

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

DATE: 1-30-2013
API #: 47-039-06329

Farm name: Penn Virginia - Carbon Fuel Operator Well No.: CF-2H
LOCATION: Elevation: 654' Quadrangle: Bedard Grove 7.5
District: Cabin Creek County: Kanawha
Latitude: 9 27 0 Feet South of 38 Deg. 12 Min. 30 Sec.
Longitude 9 9 0 Feet West of 81 Deg. 27 Min. 30 Sec.

Company: Northstar Energy Corp

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>900 Lee St. E, Ste 940 Charleston, WV 25301</u>	<u>13 3/8"</u>	<u>10'</u>	<u>10'</u>	
Agent: <u>Nancy M. Abcouwer</u>	<u>9 5/8"</u>	<u>262'</u>	<u>262'</u>	<u>277 cf</u>
Inspector: <u>T. Urban</u>	<u>7 3/8"</u>	<u>1302'</u>	<u>1302'</u>	<u>235 cf</u>
Date Permit Issued: <u>2-27-2012</u>	<u>4.5"</u>	<u>5,124'</u>	<u>5,124'</u>	<u>80 cf</u>
Date Well Work Commenced: <u>3/26/2012</u>				
Date Well Work Completed: <u>5/25/2012</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input checked="" type="checkbox"/>				
Total Vertical Depth (ft): <u>1894</u>				
Total Measured Depth (ft): <u>5160</u>				
Fresh Water Depth (ft.): <u>340</u>				
Salt Water Depth (ft.): <u>800</u>				
Is coal being mined in area (N/Y)? <u>Strip only</u>				
Coal Depths (ft.): <u>Above elev.</u>				
Void(s) encountered (N/Y) Depth(s)				

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OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Weir Pay zone depth (ft) 1708-1898'
Gas: Initial open flow 420 MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 312 MCF/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 48 Hours
Static rock Pressure 325 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

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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.

[Signature]
Signature

1-30-2013
Date

03/15/2013

Were core samples taken? Yes No

Were cuttings caught during drilling? Yes No

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list G.R./cement bond.

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:

8-stage frac in Weir from 5,120' measured depth to 2,050' total depth with 250' to 300' stage separation. 75 @ foam.
 Stage 1: 764,263 scf N, 357 sks 20/40 sand, 240 bbl slurry @ 8.5 bpm.
 Stage 2+3: 1,403,840 scf N, 992 sks 20/40 sand, 504 bbl slurry @ 9.7 bpm.
 Stage 4+5: 1,052,190 scf N, 987 sks 20/40 sand, 502 bbl slurry @ 9.1 bpm.
 Stage 6: 433,160 scf N, 414 sks 20/40 sand, 205 bbl slurry @ 10.6 bpm.
 Stage 7+8: 949,600 scf N, 754 sks 20/40 sand, 425 bbl slurry @ 8.9 bpm.

Formations Encountered: Top Depth Bottom Depth

Formations Encountered:	Top Depth	Bottom Depth
Sub base	10	10'
Shale	10	85
Sand	85	145
Sand + shale	145	205
Sand	205	239
Shale	239	284
Sand	284	555
Salt sand	555	710
Maxton	710	960
Sand + shale	960	1065
Little Lime	1065	1095
Big Lime	1152	1290
Big Injun	1290	1313
Sandy shale	1313	1393
Wet and shale	1393	1708
Weir	1708	1898