

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

WJ

Well Operator's Report of Well Work

Farm Name: ERNEST COSTILOW, ET. UX. Operator Well No. : W.S. HEFLIN NO. 1

LOCATION: Elevation: 1385' Quadrangle: SMITHBURG

District: WEST UNION County: DODDRIDGE
Latitude: 10350 Feet South of 39 Deg. 20 Min. 00 Sec.
Longitude: 10350 Feet West of 80 Deg. 40 Min. 00 Sec.

Company: KEY OIL COMPANY
22 GARTON PLAZA
WESTON, WV 26452-0000

Agent: JAN CHAPMAN

Inspector: MIKE UNDERWOOD
Permit Issued: 06/19/02
Well Work Commenced: 04/29/04
Well Work Completed: 05/04/04

Verbal Plugging
Permission granted on: _____
Rotary X Cable _____ Rig _____
Total Depth (feet) 3046'
Fresh water depths (ft) 290'
Salt water depths (ft) NONE

Is coal being mined in area (Y / N)? N
Coal Depths (ft): NONE

OPEN FLOW DATA

Producing formation Big Injun
Gas: Initial open flow 84 MCF / d Oil: Initial open flow 2220' - 2264'
Final open flow 582 MCF / d Oil: Final open flow 2268' - 2322'
Time of open flow between initial and final tests N/A Bbl / d
Static rock pressure 120 psig (surface pressure) after 96 Hours

Second producing formation _____
Gas: Initial open flow Commingled MCF / d Oil: Initial open flow _____ Bbl / d
Final open flow Commingled 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.

D000 4691

For: KEY OIL COMPANY

By: *[Signature]*
Date: November 23, 2004

RECEIVED
Office of Oil & Gas
DEC 02 2004
WV Department of Environmental Protection

DEC 23 2004

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
8 5/8"	1400'	1400'	310 sks To Surface
4 1/2"	2990'	2990'	250 sks.

W.S. Hefflin #1 (47-017-4691)
 Three Stage Foam Frac – Universal Well Services

1 st Stage:	Gordon (15 holes) (2900' to 2917')	60 Quality Foam, 500 gal. 15% HCL., 30,000# 20/40 sand, 288,000 SCF N2, 390 bbls foam
2 nd Stage:	Squaw (15 holes) (2289' – 2318')	60 Quality Foam, 500 gal 15% HCl, 25,000# 20/40 sand, 275,000 SCF N2, 330 bbls foam
3 rd Stage:	Big Injun (15 holes) (2240' – 2255')	60 Quality Foam, 500 gal 15% HCl 30,000# 20/40 sand, 290,000 SCF N2, 310 bbls foam

WELL LOG

KB	0	10	
Fill	10	15	
Clay	15	17	
Sand	17	24	
Sand & Shale	24	107	
Shale & Red Rock	107	250	
Sand & Shale	250	421	1/2" water @ 290'
Red Rock	421	431	
Sand & Shale	431	630	
Sand	630	732	
Sand & Shale	732	916	
Red Rock	916	948	
Sand & Shale	948	1268	
Sand	1268	1292	
Sand & Shale	1292	1355	
Sand	1355	1387	
Sand & Shale	1387	2110	
Little Lime	2110	2136	
Blue Monday	2136	2166	
Big Lime	2166	2220	
Big Injun	2220	2264	
Shale	2264	2268	
Squaw	2268	2322	
Shale	2322	2470	
Weir	2470	2612	
Shale	2612	2664	
Berea	2664	2704	
Shale	2704	2860	
Gordon	2860	2924	
Shale	2924	3046	
TD	3046		

Gas Checks
 1952' – No Show
 2205' – Oil Odor
 2426' – Odor
 2870' – 4/10^{ths} – 2" w/water

DEC 23 2015