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

API 47-39-2727 W County Kanawha District Union
Quad Pocatalico Pad Name _____ Field/Pool Name W.H. Lawrence
Farm name Mary Lee Lawrence Well Number #1
Operator (as registered with the OOG) Shale Gas Production LLC
Address 929 Charleston Road City Spencer State WV Zip 25276

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4254129 Easting 0439839
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) 936 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)
N/A

Date permit issued 5/15/2014 Date drilling commenced 12/31/1975 Date drilling ceased 1/24/1976
Date completion activities began 1/26/1976 Date completion activities ceased 1/26/1976
Date completion activities began 6/19/2014 Date completion activities ceased 6/19/2014
Verbal plugging (Y/N) No Date permission granted N/A Granted by N/A

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

Freshwater depth(s) ft 110 FT Open mine(s) (Y/N) depths No
Salt water depth(s) ft 1485 FT Void(s) encountered (Y/N) depths No
Coal depth(s) ft 635 FT Cavern(s) encountered (Y/N) depths No
Is coal being mined in area (Y/N) No

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Reviewed by:
R.F.

09/19/2014

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CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade w/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor							
Surface	N/A	9 5/8"	234	existing	32 #	N/A	Existing casing
Coal							
Intermediate 1	N/A	7"	2505	existing	20 #	N/A	Existing casing
Intermediate 2							
Intermediate 3							
Production	6 1/4"	4 1/2"	4214	New	11.6 #	N/A	Yes, 1/2 BBL
Tubing	N/A	2 3/8"	4290	existing	4.6 #	N/A	Existing Tubing
Packer type and depth set							

Comment Details Clear existing hole out to a T.D. of 4290 FT, and install 4 1/2" production casing.

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							
Surface	N/A	80	N/A	N/A	N/A	CTS	N/A
Coal							
Intermediate 1	N/A	150	N/A	N/A	N/A	CTS	N/A
Intermediate 2							
Intermediate 3							
Production	Strong Link 250	125	12.5	2.21	276	2305	24 hrs
Tubing							

Drillers TD (ft) 4290 FT Loggers TD (ft) 4210 FT
 Deepest formation penetrated Lower Huron Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) _____

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 _____
9 5/8" N/A
7" N/A
4 1/2" N/A

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	6/19/2014	4195	3783	30	Gray, Brown, Gray, Black, & Gray Shale.
2	6/19/2014	3750	3286	30	Brown Shale

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)	7 1/2" HCL Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	7/8/14	32	3649	3766	3418		525 gallons	801511 N2
2	7/8/14	39.4	3795	4133	3361		926 gallons	800970 N2

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Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>
<u>Brown Shale</u>	<u>TVD 3286 - 3750 MD</u>
<u>Gray Shale</u>	<u>3750 - 3810</u>
<u>Brown Shale</u>	<u>3810 - 3825</u>
<u>Gray Shale</u>	<u>3825 - 3900</u>
<u>Black Shale</u>	<u>3900 - 3905</u>
<u>Gray Shale</u>	<u>3905 - 4290</u>

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole 530 psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 189 mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd
GAS MEASURED BY Estimated Orifice Pilot

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

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Drilling Contractor Kanawha Valley Drilling
Address 929 Charleston Road City Spencer State WV Zip 25276

Logging Company Nabors Completion & Production Services
Address 515 West Greens Road, Suite 100 City Houston State TX Zip 77067

Cementing Company Universal Well Services
Address Rt 5 Hall Road City Buckhannon State WV Zip 26201

Stimulating Company Universal Well Services
Address Rt 5 Hall Road City Buckhannon State WV Zip 26201

Please insert additional pages as applicable.

Completed by Ryan Fields Telephone 304-927-5228
Signature Ryan Fields Title office assistant Date 9/10/2014

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

Formation	TOP (TVD)	BOTTOM (TVD)	TOP (MD)	BOTTOM (MD)	Remarks
Top Soil			0	10	
Red Clay			10	90	
Gray Soap Stone			90	200	
Red Rock			200	375	
Gray Soap Stone			375	575	water
Sand			575	600	
Red Rock			600	635	
Coal			635	638	
Red Rock			638	955	
Gas Sand			955	1015	gas (small show)
Sand			1015	1225	
Little Injun			1225	1235	gas & water
Salt Sand			1235	1330	
Sand / Slate			1330	1385	
Sand			1385	1575	
Dark Sand			1575	1600	
Shale			1600	1720	
Sand			1720	1785	
Sand / Little Lime			1785	1840	
Big Lime			1840	1960	
Big Injun			1960	2010	
Dark Sand			2010	2115	
Gray Shale			2115	2150	
Gray Slate			2150	2195	
Shell			2195	2415	
Shale			2415	2438	
Berea			2438	2451	
Dark Shell			2451	2530	
White Sand			2530	2775	
Gordon			2775	2815	gas
Gray Shale			2815	3130	
Brown Shale			3130	3200	gas
Gray Shale			3200	3280	
Brown Shale			3280	3750	
Gray Shale			3750	3810	
Brown Shale			3810	3825	gas
Gray Shale			3825	3900	
Black Shale			3900	3905	
Gray Shale			3905	4290	

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