

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 #: 47-009-00097

FINAL

Farm name: Linda Greathouse BRK 3H Operator Well No.: 833467

LOCATION: Elevation: 1150' Quadrangle: 247-Bethany

District: Buffalo County: Brooke  
Latitude: 6620' Feet South of 40 Deg. 12 Min. 30 Sec.  
Longitude 1520' 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.
P.O. Box 18496 Oklahoma City, OK 73154-0496	26"	110'	110'	Driven
Agent: Eric Gillespie	20"	343'	343'	544 Cu. Ft.
Inspector: Bill Hendershot	13 3/8"	731'	731'	931 Cu. Ft.
Date Permit Issued: 6-6-2011	9 5/8"	1781'	1781'	785 Cu. Ft.
Date Well Work Commenced: 11-19-2011	5 1/2"	12749'	12749'	3750 Cu. Ft.
Date Well Work Completed: 6-25-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 5843'				
Total Measured Depth (ft): 12749'				
Fresh Water Depth (ft.): 62', 94'				
Salt Water Depth (ft.): 1025'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 300'				
Void(s) encountered (N/Y) Depth(s) Y 300'				

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

Producing formation Marcellus Pay zone depth (ft) 6,125'-12,617'  
Gas: Initial open flow 1,353\* MCF/d Oil: Initial open flow 243 Bbl/d  
Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests 72 Hours  
Static rock Pressure 3,798\* psig (surface pressure) after 72 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.

Marilyn Williams  
Signature

4-23-2014  
Date

05/23/2014



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PERFORATION RECORD ATTACHMENT

Well Number and Name: 833467 Linda Greathouse BRK 3H

PERFORATION RECORD			STIMULATION RECORD							
Date	Interval Perforated		Date	Interval Treated	Type	Fluid		Propping Agent		Average Injection
	From	To				Type	Amount	Type	Amount	
6/4/2012	12,116	12,617	6/20/2012	12,116	12,617	Slk wtr	12,423	Sand	601,920	77.5
6/20/2012	11,517	12,018	6/21/2012	11,517	12,018	Slk wtr	12,487	Sand	599,920	77
6/21/2012	10,918	11,422	6/21/2012	10,918	11,422	Slk wtr	12,425	Sand	601,740	79.8
6/21/2012	10,321	10,820	6/23/2012	10,321	10,820	Slk wtr	12,127	Sand	598,120	80
6/23/2012	9,716	10,221	6/23/2012	9,716	10,221	Slk wtr	12,330	Sand	600,760	80
6/23/2012	9,120	9,622	6/24/2012	9,120	9,622	Slk wtr	11,907	Sand	601,140	78.1
6/24/2012	8,521	9,022	6/24/2012	8,521	9,022	Slk wtr	12,055	Sand	602,280	80
6/24/2012	7,922	8,420	6/24/2012	7,922	8,420	Slk wtr	12,253	Sand	601,860	79.8
6/24/2012	7,323	7,824	6/25/2012	7,323	7,824	Slk wtr	11,950	Sand	601,420	78.5
6/25/2012	6,724	7,225	6/25/2012	6,724	7,225	Slk wtr	11,850	Sand	600,260	79.9
6/25/2012	6,125	6,626	6/25/2012	6,125	6,626	Slk wtr	12,066	Sand	599,220	79.9

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**LATERAL SIDETRACK WELLBORE (no vertical pilot hole associated with this well)****Maximum TVD of wellbore: 5843 ft TVD @ 6200 ft MD**

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SH/LS/SS	0	0	300	300
PITTSBURG COAL	300	300	307	307
LS/SH	307	307	360	360
SS	360	360	1290	1290
BIG LIME (LS)	1290	1290	1420	1420
BIG INJUN (SS)	1420	1420	1630	1630
SHALE	1630	1630	5689	5661
GENESEO (SH)	5689	5661	5703	5672
TULLY (LS)	5703	5672	5794	5732
HAMILTON (SH)	5794	5732	5988	5816
MARCELLUS (SH)	5988	5816		
TD OF LATERAL			12749	5778

05/23/2014

# Hydraulic Fracturing Fluid Product Component Information Disclosure

9-00097

Fracture Date:	6/20/2012
State:	WEST VIRGINIA
County:	BROOKE
API Number:	4700900097
Operator Name:	CHESAPEAKE APPALACHIA LLC
Well Name and Number:	LINDA GREATHOUSE BRK 3H
Longitude:	-80.60719
Latitude:	40.204092
Long/Lat Projection:	NAD27
Production Type:	GAS
True Vertical Depth (TVD):	5,843
Total Water Volume (gal)*:	5,737,578

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## 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		Carrier/Base Fluid				83.61652%	
Recycled Produced Water		Carrier/Base Fluid				3.67534%	
Ottawa Sand		Proppant	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	8.38480%	
100 Mesh Sand		Proppant	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	3.61135%	
Acid, Hydrochloric 15pct	SCHLUMBERGER	Acid	Water	007732-18-5	85.00%	0.55617%	
			Hydrogen Chloride	007647-01-0	15.00%	0.09815%	
L058	SCHLUMBERGER	Iron Control Agent	Sodium Erythorbate	006381-77-7	100.00%	0.00041%	
A264	SCHLUMBERGER	Corrosion Inhibitor	Methanol (Methyl Alcohol)	000067-56-1	40.00%	0.00031%	
			Aliphatic acid	N/A	30.00%	0.00023%	
			Aliphatic alcohols, ethoxylated # 1	N/A	30.00%	0.00023%	
			Propargyl Alcohol (2-Propynol)	000107-19-7	10.00%	0.00008%	
EC6110A	NALCO	Anti-Bacterial Agent	Glutaraldehyde	000111-30-8	60.00%	0.01706%	
			Quaternary Ammonium Compounds	N/A	10.00%	0.00284%	
			Ethanol	000064-17-5	5.00%	0.00142%	

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EC6629A	NALCO	Scale Inhibitor	No Hazardous Components	NONE		0.00000%	
B315	SCHLUMBE RGER	Friction Reducer	Petroleum Distillate Hydro-treated Light Aliphatic alcohol polyglycol ether	064742-47-8 N/A	30.00% 1.50%	0.00680% 0.00034%	

\* 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.

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