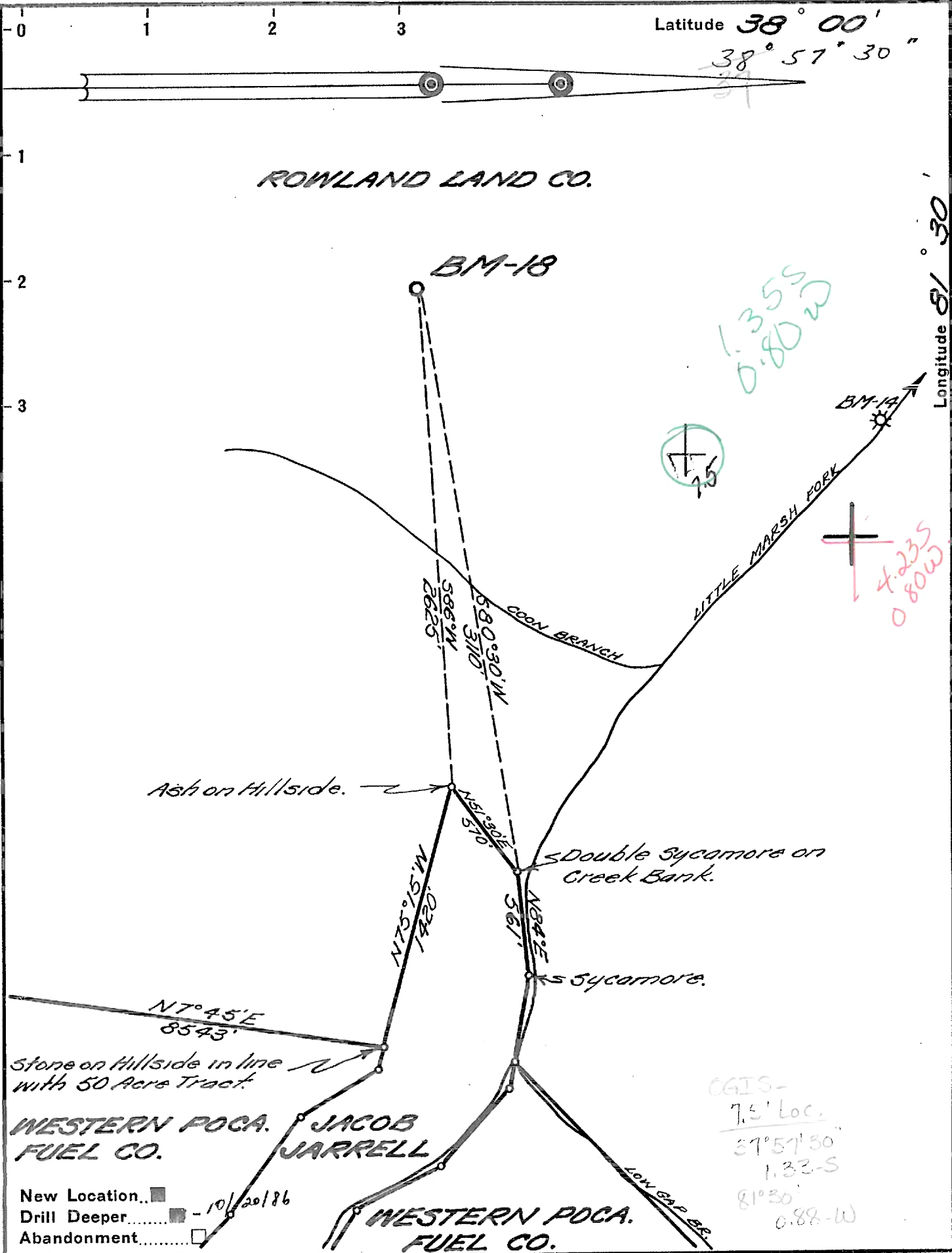


4200'



Company BIG MARSH OIL CO.

Address CHARLESTON W. VA.

Farm ROWLAND LAND CO.

Tract \_\_\_\_\_ Acres 6000 Lease No. 1

Well (Farm) No. 17 Serial No. BM-18

Elevation (Spirit Level) 1856.0'

Quadrangle BALD KNOB

County RALEIGH District MARSH FORK

Engineer Dan E. Baclum

Engineer's Registration No. 669

File No. 68-31 Drawing No. \_\_\_\_\_

Date 5-28-53 Scale 1" = 660'

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

WELL LOCATION MAP  
 FILE NO. RAL-203-DD

+ 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. OCT 27 1986

- Denotes one inch spaces on border line of original tracing. 47-081

"IMPERIAL" TRACING CLOTH  
 K & P CO., N. Y.

DWDD-6-6 Hopkins Fork-Jarrolds Valley (247)

M

Latitude 38° 00'



ROWLAND LAND CO.

BM-18

Longitude 81° 30'

BM-14

LITTLE MARSH FORK

COON BRANCH

S80°30'W  
310  
386'±  
2625

Ash on Hillside.

Double Sycamore on  
Creek Bank.

N75°15'W  
1420

N68°E  
561

Sycamore.

N7°45'E  
8543

Stone on Hillside in line  
with 50 Acre Tract.

.78W  
4,225

WESTERN POCA.  
FUEL CO.

JACOB  
JARRELL

CON GRD BR.

WESTERN POCA.  
FUEL CO.

New Location...   
Drill Deeper.....   
Abandonment.....

Company BIG MARSH OIL CO.  
 Address CHARLESTON W.VA.  
 Farm ROWLAND LAND CO.  
 Tract \_\_\_\_\_ Acres 6000 Lease No. 1  
 Well (Farm) No. 17 Serial No. BM-18  
 Elevation (Spirit Level) 1856.0  
 Quadrangle BALD KNOB-NE  
 County RALEIGH District MARSH FR  
 Engineer Wm E. McQuinn  
 Engineer's Registration No. 669  
 File No. 68-31 Drawing No. \_\_\_\_\_  
 Date 5 28 53 Scale 1"=660'

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

WELL LOCATION MAP  
FILE NO. RAL-203

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

6-6 247

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION 7

*Road Knob*

WELL RECORD

Permit No. RAL-203

Oil or Gas Well Gas  
(KIND)

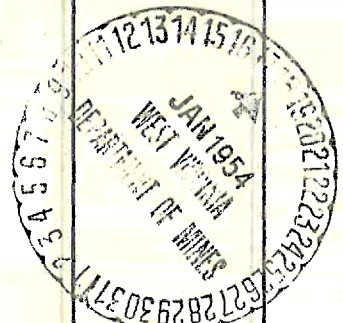
Company BIG MARSH OIL COMPANY  
Address P.O. Box 1273, Charleston 25, W. Va.  
Farm Rowland Land Co. #17 Acres 6,000  
Location (waters) Coon Br. of Little Marsh Fork  
Well No. BM-18 Elev. 1856'  
District Marsh Fork County Raleigh  
The surface of tract is owned in fee by \_\_\_\_\_  
Address \_\_\_\_\_  
Mineral rights are owned by Rowland Land Co.  
E.C. Colcord, Pres. Address Box 586, St. Albans, W. Va.  
Drilling commenced 8-13-53  
Drilling completed 12-16-53  
Date Shot Not shot From \_\_\_\_\_ To \_\_\_\_\_  
With \_\_\_\_\_  
Open Flow 14 /10ths Water in \_\_\_\_\_ Inch  
3 /10ths Merc. in \_\_\_\_\_ Inch  
Volume 1,309,000 Cu. Ft.  
Rock Pressure 576 lbs. 48 hrs.  
Oil \_\_\_\_\_ bbls., 1st 24 hrs.  
Fresh water \_\_\_\_\_ feet  
Salt water \_\_\_\_\_ feet

| Casing and Tubing | Used in Drilling | Left in Well | Packers           |
|-------------------|------------------|--------------|-------------------|
| Size              |                  |              | Kind of Packer    |
| 16                |                  |              | Hook Wall         |
| 13 - 3/8"         |                  | 7'           | Size of           |
| 10 - 3/4"         |                  | 1132'        | 7" x 8-5/8" x 16" |
| 8 - 5/8"          |                  | 2273'        | Depth set         |
| 6 - 7"            |                  | 2647'        | 2645              |
| 5 3/16            |                  |              | Perf. top         |
| 3                 |                  |              | Perf. bottom      |
| 2                 |                  |              | Perf. top         |
| Liners Used       |                  |              | Perf. bottom      |

CASING CEMENTED \_\_\_\_\_ SIZE \_\_\_\_\_ No. Ft. \_\_\_\_\_ Date \_\_\_\_\_

COAL WAS ENCOUNTERED AT 192 FEET 36 INCHES  
303 FEET 48 INCHES 474 FEET 48 INCHES  
FEET INCHES FEET INCHES

| Formation      | Color | Hard or Soft | Top  | Bottom | Oil, Gas or Water | Depth Found | Remarks                               |
|----------------|-------|--------------|------|--------|-------------------|-------------|---------------------------------------|
| Clay           |       |              | 0    | 12     |                   |             |                                       |
| Blue Slate     |       |              | 12   | 35     |                   |             |                                       |
| Sand           |       |              | 35   | 147    |                   |             |                                       |
| Slate          |       |              | 147  | 192    |                   |             |                                       |
| Coal           |       |              | 192  | 195    |                   |             |                                       |
| Slate          |       |              | 195  | 199    |                   |             |                                       |
| Sand           |       |              | 199  | 204    |                   |             |                                       |
| Slate          |       |              | 204  | 214    |                   |             |                                       |
| Sand           |       |              | 214  | 225    |                   |             |                                       |
| Slate          |       |              | 225  | 247    |                   |             |                                       |
| Sand           |       |              | 247  | 274    |                   |             |                                       |
| Slate          |       |              | 274  | 303    |                   |             |                                       |
| Coal           |       |              | 303  | 307    |                   |             |                                       |
| Slate          |       |              | 307  | 330    |                   |             |                                       |
| Sand           |       |              | 330  | 414    |                   |             |                                       |
| Slate          |       |              | 414  | 474    |                   |             |                                       |
| Coal           |       |              | 474  | 478    |                   |             |                                       |
| Sand           |       |              | 478  | 490    |                   |             | Show gas 1858'                        |
| Slate          |       |              | 490  | 500    |                   |             |                                       |
| Sand           |       |              | 500  | 736    |                   |             | Gas 2676-2680' 20/10 Merc. 2" 696 M   |
| Lime           |       |              | 736  | 786    |                   |             |                                       |
| Sand           |       |              | 786  | 807    |                   |             | Gas 2680-2689' 23/10 Merc. 2" 746 M   |
| Slate & Shells |       |              | 807  | 882    |                   |             |                                       |
| Lime           |       |              | 882  | 890    |                   |             | Gas 2689-2699' 13/10 Merc. 3" 1,262 M |
| Sand           |       |              | 890  | 898    |                   |             | blew down to 9/10 Merc. 3" 1,050 M    |
| Slate & Shells |       |              | 898  | 944    |                   |             |                                       |
| Sand           |       |              | 944  | 964    |                   |             | Gas 2699-2700' 14/10 Merc. 3" 1,309 M |
| Slate & Shells |       |              | 964  | 1132   |                   |             |                                       |
| Lime           |       |              | 1132 | 1142   |                   |             |                                       |
| Slate & Shells |       |              | 1142 | 1155   |                   |             | Not shot                              |
| Gritty Lime    |       |              | 1155 | 1165   |                   |             |                                       |
| Sand           |       |              | 1165 | 1185   |                   |             |                                       |
| Shells         |       |              | 1185 | 1268   |                   |             | FINAL OPEN FLOW - 1,309 M - Maxon     |
| Grampus Sand   |       |              | 1263 | 1454   |                   |             | 48 Hr. R.P. 576#                      |
| Lime           |       |              | 1454 | 1475   |                   |             |                                       |
| Slate & Shells |       |              | 1475 | 1490   |                   |             |                                       |
| Lime           |       |              | 1490 | 1520   |                   |             | Shut in 12-16-53 in 7" Casing.        |
| Slate & Shells |       |              | 1520 | 1535   |                   |             |                                       |
| Lime           |       |              | 1535 | 1540   |                   |             |                                       |



| Formation      | Color | Hard or Soft | Top   | Bottom | Oil, Gas or Water | Depth Found | Remarks |
|----------------|-------|--------------|-------|--------|-------------------|-------------|---------|
|                |       |              | 1540  | 1821   |                   |             |         |
| Salt Sand      |       |              | 1821  | 1822   |                   |             |         |
| Slate          |       |              | 1822  | 1880   |                   |             |         |
| Sand           |       |              | 1880  | 1886   |                   |             |         |
| Slate          |       |              | 1886  | 1915   |                   |             |         |
| Sand           |       |              | 1915  | 1917   |                   |             |         |
| Slate          |       |              | 1917  | 1940   |                   |             |         |
| Gritty Lime    |       |              | 1940  | 1942   |                   |             |         |
| Slate          |       |              | 1942  | 1975   |                   |             |         |
| Slate          |       |              | 1975  | 2013   |                   |             |         |
| Gritty Lime    |       |              | 2013  | 2050   |                   |             |         |
| Slate          |       |              | 2050  | 2094   |                   |             |         |
| Lime           |       |              | 2094  | 2171   |                   |             |         |
| Slate & Shells |       |              | 2171  | 2180   |                   |             |         |
| Line           |       |              | 2180  | 2194   |                   |             |         |
| Slate          |       |              | 2194  | 2200   |                   |             |         |
| Line           |       |              | 2200  | 2210   |                   |             |         |
| Red Rock       |       |              | 2210  | 2234   |                   |             |         |
| Slate & Shells |       |              | 2234  | 2244   |                   |             |         |
| Line           |       |              | 2244  | 2290   |                   |             |         |
| Slate          |       |              | 2290  | 2312   |                   |             |         |
| Line           |       |              | 2312  | 2600   |                   |             |         |
| Red Rock       |       |              | 2600  | 2610   |                   |             |         |
| Line           |       |              | 2610  | 2708   |                   |             |         |
| Maxon Sand     |       |              | 2708  |        |                   |             |         |
| Total depth    |       |              | 2708' |        |                   |             |         |

DEPARTMENT OF MINES

Date January 15, 19 54

APPROVED BIG MARSH OIL COMPANY, Owner

By A. R. Furrill



IV-35  
(Rev 8-81)

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State of West Virginia  
Department of Mines  
Oil and Gas Division

Date April 20, 1987  
Operator's  
Well No. BM-18-DD  
Farm Rowland Land Company  
API No. 47 - 081 - 0203-DD

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

WELL OPERATOR'S REPORT  
OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil \_\_\_ / Gas X / Liquid Injection \_\_\_ / Waste Disposal \_\_\_ /  
(If "Gas," Production \_\_\_ / Underground Storage \_\_\_ / Deep \_\_\_ / Shallow X /)

LOCATION: Elevation: 1856' Watershed Coon Branch of Little Marsh Fork  
District: Marsh Fork County Raleigh Quadrangle Whitesville

COMPANY Big Marsh Oil Company  
ADDRESS P. O. Box 1273, Charleston, WV 25325  
DESIGNATED AGENT Joseph E. Campbell  
ADDRESS P. O. Box 1273, Charleston, WV 25325  
SURFACE OWNER Rowland Land Company  
ADDRESS Rm. 301, 1033 Quarrier St., Charleston, WV 25301  
MINERAL RIGHTS OWNER Rowland Land Company  
ADDRESS Rm. 301, 1033 Quarrier St., Charleston, WV 25301  
OIL AND GAS INSPECTOR FOR THIS WORK  
Rodney Dillon ADDRESS P.O. Box 1526, Sophia, WV 25921  
PERMIT ISSUED  
DRILLING COMMENCED 11-20-86  
DRILLING COMPLETED 11-25-86 ✓

| Casing & Tubing Size | Used in Drilling | Left in Well | Cement fill up Cu. ft. |
|----------------------|------------------|--------------|------------------------|
| 20-16 Cond.          |                  |              |                        |
| 13-10"               |                  |              |                        |
| 9 5/8                |                  |              |                        |
| 8 5/8                |                  |              |                        |
| 7                    |                  |              |                        |
| 5 1/2                |                  |              |                        |
| 4 1/2                | 5565'            | 5565'        | 245 sks.               |
| 3                    |                  |              |                        |
| 2                    |                  |              |                        |
| Liners used          |                  |              |                        |

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

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 5624 feet  
Depth of completed well 5624 feet Rotary X / Cable Tools \_\_\_\_\_  
Water strata depth: Fresh \_\_\_\_\_ feet; Salt \_\_\_\_\_ feet  
Coal seam depths: 192-195'; 303-307' Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 5106-5516 feet  
Gas: Initial open flow \_\_\_\_\_ Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 133 Mcf/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests 8 hours

Static rock pressure 1175 psig (surface measurement) after 8 hours shut in  
(If applicable due to multiple completion--)

Second producing formation Gordon Pay zone depth 3924-3935 feet  
Gas: Initial open flow \_\_\_\_\_ Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 119 Mcf/d Oil: Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests 8 hours

Static rock pressure 710 psig (surface measurement) after 8 hours shut in

\* Third producing formation on back

APR 27 1987

(Continue on reverse side)

1040.  
133  
119  
1292 Mcf  
POF for well

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

\* Weir Formation 3300-3400'  
Final Open Flow 1040 Mcfd  
Static Rock Pressure 280 psig

First Formation

Perforated @ 5106'-5516' 15 perforations  
Treated with 204 bbls. fluid 60,000# 20/50 sand

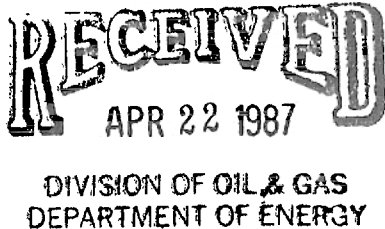
Second Formation

Perforated @ 3926'-3935' 14 perforations  
Treated with 201 bbls. fluid 40,000# 20/50 sand

Third Formation

Perforated @ 3318'-3357' 18 perfs  
Treated with 147 bbls. fluid  
30,000# 20/50 sand

WELL LOG

| FORMATION | COLOR | HARD OR SOFT | TOP FEET | BOTTOM FEET | REMARKS  |
|-----------|-------|--------------|----------|-------------|--|
|           |       |              |          |             | Including indication of all fresh and salt water, coal, oil and gas  |
| Big Lime  |       |              | 2818     | 3232        |  <p>T.D.</p> <p>new TD 5624<br/>old TD 2708<br/><hr/>8332<br/>new Hg. 2916</p> |
| Injun     |       |              | 3232     | 3270        |  |
| Shale     |       |              | 3270     | 3300        |  |
| Weir      |       |              | 3300     | 3400        |  |
| Shale     |       |              | 3400     | 3710        |  |
| Berea     |       |              | 3710     | 3756        |  |
| Shale     |       |              | 3756     | 3924        |  |
| Gordon    |       |              | 3924     | 3935        |  |
| Shale     |       |              | 3935     | 5624        |  |

(Attach separate sheets as necessary)

BIG MARSH OIL COMPANY

Well Operator

By: Joseph P. Campbell

Date: April 21, 1987

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."

FILE COPY  
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OCT 03 1986



September 10, 1986

2) Operator's Well No. BM-18  
3) API Well No. 47 State 081 County 203-D Permit

STATE OF WEST VIRGINIA  
DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY, OIL AND GAS DIVISION  
DEPARTMENT OF ENERGY  
**APPLICATION FOR A WELL WORK PERMIT**

- 4) WELL TYPE: A Oil  Gas   
B (If "Gas", Production  / Underground storage  / Deep  / Shallow )
- 5) LOCATION: Elevation: 1856 Watershed: Coon Br. of Little Marsh Fork  
District: White Sulphur Springs County: Raleigh Quadrangle: Whitesville
- 6) WELL OPERATOR Big Marsh Oil Co. CODE: 5350 7) DESIGNATED AGENT Joseph E. Campbell  
Address P. O. Box 1273 Address P. O. Box 1273  
Charleston, WV 25325 Charleston, WV 25325
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Rodney G. Dillon  
Address P. O. Box 1526  
Sophia, WV 25921
- 9) DRILLING CONTRACTOR: Name \_\_\_\_\_ Address \_\_\_\_\_
- 10) PROPOSED WELL WORK: Drill  / Drill deeper  / Redrill  / Stimulate   
Plug off old formation  / Perforate new formation   
Other physical change in well (specify) \_\_\_\_\_
- 11) GEOLOGICAL TARGET FORMATION, Devonian Shale  
12) Estimated depth of completed well, 5625 feet  
13) Approximate trata depths: Fresh, \_\_\_\_\_ feet; salt, \_\_\_\_\_ feet.  
14) Approximate coal seam depths: 192-195, 303-307. Is coal being mined in the area? Yes  / No
- 15) CASING AND TUBING PROGRAM 474-478

| 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             |                |            |                |          |      |                   |              |                                      | Kinds                                |
| Fresh water           | <u>10 3/4</u>  |            |                |          |      |                   | <u>1132</u>  | } EXISTING                           |                                      |
| Coal                  | <u>8 5/8</u>   |            |                |          |      |                   | <u>2273</u>  |                                      | Sizes                                |
| Intermediate          | <u>7</u>       |            |                |          |      |                   | <u>2647</u>  |                                      |                                      |
| Production            | <u>4-1/2"</u>  | <u>J/K</u> | <u>11.6</u>    | <u>X</u> |      | <u>5625'</u>      | <u>5625'</u> | As required by rule                  | Depths set <u>15.0 / OR 500 SKS.</u> |
| Tubing                |                |            |                |          |      |                   |              |                                      |                                      |
| Lin.                  |                |            |                |          |      |                   |              |                                      | Top Bottom                           |

OFFICE USE ONLY  
DRILLING PERMIT

Permit number 47-081-0203-D

October 20, 1986  
Date

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.  
Permit expires October 20, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

|                 |                  |                 |                   |                     |                 |                |              |
|-----------------|------------------|-----------------|-------------------|---------------------|-----------------|----------------|--------------|
| Bond: <u>AS</u> | Agent: <u>AS</u> | Plat: <u>AS</u> | Casing: <u>AS</u> | Fee: <u>5011077</u> | WPCP: <u>AS</u> | S&E: <u>AS</u> | Other: _____ |
|-----------------|------------------|-----------------|-------------------|---------------------|-----------------|----------------|--------------|

NOTE: Keep one copy of this permit posted at the drilling location.

Director, Division of Oil and Gas

File

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

533