State of West Virginia Department of Environmental Protection Office of Oil and Gas

DATE: 9/19/2011 API#: 4700103155

Well Operator's Report of Well Work

Quadrangle: County: 39 Deg 79 Deg Casing & Tubing 13 3/8" 9 5/8"		n. 0 Sec.	001
County: 39 Deg 79 Deg Casing & Tubing 13 3/8" 9 5/8"	Used in drilling	BARBOUR 1. 30 Sec. 1. 0 Sec. Left in well	WV Dep Environmen Cement fill up Cu. Ft.
39 Deg 79 Deg Casing & Tubing 13 3/8" 9 5/8"	Used in drilling	n. 30 Sec. 1. 0 Sec. Left in well	WV Dep Environmen Cement fill up Cu. Ft.
39 Deg 79 Deg Casing & Tubing 13 3/8" 9 5/8"	Used in drilling	n. 30 Sec. 1. 0 Sec. Left in well	WV Dep Environmen Cement fill up Cu. Ft.
79 Deg Casing & Tubing 13 3/8" 9 5/8"	Used in drilling	Left in well	WV Dep Environmen Cement fill up Cu. Ft.
Casing & Tubing 13 3/8" 9 5/8"	Used in drilling	Left in well	WV Dep Environmer Cement fill up Cu. Ft.
Tubing 13 3/8" 9 5/8"	drilling 42	Left in well	Cement fill up Cu. Ft.
Tubing 13 3/8" 9 5/8"	drilling 42	Left in well	Cement fill up Cu. Ft.
13 3/8"	42	42	
9 5/8"		42	SANDED IN
9 5/8"		42	SANDED IN
	465		
	465		
7"		465	170
7"			
	1646	1646	230
4 1/2"	5041	5041	180
ations please in	Pay zone Dep	oth (ft)	4883' - 4888'
sts: N/A	MCF/D Oil Hours psig(surface p	rinal open flow	
sts: N/A	Hours	oressure) after	v: 0 Bbl/d
	Hours psig(surface property pr	oressure) after oth (ft)	96 Hours 4218' - 4224' w: 0 Bbl/d
	Hours psig(surface properties of the properties	oressure) after	96 Hours 4218' - 4224' w: 0 Bbl/d
	Hours psig(surface property property) Pay zone DepmCF/D Oil MCF/D Oil Hours	oressure) after oth (ft)	96 Hours 4218' - 4224' w: 0 Bbl/d
	ations please in	Pay zone Dep	

Were co	re samp	oles taken?	Yes	No_X_	Were	cuttings caught during drilling?	Yes	No_	X
Were		Electrical,		Mechanical,	Y	or Geophysical logs recorded on	this well?		
	V/N		V/N		V/N				

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

Perforated Intervals, Fracturing, or Stimulating:

Perfed 3rd Elk 4883' - 4888' (15 shots). BD 4083 #. 100 sks 20/40 & 200 sks 40/70. 466 bbl. Gel Frac.

Perfed Alexander 4218' - 4224' (18 shots). BD 3629 #. 100 sks 20/40 & 100 sks 40/70. 276 bbl. Gel Frac.

Perfed Benson 3994' - 4000' (18 shots). BD 3174 #. 100 sks 20/40 & 50 sks 40/70. 288 bbl. Gel Frac.

Perfed Balltown C 3124' - 3137' (16 shots). BD 3081 #. 100 sks 20/40 & 100 sks 40/70. 310 bbl. Gel Frac.

Perfed Balltown B 2976' - 2994' (20 shots). BD 4150#. 150 sks 20/40 & 200 sks 40/70. 520 bbl. Gel Frac

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Formations Encountered:	Top Depth	Bottom Depth	Notes:
FILL	0	12	
SANDY SHALE	12	35	
SANDSTONE	35	65	
SANDY SHALE	65	315	1/2" FW @ 75'
SANDSTONE	315	430	
SANDY SHALE	430	465	
SANDSTONE	465	495	
SANDY SHALE	495	815	DAMP @ 530'
SANDSTONE	815	925	
REDROCK	925	935	
SANDY SHALE	935	975	
REDROCK	975	1015	
SANDY SHALE	1015	1095	
SANDSTONE	1095	1 127	
LITTLE LIME	1127	1142	
PENCIL CAVE SHALE	1142	1170	
BIG LIME	1170	1427	
SANDY SHALE	1427	1454	
WEIR SANDSTONE	1454	1493	
SHALE	1493	1599	
UPPER GANTZ SANDSTONE	1599	1617	
SHALE	1617	1639	
GANTZ SANDSTONE	1639	1755	
SANDY SHALE	1755	2445	
SPEECHLEY B SANDSTONE	2445	2464	
SANDY SHALE	2464	2960	
BALLTOWN B SANDSTONE	2960	3140	
SANDY SHALE	3140	3993	
BENSON SILTSTONE	3993	4003	
SANDY SHALE	4003	4195	
ALEXANDER SILTSTONE	4195	4240	
SANDY SHALE	4240	4403	
1ST ELK SILTSTONE	4403	4444	
SANDY SHALE	4444	4651	
2ND ELK SILTSTONE	4651	4700	
SHALE	4700	4755	
2ND ELK A SILTSTONE	4755	4810	
SANDY SHALE	4810	4885	
3RD ELK SILTSTONE	4885	4935	
SANDY SHALE	4935	5018	·
4TH ELK SILTSTONE	5018	5067	
SANDY SHALE	5067	5213	
5TH ELK SILSTONE	5213	5267	
SHALE	5267	5520	TD

: BENSON	Pay zone Depth (ft)	994' - 40	00'
Co-mingled	MCF/D Oil: Initial open flow	<i>r</i> : 0	Bbl/d
Co-mingled	MCF/D Oil: Final open flow:	0	Bbl/d
n initial and final tests:	Hours		-
Co-mingled	psig(surface pressure) after		_Hours
n: BALLTOWN C			<u>37' </u>
Co-mingled	MCF/D Oil: Initial open flow	<i>r</i> : 0	Bbl/d
Co-mingled	MCF/D Oil: Final open flow:	. 0	Bbl/d
n initial and final tests:	Hours		_
Co-mingled	psig(surface pressure) after		_Hours
BALLTOWN B	Pay zone Depth (ft) 2	.976' - 29'	94'
Co-mingled	MCF/D Oil: Initial open flow	<i>'</i> : 0	Bbl/d
Co-mingled	MCF/D Oil: Final open flow:	0	Bbl/d
n initial and final tests:	Hours		-
Co-mingled	psig(surface pressure) after		_Hours
	Co-mingled Co-mingled n initial and final tests: Co-mingled n: BALLTOWN C Co-mingled Co-mingled n initial and final tests: Co-mingled BALLTOWN B Co-mingled Co-mingled n initial and final tests:	Co-mingled Co-mingled MCF/D Oil: Initial open flow MCF/D Oil: Final open flow: Hours Co-mingled m: BALLTOWN C Co-mingled MCF/D Oil: Final open flow: Pay zone Depth (ft) MCF/D Oil: Initial open flow: MCF/D Oil: Final open flow: MCF/D Oil: Final open flow: Hours Co-mingled MCF/D Oil: Final open flow: Hours Pay zone Depth (ft) Sometime of the property of the	Co-mingled MCF/D Oil: Initial open flow: 0 Co-mingled MCF/D Oil: Final open flow: 0 In initial and final tests: Hours Co-mingled psig(surface pressure) after - In: BALLTOWN C Pay zone Depth (ft) 3124' - 31: Co-mingled MCF/D Oil: Initial open flow: 0 Co-mingled MCF/D Oil: Final open flow: 0 In initial and final tests: Hours Co-mingled psig(surface pressure) after - BALLTOWN B Pay zone Depth (ft) 2976' - 299 Co-mingled MCF/D Oil: Initial open flow: 0 MCF/D Oil: Final open flow: 0 MCF/D Oil: Final open flow: 0 MCF/D Oil: Final open flow: 0 In initial and final tests: Hours