

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

DATE: 8-9-2012
API #: 47-051-01500

Farm name: Michael Southworth MSH 3H Operator Well No.: 834166

LOCATION: Elevation: 1270' Quadrangle: Valley Grove

District: Sand Hill County: Marshall
Latitude: 8820' Feet South of 40 Deg. 02 Min. 30 Sec.
Longitude 10500' Feet West of 80 Deg. 35 Min. 00 Sec.

Company: Chesapeake Appalachia, L.L.C.

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
<u>P.O. Box 18496</u>				
<u>Oklahoma City, OK 73154-0496</u>	<u>20"</u>	<u>100'</u>	<u>100'</u>	<u>Driven</u>
Agent: <u>Eric Gillespie</u>	<u>13 3/8"</u>	<u>803'</u>	<u>803'</u>	<u>881 Cu. Ft.</u>
Inspector: <u>Bill Hendershot & Derek Haught</u>	<u>9 5/8"</u>	<u>2120'</u>	<u>2120'</u>	<u>887 Cu. Ft.</u>
Date Permit Issued: <u>11-16-2011</u>	<u>5 1/2"</u>	<u>13307'</u>	<u>13307'</u>	<u>3407 Cu. Ft.</u>
Date Well Work Commenced: <u>3-10-2012</u>				
Date Well Work Completed: <u>5-3-2012</u>				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): <u>6403'</u>				
Total Measured Depth (ft): <u>13307'</u>				
Fresh Water Depth (ft.): <u>300'</u>				
Salt Water Depth (ft.): <u>950'</u>				
Is coal being mined in area (N/Y)? <u>Y</u>				
Coal Depths (ft.): <u>753'</u>				
Void(s) encountered (N/Y) Depth(s) <u>Y 753'</u>				

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

Producing formation Marcellus Pay zone depth (ft) 6,732'-13,176'
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 2,763* MCF/d Final open flow 195 Bbl/d
Time of open flow between initial and final tests 108 Hours *Calculated
Static rock Pressure 4,139* psig (surface pressure) after _____ 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.

Marlene Williams
Signature

8-29-2012
Date

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 _____
MWD GR in the lateral. _____

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:

(See Attached)

Plug Back Details Including Plug Type and Depth(s):

<u>Formations Encountered:</u>	<u>Top Depth</u>	<u>Bottom Depth</u>
<u>Surface:</u>		

See attached

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PERFORATION RECORD ATTACHMENT

Well Number and Name: 834166 Michael Southworth MSH 3H

PERFORATION RECORD			STIMULATION RECORD							
Date	Interval Perforated		Date	Interval Treated		Fluid		Propping Agent		Average Injection
	From	To		Type	Amount	Type	Amount			
4/19/2012	12,742	13,176	4/25/2012	12,742	13,176	Slk wtr	11,781	Sand	660,420	78.0
4/26/2012	12,100	12,677	4/26/2012	12,100	12,677	Slk wtr	12,336	Sand	661,240	80.0
4/26/2012	11,429	12,006	4/26/2012	11,429	12,006	Slk wtr	12,203	Sand	581,140	77.0
4/26/2012	10,758	11,335	4/27/2012	10,758	11,335	Slk wtr	12,270	Sand	659,360	78.0
4/27/2012	10,087	10,664	4/29/2012	10,087	10,664	Slk wtr	12,927	Sand	661,520	79.0
4/29/2012	9,416	9,993	4/29/2012	9,416	9,993	Slk wtr	11,607	Sand	661,100	78.0
4/29/2012	8,745	9,323	5/1/2012	8,745	9,323	Slk wtr	12,186	Sand	659,780	80.0
5/1/2012	8,074	8,652	5/1/2012	8,074	8,652	Slk wtr	12,164	Sand	659,880	80.0
5/1/2012	7,403	7,981	5/3/2012	7,403	7,981	Slk wtr	12,163	Sand	657,960	80.0
5/3/2012	6,732	7,310	5/3/2012	6,732	7,310	Slk wtr	11,794	Sand	661,340	80.0

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LATERAL WELLBORE**Maximum TVD of wellbore:** 6403 ft TVD @ 6766 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SH/SS	0	0	100	100
SS/SLTSTN	100	100	430	430
SS	430	430	524	524
SS/SLTSTN	524	524	690	690
SLTSTN/SS	690	690	724	724
COAL	724	724	738	738
SLTSTN	738	738	824	824
SS/SLTSTN	824	824	844	844
SS	844	844	912	912
SS/SLTSTN	912	912	1420	1420
COAL	1420	1420	1448	1448
SS	1448	1448	1725	1725
BIG INJUN	1725	1725	1975	1975
SH/SS	1975	1975	2050	2050
SS/SH	2050	2050	2080	2080
SS	2080	2080	2320	2320
SH	2320	2320	3042	3042
SS	3042	3042	3102	3102
SS/SLTSTN	3102	3102	3400	3400
SH/SS	3400	3400	4606	4606
SH/SLTSTN	4606	4606	4706	4706
SH/SS	4706	4706	5628	5628
SH	5628	5628	6248	6214
GENESEO	6248	6214	6320	6266
TULLY	6320	6266	6390	6311
HAMILTON	6390	6311	6474	6351
MARCELLUS	6474	6351	13307	6334
TD	13307	6334		0

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