

State of West Virginia
 Division of Environmental Protection
 Section of Oil and Gas

Well Operator's Report of Well Work

Farm Name: **Cowman** Operator Well No. : **Five (5)**

LOCATION: Elevation: **1251** Quadrangle: **Smithburg 7.5**
 District: **West Union** County: **Doddridge**
 Latitude: **39.32123** Feet South of **39** Deg. **19** Min. **16.4** Sec.
 Longitude: **80.73646** Feet West of **80** Deg. **44** Min. **11.3** Sec.

Company:	KEY OIL COMPANY	Casing	Used	Left	Cement
	22 GARTON PLAZA	&	In	In	Fill Up
	WESTON, WV 26452	Tubing	Drilling	Well	Cu Ft
		<u>Size</u>			
Agent:	Jan E. Chapman				
Inspector:	Dave Scranage	11"	30'	Pulled	N/A
Permit Issued:	02-02-12				
Well Work Commenced:	07-19-12	9-5/8"	231'	231'	90 sks. CTS
Well Work Completed:	07-29-12				
Verbal Plugging	N/A	7"	2074'	2074'	300 sks. CTS
Permission granted on:	05-10-12				
Rotary X Cable Rig		4-1/2"	5633'	5633'	300 sks.
Total Depth (feet)	5760'				ETOC 1200'
Fresh water depths (ft)	92'				
Salt water depths (ft)	1600'				
Is coal being mined in area (Y / N)?	No				
Coal Depths (ft):	NA				

OPEN FLOW DATA **Alexander** **5464-5508**
Benson/Riley **4716-5175**
Bradford **4293-4614**

Producing formation **Warren** Pay zone depth (ft) **3525-3640**
 Gas: Initial open flow **90** MCF / D Oil: Initial open flow **Show** Bbl / D
 Final open flow **1073** MCF / D Oil: Final open flow **2** Bbl / D
 Time of open flow between initial and final tests **72** Hours
 Static rock pressure **1460** psig (surface pressure) after **72** Hours

All Formations Comingled.
 Second producing formation Pay zone depth (ft)
 Gas: Initial open flow MCF / D Oil: Initial open flow Bbl / D
 Final open flow MCF / D Oil: 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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 Office of Oil & Gas
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WV Department of
 Environmental Protection

NOTE: ON BACK OF THIS FORM 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 ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: **KEY OIL COMPANY**
 By:  **PRESIDENT**
 Date: **August 13, 2012**

Cowman #5 (47-017-06087)

TREATMENT:

Alexander	(25 holes) 5464-5508	sand, water and N2: 5,000# 80/100 sand, 29,000# 20/40 sand, 449,000 SCF N2, and 200 bbl. water
Benson & Riley	(20 holes) 4716-5175	sand, water and N2: 5,000# 80/100 sand, 30,000# 20/40 sand, 445,000 SCF N2, 209 bbl. water
Bradford	(25 holes) 4293-4614	sand, water and N2: 5,000# 80/100 sand, 23,000# 20/40 sand, 381,000 SCF N2, 180 bbl. water
Warren	(25 holes) 3525-3640	sand, water and N2: 5,000# 80/100 sand, 33,000# 20/40 sand, 405,000 SCF N2, 215 bbl. water

FORMATIONS:

Sand & Shale	0'	2150'
Little Lime	2150'	2160'
Blue Monday	2160'	2170'
Injun	2170'	2280'
Shale	2280'	2450'
Weir	2450'	2510'
Sand	2510'	2630'
Gantz	2630'	2640'
Sand & Shale	2640'	2850'
Gordon	2850'	2860'
Sand & Shale	2860'	3525'
Warren	3525'	3640'
Shale	3640'	4290'
Bradford	4290'	4614'
Shale	4614'	4715'
Riley	4715'	4750'
Shale	4750'	5175'
Benson	5175'	5185'
Shale	5185'	5460'
Alexander	5460'	5510'
Shale	5510'	5760'
TD		5760'