

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

API 47 - 103 - 02950 County Wetzel District Proctor
Quad New Martinsville Pad Name Erlewine Field/Pool Name Mary
Farm name Erlewine, Richard Well Number #1H
Operator (as registered with the OOG) Stone Energy Corporation
Address 1300 Fort Pierpont Dr. - Suite 201 City Morgantown State WV Zip 26508

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,392,652 Easting 517,392
Landing Point of Curve Northing 4,393,549 Easting 516,911
Bottom Hole Northing 4,394,050 Easting 516,539

Elevation (ft) 1,212 GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s)
Saturated salt mud which includes Caustic Soda, Barite, Lime, New-Drill, Perma-Lose HT, Xan-Plex-D, X-Cide 102, Soda Ash, and Sodium Chloride

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Date permit issued 1/8/2014 Date drilling commenced 7/8/2014 Date drilling ceased 1/25/2015
Date completion activities began 08/30/2016 Date completion activities ceased 09/08/2016
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 120 Open mine(s) (Y/N) depths N
Salt water depth(s) ft 1,694 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 295, 493, 557 and 1,004 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVAL

NAME: Sam H R
DATE: 5-25-17

Reviewed by: Dm H

06/02/2017

API 47-103 - 02950

Farm name Erlewine, Richard

Well number #1H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	24"	20"	90'	New	LS - 94.1 ppf		N - GTS
Surface	17.5"	13.375"	1,219' KB - 1,209' GL	New	J55 - 54.5 ppf	121' & 240'	Y - CTS
Coal	17.5"	13.375"	1,219' KB - 1,209' GL	New	J55 - 54.5 ppf	121' & 240'	Y - CTS
Intermediate 1	12.25"	9.625"	2,389'	New	J55 - 36 ppf		Y - CTS
Intermediate 2							
Intermediate 3							
Production	8.75"	5.5"	11,604'	New	P110 - 20 ppf		N - TOC @ 1,319' Calculated
Tubing							
Packer type and depth set		TAM CAP Inflatable Packer on 9.625" Casing String @ 1,083'					

Comment Details Circulated 30 bbls cement to surface on 13.375" casing string. Circulated 45 bbls cement to surface on the 9.625" casing string. Did not circulate any cement to surface on the 5.5" casing string. TOC on 5.5" calculated to be @ 1,319'.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Type 1	34	15.6	1.18	40	Surface	24.0
Surface	HalCem Class "A"	865	15.6	1.21	1,047	Surface	8.0
Coal	HalCem Class "A"	865	15.6	1.21	1,047	Surface	8.0
Intermediate 1	HalCem Class "A"	840	15.6	1.21	1,016	Surface	12.0
Intermediate 2							
Intermediate 3							
Production	Lead-Tuned Spacer3 Tail-VariCem	Lead-178 Tail-2,165	Lead-14.5 Tail-15.0	Lead-2.37 Tail-1.20	Lead-422 Tail-2,598	1,319' Calculated	7.0
Tubing							

Drillers TD (ft) 11,630 MD / 6,498 TVD
 Deepest formation penetrated Marcellus Shale
 Plug back procedure _____

Loggers TD (ft) N/A
 Plug back to (ft) _____

Kick off depth (ft) 5,706 MD / 5,669 TVD

Check all wireline logs run
 caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING Surface casing had bow spring centralizers placed on joints 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29 and 31. Intermediate casing had bow spring centralizers placed on joints 2, 5, 8, 11, 14, 17, 20, 23, 26, 29, 33, 36, 39, 42, 45, 48, 51, 54 and 58. Production casing had rigid spiral centralizers placed on every third joint beginning with joint 1 to joint 139. Ran a total of 47 rigid spiral centralizers. Ran bow spring centralizers from joint 142 to joint 250 on every fourth joint. A total of 28 bow spring centralizers were run.

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WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	08/30/2016	11,452	11,538	54	Marcellus
2	09/08/2016	11,303	11,392	54	Marcellus
3	09/08/2016	11,154	11,243	54	Marcellus

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	09/08/16	79	7091	8401	3448	294580	6027	NA
2	09/08/16	81	6936	7668	4297	292340	5763	NA
3	09/08/16	78	7661	8811	8706	290040	5771	NA

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus	6,498'	TVD	11,154'-11,583' MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface psi Bottom Hole psi DURATION OF TEST hrs

OPEN FLOW Gas mcfpd Oil bpd NGL bpd Water bpd GAS MEASURED BY Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		
See Attached Sheet					

Please insert additional pages as applicable.

Drilling Contractor Highlands (top-hole) & Saxon Drilling (horizontal)
Address 900 Virginia St. - East / 9303 New Trails Drive City Charleston / The Woodlands State WV / TX Zip 25301 / 77381

Logging Company Scientific Drilling and Schlumberger
Address 124 Vista Drive / 1178 US HWY 33 East City Charleroi / Weston State PA / WV Zip 15022 / 26452

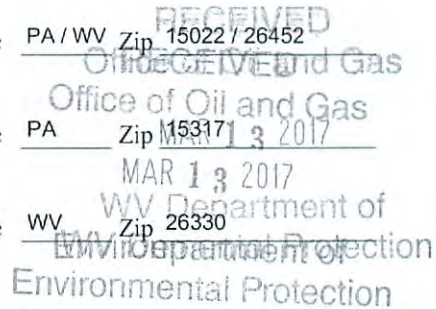
Cementing Company Halliburton
Address 121 Champion Way, Suite 110 City Cannonsburg State PA Zip 15317

Stimulating Company Baker Hughes
Address 1681 E Main St. City Bridgeport State WV Zip 26330

Please insert additional pages as applicable.

Completed by Greg Zofchak Telephone 304-225-1600
Signature *Greg Zofchak* Title Drilling Engineer Date 2/16/17

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry



06/02/2017

Erlewine #1H
API 47-103-02950
Stone Energy Corporation

	Horizontal				
	Top (ft TVD)	Top (ft MD)	Bottom (ft TVD)	Bottom (ft MD)	
Sandstone & Shale	Surface		*	295	FW @ 120'
Coal	295		*	300	
Sandstone & Shale	300		*	493	
Coal	493		*	498	
Sandstone & Shale	498		*	557	
Coal	557		*	561	
Sandstone & Shale	561		*	1,004	
Coal	1,004		*	1,009	
Sandstone & Shale	1,009		*	2,014	SW @ 1,694'
Little Lime	2,014		*	2,044	
Big Lime	2,044		*	2,144	
Big Injun	2,144		*	2,244	
Sandstone & Shale	2,244		*	2,612	
Berea Sandstone	2,612		*	2,642	
Shale	2,642		*	2,857	
Gordon	2,857		*	2,907	
Undiff Devonian Shale	2,907		*	5,683	5,705
Rhinestreet	5,683	5,705	~	6,104	6,169
Cashaqua	6,104	6,169	~	6,340	6,567
Middlesex	6,340	6,567	~	6,353	6,596
West River	6,353	6,596	~	6,411	6,741
Geneseo	6,411	6,741	~	6,425	6,777
Tully Limestone	6,425	6,777	~	6,464	6,804
Hamilton Shale	6,464	6,804	~	6,502	7,091
Marcellus	6,502	7,091	~	6,498	11,630
TD				6,498	11,630

* From Pilot Hole Log and Driller's Log
~ From MWD Gamma Log

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