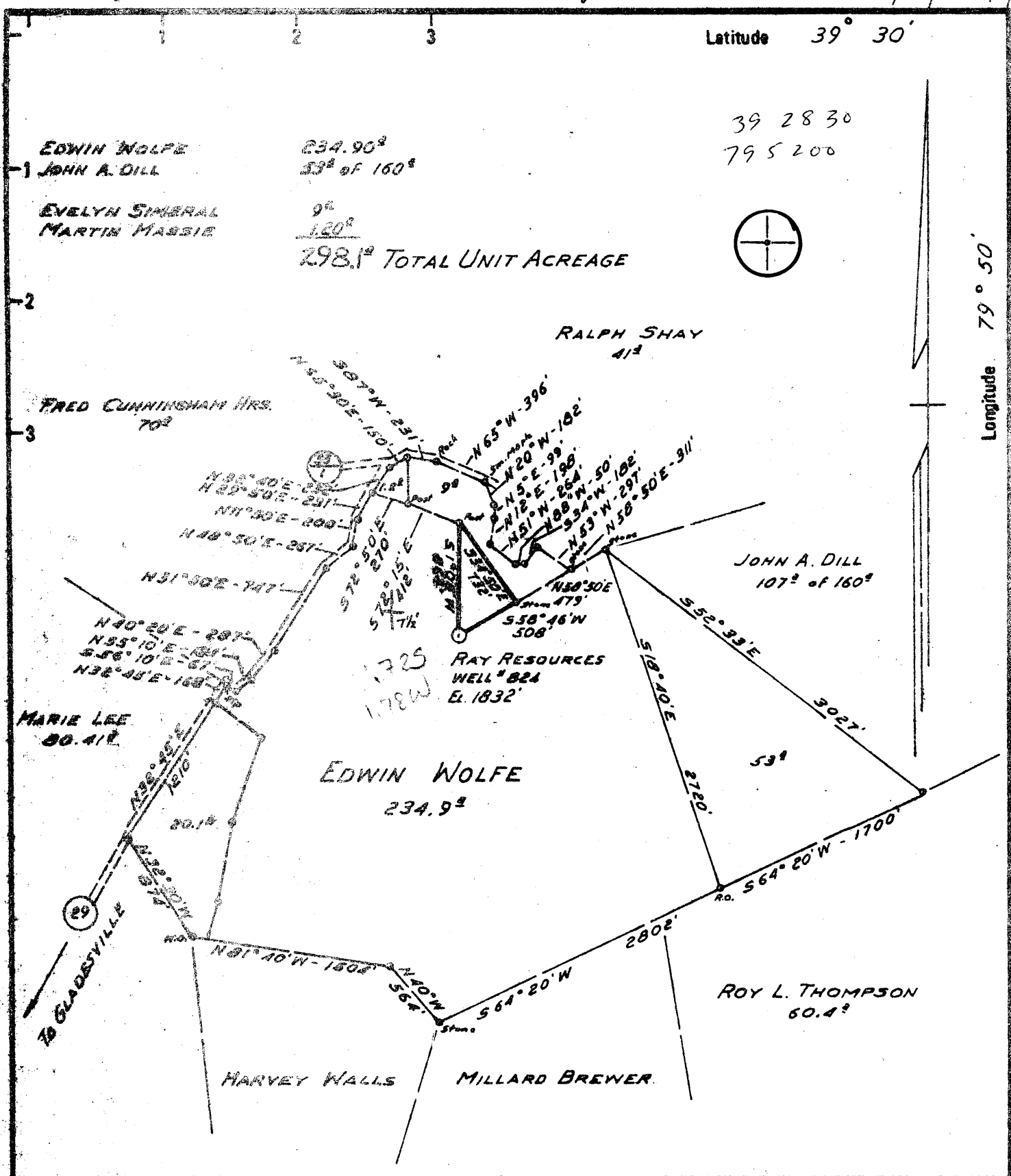


10/23/78 K

Latitude 39° 30'

39 28 30
79 5 200

Longitude 79° 50'



New Location
 Drift Deeper
 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 OF EDOC	
Address	330 COMMERCE SQUARE CHARLESTON W.V. 25301	
Farm	EDWIN WOLFE, John Bunic	
Tract	Acres 234.90	Lease No. _____
Well (Farm) No.	Serial No. 824	(or 25)
Elevation (Spirk Level)	1832'	
Quadrangle	THORNTON	NC
County	PRESTON	District LYONS
Engineer	Daniel L. Woodard	
Engineer's Registration No.	530 L.L.S.	
File No.	O.R. 25	Drawing No. _____
Date	9-12-78	Scale 1" = 1000'

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

WELL LOCATION MAP
 FILE NO. PRES-195

+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500 latitude and longitude lines being represented by border lines as shown.

- Denotes one inch spaces on border line of original tracing.

47-077 NOV 13 1978

Deep Well 7890' H. Chest 6-6 South Burns Chapel (313)

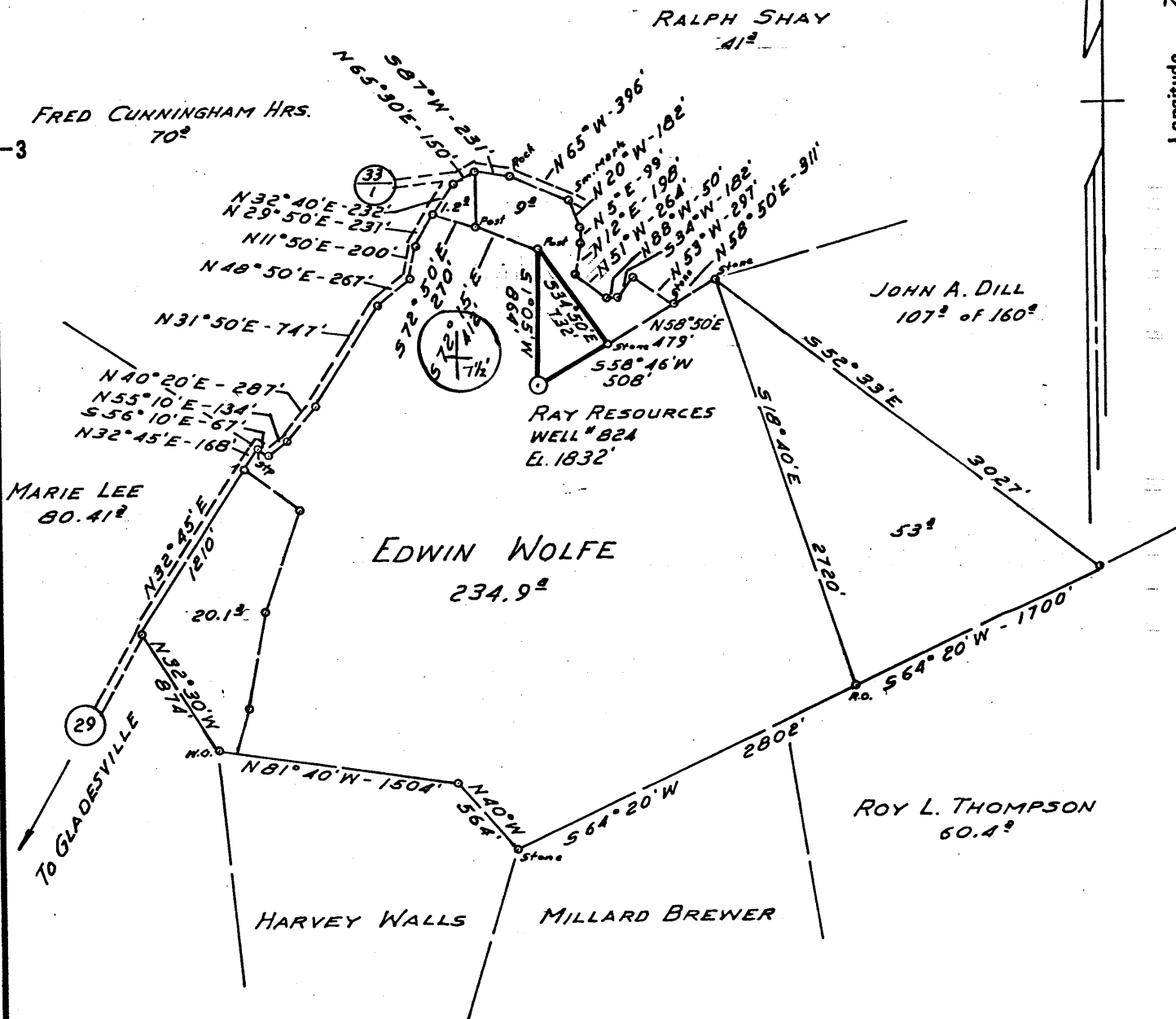
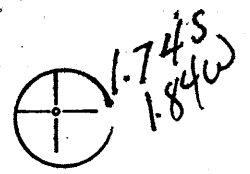
10/23/78 K

Latitude 39° 30'

Longitude 79° 50'

EDWIN WOLFE
JOHN A. DILL
EVELYN SIMERAL
MARTIN MASSIE

234.90[±]
53[±] of 160[±]
9[±]
1.20[±]
298.1[±] TOTAL UNIT ACREAGE



New Location

Drill Deeper

Abandonment

Minimum Error of Closure ONE PART IN 200
 Source of Elevation U. E. CONFLUENCE of FIELDS RUN & Boyds RUN
ELEV. 1712'
 "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 OF EDOC
 Address 630 COMMERCE SQUARE CHARLESTON W.V. 25301
 Farm EDWIN WOLFE, John Burig
 Tract _____ Acres 234.90 Lease No. _____
 Well (Farm) No. _____ Serial No. 824 (06.25)
 Elevation (Spirit Level) 1832'
 Quadrangle THORNTON NC
 County PRESTON District LYONS
 Engineer Daniel L. Wheeler
 Engineer's Registration No. 530 L.L.S.
 File No. O.R. 25 Drawing No. _____
 Date 9-19-78 Scale 1" = 1000'

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

WELL LOCATION MAP
 FILE NO. PRES-195

+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500 latitude and longitude lines being represented by border lines as shown.
 - Denotes one inch spaces on border line of original tracing.

47-077 deep

near 111-6-6 S. Burns Chapel (313)

JUL 27 1979

Date: 7/26, 1979
 Operator's Edwin Wolfe
 Well No. 824
 API Well No. 47-077-195
 State County

OIL & GAS DIVISION
DEPT. OF MINES
 STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES, OIL AND GAS DIVISION

WELL OPERATOR'S REPORT
 OF
DRILLING, FRACURING AND/OR REWORKING, OR PHYSICAL CHANGE

WELL TYPE: OIL ___ / Gas XX / Liquid Injection ___ / Waste Disposal ___
 (If "Gas", Production XX / Underground storage ___ / Deep ___ / Shallow ___)
 LOCATION: Elevation: 1832' Watershed: Fields Creek
 District: Lyon County: Preston Quadrangle: Thornton

WELL OPERATOR BOW VALLEY EXPLORATION (U.S.) INDICATED AGENT William "Smokey" Stover
 Address 630 Commerce Square Address Culloden, W. Va.
Charleston, W. Va. 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 October 2, 1978 OIL & GAS INSPECTOR FOR THIS WORK:
 (IF APPLICABLE: PLUGGING OF DRY SOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED) Name William Blosser
 Address P. O. Box 1028
Colfax, W. Va. 26566

GEOLOGICAL TARGET FORMATION: Huntersville Chert Depth 7546 feet
 Depth of completed well, 7842 feet Rotary X / Cable Tools ___
 Water strata depth: Fresh, 38; 142 feet; salt, ___ feet.
 Coal seam depths: ___ Is coal being mined in the area? No
 Work was commenced 7-20-78, 19___, and completed 3-17, 1979

CASING AND TUBING PROGRAM

500 MCF

CASING OR TUBING TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic Feet)	PACKERS
	Size	Grade	Weight per Foot	Used	For drilling		
Conductor	13-3/8"				90.91	90.91	To Surf. kinds
Fresh water							
Coal							Sizes
Intermediate	8-5/8"	36	X		1334.56	1334.56	475 Sks.
Production	4-1/2"	10.5	X			7832	270 Sks. depths set
Tubing	2-3/8"					7567	
Liners							Perforations: Top Bottom

OPEN FLOW DATA
 Producing formation Huntersville Chert Pay zone depth 7546'
 Gas: Initial open flow, 0 Mcf/d Oil: Initial open flow, ___ Bbl/d
 Final open flow, 500 Mcf/d Final open flow, ___ Bbl/d
 Time of open flow between initial and final tests, ___ hours
 Static rock pressure, 3225 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

[03-79]

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

Chert fraced with 1139 bbls. of water, 35,000# 20/40 Sand, 35,000# 80/100 Sand and 5,000 gals. acid.

Average treatment pressure - 5,092 psi

Average injection rate - 35.2 BPM

ISIP - 4000 psi; after 15 min. 3600 psi

H.H.P. 4393

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Sand & Shale			0	7126	
Tully Lime			7126	7220	
Shale			7220	7530	
Onondaga			7530	7546	
Huntersville Chert			7546	7730	
Oriskany			7730	7770	
Helderburg Lime			7770	7842	Total Depth

(Attach separate sheets to complete if necessary)

BOW VALLEY EXPLORATION (U.S.), INC.

Well Operator

By

For

Geologist

NOTE: Regulation 3.32(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."



RECEIVED

001 2 1978

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

OIL & GAS DIVISION
DEPT. OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

PK

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

DATE October 3, 1978
 Company RAY RESOURCES, DIVISION OF FLYING DIAMOND OIL CORPORATION
 Address 630 Commerce Sq., Charleston, WV
 Farm Edwin Wolfe Acres 23.49 *234.9*
 Location (waters) Fields Creek
 Well No. 824 *OR-25* Elevation 1832'
 District Lyons County Preston
 Coal Operator None Quadrangle Thornton
 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 2-23-79.

INSPECTOR
TO BE NOTIFIED William Blosser
ADDRESS P. O. Box 1028, Colfax, W. Va. 26566
PHONE 363-9105

[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 XXXX~~ ^{Assignment} dated June 1, 1978 by Consolidated Gas made to Ray Resources, Div. FDOC and recorded on the _____ day of _____ 19____, in _____ County, Book _____ Page _____
 XXX 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, RAY RESOURCES, DIVISION OF FLYING DIAMOND OIL CORPORATION
(Sign Name) *[Signature]* Well Operator
630 Commerce Square
Street
Charleston,
City or Town
West Virginia 25301
State

Address of Well Operator

*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

PRES-195 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."

47-077

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, DIV. OF F.D.O.C. NAME William E. Stover
 ADDRESS 630 Commerce Sq., Charleston, WV ADDRESS Culloden, W. Va.
 TELEPHONE 344-8393 TELEPHONE 743-9067
 ESTIMATED DEPTH OF COMPLETED WELL: 7890' ROTARY XX CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: H. Chert
 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	1325'	1325'	To Surface
8 - 5/8			
7			
5 1/2			
4 1/2	7890'	7890'	
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