



Project: Mary Prospect  
 Site: Howell Pad  
 Well: Howell 3H  
 Wellbore: OH  
 Design: As Drilled



WELL DETAILS: Howell 3H

+N/S 0.0 +E/W 0.0 Northing 401722.75 Easting 1635233.58 Ground Level: 1302.0  
 Longitude 80° 47' 40.079 W  
 Latitude 39° 35' 44.690 N

REFERENCE INFORMATION

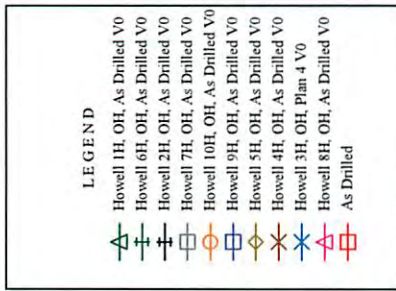
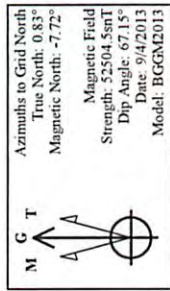
Co-ordinate (N/E) Reference: Well Howell 3H, Grid North  
 Vertical (TVD) Reference: GL 1302 & KB 18' @ 1320 usft (Saxon 141)  
 Section (VS) Reference: Slot - (0.0N, 0.0E)  
 Measured Depth Reference: GL 1302 & KB 18' @ 1320 usft (Saxon 141)  
 Calculation Method: Minimum Curvature

PROJECT DETAILS: Mary Prospect

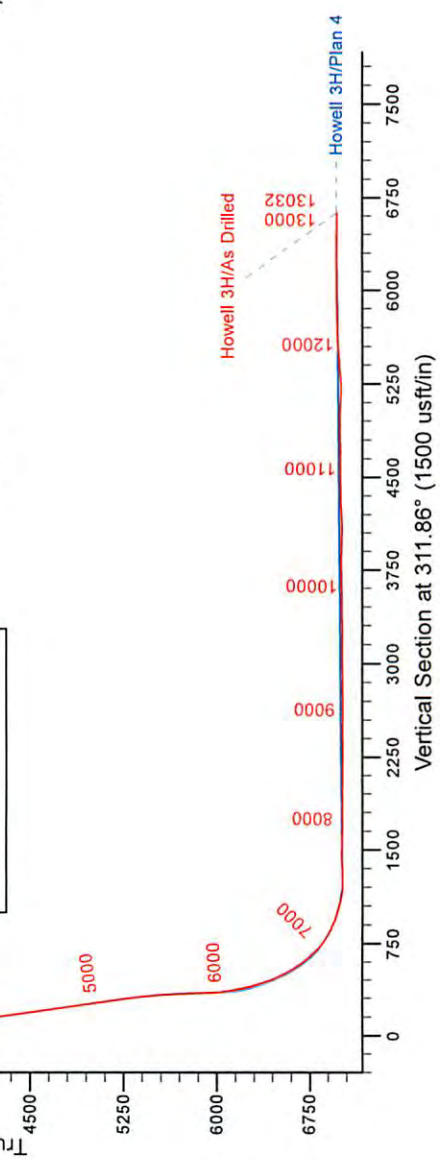
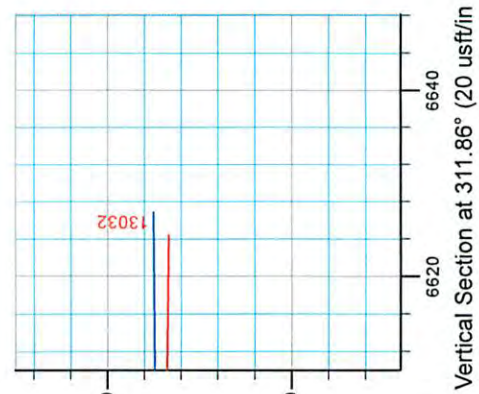
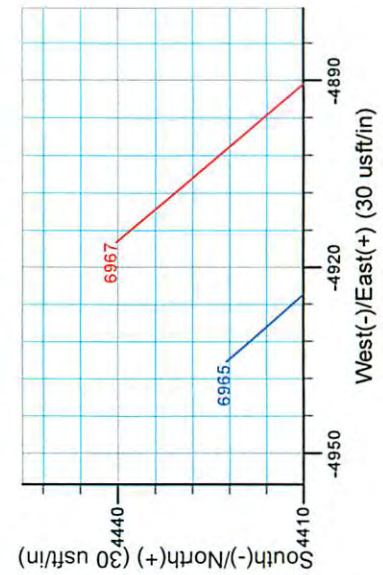
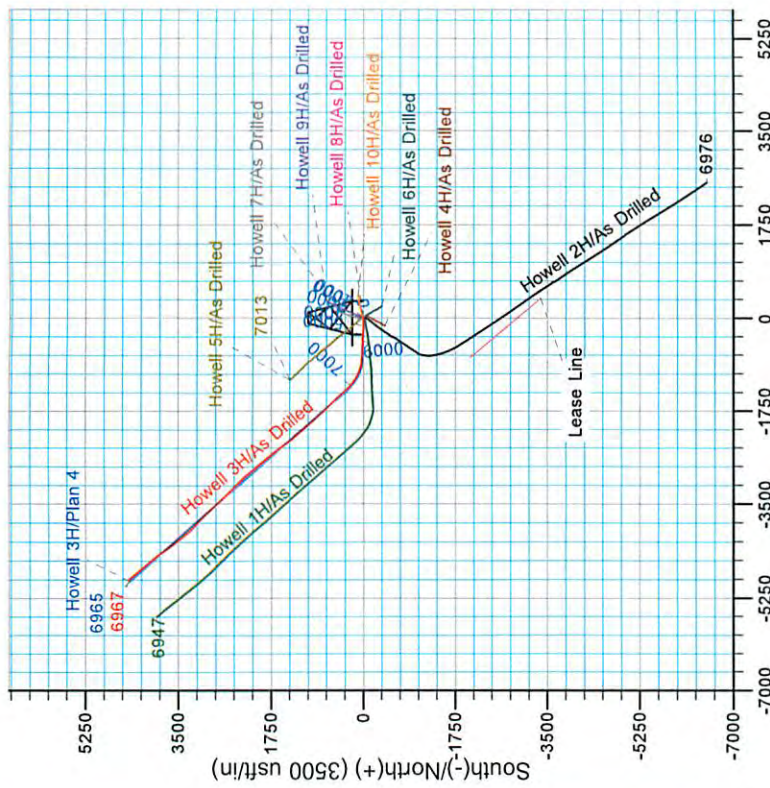
Geodetic System: US State Plane 1927 (Exact solution)  
 Datum: NAD 1927 (NADCON CONUS)  
 Ellipsoid: Clarke 1866  
 Zone: West Virginia North, 4701  
 System Datum: Mean Sea Level

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	TFace	VSec	Target
1	588.0	2.52	257.54	5856.0	25.3	-433.3	0.00	0.00	339.6	
2	5987.0	2.52	257.54	5932.9	24.3	-437.3	0.00	0.00	342.1	
3	6886.7	48.63	271.62	6743.0	25.9	-814.9	5.13	14.66	626.9	
4	7633.3	90.50	319.00	7012.0	350.0	-1395.0	7.99	58.32	1272.5	Howell 3H_LPM
5	515031.7	90.50	319.00	6963.0	4422.3	-4935.3	0.00	0.00	6626.9	Howell 3H_PBH13



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06/12/2015



## Stone Energy

Mary Prospect  
Howell Pad  
Howell 3H

OH

Design: As Drilled

## Standard Survey Report

01 October, 2013



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**Scientific Drilling International**  
Survey Report

<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Howell 3H
<b>Project:</b>	Mary Prospect	<b>TVD Reference:</b>	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
<b>Site:</b>	Howell Pad	<b>MD Reference:</b>	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
<b>Well:</b>	Howell 3H	<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>	Mary Prospect, 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>	Howell Pad				
<b>Site Position:</b>		<b>Northing:</b>	401,702.68 usft	<b>Latitude:</b>	39° 35' 44.492 N
<b>From:</b>	Map	<b>Easting:</b>	1,635,235.83 usft	<b>Longitude:</b>	80° 47' 40.046 W
<b>Position Uncertainty:</b>	0.0 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	-0.83 °

<b>Well</b>	Howell 3H					
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	401,722.75 usft	<b>Latitude:</b>	39° 35' 44.690 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	1,635,233.58 usft	<b>Longitude:</b>	80° 47' 40.079 W
<b>Position Uncertainty</b>		0.0 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b>	1,302.0 usft

<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	12/20/2012	-8.48	67.19	52,632
	IGRF2010	7/29/2013	-8.50	67.14	52,558
	BGGM2013	9/4/2013	-8.55	67.15	52,504

<b>Design</b>	As Drilled				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0		311.86

<b>Survey Program</b>	<b>Date</b>	9/19/2013			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
18.0	2,403.0	Survey 1 - Gyro (OH)	SDI Standard Keeper 103	SDI Standard Wireline Keeper ver 1.0.3	
2,503.0	13,032.0	Survey 2 - MWD (OH)	MWD SDI	MWD - Standard ver 1.0.1	

<b>Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
18.0	0.00	0.00	18.0	0.0	0.0	0.0	0.00	0.00	0.00	
<b>Ground Level</b>										
103.0	0.39	121.85	103.0	-0.2	0.2	-0.3	0.46	0.46	0.00	
<b>First SDI Gyro Survey</b>										
203.0	0.47	104.60	203.0	-0.4	0.9	4.6	0.15	0.08	-17.25	
303.0	0.27	127.49	303.0	-0.7	1.5	11.6	0.24	-0.20	22.89	

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<b>Site:</b>	Howell Pad	<b>MD Reference:</b>	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
<b>Well:</b>	Howell 3H	<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 (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	0.19	128.49	403.0	-0.9	1.8	-2.0	0.08	-0.08	1.00
503.0	0.40	116.72	503.0	-1.2	2.3	-2.5	0.22	0.21	-11.77
603.0	0.33	117.06	603.0	-1.5	2.8	-3.1	0.07	-0.07	0.34
703.0	0.33	141.84	703.0	-1.8	3.3	-3.7	0.14	0.00	24.78
803.0	0.18	136.15	803.0	-2.2	3.6	-4.1	0.15	-0.15	-5.69
903.0	0.50	126.21	903.0	-2.5	4.0	-4.7	0.32	0.32	-9.94
1,003.0	0.30	118.30	1,003.0	-2.9	4.6	-5.4	0.21	-0.20	-7.91
1,103.0	0.29	106.05	1,103.0	-3.1	5.1	-5.9	0.06	-0.01	-12.25
1,203.0	0.26	112.80	1,203.0	-3.3	5.5	-6.3	0.04	-0.03	6.75
1,303.0	0.54	111.36	1,303.0	-3.5	6.2	-7.0	0.28	0.28	-1.44
1,403.0	0.78	99.19	1,403.0	-3.8	7.3	-8.0	0.28	0.24	-12.17
1,503.0	0.80	102.92	1,503.0	-4.1	8.6	-9.2	0.06	0.02	3.73
1,603.0	0.69	95.46	1,603.0	-4.3	9.9	-10.3	0.15	-0.11	-7.46
1,703.0	0.31	96.31	1,702.9	-4.4	10.8	-11.0	0.38	-0.38	0.85
1,803.0	0.29	86.29	1,802.9	-4.4	11.3	-11.4	0.06	-0.02	-10.02
1,903.0	0.26	81.95	1,902.9	-4.3	11.8	-11.7	0.04	-0.03	-4.34
2,003.0	0.09	94.90	2,002.9	-4.3	12.1	-11.9	0.17	-0.17	12.95
2,103.0	0.10	240.85	2,102.9	-4.4	12.1	-11.9	0.18	0.01	145.95
2,203.0	0.12	209.85	2,202.9	-4.5	12.0	-11.9	0.06	0.02	-31.00
2,303.0	0.37	101.95	2,302.9	-4.7	12.2	-12.2	0.42	0.25	-107.90
2,403.0	0.50	111.83	2,402.9	-4.9	13.0	-12.9	0.15	0.13	9.88
<b>Last SDI Gyro Survey</b>									
2,503.0	0.34	89.86	2,502.9	-5.1	13.7	-13.5	0.22	-0.16	-21.97
<b>First SDI MWD Survey</b>									
2,603.0	0.89	281.71	2,602.9	-4.9	13.2	-13.1	1.22	0.55	-168.15
2,703.0	3.02	288.87	2,702.9	-3.9	9.9	-10.0	2.14	2.13	7.16
2,803.0	3.80	289.93	2,802.7	-1.9	4.3	-4.5	0.78	0.78	1.06
2,903.0	3.93	286.02	2,902.5	0.2	-2.1	1.7	0.29	0.13	-3.91
3,003.0	5.23	284.94	3,002.1	2.3	-9.8	8.8	1.30	1.30	-1.08
3,103.0	7.33	274.30	3,101.5	3.9	-20.5	17.9	2.39	2.10	-10.64
3,203.0	7.88	275.80	3,200.7	5.1	-33.7	28.5	0.58	0.55	1.50
3,303.0	8.26	267.50	3,299.7	5.5	-47.7	39.2	1.22	0.38	-8.30
3,403.0	9.18	270.83	3,398.5	5.3	-62.9	50.4	1.05	0.92	3.33
3,503.0	9.62	265.81	3,497.2	4.8	-79.2	62.2	0.93	0.44	-5.02
3,603.0	9.14	266.02	3,595.8	3.6	-95.4	73.5	0.48	-0.48	0.21
3,703.0	8.88	270.26	3,694.6	3.1	-111.1	84.8	0.71	-0.26	4.24
3,803.0	8.70	271.75	3,793.4	3.4	-126.4	96.4	0.29	-0.18	1.49
3,903.0	8.93	275.98	3,892.3	4.4	-141.6	108.4	0.69	0.23	4.23
4,003.0	9.07	272.62	3,991.0	5.6	-157.2	120.8	0.54	0.14	-3.36
4,103.0	9.07	277.17	4,089.8	6.9	-172.9	133.4	0.72	0.00	4.55
4,203.0	9.37	273.61	4,188.5	8.4	-188.9	146.3	0.64	0.30	-3.56
4,303.0	9.44	271.48	4,287.1	9.2	-205.2	158.9	0.36	0.07	-2.13
4,403.0	9.34	268.34	4,385.8	9.1	-221.5	171.1	0.52	-0.10	-3.14
4,503.0	9.63	268.34	4,484.4	8.4	-238.0	182.8	0.45	0.29	-2.11

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Survey Report

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<b>Site:</b>	Howell Pad	<b>MD Reference:</b>	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
<b>Well:</b>	Howell 3H	<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 (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,603.0	10.10	268.61	4,583.0	7.6	-255.1	195.0	0.62	0.47	2.38	
4,703.0	9.93	279.78	4,681.4	8.8	-272.3	208.7	1.95	-0.17	11.17	
4,803.0	10.32	282.07	4,779.9	12.2	-289.6	223.8	0.56	0.39	2.29	
4,903.0	9.86	278.68	4,878.3	15.3	-306.8	238.7	0.75	-0.46	-3.39	
5,003.0	9.81	274.99	4,976.9	17.4	-323.8	252.7	0.63	-0.05	-3.69	
5,103.0	10.29	273.36	5,075.3	18.6	-341.2	266.5	0.56	0.48	-1.63	
5,203.0	10.80	272.54	5,173.6	19.6	-359.4	280.8	0.53	0.51	-0.82	
5,303.0	9.57	273.15	5,272.1	20.5	-377.1	294.5	1.23	-1.23	0.61	
5,403.0	8.04	275.83	5,370.9	21.6	-392.4	306.6	1.58	-1.53	2.68	
5,503.0	6.49	276.91	5,470.1	23.0	-404.9	316.9	1.56	-1.55	1.08	
5,603.0	4.96	272.21	5,569.6	23.9	-414.9	324.9	1.60	-1.53	-4.70	
5,703.0	3.91	274.01	5,669.3	24.3	-422.6	330.9	1.06	-1.05	1.80	
5,803.0	2.66	272.77	5,769.1	24.6	-428.3	335.4	1.25	-1.25	-1.24	
5,878.0	2.52	257.54	5,844.0	24.3	-431.7	337.7	0.93	-0.19	-20.31	
5,906.0	2.57	264.47	5,872.0	24.2	-432.9	338.5	1.11	0.18	24.75	
5,938.0	2.45	262.64	5,904.0	24.0	-434.3	339.4	0.45	-0.38	-5.72	
5,969.0	3.20	263.71	5,934.9	23.8	-435.8	340.4	2.43	2.42	3.45	
6,001.0	5.21	267.97	5,966.9	23.7	-438.1	342.1	6.35	6.28	13.31	
6,033.0	7.18	269.33	5,998.7	23.6	-441.6	344.6	6.17	6.16	4.25	
6,064.0	8.83	270.17	6,029.4	23.6	-445.9	347.8	5.34	5.32	2.71	
6,096.0	10.30	271.25	6,060.9	23.6	-451.2	351.8	4.63	4.59	3.38	
6,128.0	10.99	272.25	6,092.4	23.8	-457.1	356.3	2.23	2.16	3.13	
6,160.0	11.43	271.81	6,123.8	24.0	-463.3	361.1	1.40	1.38	-1.38	
6,192.0	13.04	272.65	6,155.0	24.3	-470.1	366.3	5.06	5.03	2.63	
6,224.0	14.81	272.96	6,186.1	24.7	-477.8	372.3	5.54	5.53	0.97	
6,255.0	16.38	272.64	6,215.9	25.1	-486.1	378.8	5.07	5.06	-1.03	
6,287.0	17.72	273.08	6,246.5	25.6	-495.5	386.1	4.21	4.19	1.38	
6,319.0	18.84	273.76	6,276.9	26.2	-505.5	393.9	3.56	3.50	2.13	
6,351.0	20.42	273.22	6,307.1	26.8	-516.3	402.4	4.97	4.94	-1.69	
6,382.0	22.29	272.58	6,335.9	27.4	-527.5	411.1	6.08	6.03	-2.06	
6,414.0	24.16	271.46	6,365.3	27.8	-540.1	420.8	6.00	5.84	-3.50	
6,446.0	25.57	270.69	6,394.4	28.1	-553.6	431.0	4.52	4.41	-2.41	
6,477.0	27.29	271.09	6,422.1	28.3	-567.4	441.4	5.58	5.55	1.29	
6,507.0	28.63	271.07	6,448.6	28.6	-581.4	452.1	4.47	4.47	-0.07	
6,537.0	30.18	271.46	6,474.8	28.9	-596.2	463.3	5.21	5.17	1.30	
6,567.0	31.44	271.42	6,500.5	29.3	-611.5	475.0	4.20	4.20	-0.13	
6,598.0	33.57	271.79	6,526.7	29.7	-628.2	487.7	6.90	6.87	1.19	
6,628.0	35.29	272.65	6,551.4	30.4	-645.1	500.7	5.96	5.73	2.87	
6,659.0	37.17	272.77	6,576.4	31.3	-663.4	514.9	6.07	6.06	0.39	
6,689.0	38.19	273.30	6,600.2	32.2	-681.7	529.2	3.57	3.40	1.77	
6,720.0	39.56	273.81	6,624.3	33.4	-701.2	544.5	4.54	4.42	1.65	
6,750.0	41.86	274.58	6,647.0	34.9	-720.7	560.0	7.85	7.67	2.57	
6,780.0	43.78	275.35	6,669.0	36.6	-741.0	576.3	6.63	6.40	2.57	

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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)
6,810.0	44.93	275.66	6,690.5	38.7	-761.9	593.2	3.90	3.83	1.03
6,841.0	46.63	275.94	6,712.1	40.9	-784.0	611.1	5.52	5.48	0.90
6,871.0	47.09	275.37	6,732.6	43.1	-805.7	628.8	2.07	1.53	-1.90
6,901.0	47.46	275.23	6,753.0	45.1	-827.7	646.5	1.28	1.23	-0.47
6,931.0	48.46	276.15	6,773.1	47.3	-849.9	664.5	4.04	3.33	3.07
6,961.0	49.19	278.54	6,792.8	50.2	-872.3	683.1	6.47	2.43	7.97
6,991.0	50.25	281.66	6,812.2	54.2	-894.8	702.6	8.68	3.53	10.40
7,021.0	51.79	284.10	6,831.1	59.4	-917.5	723.0	8.14	5.13	8.13
7,052.0	54.59	286.49	6,849.7	66.0	-941.4	745.2	10.94	9.03	7.71
7,082.0	57.87	288.50	6,866.3	73.5	-965.2	767.9	12.27	10.93	6.70
7,112.0	60.16	290.76	6,881.8	82.1	-989.4	791.7	10.00	7.63	7.53
7,143.0	62.12	292.13	6,896.7	92.0	-1,014.7	817.1	7.41	6.32	4.42
7,173.0	63.64	293.24	6,910.4	102.3	-1,039.3	842.3	6.04	5.07	3.70
7,204.0	65.24	294.47	6,923.8	113.7	-1,064.9	868.9	6.28	5.16	3.97
7,234.0	67.10	295.97	6,935.9	125.4	-1,089.7	895.2	7.70	6.20	5.00
7,264.0	68.89	298.11	6,947.2	138.0	-1,114.5	922.1	8.91	5.97	7.13
7,294.0	70.88	300.48	6,957.5	151.8	-1,139.1	949.6	9.95	6.63	7.90
7,324.0	72.70	303.27	6,966.8	166.8	-1,163.3	977.7	10.72	6.07	9.30
7,355.0	73.93	304.97	6,975.7	183.5	-1,187.8	1,007.1	6.58	3.97	5.48
7,386.0	75.27	306.34	6,984.0	200.9	-1,212.1	1,036.8	6.07	4.32	4.42
7,416.0	76.14	307.68	6,991.4	218.4	-1,235.3	1,065.8	5.21	2.90	4.47
7,446.0	77.84	309.61	6,998.1	236.7	-1,258.2	1,094.9	8.45	5.67	6.43
7,476.0	79.47	311.80	7,004.0	255.8	-1,280.5	1,124.4	8.99	5.43	7.30
7,507.0	82.73	313.65	7,008.8	276.6	-1,303.0	1,155.0	12.06	10.52	5.97
7,570.0	90.34	317.45	7,012.6	321.5	-1,346.9	1,217.7	13.49	12.08	6.03
7,633.0	91.78	318.64	7,011.5	368.3	-1,389.1	1,280.3	2.96	2.29	1.89
7,697.0	93.09	318.13	7,008.8	416.1	-1,431.5	1,343.8	2.20	2.05	-0.80
7,761.0	90.91	316.68	7,006.5	463.2	-1,474.8	1,407.5	4.09	-3.41	-2.27
7,824.0	88.79	315.94	7,006.7	508.8	-1,518.3	1,470.3	3.56	-3.37	-1.17
7,888.0	89.23	316.00	7,007.8	554.8	-1,562.8	1,534.1	0.69	0.69	0.09
7,951.0	89.60	316.10	7,008.4	600.1	-1,606.5	1,596.9	0.61	0.59	0.16
8,015.0	87.85	315.97	7,009.9	646.2	-1,650.9	1,660.7	2.74	-2.73	-0.20
8,078.0	88.42	316.07	7,011.9	691.5	-1,694.7	1,723.5	0.92	0.90	0.16
8,142.0	89.06	316.11	7,013.3	737.6	-1,739.0	1,787.4	1.00	1.00	0.06
8,204.0	89.93	315.92	7,013.9	782.2	-1,782.1	1,849.2	1.44	1.40	-0.31
8,268.0	90.57	316.13	7,013.6	828.2	-1,826.5	1,913.0	1.05	1.00	0.33
8,331.0	89.09	316.82	7,013.8	873.9	-1,869.9	1,975.8	2.59	-2.35	1.10
8,394.0	89.80	316.82	7,014.4	919.9	-1,913.0	2,038.6	1.13	1.13	0.00
8,458.0	90.71	317.02	7,014.1	966.6	-1,956.7	2,102.3	1.46	1.42	0.31
8,521.0	88.96	318.30	7,014.3	1,013.2	-1,999.2	2,165.0	3.44	-2.78	2.03
8,585.0	89.70	317.64	7,015.0	1,060.7	-2,042.0	2,228.6	1.55	1.16	-1.03
8,648.0	90.30	317.71	7,015.0	1,107.3	-2,084.4	2,291.3	0.96	0.95	0.11
8,711.0	90.23	319.75	7,014.7	1,154.6	-2,126.0	2,353.8	3.24	-0.11	3.24
8,774.0	90.60	319.26	7,014.3	1,202.5	-2,166.9	2,416.3	0.95	0.59	-0.75



**Scientific Drilling International**  
Survey Report

<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Howell 3H
<b>Project:</b>	Mary Prospect	<b>TVD Reference:</b>	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
<b>Site:</b>	Howell Pad	<b>MD Reference:</b>	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
<b>Well:</b>	Howell 3H	<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 (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,837.0	88.36	319.54	7,014.9	1,250.4	-2,207.9	2,478.7	3.58	-3.56	0.41
8,901.0	88.66	318.50	7,016.5	1,298.7	-2,249.8	2,542.2	1.69	0.47	-1.63
8,964.0	90.57	320.45	7,016.9	1,346.6	-2,290.8	2,604.6	4.33	3.03	3.10
9,028.0	92.08	324.54	7,015.5	1,397.3	-2,329.7	2,667.5	6.81	2.36	6.39
9,091.0	90.40	323.81	7,014.1	1,448.4	-2,366.6	2,729.1	2.91	-2.67	-1.16
9,155.0	90.13	323.39	7,013.8	1,499.9	-2,404.5	2,791.7	0.78	-0.42	-0.66
9,218.0	90.54	322.75	7,013.4	1,550.2	-2,442.4	2,853.5	1.21	0.65	-1.02
9,281.0	90.87	321.85	7,012.7	1,600.1	-2,480.9	2,915.5	1.52	0.52	-1.43
9,349.0	91.21	321.90	7,011.4	1,653.6	-2,522.9	2,982.4	0.51	0.50	0.07
9,413.0	89.90	322.46	7,010.8	1,704.1	-2,562.1	3,045.4	2.23	-2.05	0.88
9,477.0	89.73	322.35	7,011.0	1,754.8	-2,601.2	3,108.3	0.32	-0.27	-0.17
9,540.0	90.47	322.88	7,010.9	1,804.9	-2,639.4	3,170.2	1.44	1.17	0.84
9,604.0	90.84	322.98	7,010.2	1,856.0	-2,678.0	3,233.0	0.60	0.58	0.16
9,666.0	91.18	322.00	7,009.1	1,905.1	-2,715.7	3,293.9	1.67	0.55	-1.58
9,730.0	91.18	320.52	7,007.8	1,955.0	-2,755.8	3,357.0	2.31	0.00	-2.31
9,793.0	89.76	318.63	7,007.2	2,003.0	-2,796.6	3,419.5	3.75	-2.25	-3.00
9,857.0	89.36	318.75	7,007.7	2,051.1	-2,838.9	3,483.0	0.65	-0.63	0.19
9,920.0	91.14	320.81	7,007.5	2,099.2	-2,879.6	3,545.4	4.32	2.83	3.27
9,984.0	90.91	321.27	7,006.3	2,148.9	-2,919.8	3,608.6	0.80	-0.36	0.72
10,047.0	91.81	322.55	7,004.8	2,198.5	-2,958.6	3,670.6	2.48	1.43	2.03
10,111.0	91.34	318.58	7,003.1	2,247.9	-2,999.3	3,733.8	6.24	-0.73	-6.20
10,174.0	88.32	315.23	7,003.2	2,293.9	-3,042.3	3,796.6	7.16	-4.79	-5.32
10,238.0	88.25	313.75	7,005.2	2,338.7	-3,087.9	3,860.5	2.31	-0.11	-2.31
10,301.0	88.28	313.71	7,007.1	2,382.2	-3,133.4	3,923.4	0.08	0.05	-0.06
10,365.0	89.43	315.41	7,008.4	2,427.1	-3,179.0	3,987.3	3.21	1.80	2.66
10,396.0	89.46	314.78	7,008.7	2,449.1	-3,200.9	4,018.3	2.03	0.10	-2.03
10,428.0	90.74	315.22	7,008.6	2,471.7	-3,223.5	4,050.2	4.23	4.00	1.38
10,459.0	91.68	315.85	7,007.9	2,493.8	-3,245.3	4,081.1	3.65	3.03	2.03
10,491.0	92.29	315.79	7,006.8	2,516.8	-3,267.5	4,113.0	1.92	1.91	-0.19
10,522.0	92.32	315.42	7,005.6	2,538.9	-3,289.2	4,144.0	1.20	0.10	-1.19
10,554.0	92.59	315.11	7,004.2	2,561.6	-3,311.7	4,175.9	1.28	0.84	-0.97
10,586.0	92.38	314.71	7,002.8	2,584.2	-3,334.4	4,207.8	1.41	-0.66	-1.25
10,618.0	92.08	315.09	7,001.6	2,606.7	-3,357.0	4,239.7	1.51	-0.94	1.19
10,650.0	92.56	315.54	7,000.3	2,629.5	-3,379.5	4,271.6	2.06	1.50	1.41
10,681.0	92.93	316.25	6,998.8	2,651.7	-3,401.0	4,302.5	2.58	1.19	2.29
10,713.0	91.07	316.42	6,997.7	2,674.8	-3,423.1	4,334.4	5.84	-5.81	0.53
10,745.0	90.07	314.62	6,997.4	2,697.7	-3,445.5	4,366.3	6.43	-3.13	-5.63
10,776.0	90.00	313.97	6,997.3	2,719.3	-3,467.7	4,397.3	2.11	-0.23	-2.10
10,808.0	90.30	314.30	6,997.3	2,741.6	-3,490.7	4,429.3	1.39	0.94	1.03
10,840.0	90.50	315.34	6,997.0	2,764.2	-3,513.4	4,461.2	3.31	0.63	3.25
10,872.0	90.74	316.51	6,996.7	2,787.2	-3,535.6	4,493.2	3.73	0.75	3.66
10,903.0	90.67	317.84	6,996.3	2,809.9	-3,556.7	4,524.0	4.30	-0.23	4.29
10,935.0	90.50	319.71	6,996.0	2,834.0	-3,577.8	4,555.8	5.87	-0.53	5.84

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**Scientific Drilling International**  
Survey Report

<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Howell 3H
<b>Project:</b>	Mary Prospect	<b>TVD Reference:</b>	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
<b>Site:</b>	Howell Pad	<b>MD Reference:</b>	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
<b>Well:</b>	Howell 3H	<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 (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,966.0	90.44	320.94	6,995.7	2,857.8	-3,597.6	4,586.4	3.97	-0.19	3.97
10,998.0	90.94	321.14	6,995.3	2,882.7	-3,617.7	4,618.0	1.68	1.56	0.63
11,061.0	90.10	317.30	6,994.8	2,930.4	-3,658.9	4,680.5	6.24	-1.33	-6.10
11,093.0	89.90	315.95	6,994.8	2,953.6	-3,680.8	4,712.4	4.26	-0.63	-4.22
11,125.0	90.67	316.17	6,994.6	2,976.7	-3,703.0	4,744.3	2.50	2.41	0.69
11,156.0	91.04	317.84	6,994.2	2,999.4	-3,724.2	4,775.2	5.52	1.19	5.39
11,188.0	90.77	316.98	6,993.6	3,022.9	-3,745.8	4,807.0	2.82	-0.84	-2.69
11,220.0	90.17	314.60	6,993.4	3,045.8	-3,768.1	4,838.9	7.67	-1.88	-7.44
11,252.0	90.44	314.53	6,993.2	3,068.3	-3,790.9	4,870.9	0.87	0.84	-0.22
11,283.0	90.97	313.78	6,992.8	3,089.9	-3,813.2	4,901.9	2.96	1.71	-2.42
11,315.0	90.03	311.67	6,992.6	3,111.6	-3,836.7	4,933.9	7.22	-2.94	-6.59
11,347.0	89.73	310.43	6,992.6	3,132.6	-3,860.8	4,965.9	3.99	-0.94	-3.88
11,379.0	88.92	309.86	6,993.0	3,153.3	-3,885.3	4,997.9	3.10	-2.53	-1.78
11,411.0	87.68	310.74	6,993.9	3,173.9	-3,909.7	5,029.8	4.75	-3.88	2.75
11,442.0	86.61	311.52	6,995.5	3,194.3	-3,933.0	5,060.8	4.27	-3.45	2.52
11,474.0	86.80	314.02	6,997.3	3,216.0	-3,956.4	5,092.7	7.82	0.59	7.81
11,505.0	86.67	315.74	6,999.1	3,237.8	-3,978.4	5,123.6	5.56	-0.42	5.55
11,537.0	88.32	318.05	7,000.5	3,261.2	-4,000.2	5,155.5	8.87	5.16	7.22
11,569.0	90.71	320.53	7,000.8	3,285.4	-4,021.1	5,187.2	10.76	7.47	7.75
11,633.0	92.56	321.70	6,998.9	3,335.2	-4,061.2	5,250.3	3.42	2.89	1.83
11,696.0	93.84	321.33	6,995.4	3,384.5	-4,100.4	5,312.3	2.11	2.03	-0.59
11,760.0	94.23	321.38	6,990.9	3,434.3	-4,140.2	5,375.3	0.61	0.61	0.08
11,791.0	95.44	321.44	6,988.3	3,458.5	-4,159.5	5,405.8	3.91	3.90	0.19
11,823.0	96.12	322.05	6,985.1	3,483.5	-4,179.2	5,437.1	2.85	2.13	1.91
11,855.0	95.85	322.91	6,981.7	3,508.7	-4,198.6	5,468.4	2.80	-0.84	2.69
11,887.0	94.84	323.55	6,978.8	3,534.2	-4,217.7	5,499.7	3.73	-3.16	2.00
11,918.0	94.67	324.14	6,976.2	3,559.2	-4,235.9	5,529.9	1.97	-0.55	1.90
11,950.0	93.39	324.62	6,973.9	3,585.1	-4,254.5	5,561.0	4.27	-4.00	1.50
11,981.0	92.78	324.76	6,972.3	3,610.4	-4,272.4	5,591.2	2.02	-1.97	0.45
12,013.0	91.14	324.45	6,971.2	3,636.4	-4,290.9	5,622.4	5.22	-5.13	-0.97
12,076.0	91.31	324.68	6,969.8	3,687.8	-4,327.4	5,683.9	0.45	0.27	0.37
12,140.0	90.57	325.60	6,968.8	3,740.3	-4,364.0	5,746.1	1.84	-1.16	1.44
12,203.0	91.38	326.05	6,967.7	3,792.4	-4,399.4	5,807.3	1.47	1.29	0.71
12,266.0	92.18	324.28	6,965.8	3,844.1	-4,435.4	5,868.5	3.08	1.27	-2.81
12,330.0	91.11	322.34	6,963.9	3,895.4	-4,473.6	5,931.2	3.46	-1.67	-3.03
12,393.0	89.73	322.47	6,963.5	3,945.3	-4,512.0	5,993.2	2.20	-2.19	0.21
12,456.0	90.03	322.08	6,963.6	3,995.1	-4,550.6	6,055.1	0.78	0.48	-0.62
12,520.0	89.30	320.66	6,964.0	4,045.1	-4,590.5	6,118.3	2.49	-1.14	-2.22
12,583.0	90.10	320.86	6,964.3	4,093.9	-4,630.4	6,180.5	1.31	1.27	0.32
12,646.0	90.74	321.32	6,963.8	4,142.9	-4,669.9	6,242.7	1.25	1.02	0.73
12,709.0	89.97	320.99	6,963.4	4,192.0	-4,709.4	6,304.8	1.33	-1.22	-0.52
12,772.0	90.37	320.62	6,963.3	4,240.8	-4,749.3	6,367.1	0.86	0.63	-0.59
12,836.0	88.68	320.18	6,963.8	4,290.1	-4,790.0	6,430.4	2.71	-2.63	-0.69

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**Scientific Drilling International**  
Survey Report

<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Howell 3H
<b>Project:</b>	Mary Prospect	<b>TVD Reference:</b>	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
<b>Site:</b>	Howell Pad	<b>MD Reference:</b>	GL 1302' & KB 18' @ 1320.0usft (Saxon 141)
<b>Well:</b>	Howell 3H	<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 (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,897.0	88.99	319.94	6,965.0	4,336.9	-4,829.2	6,490.7	0.63	0.49	-0.39
12,961.0	89.43	319.97	6,965.9	4,385.9	-4,870.4	6,554.1	0.69	0.69	0.05
<b>Last SDI MWD Survey</b>									
13,032.0	89.43	319.97	6,966.6	4,440.2	-4,916.0	6,624.4	0.00	0.00	0.00
<b>Projection to Bit</b>									

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,403.0	2,402.9	-4.9	13.0	Last SDI Gyro Survey
2,503.0	2,502.9	-5.1	13.7	First SDI MWD Survey
12,961.0	6,965.9	4,385.9	-4,870.4	Last SDI MWD Survey
13,032.0	6,966.6	4,440.2	-4,916.0	Projection to Bit

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

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