

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

DATE: 10/8/2011
API #: 47-502132.F

Farm name: Berwin Winifrede Operator Well No.: BW-51 (F)

LOCATION: Elevation: 1041 FT Quadrangle: Belle 7.5'

District: Sherman County: Boone
Latitude: 13,600 Feet South of 38 Deg. 10 Min. 00 Sec.
Longitude: 3580 Feet West of 81 Deg. 35 Min. 00 Sec.

Company: Northstar Energy Corp.

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
900 Lee St. E Ste. 940 Charleston, WV	Conduct.	28'	28'	
Agent: James Abcouwer	9 5/8"	565'	565'	258
Inspector: Barry Stollings	7"	1809'	1809'	366
Date Permit Issued: 03/31/2008	4 1/2"		5161'	498
Date Well Work Commenced: 4/12/2008				
Date Well Work Completed: 4/12/2008				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 5183'				
Total Measured Depth (ft): 5171'				
Fresh Water Depth (ft.): 296', 362'				
Salt Water Depth (ft.): 1257', 1428'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 385-388				
Void(s) encountered (N/Y) Depth(s) N				

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

Producing formation Huron Pay zone depth (ft) 4346
Gas: Initial open flow 420 MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 280 MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests 48 Hours
Static rock Pressure 380 psig (surface pressure) after 48 Hours

Second producing formation Lime Pay zone depth (ft) 2046
Gas: Initial open flow cmgd 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

RECORDED
MAR 11 2013

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

10-10-11
Date

03/15/2013

5.02132F

Were core samples taken? Yes _____ No^X_____Were cuttings caught during drilling? Yes _____ No^X_____Were _____ Electrical, ^Y_____ Mechanical, _____ or Geophysical logs recorded on this well?
Y/N Y/N Y/N

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:

2 fracture zones performed on the well Universal Well Services Tested lines to 4200 psi
 1st- Huron Perf Intervals 3111'-4346' Nitrogen Fracture, 16 holes total Total Nitrogen = 1.55 mil SC
 200 gal. 15% HCL in Hole. Broke and displaced treated water with 75 Mscf N2 dropped 15 pref bal

2nd- Big Lime Perf Intervals 1902'-2046' N2 Fracture, 8 holes total, Total Nitrogen = 168,000 SCF
 2750 gal. 15% HCL in Hole. Broke and displaced treated water with 75 Mscf N2 dropped 6 pref bal

Formations Encountered: _____ Top Depth / _____ Bottom Depth
Surface: _____

<u>Formations Encountered:</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
Sub Base	0'	10'
Fill	10'	21'
Sand and Shale	21'	935'
Upper Maxon	1011'	1129'
Lower Maxon	1496'	1625'
Little Lime	1771'	1822'
Big Lime	1828'	2052'
Big Injun	2063'	2107'
Middle Weir	2183'	2199'
Lower Weir	2248'	2284'
Berea	2514'	2524'
Middle Huron	3715'	3922'
Lower Huron	4003'	4348'
Marcellus Shale	5131'	5162'

03/15/2013