

WR-35
Rev (9-11)

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

DATE: December 4, 2013
API #: 47-103-02708

Farm name: WV Conservation Commission Operator Well No.: Mills-Wetzel #12

LOCATION: Elevation: 1,313' Quadrangle: Pine Grove

District: Grant County: Wetzel
Latitude: 7,540 Feet South of 39 Deg. 32 Min. 30 Sec.
Longitude 9,080 Feet West of 80 Deg. 37 Min. 30 Sec.

Company: **Stone Energy Corporation**

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
6000 Hampton Center, Suite B Morgantown, WV 26505	20"	48'	48'	GTS
Agent: Tim McGregor	13.375"	1,311'	1,311'	1,202 - CTS
Inspector: Derek Haught	9.625"	2,802'	2,802'	693 Lead - 456 Tail CTS
Date Permit Issued: 11/15/2011	5.5"		10,685'	1,218 Lead - 1,355 Tail
Date Well Work Commenced: 5/23/2012	2.375"		7,684'	
Date Well Work Completed: 3/9/2013				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7,353				
Total Measured Depth (ft): 10,690				
Fresh Water Depth (ft.): 60				
Salt Water Depth (ft.): 1,840				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 1,081				
Void(s) encountered (N/Y) Depth(s) N/A				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 7,767' to 10,603'

Gas: Initial open flow 910 MCF/d Oil: Initial open flow 0 Bbl/d

Final open flow 3,050 MCF/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests 84 Hours

Static rock Pressure 1,950 psig (surface pressure) after 1 Hours

Second producing formation _____ Pay zone depth (ft) _____

Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d

Final open flow _____ MCF/d Final open flow _____ Bbl/d

Time of open flow between initial and final tests _____ Hours

Static rock Pressure _____ psig (surface pressure) after _____ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.


Signature

12/4/2013
Date

03/07/2014

Were core samples taken? Yes _____ No X

Were cuttings caught during drilling? Yes X No _____

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list MWD Gamma Ray, Mud Log, and CBL

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing, or Stimulating:

Perforated 11 intervals from 10,603' to 7,767'. Performed 12 individual stages of slick water stimulation using 3,583,368 gals fresh water, Sand - 465,960 lbs 100 Mesh and 1,105,310 lbs 40/70. AvBDP = 6,951 psi, AvTP = 7,889 psi, AvMTP = 9,153 psi, AvInjRate = 80.2 bpm, and AvISIP = 4,983 psi.

See Attachment for FracFocus information.

Plug Back Details Including Plug Type and Depth(s):

Formations Encountered:	Top Depth	/	Bottom Depth
Surface:			

See attached sheet for formations encountered and their depths.

MILLS-WETZEL #12H
 API 47-103-02708
 Stone Energy Corporation

	Top (ft TVD)	Horizontal Top (ft MD)	(ft *)	Bottom (ft TVD)	Bottom (ft MD)	
Sandstone & Shale	Surface		*	1081		FW @ 60'
Pittsburgh Coal	1081		*	1090		
Sandstone & Shale	1090		*	2300		SW @ 1840'
Little Lime	2300		*	2330		
Big Lime	2330		*	2454		
Big Injun	2454		*	2554		
Sandstone & Shale	2654		*	2916		
Berea Sandstone	2916		*	2956		
Shale	2956		*	3130		
Gordon	3130		*	3194		
Undiff Devonian Shale	3194		*	5418		
Riley	5418		*	5474		
Undiff Devonian Shale	5474		*	5512		
Benson	5512		*	5550		
Undiff Devonian Shale	5550		*	5753		
Pipe Creek	5753		*	5765		
Lower Alexander	5765		*	5812		
Undiff Devonian Shale	5812		*	6670	6674	
Rhinestreet	6670	6674	~	6914	6934	
Cashaqua	6914	6934	~	7070	7133	
Middlesex	7070	7133	~	7092	7163	
West River	7092	7163	~	7178	7309	
Geneseo	7178	7309	~	7204	7359	
Tully Limestone	7204	7359	~	7278	7550	
Hamilton	7278	7550	~	7303	7655	
Marcellus	7303	7655	~	7353	10690	
TD	7353	10690				

* From Pilot Hole Log and Driller's Log

~ From MWD Gamma Log

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	11/12/2012
State:	West Virginia
County/Parish:	Wetzel County
API Number:	4710302708
Operator Name:	Stone Energy
Well Name and Number:	Mills Wetzel #12H
Longitude:	-80.657029
Latitude:	39.521145
Long/Lat Projection:	NAD27
Production Type:	Gas
True Vertical Depth (TVD):	7333
Total Water Volume (gal)*:	3585368

Hydraulic Fracturing Fluid Composition

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Slickwater, SAPPHIRE VF	Schlumberger	Corrosion Inhibitor, Bactericide (Myacide GA25), Scale Inhibitor, Antifoam Agent, Surfactant, Acid, Friction Reducer, Rheology Modifier ClearFRAC XT J589, Gelling Agent, Iron Control Agent, Clay Control Agent, Accelerator, Propping Agent, Fluid Loss Additive	Water (Including Mix Water Supplied by Client)*	-		89.16316%	
			Crystalline silica	14808-60-7	98.14502%	10.63582%	
			Hydrochloric acid	7647-01-0	1.01424%	0.10991%	
			Erucic amidopropyl dimethyl betaine	149879-98-1	0.49305%	0.05343%	
			Propan-2-ol	67-63-0	0.36105%	0.03913%	
			Ammonium sulfate	Proprietary	0.31747%	0.03440%	
			Calcium chloride	10043-52-4	0.07065%	0.00766%	
			Polyethylene glycol monohexyl ether	31726-34-8	0.05328%	0.00577%	
			Glutaraldehyde	111-30-8	0.05141%	0.00557%	
			Ethane-1,2-diol	107-21-1	0.00487%	0.00053%	
			Trisodium ortho phosphate	7601-54-9	0.00487%	0.00053%	
			Methanol	67-56-1	0.00478%	0.00052%	
			Sodium erythorbate	6381-77-7	0.00385%	0.00042%	
			Aliphatic acids	Proprietary	0.00358%	0.00039%	
			Aliphatic alcohols, ethoxylated #2	Proprietary	0.00358%	0.00039%	
			Prop-2-yn-1-ol	107-19-7	0.00119%	0.00013%	
			Silicane derivative	Proprietary	0.00014%	0.00001%	

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Report ID: RPT-11240 (Generated on 3/5/2013 11:04 AM)

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.

03/07/2014

Company:	Stone Energy	Local Co-ordinate Reference:	Well Mills Wetzel #12H - Slot MW#12H
Project:	Heather Prospect (NAD 27)	TVD Reference:	Saxon 141 @ 1321.0usft (18' RKB - 1303' GL)
Site:	Mills Wetzel Pad 2	MD Reference:	Saxon 141 @ 1321.0usft (18' RKB - 1303' GL)
Well:	Mills Wetzel #12H	North Reference:	Grid
Wellbore:	Original Well	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	EDM-Chris Testa

Project	Heather Prospect (NAD 27), Wetzel County, 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	Mills Wetzel Pad 2				
Site Position:		Northing:	374,564.00 usft	Latitude:	39° 31' 21.507 N
From:	Map	Easting:	1,674,001.00 usft	Longitude:	80° 39' 20.400 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.74 °

Well	Mills Wetzel #12H - Slot MW#12H					
Well Position	+N/-S	0.0 usft	Northing:	374,024.25 usft	Latitude:	39° 31' 16.123 N
	+E/-W	0.0 usft	Easting:	1,673,609.59 usft	Longitude:	80° 39' 25.306 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	1,303.0 usft

Wellbore	Original Well				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	08/30/12	-8.54	67.15	52,616

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	144.71	

Survey Program	Date	08/27/12			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	3,956.3	SDI Gyro Keeper (Original Well)	SDI Standard Keeper 103	SDI Standard Wireline Keeper ver 1.0.3	
4,049.0	10,690.0	SDI MWD (Original Well)	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	
100.0	0.19	328.74	100.0	0.1	-0.1	-0.2	0.19	0.19	0.00	
200.0	0.19	15.76	200.0	0.4	-0.1	-0.4	0.15	0.00	47.02	
300.0	0.09	69.98	300.0	0.6	0.0	-0.5	0.16	-0.10	54.22	
400.0	0.08	83.02	400.0	0.7	0.1	-0.5	0.02	-0.01	13.04	
500.0	0.10	263.34	500.0	0.7	0.1	-0.5	0.18	0.02	-179.68	
600.0	0.10	258.02	600.0	0.6	-0.1	-0.5	0.01	0.00	-5.32	
700.0	0.07	280.09	700.0	0.6	-0.2	-0.6	0.04	-0.03	22.07	
800.0	0.05	286.36	800.0	0.7	-0.3	-0.7	0.02	-0.02	6.27	
900.0	0.07	103.99	900.0	0.6	-0.3	-0.7	0.12	0.02	177.63	

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Well:	Mills Wetzel #12H	North Reference:	Grid
Wellbore:	Original Well	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	EDM-Chris Testa

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)
1,000.0	0.02	286.38	1,000.0	0.6	-0.2	-0.7	0.09	-0.05	-177.61
1,100.0	0.12	266.82	1,100.0	0.6	-0.4	-0.7	0.10	0.10	-19.56
1,200.0	0.27	277.49	1,200.0	0.7	-0.7	-0.9	0.15	0.15	10.67
1,300.0	0.10	289.10	1,300.0	0.7	-1.0	-1.2	0.17	-0.17	11.61
1,400.0	0.07	21.82	1,400.0	0.8	-1.1	-1.3	0.12	-0.03	92.72
1,500.0	0.13	289.77	1,500.0	0.9	-1.2	-1.4	0.15	0.06	-92.05
1,600.0	0.13	281.22	1,600.0	1.0	-1.4	-1.6	0.02	0.00	-8.55
1,700.0	0.37	273.61	1,700.0	1.0	-1.8	-1.9	0.24	0.24	-7.61
1,800.0	0.21	252.41	1,800.0	1.0	-2.3	-2.1	0.19	-0.16	-21.20
1,900.0	0.24	139.20	1,900.0	0.8	-2.3	-2.0	0.38	0.03	-113.21
2,000.0	0.31	190.62	2,000.0	0.3	-2.3	-1.6	0.25	0.07	51.42
2,100.0	0.36	122.21	2,100.0	-0.1	-2.0	-1.1	0.38	0.05	-68.41
2,200.0	0.35	110.94	2,200.0	-0.4	-1.5	-0.6	0.07	-0.01	-11.27
2,300.0	0.46	103.05	2,300.0	-0.6	-0.8	0.0	0.12	0.11	-7.89
2,400.0	0.53	97.16	2,400.0	-0.7	0.0	0.6	0.09	0.07	-5.89
2,500.0	0.25	70.49	2,500.0	-0.7	0.7	1.0	0.33	-0.28	-26.67
2,600.0	0.35	45.63	2,600.0	-0.4	1.1	1.0	0.16	0.10	-24.86
2,700.0	0.32	76.34	2,700.0	-0.1	1.6	1.0	0.18	-0.03	30.71
2,800.0	0.33	39.72	2,800.0	0.1	2.1	1.1	0.20	0.01	-36.62
2,900.0	0.48	130.83	2,900.0	0.1	2.6	1.4	0.59	0.15	91.11
3,000.0	1.33	166.93	3,000.0	-1.3	3.1	2.9	0.98	0.85	36.10
3,100.0	1.59	170.48	3,099.9	-3.8	3.6	5.2	0.28	0.26	3.55
3,200.0	2.71	168.31	3,199.9	-7.5	4.3	8.6	1.12	1.12	-2.17
3,300.0	3.32	155.71	3,299.7	-12.5	6.0	13.6	0.90	0.61	-12.60
3,400.0	4.21	154.44	3,399.5	-18.4	8.8	20.1	0.89	0.89	-1.27
3,500.0	5.40	145.14	3,499.2	-25.6	13.1	28.4	1.42	1.19	-9.30
3,600.0	5.33	124.86	3,598.7	-32.1	19.6	37.5	1.89	-0.07	-20.28
3,700.0	4.30	117.90	3,698.4	-36.5	26.7	45.2	1.18	-1.03	-6.96
3,800.0	3.89	119.36	3,798.1	-39.9	33.0	51.6	0.42	-0.41	1.46
3,900.0	3.86	117.34	3,897.9	-43.1	38.9	57.7	0.14	-0.03	-2.02
3,956.3	3.72	119.17	3,954.0	-44.9	42.2	61.0	0.33	-0.25	3.25
4,049.0	3.72	119.87	4,046.6	-47.9	47.4	66.5	0.05	0.00	0.75
4,110.0	2.88	120.55	4,107.5	-49.6	50.5	69.6	1.38	-1.38	1.11
4,172.0	2.38	110.28	4,169.4	-50.9	53.0	72.1	1.11	-0.81	-16.56
4,233.0	1.87	110.12	4,230.4	-51.6	55.1	74.0	0.84	-0.84	-0.26
4,294.0	1.97	107.55	4,291.3	-52.3	57.1	75.6	0.22	0.16	-4.21
4,355.0	1.53	97.92	4,352.3	-52.7	58.9	77.0	0.87	-0.72	-15.79
4,417.0	1.32	107.08	4,414.3	-53.0	60.4	78.2	0.50	-0.34	14.77
4,478.0	1.05	90.09	4,475.3	-53.3	61.6	79.1	0.72	-0.44	-27.85
4,539.0	0.61	105.86	4,536.3	-53.3	62.5	79.6	0.81	-0.72	25.85
4,600.0	0.91	105.63	4,597.3	-53.6	63.2	80.3	0.49	0.49	-0.38
4,661.0	0.24	66.35	4,658.2	-53.6	63.8	80.7	1.21	-1.10	-64.39
4,725.0	0.28	76.55	4,722.2	-53.6	64.1	80.7	0.10	0.06	15.94

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Wellbore:	Original Well	Survey Calculation Method:	Minimum Curvature
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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)
4,788.0	0.21	19.02	4,785.2	-53.4	64.3	80.7	0.39	-0.11	-91.32
4,852.0	0.27	69.13	4,849.2	-53.2	64.5	80.7	0.33	0.09	78.30
4,916.0	0.55	23.74	4,913.2	-52.9	64.7	80.6	0.64	0.44	-70.92
4,979.0	0.69	16.74	4,976.2	-52.3	65.0	80.2	0.25	0.22	-11.11
5,043.0	0.29	22.28	5,040.2	-51.7	65.1	79.9	0.63	-0.63	8.66
5,107.0	0.30	306.38	5,104.2	-51.5	65.1	79.6	0.57	0.02	-118.59
5,171.0	0.57	289.72	5,168.2	-51.3	64.6	79.2	0.46	0.42	-26.03
5,234.0	0.38	309.87	5,231.2	-51.1	64.2	78.7	0.40	-0.30	31.98
5,297.0	0.51	295.43	5,294.2	-50.8	63.8	78.3	0.27	0.21	-22.92
5,361.0	0.85	346.54	5,358.2	-50.2	63.4	77.6	1.03	0.53	79.86
5,423.0	0.71	350.54	5,420.2	-49.4	63.2	76.8	0.24	-0.23	6.45
5,487.0	0.91	321.22	5,484.2	-48.6	62.8	76.0	0.71	0.31	-45.81
5,550.0	0.59	349.40	5,547.2	-47.9	62.5	75.2	0.76	-0.51	44.73
5,614.0	0.67	343.03	5,611.2	-47.2	62.3	74.5	0.17	0.13	-9.95
5,678.0	0.63	302.96	5,675.2	-46.7	61.9	73.8	0.70	-0.06	-62.61
5,742.0	0.82	334.27	5,739.2	-46.1	61.4	73.1	0.67	0.30	48.92
5,805.0	0.73	305.67	5,802.2	-45.4	60.9	72.2	0.62	-0.14	-45.40
5,868.0	0.95	331.48	5,865.2	-44.7	60.3	71.3	0.69	0.35	40.97
5,931.0	1.13	314.41	5,928.2	-43.8	59.6	70.2	0.57	0.29	-27.10
5,995.0	0.80	300.60	5,992.2	-43.2	58.8	69.2	0.63	-0.52	-21.58
6,059.0	0.81	318.25	6,056.2	-42.6	58.1	68.3	0.39	0.02	27.58
6,123.0	0.79	309.86	6,120.2	-42.0	57.5	67.5	0.19	-0.03	-13.11
6,186.0	0.29	306.76	6,183.2	-41.6	57.0	66.9	0.79	-0.79	-4.92
6,250.0	0.51	345.28	6,247.1	-41.2	56.8	66.5	0.52	0.34	60.19
6,313.0	0.08	126.65	6,310.1	-41.0	56.8	66.2	0.91	-0.68	224.40
6,377.0	0.91	133.24	6,374.1	-41.4	57.2	66.8	1.30	1.30	10.30
6,409.0	1.16	121.54	6,406.1	-41.7	57.6	67.3	1.02	0.78	-36.56
6,441.0	2.54	134.48	6,438.1	-42.4	58.4	68.3	4.48	4.31	40.44
6,472.0	4.15	126.20	6,469.1	-43.5	59.8	70.1	5.41	5.19	-26.71
6,504.0	5.59	129.99	6,501.0	-45.2	61.9	72.7	4.61	4.50	11.84
6,536.0	6.97	132.39	6,532.8	-47.5	64.6	76.1	4.39	4.31	7.50
6,568.0	8.15	135.77	6,564.5	-50.4	67.6	80.2	3.94	3.69	10.56
6,600.0	9.78	138.31	6,596.1	-54.1	71.0	85.2	5.24	5.09	7.94
6,631.0	10.89	140.37	6,626.6	-58.3	74.6	90.7	3.77	3.58	6.65
6,663.0	13.08	141.26	6,657.9	-63.5	78.8	97.3	6.87	6.84	2.78
6,694.0	14.74	141.89	6,688.0	-69.3	83.4	104.8	5.38	5.35	2.03
6,726.0	16.46	140.93	6,718.8	-76.0	88.8	113.3	5.44	5.38	-3.00
6,758.0	17.29	140.61	6,749.4	-83.2	94.6	122.6	2.61	2.59	-1.00
6,790.0	19.13	142.26	6,779.8	-91.1	100.9	132.6	5.97	5.75	5.16
6,822.0	20.91	144.07	6,809.9	-99.8	107.4	143.5	5.89	5.56	5.66
6,853.0	23.02	144.77	6,838.6	-109.3	114.2	155.1	6.86	6.81	2.26
6,885.0	25.11	145.93	6,867.8	-120.0	121.6	168.2	6.70	6.53	3.63
6,917.0	27.85	145.93	6,896.5	-131.8	129.6	182.5	8.56	8.56	0.00

Company:	Stone Energy	Local Co-ordinate Reference:	Well Mills Wetzel #12H - Slot MW#12H
Project:	Heather Prospect (NAD 27)	TVD Reference:	Saxon 141 @ 1321.0usft (18' RKB - 1303' GL)
Site:	Mills Wetzel Pad 2	MD Reference:	Saxon 141 @ 1321.0usft (18' RKB - 1303' GL)
Well:	Mills Wetzel #12H	North Reference:	Grid
Wellbore:	Original Well	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	EDM-Chris Testa

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)
6,948.0	29.66	145.65	6,923.7	-144.1	138.0	197.4	5.85	5.84	-0.90
6,980.0	32.18	147.73	6,951.1	-157.9	147.0	213.8	8.55	7.88	6.50
7,011.0	34.89	147.66	6,977.0	-172.4	156.1	230.9	8.74	8.74	-0.23
7,043.0	37.74	148.47	7,002.7	-188.4	166.2	249.8	9.03	8.91	2.53
7,075.0	40.07	147.92	7,027.6	-205.5	176.8	269.9	7.36	7.28	-1.72
7,107.0	42.99	146.72	7,051.6	-223.4	188.2	291.1	9.46	9.13	-3.75
7,138.0	44.96	146.43	7,073.9	-241.3	200.1	312.6	6.39	6.35	-0.94
7,170.0	47.55	143.62	7,096.0	-260.3	213.3	335.7	10.28	8.09	-8.78
7,202.0	50.44	143.57	7,117.0	-279.7	227.7	359.8	9.03	9.03	-0.16
7,233.0	53.61	143.65	7,136.1	-299.4	242.2	384.3	10.23	10.23	0.26
7,265.0	55.16	143.73	7,154.7	-320.3	257.6	410.3	4.85	4.84	0.25
7,297.0	56.96	143.51	7,172.6	-341.7	273.3	436.8	5.65	5.63	-0.69
7,329.0	58.24	143.00	7,189.7	-363.4	289.5	463.8	4.22	4.00	-1.59
7,361.0	61.48	143.28	7,205.8	-385.5	306.1	491.5	10.15	10.13	0.88
7,393.0	64.65	145.07	7,220.3	-408.6	322.8	520.0	11.09	9.91	5.59
7,424.0	66.92	146.08	7,233.0	-431.9	338.7	548.3	7.90	7.32	3.26
7,457.0	68.18	146.07	7,245.6	-457.2	355.8	578.8	3.82	3.82	-0.03
7,489.0	68.83	147.06	7,257.3	-482.1	372.2	608.5	3.52	2.03	3.09
7,520.0	70.29	147.26	7,268.2	-506.5	387.9	637.5	4.75	4.71	0.65
7,552.0	72.08	146.42	7,278.5	-531.9	404.5	667.8	6.12	5.59	-2.63
7,584.0	74.20	145.14	7,287.8	-557.2	421.7	698.4	7.65	6.63	-4.00
7,616.0	76.93	145.96	7,295.7	-582.7	439.2	729.4	8.88	8.53	2.56
7,648.0	78.72	145.15	7,302.5	-608.5	456.9	760.7	6.12	5.59	-2.53
7,680.0	80.19	145.58	7,308.3	-634.4	474.8	792.1	4.78	4.59	1.34
7,712.0	82.49	146.50	7,313.2	-660.6	492.5	823.8	7.73	7.19	2.88
7,743.0	84.69	146.83	7,316.6	-686.4	509.4	854.5	7.18	7.10	1.06
7,775.0	85.30	146.06	7,319.4	-712.9	527.0	886.4	3.06	1.91	-2.41
7,807.0	85.49	147.17	7,322.0	-739.6	544.6	918.3	3.51	0.59	3.47
7,839.0	85.83	146.94	7,324.4	-766.4	561.9	950.2	1.28	1.06	-0.72
7,902.0	86.24	146.95	7,328.8	-819.0	596.2	1,013.0	0.65	0.65	0.02
7,966.0	87.14	146.70	7,332.5	-872.5	631.2	1,076.8	1.46	1.41	-0.39
8,030.0	88.62	146.41	7,334.8	-925.9	666.4	1,140.7	2.36	2.31	-0.45
8,093.0	89.60	146.12	7,335.8	-978.3	701.4	1,203.7	1.62	1.56	-0.46
8,157.0	89.93	145.65	7,336.1	-1,031.2	737.3	1,267.7	0.90	0.52	-0.73
8,221.0	90.74	146.38	7,335.7	-1,084.3	773.1	1,331.7	1.70	1.27	1.14
8,284.0	90.10	145.07	7,335.2	-1,136.4	808.5	1,394.7	2.31	-1.02	-2.08
8,348.0	88.62	144.85	7,335.9	-1,188.8	845.3	1,458.7	2.34	-2.31	-0.34
8,411.0	89.19	144.31	7,337.1	-1,240.1	881.8	1,521.6	1.25	0.90	-0.86
8,475.0	89.93	143.93	7,337.6	-1,291.9	919.3	1,585.6	1.30	1.16	-0.59
8,539.0	90.50	144.49	7,337.4	-1,343.9	956.7	1,649.6	1.25	0.89	0.88
8,602.0	91.14	144.62	7,336.5	-1,395.2	993.3	1,712.6	1.04	1.02	0.21
8,665.0	89.83	144.39	7,336.0	-1,446.5	1,029.8	1,775.6	2.11	-2.08	-0.37
8,729.0	88.56	143.61	7,336.9	-1,498.2	1,067.4	1,839.6	2.33	-1.98	-1.22
8,793.0	89.09	143.84	7,338.2	-1,549.8	1,105.3	1,903.6	0.90	0.83	0.36

Company:	Stone Energy	Local Co-ordinate Reference:	Well Mills Wetzel #12H - Slot MW#12H
Project:	Heather Prospect (NAD 27)	TVD Reference:	Saxon 141 @ 1321.0usft (18' RKB - 1303' GL)
Site:	Mills Wetzel Pad 2	MD Reference:	Saxon 141 @ 1321.0usft (18' RKB - 1303' GL)
Well:	Mills Wetzel #12H	North Reference:	Grid
Wellbore:	Original Well	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	EDM-Chris Testa

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)
8,856.0	89.56	143.51	7,338.9	-1,600.6	1,142.6	1,966.6	0.91	0.75	-0.52
8,920.0	90.40	142.86	7,338.9	-1,651.8	1,181.0	2,030.5	1.66	1.31	-1.02
8,984.0	89.33	144.16	7,339.1	-1,703.3	1,219.0	2,094.5	2.63	-1.67	2.03
9,047.0	88.49	144.99	7,340.3	-1,754.6	1,255.5	2,157.5	1.87	-1.33	1.32
9,111.0	88.82	145.07	7,341.8	-1,807.0	1,292.2	2,221.5	0.53	0.52	0.13
9,174.0	89.43	145.04	7,342.8	-1,858.7	1,328.3	2,284.5	0.97	0.97	-0.05
9,237.0	89.83	144.50	7,343.2	-1,910.1	1,364.6	2,347.5	1.07	0.63	-0.86
9,300.0	87.88	144.46	7,344.4	-1,961.4	1,401.2	2,410.5	3.10	-3.10	-0.06
9,364.0	88.35	144.76	7,346.5	-2,013.5	1,438.3	2,474.4	0.87	0.73	0.47
9,428.0	89.09	145.02	7,348.0	-2,065.9	1,475.1	2,538.4	1.23	1.16	0.41
9,492.0	89.56	144.57	7,348.7	-2,118.2	1,512.0	2,602.4	1.02	0.73	-0.70
9,555.0	89.63	145.05	7,349.2	-2,169.6	1,548.3	2,665.4	0.77	0.11	0.76
9,619.0	88.08	145.15	7,350.4	-2,222.1	1,584.9	2,729.4	2.43	-2.42	0.16
9,683.0	89.03	144.58	7,352.0	-2,274.4	1,621.7	2,793.4	1.73	1.48	-0.89
9,746.0	89.70	144.22	7,352.7	-2,325.7	1,658.4	2,856.4	1.21	1.06	-0.57
9,809.0	90.20	145.28	7,352.8	-2,377.1	1,694.7	2,919.4	1.86	0.79	1.68
9,873.0	90.67	144.62	7,352.3	-2,429.5	1,731.5	2,983.4	1.27	0.73	-1.03
9,936.0	89.16	145.04	7,352.4	-2,481.0	1,767.8	3,046.4	2.49	-2.40	0.67
9,999.0	89.66	145.48	7,353.1	-2,532.8	1,803.7	3,109.4	1.06	0.79	0.70
10,063.0	90.40	144.98	7,353.0	-2,585.3	1,840.2	3,173.4	1.40	1.16	-0.78
10,126.0	90.77	145.16	7,352.4	-2,637.0	1,876.2	3,236.3	0.65	0.59	0.29
10,189.0	89.19	143.72	7,352.4	-2,688.2	1,912.9	3,299.3	3.39	-2.51	-2.29
10,253.0	89.43	143.91	7,353.2	-2,739.9	1,950.7	3,363.3	0.48	0.38	0.30
10,316.0	90.10	143.20	7,353.4	-2,790.6	1,988.1	3,426.3	1.55	1.06	-1.13
10,380.0	90.34	144.12	7,353.2	-2,842.1	2,026.0	3,490.3	1.49	0.38	1.44
10,444.0	90.54	143.47	7,352.7	-2,893.8	2,063.8	3,554.3	1.06	0.31	-1.02
10,508.0	89.36	143.18	7,352.7	-2,945.1	2,102.0	3,618.3	1.90	-1.84	-0.45
10,571.0	89.53	143.23	7,353.4	-2,995.5	2,139.8	3,681.2	0.28	0.27	0.08
10,621.0	90.13	143.29	7,353.5	-3,035.6	2,169.7	3,731.2	1.21	1.20	0.12
10,690.0	90.13	143.29	7,353.4	-3,090.9	2,210.9	3,800.2	0.00	0.00	0.00

Checked By: _____ Approved By: _____ Date: _____