

MINIMUM ERROR OF CLOSURE _____

SOURCE OF ELEVATION Borg-Warner Corp. Conc. Mon. No. 1 El. 644.337'

RELOCATION

New Location

Drill 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 Borg-Warner Corp.

Address Woodmar Plant, Washington, W.Va.

Farm Borg-Warner Corp.

Tract _____ Acres 190.79 Lease No. _____

Well (Farm) No. 2 Serial No. _____

Elevation (Spirit Level) 686.77' PARKERSBURG 15' FILE NO. W00-765-REV

Quadrangle Little Hocking 7 1/2 Series

County Wood District Lubeck

Engineer [Signature] P.E. 4-1-11

Engineer's Registration No. W. Va. # 8643

File No. _____ Drawing No. _____

Date March 27, 1977 Scale 1" = 200'

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

SW WELL LOCATION MAP
W00-765-REV
Corrected Topo Mark

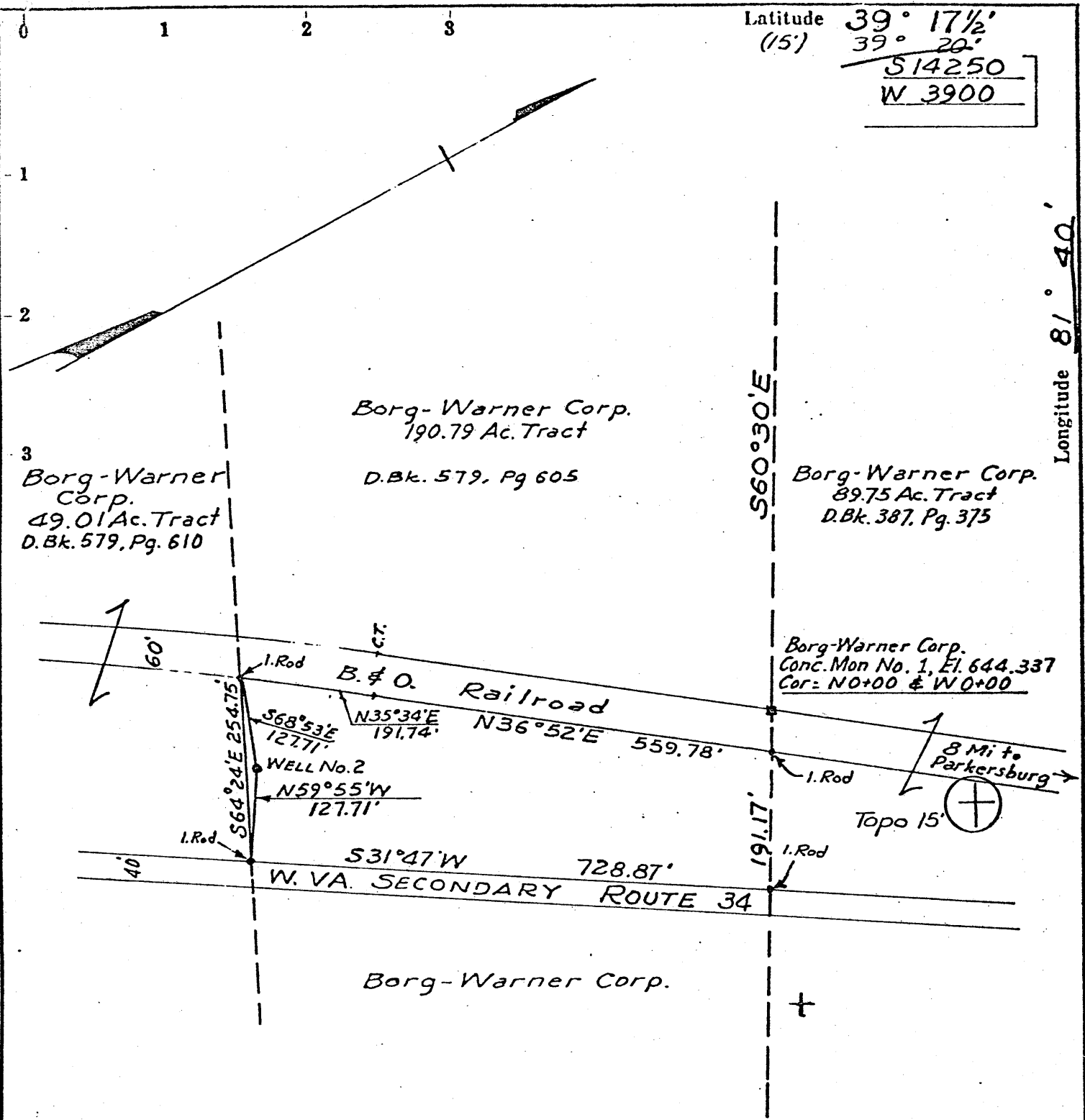
↑ Denotes location of well on United States Topographic Maps, scale 1 to 62,500, latitude and longitude lines being represented by border lines as shown.

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

47-107

Latitude $39^{\circ} 17\frac{1}{2}'$
 (15') $39^{\circ} 20'$
 $\frac{514250}{W 3900}$

Longitude $81^{\circ} 40'$



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

Source of Elevation Borg-Warner Corp. Conc. Mon. # 1, El. 644.337
 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 BORG-WARNER CORP.
 Address PO Box 1868 Parkersburg, W.V. 26101
Woodmar Plant, Washington, W.Va.
 Farm Borg-Warner Corp.
 Tract _____ Acres 190.79 Lease No. _____
 Well (Farm) No. 2 Serial No. SW
 Elevation (Spirit Level) 642.6 Parkersburg 15'
 Quadrangle Little Hocking 7 1/2' Series
 County Wood District Lubeck
 Surveyor or Engineer Arden S. Marshall LLS
 Surveyor's or Engineer's Registration No. 3
 File No. _____ Drawing No. _____
 Date May 4, 1976 Scale 1"=200'

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

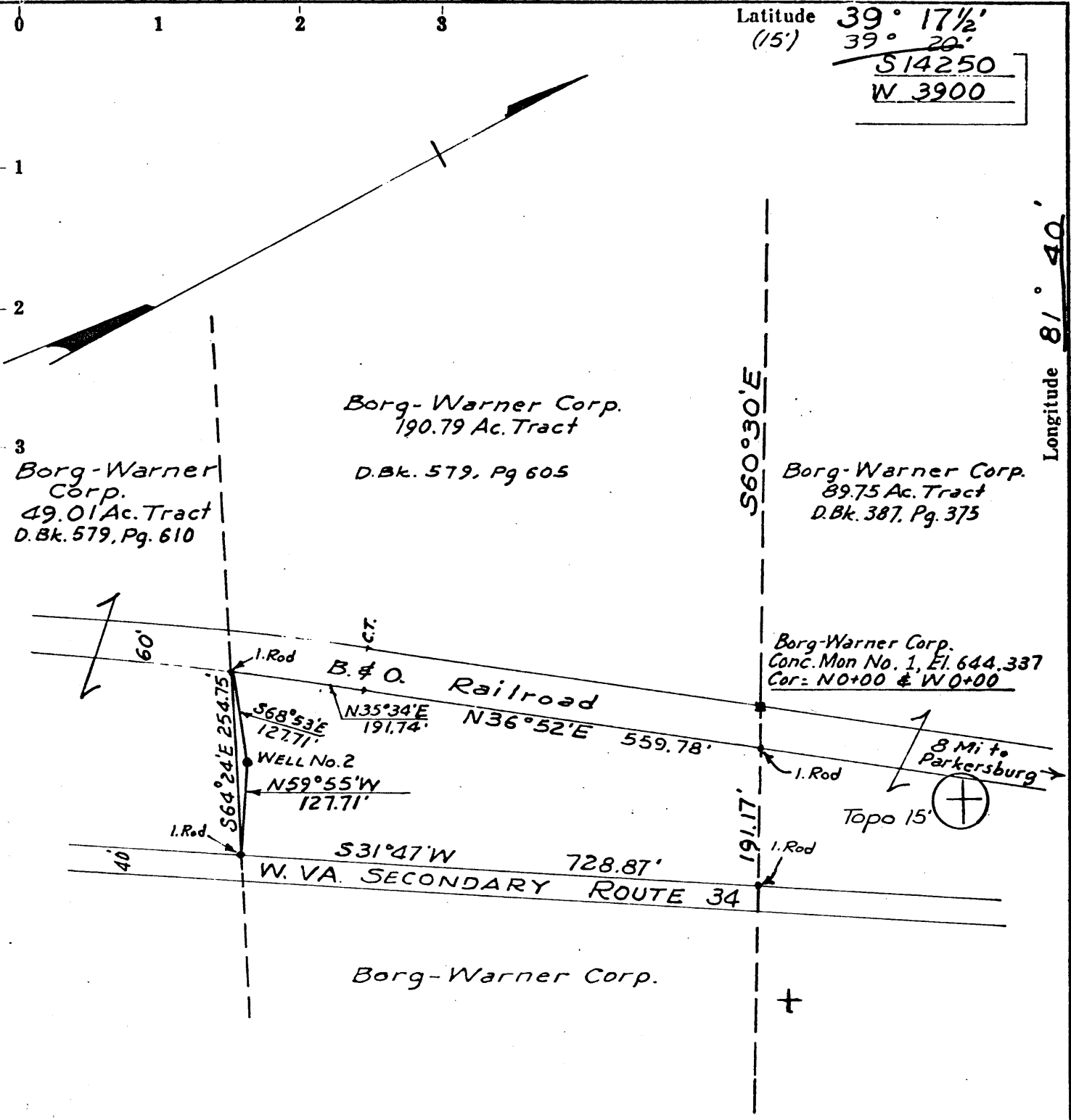
WELL LOCATION MAP
 FILE NO. W00-765
 Formerly W00-753

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Latitude $39^{\circ} 17\frac{1}{2}'$
 (15') $39^{\circ} 20'$
 S 14250
 W 3900

Longitude $81^{\circ} 40'$



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- New Location
- Drill Deeper
- Abandonment

Source of Elevation Borg-Warner Corp. Conc. Mon. 1, El. 644.337

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Woodmar Plant, Washington, W.Va.
 Farm Borg-Warner Corp.
 Tract _____ Acres 190.79 Lease No. _____
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 Quadrangle Little Hocking 7 1/2' Series
 County Wood District Lubeck
 Surveyor or Engineer Carlen S. Marshall LLS
 Surveyor's or Engineer's Registration No. 3
 File No. _____ Drawing No. _____
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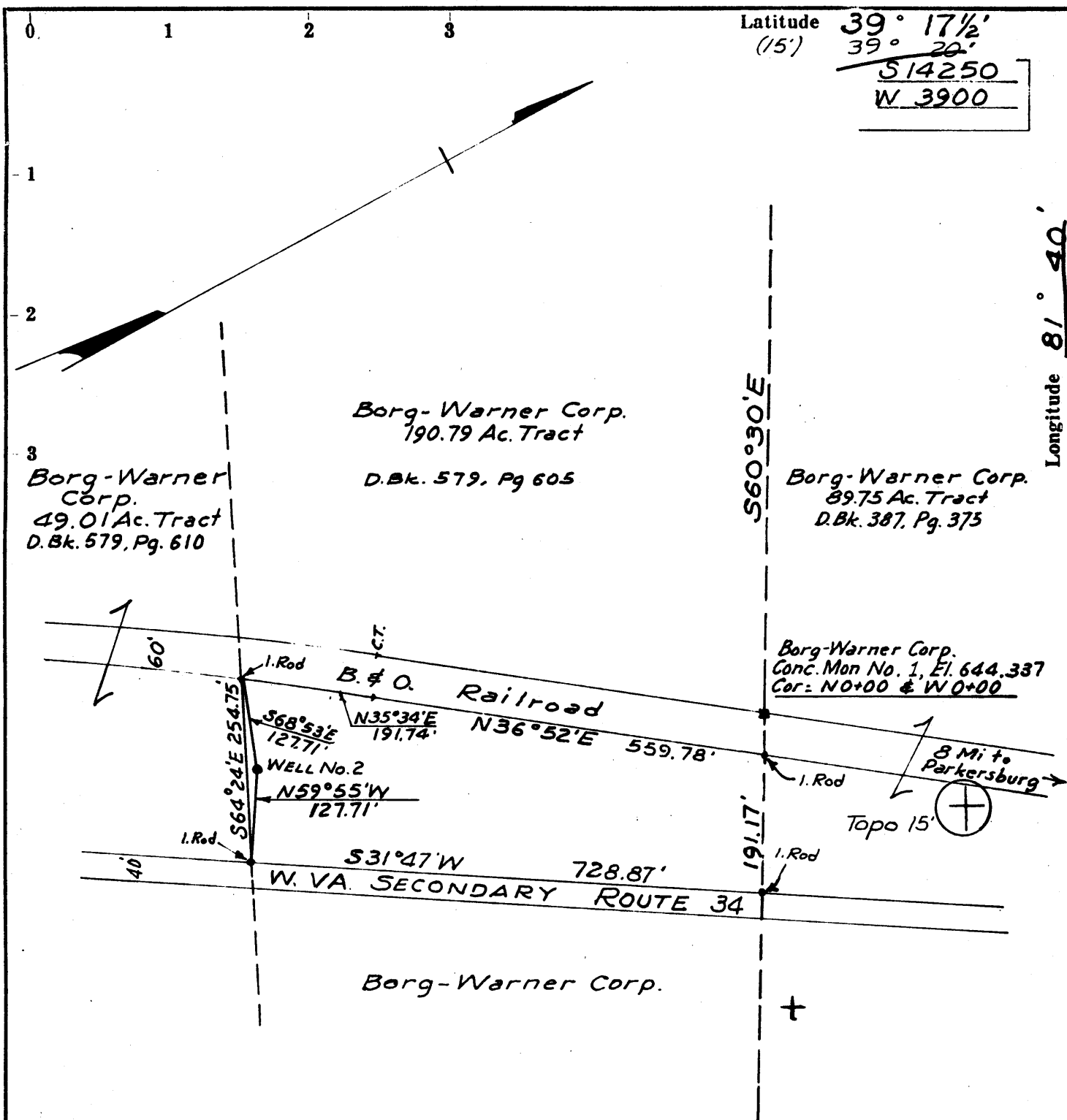
STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. W00-765
 Formerly W00-753

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47-107 MAR 25 1976



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

Source of Elevation Borg-Warner Corp. Conc. Mon. #1, El. 644.337

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Minimum accuracy, one part in 200

Company BORG-WARNER CORP.
 Address PO Box 1868 Parkersburg, WV 26101
Woodmar Plant, Washington, W.Va.

Farm Borg-Warner Corp.

Tract _____ Acres 190.79 Lease No. _____

Well (Farm) No. 2 Serial No. SW

Elevation (Spirit Level) 642.6 Parkersburg 15'

Quadrangle Little Hocking 7 1/2' Series

County Wood District Lubeck

Surveyor or Engineer Arden S. Marshall LLS

Surveyor's or Engineer's Registration No. 3

File No. _____ Drawing No. _____

Date May 4, 1976 Scale 1"=200'

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

WELL LOCATION MAP

FILE NO. W00-765

Formerly W00-753

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47-107 MAR 25 1976



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

REC
NOV 8 1977
OIL & GAS DIVISION
DEPT. OF MINES

Rotary Oil _____
Cable _____ Gas
Recycling _____ Comb. _____
Water Flood _____ Storage _____
Disposal _____ (Kind) _____

Quadrangle Little Hocking 7-1/2

Permit No. WOO-765

47-107

Company Borg-Warner Corp.
Address P.O. Box 1868, Parkersburg, W. Va. 26101
Farm Borg-Warner Corp. Acres 190.79
Location (waters) Ohio River
Well No. Two Elev. 686.7
District Lubeck County Wood
The surface of tract is owned in fee by _____
Borg-Warner Corp.
Address See above
Mineral rights are owned by Borg-Warner Corp.
Address See above
Drilling Commenced 8-26-77
Drilling Completed 9-4-77
Initial open flow 200m cu. ft. _____ bbls.
Final production 1,200m cu. ft. per day _____ bbls.
Well open _____ hrs. before test 1650 RP.

| Casing and Tubing | Used in Drilling | Left in Well | Cement fill up Cu. ft. (Sks.) |
|----------------------|------------------|--------------|-------------------------------|
| Size 20-16 | | | |
| Cond. 13-10" 11-3/4" | 69 | 69 | 100 sx Circulated to surface |
| 9 5/8 | | | |
| 8 5/8 | 1969 | 1969 | 550 sx Circulated to surface |
| 7 | | | |
| 5 1/2 | 4158 | 4158 | 20 sx cement |
| 4 1/2 | | | |
| 3 | | | |
| 2 | | | |
| Liners Used | | | |

Well treatment details: Attach copy of cementing record.
Water Frac: 9-9-77; Halliburton: 1100 bbl water - 30,000# 20/40 sand -
500 gal Acid - 15% HCL

Coal was encountered at None Feet _____ Inches _____
Fresh water None Feet _____ Salt Water _____ Feet 1500'
Producing Sand Oriskany Depth 4165-4175

| Formation | Color | Hard or Soft | Top Feet | Bottom Feet | Oil, Gas or Water | * Remarks |
|---------------------|-------------------|--------------|----------|-------------|-------------------|-------------|
| Surface | | | 0 | 10 | | |
| Sandstone | | | 10 | 90 | | |
| Shale | | | 90 | 110 | | |
| Sand | | | 110 | 160 | | |
| Shale and siltstone | | | 160 | 600 | | |
| Sand | | | 600 | 648 | | |
| Shale | | | 648 | 740 | | |
| Sand | | | 740 | 790 | | |
| Shale | | | 790 | 1000 | | |
| Sand | | | 1000 | 1120 | | |
| Shale, Sand | | | 1120 | 1390 | | |
| Sand | | | 1390 | 1560 | | |
| Siltstone-Shale | | | 1560 | 1878 | | |
| Sand-siltstone | | | 1878 | 1930 | | |
| Siltstone-Shale | | | 1930 | 4080 | | |
| Limestone | | | 4080 | 4165 | | |
| Sandstone | | | 4165 | 4175 | | |
| Limestone | <u>Helderberg</u> | | 4175 | 4186 | | Total Depth |

(over)

* Indicates Electric Log tops in the remarks section.



RECEIVED

MAR 4 1977

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

OIL & GAS DIVISION
DEPT. OF MINES

MAR 03 1977

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

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

DATE March 3, 1977

Surface Owner Borg Warner Corporation

Company Borg Warner Corporation

Address P.O. Box 1868, Parkersburg, WV 26101

Address P.O. Box 1868, Parkersburg, WV 26101

Mineral Owner Same

Farm Borg Warner Corporation Acres 190.79

Address _____

Location (waters) Ohio River

Coal Owner None

Well No. Two Elevation 642.6

Address _____

District Lubeck County Wood

Coal Operator _____

Quadrangle Little Hocking 7-1/2

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 7-8-77.

Robert H. Bell
Deputy Director - Oil & Gas Division

INSPECTOR TO BE NOTIFIED Paul Goodnight
PH: 477-2455 ADDRESS Smithville, W. Va.

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 Oct. 9, 1970 by Arthur O. Mollendick made to Borg Warner Corporation and recorded on the _____ day of _____ 19____, in Wood County, Book 579 Page 605

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, W. Va. 26505

Very truly yours,
Borg Warner Corporation
(Sign Name) Arthur P. Sandy
Well Operator
P. O. Box 1868
Street
Parkersburg
City or Town
W. Va.
State

(Woo-753 expired)

*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.

"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: Arthur P. Sandy

Woo-765 PERMIT NUMBER
47-107

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

PROPOSED WORK ORDER TO DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) _____ RESPONSIBLE AGENT: _____
 NAME _____ NAME **Arthur Sandy** _____
 ADDRESS _____ ADDRESS **P. O. Box 1868, Parkersburg, WV 26101** _____
 TELEPHONE _____ TELEPHONE **485-1771** _____
 ESTIMATED DEPTH OF COMPLETED WELL: **4200** _____ ROTARY CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: **Oriskany** _____
 TYPE OF WELL: OIL _____ GAS _____ 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 | 150 | 150 | Surface |
| 9 - 5/8 | | | |
| 8 - 5/8 | 1884 | 1884 | 500' to 1884' |
| 7 | | | |
| 5 1/2 | 4114 | 4114 | 300' to 4114' |
| 4 1/2 | | | |
| 3 | | | Perf. Top |
| 2 | | | Perf. Bottom |
| Liners | | | Perf. Top |
| | | | Perf. Bottom |

APPROXIMATE FRESH WATER DEPTHS 40 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