

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

DATE: 9-7-2012
API #: 47-061-01623

Farm name: Esther Clark 3H Operator Well No.: 833083

LOCATION: Elevation: 1424' Quadrangle: Hundred 7.5'

District: Battelle County: Monongalia
Latitude: 5484' Feet South of 39 Deg. 40 Min. 00 Sec.
Longitude 5973' Feet West of 80 Deg. 22 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	20"	110'	110'	101 Cu. Ft.
Agent: Eric Gillespie	13 3/8"	580'	580'	684 Cu. Ft.
Inspector: Sam Ward	9 5/8"	3672'	3672'	1667 Cu. Ft.
Date Permit Issued: 6/3/2011	5 1/2"	15136'	15136'	3317 Cu. Ft.
Date Well Work Commenced: 10/18/2011				
Date Well Work Completed: 3/25/2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 8183'(cement plug 6,992 - 8183')				
Total Measured Depth (ft): 15139'				
Fresh Water Depth (ft.): 400'				
Salt Water Depth (ft.): None				
Is coal being mined in area (N/Y)? Y				
Coal Depths (ft.): 221', 1200'				
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) 8,300' - 15,004'

Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d

Final open flow 5010* MCF/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests 47 Hours * Calculated

Static rock Pressure 5153* psig (surface pressure) after _____ 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

9-11-2012
Date

12/14/2012

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 _____

Triple Combo, spectral gamma ray, borehole image and dipole sonic in pilot and MWD gamma ray in lateral

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:

Plug Back Details Including Plug Type and Depth(s): Cement plug @ 6992' - 8183'

Formations Encountered:	Top Depth	/	Bottom Depth
<u>Surface:</u>			

see attached

PERFORATION RECORD ATTACHMENT

Well Number and Name: 833083 Esther Clark 3H

PERFORATION RECORD			STIMULATION RECORD							
Date	Interval Perforated		Date	Interval Treated		Fluid		Propping Agent		Average Injection
	From	To		Type	Amount	Type	Amount			
2/10/2012	14,575	15,004	3/13/2012	14,575	15,004	Sik wtr	11,886	Sand	490,500	57
3/13/2012	14,052	14,482	3/13/2012	14,052	14,482	Sik wtr	10,409	Sand	588,240	84
3/14/2012	13,529	13,959	3/15/2012	13,529	13,959	Sik wtr	10,870	Sand	588,820	84
3/16/2012	13,006	13,436	3/16/2012	13,006	13,436	Sik wtr	11,821	Sand	588,420	80
3/16/2012	12,483	12,960	3/17/2012	12,483	12,960	Sik wtr	11,750	Sand	588,210	84
3/17/2012	11,956	12,390	3/18/2012	11,956	12,390	Sik wtr	10,122	Sand	593,180	84
3/19/2012	11,438	11,867	3/19/2012	11,438	11,867	Sik wtr	13,887	Sand	582,620	80
3/19/2012	10,915	11,345	3/22/2012	10,915	11,345	Sik wtr	10,953	Sand	588,860	85
3/22/2012	10,389	10,822	3/23/2012	10,389	10,822	Sik wtr	10,191	Sand	591,580	84
3/23/2012	9,863	10,298	3/23/2012	9,863	10,298	Sik wtr	10,963	Sand	588,760	81
3/24/2012	9,350	9,776	3/25/2012	9,350	9,776	Sik wtr	10,102	Sand	588,700	85
3/25/2012	8,823	9,252	3/25/2012	8,823	9,252	Sik wtr	10,241	Sand	588,200	82
3/25/2012	8,300	8,730	3/25/2012	8,300	8,730	Sik wtr	10,205	Sand	589,060	88

VERTICAL PILOT HOLE

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SHALE	0		250	
SANDSTONE/SHALE	250		500	
SHALE	500		930	
SANDSTONE	930		990	
LIMESTONE/SHALE	990		1140	
COAL	1140		1156	
COAL/LIMESTONE/SHALE	1156		1240	
COAL	1240		1260	
COAL/LIMESTONE/SHALE	1260		1320	
SHALE	1320		1600	
SANDSTONE/SHALE	1600		2640	
BIG LIME	2640		2550	
BIG INJUN SANDSTONE	2550		2750	
SANDSTONE/SHALE	2750		3210	
BEREA SANDSTONE	3210		3550	
SHALE	3550		4100	
SHALE/SANDSTONE	4100		4580	
SHALE	4580		7744	
GENESEO	7744		7782	
TULLY	7782		7820	
HAMILTON	7820		7924	
MARCELLUS	7924		7994	
ONONDAGA	7994			
PILOT TD	8183			
PLUG BACK DEPTH	7107			

LATERAL WELLBORE

Maximum TVD of wellbore: 7972 ft TVD @ 13289 ft MD

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
SHALE	0	0	250	250

SANDSTONE/SHALE	250	250	500	500
SHALE	500	500	930	930
SANDSTONE	930	930	990	990
LIMESTONE/SHALE	990	990	1140	1140
COAL	1140	1140	1156	1156
COAL/LIMESTONE/SHALE	1156	1156	1240	1240
COAL	1240	1240	1260	1260
COAL/LIMESTONE/SHALE	1260	1260	1320	1320
SHALE	1320	1320	1600	1600
SANDSTONE/SHALE	1600	1600	2460	2460
BIG LIME	2640	2640	2550	2550
BIG INJUN SANDSTONE	2550	2550	2750	2750
SANDSTONE/SHALE	2750	2750	3210	3210
BEREA SANDSTONE	3210	3210	3550	3550
SHALE	3550	3550	4100	4100
SHALE/SANDSTONE	4100	4100	4580	4580
SHALE	4580	4580	7764	7730
GENESEO	7764	7730	7821	7774
TULLY	7821	7774	7854	7798
HAMILTON	7854	7798	8074	7910
MARCELLUS	8074	7910	15139	7905
LATERAL TD	15139	7905		0