

WR-35
Rev (9-11)

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

DATE: 05/13/2013
API #: 47-103-02775

Deep?

Farm name: Michael Kuhn Operator Well No.: Michael Kuhn Unit 1H

LOCATION: Elevation: 1,507 ft. Quadrangle: SHL - Big Run 7.5', BHL - Littleton 7.5'

District: Center County: Wetzel
Latitude: 3,560 Feet South of 39 Deg. 37 Min. 30 Sec.
Longitude 8,825 Feet West of 80 Deg. 30 Min. 00 Sec.

Company: Grenadier Energy Partners, LLC

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
CT Corporation 707 Virginia Street East 15th Floor Charleston, WV 25304				
Agent: Dianna Stamper	26'	40'	40'	Grouted In
Inspector: Derek Haught	16'	434'	434'	1021 cu. ft (CTS)
Date Permit Issued: 05/30/2012	11-3/4"	1773'	1773'	1080 cu. ft (CTS)
Date Well Work Commenced: 09/11/2012	8-5/8"	2675'	2675'	774 cu. ft (CTS)
Date Well Work Completed: 04/18/2013	5-1/2"	13,696'	13,696'	2407 cu. ft (CTS)
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 7,911' (See note on Page 2)				
Total Measured Depth (ft): 13,730'				
Fresh Water Depth (ft.): Est. 165'				
Salt Water Depth (ft.): N/A				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): N/A				
Void(s) encountered (N/Y) Depth(s) N				

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

Producing formation Marcellus Shale Pay zone depth (ft) 8,095' - 13,572' MD

Gas: Initial open flow 6720 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 4200 psig (surface pressure) after 168 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

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

S.14.B
Date

103-02775

Were core samples taken? Yes _____ No X

Were cuttings caught during drilling? Yes X No _____

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes
Photo Densily-Compensated Neutron-GR, Dual Laterolog-GR, Compensated Sonic-GR

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:

Perforations: Total Perforated Interval (8,095' - 13,572' MD)

Fluid: 157,505 bbl Slickwater pumped in 15 Stages

Sand: 3,345,642 lbs 100 mesh sand, 3,566,769 lbs 40/70 sand

Plug Back Details Including Plug Type and Depth(s): Cement Kickoff Plugs for Horizontal - 7,911' to 6,510' w/ 372 sx of cement (3 plugs)

Formations Encountered:	Top Depth	Bottom Depth
Surface:		

See attachment

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Note: The Kuhn 1H well had a pilot hole drilled into the Onondaga, logged, and then plugged back to kick off and drill horizontally. The TVD listed above for this report is the depth of the pilot hole. The deepest depth of the horizontal was 7,740' in the Marcellus. The TMD given is for the horizontal.

103.02775

Kuhn 1H Tops		
Formation	Top	Bottom
Red Rocks	1387	1710
Five Coals	1746	n/a
Freeport Coal	2030	n/a
Salt Sand	2073	2245
Big Lime	2357	2433
Big Injun	2433	3095
Gordon	3335	3372
Benson	5628	5710
Rhinestreet Sh	6797	7281
Sonya Sh	7281	7479
Genesee Sh	7479	7569
Geneseo Sh	7569	7592
Tully	7592	7598
Hamilton Sh	7598	7721
Marcellus Sh	7721	7770
Onondaga	7770	n/a