



Project: Mary Prospect
 Site: ZMBG Pad
 Well: 2H
 Wellbore: OH
 Design: 2H As Drilled



103-02785

WELL DETAILS: 2H

+N/-S	+E/-W	Northing	Ground Level:	1341.00	Latitude	Longitude
0.00	0.00	418291.00	Easting	1628014.00	39° 38' 27.391 N	80° 49' 15.412 W

REFERENCE INFORMATION

Co-ordinate (N/E) Reference: Well 2H, Grid North
 Vertical (TVD) Reference: GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
 Section (VS) Reference: Slot - (0.00N, 0.00E)
 Measured Depth Reference: GL 1341' & KB 18' @ 1359.00ft (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

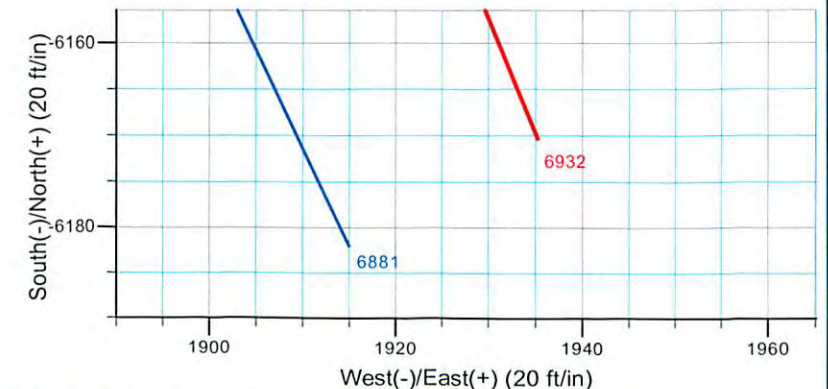
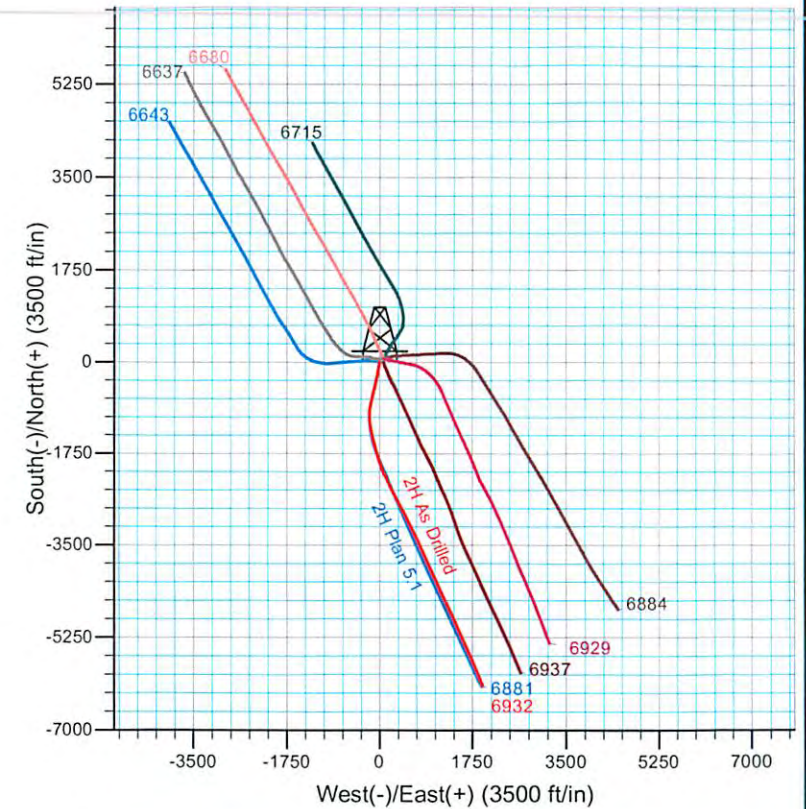
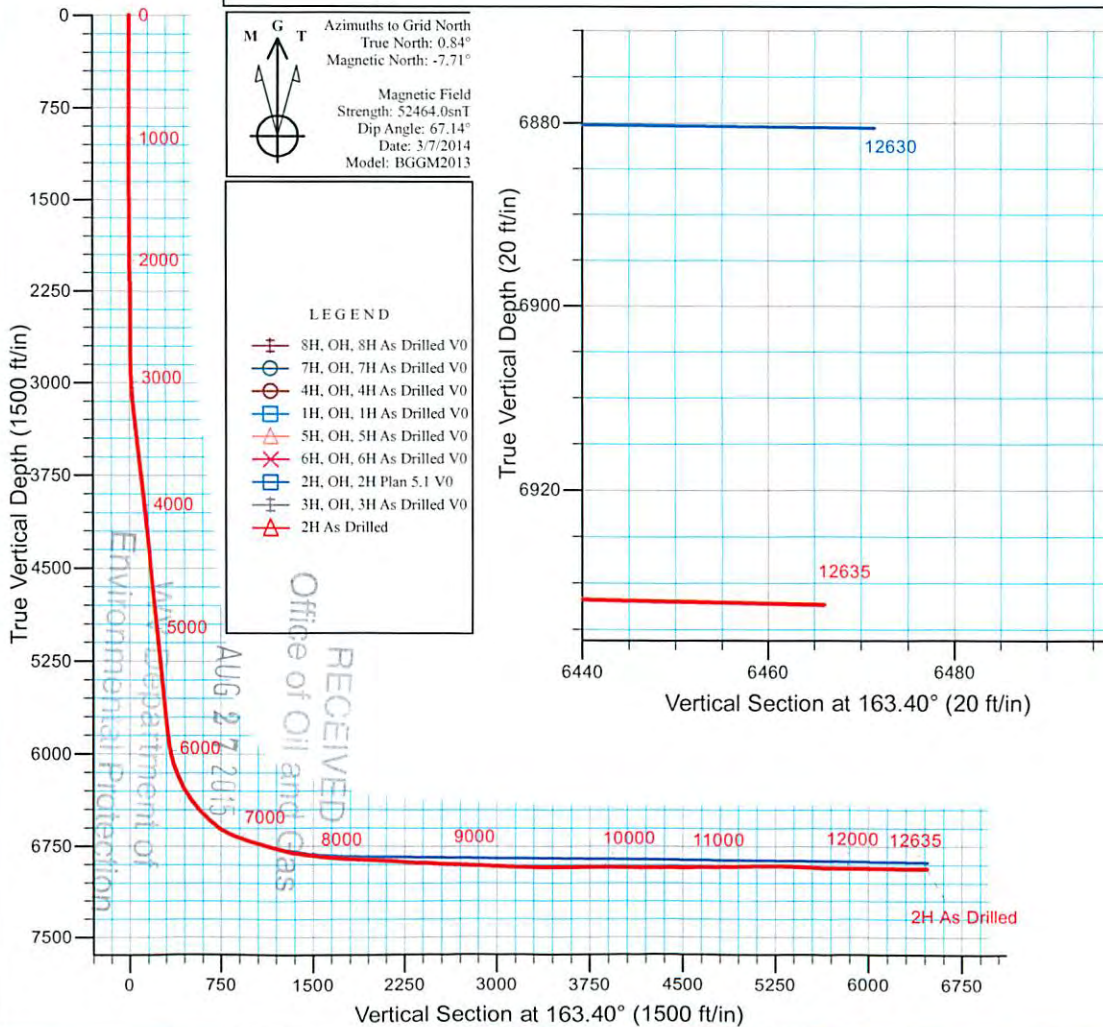
SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	IFace	VSec	Target
1	7074.00	72.77	177.85	6706.63	-1075.45	-193.66	0.00	0.00	969.99	
2	7900.91	89.50	157.00	6835.00	-1864.74	-14.09	3.20	-52.97	1777.07	
3	12630.07	89.40	154.85	6880.58	-6182.01	1915.00	0.05	-92.78	6471.82	ZMBG 2H_BHL4

M G T
 Azimuths to Grid North
 True North: 0.84°
 Magnetic North: -7.71°

Magnetic Field
 Strength: 52464.0snT
 Dip Angle: 67.14°
 Date: 3/7/2014
 Model: BGGM2013

LEGEND

- 8H, OH, 8H As Drilled V0
- 7H, OH, 7H As Drilled V0
- 4H, OH, 4H As Drilled V0
- 1H, OH, 1H As Drilled V0
- 5H, OH, 5H As Drilled V0
- 6H, OH, 6H As Drilled V0
- 2H, OH, 2H Plan 5.1 V0
- 3H, OH, 3H As Drilled V0
- 2H As Drilled



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Stone Energy

Mary Prospect
ZMBG Pad
2H

OH

Design: 2H As Drilled

Standard Survey Report

24 July, 2014



Scientific Drilling

www.scientificdrilling.com

Official Record

WV Department of
Environment **10/16/2015**

103-02785



Scientific Drilling
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 2H
Project:	Mary Prospect	TVD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Site:	ZMBG Pad	MD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Well:	2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	2H 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	ZMBG Pad				
Site Position:		Northing:	418,393.00 usft	Latitude:	39° 38' 28.413 N
From:	Map	Easting:	1,628,110.00 usft	Longitude:	80° 49' 14.204 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.84 °

Well	2H					
Well Position	+N/-S	0.00 ft	Northing:	418,291.00 usft	Latitude:	39° 38' 27.391 N
	+E/-W	0.00 ft	Easting:	1,628,014.00 usft	Longitude:	80° 49' 15.412 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	1,341.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	5/16/2013	-8.48	67.19	52,608
	BGGM2013	8/19/2013	-8.54	67.20	52,535
	BGGM2013	3/7/2014	-8.55	67.14	52,464

Design	2H As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:		Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
		0.00	0.00	0.00	163.40

Survey Program	Date	7/24/2014			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
107.00	2,624.00	Survey 1 - Vaughn Gyro (OH)	VES GyroFlex		
2,639.00	12,635.00	Survey 2 - SDI MWD (OH)	MWD SDI	MWD - Standard ver 1.0.1	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
107.00	0.16	253.37	107.00	-0.04	-0.14	0.00	0.15	0.15	0.00	
First Vaughn Gyro Survey										
207.00	0.32	247.49	207.00	-0.19	-0.53	0.03	0.16	0.16	-5.88	
307.00	0.09	223.40	307.00	-0.35	-0.85	0.10	0.24	0.23	-24.09	
407.00	0.20	255.28	407.00	-0.46	-1.07	0.13	0.13	0.11	31.88	
507.00	0.29	263.73	507.00	-0.53	-1.49	0.08	0.10	0.09	8.45	

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Scientific Drilling
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 2H
Project:	Mary Prospect	TVD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Site:	ZMBG Pad	MD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Well:	2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	2H As Drilled	Database:	Northeast District

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
607.00	0.13	275.48	606.99	-0.54	-1.85	-0.01	0.16	-0.16	11.75
707.00	0.19	272.00	706.99	-0.53	-2.13	-0.10	0.06	0.06	-3.48
807.00	0.27	279.79	806.99	-0.48	-2.53	-0.26	0.09	0.08	7.79
907.00	0.14	283.64	906.99	-0.41	-2.88	-0.43	0.13	-0.13	3.85
1,007.00	0.16	229.98	1,006.99	-0.47	-3.11	-0.43	0.14	0.02	-53.66
1,107.00	0.18	193.17	1,106.99	-0.72	-3.25	-0.24	0.11	0.02	-36.81
1,207.00	0.12	161.12	1,206.99	-0.97	-3.25	0.00	0.10	-0.06	-32.05
1,307.00	0.15	177.07	1,306.99	-1.20	-3.21	0.23	0.05	0.03	15.95
1,407.00	0.18	182.50	1,406.99	-1.49	-3.21	0.51	0.03	0.03	5.43
1,507.00	0.10	190.72	1,506.99	-1.73	-3.23	0.73	0.08	-0.08	8.22
1,607.00	0.20	185.07	1,606.99	-1.99	-3.27	0.97	0.10	0.10	-5.65
1,707.00	0.12	181.33	1,706.99	-2.27	-3.28	1.23	0.08	-0.08	-3.74
1,807.00	0.38	185.83	1,806.99	-2.70	-3.32	1.64	0.26	0.26	4.50
1,907.00	0.33	174.27	1,906.99	-3.32	-3.33	2.23	0.09	-0.05	-11.56
2,007.00	0.40	167.41	2,006.99	-3.94	-3.22	2.86	0.08	0.07	-6.86
2,107.00	0.47	156.73	2,106.99	-4.66	-2.98	3.62	0.11	0.07	-10.68
2,207.00	0.57	161.29	2,206.98	-5.51	-2.66	4.52	0.11	0.10	4.56
2,307.00	0.57	167.41	2,306.98	-6.47	-2.39	5.51	0.06	0.00	6.12
2,407.00	0.27	154.32	2,406.97	-7.16	-2.18	6.24	0.31	-0.30	-13.09
2,507.00	0.32	148.41	2,506.97	-7.61	-1.93	6.74	0.06	0.05	-5.91
2,607.00	0.26	133.88	2,606.97	-8.01	-1.62	7.21	0.09	-0.06	-14.53
2,624.00	0.23	131.47	2,623.97	-8.06	-1.57	7.27	0.19	-0.18	-14.18
Last Vaughn Gyro Survey									
2,639.00	0.51	42.79	2,638.97	-8.03	-1.50	7.27	3.70	1.87	-591.41
2,639.00	0.51	42.79	2,638.97	-8.03	-1.50	7.27	0.02	0.00	0.00
First SDI MWD Survey									
2,731.00	0.11	217.52	2,730.97	-7.80	-1.28	7.11	0.67	-0.43	189.94
2,825.00	1.43	183.55	2,824.95	-9.04	-1.41	8.26	1.43	1.40	-36.14
2,917.00	2.66	188.03	2,916.89	-12.30	-1.78	11.28	1.35	1.34	4.87
3,011.00	4.10	194.65	3,010.73	-17.71	-2.93	16.14	1.58	1.53	7.04
3,103.00	4.62	195.46	3,102.46	-24.47	-4.75	22.09	0.57	0.57	0.88
3,197.00	5.57	195.33	3,196.09	-32.51	-6.96	29.17	1.01	1.01	-0.14
3,289.00	6.91	195.52	3,287.54	-42.15	-9.63	37.65	1.46	1.46	0.21
3,380.00	7.29	191.99	3,377.85	-53.08	-12.29	47.35	0.64	0.42	-3.88
3,474.00	7.38	189.65	3,471.08	-64.86	-14.54	58.01	0.33	0.10	-2.49
3,566.00	7.49	189.18	3,562.30	-76.61	-16.49	68.70	0.14	0.12	-0.51
3,658.00	7.04	180.75	3,653.57	-88.16	-17.52	79.49	1.26	-0.49	-9.16
3,748.00	6.95	185.48	3,742.90	-99.10	-18.11	89.80	0.65	-0.10	5.26
3,841.00	7.49	193.66	3,835.16	-110.59	-20.08	100.25	1.25	0.58	8.80
3,936.00	7.45	192.13	3,929.36	-122.63	-22.84	111.00	0.21	-0.04	-1.61
4,026.00	7.37	189.47	4,018.60	-134.03	-25.01	121.30	0.39	-0.09	-2.96
4,117.00	7.56	195.90	4,108.83	-145.54	-27.61	131.59	0.94	0.21	-7.07
4,209.00	7.63	196.42	4,200.03	-157.22	-31.00	141.81	0.11	0.08	0.57
4,302.00	6.90	193.16	4,292.28	-168.58	-34.01	151.84	0.90	-0.78	-3.51

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Scientific Drilling
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 2H
Project:	Mary Prospect	TVD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Site:	ZMBG Pad	MD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Well:	2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	2H As Drilled	Database:	Northeast District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,393.00	6.56	190.73	4,382.65	-179.01	-36.23	161.20	0.49	-0.37	-2.67	
4,487.00	6.58	186.86	4,476.04	-189.63	-37.87	170.92	0.47	0.02	-4.12	
4,580.00	6.31	186.45	4,568.45	-200.00	-39.08	180.51	0.29	-0.29	-0.44	
4,672.00	6.31	184.30	4,659.89	-210.07	-40.03	189.88	0.26	0.00	-2.34	
4,765.00	6.35	182.71	4,752.33	-220.30	-40.65	199.51	0.19	0.04	-1.71	
4,859.00	6.53	189.62	4,845.73	-230.76	-41.79	209.21	0.85	0.19	7.35	
4,952.00	6.64	189.83	4,938.12	-241.28	-43.59	218.77	0.12	0.12	0.23	
5,045.00	6.77	186.62	5,030.48	-252.02	-45.14	228.62	0.43	0.14	-3.45	
5,140.00	6.98	196.35	5,124.80	-263.12	-47.41	238.61	1.24	0.22	10.24	
5,233.00	6.94	193.50	5,217.12	-274.01	-50.32	248.22	0.37	-0.04	-3.06	
5,326.00	6.81	191.42	5,309.45	-284.87	-52.72	257.95	0.30	-0.14	-2.24	
5,408.00	7.01	190.82	5,390.85	-294.55	-54.62	266.68	0.26	0.24	-0.73	
5,512.00	7.04	190.22	5,494.07	-307.06	-56.94	278.00	0.08	0.03	-0.58	
5,605.00	7.21	192.85	5,586.36	-318.36	-59.25	288.17	0.40	0.18	2.83	
5,700.00	6.95	191.58	5,680.63	-329.80	-61.73	298.43	0.32	-0.27	-1.34	
5,793.00	6.94	191.14	5,772.95	-340.83	-63.95	308.36	0.06	-0.01	-0.47	
5,840.00	6.93	191.79	5,819.61	-346.39	-65.08	313.37	0.17	-0.02	1.38	
5,872.00	7.02	190.05	5,851.37	-350.20	-65.81	316.81	0.72	0.28	-5.44	
5,904.00	7.53	192.79	5,883.11	-354.17	-66.62	320.39	1.93	1.59	8.56	
5,935.00	9.01	193.08	5,913.79	-358.52	-67.62	324.27	4.78	4.77	0.94	
5,967.00	11.01	194.18	5,945.30	-363.92	-68.93	329.07	6.28	6.25	3.44	
5,999.00	12.91	194.11	5,976.61	-370.35	-70.55	334.77	5.94	5.94	-0.22	
6,031.00	14.66	194.84	6,007.68	-377.73	-72.46	341.30	5.50	5.47	2.28	
6,063.00	16.70	195.36	6,038.49	-386.08	-74.72	348.65	6.39	6.38	1.63	
6,095.00	19.25	195.11	6,068.93	-395.61	-77.31	357.04	7.97	7.97	-0.78	
6,127.00	21.09	193.63	6,098.96	-406.30	-80.04	366.51	5.97	5.75	-4.63	
6,158.00	23.53	192.28	6,127.64	-417.77	-82.67	376.75	8.04	7.87	-4.35	
6,190.00	25.21	191.96	6,156.79	-430.68	-85.44	388.33	5.27	5.25	-1.00	
6,222.00	27.06	193.61	6,185.52	-444.42	-88.57	400.60	6.21	5.78	5.16	
6,254.00	28.52	193.83	6,213.82	-458.91	-92.11	413.48	4.57	4.56	0.69	
6,286.00	30.78	193.72	6,241.63	-474.29	-95.88	427.14	7.06	7.06	-0.34	
6,317.00	32.54	193.76	6,268.02	-490.09	-99.74	441.18	5.68	5.68	0.13	
6,347.00	34.10	194.38	6,293.09	-506.08	-103.75	455.36	5.32	5.20	2.07	
6,378.00	35.73	193.93	6,318.50	-523.28	-108.09	470.60	5.32	5.26	-1.45	
6,408.00	36.91	192.92	6,342.68	-540.56	-112.21	485.99	4.41	3.93	-3.37	
6,438.00	38.81	192.41	6,366.36	-558.53	-116.24	502.05	6.42	6.33	-1.70	
6,468.00	40.09	191.62	6,389.53	-577.17	-120.21	518.79	4.58	4.27	-2.63	
6,499.00	42.51	192.11	6,412.81	-597.19	-124.42	536.77	7.88	7.81	1.58	
6,530.00	44.03	192.63	6,435.38	-617.95	-128.97	555.36	5.04	4.90	1.68	
6,560.00	46.13	193.47	6,456.57	-638.64	-133.77	573.82	7.28	7.00	2.80	
6,590.00	47.71	193.25	6,477.06	-659.96	-138.83	592.80	5.29	5.27	-0.73	
6,620.00	49.40	193.67	6,496.91	-681.83	-144.07	612.27	5.73	5.63	1.40	
6,651.00	50.48	193.62	6,516.86	-704.88	-149.67	632.76	3.49	3.48	-0.16	

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WV Department of Environmental Protection
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10/16/2015

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Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 2H
Project:	Mary Prospect	TVD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Site:	ZMBG Pad	MD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Well:	2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	2H As Drilled	Database:	Northeast District

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
6,680.00	51.64	192.82	6,535.09	-726.84	-154.82	652.33	4.54	4.00	-2.76
6,710.00	53.37	192.93	6,553.35	-750.04	-160.13	673.05	5.77	5.77	0.37
6,741.00	55.89	192.30	6,571.29	-774.71	-165.65	695.12	8.30	8.13	-2.03
6,771.00	58.01	191.82	6,587.65	-799.30	-170.90	717.18	7.19	7.07	-1.60
6,802.00	59.78	189.98	6,603.67	-825.36	-175.91	740.72	7.64	5.71	-5.94
6,832.00	62.03	187.97	6,618.26	-851.25	-180.00	764.37	9.51	7.50	-6.70
6,862.00	63.99	186.70	6,631.87	-877.76	-183.41	788.80	7.54	6.53	-4.23
6,892.00	65.94	185.60	6,644.57	-904.79	-186.32	813.87	7.30	6.50	-3.67
6,923.00	67.82	185.20	6,656.74	-933.17	-189.00	840.30	6.18	6.06	-1.29
6,953.00	69.37	184.47	6,667.69	-961.00	-191.35	866.30	5.64	5.17	-2.43
6,983.00	70.44	183.05	6,678.00	-989.11	-193.20	892.72	5.70	3.57	-4.73
7,013.00	71.27	181.13	6,687.83	-1,017.43	-194.23	919.56	6.65	2.77	-6.40
7,044.00	72.10	179.36	6,697.58	-1,046.86	-194.35	947.73	6.05	2.68	-5.71
7,074.00	72.77	177.85	6,706.63	-1,075.45	-193.66	975.33	5.29	2.23	-5.03
7,104.00	73.21	176.18	6,715.41	-1,104.10	-192.16	1,003.21	5.52	1.47	-5.57
7,134.00	73.75	174.89	6,723.94	-1,132.77	-189.92	1,031.32	4.50	1.80	-4.30
7,165.00	74.26	173.49	6,732.48	-1,162.42	-186.91	1,060.60	4.64	1.65	-4.52
7,195.00	73.82	172.22	6,740.73	-1,191.04	-183.32	1,089.05	4.33	-1.47	-4.23
7,226.00	73.74	170.71	6,749.39	-1,220.47	-178.90	1,118.52	4.68	-0.26	-4.87
7,256.00	73.58	170.17	6,757.83	-1,248.86	-174.12	1,147.09	1.81	-0.53	-1.80
7,286.00	73.86	169.71	6,766.24	-1,277.22	-169.09	1,175.70	1.74	0.93	-1.53
7,317.00	74.10	169.13	6,774.80	-1,306.50	-163.62	1,205.33	1.96	0.77	-1.87
7,346.00	75.17	168.86	6,782.48	-1,333.95	-158.28	1,233.16	3.80	3.69	-0.93
7,378.00	76.69	168.27	6,790.26	-1,364.38	-152.13	1,264.08	5.08	4.75	-1.84
7,402.41	77.89	167.51	6,795.63	-1,387.66	-147.13	1,287.81	5.78	4.90	-3.13
ZMBG 2H_LP4									
7,409.00	78.21	167.30	6,796.99	-1,393.95	-145.72	1,294.24	5.78	4.91	-3.11
7,441.00	79.73	166.62	6,803.12	-1,424.55	-138.64	1,325.59	5.19	4.75	-2.13
7,472.00	80.41	166.33	6,808.46	-1,454.24	-131.50	1,356.08	2.38	2.19	-0.94
7,504.00	80.99	166.58	6,813.63	-1,484.94	-124.10	1,387.62	1.97	1.81	0.78
7,536.00	81.61	166.15	6,818.47	-1,515.68	-116.64	1,419.21	2.35	1.94	-1.34
7,568.00	82.20	166.42	6,822.98	-1,546.45	-109.13	1,450.85	2.02	1.84	0.84
7,600.00	82.71	166.19	6,827.18	-1,577.28	-101.62	1,482.53	1.75	1.59	-0.72
7,632.00	83.12	165.85	6,831.13	-1,608.09	-93.95	1,514.25	1.66	1.28	-1.06
7,663.00	83.52	165.89	6,834.73	-1,637.95	-86.43	1,545.01	1.30	1.29	0.13
7,695.00	83.86	165.27	6,838.25	-1,668.75	-78.51	1,576.80	2.20	1.06	-1.94
7,727.00	84.08	165.32	6,841.61	-1,699.53	-70.44	1,608.60	0.70	0.69	0.16
7,758.00	84.25	164.49	6,844.76	-1,729.31	-62.40	1,639.43	2.72	0.55	-2.68
7,790.00	84.56	164.29	6,847.88	-1,759.98	-53.83	1,671.27	1.15	0.97	-0.63
7,822.00	85.11	164.24	6,850.77	-1,790.66	-45.19	1,703.14	1.73	1.72	-0.16
7,854.00	85.88	164.36	6,853.28	-1,821.37	-36.56	1,735.04	2.44	2.41	0.38
7,886.00	86.21	163.55	6,855.49	-1,852.05	-27.74	1,766.96	2.73	2.03	-2.53
7,917.00	87.05	161.81	6,857.31	-1,881.59	-18.52	1,797.90	6.22	2.71	-5.61
7,949.00	87.48	161.59	6,858.84	-1,911.94	-8.49	1,829.85	1.51	1.34	-0.69

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Scientific Drilling
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 2H
Project:	Mary Prospect	TVD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Site:	ZMBG Pad	MD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Well:	2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	2H As Drilled	Database:	Northeast District

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,981.00	88.15	161.53	6,860.06	-1,942.27	1.63	1,861.81	2.10	2.09	-0.19
8,013.00	88.26	160.46	6,861.06	-1,972.51	12.04	1,893.77	3.36	0.34	-3.34
8,045.00	88.26	159.58	6,862.03	-2,002.57	22.97	1,925.70	2.75	0.00	-2.75
8,076.00	88.49	158.72	6,862.91	-2,031.53	34.00	1,956.60	2.87	0.74	-2.77
8,108.00	87.58	157.37	6,864.01	-2,061.19	45.96	1,988.44	5.09	-2.84	-4.22
8,140.00	87.32	156.51	6,865.43	-2,090.60	58.48	2,020.20	2.81	-0.81	-2.69
8,172.00	87.72	155.88	6,866.81	-2,119.85	71.38	2,051.92	2.33	1.25	-1.97
8,204.00	86.92	156.36	6,868.31	-2,149.08	84.32	2,083.63	2.91	-2.50	1.50
8,235.00	86.65	156.42	6,870.05	-2,177.44	96.72	2,114.35	0.89	-0.87	0.19
8,267.00	87.02	156.23	6,871.82	-2,206.70	109.55	2,146.05	1.30	1.16	-0.59
8,299.00	86.87	156.59	6,873.52	-2,235.99	122.34	2,177.77	1.22	-0.47	1.13
8,331.00	86.78	156.46	6,875.29	-2,265.29	135.07	2,209.49	0.49	-0.28	-0.41
8,362.00	86.88	155.18	6,877.01	-2,293.53	147.74	2,240.17	4.14	0.32	-4.13
8,394.00	86.91	154.17	6,878.74	-2,322.41	161.41	2,271.76	3.15	0.09	-3.16
8,426.00	86.71	153.04	6,880.52	-2,351.03	175.61	2,303.24	3.58	-0.63	-3.53
8,489.00	87.65	153.11	6,883.62	-2,407.13	204.11	2,365.14	1.50	1.49	0.11
8,553.00	88.16	152.73	6,885.96	-2,464.08	233.22	2,428.03	0.99	0.80	-0.59
8,617.00	87.68	152.17	6,888.28	-2,520.78	262.80	2,490.82	1.15	-0.75	-0.88
8,680.00	86.88	152.18	6,891.27	-2,576.44	292.18	2,552.55	1.27	-1.27	0.02
8,743.00	86.47	151.80	6,894.93	-2,631.96	321.71	2,614.20	0.89	-0.65	-0.60
8,807.00	87.05	151.60	6,898.55	-2,688.22	352.01	2,676.77	0.96	0.91	-0.31
8,871.00	87.78	150.93	6,901.43	-2,744.28	382.74	2,739.27	1.55	1.14	-1.05
8,934.00	87.69	151.79	6,903.92	-2,799.53	412.92	2,800.84	1.37	-0.14	1.37
8,998.00	87.61	152.18	6,906.55	-2,855.99	442.95	2,863.52	0.62	-0.13	0.61
9,062.00	87.19	152.81	6,909.45	-2,912.69	472.48	2,926.30	1.18	-0.66	0.98
9,126.00	86.58	152.51	6,912.93	-2,969.46	501.83	2,989.08	1.06	-0.95	-0.47
9,188.00	87.38	153.52	6,916.19	-3,024.63	529.92	3,049.98	2.08	1.29	1.63
9,251.00	87.82	153.75	6,918.83	-3,081.03	557.87	3,112.01	0.79	0.70	0.37
9,314.00	89.16	153.73	6,920.49	-3,137.51	585.74	3,174.10	2.13	2.13	-0.03
9,378.00	90.03	153.74	6,920.94	-3,194.90	614.06	3,237.18	1.36	1.36	0.02
9,441.00	90.03	154.40	6,920.91	-3,251.55	641.61	3,299.35	1.05	0.00	1.05
9,504.00	89.77	155.30	6,921.02	-3,308.58	668.38	3,361.65	1.49	-0.41	1.43
9,566.00	89.77	156.21	6,921.27	-3,365.11	693.84	3,423.10	1.47	0.00	1.47
9,630.00	89.30	156.67	6,921.79	-3,423.77	719.42	3,486.62	1.03	-0.73	0.72
9,692.00	89.40	156.36	6,922.49	-3,480.63	744.13	3,548.17	0.53	0.16	-0.50
9,756.00	90.60	157.12	6,922.49	-3,539.43	769.40	3,611.74	2.22	1.88	1.19
9,819.00	90.67	156.65	6,921.79	-3,597.37	794.13	3,674.33	0.75	0.11	-0.75
9,883.00	90.23	155.83	6,921.29	-3,655.94	819.92	3,737.82	1.45	-0.69	-1.28
9,947.00	89.30	155.11	6,921.55	-3,714.16	846.49	3,801.21	1.84	-1.45	-1.13
10,011.00	90.70	154.83	6,921.55	-3,772.15	873.56	3,864.52	2.23	2.19	-0.44
10,074.00	90.91	154.73	6,920.67	-3,829.14	900.40	3,926.80	0.37	0.33	-0.16
10,137.00	89.26	155.66	6,920.58	-3,886.33	926.83	3,989.15	3.01	-2.62	1.48
10,201.00	89.09	155.25	6,921.50	-3,944.54	953.42	4,052.53	0.69	-0.27	-0.64

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Scientific Drilling
Survey Report



Company:	Stone Energy	Local Co-ordinate Reference:	Well 2H
Project:	Mary Prospect	TVD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Site:	ZMBG Pad	MD Reference:	GL 1341' & KB 18' @ 1359.00ft (Saxon 141)
Well:	2H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	2H As Drilled	Database:	Northeast District

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,264.00	89.56	156.83	6,922.24	-4,002.10	979.00	4,115.00	2.62	0.75	2.51
10,327.00	88.99	157.03	6,923.04	-4,060.06	1,003.68	4,177.60	0.96	-0.90	0.32
10,391.00	90.03	157.17	6,923.58	-4,119.01	1,028.59	4,241.21	1.64	1.63	0.22
10,454.00	91.11	157.66	6,922.96	-4,177.18	1,052.78	4,303.86	1.88	1.71	0.78
10,518.00	90.94	157.01	6,921.81	-4,236.22	1,077.44	4,367.49	1.05	-0.27	-1.02
10,581.00	90.64	156.09	6,920.94	-4,294.01	1,102.51	4,430.03	1.54	-0.48	-1.46
10,644.00	90.30	155.51	6,920.43	-4,351.48	1,128.33	4,492.48	1.07	-0.54	-0.92
10,708.00	89.63	155.62	6,920.47	-4,409.74	1,154.80	4,555.88	1.06	-1.05	0.17
10,772.00	90.00	154.20	6,920.67	-4,467.70	1,181.94	4,619.17	2.29	0.58	-2.22
10,835.00	90.74	152.79	6,920.27	-4,524.08	1,210.05	4,681.23	2.53	1.17	-2.24
10,899.00	91.04	152.90	6,919.27	-4,581.02	1,239.26	4,744.14	0.50	0.47	0.17
10,962.00	90.97	154.24	6,918.17	-4,637.42	1,267.30	4,806.20	2.13	-0.11	2.13
11,026.00	90.27	154.86	6,917.47	-4,695.21	1,294.80	4,869.44	1.46	-1.09	0.97
11,089.00	90.37	155.46	6,917.12	-4,752.38	1,321.26	4,931.78	0.97	0.16	0.95
11,152.00	91.11	155.57	6,916.31	-4,809.71	1,347.37	4,994.18	1.19	1.17	0.17
11,216.00	92.02	156.02	6,914.56	-4,868.06	1,373.60	5,057.59	1.59	1.42	0.70
11,280.00	91.31	155.46	6,912.70	-4,926.38	1,399.89	5,121.00	1.41	-1.11	-0.88
11,343.00	90.40	155.24	6,911.76	-4,983.63	1,426.16	5,183.37	1.49	-1.44	-0.35
11,407.00	89.90	155.25	6,911.59	-5,041.75	1,452.96	5,246.72	0.78	-0.78	0.02
11,470.00	89.67	154.71	6,911.83	-5,098.84	1,479.60	5,309.04	0.93	-0.37	-0.86
11,531.00	88.03	155.11	6,913.05	-5,154.07	1,505.46	5,369.36	2.77	-2.69	0.66
11,595.00	86.98	155.78	6,915.84	-5,212.23	1,532.03	5,432.68	1.95	-1.64	1.05
11,658.00	86.81	156.34	6,919.25	-5,269.72	1,557.56	5,495.07	0.93	-0.27	0.89
11,722.00	86.67	157.39	6,922.89	-5,328.48	1,582.66	5,558.55	1.65	-0.22	1.64
11,785.00	87.39	157.36	6,926.16	-5,386.55	1,606.87	5,621.12	1.14	1.14	-0.05
11,849.00	88.19	157.49	6,928.62	-5,445.60	1,631.42	5,684.72	1.27	1.25	0.20
11,912.00	88.69	156.33	6,930.34	-5,503.53	1,656.12	5,747.29	2.00	0.79	-1.84
11,975.00	89.63	155.57	6,931.26	-5,561.06	1,681.79	5,809.75	1.92	1.49	-1.21
12,038.00	90.13	155.26	6,931.39	-5,618.34	1,708.00	5,872.14	0.93	0.79	-0.49
12,102.00	90.77	156.78	6,930.89	-5,676.82	1,734.01	5,935.61	2.58	1.00	2.38
12,165.00	91.14	157.28	6,929.84	-5,734.81	1,758.59	5,998.21	0.99	0.59	0.79
12,229.00	90.03	158.16	6,929.19	-5,794.03	1,782.85	6,061.89	2.21	-1.73	1.38
12,293.00	89.63	158.25	6,929.38	-5,853.46	1,806.61	6,125.62	0.64	-0.63	0.14
12,355.00	89.90	158.34	6,929.63	-5,911.06	1,829.54	6,187.38	0.46	0.44	0.15
12,418.00	89.20	158.29	6,930.13	-5,969.60	1,852.82	6,250.13	1.11	-1.11	-0.08
12,482.00	89.97	157.40	6,930.59	-6,028.87	1,876.95	6,313.82	1.84	1.20	-1.39
12,546.00	89.77	157.29	6,930.74	-6,087.93	1,901.61	6,377.47	0.36	-0.31	-0.17
12,577.00	88.83	157.89	6,931.12	-6,116.59	1,913.42	6,408.30	3.60	-3.03	1.94
Last SDI MWD Survey									
12,635.00	88.83	157.89	6,932.30	-6,170.31	1,935.25	6,466.02	0.00	0.00	0.00
Projection to Bit - ZMBG 2H_BHL4									

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