	187.31	1,696.19	0.46	0.00	-0.46
8,245.00	90.34	326.94	7,288.25	1,750.07	152.77	1,750.07	1.45	-0.73	-1.25
8,308.00	89.93	326.46	7,288.10	1,802.73	118.18	1,802.73	1.00	-0.65	-0.76
8,372.00	90.87	326.28	7,287.65	1,856.01	82.74	1,856.01	1.50	1.47	-0.28
8,435.00	90.71	326.06	7,286.78	1,908.34	47.67	1,908.34	0.43	-0.25	-0.35
8,498.00	90.17	325.95	7,286.30	1,960.57	12.44	1,960.57	0.87	-0.25	-0.17
8,562.00	90.70	325.55	7,285.81	2,013.47	-23.57	2,013.47	1.04	0.33	-0.68
8,625.00	89.56	325.25	7,285.67	2,065.33	-59.35	2,065.33	1.87	-1.81	-0.48
8,688.00	88.82	325.24	7,286.56	2,117.08	-95.26	2,117.08	1.17	0.02	0.02
8,752.00	89.09	325.10	7,287.73	2,169.61	-131.80	2,169.61	0.48	0.42	-0.22
8,815.00	89.80	325.37	7,288.34	2,221.36	-167.73	2,221.36	1.21	1.13	0.43

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Survey Report



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills-Wetzel 17H - Slot MW3#17H
<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 17H	<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

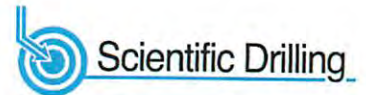
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,877.00	90.50	325.08	7,288.17	2,272.29	-203.09	2,272.29	1.22	1.13	-0.47
8,940.00	90.81	325.20	7,287.45	2,323.98	-239.09	2,323.98	0.53	0.49	0.19
9,004.00	90.44	324.56	7,286.76	2,376.32	-275.91	2,376.32	1.16	-0.58	-1.00
9,067.00	90.67	323.98	7,286.15	2,427.46	-312.70	2,427.46	0.99	0.37	-0.92
9,130.00	91.61	324.06	7,284.89	2,478.43	-349.70	2,478.43	1.50	1.49	0.13
9,194.00	91.61	323.89	7,283.09	2,530.17	-387.33	2,530.17	0.27	0.00	-0.27
9,257.00	90.40	324.72	7,281.99	2,581.33	-424.08	2,581.33	2.33	-1.92	1.32
9,320.00	89.93	325.20	7,281.81	2,632.91	-460.25	2,632.91	1.07	-0.75	0.76
9,384.00	90.70	324.59	7,281.46	2,685.27	-497.06	2,685.27	1.53	1.20	-0.95
9,447.00	89.97	325.09	7,281.09	2,736.77	-533.33	2,736.77	1.40	-1.16	0.79
9,511.00	90.10	325.68	7,281.05	2,789.44	-569.69	2,789.44	0.94	0.20	0.92
9,575.00	90.64	325.35	7,280.64	2,842.19	-605.93	2,842.19	0.99	0.84	-0.52
9,638.00	90.84	325.13	7,279.82	2,893.95	-641.84	2,893.95	0.47	0.32	-0.35
9,702.00	89.60	324.49	7,279.58	2,946.25	-678.72	2,946.25	2.18	-1.94	-1.00
9,766.00	88.66	324.49	7,280.55	2,998.34	-715.89	2,998.34	1.47	-1.47	0.00
9,829.00	89.16	324.47	7,281.75	3,049.61	-752.49	3,049.61	0.79	0.79	-0.03
9,893.00	89.77	324.39	7,282.34	3,101.66	-789.71	3,101.66	0.96	0.95	-0.13
9,956.00	90.87	324.71	7,281.99	3,152.98	-826.25	3,152.98	1.82	1.75	0.51
10,020.00	90.70	324.82	7,281.12	3,205.25	-863.17	3,205.25	0.32	-0.27	0.17
10,083.00	90.60	325.28	7,280.40	3,256.89	-899.26	3,256.89	0.75	-0.16	0.73
10,147.00	90.27	326.00	7,279.91	3,309.72	-935.38	3,309.72	1.24	-0.52	1.13
10,210.00	90.17	326.67	7,279.67	3,362.15	-970.30	3,362.15	1.08	-0.16	1.06
10,274.00	91.17	327.13	7,278.92	3,415.76	-1,005.25	3,415.76	1.72	1.56	0.72
10,337.00	90.34	327.11	7,278.09	3,468.66	-1,039.45	3,468.66	1.32	-1.32	-0.03
10,401.00	89.87	326.82	7,277.98	3,522.32	-1,074.34	3,522.32	0.86	-0.73	-0.45
10,465.00	90.20	326.65	7,277.94	3,575.83	-1,109.44	3,575.83	0.58	0.52	-0.27
10,528.00	91.07	326.99	7,277.24	3,628.55	-1,143.92	3,628.55	1.48	1.38	0.54
10,591.00	91.48	327.07	7,275.84	3,681.39	-1,178.19	3,681.39	0.66	0.65	0.13
10,655.00	91.64	326.49	7,274.10	3,734.91	-1,213.24	3,734.91	0.94	0.25	-0.91
10,718.00	91.41	326.79	7,272.42	3,787.52	-1,247.88	3,787.52	0.60	-0.37	0.48
10,780.00	91.51	326.51	7,270.84	3,839.29	-1,281.95	3,839.29	0.48	0.16	-0.45
10,842.00	90.60	325.83	7,269.70	3,890.78	-1,316.46	3,890.78	1.83	-1.47	-1.10
10,906.00	87.82	325.97	7,270.58	3,943.77	-1,352.33	3,943.77	4.35	-4.34	0.22
10,969.00	88.76	326.03	7,272.46	3,995.97	-1,387.55	3,995.97	1.50	1.49	0.10
11,033.00	89.26	325.38	7,273.57	4,048.84	-1,423.60	4,048.84	1.28	0.78	-1.02
11,096.00	89.30	324.98	7,274.36	4,100.55	-1,459.57	4,100.55	0.64	0.06	-0.63
11,160.00	89.80	324.93	7,274.86	4,152.95	-1,496.32	4,152.95	0.79	0.78	0.08
11,224.00	90.27	324.25	7,274.82	4,205.11	-1,533.40	4,205.11	1.29	0.73	-1.06
11,287.00	91.04	323.89	7,274.10	4,256.12	-1,570.37	4,256.12	1.35	1.29	0.57
11,350.00	91.34	323.37	7,272.79	4,306.84	-1,607.72	4,306.84	0.95	0.48	-0.83
11,414.00	91.98	323.43	7,270.94	4,358.20	-1,645.86	4,358.20	1.00	1.00	0.09
11,477.00	92.01	323.96	7,268.75	4,408.93	-1,683.14	4,408.93	0.84	0.05	0.84
11,541.00	91.61	325.43	7,266.72	4,461.14	-1,720.11	4,461.14	2.38	-0.63	2.30
11,605.00	91.85	325.94	7,264.79	4,513.97	-1,756.17	4,513.97	0.88	0.38	0.80

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Scientific Drilling International  
Survey Report



<b>Company:</b> Stone Energy	<b>Local Co-ordinate Reference:</b> Well Mills-Wetzel 17H - Slot MW3#17H
<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 17H	<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)	
11,668.00	91.14	326.60	7,263.15	4,566.35	-1,791.14	4,566.35	1.54	-1.13	1.05	
11,731.00	89.83	326.52	7,262.61	4,618.92	-1,825.86	4,618.92	2.08	-2.08	-0.13	
11,794.00	90.17	326.70	7,262.61	4,671.52	-1,860.53	4,671.52	0.61	0.54	0.29	
11,858.00	89.63	326.43	7,262.73	4,724.93	-1,895.79	4,724.93	0.94	-0.84	-0.42	
11,921.00	89.53	326.40	7,263.19	4,777.41	-1,930.64	4,777.41	0.17	-0.16	-0.05	
11,984.00	90.24	326.55	7,263.31	4,829.93	-1,965.43	4,829.93	1.15	1.13	0.24	
12,048.00	90.97	326.44	7,262.64	4,883.29	-2,000.76	4,883.29	1.15	1.14	-0.17	
12,111.00	91.75	326.33	7,261.14	4,935.74	-2,035.63	4,935.74	1.25	1.24	-0.17	
12,175.00	91.04	325.88	7,259.59	4,988.85	-2,071.31	4,988.85	1.31	-1.11	-0.70	
12,238.00	91.38	325.57	7,258.26	5,040.90	-2,106.78	5,040.90	0.73	0.54	-0.49	
12,301.00	90.47	324.66	7,257.24	5,092.57	-2,142.81	5,092.57	2.04	-1.44	-1.44	
12,365.00	91.11	324.99	7,256.36	5,144.88	-2,179.67	5,144.88	1.13	1.00	0.52	
12,428.00	90.17	325.47	7,255.65	5,196.62	-2,215.60	5,196.62	1.68	-1.49	0.76	
12,492.00	90.57	325.75	7,255.24	5,249.43	-2,251.74	5,249.43	0.76	0.63	0.44	
12,556.00	89.16	325.33	7,255.39	5,302.20	-2,287.96	5,302.20	2.30	-2.20	-0.66	
12,619.00	90.00	325.37	7,255.85	5,354.03	-2,323.77	5,354.03	1.33	1.33	0.06	
12,683.00	90.91	325.28	7,255.34	5,406.66	-2,360.18	5,406.66	1.43	1.42	-0.14	
12,746.00	91.14	325.36	7,254.22	5,458.46	-2,396.02	5,458.46	0.39	0.37	0.13	
12,810.00	91.85	325.74	7,252.55	5,511.21	-2,432.22	5,511.21	1.26	1.11	0.59	
12,873.00	92.12	326.17	7,250.36	5,563.38	-2,467.46	5,563.38	0.81	0.43	0.68	
12,937.00	93.43	326.40	7,247.27	5,616.56	-2,502.95	5,616.56	2.08	2.05	0.36	
13,000.00	93.60	327.71	7,243.40	5,669.33	-2,537.14	5,669.33	2.09	0.27	2.08	
<b>Last SDI MWD Survey</b>										
13,070.00	93.60	327.71	7,239.01	5,728.38	-2,574.46	5,728.38	0.00	0.00	0.00	
<b>Projection to Bit</b>										

Design Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
18.00	18.00	0.00	0.00	Ground Level
103.00	103.00	-0.06	0.06	First SDI Gyro Survey
5,916.21	5,875.70	404.11	231.05	Last SDI Gyro Survey
5,942.00	5,901.03	408.39	233.26	First SDI MWD Survey
13,000.00	7,243.40	5,669.33	-2,537.14	Last SDI MWD Survey
13,070.00	7,239.01	5,728.38	-2,574.46	Projection to Bit

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

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