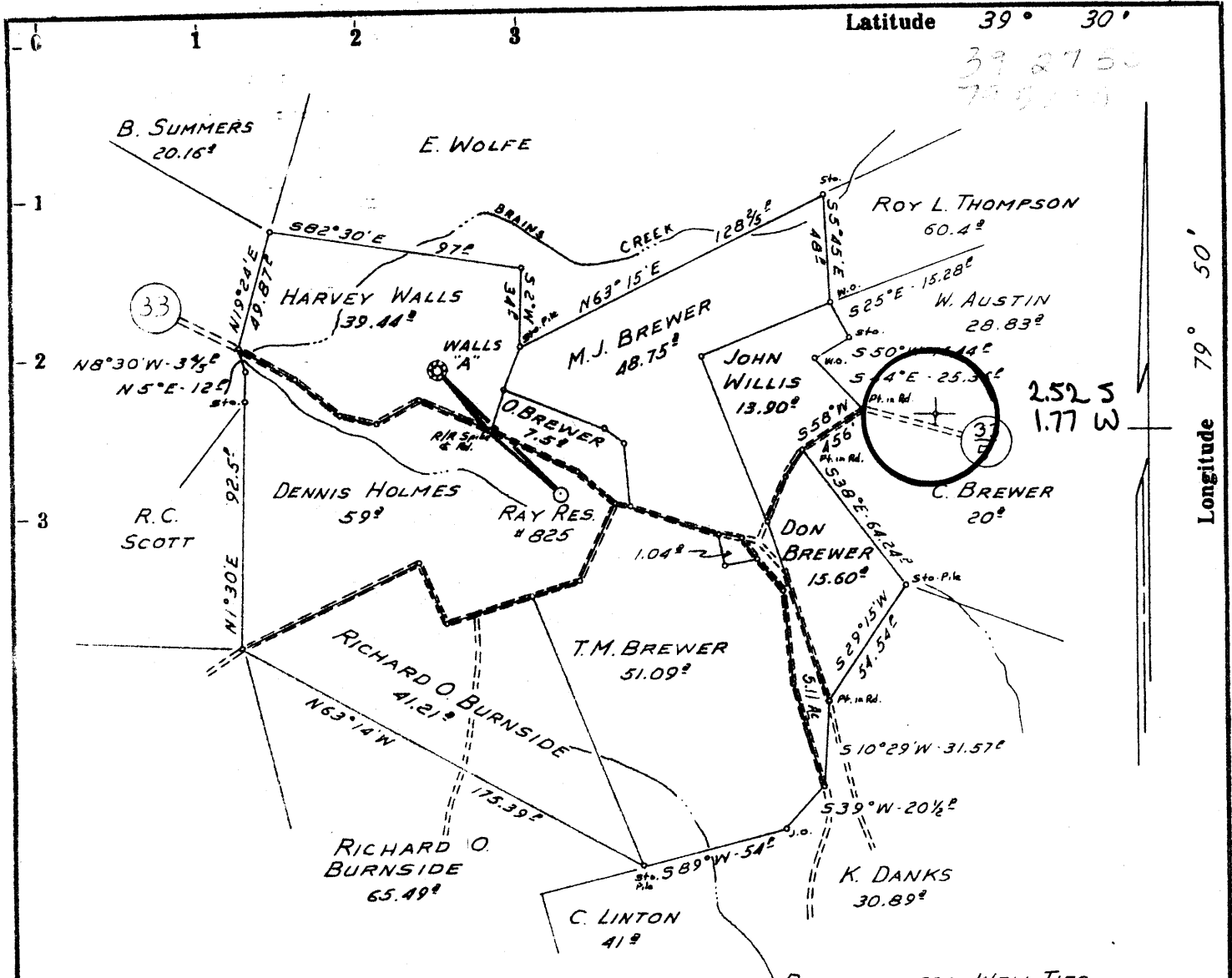


12/15/78



39 27 50
79 50 00

2.525
1.77 W

BEARINGS FOR WELL TIES

- PHILLIPS PET. CO. WALLS "A" to R/R SPIKE & RD 541°43'E-474'
- R/R SPIKE & RD to RAY RES. #825 548°16'E-603'
- PHILLIPS PET. CO. WALLS "A" to RAY RES. #825 545°23'E-1075'
- WALLS "A" ELEV. 1828'
- RAY RESOURCES #825 ELEV. 1819'

0-20615
7510C
2.475
1.76W

UNIT	ACRES
DENNIS HOLMES	59.0
HARVEY WALLS	39.44
R.O. BURNSIDE	41.21
T.M. BREWER	51.09
T.M. BREWER	1.04
KATE DANKS HRS.	5.11
DON BREWER	15.60
J.H. WILLIS	13.90
M.J. BREWER	48.75
OKEY BREWER	7.50
TOTAL	282.64

- Fracture.....
- Redrill.....
- New Location
- Drill Deeper.....
- Abandonment.....

Source of Elevation U.S.G.S. B.M. #35 RHP 1956 ELEV. 1873'

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.

Minimum accuracy, one part in 200

Company RAY RESOURCES
 Address 630 COMMERCE SQUARE CHARLESTON, WEST VIRGINIA 25301
 Farm DENNIS HOLMES, RUSSELL UMSTEAD JR.
 Tract Acres 282.64 Lease No. _____
 Well (Farm) No. 2 (OR-26) Serial No. 825
 Elevation (Spirit Level) 1819'
 Quadrangle THORNTON NC
 County PRESTON District LYON
 Engineer Daniel L. Wheeler
 Engineer's Registration No. 530 L.L.S.
 File No. OR-26 Drawing No. _____
 Date 11-30-78 Scale 1" = 1000'

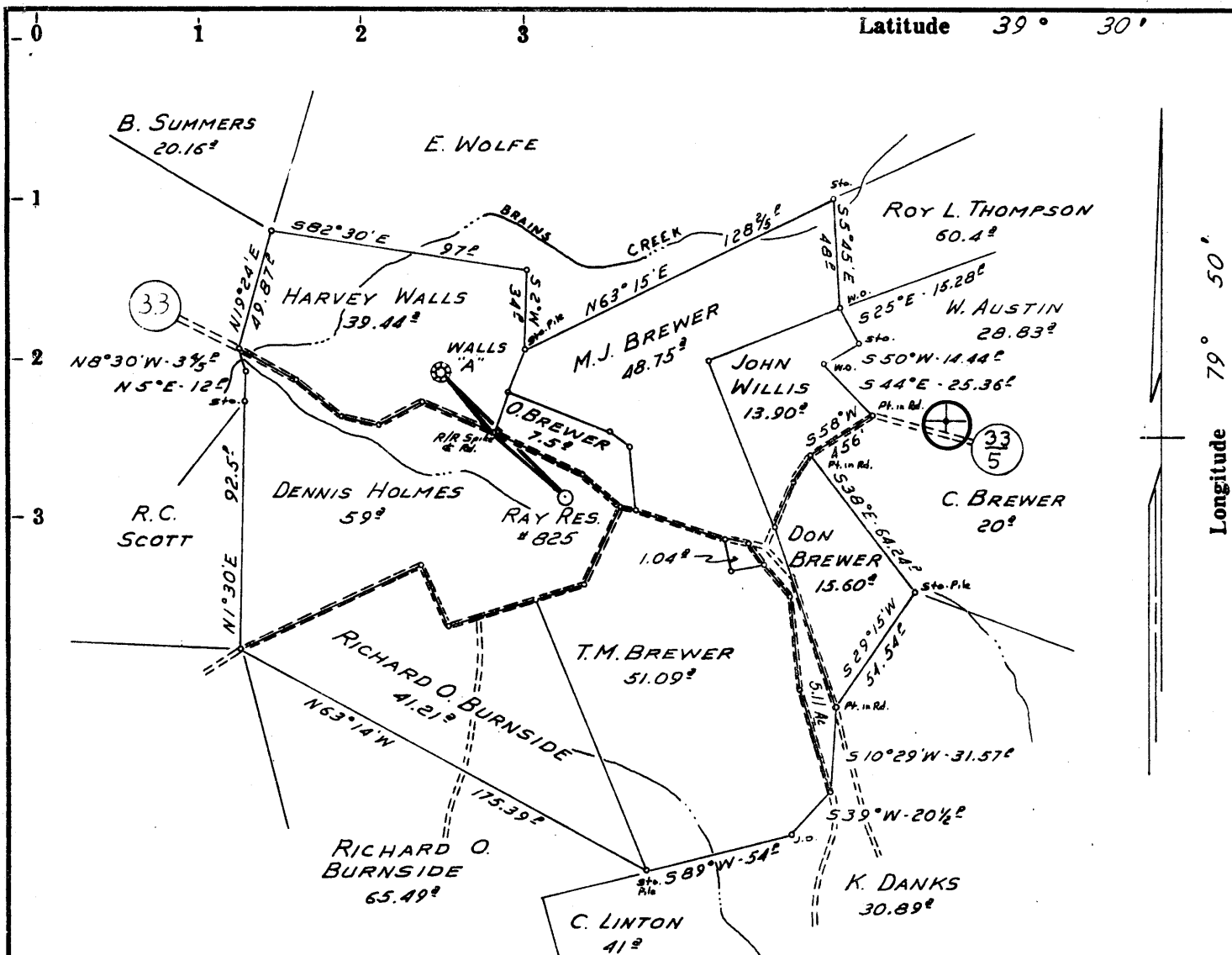
STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. **47-077-0205**
 FORMERLY-47-077-0197

+ 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.

NOV 6 1979

15/10/78



BEARINGS FOR WELL TIES

- PHILLIPS PET. CO. WALLS "A" to R/R SPIKE & RD. 541°43'E - 474'
- R/R SPIKE & OF RD to RAY RES. #825 548°16'E - 603'
- PHILLIPS PET. CO. WALLS "A" to RAY RES. #825 545°23'E - 1075'
- WALLS "A" ELEV 1828'
- RAY RESOURCES #825 ELEV. 1819'

UNIT	ACRES
DENNIS HOLMES	59.0 ²
HARVEY WALLS	39.44
R.O. BURNSIDE	41.21
T.M. BREWER	51.09
T.M. BREWER	1.04
KATE DANKS HRS.	5.11
DON BREWER	15.60
J.H. WILLIS	13.90
M.J. BREWER	48.75
OKEY BREWER	7.50
Total	282.64²

- Fracture
- Redrill
- New Location
- Drill Deeper
- Abandonment

Source of Elevation U.S.G.S. B.M. #35 RHP 1956 ELEV. 1873'

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.

Minimum accuracy, one part in 200

Company RAY RESOURCES
 630 COMMERCE SQUARE
 Address CHARLESTON, WEST VIRGINIA 25301

Farm DENNIS HOLMES, RUSSELL UMSTEAD JR.
 59² OF

Tract _____ Acres 282.64² Lease No. _____

Well (Farm) No. 2 (OR-26) Serial No. 825

Elevation (Spirit Level) 1819'

Quadrangle THORNTON NC

County PRESTON District LYON

Engineer Daniel L. Wheeler

Engineer's Registration No. 530 L.L.S.

File No. O.R-26 Drawing No. _____

Date 11-30-78 Scale 1" = 1000'

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

WELL LOCATION MAP

FILE NO. 47-077-0197

NOW: 47-077-205

+ 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.

JAN 4 1979

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

WELL OPERATOR'S REPORT 13
OF
DRILLING, FRACTURING AND/OR STIMULATIONS, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 1819 Watershed: Brains Creek
District: Lyon County: Preston Quadrangle: Thornton

WELL OPERATOR Ray Resources Div., B.V.X. DESIGNATED AGENT SAME
Address 630 Commerce Square Address
Charleston, W. VA. 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 8-15-79, 19 OIL & GAS INSPECTOR FOR THIS WORK:
(IF APPLICABLE: PLUGGING OF DRY SOLE ON CONTIGUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED) Name William Blosser
Address Box 1028, Colfax, W.VA.
26566 363-9105

GEOLOGICAL TARGET FORMATION: Chert Depth 7575 feet
Depth of completed well, 7867 feet Rotary / Cable Tools
Water strata depth: Fresh, feet; salt, feet.
Coal seam depths: Is coal being mined in the area?
Work was commenced 11-28-, 19 79, and completed 12-20-, 19 79

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS	
	Size	Grade	Weight per foot	New	Used	For drilling			Left in well
Conductor	3-3/8			X		102	102	to surface	Stops
Fresh water									
Coal									Stops
Intermediate	9-5/8			X		1829.80	1829.80	to surface	
Production	4 1/2			X			7865.00	270 sacks	Depth set
Tubing	2-3/8"			X			7526.21		
Liners									Perforations: 7578 7650

REGISTERED
JAN 21 1980

OIL & GAS DIVISION
DEPT. OF MINES
OPEN FLOW DATA
Producing formation Chert Pay zone depth 7578
Gas: Initial open flow, Mcf/d Oil: Initial open flow, bbl/d
Final open flow, 1100 Mcf/d Final open flow, bbl/d
Time of open flow between initial and final tests, hours
Static rock pressure, 3200 psig (surface measurement) after hours shut in
[If applicable due to multiple completion--]
Second producing formation 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

(Continue on reverse side)

[03-73]

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

Chert fraced with 58,500# 80/100 p.s.i., 60,000 20/40 sand, and 6,500 Gal HCl, 1291 Bbls H2O
 Average Treatment Pressure - 5,000 p.s.i. - 5,500 p.s.i. max pressure
 Average Injection Rate - 37B.P.M. - Max. Rate - 41B.P.M.
 ISIP - 4,100 p.s.i. - 15 min shut in pressure - 3,300 p.s.i.
 HHP - 4264

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
Shale			115	202	
Sand			202	274	
RR			274	292	
Sand			292	306	
Black Shale			306	311	
Shale			311	336	
Sand			336	382	
RR			382	390	
Sand			390	564	
Shale			564	588	
Sand			588	640	
RR			640	650	
Sandy Shale			650	786	
RR			786	891	
Sandy Shale			896	935	
Sand			935	1156	
Sandy Shale			1156	1206	
Sand			1206	1290	
Shale			1290	1303	
Sand			1303	1326	
Shale			1326	1423	
Sand			1423	1509	
Shale			1509	1521	
Sand			1521	1542	
Sandy Shale			1542	1910	
Shale			1910	3965	
Sandy Shale			3965	3985	
Shale			3985	6929	
Shale			6929	7164	
Lime			7164	7243	
Shale			7243	7560	
Lime			7560	7575	
Chert			7575	7760	
Oriskany			7760	7800	
TD				7867	

(Attach separate sheets so complete as necessary)

Ray Resources Division, B.V.X.
 Well Operation
 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

DEPARTMENT OF MINES

OIL AND GAS WELL PERMIT APPLICATION

DEC 11 1978

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

Surface Owner Russell A. Umstead, Jr.
Address Independence, W. Va.
Mineral Owner Dennis Holmes, et al
Address Route 1, Independence, W. Va.
Coal Owner _____
Address _____
Coal Operator _____
Address _____

DATE December 7, 1978
Company RAY RESOURCES, DIVISION OF FLYING DIAMOND OIL CORPORATION
Address 630 Commerce Sq., Charleston, WV
Farm Dennis Holmes Acres 59 of 282.64
Location (waters) Brains Creek
Well No. 825 (OR-26) Elevation 1819'
District Lyon County Preston
Quadrangle Thornton

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions being in accordance with Chapter 27, of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 4-15-79.

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

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 Assignment grant or lease dated June 1, 1978 by Consolidated Gas made to Ray Resources, Div. FDOC 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.

PLEASE SUBMIT COPIES OF ALL GEOPHYSICAL LOGS DIRECTLY TO:

Very truly yours,
(Sign Name) Tom L. Rogsdale
Well Operator

W. VA. OIL & GAS CONSERVATION COMMISSION
1613 WASHINGTON STREET, EAST
CHARLESTON, WEST VIRGINIA 25311

Address of Well Operator
630 Commerce Square
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.

Pres- 197 PERMIT NUMBER
47-077

"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 Tom L. Rogsdale

**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 Stover
 ADDRESS 630 Commerce Sq., Charleston, WV ADDRESS Culloden, W. Va.
 TELEPHONE 344-8393 TELEPHONE 743-9067
 ESTIMATED DEPTH OF COMPLETED WELL: 7880' 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	90'	90'	100 Sks.
9 - 5/8	1350'	1350'	325 Sks.
8 - 5/8			
7			
5 1/2			
4 1/2	7880'	7880'	300 Sks.
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 70' FEET _____ SALT WATER _____ FEET _____
 APPROXIMATE COAL DEPTHS _____
 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.

DEPARTMENT OF MINES AND METALS
 STATE OF WEST VIRGINIA
 SEP 20 1978

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



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED

OCT 11 1979

Oil and Gas Division

OIL & GAS DIVISION
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

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

Surface Owner Russell A. Umstead, Jr.
Address Independence, W. Va.
Mineral Owner Dennis Holmes, et al
Address Route 1, Independence, W. Va.
Coal Owner _____
Address _____
Coal Operator _____
Address _____

DATE October 11, 1979
RAY RESOURCES DIVISION
Company BOW VALLEY EXPLORATION (U.S.) INC
Address 630 Commerce Sq., Charleston, W. Va.
Farm Dennis Holmes Acres 59 of 282.6
Location (waters) Brains Creek
Well No. 825 (OR-26) Elevation 1819'
District Lyon County Preston
Quadrangle Thornton

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 6-15-80.

Robert L. Bell
Deputy Director - Oil & Gas Division

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

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 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 _____

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.

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,
(Sign Name) Ray G. Goble
Well Operator

RAY RESOURCES DIVISION
BOW VALLEY EXPLORATION (U.S.) INC

Address 630 Commerce Square
Street
of
Well Operator 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.

(Formerly: PRES-197)

PRES-205 PERMIT NUMBER
47-077

"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 Ray G. Goble
BLANKET BOND

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 Bow Valley Drilling Inc. NAME Smokey Stover
 ADDRESS Charleston, W. Va. 25301 ADDRESS Culloden, W. Va.
 TELEPHONE 344-8393 TELEPHONE 743-9067
 ESTIMATED DEPTH OF COMPLETED WELL: 7860' 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	90'	90'	To Surface
9 - 5/8	1,820'	1,820'	To Surface
8 - 5/8			
7			
5 1/2			
4 1/2	7,860'	7,860'	300 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