

Farm name: Edward Nichols 3H Operator Well No.: 832921

LOCATION: Elevation: 1310' Quadrangle: Wheeling WV

District: Richland County: Ohio
Latitude: 1450' Feet South of 40 Deg. 07 Min. 30 Sec.
Longitude 8730' Feet West of 80 Deg. 37 Min. 30 Sec.

Company: Chesapeake Appalachia, L.L.C.

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
P.O. Box 18496 Oklahoma City, OK 73154-0496	13 3/8"	590'	590'	117 Cu. Ft.
Agent: Eric Gillespie	9 5/8"	2059'	2059'	926 Cu. Ft.
Inspector: Bill Hendershot	5 1/2"	13154'	13154'	3329 Cu. Ft.
Date Permit Issued: 12-8-2010				
Date Well Work Commenced: 7-2-2011				
Date Well Work Completed: 5-21-2013				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 6137'				
Total Measured Depth (ft): 13154'				
Fresh Water Depth (ft.): 229' & 350'				
Salt Water Depth (ft.): 973'-1179', 1330'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 545'				
Void(s) encountered (N/Y) Depth(s) Y, 545'-552'				

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

Producing formation Marcellus Pay zone depth (ft) 6,474-13,016
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow 1,915* MCF/d Final open flow 185 Bbl/d
Time of open flow between initial and final tests 144 Hours *Calculated
Static rock Pressure 3,989* psig (surface pressure) after 144 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.

Marlene Williams
Signature

2-26-15
Date

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MORGANTOWN, WV

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 LWD GR from 5511'-13102' MD

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):

Formations Encountered: Surface:	Top Depth	/	Bottom Depth
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See attached

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LATERAL SIDETRACK
WELLBORE

(no vertical pilot hole associated with this well)

Maximum TVD of wellbore: 6,137 ft TVD @ 13,157 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS/SS	0	0	390	390
LS/SHALE	390	390	545	545
PITTSBURGH COAL	545	545	552	552
LS/SHALE	552	552	650	650
SS	650	650	1910	1910
SHALE	1910	1910	6032	6014
GENESEO (SH)	6032	6014	6064	6033
TULLY (LS)	6064	6033	6140	6091
SHALE	6140	6091	6320	6161
MARCELLUS (SH)	6320	6161		
TD OF LATERAL			13157	6137

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Surface:			

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	4/15/2013
State:	WEST VIRGINIA
County:	OHIO
API Number:	4706900068
Operator Name:	CHESAPEAKE APPALACHIA LLC
Well Name and Number:	EDWARD NICHOLS 3H
Longitude:	-80.6304
Latitude:	40.100968
Long/Lat Projection:	NAD27
Production Type:	GAS
True Vertical Depth (TVD):	6,172
Total Water Volume (gal)*:	6,819,120

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by Mass)**	Maximum Ingredient Concentration in HF Fluid (% by Mass)**	Comments
Fresh Water	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.000000%	74.72137%	
Recycled Produced Water	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.000000%	11.16737%	
EC6734A	NALCO	Anti-Bacterial Agent	Acetic acid	000064-19-7	60.000000%	0.01606%	
			Hydrogen Peroxide	007722-84-1	30.000000%	0.00803%	
			Peracetic Acid	000079-21-0	30.000000%	0.00803%	
			Ethylene Glycol	000107-21-1	30.000000%	0.00223%	
			Crystalline silica	14808-60-7	98.52301%	13.77132%	
			Hydrogen chloride	7647-01-0	0.93431%	0.13060%	
			Water	007732-18-5	0.94366%	0.13349%	
			Guar gum	9000-30-0	0.18929%	0.02646%	
			Acrylamide, 2-acrylamido-2-methylpropanesulfonic acid, sodium salt polymer	38193-60-1	0.12443%	0.01739%	
			Ammonium sulfate	7783-20-2	0.11760%	0.01644%	
			Sodium sulfate	7757-82-6	0.05083%	0.00710%	
EC6486A	NALCO	Scale Inhibitor					
Acid, Hydrochloric 15pct, A264, D047, J218, J475, J580, J609, J610, L058, 100 Mesh Sand, Northern White Sand	SCHLUMBERGER	Acid, Breaker, Corrosion Inhibitor, Cross Linker, Defoaming Agent, Friction Reducer, Gelling Agent, Iron Control Agent, Proppant - Natural					

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** Information is based on the maximum potential for concentration and thus the total may be over 100%

"Additional Ingredients Not Listed on MSDS" component information were obtained directly from the supplier. As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of this information should be directed to the supplier who provided it.

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