

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Reviewed ARF

Well Operator's Report of Well Work

Farm name: Pocahontas Land Corporation Operator Well No.: LC-72

LOCATION: Elevation: 2568 Quadrangle: Pilot Knob, WV 7.5'

District: Oceana County: Wyoming
Latitude: 3820 Feet South of 37 Deg. 47 Min. 30 Sec.
Longitude 9100 Feet West of 81 Deg. 30 Min. 00 Sec.

Company:

Penn Virginia Oil & Gas Corporation

	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: P.O. Box 387	13 3/8"	30'	30'	0
Duffield, VA 24244	9 5/8"	546'	546'	274
Agent: Harry Jewell	7" *	908'	908'	298
Inspector: Ofie Helmick	4 1/2"	3048'	3048'	238
Date Permit Issued: 1-22-01				
Date Well Work Commenced: 2-9-01				
Date Well Work Completed: 3-9-01				
Verbal Plugging:				
Date Permission granted on:				
Rotary X Cable Rig				
Total Depth (feet): 3825'				
Fresh Water Depth (ft.): Damp @ 60'				
1/2 " @ 512', 2" @ 570'				
Salt Water Depth (ft.): Damp @ 3716'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 186'-190', 530'-537', 766'-769', 992'-995', 1092'-1095', 2129'-2134'				

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Office of Oil & Gas
Permitting
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OPEN FLOW DATA

Producing formation Ravencliff, Maxon Pay zone depth (ft) _____

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

Final open flow 1233 MCF/d Final open flow _____ Bbl/d

Time of open flow between initial and final tests 4 Hours

Static rock Pressure 250 psig (surface pressure) after 48 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

NOTE: ON BACK OF THIS FORM 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 ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

Signed:

By: William M. Pappas
Date: 10/11/01

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DETAILS OF PERFORATIONS, FRACTURING, OR PHYSICAL CHANGE, ETC.

* 9 5/8 surface casing was set and cemented @ 556', as per the permit. After drilling out below the surface casing, a 2" stream of water was picked up @ 570', and circulation was lost @ 590'. We drilled ahead, with intermittent returns, to 1392', and stopped to set 7" casing, per approval of the Oil and Gas Inspector (Ofie Helmick). The early casing setting depth (1392' vs. 2150' on permit application) was due to lost returns (soap) entering a small stream downhill from the well. On 2/20/01, while running the 7" casing, it set down @ 1124'. Efforts were made to pull the casing and condition the hole. Only 5 joints could be pulled, leaving the casing stuck @ 923'. Ofie was advised, and gave permission to set the casing at this depth. Cementing operations were completed at 1:00 AM, 2/21/01. The well was then drilled, without problems, to a TD of 3825'.

PERFORATIONS AND FRACTURING

Stage 1 – Maxon- Perforated from 2938' to 2947' with 27 holes. Breakdown with 500 gallons 15% HCL acid and water. Treated with 151 bbls water, 39346 lbs 20/40 sand and 325000 SCF N2. ISIP: 2050 psi. ATP: 1666 psi. ATR: 15.9 BPM.

Stage 2- Ravencliff- Perforated from 2678' to 2686' with 16 holes. Breakdown with 500 gallons 15% HCL acid and N2. Treated with 140 bbls water, 35568 lbs 20/40 sand and 399000 SCF N2. ISIP: 2500 psi. ATP: 2784 psi. ATR: 16.1 BPM.

<u>FORMATIONS</u>	<u>TOP</u>	<u>BOTTOM</u>	<u>REMARKS</u>
Sand, shale & coal	0	1095	
Sand & shale	1095	2129	
Coal	2129	2134	
Sand & shale	2134	2520	
Shale	2520	2632	
Sand & shale	2632	2676	
Ravencliff sand	2676	2688	
Avis limestone	2688	2722	
Shale	2722	2776	
Sand	2776	2836	
Shale & red rock	2836	2934	
Sand	2934	2954	
Shale & red rock	2954	3356	Gas check @ 3334-280m
Little lime	3356	3430	
Lime & shale	3430	3438	Gas check @ 3617-298m
Big lime	3438	3825	Hole wet @ 3916 Gas check @ TD-292m