



FILE NO. _____
 DRAWING NO. _____
 SCALE 1"=500'
 MINIMUM DEGREE OF ACCURACY 1:300
 PROVEN SOURCE OF ELEVATION B.M. 679'

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) _____
 R.P.E. _____ L.L.S. _____

PLACE SEAL HERE

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



DATE 26 JUNE, 19 80
 OPERATOR'S WELL NO. R-168
 API WELL NO. 47-073-0907
 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 643' WATER SHEET OHIO RIVER
 DISTRICT WASHINGTON COUNTY PLEASANTS
 QUADRANGLE RAVEN ROCK, W.VA. 7 1/2' QUAD. ST MARYS 15' WC
 SURFACE OWNER BEN F. ABICHT ACREAGE 1.5
 OIL & GAS ROYALTY OWNER BEN F. ABICHT LEASE ACREAGE 1.5
 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 _____ CLEAR OUT _____
 TARGET FORMATION 5th SAND OHIO SHALE FEET/INCHES DEPTH 3100' 4000
 WELL OPERATOR E.W. RIGGS OPERATED BY E.W. RIGGS
 ADDRESS Box 358 PHONE Box 358
ST. MARYS, W.VA. 26170 ST. MARYS, W.VA. 26170

FORM IV-35
(Obverse)

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

Date Nov 10, 1980

Operator's ABICKT
Well No. R-168

[08-78]

WELL OPERATOR'S REPORT OF

API Well No. 47-073-0907
State County Perm

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 643 Watershed: OHIO RIVER
District: WASHINGTON County: PLEASANTS Quadrangle: RAVEN ROCK, W.VA.

WELL OPERATOR C. W. Riggs, Inc.
Address Box 358
St. Marys, W.Va.

DESIGNATED AGENT SAME AS OPERATOR
Address _____

RECEIVED

PERMITTED WORK: Drill X / Convert ___ / Drill deeper ___ / Re-drill ___ / Plug off old formation ___ / Perforate new formation ___
Other physical change in well (specify) _____

OIL & GAS DIVISION
DEPT. OF MINES

PERMIT ISSUED ON 7-17, 1980

OIL & GAS INSPECTOR FOR THIS WORK:

(IF APPLICABLE: PLUGGING OF DRY HOLE OR CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED)

Name Phillip Trally
Address MIDDLEBORNE, W.VA.

GEOLOGICAL TARGET FORMATION: OHIO SHALE Depth 3811'

Depth of completed well, 3809' feet Rotary X / Cable Tools ___

Water strata depth: Fresh, 72 feet; salt, N/A feet.

Coal seam depths: N/A Is coal being mined in the area? No

Work was commenced 8/5, 1980, and completed 8/17, 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	13"			X		30'	30'	Kinds
Fresh water	7"		17"	X		1580'	1580'	200sks
Coal								Sizes
Intermediate								
Production	4 1/2"		10.5"	X			3804'	220sks
Tubing								Depth set
Liners								Perforations:
								Top Bottom

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NOV 20 1980

OPEN FLOW DATA

Producing formation Dev OHIO SHALE Pay zone depth 3468'-3774'

Gas: Initial open flow, 185,000 Mcf/d Oil: Initial open flow, 1 Bbl/d

Final open flow, 153,000 Mcf/d Final open flow, 1 Bbl/d

Time of open flow between initial and final tests, 2 hours

Static rock pressure, 1140 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.

3 .50 SHOTS 3059-3062
 6 .50 SHOTS 3123-3148
 16 .50 SHOTS 3180-3298

STIMULATION

1,070,000 SCF, N₂

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Including indication of all fresh and salt water, coal, oil and gas
1530	Top Log				
WELL STRAY			1670	1752	
BURCA			1800	1810	
50ft			1914	1933	
30ft			2030	2092	
GORDON			2190	2210	
White SHALE (Brown SHALE)			2220	3368	OIL & GAS IN 3 DIFFERENT SHALE SECTIONS TD on front 3811

(Attach separate sheets to complete as necessary)

C. G. Pops, INC.
 Well Operator
 By John Cox
 Its V. 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."



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED

JUL 17 1980

OIL & GAS DIVISION
DEPT. OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

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

DATE 7-8-80

Surface Owner B. F. Abicht
Address Eureka, W. Va.
Mineral Owner B. F. Abicht
Address Eureka, W. Va.
Coal Owner B. F. Abicht
Address Eureka, W. Va.
Coal Operator None
Address _____

Company C. W. Riggs, Inc.
Address Box 358, St. Marys, W. Va.
Farm Abicht Acres 147
Location (waters) Ohio River
Well No. R-168 Elevation 643'
District Washington County Pleasants
Quadrangle Raven Rock, 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 3-22-81.

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

John R. Cox
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 Oct. 23 19 79 by B. F. Abicht made to John R. Cox and recorded on the 1st day of Nov. 19 79 in Pleasants County, Book 154 Page 86
 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

Address
of
Well Operator

Very truly yours,
(Sign Name) Charles W. Riggs
Well Operator
Box 358
Street
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

47-073-0907

PERMIT NUMBER

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

PROPOSED WORK ORDER TO DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT:
 NAME Haught Drilling NAME C. W. Riggs, Inc.
 ADDRESS Smithville, W. Va. ADDRESS St. Marys, W. Va.
 TELEPHONE 477-3333 TELEPHONE 684-3974
 ESTIMATED DEPTH OF COMPLETED WELL: 4000' ROTARY CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Ohio Shale
 TYPE OF WELL: OIL _____ GAS _____ COMB. STORAGE _____ DISPOSAL _____
 RECYCLING _____ WATER FLOOD _____ OTHER _____

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE	USED FOR DRILLING	LEFT 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 4000'		4000'	200 sks.
3			
2			Perf. Top
Liners			Perf. Bottom
			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 75' FEET _____ SALT WATER _____ FEET _____
 APPROXIMATE COAL DEPTHS n/a

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