

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: November 20, 2013  
API #: 47-103-02705

Farm name: WV Conservation Commission Operator Well No.: Mills-Wetzel #9H

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

District: Grant County: Wetzel  
Latitude: 7,590 Feet South of 39 Deg. 32 Min. 30 Sec.  
Longitude 9,100 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"	1,279'	1,279'	1,202 - CTS
Inspector: Derek Haught	9.625"	2,803'	2,803'	677 Lead - 456 Tail CTS
Date Permit Issued: 11/15/2011	5.5"		12,194'	1,206 Lead - 1,789 Tail
Date Well Work Commenced: 4/16/2012	2.375"		7,799'	
Date Well Work Completed: 3/10/2013				
Verbal Plugging:	See Plug Back Details of 12-1/4" Hole On Next Page			
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7,265				
Total Measured Depth (ft): 12,194				
Fresh Water Depth (ft.): 50				
Salt Water Depth (ft.): 1,471				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 1,085				
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) 7,774' to 12,121'

Gas: Initial open flow 150 MCF/d Oil: Initial open flow 0 Bbl/d

Final open flow 2,870 MCF/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests 42 Hours

Static rock Pressure 1,850 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

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Environmental Protection

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.

W. J. [Signature]  
Signature

11/21/2013  
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 17 intervals from 12,121' to 7,774'. Performed 17 individual stages of slick water stimulation using 7,096,182 gals fresh water, Sand - 775,556 lbs 100 Mesh and 4,568,909 lbs 40/70. AvBDP = 6,484 psi, AvTP = 7,801 psi, AvMTP = 9,077 psi, AvInjRate = 76.0 bpm, and AvISIP = 4,780 psi.

See Attachment for FracFocus information.

Plug Back Details Including Plug Type and Depth(s): 12-1/4" hole was plugged back to sloughing Red Rock. TIH open ended to 1,547'. Pumped and displaced 83.2 bbls (467 cu.ft.) cement for Plug #1 from 1,547' to 1,302'. Set cement Plug #2 from 1,289' to 1,020' using 82 bbls (460 cu.ft.) cement. Drilled out cement, hole stable.

Formations Encountered:	Top Depth	/	Bottom Depth
Surface:			

See attached sheet for formations encountered and their depths.

MILLS-WETZEL #9H

API 47-103-02705

Stone Energy Corporation

	Top (ft TVD)	Horizontal Top (ft MD)		Bottom (ft TVD)	Bottom (ft MD)	
Sandstone & Shale	Surface		*	1085		FW @ 50'
Pittsburgh Coal	1085		*	1088		
Sandstone & Shale	1088		*	2300		SW @ 1471'
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		*	6774	6844	
Rhinestreet	6674	6844	~	6910	7011	
Cashaqua	6910	7011	~	7070	7214	
Middlesex	7070	7214	~	7088	7239	
West River	7088	7239	~	7170	7373	
Geneseo	7170	7373	~	7195	7422	
Tully Limestone	7195	7422	~	7257	7280	
Hamilton	7257	7575	~	7280	7651	
Marcellus	7280	7651	~	7265	12194	
TD	7265	12194				

\* From Pilot Hole Log and Driller's Log

~ From MWD Gamma Log

03/07/2014

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	1/8/2013
State:	West Virginia
County/Parish:	Wetzel County
API Number:	4710302705
Operator Name:	Stone Energy
Well Name and Number:	Mills Wetzel #9H
Longitude:	-80.65714
Latitude:	39.521
Long/Lat Projection:	NAD27
Production Type:	GAS
True Vertical Depth (TVD):	7306
Total Water Volume (gal)*:	7096182

### 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, WF115, SAPPHIRE VF	Schlumberger	Corrosion Inhibitor, Bactericide (Myacide GA25), Scale Inhibitor, Antifoam Agent, Surfactant, Acid, Breaker, Gelling Agent, Friction Reducer, Rheology Modifier ClearFRAC XT J589, Iron Control Agent, Clay Control Agent, Accelerator, Propping Agent, Fluid Loss Additive	Water (Including Mix Water Supplied by Client)*	-		91.44024%	
			Crystalline silica	14808-60-7	97.84067%	8.37492%	
			Hydrochloric acid	7647-01-0	0.99895%	0.08551%	
			Erucic amidopropyl dimethyl betaine	149879-98-1	0.78774%	0.06743%	
			Propan-2-ol	67-63-0	0.57353%	0.04909%	
			Ammonium sulfate	Proprietary	0.36986%	0.03166%	
			Calcium chloride	10043-52-4	0.11200%	0.00959%	
			Glutaraldehyde	111-30-8	0.06632%	0.00568%	
			Polyethylene glycol monohexyl ether	31726-34-8	0.05840%	0.00500%	
			Carbohydrate polymer	Proprietary	0.00907%	0.00078%	
			Trisodium ortho phosphate	7601-54-9	0.00570%	0.00049%	
			Ethane-1,2-diol	107-21-1	0.00570%	0.00049%	
			Methanol	67-56-1	0.00470%	0.00040%	
			Sodium erythorbate	6381-77-7	0.00379%	0.00032%	
			Aliphatic alcohols, ethoxylated #2	Proprietary	0.00353%	0.00030%	
			Aliphatic acids	Proprietary	0.00353%	0.00030%	
			Prop-2-yn-1-ol	107-19-7	0.00118%	0.00010%	
			Diammonium peroxodisulphate	7727-54-0	0.00020%	0.00002%	
			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-11238 (Generated on 3/5/2013 11:00 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



SDI  
Survey Report



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills Wetzel #9H - Slot MW#9H
<b>Project:</b>	Heather Prospect (NAD 27)	<b>TVD Reference:</b>	Saxon 141 @ 1370.0usft (18' RKB - 1352' GL)
<b>Site:</b>	Mills Wetzel Pad 2	<b>MD Reference:</b>	Saxon 141 @ 1370.0usft (18' RKB - 1352' GL)
<b>Well:</b>	Mills Wetzel #9H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Well	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	EDM-Chris Testa

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

<b>Well</b>	Mills Wetzel #9H - Slot MW#9H		
<b>Well Position</b>	+N/-S	0.0 usft	<b>Northing:</b> 373,973.60 usft
	+E/-W	0.0 usft	<b>Easting:</b> 1,673,577.40 usft
<b>Position Uncertainty</b>	0.0 usft	<b>Wellhead Elevation:</b>	usft
		<b>Latitude:</b>	39° 31' 15.618 N
		<b>Longitude:</b>	80° 39' 25.708 W
		<b>Ground Level:</b>	1,352.0 usft

<b>Wellbore</b>	Original Well				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	06/25/12	-8.54	67.16	52,637

<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	290.91	

<b>Survey Program</b>	<b>Date</b>	07/19/12			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
100.0	2,800.0	SDI Keeper Gyro (Original Well)	SDI Standard Keeper 103	SDI Standard Wireline Keeper ver 1.0.3	
2,900.0	6,559.0	Vaughn Surveys (Original Well)	NS-GYRO-MS	North sensing gyrocompassing m/s	
6,623.0	12,194.0	SDI MWD (Original Well)	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	
100.0	0.11	328.30	100.0	0.1	-0.1	0.1	0.11	0.11	0.00	
200.0	0.23	290.81	200.0	0.2	-0.3	0.4	0.16	0.12	-37.49	
300.0	0.17	91.77	300.0	0.3	-0.3	0.4	0.39	-0.06	160.96	
400.0	0.07	335.50	400.0	0.4	-0.2	0.3	0.21	-0.10	-116.27	
500.0	0.08	296.99	500.0	0.4	-0.3	0.4	0.05	0.01	-38.51	
600.0	0.02	3.92	600.0	0.5	-0.4	0.5	0.07	-0.06	66.93	
700.0	0.03	350.03	700.0	0.5	-0.4	0.5	0.01	0.01	-13.89	
800.0	0.14	122.65	800.0	0.5	-0.3	0.4	0.16	0.11	132.62	



SDI  
Survey Report



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<b>Site:</b>	Mills Wetzel Pad 2	<b>MD Reference:</b>	Saxon 141 @ 1370.0usft (18' RKB - 1352' GL)
<b>Well:</b>	Mills Wetzel #9H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Well	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	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)
900.0	0.05	230.47	900.0	0.4	-0.2	0.3	0.16	-0.09	107.82
1,000.0	0.14	202.51	1,000.0	0.3	-0.3	0.3	0.10	0.09	-27.96
1,100.0	0.14	198.64	1,100.0	0.0	-0.4	0.3	0.01	0.00	-3.87
1,200.0	0.27	196.94	1,200.0	-0.3	-0.5	0.3	0.13	0.13	-1.70
1,300.0	0.48	228.45	1,300.0	-0.8	-0.8	0.5	0.29	0.21	31.51
1,400.0	0.55	237.32	1,400.0	-1.4	-1.6	1.0	0.11	0.07	8.87
1,500.0	0.58	259.63	1,500.0	-1.7	-2.5	1.7	0.22	0.03	22.31
1,600.0	1.00	280.24	1,600.0	-1.6	-3.8	3.0	0.50	0.42	20.61
1,700.0	1.13	284.79	1,700.0	-1.2	-5.6	4.8	0.15	0.13	4.55
1,800.0	0.57	287.27	1,799.9	-0.8	-7.1	6.3	0.56	-0.56	2.48
1,900.0	0.47	272.29	1,899.9	-0.7	-7.9	7.2	0.17	-0.10	-14.98
2,000.0	0.44	266.96	1,999.9	-0.7	-8.7	7.9	0.05	-0.03	-5.33
2,100.0	0.19	349.28	2,099.9	-0.5	-9.2	8.4	0.46	-0.25	82.32
2,200.0	0.18	17.05	2,199.9	-0.2	-9.1	8.5	0.09	-0.01	27.77
2,300.0	0.39	329.33	2,299.9	0.2	-9.3	8.7	0.30	0.21	-47.72
2,400.0	0.73	314.42	2,399.9	1.0	-9.9	9.6	0.37	0.34	-14.91
2,500.0	0.81	327.97	2,499.9	2.0	-10.7	10.7	0.20	0.08	13.55
2,600.0	0.92	317.04	2,599.9	3.2	-11.6	12.0	0.20	0.11	-10.93
2,700.0	0.99	311.91	2,699.9	4.4	-12.8	13.5	0.11	0.07	-5.13
2,800.0	0.96	299.68	2,799.9	5.4	-14.2	15.2	0.21	-0.03	-12.23
2,900.0	1.09	281.93	2,899.9	6.0	-15.9	16.9	0.34	0.13	-17.75
3,000.0	2.22	279.29	2,999.8	6.5	-18.7	19.8	1.13	1.13	-2.64
3,100.0	3.18	282.36	3,099.7	7.4	-23.3	24.4	0.97	0.96	3.07
3,200.0	4.18	282.62	3,199.5	8.8	-29.6	30.8	1.00	1.00	0.26
3,300.0	4.64	269.76	3,299.2	9.5	-37.2	38.2	1.09	0.46	-12.86
3,400.0	5.25	262.32	3,398.8	8.9	-45.8	45.9	0.88	0.61	-7.44
3,500.0	5.65	265.52	3,498.4	7.9	-55.2	54.4	0.50	0.40	3.20
3,600.0	6.01	264.57	3,597.9	7.0	-65.3	63.5	0.37	0.36	-0.95
3,700.0	6.96	263.28	3,697.2	5.8	-76.6	73.6	0.96	0.95	-1.29
3,800.0	7.28	261.15	3,796.5	4.2	-88.8	84.5	0.41	0.32	-2.13
3,900.0	8.95	261.75	3,895.5	2.1	-102.8	96.8	1.67	1.67	0.60
4,000.0	10.14	263.04	3,994.1	-0.1	-119.2	111.3	1.21	1.19	1.29
4,100.0	11.21	265.93	4,092.3	-1.9	-137.7	127.9	1.20	1.07	2.89
4,200.0	12.08	266.74	4,190.3	-3.2	-157.8	146.3	0.89	0.87	0.81
4,300.0	12.38	267.47	4,288.0	-4.2	-179.0	165.7	0.34	0.30	0.73
4,400.0	12.41	265.81	4,385.7	-5.5	-200.4	185.2	0.36	0.03	-1.66
4,500.0	11.71	263.47	4,483.5	-7.4	-221.2	204.0	0.85	-0.70	-2.34
4,600.0	11.54	261.89	4,581.4	-10.0	-241.2	221.7	0.36	-0.17	-1.58
4,700.0	10.75	263.17	4,679.5	-12.5	-260.3	238.7	0.83	-0.79	1.28
4,800.0	11.03	263.75	4,777.7	-14.7	-279.1	255.5	0.30	0.28	0.58
4,900.0	11.25	264.96	4,875.8	-16.6	-298.3	272.8	0.32	0.22	1.21
5,000.0	12.06	262.82	4,973.8	-18.7	-318.4	290.8	0.92	0.81	-2.14
5,100.0	14.06	259.57	5,071.2	-22.2	-340.7	310.4	2.13	2.00	-3.25



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<b>Well:</b>	Mills Wetzel #9H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Well	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	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)	
5,200.0	15.23	263.10	5,167.9	-26.0	-365.7	332.4	1.47	1.17	3.53	
5,300.0	14.32	261.30	5,264.6	-29.5	-391.0	354.7	1.02	-0.91	-1.80	
5,400.0	13.62	263.36	5,361.7	-32.7	-414.9	375.9	0.86	-0.70	2.06	
5,500.0	14.08	262.20	5,458.8	-35.7	-438.7	397.0	0.54	0.46	-1.16	
5,600.0	14.87	263.80	5,555.6	-38.7	-463.5	419.1	0.89	0.79	1.60	
5,700.0	15.02	268.71	5,652.2	-40.4	-489.2	442.5	1.27	0.15	4.91	
5,800.0	14.23	269.25	5,749.0	-40.9	-514.4	465.9	0.80	-0.79	0.54	
5,900.0	14.99	270.80	5,845.7	-40.8	-539.6	489.5	0.85	0.76	1.55	
6,000.0	14.22	269.23	5,942.5	-40.8	-564.9	513.1	0.87	-0.77	-1.57	
6,100.0	12.53	269.35	6,039.8	-41.1	-588.0	534.6	1.69	-1.69	0.12	
6,200.0	12.74	270.71	6,137.4	-41.1	-609.9	555.0	0.36	0.21	1.36	
6,300.0	12.44	268.38	6,235.0	-41.3	-631.6	575.3	0.59	-0.30	-2.33	
6,400.0	11.90	268.64	6,332.7	-41.8	-652.7	594.8	0.54	-0.54	0.26	
6,500.0	12.27	267.96	6,430.5	-42.4	-673.6	614.1	0.40	0.37	-0.68	
6,559.0	12.39	270.06	6,488.1	-42.7	-686.2	625.8	0.79	0.20	3.56	
6,623.0	12.66	266.64	6,550.6	-43.1	-700.1	638.6	1.23	0.42	-5.34	
6,666.0	12.47	265.41	6,592.6	-43.7	-709.4	647.1	0.76	-0.44	-2.86	
6,698.0	13.17	268.03	6,623.8	-44.1	-716.5	653.6	2.84	2.19	8.19	
6,729.0	14.45	271.88	6,653.9	-44.1	-723.9	660.5	5.08	4.13	12.42	
6,761.0	15.86	276.38	6,684.8	-43.5	-732.3	668.5	5.74	4.41	14.06	
6,793.0	17.81	279.73	6,715.4	-42.2	-741.4	677.5	6.80	6.09	10.47	
6,824.0	20.23	281.34	6,744.7	-40.3	-751.4	687.5	7.99	7.81	5.19	
6,856.0	22.96	283.07	6,774.5	-37.8	-762.9	699.1	8.76	8.53	5.41	
6,888.0	25.71	284.79	6,803.6	-34.6	-775.7	712.2	8.87	8.59	5.38	
6,920.0	28.57	287.21	6,832.1	-30.6	-789.7	726.7	9.58	8.94	7.56	
6,952.0	30.75	289.57	6,859.9	-25.6	-804.7	742.6	7.73	6.81	7.38	
6,984.0	31.52	296.08	6,887.3	-19.2	-819.9	759.1	10.79	2.41	20.34	
7,016.0	33.01	299.48	6,914.4	-11.2	-835.0	776.0	7.34	4.66	10.63	
7,048.0	34.54	304.51	6,941.0	-1.8	-850.1	793.5	9.96	4.78	15.72	
7,080.0	35.67	307.28	6,967.2	9.0	-865.0	811.2	6.10	3.53	8.66	
7,111.0	37.84	309.35	6,992.0	20.5	-879.5	828.9	8.06	7.00	6.68	
7,143.0	39.65	311.53	7,016.9	33.5	-894.8	847.8	7.08	5.66	6.81	
7,175.0	40.26	314.38	7,041.5	47.5	-909.8	866.8	6.03	1.91	8.91	
7,206.0	42.76	314.92	7,064.7	62.0	-924.4	885.7	8.15	8.06	1.74	
7,238.0	46.09	315.52	7,087.5	77.9	-940.2	906.1	10.49	10.41	1.88	
7,270.0	49.62	316.50	7,109.0	94.9	-956.7	927.5	11.26	11.03	3.06	
7,302.0	53.14	317.58	7,129.0	113.2	-973.7	950.0	11.31	11.00	3.38	
7,333.0	55.79	318.66	7,147.0	132.0	-990.5	972.4	9.01	8.55	3.48	
7,365.0	56.33	318.75	7,164.9	152.0	-1,008.1	995.9	1.70	1.69	0.28	
7,397.0	57.36	319.46	7,182.4	172.2	-1,025.6	1,019.5	3.72	3.22	2.22	
7,429.0	59.80	320.35	7,199.0	193.1	-1,043.2	1,043.4	7.99	7.63	2.78	
7,460.0	62.76	321.14	7,213.9	214.1	-1,060.4	1,067.0	9.81	9.55	2.55	
7,491.0	65.84	321.36	7,227.4	235.9	-1,077.9	1,091.1	9.96	9.94	0.71	



<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills Wetzel #9H - Slot MW#9H
<b>Project:</b>	Heather Prospect (NAD 27)	<b>TVD Reference:</b>	Saxon 141 @ 1370.0usft (18' RKB - 1352' GL)
<b>Site:</b>	Mills Wetzel Pad 2	<b>MD Reference:</b>	Saxon 141 @ 1370.0usft (18' RKB - 1352' GL)
<b>Well:</b>	Mills Wetzel #9H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Well	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	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)
7,523.0	68.47	320.62	7,239.8	258.8	-1,096.4	1,116.6	8.49	8.22	-2.31
7,555.0	70.86	321.03	7,250.9	282.1	-1,115.4	1,142.6	7.56	7.47	1.28
7,587.0	72.07	321.30	7,261.1	305.7	-1,134.4	1,168.8	3.86	3.78	0.84
7,619.0	73.74	322.04	7,270.5	329.7	-1,153.4	1,195.1	5.67	5.22	2.31
7,651.0	75.80	322.37	7,278.9	354.1	-1,172.3	1,221.5	6.51	6.44	1.03
7,683.0	78.43	324.54	7,286.0	379.2	-1,190.9	1,247.8	10.55	8.22	6.78
7,714.0	80.49	324.33	7,291.7	404.0	-1,208.6	1,273.2	6.68	6.65	-0.68
7,746.0	82.90	325.37	7,296.3	429.9	-1,226.8	1,299.4	8.19	7.53	3.25
7,778.0	84.40	326.24	7,299.9	456.2	-1,244.7	1,325.5	5.41	4.69	2.72
7,809.0	85.43	326.23	7,302.6	481.8	-1,261.8	1,350.7	3.32	3.32	-0.03
7,841.0	86.34	327.19	7,304.9	508.5	-1,279.4	1,376.6	4.13	2.84	3.00
7,873.0	88.99	328.52	7,306.2	535.6	-1,296.4	1,402.2	9.26	8.28	4.16
7,904.0	90.00	329.12	7,306.5	562.1	-1,312.4	1,426.6	3.79	3.26	1.94
7,967.0	91.11	328.69	7,305.9	616.0	-1,345.0	1,476.3	1.89	1.76	-0.68
8,031.0	91.61	329.06	7,304.4	670.8	-1,378.0	1,526.7	0.97	0.78	0.58
8,095.0	91.11	329.33	7,302.8	725.8	-1,410.8	1,576.9	0.89	-0.78	0.42
8,158.0	91.78	329.70	7,301.3	780.0	-1,442.7	1,626.1	1.21	1.06	0.59
8,222.0	90.30	328.41	7,300.1	834.9	-1,475.7	1,676.5	3.07	-2.31	-2.02
8,286.0	89.46	327.16	7,300.2	889.1	-1,509.8	1,727.7	2.35	-1.31	-1.95
8,349.0	90.37	327.81	7,300.3	942.2	-1,543.6	1,778.3	1.78	1.44	1.03
8,413.0	90.97	328.29	7,299.6	996.5	-1,577.5	1,829.3	1.20	0.94	0.75
8,477.0	89.77	326.72	7,299.2	1,050.5	-1,611.9	1,880.7	3.09	-1.88	-2.45
8,540.0	90.30	327.03	7,299.1	1,103.2	-1,646.3	1,931.6	0.97	0.84	0.49
8,604.0	91.04	327.28	7,298.4	1,157.0	-1,681.0	1,983.3	1.22	1.16	0.39
8,668.0	91.54	327.11	7,296.9	1,210.8	-1,715.7	2,034.8	0.83	0.78	-0.27
8,730.0	92.18	326.77	7,294.9	1,262.7	-1,749.5	2,084.9	1.17	1.03	-0.55
8,794.0	92.62	326.26	7,292.2	1,316.0	-1,784.8	2,136.9	1.05	0.69	-0.80
8,858.0	91.18	326.04	7,290.1	1,369.2	-1,820.4	2,189.2	2.28	-2.25	-0.34
8,921.0	90.23	325.58	7,289.3	1,421.3	-1,855.8	2,240.8	1.68	-1.51	-0.73
8,985.0	91.34	326.22	7,288.5	1,474.3	-1,891.7	2,293.3	2.00	1.73	1.00
9,048.0	91.75	325.09	7,286.8	1,526.3	-1,927.2	2,345.0	1.91	0.65	-1.79
9,111.0	90.67	324.65	7,285.4	1,577.8	-1,963.4	2,397.3	1.85	-1.71	-0.70
9,175.0	89.56	324.71	7,285.3	1,630.0	-2,000.4	2,450.5	1.74	-1.73	0.09
9,238.0	89.77	323.60	7,285.7	1,681.1	-2,037.3	2,503.2	1.79	0.33	-1.76
9,302.0	90.34	323.27	7,285.6	1,732.5	-2,075.5	2,557.1	1.03	0.89	-0.52
9,366.0	90.81	323.11	7,285.0	1,783.7	-2,113.8	2,611.2	0.78	0.73	-0.25
9,429.0	91.31	323.32	7,283.8	1,834.1	-2,151.5	2,664.5	0.86	0.79	0.33
9,492.0	90.34	323.69	7,282.9	1,884.8	-2,189.0	2,717.5	1.65	-1.54	0.59
9,556.0	90.23	323.71	7,282.6	1,936.4	-2,226.9	2,771.3	0.17	-0.17	0.03
9,620.0	90.84	324.19	7,282.0	1,988.1	-2,264.5	2,825.0	1.21	0.95	0.75
9,684.0	89.33	324.22	7,281.9	2,040.0	-2,302.0	2,878.5	2.36	-2.36	0.05
9,747.0	88.29	324.52	7,283.2	2,091.2	-2,338.7	2,931.0	1.72	-1.65	0.48
9,811.0	89.26	324.37	7,284.6	2,143.3	-2,375.9	2,984.4	1.53	1.52	-0.23
9,875.0	89.93	324.33	7,285.0	2,195.3	-2,413.2	3,037.8	1.05	1.05	-0.06





<b>Company:</b>	Stone Energy	<b>Local Co-ordinate Reference:</b>	Well Mills Wetzel #9H - Slot MW#9H
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<b>Site:</b>	Mills Wetzel Pad 2	<b>MD Reference:</b>	Saxon 141 @ 1370.0usft (18' RKB - 1352' GL)
<b>Well:</b>	Mills Wetzel #9H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	Original Well	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	As Drilled	<b>Database:</b>	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)	
9,938.0	91.04	325.83	7,284.5	2,246.9	-2,449.2	3,089.9	2.96	1.76	2.38	
10,001.0	91.61	325.38	7,283.0	2,298.9	-2,484.8	3,141.7	1.15	0.90	-0.71	
10,065.0	90.64	327.05	7,281.8	2,352.1	-2,520.4	3,193.9	3.02	-1.52	2.61	
10,128.0	89.97	326.74	7,281.4	2,404.8	-2,554.8	3,244.9	1.17	-1.06	-0.49	
10,191.0	91.11	326.52	7,280.8	2,457.5	-2,589.4	3,296.0	1.84	1.81	-0.35	
10,255.0	91.65	324.59	7,279.3	2,510.2	-2,625.6	3,348.7	3.13	0.84	-3.02	
10,319.0	90.60	323.56	7,278.0	2,562.0	-2,663.2	3,402.2	2.30	-1.64	-1.61	
10,382.0	90.13	323.33	7,277.6	2,612.6	-2,700.7	3,455.3	0.83	-0.75	-0.37	
10,445.0	90.97	323.53	7,277.0	2,663.2	-2,738.2	3,508.5	1.37	1.33	0.32	
10,509.0	90.20	324.28	7,276.4	2,714.9	-2,775.9	3,562.1	1.68	-1.20	1.17	
10,572.0	88.89	324.38	7,276.9	2,766.1	-2,812.7	3,614.7	2.09	-2.08	0.16	
10,636.0	90.10	324.97	7,277.5	2,818.3	-2,849.7	3,667.9	2.10	1.89	0.92	
10,700.0	91.41	324.70	7,276.6	2,870.6	-2,886.5	3,721.0	2.09	2.05	-0.42	
10,763.0	92.25	324.94	7,274.6	2,922.1	-2,922.8	3,773.3	1.39	1.33	0.38	
10,827.0	90.37	324.68	7,273.1	2,974.4	-2,959.7	3,826.4	2.97	-2.94	-0.41	
10,890.0	88.79	324.69	7,273.6	3,025.8	-2,996.1	3,878.7	2.51	-2.51	0.02	
10,954.0	89.83	324.91	7,274.4	3,078.1	-3,033.0	3,931.9	1.66	1.63	0.34	
11,017.0	91.11	325.07	7,273.9	3,129.7	-3,069.1	3,984.0	2.05	2.03	0.25	
11,081.0	92.05	324.71	7,272.1	3,182.0	-3,105.9	4,037.1	1.57	1.47	-0.56	
11,145.0	90.87	323.96	7,270.5	3,234.0	-3,143.2	4,090.5	2.18	-1.84	-1.17	
11,208.0	89.70	323.46	7,270.1	3,284.8	-3,180.5	4,143.4	2.02	-1.86	-0.79	
11,271.0	90.57	321.84	7,270.0	3,334.9	-3,218.7	4,197.0	2.92	1.38	-2.57	
11,334.0	91.21	321.65	7,269.0	3,384.3	-3,257.7	4,251.1	1.06	1.02	-0.30	
11,398.0	89.50	322.98	7,268.6	3,435.0	-3,296.8	4,305.7	3.38	-2.67	2.08	
11,461.0	88.66	323.83	7,269.6	3,485.5	-3,334.4	4,358.9	1.90	-1.33	1.35	
11,525.0	89.73	323.55	7,270.5	3,537.1	-3,372.3	4,412.7	1.73	1.67	-0.44	
11,589.0	90.54	324.35	7,270.4	3,588.9	-3,410.0	4,466.3	1.78	1.27	1.25	
11,652.0	89.77	325.94	7,270.2	3,640.6	-3,446.0	4,518.4	2.80	-1.22	2.52	
11,716.0	90.57	325.82	7,270.0	3,693.5	-3,481.9	4,570.8	1.26	1.25	-0.19	
11,780.0	91.24	326.00	7,269.0	3,746.5	-3,517.7	4,623.3	1.08	1.05	0.28	
11,844.0	92.32	326.28	7,267.0	3,799.6	-3,553.4	4,675.5	1.74	1.69	0.44	
11,907.0	90.17	327.92	7,265.7	3,852.5	-3,587.6	4,726.3	4.29	-3.41	2.60	
11,971.0	88.86	329.56	7,266.2	3,907.2	-3,620.8	4,776.9	3.28	-2.05	2.56	
12,033.0	89.87	329.04	7,266.9	3,960.5	-3,652.4	4,825.5	1.83	1.63	-0.84	
12,096.0	90.74	328.49	7,266.5	4,014.4	-3,685.1	4,875.2	1.63	1.38	-0.87	
12,128.0	91.01	328.31	7,266.1	4,041.7	-3,701.9	4,900.6	1.01	0.84	-0.56	
12,194.0	91.01	328.31	7,264.9	4,097.8	-3,736.5	4,953.0	0.00	0.00	0.00	