

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 #: 47-069-00131

**FINAL**

Farm name: Mason Cottrell OHI 1H Operator Well No.: 834971

LOCATION: Elevation: 1240' Quadrangle: Valley Grove WV

District: Triadelphia County: Ohio  
Latitude: 9650' Feet South of 40 Deg. 05 Min. 00 Sec.  
Longitude 2760' 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	20"	100'	100'	348 Cu. Ft.
Agent: Eric Gillespie	13 3/8"	658'	658'	554 Cu. Ft.
Inspector: Bill Hendershot	9 5/8"	2133'	2133'	915 Cu. Ft.
Date Permit Issued: 7-18-2012	5 1/2"	11558'	11558'	2689 Cu. Ft.
Date Well Work Commenced: 8-8-2012				
Date Well Work Completed: 10-4-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 6343'				
Total Measured Depth (ft): 11558'				
Fresh Water Depth (ft.): 175'				
Salt Water Depth (ft.): 1035'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 612				
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) 6803-11,417  
Gas: Initial open flow 1,423\* MCF/d Oil: Initial open flow 216 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 4,123\* 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

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

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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 5890' - 11510' 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: 834971 Mason Cottrell OHI 1H

PERFORATION RECORD			STIMULATION RECORD							
Date	Interval Perforated		Date	Interval Treated	Type	Fluid		Propping Agent		Average Injection
	From	To				Type	Amount	Type	Amount	
9/22/2012	11,104	11,417	9/28/2012	11,104	11,417	Sik wtr	10,257	Sand	577,540	79.9
9/29/2012	10,713	11,026	9/29/2012	10,713	11,026	Sik wtr	9,945	Sand	574,000	80
9/29/2012	10,321	10,635	9/29/2012	10,321	10,635	Sik wtr	10,177	Sand	574,280	80
9/29/2012	9,930	10,243	9/30/2012	9,930	10,243	Sik wtr	10,153	Sand	576,820	79
9/30/2012	9,539	9,852	10/1/2012	9,539	9,852	Sik wtr	10,039	Sand	574,260	80
10/1/2012	9,148	9,461	10/1/2012	9,148	9,461	Sik wtr	10,087	Sand	573,460	80
10/1/2012	8,756	9,070	10/1/2012	8,756	9,070	Sik wtr	10,143	Sand	573,820	80.1
10/2/2012	8,365	8,678	10/2/2012	8,365	8,678	Sik wtr	9,867	Sand	577,540	80
10/2/2012	7,974	8,287	10/2/2012	7,974	8,287	Sik wtr	9,999	Sand	577,720	80
10/2/2012	7,583	7,902	10/3/2012	7,583	7,902	Sik wtr	9,699	Sand	574,900	80
10/3/2012	7,186	7,507	10/3/2012	7,186	7,507	Sik wtr	10,629	Sand	577,660	80
10/4/2012	6,803	7,113	10/4/2012	6,803	7,113	Sik wtr	9,456	Sand	578,380	80

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**LATERAL SIDETRACK WELLBORE (no vertical pilot hole associated with this well)****Maximum TVD of wellbore: 6343 ft TVD @ 6905 ft MD**

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SS	0	0	510	510
SILTSTONE	510	510	540	540
SS	540	540	612	612
PITTSBURG COAL	612	612	622	622
SS	622	622	1310	1310
SHALE	1310	1310	1535	1535
SS	1535	1535	1590	1590
BIG LIME (LS)	1590	1590	1676	1676
BIG INJUN (SS)	1676	1676	1970	1970
SHALE	1970	1970	6355	6144
GENESEO (SH)	6355	6144	6392	6168
TULLY (LS)	6392	6168	6447	6202
HAMILTON (SH)	6447	6202	6640	6293
MARCELLUS (SH)	6640	6293		
TD OF LATERAL			11558	6239

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

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Fracture Date:	9/28/2012
State:	WEST VIRGINIA
County:	OHIO
API Number:	4706900131
Operator Name:	CHESAPEAKE APPALACHIA LLC
Well Name and Number:	MASON COTTRELL OHI 1H
Longitude:	-80.617839
Latitude:	40.075757
Long/Lat Projection:	NAD27
Production Type:	GAS
True Vertical Depth (TVD):	6,343
Total Water Volume (gal)*:	5,118,162

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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	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.00%	71.29064%	
Recycled Produced Water	CHESAPEAKE ENERGY	Carrier/Base Fluid	Water	007732-18-5	100.00%	14.20391%	
EC6486A	NALCO	Scale Inhibitor	Ethylene Glycol	000107-21-1	30.00%	0.00155%	
EC6110A	NALCO	Anti-Bacterial Agent	Ethanol	000064-17-5	5.00%	0.00134%	
			Glutaraldehyde	000111-30-8	60.00%	0.01608%	
			Quaternary Ammonium Compounds	NA	10.00%	0.00268%	
Northern White Sand	SCHLUMBERGER	Proppant - Natural	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	9.51929%	
100 Mesh Sand	SCHLUMBERGER	Proppant - Natural	Crystalline Silica (Quartz Sand, Silicon Dioxide)	014808-60-7	100.00%	4.10066%	
Acid, Hydrochloric 15pct	SCHLUMBERGER	Acid	Hydrogen Chloride	007647-01-0	15.00%	0.11565%	
			Water	007732-18-5	85.00%	0.65535%	
J580	SCHLUMBERGER	Gelling Agent	Carbohydrate polymer	NA	100.00%	0.02390%	
J609	SCHLUMBERGER	Friction Reducer	Aliphatic amine polymer	NA	30.00%	0.01672%	



			Ammonium Sulfate	007783-20-2	30.00%	0.01672%	
J218	SCHLUMBERGER	Breaker	Ammonium Persulfate	007727-54-0	100.00%	0.00108%	
L058	SCHLUMBERGER	Iron Control Agent	Sodium Erythorbate	006381-77-7	100.00%	0.00059%	
A264	SCHLUMBERGER	Corrosion Inhibitor	Aliphatic acid	NA	30.00%	0.00037%	
			Aliphatic alcohols, ethoxylated # 1	NA	30.00%	0.00037%	
			Methanol (Methyl Alcohol)	000067-56-1	40.00%	0.00050%	
			Propargyl Alcohol (2-Propynol)	000107-19-7	10.00%	0.00012%	

\* 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.