



Oil and Natural Gas Industry Workshop

October 24, 2012

Flatwoods, WV



*west virginia department of environmental protection
Promoting a Healthy Environment*

Records Submittal

- WR-35 (Well Record)
- WR-34 (DMR)
- WR-38 (Plugging Affidavit)
- WR-39 (Production Report)



west virginia department of environmental protection
Promoting a Healthy Environment

WR-35

§22-6-22. Well report, logs, core samples and cuttings to be filed; confidentiality and permitted use; authority to promulgate rules.

(a) Within a reasonable time after the completion of the drilling of a shallow well or deep well, the well operator shall file with the secretary and with the state Geological and Economic Survey a completion report containing the following:

(1) The character, depth and thickness of geological formations encountered, including fresh water, coal seams, mineral beds, brine and oil and gas bearing formations; and

(2) Such other information as the secretary may require to effectuate the purposes of this chapter



west virginia department of environmental protection

Promoting a Healthy Environment

WR-35 (cont.)

35-4-12.2. Filing of Well Record and Related Forms.

12.2.a. Within ninety (90) days after the completion of permitted well work, two (2) copies of Form WR-35, "Well Operator's Report of Drilling, Fracturing and/or Stimulating or Physical Change," containing in proper form the geological information required by W. Va. Code §22-6-22, Form WR-36, "Well Operator's Report of Initial Gas-Oil Ratio Test," (except that, where the well has not been connected within such ninety (90) day period to pipelines or production tanks, Form WR-36 shall be filed no more than fifteen (15) days after such connection), Form WR-37, "Pre-Operation Certificate for Liquid Injection or Waste Disposal Well," and Form WR-38, "Affidavit of Plugging and Filling Well," shall be filed by the well owner or operator with the Chief. Such forms need not repeat well record information for any work (whether permitted or not) performed prior to and not part of the permitted work which said forms apply. Such forms shall correct or add to the well log and other records made and preserved at the well location by specifying the casing, treatment, or physical changes performed after completion of the permitted work, and the additional information or corrected information discovered, by electric logs or other means, after completion of the permitted work.



west virginia department of environmental protection

Promoting a Healthy Environment

WR-35
Rev (9-11)

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

DATE: 27-Sept-2011
API #: [REDACTED]

Farm name: [REDACTED] Operator Well No.: [REDACTED]

LOCATION: Elevation: 1104' Quadrangle: [REDACTED]

District: [REDACTED] County: [REDACTED]
Latitude: 3050 Feet South of 39 Deg. 02 Min 30 Sec.
Longitude 1290 Feet West of 81 Deg. 02 Min 30 Sec.

Company: [REDACTED]	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: [REDACTED]	16"	22	22	
Agent: [REDACTED]	11 3/4"	466.4	466.4	295
Inspector: [REDACTED]				
Date Permit Issued: 09/27/2011				
Date Well Work Commenced: 11/16/2011	8 5/8"	2035.2	2035.2	578
Date Well Work Completed: 06/06/2012				
Verbal Plugging:	4 1/2"	6284.4	6284.4	805.4
Date Permission granted on:				
Rotary	Cable	Rig		
Total Vertical Depth (ft):	6315'			
Total Measured Depth (ft):	6315'			
Fresh Water Depth (ft.):	50'			
Salt Water Depth (ft.):	None			
Is coal being mined in area (N/Y)?	N			
Coal Depths (ft.):	440' to 45' 506' to 08'			
Void(s) encounter (N/Y) Depth(s)	N			

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Alexander, 1st & 2nd Elk, Rhinestreet & L. Rhinestreet Pay zone depth (ft) 4994' to 6210'
Gas: Initial open flow show MCF/d Oil: Initial open flow - Bbl/d
Final open flow 100 MCF/d Final open flow show Bbl/d
Time of open flow between initial and final tests 24 Hours
Static rock Pressure 1550 psig (surface pressure) after 72 Hours

JUL 05 2012

Second producing formation Balltown, Bradford, Riley, Benson Pay zone depth (ft) 4009' to 4848'
Gas: Initial open flow show MCF/d Oil: Initial open flow - Bbl/d
Final open flow 100 MCF/d Final open flow show Bbl/d
Time of open flow between initial and final tests 24 Hours
Static rock Pressure 1550 psig (surface pressure) after 72 Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all of the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signed: [REDACTED]
By: [REDACTED] Vice-Pres.
Date: [REDACTED]



Were core samples taken? Yes No Were cuttings caught during drilling? Yes No

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list:

Photo Density/Compensated Neutron/Array Induction Cement Bond/Gamma Ray/Collar

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 DEPTH.

Perforated Intervals, Fracturing, or Stimulating:

6028' to 6210':	1000 gals 15% HCL, 1560 bbls, 149 MSCF Nitrogen, 10,000# 80/100, 50,000# 20/40
5867' to 5969':	500 gals 15% HCL, 140 bbls, 690 MSCF Nitrogen, 25,000# 20/40
5494' to 5718':	500 gals 15% HCL, 130 bbls, 810 MSCF Nitrogen, 26,000# 20/40
4994' to 5112':	500 gals 15% HCL, 700 MSCF Nitrogen
4680' to 4848':	500 gals 15% HCL, 500 MSCF Nitrogen
4009' to 4552':	500 gals 15% HCL, 700 MSCF Nitrogen

Plug Back Details Including Plug Type and Depth(s): None

Formations Encountered	Top Depth	Bottom Depth
Fill	0	2
Sand	2	30
Sand/Shale	30	50
Sand	50	108
Red Rock	108	169
Sand/Shale	169	275
Red Rock/Shale	275	286
Sand/Shale	286	326
Red Rock/Shale	326	440
Coal	440	445
Red Rock	445	506
Coal	506	508
Sand/Shale	508	764
Red Rock/Shale	764	812
Shale	812	830
Red Rock/Shale	830	1080
Sand	1080	1107
Sand/Shale	1107	1760
Sand	1760	1806
Sand/Shale	1806	1825
Coal	1825	1828



west virginia department of environmental protection

Promoting a Healthy Environment

Sand/Shale	1828	1910
Maxon	1910	1956
Red Rock/Shale	1956	1984
Big Lime	1984	2094
Injun	2094	2163
Sand/Shale	2163	2565
Berea	2565	2660
Sand/Shale	2660	2737
Gordon	2737	2740
Sand/Shale	2740	3529
Warren	3529	3531
Shale	3531	4009
Speechly	4009	4084
Shale	4084	4151
Balltown	4151	4272
Shale	4272	4527
Bradford	4527	4543
Shale	4543	4678
Riley	4678	4801
Shale	4801	4842
Benson	4842	4846
Shale	4846	4993
Alexander	4993	5112
Shale	5112	5396
1st Elk	5396	5436
Shale	5436	5671
2nd Elk	5671	5720
Shale	5720	5866
Rhinestreet	5866	6236
Shale	6236	6315
Total Depth		6315

JUL 05 1982



west virginia department of environmental protection

Promoting a Healthy Environment

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

DATE: 10-2-2012
API #: [REDACTED]

Farm name [REDACTED] Operator Well No. [REDACTED]

LOCATION: Elevation [REDACTED] Quadrangle [REDACTED]

District: [REDACTED] County: [REDACTED]
Latitude: 8200' Feet South of 40 Deg. 00 Min. 00 Sec.
Longitude 5250' Feet West of 80 Deg. 40 Min. 00 Sec.

Company: [REDACTED]

Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
[REDACTED]	20"	125'	125'	Driven
Agent: [REDACTED]	13 3/8"	908'	908'	926 Cu. Ft.
Inspector: [REDACTED]	9 5/8"	2260	2260'	948 Cu. Ft.
Date Permit Issued: 11-30-2011	5 1/2"	13528'	13528'	3256 Cu. Ft.
Date Well Work Commenced: 5-5-2012				
Date Well Work Completed: 7-3-2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary <input checked="" type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>				
Total Vertical Depth (ft): 6422'(cement plug @ 5614'-6413')				
Total Measured Depth (ft): 13534'				
Fresh Water Depth (ft.): 175'				
Salt Water Depth (ft.): 1070'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): 823				
Void(s) encountered (N/Y) Depth(s) Y 823'				

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Marcellus Pay zone depth (ft) 6,638'-13,403'

Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d

Final open flow 1,109* MCF/d Final open flow 215 Bbl/d

Time of open flow between initial and final tests 74 Hours *Calculated

Static rock Pressure 4,083* psig (surface pressure) after _____ Hours

OCT 09 2012

Second producing formation Pay zone depth (ft) _____

Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d

Final open flow _____ MCF/d Final open flow _____ Bbl/d

Time of open flow between initial and final tests _____ Hours

Static rock Pressure _____ psig (surface pressure) after _____ Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature [REDACTED]

Date [REDACTED]



Were core samples taken? Yes No

Were cuttings caught during drilling? Yes No

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list _____
GR, neutron, density, and resistivity open hole
logs run from 0'-6,422' MD; LWD GR run from 5,509' MD - 13,534' MD

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 DEPTH.

Perforated Intervals, Fracturing, or Stimulating

(See attached)

Plug Back Details Including Plug Type and Depth(s): **Cement plug @ 5614'-6413'**

100

Formations Encountered:

Top Depth

Bottom Depth

Surface:

(See attached)

OCT 6 1970

[Environmental Engineering](http://www.environmentalengineering.com)



west virginia department of environmental protection
Promoting a Healthy Environment

PERFORATION RECORD ATTACHMENT

Well Number and Name

OCT 23 2012

[Environmental Health Perspectives](#)



west virginia department of environmental protection

Promoting a Healthy Environment

VERTICAL PILOT HOLE

Formation/Lithology	Top Depth, TVD/MD (ft)	Bottom Depth, TVD/MD (ft)
LS	0	180
LS/SS	180	270
SS	270	823
COAL (VOID)	823	830
SS	830	960
SS/SH	960	1290
SS/LS	1290	1350
LS/SH	1350	1410
SS	1410	1900
BIG INJUN (SS)	1900	2108
SH	2108	6202
GENESEO	6202	6224
TULLY	6224	6270
HAMILTON	6270	6341
MARCELLUS	6341	6393
ONONDAGA (LS)	6393	
TD OF PILOT HOLE		6422

**LATERAL SIDETRACK
WELLBORE**

Formation/Lithology	Top Depth, MD (ft)	Top Depth, TVD (ft)	Bottom Depth, MD (ft)	Bottom Depth, TVD (ft)
LS	0	0	180	180
LS/SS	180	180	270	270
SS	270	270	823	823
COAL (VOID)	823	823	830	830
SS	830	830	960	960
SS/SH	960	960	1290	1290
SS/LS	1290	1290	1350	1350
LS/SH	1350	1350	1410	1410
SS	1410	1410	1900	1900
BIG INJUN (SS)	1900	1900	2108	2108
SH	2108	2108	6236	6208
GENESEO	6236	6208	6254	6222
TULLY	6254	6222	6316	6267
HAMILTON	6316	6267	6455	6337
MARCELLUS	6455	6337		
TD OF LATERAL		13534	6307	OCT 03 2012

Environmental Protection



west virginia department of environmental protection

Promoting a Healthy Environment

WR-34

General Permit
GP-WV-1-88

2. Reporting

(a) Permittee shall submit after the discharge, according to the format returned to the permittee following site registration, a Discharge Monitoring Report (DMR) indicating in terms of concentration and/or quantifies, the values of the concentration, and/or quantifies, the values of the constituents listed in Part A analytically determined to be in the pit effluent(s) as well as predischarge data.

(b) The required predischarge and discharge reports should be postmarked no later than 30 days following the discharge and be addressed to:

Chief
Office of Oil and Gas



west virginia department of environmental protection
Promoting a Healthy Environment

WR-38

§22-6-23. Plugging, abandonment and reclamation of well; notice of intention; bonds; affidavit showing time and manner.

All dry or abandoned wells or wells presumed to be abandoned under the provisions of section nineteen of this article shall be plugged and reclaimed in accordance with this section and the other provisions of this article and in accordance with the rules promulgated by the secretary.

When the plugging, filling and reclamation of a well have been completed, an affidavit, in triplicate, shall be made (on a form to be furnished by the secretary) by two experienced persons who participated in the work, the secretary or the secretary's designated representative, in which affidavit shall be set forth the time and manner in which the well was plugged and filled and the land reclaimed. One copy of this affidavit shall be retained by the well operator, another (or true copies of same) shall be mailed to the coal operator or operators, if any, and the third to the secretary.



WR-38 (cont.)

35-4-12.2. Filing of Well Record and Related Forms.

12.2.a. Within ninety (90) days after the completion of permitted well work, two (2) copies of Form WR-35, "Well Operator's Report of Drilling, Fracturing and/or Stimulating or Physical Change," containing in proper form the geological information required by W. Va. Code §22-6-22, Form WR-36, "Well Operator's Report of Initial Gas-Oil Ratio Test," (except that, where the well has not been connected within such ninety (90) day period to pipelines or production tanks, Form WR-36 shall be filed no more than fifteen (15) days after such connection), Form WR-37, "Pre-Operation Certificate for Liquid Injection or Waste Disposal Well," and Form WR-38, "Affidavit of Plugging and Filling Well," shall be filed by the well owner or operator with the Chief. Such forms need not repeat well record information for any work (whether permitted or not) performed prior to and not part of the permitted work which said forms apply. Such forms shall correct or add to the well log and other records made and preserved at the well location by specifying the casing, treatment, or physical changes performed after completion of the permitted work, and the additional information or corrected information discovered, by electric logs or other means, after completion of the permitted work.



WR-39

- **§35-4-15. Reports.**
 -
 -
 - 15.1. Annual Reports of Oil and Gas Production.
 - 15.1.a. An annual report of oil and gas production for each well shall be filed with the Chief on or before the succeeding March 31. This report shall be on Form WR-39, "Report of Annual Production," or in such form as the Chief may approve. The report must identify and state the production from every oil and gas well not yet plugged and abandoned, regardless of the status of the well. The data shall be submitted by the well operator. Oil shall be reported in barrels, and gas shall be reported in thousand cubic feet.
 - 15.1.b. Measurement of Oil -- The volume of oil production shall be determined through the standard practices of common carriers in the State of West Virginia. The report on volume of oil shall be the same volume on which the royalty interest was determined and shall be acceptable "pipeline quality."
 - 15.1.c. Measurement of Gas.
 - 15.1.c.1. If a meter has been set for each well, the gas production for each well shall be reported, with each well identified by API number or, if no API number exists, by the operator's well number.
 - 15.1.c.2. If common or master meter measurement is in use, the wells subject to common measurement shall be identified by API number, and production estimated for each such well shall be reported.
 - 15.1.c.3. If calculated value is in use and no measurement of gas is available for an individual well or group of wells, the calculated volume of gas production using accepted engineering methods shall be reported, the wells so measured shall be identified by API number, and the production estimate for each such well shall be reported if such estimates are made.
 - 15.1.d. Failure to submit an annual report of oil or gas as required by this rule or to provide proof of an existing use or a bona-fide future use under 35 CSR 5 shall constitute a rebuttable presumption that the well is abandoned by the operator.



West Virginia Department of Environmental
Protection
Office of Oil and Gas
601 57th Street, SE
Charleston, WV 25304
304-926-0450
www.dep.wv.gov



west virginia department of environmental protection
Promoting a Healthy Environment