

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

DATE: 07/31/12
API #: 47-103-02647

Farm name: Dorsey, Robert Operator Well No.: Charles Musgrave 1H

LOCATION: Elevation: 1,349' Quadrangle: Littleton 7.5'

District: Center County: Wetzel
Latitude: 10,892' Feet South of 39 Deg. 42 Min. 30.0 Sec.
Longitude 3,999' Feet West of 80 Deg. 35 Min. 00.0 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 25301				
Agent: <u>Dianna Stamper</u>	24"	40'	40'	Grouted In
Inspector: <u>Derek Haught</u>	16"	420'	420'	495 cu.ft (CTS)
Date Permit Issued: <u>03/31/2011</u>	11-3/4"	1543'	1543'	1071 cu.ft (CTS)
Date Well Work Commenced: <u>07/26/2011</u>	8-5/8"	2746'	2746'	841 cu.ft (CTS)
Date Well Work Completed: <u>12/08/2012</u>	5-1/2"	10326'	10326'	1901 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): <u>7520'</u>				
Total Measured Depth (ft): <u>10356'</u>				
Fresh Water Depth (ft.): <u>Est. 280'</u>				
Salt Water Depth (ft.): <u>N/A</u>				
Is coal being mined in area (N/Y)? <u>N</u>				
Coal Depths (ft.): <u>N/A</u>				
Void(s) encountered (N/Y) Depth(s) <u>N</u>				

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

Producing formation Marcellus Shale Pay zone depth (ft) 7654' - 10160' MD

Gas: Initial open flow 6342 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 4125 psig (surface pressure) after 168 Hours

Second producing formation _____ Pay zone depth (ft) _____

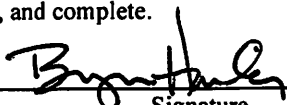
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d

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

8/1/12
Date

01/11/2013

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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 (Electrical)
GR-Compensated Neutron-Photo Density, GR-Dual-Laterolog, GR-Compensated Sonic

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 (7654' - 10160' MD)

Fluid: 82,212 bbl Slickwater pumped in 7 Stages

Sand: 1,524,515 lbs 100 mesh sand, 1,560,285 lbs 40/70 sand

Plug Back Details Including Plug Type and Depth(s): N/A

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

See Attached Sheet

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Formation/Lithology	From	To
Silt & Shale	0	1040
Red Rocks	1040	1095
Sand & Shale	1095	1931
Salt Sand	2354	2372
Strate	2000	2057
Big Lime	2390	2486
Big Injun	2480	2672
Silt & Shale	2356	2900
Gordon Stray Ss	3217	3225
Silt and Shale	2910	2938
Gordon Ss	3262	3308
Silt and Shale	2991	3030
Fourth Gordon ss	3358	3360
Silt and Shale	3042	6444
Rhinestreet	6648	7078
Sonya Sh	7078	7246
Genesee Sh	7246	7316
Geneseo Sh	7316	7346
Trully Lm	7346	7350
Hamilton Sh	7350	7466
Marcellus Sh	7466	7510
Onondaga	7510	N/A

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