



**WESTFALL LEASE  
WELL NO. 2**

**94 ACRES ±**

NOTE: NO WELLS SHOWN WITHIN 1200'

FILE NO. 10-11  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 400'  
 MINIMUM DEGREE OF ACCURACY 1 / 200  
 PROVEN SOURCE OF ELEVATION WESTFALL WELL NO. 1  
 ELEV. 784'

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) Gregory A. Smith  
 R.P.E. \_\_\_\_\_ L.L.S. 677

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FORM IV-6 (8-78)



DATE DEC. 31, 1982  
 OPERATOR'S WELL NO. 2  
 API WELL NO. \_\_\_\_\_  
47 - 107 - 1261  
 STATE COUNTY PERMIT

**STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION**

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS.") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION ELEVATION 644' WATER SHED LITTLE STILLWELL CREEK  
 DISTRICT CLAY COUNTY WOOD  
 QUADRANGLE KANAWHA 7.5' Elizabeth 15' NW  
 SURFACE OWNER W. K. WESTFALL et. ux. ACREAGE 94  
 OIL & GAS ROYALTY OWNER W. K. WESTFALL et. ux. LEASE ACREAGE 212.5  
 LEASE NO. \_\_\_\_\_

PROPOSED WORK: DRILL X 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 \_\_\_ 6-6 unnamed (10)  
 TARGET FORMATION MARCELLUS ESTIMATED DEPTH 4900'  
 WELL OPERATOR APCC OIL & GAS CORP. DESIGNATED AGENT RICHARD H. BRUMBAUGH  
 ADDRESS 100 S. ORANGE ST. SUITE 909 ADDRESS 212 COURT ST.  
ORLANDO, FL 32807 SPENCER, W.V. 25778

**MAY 16 1983**

LONGITUDE 81° 27' 30" 11,840' 1921 Groom



Date November 12, 1983  
 Operator's  
 Well No. 5  
 Farm Westfall  
 API No. 47-107-1261

State of West Virginia  
 Department of Mines  
 Oil and Gas Division

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

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

Elevation: 644 G.L. Watershed Little Stillwell Creek  
 District: Clay County Wood Quadrangle Kanawha 7.5 min.

COMPANY Appco Oil and Gas Corporation  
 ADDRESS 100 S. Orange Ave. Suite 909 Orlando, Fla. 32801  
 DESIGNATED AGENT Richard Rumbaugh  
 ADDRESS 212 Court Street Spencer, W.V. 25276  
 SURFACE OWNER W.K. Westfall et ux.  
 ADDRESS Route 1 Box 184 Davisville, W.V. 26142  
 MINERAL RIGHTS OWNER W.K. Westfall et ux.  
 ADDRESS Route 1 Box 184 Davisville, W.V. 26142  
 OIL AND GAS INSPECTOR FOR THIS WORK Same as  
 ADDRESS P.O. Box 66 Smithville, W.V. 26178  
 PERMIT ISSUED April 28, 1983  
 DRILLING COMMENCED July 18, 1983  
 DRILLING COMPLETED July 21, 1983  
 APPLICABLE: PLUGGING OF DRY HOLE ON  
 CONTINUOUS PROGRESSION FROM DRILLING OR  
 WORKING. VERBAL PERMISSION OBTAINED  
N/A

Casing Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"			
9 5/8			
8 5/8	814'	814'	Back to Surface
7			
5 1/2			
4 1/2	4148'	4148'	500 ft. <sup>3</sup>
3			
2			
Liners used			

LOGICAL TARGET FORMATION Marcellus Shale Depth 4800' feet  
 Depth of completed well 4204 feet Rotary  / Cable Tools   
 Water strata depth: Fresh 100± feet; Salt 925' feet  
 Coal seam depths: N/A Is coal being mined in the area? NO

FLOW DATA

Producing formation Devonian Shale Pay zone depth 3863-3957 feet  
 Gas: Initial open flow 350 Mcf/d Oil: Initial open flow 0 Bbl/d  
 Final open flow 75 Mcf/d Final open flow 0 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.

Perforations : <sup>Huron</sup> 3963 to 3957 20 .39 holes

Stimulation : 11MMSCF Nitrogen

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Permian + Pennsylvanian			surface	814'	
interbedded ss, sh, + LS			814'	925'	
First Salt Sand			925'	1063'	show water, hole got wet
siltstone and shale			1063'	1188'	trace coal
Second Salt Sand			1188'	1247'	
siltstone and shale			1247'	1414'	trace sandstone
Third Salt Sand			1414'	1442'	
siltstone and shale			1442'	1485'	
Maxton Sandstone			1485'	1532'	picked up more water ! , tr. fluor
silty shale			1532'	1539'	
Greenbrier Limestone			1539'	1585'	
siltstone and shale			1585'	1602'	
Big Injun Sandstone			1602'	1690'	slight show of gas, tr. fluor.
siltstone and shale			1690'	2042'	trace sandstone
Sunbury Shale			2042'	2061'	"coffee shale" Berea Absent
siltstone and shale			2061'	2371'	
Gordon Siltstone			2371'	2405'	no shows
siltstone and shale			2405'	3754'	
LOWER HURON Shale			3754'	3964'	slight odor in samples
siltstone and shale			3964'	4204'	
					Driller's T.D. 4260' Huron @
					Logger's T.D. 4204' ID

4260  
2061  
2199

(Attach separate sheets as necessary)

Appco Oil & Gas Corporation  
Well Operator

By: Benjamin Smilger Geologist

Date: November 12, 1983

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 ..., encountered in the drilling of a well."



1) Date: \_\_\_\_\_, 19\_\_\_\_  
2) Operator's Well No. \_\_\_\_\_  
3) API Well No. 47 State \_\_\_\_\_ County \_\_\_\_\_ Permit \_\_\_\_\_

DRILLING CONTRACTOR:  
\_\_\_\_\_  
\_\_\_\_\_

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES, OIL AND GAS DIVISION

OIL AND GAS WELL PERMIT APPLICATION

- 4) WELL TYPE: A Oil \_\_\_\_\_ / Gas \_\_\_\_\_  
B (If "Gas", Production \_\_\_\_\_ / Underground storage \_\_\_\_\_ / Deep \_\_\_\_\_ / Shallow \_\_\_\_\_)
- 5) LOCATION: Elevation: \_\_\_\_\_ Watershed: \_\_\_\_\_  
District: \_\_\_\_\_ County: \_\_\_\_\_ Quadrangle: \_\_\_\_\_
- 6) WELL OPERATOR \_\_\_\_\_ 11) DESIGNATED AGENT \_\_\_\_\_  
Address \_\_\_\_\_ Address \_\_\_\_\_
- 7) OIL & GAS ROYALTY OWNER \_\_\_\_\_ 12) COAL OPERATOR \_\_\_\_\_  
Address \_\_\_\_\_ Address \_\_\_\_\_  
Acreage \_\_\_\_\_
- 8) SURFACE OWNER \_\_\_\_\_ 13) COAL OWNER(S) WITH DECLARATION ON RECORD:  
Address \_\_\_\_\_ Name \_\_\_\_\_  
Address \_\_\_\_\_ Name \_\_\_\_\_
- 9) FIELD SALE (IF MADE) TO:  
Address \_\_\_\_\_
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED  
Name \_\_\_\_\_ Address \_\_\_\_\_  
Address \_\_\_\_\_
- 14) COAL LESSEE WITH DECLARATION ON RECORD:  
Name \_\_\_\_\_ Address \_\_\_\_\_
- 15) PROPOSED WORK: Drill \_\_\_\_\_ / Drill deeper \_\_\_\_\_ / Redrill \_\_\_\_\_ / Fracture or stimulate \_\_\_\_\_  
Plug off old formation \_\_\_\_\_ / Perforate new formation \_\_\_\_\_  
Other physical change in well (specify) \_\_\_\_\_
- 16) GEOLOGICAL TARGET FORMATION, \_\_\_\_\_
- 17) Estimated depth of completed well, \_\_\_\_\_ feet
- 18) Approximate water strata depths: Fresh, \_\_\_\_\_ feet; salt, \_\_\_\_\_ feet.
- 19) Approximate coal seam depths: \_\_\_\_\_ Is coal being mined in the area? Yes \_\_\_\_\_ / No \_\_\_\_\_

20) 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									
Coal									Sizes
Intermediate									
Production									Depths set
Tubing									
Liners									Perforations:
									Top Bottom

- 21) EXTRACTION RIGHTS  
Check and provide one of the following:  
 Included in the lease or leases or other continuing contract or contracts by which I hold the right to extract oil or gas.  
 The requirement of Code 22-4-1-(c) (1) through (4). (See reverse side for specifics.)
- 22) ROYALTY PROVISIONS  
Is the right to extract, produce or market the oil or gas based upon a lease or other continuing contract or contracts providing for flat well royalty or any similar provision for compensation to the owner of the oil or gas in place which is not inherently related to the volume of oil or gas so extracted, produced or marketed? Yes  No
- If the answer above is No, nothing additional is needed. If the answer is Yes, you may use Affidavit Form IV-60.
- 23) Required Copies (See reverse side.)
- 24) Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

Notary: \_\_\_\_\_  
My Commission Expires \_\_\_\_\_

Signed: \_\_\_\_\_  
Its: \_\_\_\_\_

OFFICE USE ONLY  
DRILLING PERMIT

Date

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 10) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

Permit expires \_\_\_\_\_ unless drilling is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing	Fee
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Administrator, Office of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.