



Minimum Error of Closure $1/200$
 Source of Elevation Road forks southeast of Location
 E.I. 604.0'
 "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 JOHN S. CATHER
 Tract _____ Acres 205 Lease No. _____
 Well (Farm) No. _____ Serial No. 895
 Elevation (Spirit Level) 649.0' BELLEVILLE 15'
 Quadrangle LUBECK WVA - OHIO 7.5' W.C. 15'
 County WOOD District HARRIS
 Surveyor C. S. Colley Jr.
 Surveyor Registration No. 92
 File No. B 55 P 1 Drawing No. _____
 Date 8-1-80 Scale 1" = 500'

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

WELL LOCATION MAP
 FILE NO. 107-1055

+ Denotes location of well on United States Topographic Maps, scale 1 to 24,500 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

RECEIVED

Date: October 10, 1980

Operator's Well No. 895

APC Well No. 107-1055
35000 County

OCT 17 1980

OIL & GAS DIVISION
DEPT. OF MINES

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

WELL OPERATOR'S REPORT 40

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 649' Watershed: North Fork of Lee Creek
District: Harris County: Wood Quadrangle: Lubeck (7.5')

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

PERMITTED WORK: Drill / 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:

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

Name Paul Goodnight

Address Smithville, WV

477-3660

GEOLOGICAL TARGET FORMATION: Shale Depth 4010 feet

Depth of completed well, 4010 feet Rotary / Cable Tools ___

Water strata depth: Fresh, 60 feet; salt, ___ feet.

Coal seam depths: _____ Is coal being mined in the area? NO

Work was commenced 9-7, 1980, and completed 9-13, 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		55.35	55.35	62 Sks	Kinds
Fresh water									
Coal	9-5/8			X		334.10	334.10	140 Sks	Sizes
Intermediate	7			X		170.71	170.71	100 Sks	
Production	4 1/2			X			3689.20	100 Sks	Deaths set
Tubing									
Liners									Perforations:
									Top Bottom

OPEN FLOW DATA

Producing formation Shale Pay zone depth 1535-4016 feet

Gas: Initial open flow, 0 Mcf/d Oil: Initial open flow, 301/d

Final open flow, 84 Mcf/d Final open flow, 301/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 ___ feet

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

(Continue on reverse side)

[09-73]

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

Faced with 500 gal. of 15% HCL with A-200 Inhibitor, F-78 Surfactant, L-53 Clay Control and Q-22 Non Emulsifier
Pumped 600 MCF of N₂ at 35 BPM

Breakdown Pressure 1400#

Treated at 1900#

WELL LOG

FORMATION	Color	Hard or Soft	40 Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
Sand & Shale			0	1390	
Little Lime			1390	1407	
Big Lime			1407	1475	
Big Injun			1475	1535	
Shale			1535	1900	
Coffee Shale			1900	1916	
Berea			1916	1920	
Shale			1920	4016	
				T.D.	

(Attach separate sheets to complete as necessary)

RAY RESOURCES DIVISION, BVX (U.S.), INC.

Well Operator
By J. Craig Corbett
Its Geologist

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

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

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

DATE August 8, 1980

Surface Owner John S. Cather

Company Ray Resources Div. BVX

Address Parkersburg, WV

Address Charleston, WV

Mineral Owner John S. Cather

Farm John S. Cather Acres 205

Address Parkersburg, WV

Location (waters) North Fork of Lee Creek

Coal Owner None

Well No. 895 Elevation 649'

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

Paul Goodnight
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~~ ^{farmout} 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.

Ray Resources Div. BVX (U.S.), Inc.

Very truly yours,
(Sign Name) *J. Craig Carbett*
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

BLANKET BOND

RECEIVED
AUG 11 1980
DEPARTMENT OF MINES

*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.

47-107-1055

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 *J. Craig Carbett*

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 630 Commerce Sq. Chas., 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	200'	200'	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.

For Coal Company

Official Title