

← 2400' →

LATITUDE 38° 40'

LONGITUDE 81° 50'

**WILLIAM F. CUNNINGHAM**  
D.B. 1827/703  
T.M. 124/24  
81 ACRE PARCEL

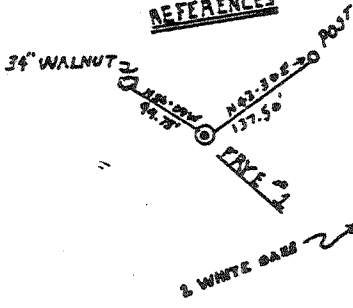
**JAMES D. FRYE**  
D.B. 188/579  
T.M. 125/11  
30 ACRES  
P/O 165.19 ACRES

**JAMES D. FRYE**  
D.B. 188/579  
T.M. 125/11  
58 ACRES  
P/O 165.19 ACRES

**WILLIAM F. CUNNINGHAM**  
D.B. 185/703  
T.M. 125/24

**WILLIAM F. CUNNINGHAM**  
D.B. 185/703  
T.M. 125/24  
16 ACRE PARCEL

**REFERENCES**



NORTH



TOPO LOCATION

38 38 30  
81 50 35

FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 500 FT.  
MINIMUM DEGREE OF ACCURACY 1/16 200  
PROVEN SOURCE OF ELEVATION 8.M. 984 APPROX.  
6100' N.W.

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) Michael F. Hoff  
R.P.E. #6023 L.L.S. \_\_\_\_\_

APPLIED FOR  
PLACE SEAL HERE

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



Department of Mines  
Oil & Gas Division

DATE JANUARY 15, 1981  
OPERATOR'S WELL NO. FRYE #1  
API WELL NO.  
47-079-1018  
STATE COUNTY PERMIT

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
(IF "GAS", PRODUCTION \_\_\_ STORAGE \_\_\_ DEEP X SHALLOW \_\_\_)  
LOCATION: ELEVATION 860' WATER SHED SPRING VALLEY BRANCH  
DISTRICT UNION COUNTY PUTNAM  
QUADRANGLE ELMWOOD Winfield C  
SURFACE OWNER JAMES D. FRYE ACREAGE 55  
OIL & GAS ROYALTY OWNER JAMES D. FRYE LEASE ACREAGE 55  
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 \_\_\_  
TARGET FORMATION ORISKANY ESTIMATED DEPTH 5300'  
WELL OPERATOR CABOT OIL AND GAS CORP DESIGNATED AGENT TIM CRAMLETT  
ADDRESS P.O. Box 628 ADDRESS P.O. Box 628  
CHARLESTON, WVA CHARLESTON, W.V.A.  
Midway Exit Charleston, W.V.

6-6

278  
278

MAR 23 1981



**RECEIVED**

State of West Virginia  
Department of Mines  
Oil and Gas Division

Date April 19, 1982  
Operator's Well No. #1  
Farm Frye  
API No. 47 - 079 - 1018

APR 21 1982

OIL AND GAS DIVISION  
WV DEPARTMENT OF MINES

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

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

LOCATION: Elevation: 860' Watershed Spring Valley Branch  
District: Union County Putnam Quadrangle Elmwood

COMPANY Cabot Oil & Gas Corporation  
ADDRESS P.O. Box 628, Chas., WV 25322  
DESIGNATED AGENT Richard P. Parsons  
ADDRESS P.O. Box 628, Chas., WV 25322  
SURFACE OWNER James D. Frye  
ADDRESS Rt1, Box 37, Robertsburg, WV 25172  
MINERAL RIGHTS OWNER SAME AS ABOVE  
ADDRESS \_\_\_\_\_  
OIL AND GAS INSPECTOR FOR THIS WORK Martin Nichols  
P.O. Box 554 Clendenin, WV 25045  
PERMIT ISSUED 3-6-81  
DRILLING COMMENCED 6-5-81  
DRILLING COMPLETED 6-14-81

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cord.			
13-10"			
9 5/8	662'	662'	210 sks
8 5/8			
7	2646'	2646'	450 sks
5 1/2			
4 1/2	4982'	4982'	140 sks
3			
2 -3/8"	1084'	1084'	
Liners used	500' cem plug w/Baker Bridge Plug set @ 4800'		

IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON \_\_\_\_\_

GEOLOGICAL TARGET FORMATION Shale Depth 4988 feet  
Depth of completed well 4992 feet Rotary XX / Cable Tools \_\_\_\_\_  
Water strata depth: Fresh \_\_\_\_\_ feet; Salt \_\_\_\_\_ feet  
Coal seam depths: \_\_\_\_\_ Is coal being mined in the area? \_\_\_\_\_

OPEN FLOW DATA  
Producing formation Shale Pay zone depth 3920'-4112' feet  
Gas: Initial open flow TSTM Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 321 Mcf/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests 4 hours  
Static rock pressure 820 psig (surface measurement) after 72 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

(Continue on reverse side)

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

8-1-81 - Perf'd Shale from 3920'-4112- (13 holes). Spotted 250 gals 15% HCL. Broke down @ 1700#. Treated w/15,000# 80/100 & 45,000# 20/40, and 440,000 SCF N<sub>2</sub>. Total fluid 240 bbls (190 bbls sand laden). Avg treating press: 3550#. Avg Inj rate: 6.5 BPM/w/18,000 SCF N<sub>2</sub>. ISIP: 1600#.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Sand & Shale			0	1150	No coal or water reported.
Sand			1150	1300	Uphole drilled on fluid.
Shale			1300	1390	
Sand			1390	1427	
Sand & Shale			1427	1550	No log available above 1100'.
Sand & Shale			1550	1580	
Sand			1580	1645	
Shale & Sand			1645	1696	
Sand			1696	1760	
Sandy Shale			1760	1836	
Sand			1836	1995	
Big Lime			1995	2050	
Sandy Shale			2050	2120	
Injun Sand			2120	2496	
Sandy Shale			2496	2522	
Black Shale			2522	2540	
Berea Sand			2540	2640	Temperature Log Shows
Sandy Shale			2640	4750	3720-3850
Shale			4570	4838	4200-4250
Onondaga Lime			4838	4856	4840
Oriskany Sand			4856	4992	
Helderberg Lime				DTD 4992'	
				LTD 4992'	

(Attach separate sheets as necessary)

CABOT OIL AND GAS CORPORATION

Well Operator

District Drilling Superintendent

By: *Richard P. Ramon*

Date: April 19, 1982

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."



IV-35  
(Rev 8-81)

State of West Virginia  
Department of Mines  
Oil and Gas Division

Date October 21, 1981  
Operator's Well No. #1  
Farm Frye  
API No. 47 - 079 - 1018

WELL OPERATOR'S REPORT  
OF

RECEIVED

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE 30 1981

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

OIL AND GAS DIVISION  
WV DEPARTMENT OF MINES

LOCATION: Elevation: 860' Watershed Spring Valley Branch  
District: Union County Putnam Quadrangle Elmwood

COMPANY Cabot Oil & Gas Corporation  
ADDRESS P.O. Box 628, Chas., WV 25322  
DESIGNATED AGENT Richard P. Parsons  
ADDRESS P.O. Box 628, Chas., WV 25322  
SURFACE OWNER James D. Frye  
ADDRESS Rtl, Box 37, Robertsburg, WV 25172  
MINERAL RIGHTS OWNER SAME AS ABOVE  
ADDRESS \_\_\_\_\_  
OIL AND GAS INSPECTOR FOR THIS WORK Martin Nichols  
P.O. Box 554 Clendenin, WV 25045  
ADDRESS \_\_\_\_\_  
PERMIT ISSUED 3-6-81  
DRILLING COMMENCED 6-5-81  
DRILLING COMPLETED 6-14-81  
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.			
13-10"			
9 5/8	662'	662'	210 sks
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4 1/2	4982'	4982'	140 sks
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2 -3/8"	1084'	1084'	
Liners used	500' cem plug w/Baker Bridge Plug set @ 4800'		

GEOLOGICAL TARGET FORMATION Shale Depth 4988 feet  
Depth of completed well 4992 feet Rotary XX / Cable Tools \_\_\_\_\_  
Water strata depth: Fresh \_\_\_\_\_ feet; Salt \_\_\_\_\_ feet  
Coal seam depths: \_\_\_\_\_ Is coal being mined in the area? \_\_\_\_\_

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Static rock pressure 820 psig (surface measurement) after 72 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

(Continue on reverse side)

NOV 16 1981

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

8-1-81 - Perf'd Shale from 3920'-4112- (13 holes). Spotted 250 gals 15% HCL. Broke down @ 1700#. Treated w/15,000# 80/100 & 45,000# 20/40, and 440,000 SCF N<sub>2</sub>. Total fluid 240 bbls (190 bbls sand laden). Avg treating press: 3550#. Avg Inj rate: 6.5 BPM/w/18,000 SCF N<sub>2</sub>. ISIP: 1600#.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Sand & Shale			0	1550	
Sand			1550	1580	
Shale & Sand			1580	1645	
Sand			1645	1696	
Sandy Shale			1696	1760	
Sand			1760	1836	
Big Lime			1836	1995	
Sandy Shale			1995	2050	
Injun Sand			2050	2120	
Sandy Shale			2120	2496	
Black Shale			2496	2522	
Berea Sand			2522	2540	
Sandy Shale			2540	2640	
Shale			2640	4750	Temperature Log Shows
Onondaga Lime			4570	4838	3720-3850
Oriskany Sand			4838	4856	4200-4250
<u>Helderberg Lime</u>			4856	4992	4840
				DTD 4992'	
				LTD 4992'	

(Attach separate sheets as necessary)

CABOT OIL & GAS CORPORATION

Well Operator

By: Richard M. Law  
Date: 10/22/51

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."



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

RECEIVED  
MAR - 6 1981

Oil and Gas Division

OIL & GAS DIVISION  
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

TO THE DEPARTMENT OF MINES,  
Charleston, W. Va.

DATE March 3, 1981

Surface Owner James D. Frye  
Address Rt 1, Box 37, Robertsburg, WV 25172  
Mineral Owner Same As Above  
Address " " "  
Coal Owner Union Carbide Corporation  
Address Rt 2, Box 224-B, Clendenin, WV 25045  
Attn: William Barker  
Coal Operator Same As Above  
Address " " "

Company Cabot Oil & Gas Corporation  
Address P.O. Box 628, Charleston, WV 25322  
Farm James D. Frye Acres 55  
Location (waters) Spring Valley Branch  
Well No. Frye #1 Elevation 860  
District Union County Putnam  
Quadrangle Elmwood

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 11-18-81

John Burdette  
Deputy Director - Oil & Gas Division

INSPECTOR TO BE NOTIFIED Martin Nichols  
ADDRESS P.O. Box 554, Clendenin, WV 25045  
PHONE 304-548-6993

GENTLEMEN:

The undersigned well operator is entitled to drill upon the above named farm or tract of land for oil and gas, having fee title thereto, (or as the case may be) under grant or lease dated June 29 1978 by James D. Frye et ux made to AED and recorded on the 21st day of Sept. 1978, in Putnam County, Book 60 Page 746  
XXX NEW WELL DRILL DEEPER REDRILL FRACTURE OR STIMULATE  
OIL AND GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1969.

The enclosed plat was prepared by a registered engineer or licensed land surveyor and all coal owners and/or operators have been notified as of the above date.

The above named coal owners and/or operator are hereby notified that any objection they wish to make, or are required to make by Section 3 of the Code, must be received by, or filed with the Department of Mines within ~~15~~ <sup>15</sup> ~~15~~ days. \*

Copies of this notice and the enclosed plat were mailed by registered mail, or delivered to the above named coal operators or coal owners at their above shown respective address \_\_\_\_\_ day \_\_\_\_\_ before, or on the same day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO:

WEST VIRGINIA GEOLOGICAL AND ECONOMIC SURVEY  
P. O. BOX 879  
MORGANTOWN, WEST VIRGINIA 26505  
AC-304 - 292-6331

Address of Well Operator

Very truly yours, Cabot Oil and Gas Corporation  
(Sign Name) [Signature]  
Well Operator

P.O. Box 628  
Street  
Charleston  
City or Town  
West Virginia 25322  
State

\*SECTION 3 . . . If no objections are filed or found by the Department of mines, within said period of ten days from the receipt of notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting the filing of such plat, that no objections have been made by the coal operators or found thereto by the department and that the same is approved and the well operator authorized to proceed.

47-079-1018

PERMIT NUMBER

"I have read and understand the reclamation requirements as set forth in Chapter 22, Article 4, Section 12-b and will carry out the specified requirements."

Signed by \_\_\_\_\_

BLANKET BOND

THIS IS AN ESTIMATE ONLY  
ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION

PROPOSED WORK ORDER TO XX DRILL \_\_\_\_\_ DEEPEN \_\_\_\_\_ FRACTURE-STIMULATE \_\_\_\_\_  
 DRILLING CONTRACTOR: (If Known) \_\_\_\_\_ RESPONSIBLE AGENT: \_\_\_\_\_  
 NAME Clint Hurt & Assoc. Inc NAME R. P. Parsons  
 ADDRESS P.O. Box 1973, Midland, TX 79702 ADDRESS P.O. Box 628, Charleston, WV25322  
 TELEPHONE \_\_\_\_\_ TELEPHONE 304-344-8355  
 ESTIMATED DEPTH OF COMPLETED WELL: 5095-5300 ROTARY XX CABLE TOOLS \_\_\_\_\_  
 PROPOSED GEOLOGICAL FORMATION: Oriskany  
 TYPE OF WELL: OIL \_\_\_\_\_ GAS XX COMB. \_\_\_\_\_ STORAGE \_\_\_\_\_ DISPOSAL \_\_\_\_\_  
 RECYCLING \_\_\_\_\_ WATER FLOOD \_\_\_\_\_ OTHER \_\_\_\_\_

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE	USED FOR DRILLING	LEFT IN WELL	CEMENT FILL UP OR SACKS - CUBIC FT.
20 - 16			
13 - 10			
9 - 5/8	740	740	circ.
8 - 5/8			
7	2750	2750	circ.
5 1/2			
4 1/2	5095	5095	500 SKs
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 50 FEET \_\_\_\_\_ SALT WATER \_\_\_\_\_ FEET \_\_\_\_\_  
 APPROXIMATE COAL DEPTHS 700  
 IS COAL BEING MINED IN THE AREA? No BY WHOM? \_\_\_\_\_

TO DRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, \$100.00 PERMIT FEE, PERFORMANCE BOND AND PERMANENT COPY OF PLAT.

TO DRILL DEEPER OR REDRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, SHOWING ORIGINAL PERMIT NUMBER AND PERFORMANCE BOND. ON WELLS DRILLED PRIOR TO 1929, A PERMANENT COPY OF THE PLAT AND THE ORIGINAL WELL RECORD MUST ALSO BE SUBMITTED.

TO FRACTURE - STIMULATE:

OIL AND/OR GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1929, FIVE (5) COPIES OG - 1, PERFORMANCE BOND, PERMANENT PLAT AND ORIGINAL WELL RECORD.

OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND.

Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty-four (24) hours in advance.

The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt thereof.

WAIVER: I the undersigned, Agent for \_\_\_\_\_ Coal Company, Owner or Operator of the coal under this lease have examined and place on our mine maps this proposed well location.

We the \_\_\_\_\_ Coal Company have no objections to said well being drilled at this location, providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia Code.

\_\_\_\_\_  
For Coal Company

\_\_\_\_\_  
Official Title