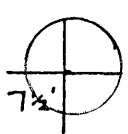
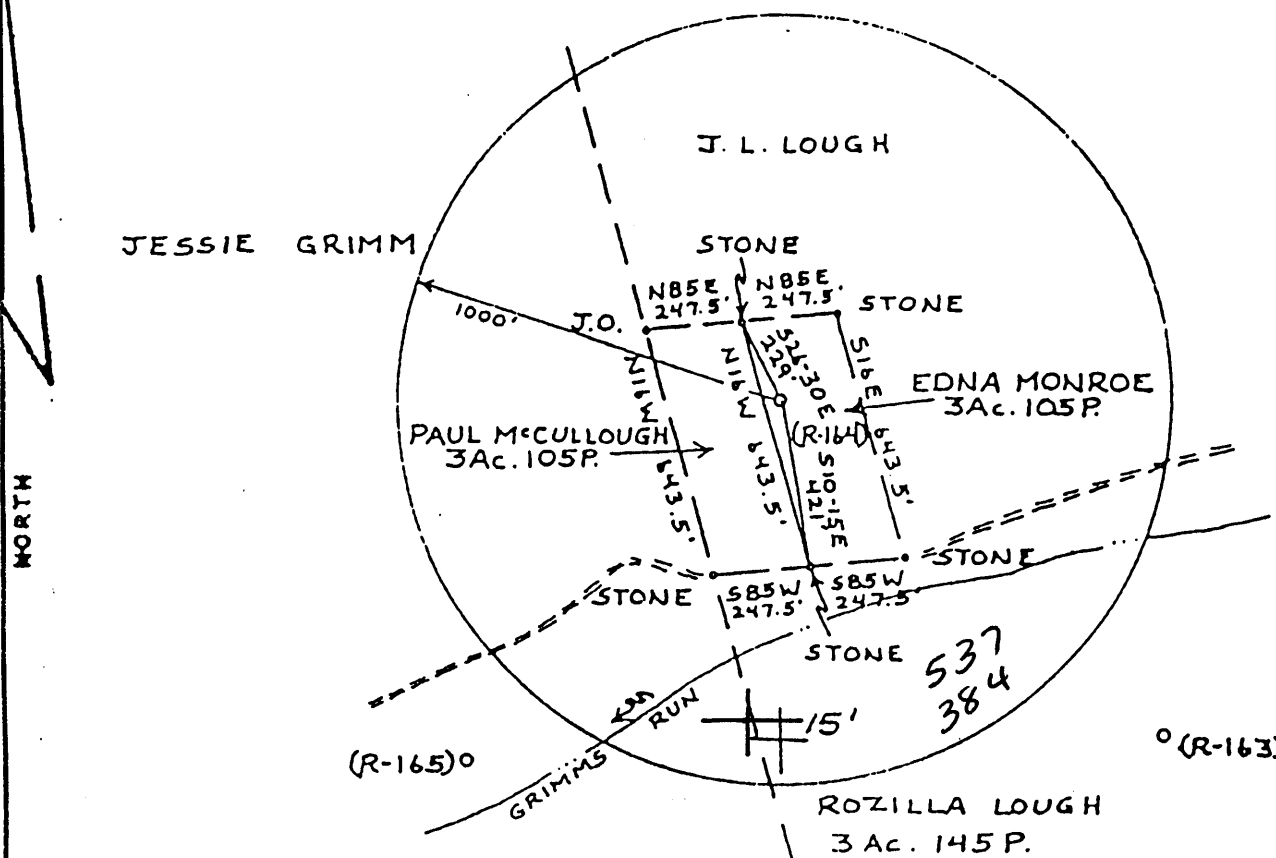


June 12/27/88

8440  
 LATITUDE 39° 27 1/2'  
 (15') 38' 30"  
 13,090' SOUTH  
 8,340' WEST

(15') 80° 52 1/2'  
 LONGITUDE 80° 52 1/2'



2.495  
 1.60

FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 500'  
 MINIMUM DEGREE OF ACCURACY 1:200  
 PROVEN SOURCE OF ELEVATION ROAD INT. 769'

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) William P. Massol  
 R.P.E. \_\_\_\_\_ L.L.S. 551

PLACE SEAL HERE

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



DATE 19 DECEMBER, 19 79  
 OPERATOR'S WELL NO R-164  
 API WELL NO. 47-095-0784-DD  
 STATE COUNTY PERMIT

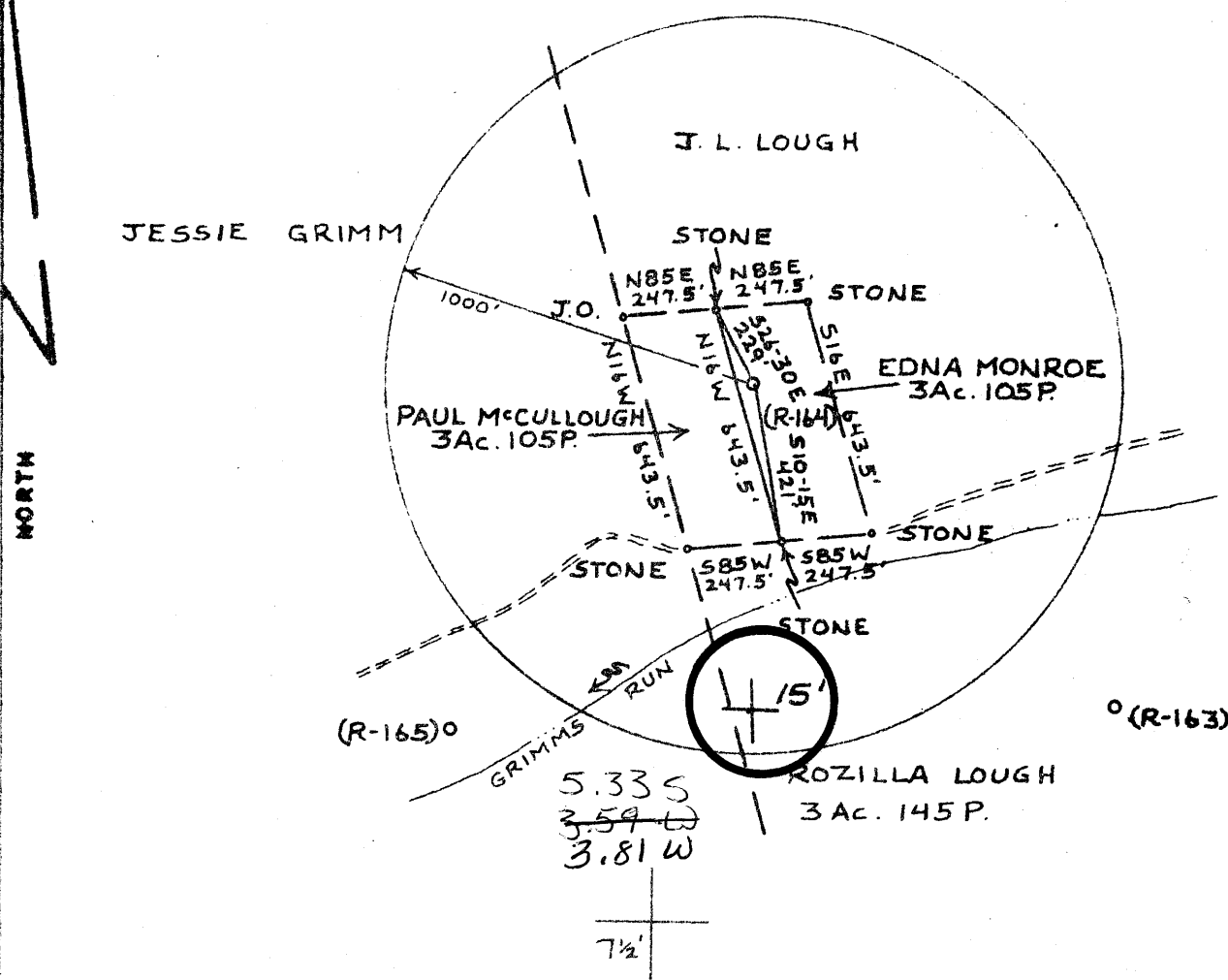
STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION

WELL TYPE: OIL  GAS  LIQUID INJECTION \_\_\_\_\_ WASTE DISPOSAL \_\_\_\_\_  
 (IF "GAS", PRODUCTION  STORAGE \_\_\_\_\_ DEEP \_\_\_\_\_ SHALLOW   
 LOCATION: ELEVATION 1009' WATER SHED GRIMMS RUN  
 DISTRICT CENTERVILLE 1 COUNTY TYLER 470 13 3 2  
 QUADRANGLE MIDDLEBOURNE W.VA. 7 1/2' QUAD, WEST UNION 15' NC-15'  
 SURFACE OWNER EDNA MONROE ACREAGE 3 AC. 105 P.  
 OIL & GAS ROYALTY OWNER EDNA MONROE LEASE ACREAGE 3 AC. 105 P.  
 LEASE NO. \_\_\_\_\_  
 PROPOSED WORK: DRILL \_\_\_\_\_ CONVERT \_\_\_\_\_ DRILL DEEPER  REDRILL \_\_\_\_\_ FRACTURE OR STIMULATE  PLUS OFF OLD FORMATION \_\_\_\_\_ PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_  
 PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUS \_\_\_\_\_  
 TARGET FORMATION BENSON/RILEY ESTIMATED DEPTH 5000F DEC 30 1988  
 WELL OPERATOR D.A.C. DESIGNATED AGENT KENNETH R. MASON  
 ADDRESS P.O. Box 99 ALMA, WV 26320 ADDRESS P.O. Box 99 ALMA, WV 26320

OwPd 6-6 Bearsville (366)

11/21/80  
 LATITUDE  $39^{\circ} 27\frac{1}{2}'$   
 (15')  $39^{\circ} 30'$   
 13,090' SOUTH  
 8,340' WEST

(15')  $80^{\circ} 50'$   
 LONGITUDE  $80^{\circ} 52\frac{1}{2}'$



FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 500'  
 MINIMUM DEGREE OF ACCURACY 1:200  
 PROVEN SOURCE OF ELEVATION ROAD INT. 769'

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) *William L. Messer*  
 R.P.E. \_\_\_\_\_ L.L.S. 551

PLACE SEAL HERE

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



DATE 19 DECEMBER, 19 79  
 OPERATOR'S WELL NO R-164  
 API WELL NO. 47-095-0784  
 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 1009' WATER SHED GRIMMS RUN  
 DISTRICT CENTERVILLE COUNTY TYLER  
 QUADRANGLE MIDDLEBOURNE, W.VA. 7 1/2' QUAD, WEST UNION 15' NC  
 SURFACE OWNER EDNA MONROE ACREAGE 3 AC. 105 P.  
 OIL & GAS ROYALTY OWNER EDNA MONROE LEASE ACREAGE 3 AC. 105 P.  
 LEASE NO. \_\_\_\_\_  
 PROPOSED WORK: DRILL  CONVERT \_\_\_\_\_ DRILL DEEPER \_\_\_\_\_ REDRILL \_\_\_\_\_ FRACTURE OR STIMULATE \_\_\_\_\_ PLUS OFF OLD FORMATION \_\_\_\_\_ PERFORATE NEW FORMATION \_\_\_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_  
 PLUG AND ABANDON \_\_\_\_\_ CLEAN OUT AND REPLUG \_\_\_\_\_  
 TARGET FORMATION UPPER DEVONIAN ESTIMATED DEPTH 3300'  
 WELL OPERATOR C.W. RIGGS, INC. DESIGNATED AGENT C.W. RIGGS  
 ADDRESS BOX 358, ST. MARYS, W.VA. ADDRESS BOX 358, ST. MARYS, W.VA.  
 26170 26170

6-0 Bearsville (366)

MAR 10 1980



Perforate Benson f 4980-4984 with 14 holes Frac as follows

50 sks 80/100, 350 sks 20/40 413 bbls treated fluid

Avg rate = 13.9 bbls/min

Avg psi = 3569 psi

ISIP = 1370#

Well log data

see original OG 10 for details up to 3820 feet

3820 4974 sh

4924 4928 sd

4928 5260 sh

Benson 4924

5260 new TD

3816 - old TP

1444 - new ftg

**RECEIVED**

FEB 22 1989

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

8/60

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

Date Nov 10, 1980

FORM IV-35  
(Obverse)

Operator's MONROE  
Well No. R-164

[08-78]

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

API Well No. 47-095-018  
State County Perm

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

LOCATION: Elevation: 1009' Watershed: GRIMMS RUN  
District: CENTERVILLE County: TYLER Quadrangle: MIDDLEBOURNE, W.VA.

WELL OPERATOR C.W. Riggs, Inc. DESIGNATED AGENT SAME AS OPERATOR  
Address Box 358 Address \_\_\_\_\_  
ST MARKS, W.VA.

PERMITTED WORK: Drill  / Convert \_\_\_ / Drill deeper \_\_\_ / Redrill \_\_\_  
Plug off old formation \_\_\_ / Perforate new formation \_\_\_  
Other physical change in well (specify) \_\_\_\_\_

**RECEIVED**  
NOV 13 1980

PERMIT ISSUED ON 1-18, 1980 OIL & GAS DIVISION  
OIL & GAS INSPECTOR FOR DEPT. OF MINES  
Name Phillip Tracy  
Address MIDDLEBOURNE, W.VA.

GEOLOGICAL TARGET FORMATION: OHIO SHALE Depth 3816 feet  
Depth of completed well, 3816 feet Rotary  Cable Tools \_\_\_  
Water strata depth: Fresh, 125 feet; salt, N/A feet.  
Coal seam depths: N/A Is coal being mined in the area? No  
Work was commenced 8/18, 1980, and completed 8/25, 1980

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		
Conductor								Kinds
Fresh water	<u>10 3/4"</u>		<u>20 #</u>	<input checked="" type="checkbox"/>		<u>2741'</u>	<u>2741'</u>	<u>175 sks</u>
Coal								Sizes
Intermediate								
Production	<u>4 1/2"</u>		<u>10.5 #</u>	<input checked="" type="checkbox"/>			<u>3816'</u>	<u>165 sks</u>
Tubing								Depths set
Liners								Perforations:
								Top Bottom

**RECEIVED**  
NOV 20 1980

OPEN FLOW DATA  
Producing formation OHIO SHALE Pay zone depth 3550 feet  
Gas: Initial open flow, \_\_\_ Mcf/d Oil: Initial open flow, 0 Bbl/d  
Final open flow, 15,000 Mcf/d Final open flow, 0 Bbl/d  
Time of open flow between initial and final tests, 2 hours  
Static rock pressure, 250 psig (surface measurement) after 24 hours shut in  
[If applicable due to multiple completion--]

[08-78]

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

8-50 SHOTS 3449' - 3479'  
4-50 SHOTS 3519' - 3533'

STIMULATION

520,000 SCF, N<sub>2</sub>

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks
1ST COW RUN			718	750*	
2ND COW RUN			1170	1226	Including indication of all fresh and salt water, coal, oil and gas * TOP INTERVAL LOGS
1ST SALT			1309	1356	
2ND SALT			1440	1510	
3RD SALT			1565	1594	
Big Lime			1730	1774	
MAYON			1824	1838	
KEENER			1860	1876	
Big Inj'ion			1904	2109	
SQUAW			2120	2138	
WELCH STRAY			2313	2430	
BEREA			2494	2500	
50ft+			2710	2738	
30ft+			2760	2780	
GORDON			2918	2946	
OHIO SHALE (BROWN SHALE)			2950	TD	TD 3816 - GAS IN SHALE NO OIL STRAY

(Attach separate sheets to complete as necessary)

C. W. Rags, Inc.  
Well Operator  
By: John Cox  
Its: J.P.

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."



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JAN 18 1980

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

OIL & GAS DIVISION  
DEPT. OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

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

Surface Owner Edna Monroe  
Address Centerville, W. Va.  
Mineral Owner Edna Monroe  
Address Centerville, W. Va.  
Coal Owner Edna Monroe  
Address Centerville, W. Va.  
Coal Operator None  
Address \_\_\_\_\_

DATE 1-15-80  
Company C. W. Riggs, Inc.  
Address Box 358, St. Marys, W. Va.  
Farm Monroe Acres 3.1  
Location (waters) Grimms Run  
Well No. R-164 Elevation 1009'  
District Centerville County Tyler  
Quadrangle Middlebourne, W. Va.

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 10-25-80

INSPECTOR  
TO BE NOTIFIED Phil Tracy  
ADDRESS Middlebourne, W. Va.  
PHONE 758-4573

Robert H. [Signature]  
Deputy Director - Oil & Gas Division

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 December 11 19 79 by Edna Monroe made to Loren Bagley and recorded on the 12th day of Dec. 19 79 in Tyler County, Book 222 Page 505

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 ten (10) 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

Very truly yours,  
(Sign Name) [Signature]  
Well Operator

Address Box 358 Street  
of  
Well Operator St. Marys City or Town  
W. Va. 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.

BLANKET BOND

47-095-0784

PERMIT NUMBER

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

PROPOSED WORK ORDER TO   X   **DRILL** \_\_\_\_\_ DEEPEN \_\_\_\_\_ FRACTURE STIMULATE \_\_\_\_\_  
 DRILLING CONTRACTOR: (If Known) \_\_\_\_\_ RESPONSIBLE AGENT \_\_\_\_\_  
 NAME Haught Drilling NAME F. W. Riggs, Inc.  
 ADDRESS Smithville, W. Va. ADDRESS St. Marys, W. Va.  
 TELEPHONE 477-3333 TELEPHONE 684-3974  
 ESTIMATED DEPTH OF COMPLETED WELL: 3550' ROTARY   X   CABLE TOOLS \_\_\_\_\_  
 PROPOSED GEOLOGICAL FORMATION: 5th sand  
 TYPE OF WELL: OIL \_\_\_\_\_ GAS \_\_\_\_\_ COMB \_\_\_\_\_ X \_\_\_\_\_ STORAGE \_\_\_\_\_ DISPOSAL \_\_\_\_\_  
 RECYCLING \_\_\_\_\_ WATER FLOOD \_\_\_\_\_ OTHER \_\_\_\_\_

**TENTATIVE CASING PROGRAM:**

CASING AND TUBING SIZE	USED FOR DRILLING	FEET IN WELL	CEMENT LIFT UP OR SACKS (CUBIC FT)
20 - 16			
13 - 10			
9 - 5/8      250'		250'	cement top-bottom
8 - 5/8			
7			
5 1/2			
4 1/2      3550'		3550'	200 sks.
3			Part Top _____
2			Part Bottom _____
Liners			Part Top _____
			Part Bottom _____

APPROXIMATE FRESH WATER DEPTHS 115' FEET \_\_\_\_\_ SALT WATER \_\_\_\_\_ FEET \_\_\_\_\_  
 APPROXIMATE COAL DEPTHS \_\_\_\_\_  
 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



STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

- 1) Well Operator: DRILLING APPALACHIAN CORPORATION **14425, 1, 170**
- 2) Operator's Well Number: Monroe #1 3) Elevation: 1009'
- 4) Well type: (a) Oil X/ or Gas X/  
(b) If Gas: Production X/ Underground Storage     /  
Deep     / Shallow X/
- 5) Proposed Target Formation(s): Benson/Riley
- 6) Proposed Total Depth: 5100± feet
- 7) Approximate fresh water strata depths: 125
- 8) Approximate salt water depths: n/a
- 9) Approximate coal seam depths: n/a
- 10) Does land contain coal seams tributary to active mine? Yes     / No X/
- 11) Proposed Well Work: Drill deeper, perforate new formation, fracture new formation
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS		FOOTAGE INTERVALS		CEMENT	
	Size	Grade	Weight per ft.	For drilling		Left in well
Conductor						
Fresh Water	10-3/4"		20#	2741'	2741'	175 sks
Coal						
Intermediate						
Production	4-1/2"		10.5#		3816'	165 sks.
Tubing	2-7/8"	upset tubing			5,000±'	200 sks.
Liners						

8160

PACKERS : Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths set \_\_\_\_\_

RECEIVED  
DEC 23 1988

For Division of Oil and Gas Use Only

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY  
WPCP

Fee(s) paid:      Well Work Permit      Reclamation Fund      WPCP  
Plat      WW-9      WW-2B      Bond 500000 Agent       
(Type)

**RECEIVED**  
DEC 23 1988

**DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY**

1) Date: December 19th, 1988  
2) Operator's well number  
Monroe #1  
3) API Well No: 47 - 095 - 0784-DD  
State - County - Permit

**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS**

**NOTICE AND APPLICATION FOR A WELL WORK PERMIT**

<p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>Edna Monroe</u> Address <u>Rt 1, Box A17</u> <u>Alma WV 26320</u></p> <p>(b) Name <u>--</u> Address _____</p> <p>(c) Name <u>--</u> Address _____</p>	<p>5) (a) Coal Operator:</p> <p>Name <u>n/a</u> Address _____</p> <p>(b) Coal Owner(s) with Declaration</p> <p>Name <u>n/a</u> Address _____</p> <p>Name <u>n/a</u> Address _____</p> <p>(c) Coal Lessee with Declaration</p> <p>Name <u>n/a</u> Address _____</p>
<p>6) Inspector <u>Glen Robinson</u> Address <u>Rt 1, #6 Mt. Pleasant Estates</u> <u>Mineral Wells WV 26150</u> Telephone <u>(304)- 489-9162</u></p>	

**TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:**

Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas. OR  
 Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 5 on the above named parties, by:

- Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all 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.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator DRILLING APPALACHIAN CORPORATION

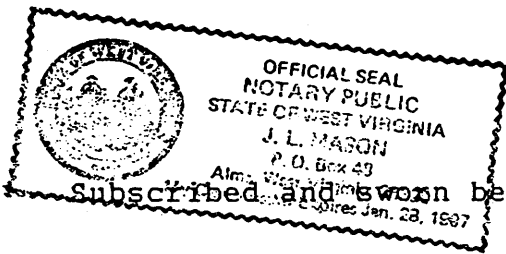
By: Rosemary R. Mason

Its: President

Address PO Box 99, Alma, WV 26320-0099

Telephone 304-758-4638

Subscribed and sworn before me this 19th day of December, 1988



J. L. Mason Notary Public

My commission expires Jan. 28, 1997