



Project: Mary Prospect
 Site: Howell Pad
 Well: Howell 5H
 Wellbore: OH
 Design: As Drilled



WELL DETAILS: Howell 5H

Ground Level: 1302.0
 Easting: 1635231.33
 Northing: 401742.45
 +N/S +E/W: 39.8 -4.5
 Longitude: 80° 47' 40.111 W

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Site Howell Pad, Grid North
 Vertical (TVD) Reference: GL 1302.0 & KB 18' @ 1320.0usft (Saxon 141)
 Section (VS) Reference: Slot - (39.8N, -4.5E)
 Measured Depth Reference: GL 1302.0 & 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

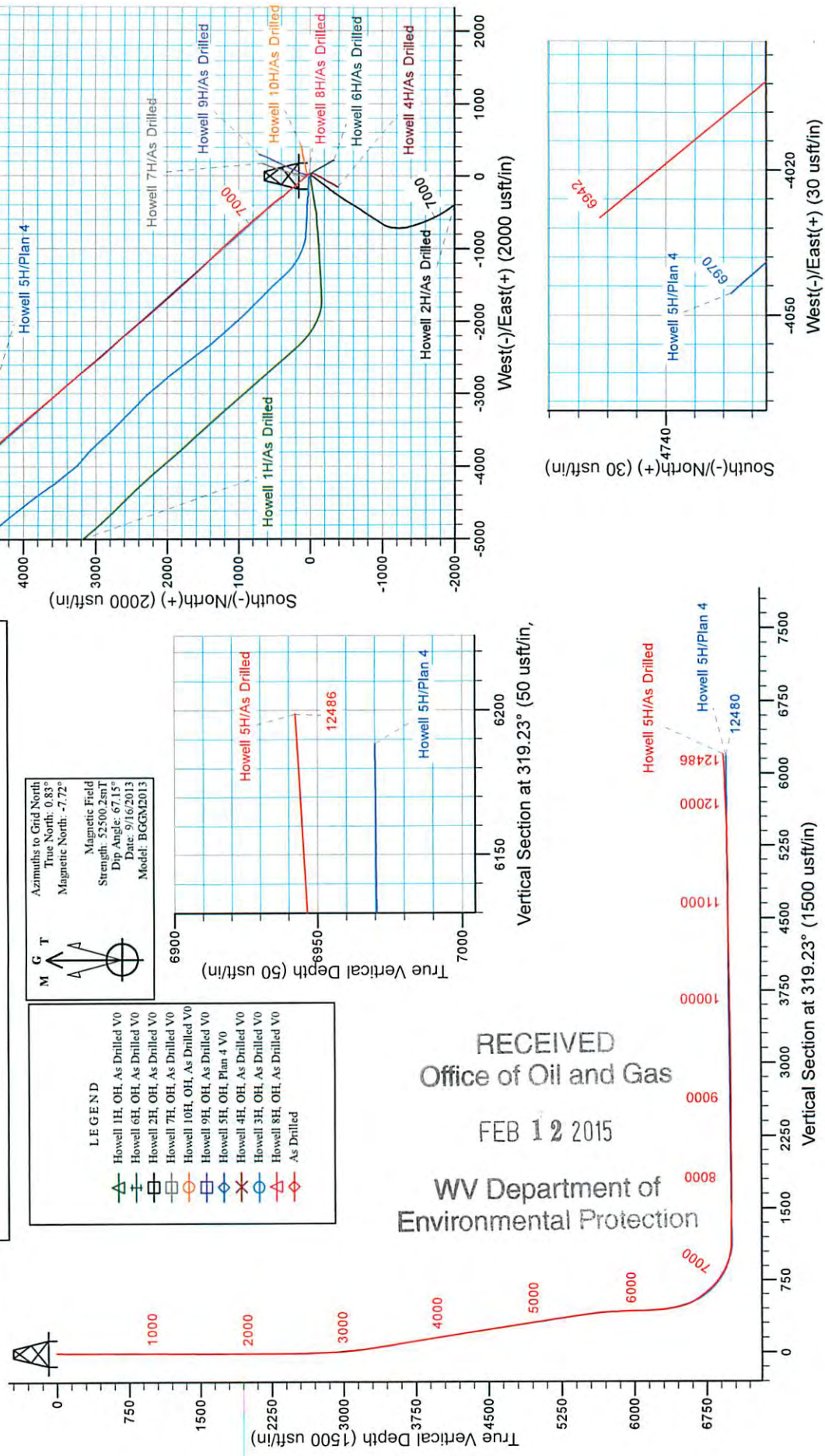
Sec	MD	Inc	Azi	TVD	+N/S	+E/W	Dleg	TFace	VSet	Target
1	6049.0	1.28	349.61	6017.7	365.9	-278.5	0.00	0.00	425.9	
2	6146.0	1.28	349.61	6114.7	368.0	-278.9	0.00	0.00	427.8	
3	6465.5	10.86	325.07	6432.1	396.3	-296.8	3.04	-27.64	460.9	
4	7461.9	90.50	319.00	7014.0	939.8	-753.5	8.00	-6.17	1170.7	Howell 5H_LP4
5	12479.0	90.50	319.00	6970.0	4726.0	-4045.1	0.00	0.00	6187.6	Howell 5H_PBHL3



Azimuths to Grid North
 True North: 0.83°
 Magnetic North: -7.72°
 Strength: 52500.2aT
 Dip Angle: 67.15°
 Date: 9/16/2013
 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, Plan 4 V0
- Howell 4H, OH, As Drilled V0
- Howell 3H, OH, As Drilled V0
- Howell 8H, OH, As Drilled V0
- As Drilled



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Mary Prospect
Howell Pad
Howell 5H

OH

Design: As Drilled

Standard Survey Report

24 October, 2013

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Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well Howell 5H
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 5H	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 5H					
Well Position	+N/-S	0.0 usft	Northing:	401,742.45 usft	Latitude:	39° 35' 44.885 N
	+E/-W	0.0 usft	Easting:	1,635,231.33 usft	Longitude:	80° 47' 40.111 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	12/20/2012	-8.48	67.19	52,632
	IGRF2010	7/29/2013	-8.50	67.14	52,558
	BGGM2013	9/16/2013	-8.55	67.15	52,500

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	319.23	

Survey Program	Date	10/3/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
18.0	2,403.0	Survey 3 - SDI Gyro Top Hole (OH)	SDI Standard Keeper 103	SDI Standard Wireline Keeper ver 1.0.3	
2,503.0	12,486.0	Survey 2 - SDI 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	0.39	129.52	103.0	-0.2	0.2	-0.3	0.46	0.46	0.00	
First SDI Gyro Survey										
203.0	0.31	114.87	203.0	-0.5	0.7	-0.9	0.12	-0.08	-14.65	
303.0	0.17	106.70	303.0	-0.7	1.1	-1.2	0.14	-0.14	-8.17	

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Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well Howell 5H
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 5H	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)
403.0	0.38	110.04	403.0	-0.8	1.6	-1.7	0.21	0.21	3.34
503.0	0.40	112.63	503.0	-1.1	2.2	-2.3	0.03	0.02	2.59
603.0	0.31	113.15	603.0	-1.3	2.8	-2.8	0.09	-0.09	0.52
703.0	0.43	122.64	703.0	-1.6	3.3	-3.4	0.13	0.12	9.49
803.0	0.40	126.99	803.0	-2.0	3.9	-4.1	0.04	-0.03	4.35
903.0	0.34	144.59	903.0	-2.5	4.4	-4.7	0.13	-0.06	17.60
1,003.0	0.32	155.48	1,003.0	-3.0	4.7	-5.3	0.07	-0.02	10.89
1,103.0	0.35	142.37	1,103.0	-3.5	5.0	-5.9	0.08	0.03	-13.11
1,203.0	0.38	141.98	1,203.0	-4.0	5.4	-6.5	0.03	0.03	-0.39
1,303.0	0.36	139.75	1,303.0	-4.5	5.8	-7.2	0.02	-0.02	-2.23
1,403.0	0.30	140.81	1,403.0	-4.9	6.1	-7.7	0.06	-0.06	1.06
1,503.0	0.35	140.55	1,503.0	-5.4	6.5	-8.3	0.05	0.05	-0.26
1,603.0	0.41	157.42	1,603.0	-5.9	6.8	-9.0	0.13	0.06	16.87
1,703.0	0.33	195.74	1,703.0	-6.5	6.9	-9.5	0.25	-0.08	38.32
1,803.0	0.35	204.93	1,803.0	-7.1	6.7	-9.7	0.06	0.02	9.19
1,903.0	0.32	206.23	1,903.0	-7.6	6.4	-10.0	0.03	-0.03	1.30
2,003.0	0.32	209.19	2,003.0	-8.1	6.2	-10.2	0.02	0.00	2.96
2,103.0	0.21	250.48	2,103.0	-8.4	5.9	-10.2	0.21	-0.11	41.29
2,203.0	0.25	263.93	2,203.0	-8.5	5.5	-10.0	0.07	0.04	13.45
2,303.0	0.26	261.57	2,303.0	-8.6	5.0	-9.8	0.01	0.01	-2.36
2,403.0	0.03	312.67	2,403.0	-8.6	4.8	-9.6	0.24	-0.23	51.10
2,503.0	0.15	313.74	2,503.0	-8.5	4.7	-9.5	0.12	0.12	1.07
First SDI MWD Survey									
2,603.0	1.01	329.07	2,602.9	-7.6	4.1	-8.5	0.87	0.86	15.33
2,703.0	1.94	330.02	2,702.9	-5.4	2.8	-5.9	0.93	0.93	0.95
2,803.0	2.60	324.57	2,802.8	-2.1	0.7	-2.0	0.69	0.66	-5.45
2,903.0	3.34	322.67	2,902.7	2.1	-2.4	3.1	0.75	0.74	-1.90
3,003.0	4.76	323.23	3,002.4	7.7	-6.7	10.2	1.42	1.42	0.56
3,103.0	6.33	324.13	3,102.0	15.5	-12.4	19.8	1.57	1.57	0.90
3,203.0	7.09	324.73	3,201.3	25.0	-19.2	31.5	0.76	0.76	0.60
3,303.0	8.28	321.89	3,300.4	35.7	-27.2	44.8	1.25	1.19	-2.84
3,403.0	9.08	321.83	3,399.2	47.6	-36.5	59.9	0.80	0.80	-0.06
3,503.0	9.48	322.59	3,497.9	60.3	-46.4	76.0	0.42	0.40	0.76
3,603.0	9.58	319.93	3,596.6	73.2	-56.7	92.5	0.45	0.10	-2.66
3,703.0	8.67	321.23	3,695.3	85.5	-66.8	108.4	0.93	-0.91	1.30
3,803.0	8.66	320.35	3,794.1	97.2	-76.3	123.4	0.13	-0.01	-0.88
3,903.0	8.56	320.66	3,893.0	108.7	-85.9	138.4	0.11	-0.10	0.31
4,003.0	8.96	320.67	3,991.9	120.5	-95.5	153.6	0.40	0.40	0.01
4,103.0	8.97	317.52	4,090.6	132.3	-105.7	169.2	0.49	0.01	-3.15
4,203.0	9.12	316.98	4,189.4	143.8	-116.4	184.9	0.17	0.15	-0.54
4,303.0	9.18	323.19	4,288.1	156.0	-126.6	200.8	0.99	0.06	6.21
4,403.0	9.47	323.44	4,386.8	168.8	-136.1	216.7	0.04	-0.01	0.25
4,503.0	9.31	321.29	4,485.5	181.5	-145.9	232.7	0.37	0.14	-2.15
4,603.0	9.08	316.87	4,584.3	193.6	-156.4	248.7	0.74	-0.23	-4.42

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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 5H	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)
4,703.0	9.08	314.60	4,683.0	204.9	-167.4	264.4	0.36	0.00	-2.27
4,803.0	8.89	315.48	4,781.8	215.9	-178.4	280.0	0.23	-0.19	0.88
4,903.0	8.63	323.02	4,880.6	227.4	-188.3	295.2	1.18	-0.26	7.54
5,003.0	8.54	324.01	4,979.5	239.4	-197.2	310.1	0.17	-0.09	0.99
5,103.0	9.13	322.20	5,078.3	251.7	-206.4	325.4	0.65	0.59	-1.81
5,203.0	8.80	322.24	5,177.1	264.0	-216.0	341.0	0.33	-0.33	0.04
5,303.0	8.75	320.23	5,275.9	275.9	-225.5	356.2	0.31	-0.05	-2.01
5,403.0	8.75	316.14	5,374.8	287.2	-235.7	371.4	0.62	0.00	-4.09
5,503.0	8.71	315.73	5,473.6	298.1	-246.2	386.6	0.07	-0.04	-0.41
5,603.0	6.75	312.01	5,572.7	307.5	-255.9	400.0	2.02	-1.96	-3.72
5,703.0	5.02	312.48	5,672.1	314.4	-263.5	410.1	1.73	-1.73	0.47
5,803.0	3.28	312.30	5,771.9	319.3	-268.8	417.3	1.74	-1.74	-0.18
5,903.0	2.27	316.03	5,871.8	322.6	-272.3	422.2	1.03	-1.01	3.73
5,996.0	1.28	349.61	5,964.7	325.0	-273.8	424.9	1.50	-1.06	36.11
6,025.0	0.47	319.35	5,993.7	325.4	-273.9	425.3	3.12	-2.79	-104.31
6,086.0	0.47	312.62	6,054.7	325.7	-274.3	425.8	0.09	0.00	-11.03
6,146.0	1.50	322.99	6,114.7	326.5	-274.9	426.8	1.74	1.72	17.28
6,207.0	4.02	325.40	6,175.6	328.9	-276.6	429.7	4.13	4.13	3.95
6,267.0	5.22	326.63	6,235.4	332.9	-279.3	434.5	2.01	2.00	2.05
6,328.0	5.57	321.25	6,296.2	337.6	-282.7	440.2	1.01	0.57	-8.82
6,388.0	7.61	324.61	6,355.8	343.1	-286.8	447.1	3.46	3.40	5.60
6,419.0	9.22	328.92	6,386.4	346.9	-289.3	451.6	5.57	5.19	13.90
6,449.0	10.64	331.18	6,416.0	351.4	-291.9	456.7	4.91	4.73	7.53
6,480.0	12.97	330.62	6,446.3	356.9	-294.9	462.9	7.53	7.52	-1.81
6,510.0	15.80	329.78	6,475.4	363.4	-298.6	470.2	9.46	9.43	-2.80
6,541.0	18.08	327.59	6,505.0	371.1	-303.3	479.1	7.64	7.35	-7.06
6,571.0	20.17	327.16	6,533.4	379.3	-308.6	488.8	6.98	6.97	-1.43
6,601.0	21.88	326.21	6,561.4	388.3	-314.6	499.5	5.81	5.70	-3.17
6,632.0	24.40	325.13	6,589.9	398.4	-321.4	511.6	8.24	8.13	-3.48
6,662.0	27.70	324.21	6,616.8	409.1	-329.1	524.7	11.08	11.00	-3.07
6,692.0	31.95	323.64	6,642.9	421.2	-337.8	539.6	14.20	14.17	-1.90
6,724.0	36.06	323.12	6,669.4	435.5	-348.5	557.4	12.88	12.84	-1.63
6,756.0	38.26	321.51	6,694.9	450.8	-360.3	576.7	7.52	6.88	-5.03
6,787.0	38.46	320.72	6,719.2	465.8	-372.4	596.0	1.71	0.65	-2.55
6,819.0	39.49	319.58	6,744.1	481.3	-385.3	616.1	3.92	3.22	-3.56
6,851.0	40.87	320.44	6,768.5	497.1	-398.6	636.7	4.65	4.31	2.69
6,883.0	43.48	319.94	6,792.2	513.6	-412.3	658.2	8.22	8.16	-1.56
6,914.0	46.43	319.70	6,814.2	530.3	-426.5	680.1	9.53	9.52	-0.77
6,946.0	50.22	319.36	6,835.4	548.5	-442.0	704.0	11.87	11.84	-1.06
6,978.0	52.83	319.23	6,855.3	567.5	-458.3	729.1	8.16	8.16	-0.41
7,010.0	54.46	318.39	6,874.3	586.9	-475.3	754.8	5.42	5.09	-2.31
7,042.0	55.84	318.47	6,892.6	606.5	-492.7	781.1	4.31	4.31	-0.06
7,074.0	57.65	318.94	6,910.1	626.7	-510.3	807.9	5.79	5.66	1.47

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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)
7,105.0	60.48	319.99	6,926.1	646.9	-527.6	834.4	9.58	9.13	3.39
7,136.0	63.48	320.42	6,940.6	667.9	-545.1	861.8	9.75	9.68	1.39
7,168.0	66.56	321.21	6,954.2	690.4	-563.5	890.8	9.88	9.63	2.47
7,200.0	69.21	320.67	6,966.2	713.4	-582.1	920.4	8.43	8.28	-1.69
7,232.0	72.38	320.43	6,976.7	736.7	-601.3	950.6	9.93	9.91	-0.75
7,264.0	74.00	320.07	6,986.0	760.3	-620.9	981.3	5.18	5.06	-1.13
7,295.0	77.20	320.41	6,993.7	783.3	-640.1	1,011.3	10.38	10.32	1.10
7,327.0	79.95	320.09	7,000.0	807.5	-660.2	1,042.6	8.65	8.59	-1.00
7,359.0	83.37	319.93	7,004.7	831.7	-680.5	1,074.3	10.70	10.69	-0.50
7,391.0	87.21	320.60	7,007.3	856.2	-700.9	1,106.2	12.18	12.00	2.09
7,422.0	89.09	320.35	7,008.3	880.1	-720.6	1,137.1	6.12	6.06	-0.81
7,454.0	89.73	319.94	7,008.6	904.7	-741.1	1,169.1	2.38	2.00	-1.28
7,517.0	90.30	320.03	7,008.6	952.9	-781.6	1,232.1	0.92	0.90	0.14
7,581.0	90.13	318.94	7,008.4	1,001.6	-823.2	1,296.1	1.72	-0.27	-1.70
7,644.0	88.42	317.56	7,009.2	1,048.6	-865.2	1,359.1	3.49	-2.71	-2.19
7,707.0	88.46	317.43	7,010.9	1,095.0	-907.7	1,422.1	0.22	0.06	-0.21
7,770.0	89.39	317.20	7,012.1	1,141.3	-950.4	1,485.0	1.52	1.48	-0.37
7,834.0	90.37	317.70	7,012.2	1,188.5	-993.7	1,549.0	1.72	1.53	0.78
7,897.0	90.57	317.25	7,011.7	1,234.9	-1,036.3	1,611.9	0.78	0.32	-0.71
7,960.0	89.49	316.30	7,011.6	1,280.8	-1,079.4	1,674.9	2.28	-1.71	-1.51
8,023.0	89.13	316.66	7,012.4	1,326.5	-1,122.8	1,737.8	0.81	-0.57	0.57
8,087.0	90.20	316.51	7,012.8	1,373.0	-1,166.8	1,801.7	1.69	1.67	-0.23
8,150.0	90.17	316.49	7,012.6	1,418.7	-1,210.1	1,864.7	0.06	-0.05	-0.03
8,214.0	89.80	317.06	7,012.6	1,465.3	-1,254.0	1,928.6	1.06	-0.58	0.89
8,277.0	90.74	317.20	7,012.3	1,511.5	-1,296.8	1,991.6	1.51	1.49	0.22
8,341.0	91.38	317.59	7,011.1	1,558.6	-1,340.2	2,055.5	1.17	1.00	0.61
8,404.0	90.87	318.01	7,009.9	1,605.2	-1,382.5	2,118.5	1.05	-0.81	0.67
8,468.0	90.34	318.23	7,009.2	1,652.9	-1,425.2	2,182.5	0.90	-0.83	0.34
8,531.0	89.70	317.90	7,009.2	1,699.8	-1,467.3	2,245.5	1.14	-1.02	-0.52
8,594.0	89.87	318.21	7,009.4	1,746.6	-1,509.4	2,308.4	0.56	0.27	0.49
8,657.0	89.19	319.15	7,009.9	1,793.9	-1,551.0	2,371.4	1.84	-1.08	1.49
8,721.0	89.50	319.60	7,010.7	1,842.5	-1,592.7	2,435.4	0.85	0.48	0.70
8,784.0	89.76	319.34	7,011.1	1,890.4	-1,633.6	2,498.4	0.58	0.41	-0.41
8,848.0	91.28	319.75	7,010.5	1,939.1	-1,675.1	2,562.4	2.46	2.38	0.64
8,911.0	90.84	319.45	7,009.3	1,987.0	-1,715.9	2,625.4	0.85	-0.70	-0.48
8,974.0	90.17	319.05	7,008.8	2,034.8	-1,757.1	2,688.4	1.24	-1.06	-0.63
9,038.0	90.77	319.34	7,008.2	2,083.2	-1,798.9	2,752.4	1.04	0.94	0.45
9,099.0	91.01	318.92	7,007.3	2,129.3	-1,838.8	2,813.4	0.79	0.39	-0.69
9,163.0	89.33	319.51	7,007.1	2,177.8	-1,880.6	2,877.4	2.78	-2.63	0.92
9,226.0	89.33	319.74	7,007.8	2,225.8	-1,921.4	2,940.4	0.37	0.00	0.37
9,290.0	90.40	319.35	7,008.0	2,274.5	-1,962.9	3,004.4	1.78	1.67	-0.61
9,353.0	90.47	319.41	7,007.5	2,322.3	-2,004.0	3,067.4	0.15	0.11	0.10
9,417.0	89.73	320.41	7,007.2	2,371.3	-2,045.2	3,131.4	1.94	-1.16	1.56
9,480.0	89.26	321.04	7,008.0	2,420.0	-2,085.0	3,194.4	1.25	-0.75	1.00



Scientific Drilling International
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well Howell 5H
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 5H	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)
9,543.0	90.24	320.06	7,008.2	2,468.7	-2,125.1	3,257.3	2.20	1.56	-1.56
9,607.0	91.48	319.53	7,007.3	2,517.5	-2,166.4	3,321.3	2.11	1.94	-0.83
9,670.0	91.72	319.06	7,005.5	2,565.3	-2,207.5	3,384.3	0.84	0.38	-0.75
9,734.0	90.03	318.88	7,004.5	2,613.6	-2,249.5	3,448.3	2.66	-2.64	-0.28
9,797.0	90.47	317.63	7,004.3	2,660.6	-2,291.4	3,511.3	2.10	0.70	-1.98
9,861.0	90.87	317.60	7,003.5	2,707.8	-2,334.5	3,575.3	0.63	0.63	-0.05
9,925.0	90.37	317.85	7,002.8	2,755.2	-2,377.6	3,639.2	0.87	-0.78	0.39
9,988.0	92.09	318.31	7,001.5	2,802.0	-2,419.7	3,702.2	2.83	2.73	0.73
10,052.0	92.02	319.89	6,999.2	2,850.4	-2,461.5	3,766.2	2.47	-0.11	2.47
10,115.0	91.44	320.22	6,997.3	2,898.7	-2,502.0	3,829.1	1.06	-0.92	0.52
10,179.0	91.51	319.71	6,995.6	2,947.6	-2,543.1	3,893.1	0.80	0.11	-0.80
10,242.0	90.81	320.89	6,994.3	2,996.1	-2,583.4	3,956.1	2.18	-1.11	1.87
10,306.0	91.45	320.65	6,993.1	3,045.7	-2,623.8	4,020.0	1.07	1.00	-0.38
10,370.0	91.31	320.54	6,991.5	3,095.1	-2,664.4	4,084.0	0.28	-0.22	-0.17
10,433.0	91.85	320.08	6,989.8	3,143.6	-2,704.7	4,147.0	1.13	0.86	-0.73
10,497.0	90.64	319.98	6,988.4	3,192.6	-2,745.8	4,210.9	1.90	-1.89	-0.16
10,559.0	90.30	319.22	6,987.9	3,239.8	-2,786.0	4,272.9	1.34	-0.55	-1.23
10,623.0	91.11	318.93	6,987.1	3,288.2	-2,827.9	4,336.9	1.34	1.27	-0.45
10,686.0	91.28	318.98	6,985.8	3,335.7	-2,869.2	4,399.9	0.28	0.27	0.08
10,750.0	89.50	319.37	6,985.4	3,384.1	-2,911.1	4,463.9	2.85	-2.78	0.61
10,813.0	89.19	319.77	6,986.1	3,432.1	-2,951.9	4,526.9	0.80	-0.49	0.63
10,876.0	90.44	319.73	6,986.3	3,480.1	-2,992.6	4,589.9	1.99	1.98	-0.06
10,939.0	91.18	319.99	6,985.4	3,528.3	-3,033.2	4,652.9	1.24	1.17	0.41
11,003.0	90.81	319.85	6,984.3	3,577.3	-3,074.4	4,716.9	0.62	-0.58	-0.22
11,067.0	89.50	319.87	6,984.1	3,626.2	-3,115.7	4,780.9	2.05	-2.05	0.03
11,130.0	90.13	319.61	6,984.3	3,674.3	-3,156.4	4,843.9	1.08	1.00	-0.41
11,193.0	91.08	318.99	6,983.7	3,722.0	-3,197.5	4,906.9	1.80	1.51	-0.98
11,256.0	91.45	319.71	6,982.3	3,769.8	-3,238.5	4,969.8	1.28	0.59	1.14
11,320.0	89.60	319.93	6,981.7	3,818.7	-3,279.8	5,033.8	2.91	-2.89	0.34
11,383.0	89.16	320.04	6,982.4	3,866.9	-3,320.3	5,096.8	0.72	-0.70	0.17
11,447.0	91.48	321.82	6,982.0	3,916.6	-3,360.6	5,160.8	4.57	3.63	2.78
11,510.0	92.09	321.34	6,980.0	3,966.0	-3,399.8	5,223.7	1.23	0.97	-0.76
11,573.0	90.61	320.27	6,978.6	4,014.8	-3,439.6	5,286.7	2.90	-2.35	-1.70
11,636.0	90.30	318.57	6,978.1	4,062.6	-3,480.6	5,349.7	2.74	-0.49	-2.70
11,700.0	92.18	318.63	6,976.7	4,110.6	-3,522.9	5,413.6	2.94	2.94	0.09
11,763.0	93.37	319.53	6,973.6	4,158.2	-3,564.1	5,476.6	2.37	1.89	1.43
11,826.0	92.15	320.03	6,970.6	4,206.2	-3,604.7	5,539.5	2.09	-1.94	0.79
11,889.0	91.11	319.85	6,968.8	4,254.4	-3,645.2	5,602.4	1.68	-1.65	-0.29
11,953.0	91.04	319.53	6,967.6	4,303.2	-3,686.6	5,666.4	0.51	-0.11	-0.50
12,017.0	93.30	320.63	6,965.2	4,352.2	-3,727.7	5,730.4	3.93	3.53	1.72
12,080.0	95.29	320.92	6,960.5	4,400.9	-3,767.4	5,793.2	3.19	3.16	0.46
12,143.0	92.09	320.07	6,956.4	4,449.4	-3,807.4	5,856.0	5.25	-5.08	-1.35
12,206.0	91.91	320.34	6,954.4	4,497.8	-3,847.7	5,919.0	0.87	-0.76	0.43



Company:	Stone Energy	Local Co-ordinate Reference:	Well Howell 5H
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 5H	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)	
12,333.0	92.08	320.53	6,950.3	4,595.6	-3,928.5	6,045.9	0.40	0.37	0.15	
12,397.0	92.82	320.63	6,947.5	4,645.0	-3,969.1	6,109.8	1.17	1.16	0.16	
12,428.0	93.46	320.74	6,945.8	4,669.0	-3,988.8	6,140.7	2.09	2.06	0.35	
Last SDI MWD Survey										
12,486.0	93.46	320.74	6,942.3	4,713.8	-4,025.4	6,198.6	0.00	0.00	0.00	
Projection to Bit										

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	-0.2	0.2	First SDI Gyro Survey	
2,503.0	2,503.0	-8.5	4.7	First SDI MWD Survey	
12,428.0	6,945.8	4,669.0	-3,988.8	Last SDI MWD Survey	
12,486.0	6,942.3	4,713.8	-4,025.4	Projection to Bit	

Checked By: _____ Approved By: _____ Date: _____

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