



Stone Energy

Mary Prospect

Bowyers Pad - Wetzel County, West Virginia

Bowyers 5H - Slot Bowyers #5H

OH

Design: As Drilled

Standard Survey Report

22 March, 2013



103.02770



Survey Report



Company: Stone Energy
 Project: Mary Prospect
 Site: Bowyers Pad - Wetzel County, West Virginia
 Well: Bowyers 5H
 Wellbore: OH
 Design: As Drilled

Local Co-ordinate Reference: Well Bowyers 5H - Slot Bowyers #5H
 TVD Reference: GL 1156' & KB 18' @ 1174.0usft (Saxon 141)
 MD Reference: GL 1156' & KB 18' @ 1174.0usft (Saxon 141)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Northeast Database - Server

Project	Mary Prospect, West Virginia		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	West Virginia North 4701		

Site Bowyers Pad - Wetzel County, West Virginia

Site Position: Northing: 429,490.00 usft Latitude: 39° 40' 17.125 N
 From: Map Easting: 1,621,591.00 usft Longitude: 80° 50' 39.652 W
 Position Uncertainty: 0.0 usft Slot Radius: 13-3/16" Grid Convergence: -0.86°

Well Bowyers 5H - Slot Bowyers #5H

Well Position +N/-S 0.0 usft Northing: 429,500.00 usft Latitude: 39° 40' 17.233 N
 +E/-W 0.0 usft Easting: 1,621,653.00 usft Longitude: 80° 50' 38.861 W
 Position Uncertainty 0.0 usft Wellhead Elevation: usft Ground Level: 1,156.0 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	9/5/2012	-8.45	67.29	52,712

Design As Drilled

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	351.68

Survey Program Date 3/22/2013

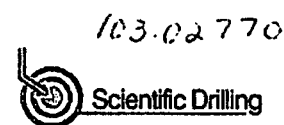
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
108.0	5,108.0	Survey 1 - Gyro (OH)	SDI Standard Keeper 103	SDI Standard Wireline Keeper ver 1.0.3
5,185.0	7,036.0	Survey 2 - Curve (OH)	MWD SDI	MWD - Standard ver 1.0.1
7,100.0	9,685.0	Survey 3 - Lateral (OH)	MWD SDI	MWD - Standard ver 1.0.1

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	
108.0	1.81	22.29	108.0	1.6	0.6	1.5	1.68	1.68	0.00	
First SDI Gyro Survey										
208.0	1.06	29.07	207.9	3.8	1.7	3.6	0.77	-0.75	6.78	
308.0	0.77	13.22	307.9	5.3	2.3	4.9	0.38	-0.29	-15.85	
408.0	0.49	34.23	407.9	6.3	2.7	5.9	0.36	-0.28	21.01	
508.0	0.33	50.43	507.9	6.9	3.2	6.3	0.20	-0.16	16.20	
608.0	0.29	68.72	607.9	7.1	3.6	6.5	0.11	-0.04	18.29	
708.0	0.18	88.37	707.9	7.2	4.0	6.6	0.13	-0.11	19.65	



Survey Report



Company: Stone Energy
 Project: Mary Prospect
 Site: Bowyers Pad - Wetzel County, West Virginia
 Well: Bowyers 5H
 Wellbore: OH
 Design: As Drilled

Local Co-ordinate Reference: Well Bowyers 5H - Slot Bowyers #5H
 TVD Reference: GL 1156' & KB 18' @ 1174.0usft (Saxon 141)
 MD Reference: GL 1156' & KB 18' @ 1174.0usft (Saxon 141)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Northeast Database - Server

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)
808.0	0.08	121.87	807.9	7.2	4.2	6.5	0.12	-0.10	33.50
908.0	0.04	257.41	907.9	7.1	4.2	6.5	0.11	-0.04	135.54
1,008.0	0.05	209.43	1,007.9	7.1	4.2	6.4	0.04	0.01	-47.98
1,108.0	0.09	161.99	1,107.9	7.0	4.2	6.3	0.07	0.04	-47.44
1,208.0	0.10	143.29	1,207.9	6.8	4.3	6.2	0.03	0.01	-18.70
1,308.0	0.20	90.07	1,307.9	6.8	4.5	6.1	0.16	0.10	-53.22
1,408.0	0.19	89.54	1,407.9	6.8	4.8	6.0	0.01	-0.01	-0.53
1,508.0	0.18	57.40	1,507.9	6.9	5.1	6.0	0.10	-0.01	-32.14
1,608.0	0.19	110.33	1,607.9	6.9	5.4	6.0	0.17	0.01	52.93
1,708.0	0.48	96.61	1,707.9	6.8	6.0	5.8	0.30	0.29	-13.72
1,808.0	0.50	90.76	1,807.9	6.7	6.8	5.7	0.05	0.02	-5.85
1,908.0	0.46	84.82	1,907.9	6.8	7.7	5.6	0.06	-0.04	-5.94
2,008.0	0.50	88.13	2,007.9	6.8	8.5	5.5	0.05	0.04	3.31
2,108.0	0.61	84.34	2,107.9	6.9	9.5	5.4	0.12	0.11	-3.79
2,208.0	0.48	81.45	2,207.9	7.0	10.4	5.4	0.13	-0.13	-2.89
2,308.0	0.66	97.79	2,307.9	7.0	11.4	5.3	0.24	0.18	16.34
2,408.0	1.73	100.87	2,407.9	6.6	13.5	4.6	1.07	1.07	3.08
2,508.0	3.26	98.92	2,507.8	5.9	17.8	3.3	1.53	1.53	-1.95
2,608.0	4.37	93.81	2,607.5	5.2	24.4	1.6	1.16	1.11	-5.11
2,708.0	5.34	87.24	2,707.2	5.2	32.8	0.4	1.12	0.97	-6.57
2,808.0	7.52	80.32	2,806.6	6.5	43.9	0.1	2.31	2.18	-6.92
2,908.0	7.92	68.04	2,905.7	10.2	56.8	1.8	1.69	0.40	-12.28
3,008.0	8.30	54.14	3,004.7	17.0	69.0	6.8	1.99	0.38	-13.90
3,108.0	9.34	44.99	3,103.5	26.9	80.6	15.0	1.74	1.04	-9.15
3,208.0	9.45	39.26	3,202.1	39.0	91.5	25.4	0.94	0.11	-5.73
3,308.0	9.24	37.81	3,300.8	51.7	101.6	36.5	0.32	-0.21	-1.45
3,408.0	7.59	26.16	3,399.7	64.0	109.5	47.5	2.36	-1.65	-11.65
3,508.0	5.27	27.24	3,499.1	74.0	114.5	56.7	2.32	-2.32	1.08
3,608.0	4.38	33.70	3,598.8	81.3	118.7	63.2	1.04	-0.89	6.46
3,708.0	3.46	26.28	3,698.5	87.2	122.2	68.6	1.05	-0.92	-7.42
3,808.0	2.16	41.11	3,798.4	91.3	124.7	72.3	1.48	-1.30	14.83
3,908.0	2.16	54.28	3,898.3	93.8	127.5	74.4	0.50	0.00	13.17
4,008.0	2.55	56.40	3,998.2	96.1	130.9	76.2	0.40	0.39	2.12
4,108.0	3.16	27.85	4,098.1	99.8	134.0	79.4	1.53	0.61	-28.55
4,208.0	3.07	20.61	4,198.0	104.8	136.3	83.9	0.40	-0.09	-7.24
4,308.0	1.79	350.44	4,297.9	108.8	138.9	87.8	1.77	-1.28	-30.17
4,408.0	0.76	282.69	4,397.9	110.5	136.0	89.6	1.66	-1.03	-67.75
4,508.0	0.52	288.45	4,497.9	110.8	135.0	90.1	0.25	-0.24	5.76
4,608.0	0.28	320.85	4,597.9	111.1	134.4	90.5	0.32	-0.24	32.40
4,708.0	0.27	14.35	4,697.9	111.5	134.3	90.9	0.25	-0.01	53.50
4,808.0	0.94	282.43	4,797.9	111.9	133.5	91.4	0.99	0.67	-91.92
4,908.0	2.14	253.94	4,897.8	111.6	130.9	91.5	1.39	1.20	-28.49
5,008.0	3.15	226.21	4,997.7	109.2	127.2	89.6	1.60	1.01	-27.73

103.02770



Survey Report



Company: Stone Energy
 Project: Mary Prospect
 Site: Bowyers Pad - Wetzel County, West Virginia
 Well: Bowyers 5H
 Wellbore: OH
 Design: As Drilled

Local Co-ordinate Reference: Well Bowyers 5H - Slot Bowyers #5H
 TVD Reference: GL 1156' & KB 18' @ 1174.0usft (Saxon 141)
 MD Reference: GL 1156' & KB 18' @ 1174.0usft (Saxon 141)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Northeast Database - Server

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)	
5,108.0	3.29	204.69	5,097.6	104.7	124.0	85.6	1.21	0.14	-21.52	
Last SDI Gyro Survey										
5,185.0	3.62	192.71	5,174.4	100.3	122.5	81.5	1.03	0.43	-15.56	
First SDI MWD Survey										
5,203.0	3.31	189.94	5,192.4	99.2	122.3	80.5	1.96	-1.72	-15.40	
5,235.0	4.24	189.88	5,224.3	97.1	121.9	78.5	2.91	2.91	-0.19	
5,266.0	5.49	189.52	5,255.2	94.6	121.5	76.0	4.03	4.03	-1.16	
5,297.0	5.97	188.46	5,286.0	91.5	121.0	73.0	1.59	1.55	-3.42	
5,329.0	6.03	175.45	5,317.9	88.2	120.9	69.7	4.24	0.19	-40.66	
5,360.0	6.54	156.17	5,348.7	84.9	121.8	66.4	6.97	1.65	-62.19	
5,392.0	6.80	136.88	5,380.5	81.9	123.8	63.1	7.02	0.81	-60.28	
5,423.0	6.33	114.09	5,411.3	79.8	126.6	60.7	8.48	-1.52	-73.52	
5,455.0	6.31	91.09	5,443.1	79.1	130.0	59.5	7.86	-0.06	-71.88	
5,486.0	6.51	70.70	5,473.9	79.6	133.3	59.5	7.33	0.65	-65.77	
5,518.0	7.49	61.64	5,505.7	81.2	136.9	60.6	4.60	3.06	-28.31	
5,550.0	9.12	57.51	5,537.3	83.6	140.9	62.3	5.42	5.09	-12.91	
5,581.0	10.39	55.91	5,567.9	86.5	145.2	64.5	4.19	4.10	-5.16	
5,613.0	11.74	52.56	5,599.3	90.1	150.2	67.4	4.67	4.22	-10.47	
5,645.0	13.51	47.65	5,630.5	94.6	155.6	71.1	6.46	5.53	-15.34	
5,676.0	15.06	44.96	5,660.5	99.9	161.1	75.5	5.44	5.00	-8.68	
5,708.0	16.71	41.90	5,691.3	106.2	167.1	80.9	5.78	5.16	-9.56	
5,740.0	18.18	37.83	5,721.9	113.6	173.2	87.3	5.97	4.59	-12.72	
5,771.0	20.15	35.41	5,751.1	121.8	179.3	94.5	6.85	6.35	-7.81	
5,803.0	21.82	33.88	5,781.0	131.2	185.8	102.9	5.49	5.22	-4.78	
5,835.0	23.97	33.05	5,810.5	141.6	192.7	112.2	6.79	6.72	-2.59	
5,866.0	26.17	31.70	5,838.6	152.7	199.7	122.2	7.33	7.10	-4.35	
5,898.0	27.68	31.44	5,867.1	165.0	207.3	133.3	4.73	4.72	-0.81	
5,930.0	30.06	31.17	5,895.1	178.2	215.3	145.2	7.45	7.44	-0.84	
5,961.0	32.90	30.75	5,921.6	192.1	223.6	157.7	9.19	9.16	-1.35	
5,993.0	34.17	30.17	5,948.2	207.3	232.6	171.5	4.09	3.97	-1.81	
6,025.0	35.27	27.90	5,974.5	223.3	241.4	186.0	5.30	3.44	-7.09	
6,056.0	36.99	24.45	5,999.6	239.7	249.5	201.1	8.59	5.55	-11.13	
6,088.0	39.07	21.25	6,024.8	257.8	257.1	217.9	8.95	6.50	-10.00	
6,119.0	40.78	18.35	6,048.5	276.6	263.8	235.5	8.15	5.52	-9.35	
6,151.0	42.24	16.36	6,072.5	296.8	270.2	254.6	6.15	4.56	-6.22	
6,183.0	43.59	14.34	6,095.9	317.8	275.9	274.5	6.02	4.22	-6.31	
6,215.0	45.48	12.37	6,118.8	339.6	281.1	295.4	7.32	5.91	-6.16	
6,247.0	47.85	11.26	6,140.7	362.4	285.9	317.2	7.82	7.41	-3.47	
6,279.0	50.11	10.13	6,161.7	386.2	290.3	340.1	7.55	7.06	-3.53	
6,311.0	52.20	9.15	6,181.8	410.7	294.5	363.8	6.95	6.53	-3.06	
6,342.0	54.19	8.31	6,200.4	435.3	298.3	387.5	6.78	6.42	-2.71	
6,374.0	56.07	7.31	6,218.7	461.3	301.8	412.7	6.41	5.88	-3.13	
6,406.0	57.86	6.04	6,236.1	487.9	305.0	438.6	6.51	5.59	-3.97	
6,438.0	60.17	4.37	6,252.6	515.2	307.4	465.3	8.49	7.22	-5.22	



Survey Report



Company: Stone Energy
 Project: Mary Prospect
 Site: Bowyers Pad - Wetzel County, West Virginia
 Well: Bowyers 5H
 Wellbore: OH
 Design: As Drilled

Local Co-ordinate Reference: Well Bowyers 5H - Slot Bowyers #5H
 TVD Reference: GL 1156' & KB 18' @ 1174.0usft (Saxon 141)
 MD Reference: GL 1156' & KB 18' @ 1174.0usft (Saxon 141)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Northeast Database - Server

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)
6,467.0	62.81	3.27	6,266.4	540.6	309.1	490.2	9.69	9.10	-3.79
6,499.0	64.69	3.17	6,280.6	569.3	310.7	518.3	5.88	5.88	-0.31
6,530.0	66.33	2.86	6,293.4	597.5	312.2	546.0	5.37	5.29	-1.00
6,562.0	68.42	1.82	6,305.7	627.0	313.4	575.0	7.19	6.53	-3.25
6,594.0	70.79	0.38	6,316.9	657.0	314.0	604.6	8.52	7.41	-4.50
6,625.0	73.22	359.08	6,326.5	686.4	313.9	633.8	8.79	7.84	-4.19
6,657.0	74.13	357.45	6,335.4	717.1	312.9	664.3	5.66	2.84	-5.09
6,689.0	75.76	355.46	6,343.8	748.0	311.0	695.1	7.87	5.09	-6.22
6,720.0	77.38	353.51	6,351.0	778.0	308.1	725.2	8.05	5.23	-6.29
6,752.0	79.71	351.29	6,357.3	809.1	304.0	756.6	9.96	7.28	-6.94
6,784.0	82.90	349.65	6,362.2	840.3	298.7	788.2	11.18	9.97	-5.13
6,815.0	84.59	348.99	6,365.5	870.5	293.0	819.0	5.85	5.45	-2.13
6,847.0	85.26	348.80	6,368.4	901.8	286.9	850.8	2.18	2.09	-0.59
6,878.0	86.51	348.05	6,370.6	932.1	280.7	881.7	4.70	4.03	-2.42
6,910.0	89.16	345.53	6,371.8	963.2	273.4	913.5	11.42	8.28	-7.88
6,973.0	90.20	343.53	6,372.1	1,024.0	256.6	976.0	3.58	1.65	-3.17
7,036.0	89.90	342.64	6,372.1	1,084.2	238.2	1,038.3	1.49	-0.48	-1.41
7,100.0	90.20	342.16	6,372.0	1,145.2	218.9	1,101.5	0.88	0.47	-0.75
7,163.0	90.57	341.79	6,371.6	1,205.1	199.4	1,163.6	0.83	0.59	-0.59
7,226.0	90.07	341.60	6,371.3	1,264.9	179.6	1,225.6	0.85	-0.79	-0.30
7,290.0	89.30	341.51	6,371.6	1,325.7	159.4	1,288.6	1.21	-1.20	-0.14
7,353.0	90.20	341.96	6,371.9	1,385.5	139.6	1,350.7	1.60	1.43	0.71
7,416.0	89.87	342.97	6,371.9	1,445.6	120.6	1,412.9	1.69	-0.52	1.60
7,480.0	89.36	343.28	6,372.3	1,506.8	102.1	1,476.2	0.93	-0.80	0.48
7,543.0	90.23	343.39	6,372.5	1,567.1	84.0	1,538.5	1.39	1.38	0.17
7,606.0	90.74	341.76	6,372.0	1,627.3	65.1	1,600.7	2.71	0.81	-2.59
7,669.0	90.27	341.80	6,371.4	1,687.1	45.4	1,662.8	0.75	-0.75	0.06
7,732.0	89.66	341.46	6,371.5	1,746.9	25.6	1,724.8	1.11	-0.97	-0.54
7,795.0	90.50	342.66	6,371.4	1,805.8	6.2	1,786.9	2.33	1.33	1.90
7,858.0	91.41	343.33	6,370.3	1,867.1	-12.3	1,849.2	1.79	1.44	1.06
7,922.0	91.04	343.28	6,368.9	1,928.3	-30.6	1,912.5	0.58	-0.58	-0.08
7,986.0	90.74	342.64	6,368.0	1,989.5	-49.4	1,975.7	1.10	-0.47	-1.00
8,049.0	90.40	342.38	6,367.3	2,049.6	-68.3	2,037.9	0.68	-0.54	-0.41
8,113.0	90.54	341.52	6,366.8	2,110.5	-88.1	2,101.0	1.36	0.22	-1.34
8,176.0	89.93	341.60	6,366.5	2,170.2	-108.1	2,163.0	0.98	-0.97	0.13
8,240.0	89.87	342.12	6,366.7	2,231.0	-128.0	2,226.1	0.82	-0.09	0.81
8,304.0	90.87	342.40	6,366.2	2,292.0	-147.5	2,289.2	1.62	1.56	0.44
8,367.0	90.81	342.71	6,365.3	2,352.1	-166.4	2,351.4	0.50	-0.10	0.49
8,431.0	90.77	342.34	6,364.4	2,413.1	-185.6	2,414.6	0.58	-0.06	-0.58
8,494.0	90.10	341.69	6,364.0	2,473.0	-205.1	2,476.7	1.48	-1.08	-1.03
8,557.0	89.66	341.59	6,364.1	2,532.8	-224.9	2,538.7	0.72	-0.70	-0.16
8,621.0	90.64	342.11	6,363.9	2,593.7	-244.8	2,601.8	1.73	1.53	0.81
8,684.0	90.77	341.80	6,363.1	2,653.5	-264.3	2,663.9	0.53	0.21	-0.49

103.02770



Survey Report



Company: Stone Energy
 Project: Mary Prospect
 Site: Bowyers Pad - Wetzol County, West Virginia
 Well: Bowyers 5H
 Wellbore: OH
 Design: As Drilled

Local Co-ordinate Reference: Well Bowyers 5H - Slot Bowyers #5H
 TVD Reference: GL 1156' & KB 18' @ 1174.0usft (Saxon 141)
 MD Reference: GL 1156' & KB 18' @ 1174.0usft (Saxon 141)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: Northeast Database - Server

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)
8,747.0	90.84	341.44	6,362.3	2,713.3	-284.2	2,725.9	0.58	0.11	-0.57
8,811.0	90.94	341.69	6,361.3	2,774.0	-304.4	2,788.9	0.42	0.16	0.39
8,875.0	91.01	342.21	6,360.2	2,834.9	-324.3	2,852.0	0.82	0.11	0.81
8,938.0	90.60	342.46	6,359.3	2,894.9	-343.4	2,914.1	0.76	-0.65	0.40
9,002.0	89.23	342.72	6,359.4	2,956.0	-362.5	2,977.3	2.18	-2.14	0.41
9,065.0	88.76	343.45	6,360.5	3,016.2	-380.9	3,030.6	1.38	-0.75	1.16
9,129.0	89.33	343.28	6,361.6	3,077.5	-399.2	3,102.9	0.93	0.89	-0.27
9,192.0	89.90	343.39	6,362.0	3,137.9	-417.2	3,165.2	0.92	0.90	0.17
9,256.0	90.87	343.88	6,361.6	3,199.3	-435.3	3,228.6	1.70	1.52	0.77
9,320.0	90.67	344.42	6,360.7	3,260.9	-452.8	3,292.1	0.90	-0.31	0.84
9,383.0	90.74	345.06	6,359.9	3,321.6	-469.3	3,354.6	1.02	0.11	1.02
9,447.0	90.00	344.54	6,359.5	3,383.4	-486.1	3,418.1	1.41	-1.16	-0.81
9,510.0	89.30	344.48	6,359.9	3,444.1	-502.9	3,480.6	1.12	-1.11	-0.10
9,574.0	90.34	344.64	6,360.1	3,505.8	-520.0	3,544.1	1.64	1.63	0.25
9,627.0	91.11	344.71	6,359.4	3,556.9	-534.0	3,596.8	1.46	1.45	0.13
Last SDI MWD Survey									
9,685.0	91.11	344.71	6,358.3	3,612.8	-549.3	3,654.3	0.00	0.00	0.00

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
108.0	108.0	1.6	0.6	First SDI Gyro Survey
5,108.0	5,097.6	104.7	124.0	Last SDI Gyro Survey
5,185.0	5,174.4	100.3	122.5	First SDI MWD Survey
9,627.0	6,359.4	3,556.9	-534.0	Last SDI MWD Survey
9,685.0	6,358.3	3,612.9	-549.3	Projection to bit

Checked By: _____ Approved By: _____ Date: _____