



Longitude 81° 25' 00"

New Location Minimum Error of Closure 1-200
 Drill Deeper Source of Elevation U.S.G.S. B.M. ROSE N. 2. E. 1, 112.0'
 Abandonment "I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia."

Company RAY RESOURCES DIV. BVX.
 Address 630 COMMERCE SQUARE, CHARLESTON WVA.
 Farm M.F. CLEVINGER
 Tract _____ Acres 109 Lease No. _____
 Well (Farm) No. _____ Serial No. 864
 Elevation (Spirit Level) 318.56
 Quadrangle ELIZABETH - 7.5' & 15' SW
 County W. VA. District TUCKER
 Surveyor C. S. Galley Jr.
 Surveyor Registration No. 92
 File No. Bk 53 P 14 Drawing No. _____
 Date 4-26-80 Scale 1" = 500'

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

WELL LOCATION MAP
 FILE NO. 105-0867

+ Denotes location of well on United States Topographic Maps, scale 1 to 24,000 latitude and longitude lines being represented by border lines as shown.
 - Denotes one inch spaces on border line of original tracing.

5725 ORISKANY

Deep well 6-6 5-5

JUN 10 1980

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

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

WELL TYPE: Oil ___ / Gas X / Liquid Injection ___ / Waste Disposal ___
(If "Gas", Production X / Underground storage ___ / Deep ___ / Shallow XX /)
LOCATION: Elevation: 918.56' Watershed: Horse Run
District: Tucker County: Wirt Quadrangle: Elizabeth

WELL OPERATOR Ray Resources Div., BVX DESIGNATED AGENT Same
Address: 630 Commerce Sq. Address _____
Chas., WV 25301

PERMITTED WORK: Drill X / Convert ___ / Drill deeper ___ / Redrill ___ / Fracture or stimulate
Plug off old formation ___ / Perforate new formation ___
Other physical change in well (specify) _____

PERMIT ISSUED ON May 9, 19 80 OIL & GAS INSPECTOR FOR THIS WORK:
(IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED) Name K. Paul Goodnight
Address Smithville, WV 26178
477-2455

GEOLOGICAL TARGET FORMATION: Oriskany Depth: 5758 feet
Depth of completed well, 5758 feet Rotary X / Cable Tools ___
Water strata depth: Fresh, ___ feet; salt, ___ feet.
Coal seam depths: _____ Is coal being mined in the area? NO
Work was commenced 8/21, 1980, and completed 8/30, 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			Left in well
Conductor	13 3/8			X		100.30	100.30	To Surface	Rands
Fresh water									
Coal	8 5/8			X		2236.73	2236.73	450 Sks	Sizes
Intermediate									
Production	4 1/2			X			5729.03	200 Sks	Rechts set
Tubing	2 3/8			X			5693		
Stems									Perforations:
									Top Bottom

OPEN FLOW DATA

Producing formation Oriskany Pay zone depth 5590-5670
Gas: Initial open flow, 0 Mcf/d Oil: Initial open flow, ___ Bbl/d
Final open flow, 327 Mcf/d Final open flow, ___ Bbl/d
Time of open flow between initial and final tests, ___ hours
Static rock pressure, 1900 psig (surface measurement) after ___ hours shut in
[If applicable due to multiple completion--]
Second producing formation None Pay zone depth _____
Gas: Initial open flow, ___ Mcf/d Oil: Initial open flow, ___ Bbl/d
Final open flow, ___ Mcf/d 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

[03-73]

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

Fraced well with 1230 BBLs of Gelled H₂O and 15,000# of 80/100 Sand,
and 55,000# of 20/40 Sand

Breakdown Pressure 2,000 PSI
Maximum Pressure 5,150 PSI
Average Pressure 5,000 PSI
Maximum Rate 31 BPM
Avg. Rate 29/BPM

WELL LOG

FORMATION	Color	Hard or Soft	% Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
Red Rock			0	559	
Shale & Sand			559	746	
Red Rock & Shale			746	1236	
Sand & Shale			1236	1765	
Maxon Sand			1765	1918	
Little Lime			1918	1931	
Shale			1931	1995	
Big Lime			1995	2050	
Injun			2050	2090	
Keener			2090	2160	
Sand & Shale			2160	2260	
Sand & Shale			2260	5300	
Marcillus Shale			5300	5410	
Onondaga Lime			5410	5590	
Oriskany Sand			5590	5670	
<u>Helderburg Lime</u>			5670	5758	
				T.D.	

2522-2534 Senbury
3790-4545 Huron
4746-5210 Rhineland
5210-5312 Seneca
5312-5408 Genesee
5408 Onondaga
5597 Oriskany
5668 Held

(Attach separate sheets to complete as necessary)

RAY RESOURCES DIV. BVX
Well Operator
By J. King Corbett
Its Geologist

NOTE: Regulation 2.02(f) 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
APR 30 1980

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 April 28, 1980

Surface Owner Mary Francis Clevenger

Company Ray Resources Div. of BVX

Address _____

Address Charleston, WV 25301

Mineral Owner Same

Farm Mary Clevenger Acres 104

Address _____

Location (waters) Horse Run

Coal Owner None

Well No. 864 Elevation 918.56

Address _____

District Tucker County Wirt

Coal Operator None

Quadrangle Elizabeth

Address _____

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 1-9-81.

INSPECTOR
TO BE NOTIFIED K. Paul Goodnight

ADDRESS Smithville, WV 26178

PHONE 477-2455

Robert F. [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 Feb. 10th, 1978 by Mary Clevenger made to Ray Resources and recorded on the _____ day of _____ 19 , in Wirt County, Book 153 Page 144

XX 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.

Very truly yours, RAY RESOURCES DIV. OF BVX
(Sign Name) [Signature]
Well Operator

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

630 Commerce Sq.
Street
Charleston,
City or Town
West Virginia 25301
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

47-105-0⁸⁶⁷ 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 [Signature]

[Handwritten initials]

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

PROPOSED WORK ORDER TO XXX DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) _____ RESPONSIBLE AGENT: _____
 NAME Bow Valley Drilling, Inc. NAME Smokey Stover
 ADDRESS Charleston, WV 25301 ADDRESS Culloden, WV
 TELEPHONE 344-8393 TELEPHONE 727-8480
 ESTIMATED DEPTH OF COMPLETED WELL: 5725' 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 13 3/8	30'	30'	To Surface
9 - 5/8			
8 - 5/8	2365	2365	150 Sacks
7			
5 1/2			
4 1/2	5725	5725	250 Sacks
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS _____ FEET _____ SALT WATER _____ FEET _____
 APPROXIMATE COAL DEPTHS None
 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