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WR-35
Rev (9-11)

Final Report
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 #: 47-009-00122

Farm name: State of WV DNR B BRK 8H Operator Well No.: 834580

LOCATION: Elevation: 1199' Quadrangle: Steubenville East, WV.

District: Cross Creek County: Brooke
Latitude: 2270' Feet South of 40 Deg. 22 Min. 30 Sec.
Longitude 7470' Feet West of 80 Deg. 32 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"	389'	389'	434 Cu. Ft.
Agent: Eric Gillespie	9 5/8"	1439'	1439'	651 Cu. Ft.
Inspector: Bill Hendershot	5 1/2"	10617'	10617'	2548 Cu. Ft.
Date Permit Issued: 1-18-2012				
Date Well Work Commenced: 6-20-2012				
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): 5713'				
Total Measured Depth (ft): 10617'				
Fresh Water Depth (ft.): 80',300'				
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) 6,050'-10,452'
Gas: Initial open flow 1,032* MCF/d Oil: Initial open flow 186 Bbl/d
Final open flow _____ MCF/d Final open flow _____ Bbl/d
Time of open flow between initial and final tests 168 Hours
Static rock Pressure 3,713* psig (surface pressure) after 168 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 GR, neutron, density, and resistivity
Open hole logs run from 0-1461' MD; LWD GR from 4676-10668' 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):

<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: 834580 State of WV DNR B BRK 8H

PERFORATION RECORD			STIMULATION RECORD							
Date	Interval Perforated		Date	Interval Treated		Fluid		Propping Agent		Average Injection
	From	To		Type	Amount	Type	Amount			
9/7/2012	10,046	10,452	9/7/2012	10,046	10,452	Sik wtr	11,710	Sand	606,440	80
9/7/2012	9,546	9,963	9/8/2012	9,546	9,963	Sik wtr	10,929	Sand	598,640	79.3
9/8/2012	9,047	9,463	9/10/2012	9,047	9,463	Sik wtr	14,721	Sand	662,075	78.3
9/15/2012	8,547	8,963	9/15/2012	8,547	8,963	Sik wtr	10,857	Sand	599,580	79.7
9/15/2012	8,048	8,464	9/15/2012	8,048	8,464	Sik wtr	10,837	Sand	600,991	79.9
9/15/2012	7,548	7,965	9/16/2012	7,548	7,965	Sik wtr	10,999	Sand	603,440	79.4
9/16/2012	7,049	7,465	9/16/2012	7,049	7,465	Sik wtr	11,383	Sand	601,620	79.8
9/16/2012	6,549	6,965	9/16/2012	6,549	6,965	Sik wtr	10,685	Sand	600,360	80
9/17/2012	6,050	6,466	9/17/2012	6,050	6,466	Sik wtr	10,630	Sand	601,420	79.2

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LATERAL WELLBORE (no vertical pilot hole associated with this well)**Maximum TVD of wellbore: 5713 ft TVD @ 10617 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	5526	5441
GENESECO (SH)	5526	5441	5554	5458
TULLY (LS)	5554	5458	5653	5513
HAMILTON (SH)	5653	5513	5841	5590
MARCELLUS (SH)	5841	5590		
TD OF LATERAL			10617	5713

05/02/2014

Hydraulic Fracturing Fluid Product Component Information Disclosure

9-00122

Fracture Date:	9/7/2012
State:	WEST VIRGINIA
County:	BROOKE
API Number:	4700900122
Operator Name:	CHESAPEAKE APPALACHIA LLC
Well Name and Number:	STATE OF WV DNR B BRK 8H
Longitude:	-80.527963
Latitude:	40.340808
Long/Lat Projection:	NAD27
Production Type:	GAS
True Vertical Depth (TVD):	5,713
Total Water Volume (gal)*:	4,448,430

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%	80.25433%	
Recycled Produced Water	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.00%	6.26047%	
EC6486A	NALCO	Scale Inhibitor	Ethylene Glycol	000107-21-1	30.00%	0.00150%	
EC6110A	NALCO	Anti-Bacterial Agent	Ethanol	000064-17-5	5.00%	0.00135%	
			Glutaraldehyde	000111-30-8	60.00%	0.01622%	
			Quaternary Ammonium Compounds	NA	10.00%	0.00270%	
Northern White Sand	SCHLUMBERGER	Proppant - Natural	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	8.91337%	
100 Mesh Sand	SCHLUMBERGER	Proppant - Natural	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	3.75565%	
Acid, Hydrochloric 15pct	SCHLUMBERGER	Acid	Hydrogen Chloride	007647-01-0	15.00%	0.10335%	
			Water	007732-18-5	85.00%	0.58566%	
J580	SCHLUMBERGER	Gelling Agent	Carbohydrate polymer	NA	100.00%	0.04063%	
J218	SCHLUMBERGER	Breaker	Ammonium Persulfate	007727-54-0	100.00%	0.00227%	

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J610	SCHLUMBERGER	Cross Linker	Aliphatic polyol	NA	30.00%	0.00178%	
			Potassium Hydroxide	001310-58-3	15.00%	0.00089%	
B315	SCHLUMBERGER	Friction Reducer	Aliphatic alcohol polyglycol ether	NA	2.00%	0.00067%	
			Petroleum Distillate Hydrotreated Light	064742-47-8	30.00%	0.01333%	
L058	SCHLUMBERGER	Iron Control Agent	Sodium Erythorbate	006381-77-7	100.00%	0.00048%	
J475	SCHLUMBERGER	Breaker	Ammonium Persulfate	007727-54-0	100.00%	0.00032%	
A264	SCHLUMBERGER	Corrosion Inhibitor	Aliphatic acid	NA	30.00%	0.00032%	
			Aliphatic alcohols, ethoxylated # 1	NA	30.00%	0.00032%	
			Methanol (Methyl Alcohol)	000067-56-1	40.00%	0.00042%	
			Propargyl Alcohol (2-Propynol)	000107-19-7	10.00%	0.00011%	

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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.