

Project: Mary Prospect
 Site: Howell Pad
 Well: Howell 8H
 Wellbore: OH
 Design: As Drilled

WELL DETAILS: Howell 8H

Ground Level: 1302.0
 Easting: 1302.0
 Longitude: 80° 47' 59.823 W
 Northing: 401725.01
 Slot: 1635253.62 39° 35' 44.716 N

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	V.Sed	Departure	Annotation
100.4	100.4	0.94	267.07	0.0	-0.8	0.8	0.8	First SDI Gyro Survey
2420.5	2420.5	0.26	163.20	-5.6	-4.8	1.3	11.2	Last SDI Gyro Survey

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

REFERENCE INFORMATION

Co-ordinate (NE) Reference: Well Howell 8H, Grid North
 Vertical (TVD) Reference: GL 1302 & KB 15' @ 1317' (Nomac 237)
 Section (VS) Reference: Slot - (0.0N, 0.0E)
 Measured Depth Reference: GL 1302 & KB 15' @ 1317' (Nomac 237)
 Calculation Method: Minimum Curvature

LEGEND

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

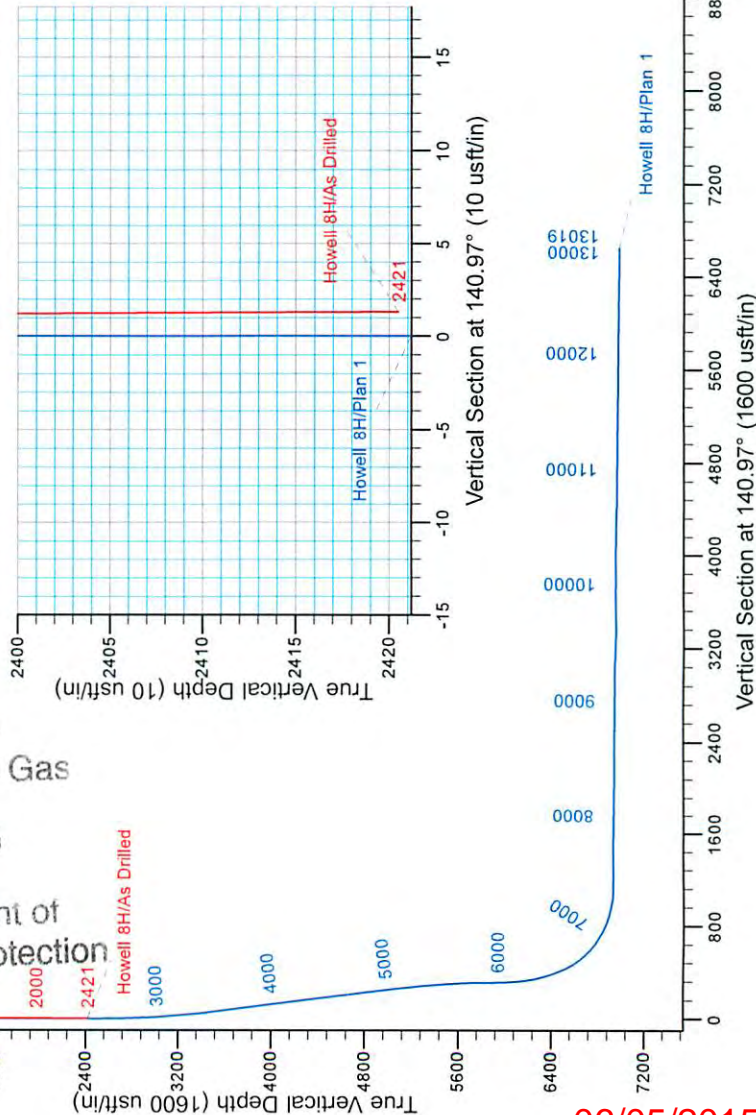
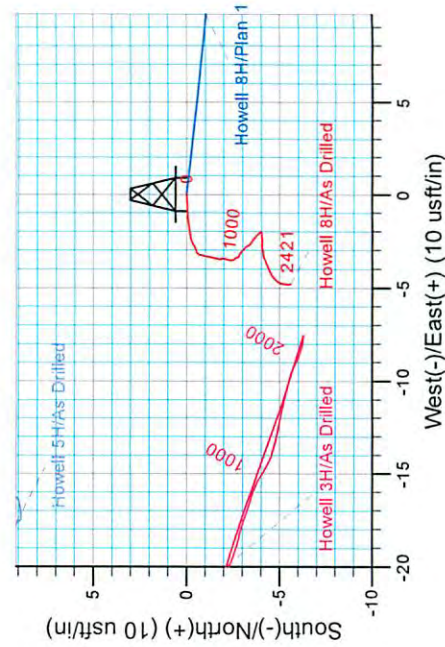
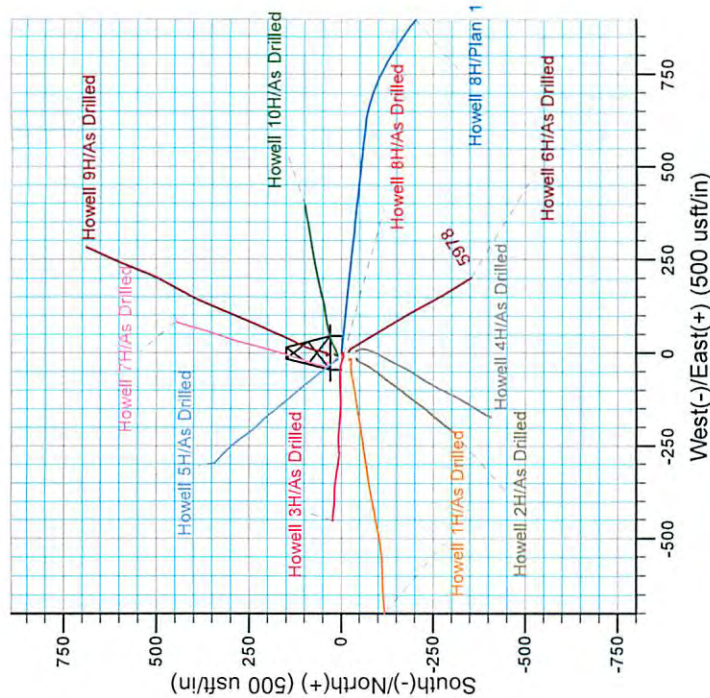
Azimuths to Grid North

True North: 0.83°
 Magnetic North: -7.66°

Magnetic Field

Strength: 52594 IsmT
 Dip Angle: 67.16°
 Date: 4/12/2013
 Model: IGRF2010

RECEIVED
 Office of Oil and Gas
 MAY 29 2015
 WV Department of
 Environmental Protection





Stone Energy

Mary Prospect
Howell Pad
Howell 8H

OH

Design: As Drilled

Standard Survey Report

24 April, 2013

RECEIVED
Office of Oil and Gas

MAY 29 2013

WV Department of
Environmental Protection



06/05/2015



Company:	Stone Energy	Local Co-ordinate Reference:	Well Howell 8H
Project:	Mary Prospect	TVD Reference:	GL 1302' & KB 15' @ 1317.0usft (Nomac 237)
Site:	Howell Pad	MD Reference:	GL 1302' & KB 15' @ 1317.0usft (Nomac 237)
Well:	Howell 8H	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 8H					
Well Position	+N-S	0.0 usft	Northing:	401,725.01 usft	Latitude:	39° 35' 44.716 N
	+E-W	0.0 usft	Easting:	1,635,253.62 usft	Longitude:	80° 47' 39.823 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	4/12/2013	-8.49	67.16	52,594

Design	As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	
Vertical Section:	Depth From (TVD) (usft)	+N-S (usft)	+E-W (usft)	Direction (°)	
	0.0	0.0	0.0	140.97	

RECEIVED
Office of Oil and Gas
MAY 29 2015

Survey Program	Date	4/24/2013			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	2,420.5	Survey 1 - Gyro (OH)	SDI Standard Keeper 103	SDI Standard Wireline Keeper ver 1.0.3	

WV Department of
Environmental Protection

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	
100.4	0.94	267.07	100.4	0.0	-0.8	-0.5	0.94	0.94	0.00	
First SDI Gyro Survey										
126.1	0.74	267.25	126.1	-0.1	-1.2	-0.7	0.78	-0.78	0.70	
150.7	0.60	264.10	150.7	-0.1	-1.5	-0.9	0.59	-0.57	-12.80	
176.1	0.69	260.34	176.1	-0.1	-1.8	-1.0	0.39	0.35	-14.79	
200.1	0.49	268.25	200.1	-0.1	-2.0	-1.2	0.90	-0.83	32.93	
226.0	0.51	258.89	226.0	-0.2	-2.2	-1.3	0.32	0.08	-36.11	
250.6	0.36	259.83	250.6	-0.2	-2.4	-1.4	0.61	-0.61	3.83	
276.0	0.30	245.57	275.9	-0.3	-2.6	-1.4	0.40	-0.24	-56.23	
300.9	0.31	235.35	300.9	-0.3	-2.7	-1.4	0.22	0.04	-40.96	



Scientific Drilling International
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well Howell 8H
Project:	Mary Prospect	TVD Reference:	GL 1302' & KB 15' @ 1317.0usft (Nomac 237)
Site:	Howell Pad	MD Reference:	GL 1302' & KB 15' @ 1317.0usft (Nomac 237)
Well:	Howell 8H	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)
325.7	0.27	232.31	325.7	-0.4	-2.8	-1.4	0.17	-0.16	-12.27
350.2	0.16	242.75	350.2	-0.4	-2.9	-1.5	0.47	-0.45	42.53
375.6	0.33	258.39	375.5	-0.5	-3.0	-1.5	0.72	0.67	61.74
401.0	0.24	243.54	401.0	-0.5	-3.1	-1.5	0.45	-0.35	-58.37
425.6	0.25	230.61	425.5	-0.6	-3.2	-1.6	0.23	0.04	-52.65
450.2	0.23	215.17	450.2	-0.6	-3.2	-1.5	0.27	-0.08	-62.64
475.6	0.11	150.27	475.6	-0.7	-3.2	-1.5	0.82	-0.47	-255.91
500.9	0.13	198.37	500.9	-0.8	-3.2	-1.5	0.39	0.08	189.67
525.6	0.14	197.01	525.6	-0.8	-3.3	-1.4	0.04	0.04	-5.51
550.2	0.18	196.56	550.2	-0.9	-3.3	-1.4	0.16	0.16	-1.83
575.6	0.14	206.04	575.6	-0.9	-3.3	-1.4	0.19	-0.16	37.23
601.0	0.06	167.53	601.0	-1.0	-3.3	-1.3	0.40	-0.32	-151.73
625.6	0.19	196.02	625.6	-1.0	-3.3	-1.3	0.57	0.53	115.86
650.3	0.14	186.07	650.3	-1.1	-3.3	-1.2	0.23	-0.20	-40.30
675.7	0.17	197.44	675.7	-1.2	-3.4	-1.2	0.17	0.12	44.80
701.2	0.19	186.18	701.2	-1.2	-3.4	-1.2	0.16	0.08	-44.17
725.8	0.09	172.94	725.8	-1.3	-3.4	-1.1	0.42	-0.41	-53.80
750.5	0.11	224.26	750.5	-1.3	-3.4	-1.1	0.36	0.08	207.61
776.5	0.09	181.28	776.5	-1.4	-3.4	-1.1	0.29	-0.08	-165.24
800.1	0.13	193.72	800.1	-1.4	-3.4	-1.0	0.20	0.17	52.82
826.1	0.13	182.17	826.1	-1.5	-3.4	-1.0	0.10	0.00	-44.37
850.7	0.10	201.28	850.7	-1.5	-3.4	-1.0	0.20	-0.12	77.53
876.2	0.23	191.78	876.2	-1.6	-3.4	-0.9	0.52	0.51	-37.33
900.4	0.23	194.97	900.4	-1.7	-3.5	-0.9	0.05	0.00	13.19
925.3	0.20	176.12	925.3	-1.8	-3.5	-0.8	0.31	-0.12	-78.73
951.2	0.27	164.69	951.2	-1.9	-3.5	-0.7	0.32	0.27	-1.00
975.5	0.08	205.53	975.4	-2.0	-3.5	-0.7	0.89	-0.78	63.39
1,001.0	0.22	187.07	1,001.0	-2.0	-3.5	-0.6	0.57	0.55	72.24
1,025.7	0.28	201.53	1,025.7	-2.1	-3.5	-0.5	0.35	0.24	58.32
1,050.1	0.20	185.39	1,050.1	-2.2	-3.5	-0.5	0.43	-0.33	66.00
1,076.3	0.22	191.78	1,076.3	-2.3	-3.5	-0.4	0.12	0.08	24.68
1,100.1	0.20	177.65	1,100.1	-2.4	-3.5	-0.4	0.23	-0.08	59.33
1,126.1	0.22	156.80	1,126.1	-2.5	-3.5	-0.3	0.30	0.08	-80.00
1,150.7	0.12	130.27	1,150.7	-2.6	-3.5	-0.2	0.51	-0.41	-107.00
1,176.1	0.20	144.69	1,176.1	-2.6	-3.4	-0.1	0.35	0.31	56.75
1,200.2	0.20	164.96	1,200.2	-2.7	-3.4	-0.1	0.29	0.00	83.97
1,225.0	0.18	139.45	1,225.0	-2.8	-3.4	0.0	0.35	-0.08	-102.86
1,250.0	0.19	101.66	1,250.0	-2.8	-3.3	0.1	0.48	0.04	-151.28
1,275.5	0.27	132.86	1,275.5	-2.8	-3.2	0.2	0.57	0.31	122.50
1,301.0	0.23	119.97	1,301.0	-2.9	-3.1	0.3	0.27	-0.16	-50.57
1,325.2	0.28	143.07	1,325.2	-3.0	-3.0	0.4	0.47	0.21	95.42
1,350.8	0.31	130.86	1,350.7	-3.1	-3.0	0.5	0.27	0.12	-47.75
1,375.9	0.21	120.60	1,375.9	-3.1	-2.9	0.6	0.44	-0.40	-40.84

RECEIVED
Office of Oil and Gas

MAY 29 2015

WV Department of
Environmental Protection



Scientific Drilling International
Survey Report



Company: Stone Energy
Project: Mary Prospect
Site: Howell Pad
Well: Howell 8H
Wellbore: OH
Design: As Drilled

Local Co-ordinate Reference:
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Database:

Well Howell 8H
GL 1302' & KB 15' @ 1317.0usft (Nomac 237)
GL 1302' & KB 15' @ 1317.0usft (Nomac 237)
Grid
Minimum Curvature
Northeast District

Office of Oil and Gas
MAY 29 2013
WV Department of
Environmental Protection

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)
1,400.9	0.39	156.00	1,400.9	-3.3	-2.8	0.8	1.00	0.72	141.43
1,425.2	0.23	138.75	1,425.2	-3.4	-2.7	0.9	0.76	-0.66	-71.08
1,450.8	0.38	124.26	1,450.8	-3.4	-2.6	1.0	0.65	0.59	-56.56
1,476.4	0.36	125.22	1,476.4	-3.5	-2.5	1.2	0.08	-0.08	3.74
1,501.5	0.32	131.71	1,501.5	-3.6	-2.4	1.3	0.22	-0.16	25.90
1,525.4	0.34	132.26	1,525.4	-3.7	-2.3	1.5	0.08	0.08	2.30
1,551.0	0.33	129.18	1,551.0	-3.8	-2.2	1.6	0.08	-0.04	-12.05
1,575.4	0.15	147.75	1,575.4	-3.9	-2.1	1.7	0.79	-0.74	76.08
1,600.5	0.14	123.67	1,600.5	-3.9	-2.0	1.8	0.24	-0.04	-95.94
1,625.6	0.06	139.30	1,625.6	-4.0	-2.0	1.8	0.33	-0.32	62.25
1,650.7	0.17	241.57	1,650.7	-4.0	-2.0	1.8	0.76	0.44	407.29
1,675.7	0.13	279.66	1,675.7	-4.0	-2.1	1.8	0.42	-0.16	152.18
1,700.9	0.21	261.27	1,700.8	-4.0	-2.2	1.8	0.38	0.32	-73.18
1,726.0	0.14	288.69	1,726.0	-4.0	-2.2	1.7	0.43	-0.28	109.07
1,751.2	0.20	263.35	1,751.1	-4.0	-2.3	1.7	0.38	0.24	-100.76
1,776.2	0.17	243.11	1,776.2	-4.0	-2.4	1.6	0.28	-0.12	-80.73
1,801.7	0.23	268.87	1,801.7	-4.0	-2.5	1.6	0.42	0.24	100.94
1,826.6	0.16	299.18	1,826.6	-4.0	-2.6	1.5	0.49	-0.28	121.82
1,850.4	0.20	252.36	1,850.3	-4.0	-2.6	1.5	0.62	0.17	-197.22
1,875.9	0.18	283.42	1,875.9	-4.0	-2.7	1.4	0.40	-0.08	121.42
1,900.2	0.32	256.10	1,900.1	-4.0	-2.8	1.4	0.74	0.58	-112.85
1,925.2	0.16	279.41	1,925.2	-4.0	-2.9	1.3	0.73	-0.64	92.94
1,950.2	0.21	254.49	1,950.2	-4.1	-3.0	1.3	0.37	0.20	-99.68
1,975.8	0.15	237.39	1,975.8	-4.1	-3.1	1.2	0.31	-0.23	-66.85
2,000.1	0.31	264.60	2,000.0	-4.1	-3.2	1.2	0.78	0.66	112.25
2,025.1	0.24	279.13	2,025.0	-4.1	-3.3	1.1	0.39	-0.28	58.10
2,050.2	0.45	239.10	2,050.2	-4.1	-3.4	1.1	1.22	0.84	-159.29
2,075.1	0.34	263.92	2,075.1	-4.2	-3.6	1.0	0.81	-0.44	99.56
2,100.1	0.44	240.66	2,100.0	-4.3	-3.7	1.0	0.74	0.40	-93.26
2,126.0	0.43	239.92	2,126.0	-4.4	-3.9	0.9	0.04	-0.04	-2.85
2,151.4	0.40	248.96	2,151.4	-4.4	-4.1	0.9	0.28	-0.12	35.59
2,176.0	0.36	241.17	2,176.0	-4.5	-4.2	0.8	0.27	-0.16	-31.68
2,200.1	0.42	242.55	2,200.0	-4.6	-4.4	0.8	0.25	0.25	5.74
2,225.1	0.30	234.22	2,225.1	-4.7	-4.5	0.8	0.52	-0.48	-33.23
2,251.2	0.21	220.92	2,251.1	-4.7	-4.6	0.8	0.41	-0.35	-51.11
2,275.9	0.25	218.17	2,275.8	-4.8	-4.6	0.8	0.17	0.16	-11.13
2,300.5	0.24	213.41	2,300.4	-4.9	-4.7	0.8	0.09	-0.04	-19.35
2,325.1	0.25	201.61	2,325.0	-5.0	-4.7	0.9	0.21	0.04	-47.97
2,350.7	0.47	190.07	2,350.7	-5.1	-4.8	1.0	0.90	0.86	-45.04
2,375.6	0.38	189.07	2,375.6	-5.3	-4.8	1.1	0.36	-0.36	-4.01
2,400.4	0.28	179.17	2,400.4	-5.5	-4.8	1.2	0.46	-0.40	-39.90
2,420.5	0.26	163.20	2,420.5	-5.6	-4.8	1.3	0.39	-0.10	-79.55

Last SDI Gyro Survey



Company:	Stone Energy	Local Co-ordinate Reference:	Well Howell 8H
Project:	Mary Prospect	TVD Reference:	GL 1302' & KB 15' @ 1317.0usft (Nomac 237)
Site:	Howell Pad	MD Reference:	GL 1302' & KB 15' @ 1317.0usft (Nomac 237)
Well:	Howell 8H	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)		
100.4	100.4	0.0	-0.8	First SDI Gyro Survey	
2,420.5	2,420.5	-5.6	-4.8	Last SDI Gyro Survey	

Checked By: _____ Approved By: _____ Date: _____

RECEIVED
Office of Oil and Gas
MAY 29 2015
WV Department of
Environmental Protection