



FILE NO. P.D.C. #4 - P.9.20  
 DRAWING NO. 1  
 SCALE 1" = 500'  
 MINIMUM DEGREE OF ACCURACY 1 IN 200  
 PROVEN SOURCE OF ELEVATION ALKIRE HILL EXIT OFF RT. 50 = 826'

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF MINES.  
 (SIGNED) Paul G. Dearn, Sr.  
 R.P.E. 1856 L.L.S. \_\_\_\_\_

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 FORM IV-6 (8-78)



DATE JUNE 3, 1982  
 OPERATOR'S WELL NO. 1815-2  
 API WELL NO. 47 - 085 - 5734  
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION

WELL TYPE: OIL  GAS \_\_\_\_\_ LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_  
 (IF "GAS,") PRODUCTION \_\_\_\_\_ STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW   
 LOCATION: ELEVATION 928' WATER SHED NUTTER FORK  
 DISTRICT GRANT COUNTY RITCHIE  
 QUADRANGLE SCHULTZ 7 1/2' St. Marys SW  
 SURFACE OWNER WESTVACO ACREAGE 52.7 Ac.  
 OIL & GAS ROYALTY OWNER GRIFFIN PRODUCING CO. LEASE ACREAGE 1800 Ac.  
 LEASE NO. 347900  
 PROPOSED WORK: DRILL  CONVERT \_\_\_\_\_ DRILL DEEPER \_\_\_\_\_ REDRILL \_\_\_\_\_ FRACTURE OR STIMULATE \_\_\_\_\_ PLUG OFF OLD FORMATION \_\_\_\_\_ PERFORATE NEW FORMATION \_\_\_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_  
 TARGET FORMATION MARCELLUS SHALE ESTIMATED DEPTH 5900'  
 WELL OPERATOR PETROLEUM DEVELOPMENT DESIGNATED AGENT JOHN R. MITCHELL  
 ADDRESS P.O. BOX 26 ADDRESS P.O. BOX 26  
BRIDGEPORT W.V. BRIDGEPORT W.V.



PROPOSED WORK ORDER

THIS IS AN ESTIMATE ONLY:  
ACTUAL INFORMATION MUST BE SUBMITTED ON FORM IV-35 UPON COMPLETION

DRILLING CONTRACTOR (IF KNOWN) \_\_\_\_\_  
Address \_\_\_\_\_

GEOLOGICAL TARGET FORMATION, Marcellus Shale

Estimated depth of completed well, 5900 feet Rotary x / Cable tools \_\_\_\_\_ /

Approximate water strata depths: Fresh, 388 feet; salt, 500 feet.

Approximate coal seam depths: N/A Is coal being mined in the area? Yes \_\_\_\_\_ / No xx /

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft	New	Used	For drilling	Left in well		
Conductor									Kinds
Fresh Water	9 5/8"					420'	420'	cement to surface	
Coal									Sizes
Intermediate	7 5/8"					3500'	3500'	cement to surface	
Production						open hole	to TD		Depths set
Tubing									
Liners									Perforations:
									Top Bottom

NOTE: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code § 22-4-2, (iii) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code § 22-4-12a, and (v) if applicable, the consent required by Code § 22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-2 filed in connection therewith.

THIS PERMIT MUST BE POSTED AT THE WELL SITE.  
ALL PROVISIONS BEING IN ACCORDANCE WITH CHAPTER 22,  
ARTICLE 4 OF THE W. VA. CODE, THE LOCATION IS HEREBY  
APPROVED FOR drilling. THIS PERMIT SHALL EXPIRE  
IF OPERATIONS HAVE NOT COMMENCED BY 3-7-83;  
BY [Signature]

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code 22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof.

WAIVER

The undersigned coal operator \_\_\_\_\_ / owner \_\_\_\_\_ / lessee \_\_\_\_\_ / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: \_\_\_\_\_, 19 \_\_\_\_\_

By \_\_\_\_\_  
Its \_\_\_\_\_

IV-35  
(Rev 8-81)



Date October 13, 1982  
Operator's 1815-2  
Well No. \_\_\_\_\_  
Farm Griffin Producing Co.  
API No. 47 - 085 - 5734

**RECEIVED**  
State of West Virginia

JAN 17 1983 Department of Mines  
OIL AND GAS DIVISION Oil and Gas Division  
WV DEPARTMENT OF MINES

WELL OPERATOR'S REPORT  
OF  
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil  / Gas  / Liquid Injection  / Waste Disposal   
(If "Gas," Production  / Underground Storage  / Deep  / Shallow )

LOCATION: Elevation: 928' Watershed Nutter Fork  
District: Grant County Ritchie Quadrangle Schultz 7 1/2'

COMPANY PETROLEUM DEVELOPMENT CORPORATION  
ADDRESS PO Box 26, Bridgeport, WV 26330  
DESIGNATED AGENT John R. Mitchell  
ADDRESS PO Box 26, Bridgeport, WV 26330  
SURFACE OWNER Westvaco  
ADDRESS c/o W.V. Woodlands, Mgr, Parkersburg, WV  
MINERAL RIGHTS OWNER Griffin Producing Company  
ADDRESS 320 South Boston, Suite #1504, Tulsa, OK  
OIL AND GAS INSPECTOR FOR THIS WORK Samuel  
N. Hersman ADDRESS PO Box 66, Smithville, WV  
PERMIT ISSUED June 23, 1982  
DRILLING COMMENCED 8/20/82  
DRILLING COMPLETED 8/28/82  
IF APPLICABLE: PLUGGING OF DRY HOLE ON  
CONTINUOUS PROGRESSION FROM DRILLING OR  
REWORKING. VERBAL PERMISSION OBTAINED  
ON \_\_\_\_\_

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.	30'		
<del>15-16</del> 1 3/4	356'	356'	200 sks
9 5/8			
8 5/8	1927'	1927'	470 sks
7			
5 1/2			
4 1/2	5686'	5686'	655 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Marcellus Shale Depth 5900 feet  
Depth of completed well 5714 feet Rotary  / Cable Tools \_\_\_\_\_  
Water strata depth: Fresh 174 feet; Salt \_\_\_\_\_ feet  
Coal seam depths: 223, 857, 1212 Is coal being mined in the area? no

OPEN FLOW DATA  
Producing formation Devonian Shale Pay zone depth 3070-5667 feet  
Gas: Initial open flow 400 Mcf/d Oil: Initial open flow 0 Bbl/d  
Final open flow 650 Mcf/d Final open flow 10 Bbl/d  
Time of open flow between initial and final tests 48 hours  
Static rock pressure 1100 psig (surface measurement) after 48 hours shut in  
(If applicable due to multiple completion--)  
Second producing formation \_\_\_\_\_ Pay zone depth \_\_\_\_\_ feet  
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 measurement) after \_\_\_\_\_ hours shut in

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

N<sub>2</sub> & CO<sub>2</sub> 29 perfs - 5260'-5418' Rhinestreet  
 8 perfs - 5498'-5548' son 17 ton CO<sub>2</sub> & 580 MCF N<sub>2</sub>  
 9 perfs - 5633'-5667' marcellus 12 bbl acid  
 N<sub>2</sub> & CO<sub>2</sub> 47 perfs - 4041'-5168' 18 ton CO<sub>2</sub> & 530 MCF N<sub>2</sub>  
 500 gals. acid  
 Huron → Rhinestreet  
 N<sub>2</sub> & CO<sub>2</sub> 40 perfs - 3070'-3956' 18 ton CO<sub>2</sub> & 570 MCF N<sub>2</sub>  
 Up Dev → Huron

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
KB-GL			0	10	
sand, shale, red rock			10	1661	½" stream H <sub>2</sub> O @ 174'
big lime			1661	1728	
big injun			1728	1840	
sand, shale			1840	2048	
weir			2048	2105	oil @ 2053'
sand, shale			2105	2220	
sunbury shale			2220	2230	
berea			2230	2244	
sand, shale			2244	2340	
gantz			2340	2361	
sand, shale			2361	2608	
gordon stray			2608	2627	
sand, shale			2627	2640	
gordon			2640	2656	
sand, shale			2656	3218	
huron			3218	4350	gas show @ 3434' 2/10 thru 1"
java			4350	4712	
angola			4712	5029	gas show @ 4904' 2/10 thru 1"
rhinestreet			5029	5456	
sonyea			5456	5559	
genesee			5559	5628	
marcellus			5628	5698	
onondaga			5698	5714 TD	gas show @ TD 2/10 thru 1"

5714  
5456  
258

(Attach separate sheets as necessary)

PETROLEUM DEVELOPMENT CORPORATION

Well Operator

By:

Date:

October 13, 1982

*John Mitchell*

Note: Regulation 2.02(i) provides as follows:  
 "The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."