



Minimum Error of Closure 1:200  
 Source of Elevation Road Forks North of Location  
 El. 634.0'  
 "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."

- New Location
- Drill Deeper
- Abandonment

Company RAY RESOURCES DIV B.V.X.  
 Address 630 COMMERCE SQUARE CHARLESTON WVA  
 Farm H.L. MILLS  
 Tract \_\_\_\_\_ Acres 56.5 Lease No. \_\_\_\_\_  
 Well (Farm) No. \_\_\_\_\_ Serial No. 878  
 Elevation (Spirit Level) 660.0' BELLEVILLE 15'  
 Quadrangle LUBECK WVA - OHIO 7.5' WC  
 County WOOD District HARRIS  
 Surveyor S. J. Wiley Jr.  
 Surveyors Registration No. 92  
 File No. 38-30-87 Drawing No. \_\_\_\_\_  
 Date 3-1-80 Scale 1" = 500'

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

**WELL LOCATION MAP**  
 FILE NO. 107-1054

+ 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.

4000 SHALE **AUG 28 1980**

[08-73]

Operator:  
Well No. 878  
APR 1981 No. 107 1054  
State of West Virginia

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

DEPT. OF MINES, OIL AND GAS DIVISION

WELL OPERATOR'S REPORT 34  
3P

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 X /)

LOCATION: Elevation: 660' Watershed: \_\_\_\_\_  
District: Harris County: Wood Quadrangle: Lubeck (7.5')

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

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

PERMIT ISSUED ON August 15, 1980

OIL & GAS INSPECTOR FOR THIS WORK:  
Name: Paul Goodnight  
Address: Smithville, WV  
477-3660

(IF APPLICABLE: PLUGGING OF DRY HOLE OR CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED  
\_\_\_\_\_, 19\_\_\_\_

GEOLOGICAL TARGET FORMATION: Shale Depth: \_\_\_\_\_ feet  
Depth of completed well, 4134 feet Rotary X / Cable Tools \_\_\_  
Water strata depth: Fresh, 60 feet; salt, \_\_\_ feet.  
Coal seam depths: \_\_\_\_\_ Is coal being mined in the area? NO  
Work was commenced 9-16, 1980, and completed 9-22, 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	Nav Used	For drilling	Left in well		
Conductor	B 3/8			X		20.07	20.07	175 Sks Kinds
Fresh water								
Coal	9-5/8			X		268.50	268.50	110 Sks Sizes
Intermediate	7"			X		1794.97	1794.97	100 Sks Depths set
Production								
Tubing								
Liners								Perforations: Top Section

OPEN FLOW DATA

Producing formation: Shale Pay zone depth: \_\_\_\_\_ ft  
Gas: Initial open flow, 0 Mcf/d Oil: Initial open flow, 30L/d  
Final open flow, 84 Mcf/d Final open flow, 30L/d  
Time of open flow between initial and final tests, \_\_\_\_\_ hours  
Static rock pressure, 800 psig (surface measurement) after \_\_\_\_\_ hours shut in  
[If applicable due to multiple completion--]  
Second producing formation: NONE Pay zone depth: \_\_\_\_\_ ft  
Gas: Initial open flow, \_\_\_\_\_ Mcf/d Oil: Initial open flow, \_\_\_\_\_ 30L/d  
Final open flow, \_\_\_\_\_ Mcf/d Final open flow, \_\_\_\_\_ 30L/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.

Well shot with 14,000# of 80% Hurcules Gelatin by King Torpedo.

WELL LOG

FORMATION	Color	Hard or Soft	39 Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
Red Rock			0	15	
Soap Stone			15	35	
Sand			35	45	
Red Rock			45	50	
Sand & Shale			50	881	
Shale			881	950	
Sand & Shale			950	1508	
Little Lime			1508	1570	
Big Lime			1570	1600	
Big Injun			1600	1670	
Shale			1670	1730	
Sand			1730	1740	
Shale			1740	4134	
				T.D.	Huron @ T.D.

~~4134~~  
~~1670~~  
~~2964 EXPL~~ FT.

4134  
1740  
-----  
2394

(Attach separate sheets to complete as necessary)

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

**NOTE:** Regulation 2.02(d) 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

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

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

DATE August 8, 1980

Surface Owner H. L. Mills

Company Ray Resources Div. BVX

Address Belleville, WV

Address 630 Commerce Sq., Chas., WV 25301

Mineral Owner H. L. Mills

Farm H. L. Mills Acres 56.5

Address Belleville, WV

Location (waters) \_\_\_\_\_

Coal Owner NONE

Well No. 878 Elevation 660

Address \_\_\_\_\_

District Harris County Wood

Coal Operator None

Quadrangle Lubeck (7.5')

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 4-15-81.

INSPECTOR  
TO BE NOTIFIED Paul Goodnight

ADDRESS Smithville, WV

PHONE 477-3660

John B. Burchette  
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~~ <sup>farmout</sup> dated April 2, 1980 by Columbia Gas made to Ray Resources and recorded on the \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_, in \_\_\_\_\_ County, Book \_\_\_\_\_ Page \_\_\_\_\_  
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,  
(Sign Name) Ray Resources Div. BVX (U.S.) Inc.  
[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  
State

RECEIVED  
AUG 1 1980

BLANKET BOND

\*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.

47-107-1054

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]

**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 Ray Resources NAME Smokey Stover  
 ADDRESS Charleston, WV ADDRESS Culloden, WV  
 TELEPHONE 344-8393 TELEPHONE 743-9067  
 ESTIMATED DEPTH OF COMPLETED WELL: 4000' ROTARY XX CABLE TOOLS \_\_\_\_\_  
 PROPOSED GEOLOGICAL FORMATION: Shale  
 TYPE OF WELL: OIL \_\_\_\_\_ GAS \_\_\_\_\_ COMB. XX 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	700	700	To Surface
8 - 5/8			
7	1600	1600	100 Sacks
5 1/2			
4 1/2			
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 60 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.