



R. Valentine #1 (47-017 - 4445)  
Four Stage Foam Frac - Halliburton

1<sup>st</sup> Stage: Alexander ( 14 holes ) ( 5323.75' to 4382.50' ) 60 Quality Foam. 500 gal. 15% HCL.  
60,000# 20/40 sand, 550,000 SCF N2,  
808 bbbls foam.

2<sup>nd</sup> Stage: Benson ( 5 holes ) ( 5061' to 5062' ) 60 Quality Foam. 750 gal 15% HCL.  
Third Riley ( 4 holes ) ( 5002.5' to 5003.25' ) 50,000# 20/40 sand, 481,000 SCF N2,  
Second Riley ( 4 holes ) ( 4899.5' to 4900.25' ) 617 bbbls foam.

3<sup>rd</sup> Stage: Riley ( 10 holes ) ( 4629.25' to 4662.50' ) 60 Quality Foam. 1,000 gal 15% HCL.  
Balltown ( 6 holes ) ( 4426.25' to 4543' ) 5,000# 80/100 sand, 45,000# 20/40 sand,  
502,000 SCF N2, 745 bbbls foam.

4<sup>th</sup> Stage: Balltown (10 holes ) ( 3877.75' to 4246.75' ) 60 Quality Foam. 1,000 gal 15% HCL.  
Speechley ( 2 holes ) ( 3618.50' to 3618.75' ) 5,000# 80/100 sand, 45,000# 20/40 sand,  
502,000 SCF N2, 684 bbbls foam.

WELL LOG

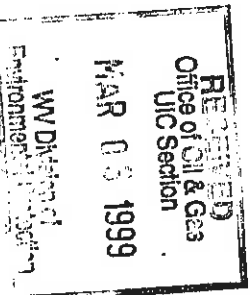
	0	5	Damp @ 45' 1/4" H <sub>2</sub> O @ 110'
Clay		5	
Shell & Red Rock		25	
Red Rock & Shale & Sand	5	258	
Shale & Sand	25	588	
Sand & Shale & Red Rock	258	808	
Lime	588	822	
Sand & Shale & Red Rock	808	1245	
Sand	822	1274	
Shale & Sand	1245	1821	
Sand	1274	1947	
Shale	1821	1953	
Sand	1947	2048	
Little Lime	1953	2084	
Big Lime	2048	2142	
Big Injun	2084	2224	
Shale	2142	2378	
Weir	2224	2495	
Sand & Shale	2378	3440	
Warren	2495	3509	
Shale	3440	3518	
Speechley	3509	3633	
Shale	3518	3830	
Balltown	3633	4568	
Shale	3830	4601	
Riley	4568	4674	
Shale	4601	4848	
Second Riley	4674	4909	
Shale	4848	4950	
Third Riley	4909	5010	
Shale	4950	5058	
Benson	5010	5066	
Shale	5058	5300	
Alexander	5066	5386	
Sand & Shale	5300	5520	
T.D.	5386		
	5520		

GAS CHECKS

2010 - No Show  
2505' - No Show  
3028' - No show  
3709' - No Show  
4600' - No Show  
5002' - No Show  
5220' - No Show  
TD - 2/10<sup>ths</sup> - 1" w/H<sub>2</sub>O

WR-35

10 - Jun - 98  
API # 47 - 17-04445



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

\_\_\_\_\_  
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Well Operator's Report of Well Work

Farm name: VALENTINE, RALPH & JUDITH

Operator Well No. : R. VALENTINE #3

LOCATION: Elevation: 1,078.00

Quadrangle: WEST UNION

District: CENTRAL

County: DODDRIDGE

Latitude: 3760 Feet South of 39 Deg. 17 Min. 30 Sec.

Longitude: 8300 Feet West of 80 Deg. 47

Min. 30 Sec.

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

Agent: JAN E. CHAPMAN

Inspector: MIKE UNDERWOOD  
Permit Issued: 06/10/98  
Well Work Commenced: 06/08/98  
Well Work Completed: 06/12/98  
Verbal Plugging  
Permission granted on: \_\_\_\_\_  
Rotary X Cable \_\_\_\_\_ Rig  
Total Depth (feet) 5520'  
Fresh water depths (ft) 45', 110'  
Salt water depths (ft) NONE

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
8 5/8"	1055'	1055'	300 sks To Surface
4 1/2"	5427'	5427'	380sks
2 3/8"		5303'	

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

OPEN FLOW DATA

Speechley 3518' - 3633'  
Balltown 3830' - 4568'  
Rileys 4601' - 5010'  
Benson 5058' - 5066'  
Alexander 5300' - 5386'

Producing formation \_\_\_\_\_ Pay zone depth (ft) \_\_\_\_\_  
Gas: Initial open flow \_\_\_\_\_ 15 MCF/d Oil: Initial open flow \_\_\_\_\_ 0 Bbl/d  
Final open flow \_\_\_\_\_ 1,475 MCF/d Oil: Final open flow \_\_\_\_\_ show \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ N/A \_\_\_\_\_ Hours  
Static rock pressure \_\_\_\_\_ 1850 psig ( surface pressure ) after \_\_\_\_\_ 96 \_\_\_\_\_ Hours

Second producing formation Commingled 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: \_\_\_\_\_  
Date: February 11, 1999

PRESIDENT

Dodd 4445