

JK

WR-35
Rev. 8/23/13

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

API 47-041-00181 County Lewis District Freeman's Creek
Quad Big Issac Pad Name _____ Field/Pool Name Fink Storage
Farm name J. A. Riffie Well Number AW9438
Operator (as registered with the OOG) Dominion Transmission Inc.
Address 445 W Main St. City Clarksburg State WV Zip 26301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 43331278.81 Easting 535912.74
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) 1191.6 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)
Brine

Date permit issued 08/12/14 (Rework) Date drilling commenced 4/21/1950 (9/15/14) Date drilling ceased 9/25/1950
Date completion activities began NA Date completion activities ceased 12/10/2014
Verbal plugging (Y/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 145', 206' Open mine(s) (Y/N) depths NO
Salt water depth(s) ft NA Void(s) encountered (Y/N) depths NO
Coal depth(s) ft 200'-206' Cavern(s) encountered (Y/N) depths NO
Is coal being mined in area (Y/N) NO

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Reviewed by:
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02/06/2015

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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		~20"	16'	existing	wood		
Surface	15"	11-3/4"	262'	New	H40, 42#		Y
Coal							
Intermediate 1	9-7/8"	8-5/8"	1990'	existing	J55, 24#		Y
Intermediate 2	7-7/8"	7" stub	1850'-2300'	existing	J55, 20#		stub cemented 2300'-1850'
Intermediate 3							
Production	6.25"	4-1/2"	2280'	NEW	K55, 11.6#		Y
Tubing							
Packer type and depth set		Halliburton 4-1/2" formation packer shoe set at					

Comment Details 8-5/8" and 11-3/4" csg were squeeze cemented together with a total of 611 sacks from 1650' to surface. Old 7" casing was cut and pulled from 1850'. Remaining 7" casing is cemented from 1850'-2300'. 4-1/2" casing was cemented to surface with good returns.

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	Class A	96	15.6	1.18	113	surface	
Coal							
Intermediate 1	Class A	570	15.6	1.21	689	surface	
Intermediate 2	Class A	25	15.6	1.18	29.5	1850' (csg cut top)	
Intermediate 3							
Production	Class A	465	15.6	1.18	548.7	surface	72
Tubing							

Drillers TD (ft) 2383 Loggers TD (ft) 2383
 Deepest formation penetrated Gantz 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 _____
4-1/2" casing has centralizers on joints 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 51

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)

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)

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PRODUCING FORMATION(S)

DEPTHS

Gantz 2328-2351' TVD 2328'-2351' 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/ TOP BOTTOM TOP BOTTOM
FORMATION DEPTH IN FT DEPTH IN FT DEPTH IN FT DEPTH IN FT DESCRIBE ROCK TYPE AND RECORD QUANTITY AND
NAME TVD TVD MD MD TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)

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		fresh water at 145
Native Coal	200	206			fresh water at 206
Dunkard	950	996			
Gas Sand	1078	1112			
1st Salt Sand	1260	1299			
2nd Salt	1332	1487			show of oil at 1338
3rd Salt	1525	1667			
Little Lime	1941	1957			
Big Lime	1981	2041			
Injun Sand	2041	2160			
Squaw Sand	2162	2224			
Gantz Sand	2328	2351			

Please insert additional pages as applicable.

Drilling Contractor Key Energy
Address _____ City Buckhannon State WV Zip _____

Logging Company Baker Atlas
Address _____ City Buckhannon State WV Zip _____

Cementing Company Halliburton/Baker Hughes
Address _____ City Homer City/Clarksburg State PAWV Zip _____

Stimulating Company NA
Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by Matthew Goralczyk Telephone 304-627-3354
Signature Matthew E Goralczyk Title Engineer III Date 12/29/2014

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

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