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FINAL REPORT

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: 4-23-2014
API #: 47-009-00134

Farm name: State of WV DNR B BRK 3H Operator Well No.: 835460

LOCATION: Elevation: 1180 Quadrangle: Steubenville East, WV

District: Cross Creek County: Brooke
Latitude: 7810' Feet South of 40 Deg. 22 Min. 30 Sec.
Longitude 12480' Feet West of 80 Deg. 30 Min. 00 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	20"	125'	125'	465 Cu. Ft.
Agent: Eric Gillespie	13 3/8"	313'	313'	336 Cu. Ft.
Inspector: Bill Hendershot	9 5/8"	1510'	1510'	696 Cu. Ft.
Date Permit Issued: 6-27-2012	5 1/2"	11677'	11677'	2936 Cu. Ft.
Date Well Work Commenced: 7-1-2012				
Date Well Work Completed: 9-17-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 5630'				
Total Measured Depth (ft): 11681'				
Fresh Water Depth (ft.): 193'				
Salt Water Depth (ft.): 1210'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 654'				
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 Marcellus Pay zone depth (ft) 5,900'-11,495'
Gas: Initial open flow 1,126* MCF/d Oil: Initial open flow 180 Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests 24 Hours
Static rock Pressure 3,660* psig (surface pressure) after 24 Hours *Calculated

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

4-23-2014
Date

05/02/2014

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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 4906-11681' 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: _____ Top Depth _____ / _____ Bottom Depth
Surface:

See attached

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PERFORATION RECORD ATTACHMENT

Well Number and Name: 835460 State of WV DNR B BRK 3H

PERFORATION RECORD			STIMULATION RECORD							
Date	Interval Perforated		Date	Interval Treated	Fluid		Propping Agent		Average Injection	
	From	To			Type	Amount	Type	Amount		
9/6/2012	11,053	11,495	9/6/2012	11,053	11,495	Slk wtr	12,576	Sand	701,180	79.9
9/7/2012	10,537	10,980	9/8/2012	10,537	10,980	Slk wtr	11,620	Sand	698,400	77
9/8/2012	10,022	10,464	9/8/2012	10,022	10,464	Slk wtr	12,001	Sand	704,860	80.1
9/8/2012	9,507	9,949	9/8/2012	9,507	9,949	Slk wtr	11,850	Sand	704,520	79.7
9/9/2012	8,992	9,433	9/9/2012	8,992	9,433	Slk wtr	12,146	Sand	703,040	79.9
9/10/2012	8,476	8,918	9/10/2012	8,476	8,918	Slk wtr	12,741	Sand	701,040	79.9
9/10/2012	7,942	8,395	9/11/2012	7,942	8,395	Slk wtr	11,990	Sand	699,900	79.7
9/11/2012	7,444	7,887	9/11/2012	7,444	7,887	Slk wtr	12,119	Sand	701,060	79.8
9/11/2012	6,931	7,373	9/12/2012	6,931	7,373	Slk wtr	11,647	Sand	701,880	78.4
9/12/2012	6,415	6,857	9/13/2012	6,415	6,857	Slk wtr	11,787	Sand	701,660	79.8
9/14/2012	5,900	6,342	9/17/2012	5,900	6,342	Slk wtr	11,435	Sand	691,600	80

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LATERAL WELLBORE (no vertical pilot hole associated with this well)**Maximum TVD of wellbore: 5630 ft TVD @ 6257 ft MD**

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SS/LS/SH	0	0	420	420
SHALE	420	420	480	480
SS/LS/SH	480	480	654	654
KITTANING COAL	654	654	660	660
SHALE	660	660	720	720
SS	720	720	840	840
SHALE	840	840	990	990
SS	990	990	1080	1080
BIG LIME	1080	1080	1135	1135
BIG INJUN (SS)	1135	1135	1368	1368
SHALE	1368	1368	5528	5463
GENESEO (SH)	5528	5463	5555	5480
TULLY (LS)	5555	5480	5653	5534
HAMILTON (SH)	5653	5534	5838	5600
MARCELLUS (SH)	5838	5600		
TD OF LATERAL			11681	5580

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Hydraulic Fracturing Fluid Product Component Information Disclosure

9-00134	Fracture Date:	9/6/2012
	State:	WEST VIRGINIA
	County:	BROOKE
	API Number:	4700900134
	Operator Name:	CHESAPEAKE APPALACHIA LLC
	Well Name and Number:	STATE OF WV DNR B BRK 3H
	Longitude:	-80.527968
	Latitude:	40.340769
	Long/Lat Projection:	NAD27
	Production Type:	GAS
	True Vertical Depth (TVD):	5,630
	Total Water Volume (gal)*:	5,677,728

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	100.00%	77.20093%	
Recycled Produced Water	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.00%	8.24251%	
EC6486A	NALCO	Scale Inhibitor	Ethylene Glycol	000107-21-1	30.00%	0.00158%	
EC6110A	NALCO	Anti-Bacterial Agent	Ethanol	000064-17-5	5.00%	0.00138%	
			Glutaraldehyde	000111-30-8	60.00%	0.01657%	
			Quaternary Ammonium Compounds	NA	10.00%	0.00276%	
Northern White Sand	SCHLUMBERGER	Proppant - Natural	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	9.61910%	
100 Mesh Sand	SCHLUMBERGER	Proppant - Natural	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	4.15560%	
Acid, Hydrochloric 15pct	SCHLUMBERGER	Acid	Hydrogen Chloride	007647-01-0	15.00%	0.09688%	
			Water	007732-18-5	85.00%	0.54898%	
J580	SCHLUMBERGER	Gelling Agent	Carbohydrate polymer	NA	100.00%	0.04776%	
J610	SCHLUMBERGER	Cross Linker	Aliphatic polyol	NA	30.00%	0.00412%	

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			Potassium Hydroxide	001310-58-3	15.00%	0.00206%	
J218	SCHLUMBERGER	Breaker	Ammonium Persulfate	007727-54-0	100.00%	0.00179%	
J475	SCHLUMBERGER	Breaker	Ammonium Persulfate	007727-54-0	100.00%	0.00099%	
B315	SCHLUMBERGER	Friction Reducer	Aliphatic alcohol polyglycol ether	NA	2.00%	0.00056%	
			Petroleum Distillate Hydrotreated Light	064742-47-8	30.00%	0.01121%	
L058	SCHLUMBERGER	Iron Control Agent	Sodium Erythorbate	006381-77-7	100.00%	0.00048%	
A264	SCHLUMBERGER	Corrosion Inhibitor	Aliphatic acid	NA	30.00%	0.00030%	
			Aliphatic alcohols, ethoxylated # 1	NA	30.00%	0.00030%	
			Methanol (Methyl Alcohol)	000067-56-1	40.00%	0.00040%	
			Propargyl Alcohol (2-Propynol)	000107-19-7	10.00%	0.00010%	

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* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** 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.