

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. : **Three (3)**

LOCATION: Elevation: **1313** Quadrangle: **Smithburg**
District: **West Union** County: **Doddridge**
Latitude: **6,670** Feet South of **39** Deg. **20** Min. **00** Sec.
Longitude: **7,695** Feet West of **80** Deg. **42** Min. **30** Sec.

Company: **KEY OIL COMPANY** Casing Used Left Cement
22 GARTON PLAZA & In In Fill Up
WESTON, WV 26452 Tubing Drilling Well Cu Ft
Size _____
Agent: **Jan E. Chapman**
Inspector: **David Scranage** 9-5/8" 128 128 70 Cu Ft
Permit Issued: **02-09-09**
Well Work Commenced: **06-26-10** 7" 1226 1226 245 Cu Ft
Well Work Completed: **07-06-10**
Verbal Plugging 4-1/2" 5746 338 Cu Ft
Permission granted on:
Rotary X Cable Rig
Total Depth (feet) **5792'**
Fresh water depths (ft) **158'**
Salt water depths (ft) **1780'**
Is coal being mined in area (Y / N)? **No**
Coal Depths (ft): **50' & 520'**

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MAY 09 2012

OPEN FLOW DATA **Alexander** 5596-5661
Benson 5320-5327
Riley 4839-4870
Producing formation **Warren** Pay zone depth (ft) 3550-3697
Gas: Initial open flow **Show** MCF / D Oil: Initial open flow **Show** Bbl / D
Final open flow **2,698** MCF / D Oil: Final open flow **Show** Bbl / D
Time of open flow between initial and final tests **N/A** Hours
Static rock pressure **1,675** psig (surface pressure) after **48** Hours

WV Department of
Environmental Protection

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

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: *Jan Chapman* PRESIDENT
Date: **August 15, 2010**

Cowman No. 3 (47-017-05797)

TREATMENT:

Alexander 5598-5658 (14 Holes)	500 GA, 50,000# 20/40 Sand & 721 Bbls. 60 Quality Foam
Benson 5321-5335 (13 Holes)	750 GA, 5,000# 80/100 Sand, 25,000# 20/40 Sand & 569 Bbls. 60 Quality Foam
Riley 4840-4869 (13 Holes)	750 GA, 5,000# 80/100 Sand, 25,000# 20/40 Sand & 563 Bbls. 60 Quality Foam
Warren 3650-3691 (13 Holes)	750 GA, 5,000# 80/100 Sand, 45,000# 20/40 Sand & 689 Bbl. 60 Quality Foam

FORMATIONS:

Fill	0	11	
Sand/Shale	11	50	
Coal	50	55	
Sand/Shale	55	520	Hole Damp @ 158
Coal	520	526	
Sand/Shale	526	2120	Hole Wet @ 1780 - 1/2" Stream
Little Lime	2120	2140	Gas Ck @ 2106 - N/S
Big Lime	2140	2240	
Sand/Shale	2240	2475	
Big Injun	2475	2508	Gas Ck @ 2492 - N/S
Sand/Shale	2508	2952	Gas Ck @ 2912 - N/S
Gordon	2952	3604	Gas Ck @ 3600 - N/S
Warren	3604	3710	
Sand/Shale	3710	4810	Gas Ck @ 3902 - N/S
Riley	4810	4890	Gas Ck @ 4800 - Odor
Sand/Shale	4890	5260	Gas Ck @ 5200 - Odor
Benson	5260	5340	
Sand/Shale	5340	5490	
Alexander	5490	5560	Gas Ck @ 5500 - Odor
Sand/Shale	5560	5792	
RTD	5792		