



Project: Mary Prospect
 Site: Howell Pad
 Well: Howell 4H
 Wellbore: OH
 Design: As Drilled



WELL DETAILS: Howell 4H

+N/S 0.0 +E/W 0.0
 Northing 401685.24 Easting 1635258.13
 Ground Level: 1302.0
 Longitude 80° 47' 39.758 W
 Latitude 39° 35' 44.323 N

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well Howell 4H, Grid North
 Vertical (TVD) Reference: GL 1302 & KB 18' @ 1320.0usft (Saxon 141)
 Section (VS) Reference: Slo - (0.0N, 0.0E)
 Measured Depth Reference: GL 1302 & KB 18' @ 1320.0usft (Saxon 141)
 Calculation Method: Minimum Curvature

PROJECT DETAILS: Mary Prospect

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

SECTION DETAILS

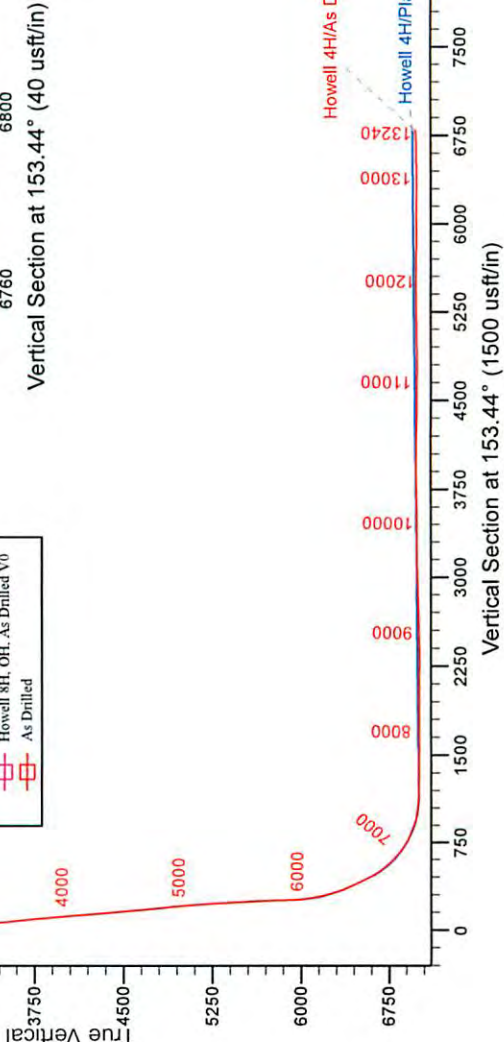
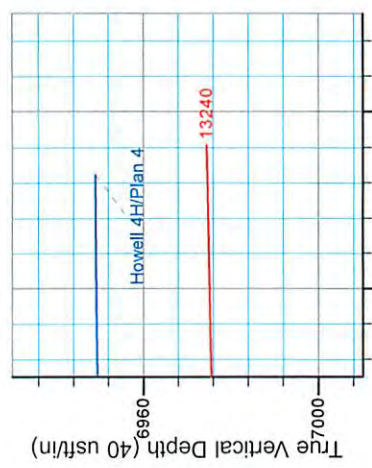
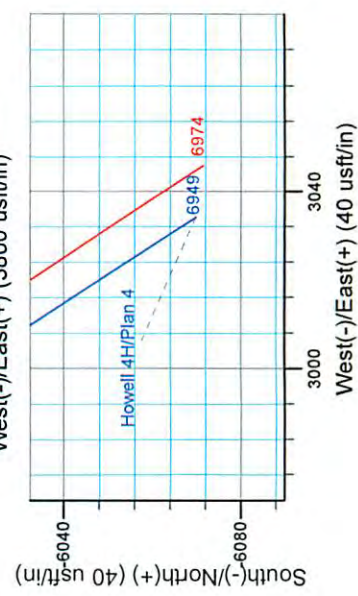
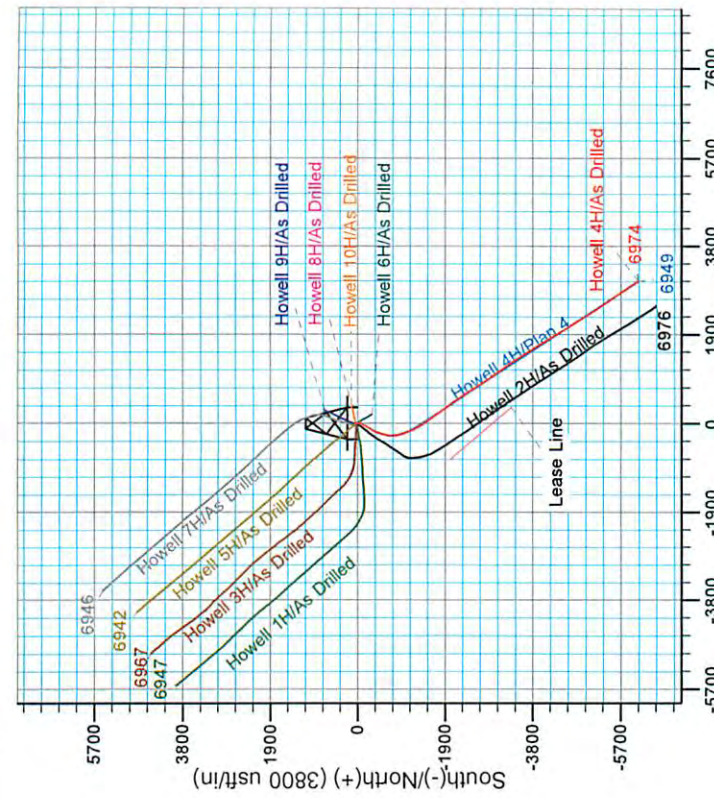
Sec	MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	TFace	VSec	Target
1	5883.0	3.67	206.85	5855.5	-367.3	-177.4	0.00	0.00	249.2	
2	5980.0	3.67	206.85	5952.3	-372.8	-180.2	0.00	0.00	252.9	
3	6471.5	33.09	195.94	6413.7	-519.1	-225.2	6.00	-12.11	363.6	
4	6679.0	33.09	195.94	6587.5	-628.0	-256.3	0.00	0.00	447.1	
5	7547.0	90.50	147.00	6999.0	-1304.7	-60.4	8.00	-53.64	1140.0	Howell 4H LP4
6	13228.6	90.50	147.00	6949.0	-6069.6	3033.9	0.00	0.00	6785.6	Howell 4H_PBHL3

Azimuths to Grid North
 True North: 0.83°
 Magnetic North: -7.73°
 Magnetic Field
 Strength: 52492.38nT
 Dip Angle: 67.15°
 Date: 10/8/2013
 Model: BGGN2013

- LEGEND
- Howell 1H, OH, As Drilled V0
 - Howell 6H, OH, As Drilled V0
 - Howell 2H, OH, As Drilled V0
 - Howell 7H, OH, As Drilled V0
 - Howell 10H, OH, As Drilled V0
 - Howell 9H, OH, As Drilled V0
 - Howell 5H, OH, As Drilled V0
 - Howell 4H, OH, Plan 4 V0
 - Howell 3H, OH, As Drilled V0
 - Howell 8H, OH, As Drilled V0
 - As Drilled

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Stone Energy

Mary Prospect
Howell Pad
Howell 4H

OH

Design: As Drilled

Standard Survey Report

18 October, 2013



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Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well Howell 4H
Project:	Mary Prospect	TVD Reference:	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
Site:	Howell Pad	MD Reference:	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
Well:	Howell 4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Northeast District

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	Howell Pad				
Site Position:		Northing:	401,702.68 usft	Latitude:	39° 35' 44.492 N
From:	Map	Easting:	1,635,235.83 usft	Longitude:	80° 47' 40.046 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.83 °

Well	Howell 4H					
Well Position	+N/-S	0.0 usft	Northing:	401,685.24 usft	Latitude:	39° 35' 44.323 N
	+E/-W	0.0 usft	Easting:	1,635,258.13 usft	Longitude:	80° 47' 39.758 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,302.0 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/26/2013	-8.49	67.17	52,600
	IGRF2010	7/29/2013	-8.50	67.14	52,558
	BGGM2013	9/24/2013	-8.55	67.15	52,497
	BGGM2013	10/8/2013	-8.55	67.15	52,492

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	153.44	

Survey Program	Date	10/18/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
18.0	2,403.0	Survey 1 - Gyro (OH)	SDI Standard Keeper 103	SDI Standard Wireline Keeper ver 1.0.3	
2,428.3	13,240.0	Survey 2 - MWD (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	
18.0	0.00	360.00	18.0	0.0	0.0	0.0	0.00	0.00	0.00	
Ground Level										
103.0	0.55	102.05	103.0	0.0	0.4	0.3	0.65	0.65	0.00	
First SDI Gyro Survey										
203.0	0.10	120.00	203.0	-0.2	0.9	0.6	0.46	-0.45	17.95	
303.0	0.32	138.33	303.0	-0.5	1.2	1.0	0.23	0.22	18.33	

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Survey Report



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Site:	Howell Pad	MD Reference:	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
Well:	Howell 4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Northeast District

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)
403.0	0.22	140.62	403.0	-0.8	1.5	1.4	0.10	-0.10	2.29
503.0	0.17	143.62	503.0	-1.1	1.7	1.8	0.05	-0.05	3.00
603.0	0.30	148.74	603.0	-1.4	1.9	2.2	0.13	0.13	5.12
703.0	0.24	144.04	703.0	-1.8	2.2	2.6	0.06	-0.06	-4.70
803.0	0.16	165.18	803.0	-2.1	2.4	3.0	0.11	-0.08	21.14
903.0	0.07	139.35	903.0	-2.3	2.4	3.2	0.10	-0.09	-25.83
1,003.0	0.21	129.98	1,003.0	-2.5	2.6	3.4	0.14	0.14	-9.37
1,103.0	0.12	166.96	1,103.0	-2.7	2.8	3.7	0.14	-0.09	36.98
1,203.0	0.20	151.61	1,203.0	-3.0	2.9	3.9	0.09	0.08	-15.35
1,303.0	0.32	159.47	1,303.0	-3.4	3.1	4.4	0.12	0.12	7.86
1,403.0	0.11	145.87	1,403.0	-3.7	3.2	4.8	0.21	-0.21	-13.60
1,503.0	0.22	145.42	1,503.0	-4.0	3.4	5.1	0.11	0.11	-0.45
1,603.0	0.17	236.14	1,603.0	-4.2	3.4	5.3	0.28	-0.05	90.72
1,703.0	0.38	267.65	1,703.0	-4.3	2.9	5.1	0.25	0.21	31.51
1,803.0	0.15	258.78	1,803.0	-4.3	2.5	5.0	0.23	-0.23	-8.87
1,903.0	0.02	270.73	1,903.0	-4.4	2.3	4.9	0.13	-0.13	11.95
2,003.0	0.21	205.33	2,003.0	-4.5	2.2	5.0	0.20	0.19	-65.40
2,103.0	0.33	194.10	2,103.0	-5.0	2.1	5.4	0.13	0.12	-11.23
2,203.0	0.53	164.69	2,203.0	-5.7	2.1	6.0	0.29	0.20	-29.41
2,303.0	0.45	172.49	2,303.0	-6.5	2.3	6.9	0.10	-0.08	7.80
2,403.0	0.71	130.54	2,403.0	-7.3	2.8	7.8	0.48	0.26	-41.95
Last SDI Gyro Survey									
2,428.3	0.69	95.45	2,428.3	-7.4	3.1	8.0	1.67	-0.08	-138.67
First SDI MWD Survey									
2,517.0	0.98	129.83	2,517.0	-8.0	4.2	9.0	0.64	0.33	38.76
2,609.0	1.88	162.72	2,608.9	-9.9	5.3	11.2	1.29	0.98	35.75
2,701.0	2.62	174.09	2,700.9	-13.5	5.9	14.7	0.94	0.80	12.36
2,794.0	3.11	182.71	2,793.7	-18.1	6.0	18.9	0.70	0.53	9.27
2,887.0	3.88	186.81	2,886.6	-23.7	5.5	23.7	0.87	0.83	4.41
2,977.0	4.49	193.25	2,976.3	-30.2	4.4	28.9	0.85	0.68	7.16
3,069.0	5.50	200.27	3,068.0	-37.8	2.0	34.7	1.28	1.10	7.63
3,162.0	6.34	205.27	3,160.5	-46.7	-1.7	41.0	1.06	0.90	5.38
3,255.0	7.20	205.05	3,252.8	-56.6	-6.4	47.7	0.93	0.92	-0.24
3,345.0	8.12	208.13	3,342.0	-67.3	-11.8	54.9	1.12	1.02	3.42
3,438.0	8.96	208.22	3,434.0	-79.5	-18.3	62.9	0.90	0.90	0.10
3,530.0	9.24	205.93	3,524.8	-92.4	-24.9	71.5	0.50	0.30	-2.49
3,628.0	9.14	210.53	3,621.6	-106.2	-32.3	80.5	0.76	-0.10	4.69
3,720.0	9.05	207.36	3,712.4	-118.9	-39.3	88.8	0.55	-0.10	-3.45
3,813.0	8.93	203.47	3,804.3	-132.0	-45.6	97.7	0.67	-0.13	-4.18
3,906.0	9.22	208.36	3,896.1	-145.2	-52.0	106.6	0.89	0.31	5.26
3,999.0	9.10	215.97	3,987.9	-157.7	-59.9	114.9	1.31	-0.13	8.18
4,091.0	8.68	213.42	4,078.8	-169.4	-68.0	121.1	0.63	-0.46	-2.77
4,183.0	8.29	210.54	4,169.8	-180.9	-75.1	128.2	0.63	-0.42	-3.13

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Site:	Howell Pad	MD Reference:	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
Well:	Howell 4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Northeast District

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)
4,273.0	7.72	209.06	4,259.0	-191.8	-81.4	135.2	0.67	-0.63	-1.64
4,367.0	8.13	210.51	4,352.1	-203.0	-87.8	142.3	0.49	0.44	1.54
4,458.0	7.37	207.47	4,442.2	-213.8	-93.8	149.3	0.95	-0.84	-3.34
4,552.0	7.74	207.34	4,535.4	-224.7	-99.5	156.5	0.39	0.39	-0.14
4,645.0	8.37	207.26	4,627.5	-236.3	-105.4	164.2	0.68	0.68	-0.09
4,736.0	8.95	204.22	4,717.4	-248.6	-111.4	172.6	0.81	0.64	-3.34
4,831.0	9.62	208.50	4,811.2	-262.4	-118.2	181.8	1.01	0.71	4.51
4,924.0	9.31	208.27	4,902.9	-275.8	-125.5	190.6	0.34	-0.33	-0.25
5,017.0	8.67	205.94	4,994.8	-288.7	-132.1	199.2	0.79	-0.69	-2.51
5,111.0	8.84	211.86	5,087.7	-301.3	-139.0	207.3	0.98	0.18	6.30
5,205.0	8.65	212.34	5,180.6	-313.4	-146.6	214.7	0.22	-0.20	0.51
5,297.0	7.34	210.39	5,271.7	-324.3	-153.3	221.5	1.45	-1.42	-2.12
5,391.0	6.00	213.50	5,365.1	-333.6	-159.0	227.3	1.48	-1.43	3.31
5,482.0	5.27	210.79	5,455.6	-341.1	-163.8	231.9	0.85	-0.80	-2.98
5,576.0	4.14	208.22	5,549.3	-347.8	-167.6	236.2	1.22	-1.20	-2.73
5,668.0	4.80	205.79	5,641.0	-354.2	-170.9	240.4	0.75	0.72	-2.64
5,759.0	3.71	208.34	5,731.8	-360.2	-173.9	244.5	1.22	-1.20	2.80
5,820.0	3.54	204.00	5,792.7	-363.7	-175.6	246.8	0.53	-0.28	-7.11
5,857.0	3.74	207.93	5,829.6	-365.8	-176.6	248.2	0.86	0.54	10.62
5,920.0	3.57	205.23	5,892.5	-369.4	-178.4	250.6	0.38	-0.27	-4.29
5,952.0	3.24	204.13	5,924.4	-371.1	-179.2	251.8	1.05	-1.03	-3.44
5,984.0	4.12	201.75	5,956.3	-373.0	-180.0	253.1	2.79	2.75	-7.44
6,016.0	6.25	202.51	5,988.2	-375.7	-181.1	255.0	6.66	6.66	2.38
6,047.0	7.92	201.93	6,019.0	-379.2	-182.6	257.6	5.39	5.39	-1.87
6,079.0	10.16	200.02	6,050.6	-383.9	-184.4	261.0	7.06	7.00	-5.97
6,111.0	11.79	196.35	6,082.0	-389.7	-186.2	265.3	5.54	5.09	-11.47
6,143.0	13.12	193.36	6,113.2	-396.4	-188.0	270.5	4.62	4.16	-9.34
6,175.0	14.07	193.56	6,144.3	-403.7	-189.8	276.2	2.97	2.97	0.63
6,207.0	15.77	195.36	6,175.2	-411.7	-191.8	282.5	5.51	5.31	5.63
6,239.0	18.28	195.90	6,205.8	-420.7	-194.3	289.4	7.86	7.84	1.69
6,270.0	20.93	196.07	6,235.0	-430.7	-197.2	297.1	8.55	8.55	0.55
6,302.0	23.40	196.46	6,264.7	-442.3	-200.6	305.9	7.73	7.72	1.22
6,334.0	24.94	196.11	6,293.9	-454.8	-204.3	315.5	4.83	4.81	-1.09
6,366.0	27.07	196.40	6,322.6	-468.3	-208.2	325.8	6.67	6.66	0.91
6,398.0	28.67	196.68	6,350.9	-482.7	-212.5	336.7	5.02	5.00	0.88
6,430.0	31.11	196.12	6,378.7	-497.9	-217.0	348.4	7.67	7.63	-1.75
6,462.0	31.80	195.72	6,406.0	-514.0	-221.5	360.7	2.25	2.16	-1.25
6,494.0	31.07	194.83	6,433.3	-530.1	-225.9	373.2	2.70	-2.28	-2.78
6,525.0	31.37	195.48	6,459.8	-545.6	-230.1	385.1	1.46	0.97	2.10
6,556.0	32.61	196.06	6,486.1	-561.4	-234.6	397.3	4.12	4.00	1.87
6,588.0	32.94	195.76	6,513.0	-578.1	-239.3	410.1	1.15	1.03	-0.94
6,620.0	33.95	196.47	6,539.7	-595.0	-244.2	423.0	3.38	3.16	2.22
6,651.0	34.38	196.62	6,565.3	-611.7	-249.2	435.7	1.41	1.39	0.48
6,683.0	34.87	194.88	6,591.6	-629.2	-254.1	449.2	3.45	1.53	-5.44

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6,715.0	35.97	191.86	6,617.7	-647.2	-258.4	463.4	6.46	3.44	-9.44
6,747.0	38.53	188.62	6,643.2	-666.3	-261.8	478.9	10.08	8.00	-10.13
6,778.0	40.27	185.45	6,667.2	-685.8	-264.2	495.3	8.58	5.61	-10.23
6,810.0	41.85	181.75	6,691.3	-706.8	-265.5	513.5	9.06	4.94	-11.56
6,842.0	42.56	178.27	6,715.0	-728.3	-265.5	532.7	7.63	2.22	-10.88
6,874.0	44.05	175.63	6,738.3	-750.2	-264.4	552.8	7.33	4.66	-8.25
6,906.0	45.83	173.24	6,760.9	-772.7	-262.2	573.9	7.67	5.56	-7.47
6,938.0	47.52	172.03	6,782.9	-795.8	-259.2	595.9	5.95	5.28	-3.78
6,969.0	49.78	171.28	6,803.4	-818.8	-255.8	618.0	7.51	7.29	-2.42
7,001.0	51.52	170.76	6,823.7	-843.2	-251.9	641.6	5.58	5.44	-1.63
7,033.0	53.33	169.43	6,843.2	-868.2	-247.6	665.9	6.55	5.66	-4.16
7,065.0	55.44	168.29	6,861.8	-893.7	-242.5	691.0	7.20	6.59	-3.56
7,096.0	59.05	166.71	6,878.6	-919.2	-236.9	716.3	12.41	11.65	-5.10
7,128.0	62.36	165.69	6,894.2	-946.3	-230.2	743.5	10.71	10.34	-3.19
7,160.0	63.86	165.51	6,908.7	-973.9	-223.1	771.4	4.71	4.69	-0.56
7,191.0	65.46	165.03	6,922.0	-1,001.0	-216.0	798.8	5.35	5.16	-1.55
7,230.0	68.06	162.47	6,937.4	-1,035.4	-206.0	834.1	8.99	6.67	-6.56
7,261.0	69.36	161.50	6,948.6	-1,062.9	-197.1	862.6	5.11	4.19	-3.13
7,291.0	71.63	160.29	6,958.6	-1,089.6	-187.8	890.7	8.47	7.57	-4.03
7,322.0	73.41	158.94	6,967.9	-1,117.3	-177.5	920.1	7.09	5.74	-4.35
7,352.0	76.55	157.49	6,975.7	-1,144.2	-166.7	948.9	11.46	10.47	-4.83
7,382.0	80.08	155.84	6,981.8	-1,171.2	-155.1	978.3	12.94	11.77	-5.50
7,413.0	81.98	154.01	6,986.6	-1,198.9	-142.1	1,008.9	8.46	6.13	-5.90
7,443.0	82.68	152.13	6,990.6	-1,225.4	-128.7	1,038.6	6.63	2.33	-6.27
7,474.0	84.01	150.07	6,994.2	-1,252.4	-113.8	1,069.4	7.87	4.29	-6.65
7,504.0	85.39	149.38	6,997.0	-1,278.2	-98.7	1,099.2	5.14	4.60	-2.30
7,534.0	86.81	149.02	6,999.0	-1,303.9	-83.4	1,129.0	4.88	4.73	-1.20
7,564.0	89.13	148.65	7,000.1	-1,329.5	-67.9	1,158.9	7.83	7.73	-1.23
7,595.0	89.97	148.28	7,000.3	-1,356.0	-51.7	1,189.8	2.96	2.71	-1.19
7,655.0	90.44	147.75	7,000.1	-1,406.8	-19.9	1,249.5	1.18	0.78	-0.88
7,716.0	89.56	146.62	7,000.1	-1,458.1	13.2	1,310.1	2.35	-1.44	-1.85
7,777.0	89.33	145.93	7,000.7	-1,508.8	47.0	1,370.7	1.19	-0.38	-1.13
7,840.0	89.70	146.12	7,001.3	-1,561.1	82.2	1,433.1	0.66	0.59	0.30
7,904.0	89.23	145.05	7,001.8	-1,613.9	118.4	1,496.5	1.83	-0.73	-1.67
7,968.0	89.13	144.67	7,002.8	-1,666.2	155.2	1,559.8	0.61	-0.16	-0.59
8,031.0	89.63	144.42	7,003.4	-1,717.5	191.8	1,622.0	0.89	0.79	-0.40
8,095.0	90.40	144.14	7,003.4	-1,769.5	229.1	1,685.2	1.28	1.20	-0.44
8,158.0	89.53	143.60	7,003.5	-1,820.4	266.3	1,747.3	1.63	-1.38	-0.86
8,222.0	89.03	143.54	7,004.3	-1,871.9	304.3	1,810.4	0.79	-0.78	-0.09
8,285.0	89.60	143.24	7,005.0	-1,922.4	341.9	1,872.4	1.02	0.90	-0.48
8,349.0	90.17	144.06	7,005.2	-1,974.0	379.8	1,935.5	1.56	0.89	1.28
8,412.0	90.87	145.06	7,004.6	-2,025.4	416.2	1,997.7	2.27	1.11	1.98
8,476.0	90.37	145.48	7,003.9	-2,078.0	452.6	2,061.1	0.83	-0.78	0.27

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Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well Howell 4H
Project:	Mary Prospect	TVD Reference:	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
Site:	Howell Pad	MD Reference:	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
Well:	Howell 4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Northeast District

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)
8,539.0	89.90	145.78	7,003.7	-2,130.0	488.1	2,123.5	0.89	-0.75	0.48
8,603.0	89.29	146.54	7,004.2	-2,183.2	523.8	2,187.0	1.52	-0.95	1.19
8,667.0	89.06	147.46	7,005.1	-2,236.9	558.6	2,250.6	1.48	-0.36	1.44
8,730.0	89.40	146.18	7,006.0	-2,289.6	593.1	2,313.2	2.10	0.54	-2.03
8,794.0	91.21	147.52	7,005.6	-2,343.2	628.1	2,376.7	3.52	2.83	2.09
8,857.0	90.84	147.27	7,004.5	-2,396.2	662.0	2,439.4	0.71	-0.59	-0.40
8,921.0	91.91	149.21	7,003.0	-2,450.6	695.7	2,503.1	3.46	1.67	3.03
8,984.0	92.05	149.68	7,000.8	-2,504.9	727.7	2,565.9	0.78	0.22	0.75
9,048.0	90.47	147.57	6,999.4	-2,559.5	761.0	2,629.7	4.12	-2.47	-3.30
9,112.0	90.64	146.66	6,998.8	-2,613.2	795.8	2,693.3	1.45	0.27	-1.42
9,176.0	91.88	146.49	6,997.3	-2,666.6	831.0	2,756.8	1.96	1.94	-0.27
9,239.0	91.95	146.20	6,995.2	-2,719.0	865.9	2,819.3	0.47	0.11	-0.46
9,303.0	91.48	145.40	6,993.3	-2,771.9	901.9	2,882.7	1.45	-0.73	-1.25
9,366.0	92.46	145.94	6,991.2	-2,823.9	937.4	2,945.1	1.78	1.56	0.86
9,430.0	91.44	146.63	6,989.0	-2,877.1	972.9	3,008.5	1.92	-1.59	1.08
9,493.0	91.41	146.94	6,987.4	-2,929.8	1,007.4	3,071.1	0.49	-0.05	0.49
9,557.0	91.11	145.75	6,986.0	-2,983.1	1,042.8	3,134.6	1.92	-0.47	-1.86
9,621.0	90.47	144.52	6,985.1	-3,035.6	1,079.4	3,197.9	2.17	-1.00	-1.92
9,685.0	89.70	143.61	6,985.0	-3,087.4	1,117.0	3,261.0	1.86	-1.20	-1.42
9,748.0	90.40	143.52	6,985.0	-3,138.1	1,154.4	3,323.1	1.12	1.11	-0.14
9,812.0	90.84	143.62	6,984.3	-3,189.6	1,192.4	3,386.1	0.71	0.69	0.16
9,875.0	90.77	143.55	6,983.4	-3,240.3	1,229.8	3,448.2	0.16	-0.11	-0.11
9,939.0	90.37	144.45	6,982.8	-3,292.1	1,267.4	3,511.3	1.54	-0.63	1.41
10,002.0	90.44	146.60	6,982.3	-3,344.0	1,303.1	3,573.7	3.41	0.11	3.41
10,066.0	90.77	148.31	6,981.6	-3,397.9	1,337.5	3,637.4	2.72	0.52	2.67
10,130.0	91.38	147.98	6,980.4	-3,452.3	1,371.3	3,701.1	1.08	0.95	-0.52
10,193.0	91.95	148.49	6,978.6	-3,505.8	1,404.4	3,763.8	1.21	0.90	0.81
10,256.0	91.61	148.42	6,976.7	-3,559.5	1,437.4	3,826.5	0.55	-0.54	-0.11
10,320.0	90.97	148.03	6,975.2	-3,613.9	1,471.0	3,890.3	1.17	-1.00	-0.61
10,383.0	89.13	148.40	6,975.2	-3,667.4	1,504.2	3,953.0	2.98	-2.92	0.59
10,447.0	88.59	148.03	6,976.4	-3,721.8	1,537.9	4,016.7	1.02	-0.84	-0.58
10,510.0	88.96	147.99	6,977.8	-3,775.2	1,571.3	4,079.4	0.59	0.59	-0.06
10,575.0	89.76	148.05	6,978.5	-3,830.4	1,605.7	4,144.1	1.23	1.23	0.09
10,638.0	88.92	147.92	6,979.2	-3,883.8	1,639.1	4,206.8	1.35	-1.33	-0.21
10,700.0	88.35	147.65	6,980.7	-3,936.2	1,672.2	4,268.5	1.02	-0.92	-0.44
10,764.0	89.09	148.03	6,982.1	-3,990.4	1,706.2	4,332.2	1.30	1.16	0.59
10,828.0	89.89	148.39	6,982.7	-4,044.8	1,739.9	4,395.9	1.37	1.25	0.56
10,892.0	89.23	149.39	6,983.2	-4,099.6	1,773.0	4,459.7	1.87	-1.03	1.56
10,955.0	89.19	149.56	6,984.1	-4,153.8	1,805.0	4,522.6	0.28	-0.06	0.27
11,019.0	89.66	149.87	6,984.7	-4,209.1	1,837.3	4,586.4	0.88	0.73	0.48
11,083.0	89.16	149.67	6,985.4	-4,264.4	1,869.5	4,650.3	0.84	-0.78	-0.31
11,145.0	88.76	148.78	6,986.1	-4,317.7	1,901.2	4,712.1	1.57	-0.65	-1.44
11,212.0	90.47	148.25	6,987.3	-4,426.0	1,967.5	4,838.6	1.41	1.35	-0.42

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Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well Howell 4H
Project:	Mary Prospect	TVD Reference:	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
Site:	Howell Pad	MD Reference:	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
Well:	Howell 4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Northeast District

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)
11,336.0	89.87	147.85	6,987.2	-4,480.3	2,001.4	4,902.3	1.13	-0.94	-0.63
11,400.0	89.50	147.78	6,987.5	-4,534.4	2,035.5	4,966.0	0.59	-0.58	-0.11
11,463.0	90.67	149.11	6,987.4	-4,588.1	2,068.5	5,028.8	2.81	1.86	2.11
11,527.0	91.44	149.60	6,986.2	-4,643.2	2,101.1	5,092.6	1.43	1.20	0.77
11,591.0	91.34	149.15	6,984.7	-4,698.2	2,133.7	5,156.4	0.72	-0.16	-0.70
11,654.0	91.18	147.96	6,983.3	-4,751.9	2,166.5	5,219.2	1.91	-0.25	-1.89
11,718.0	91.68	147.58	6,981.7	-4,806.1	2,200.6	5,282.9	0.98	0.78	-0.59
11,782.0	90.77	146.42	6,980.3	-4,859.7	2,235.5	5,346.4	2.30	-1.42	-1.81
11,845.0	90.64	147.36	6,979.6	-4,912.5	2,269.9	5,409.0	1.51	-0.21	1.49
11,909.0	90.71	147.37	6,978.8	-4,966.4	2,304.4	5,472.7	0.11	0.11	0.02
11,972.0	90.30	146.68	6,978.2	-5,019.2	2,338.7	5,535.3	1.27	-0.65	-1.10
12,036.0	89.97	146.40	6,978.1	-5,072.6	2,374.0	5,598.8	0.68	-0.52	-0.44
12,099.0	89.26	145.96	6,978.5	-5,125.0	2,409.0	5,661.3	1.33	-1.13	-0.70
12,163.0	89.40	146.33	6,979.3	-5,178.1	2,444.7	5,724.8	0.62	0.22	0.58
12,226.0	89.23	146.09	6,980.0	-5,230.5	2,479.7	5,787.3	0.47	-0.27	-0.38
12,290.0	88.89	146.35	6,981.1	-5,283.7	2,515.3	5,850.7	0.67	-0.53	0.41
12,354.0	88.25	146.12	6,982.7	-5,336.8	2,550.9	5,914.2	1.06	-1.00	-0.36
12,417.0	89.33	146.83	6,984.0	-5,389.4	2,585.7	5,976.8	2.05	1.71	1.13
12,481.0	89.90	147.63	6,984.4	-5,443.2	2,620.3	6,040.4	1.53	0.89	1.25
12,545.0	90.30	146.43	6,984.3	-5,496.9	2,655.1	6,104.0	1.98	0.63	-1.88
12,609.0	91.61	146.60	6,983.3	-5,550.2	2,690.4	6,167.5	2.06	2.05	0.27
12,673.0	91.08	146.44	6,981.7	-5,603.6	2,725.7	6,231.0	0.87	-0.83	-0.25
12,736.0	90.30	145.97	6,981.0	-5,656.0	2,760.8	6,293.5	1.45	-1.24	-0.75
12,800.0	90.84	144.92	6,980.4	-5,708.7	2,797.1	6,356.9	1.84	0.84	-1.64
12,863.0	90.77	145.57	6,979.5	-5,760.4	2,833.0	6,419.2	1.04	-0.11	1.03
12,927.0	90.03	145.30	6,979.0	-5,813.1	2,869.3	6,482.6	1.23	-1.16	-0.42
12,991.0	90.74	144.75	6,978.6	-5,865.6	2,906.0	6,545.9	1.40	1.11	-0.86
13,054.0	91.58	145.57	6,977.3	-5,917.3	2,942.0	6,608.2	1.86	1.33	1.30
13,117.0	90.30	145.92	6,976.3	-5,969.3	2,977.4	6,670.7	2.11	-2.03	0.56
13,181.0	91.04	146.28	6,975.5	-6,022.4	3,013.1	6,734.1	1.29	1.16	0.56
Last SDI MWD Survey									
13,240.0	91.04	146.28	6,974.5	-6,071.5	3,045.8	6,792.6	0.00	0.00	0.00
Projection to Bit									

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Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well Howell 4H
Project:	Mary Prospect	TVD Reference:	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
Site:	Howell Pad	MD Reference:	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
Well:	Howell 4H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Northeast District

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
18.0	18.0	0.0	0.0	Ground Level
103.0	103.0	-0.1	0.4	First SDI Gyro Survey
2,403.0	2,403.0	-7.3	2.8	Last SDI Gyro Survey
2,428.3	2,428.3	-7.4	3.1	First SDI MWD Survey
13,181.0	6,975.5	-6,022.4	3,013.1	Last SDI MWD Survey
13,240.0	6,974.5	-6,071.5	3,045.8	Projection to Bit

Checked By: _____ Approved By: _____ Date: _____

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