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.

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

WELL LOCATION MAP
FILE NO. MARS-568-P

- Denotes location of well on United States Topographic Maps, scale 1 to 24,000, latitude and longitude lines being represented by border lines as shown.

JUL 24 1979

- Denotes one inch spaces on border line of original tracing.
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: APPALACHIAN EXPL. & DEV., INC.
Address: CHARLESTON, WV
Farm: D. CHAPLIN, M. CHAPLIN
Tract: Acres 113AC468
Well (Farm) No.: 1
Serial No.: SC
Elevation (Spring level): 1260', CAMERON 15'
Quadrangle: GLEN EASTON (7.5' SERIES)
County: MARSHALL
District: MEADE
Engineer: CHET WATERMAN
Engineer's Registration No.: 3788
File No.: 76003-65
Drawing No.: 40P
Date: 2/16/78
Scale: 1" = 40P

STATE OF WEST VIRGINIA
DEPARTMENT OF MINE
OIL AND GAS DIVISION
CHARLESTON
WELL LOCATION MAP
FILE NO. MARS-568

Denotes location of well on United States Topographic Maps, scale 1 to 24,000, latitude and longitude lines being represented by border lines as shown.

— Denotes one inch spaces on border line of original tracing: 47-051 APR 10 1978
OG-10
Rev. - 9-71

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

=Oil and Gas Division=

DEPT. OF MINES

Oil and Gas Division

WELL RECORD

Quadrangle: Glen Easton (7.5' Series)

Permit No.: Mars-568

Company: Appalachian Exploration & Dev., Inc.
Address: P.O. Box 628, Charleston, W.Va. 25332
Farm: D. Chaplin

Acres 113 ac-460'

Location (waters) Upper Bowman Run
Well No. 1
District: Meade
County: Marshall

The surface of the tract is owned by M. Chaplin

26041
Address: R.D. #2, Box 230, Moundaville, W.V.

Mineral rights are owned by Same as above

Drilling Commenced 4-11-78
Drilling Completed 4-20-78

Initial open flow -------- cu. ft. -------- bbls.
Final production P & A 2000 cu. ft. per day -------- bbls.

Well open ------ hrs. before test ------ RP.

Well treatment details:

Perforated Gordon 2964-2980' (12 holes), Fract with 500 sacks 80/100 sand and 300 sacks 20/40 sand in 825 bbls. Average treating pressure 2600#. Maximum treating pressure 3600#. Final treating pressure 2700#. Average injection rate 12 BPM. ISI 2300#. 15 min.; 1500#.

Perforated Injun 2324-2338' (10 holes). Fract with 150 sacks 80/100 and 400 sacks 20/40 sand in 715 bbls. Average injection rate 12 BPM. Average treating pressure 3200#. Maximum treating pressure 3600#. Final treating pressure 3100#. ISI 1700#. 15 min., 1550#. (cont')

Coal was encountered at 680 Feet

Fresh water 680; 830; 950 Feet Salt Water 1680; 1990 Feet

Producing Sand XXXXXXXXXXXXXXX


<table>
<thead>
<tr>
<th>Formation</th>
<th>Color</th>
<th>Hard or Soft</th>
<th>Top Feet</th>
<th>Bottom Feet</th>
<th>Oil, Gas or Water</th>
<th>Remarks</th>
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<td>2956</td>
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<tr>
<td>Gordon Sand</td>
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<td></td>
<td>2956</td>
<td>2992</td>
<td>* Show of gas</td>
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</table>

* Indicates Electric Log tops in the remarks section.

JUL 17 1979
<table>
<thead>
<tr>
<th>Formation</th>
<th>Color</th>
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<th>Bottom Feet</th>
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<th>Remarks</th>
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</thead>
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<td>Shale</td>
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<td>2992</td>
<td>T.D.</td>
<td></td>
<td>L.T.D. 3148'</td>
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<td>D.T.D. 3150'</td>
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**Cement Record**

<table>
<thead>
<tr>
<th>Casing</th>
<th>No. of sks.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-5/8&quot;</td>
<td>170 sks.</td>
</tr>
<tr>
<td>4-1/2&quot;</td>
<td>50 sks.</td>
</tr>
</tbody>
</table>

**Type Cement**

- 50/50 Pozmix with 3% CaCl₂; 1/4# celloflakes/sk.
- Tailed in with 150 sks.
- Class A Mort with 3% CaCl₂ cement circulated.
- RFC

- Set Model N bridge plug @ 2900’, Perforated @ 2450’
- Cemented with 135 sks.
- Set Model N bridge plug at 2250’

Well treatment details: (cont’)

Perforated Salt Sand 1802-1890’ (18 holes). Acidized with 2000 gals. HCA. Average treating pressure 1500#. Final treating pressure 190#. Maximum of 3000#. Average injection rate 3.5 BPM. ISIP 1100#; 10 min., 900#. 15 min., 700#.
TO THE DEPARTMENT OF MINES,
Charleston, W. Va.

Date: March 13, 1978
Oil and Gas Division
STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

OIL AND GAS WELL PERMIT APPLICATION

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

Surface Owner: M. Chaplin
Address: 328, Box 230, Moundsville, W. Va. 26041

Mineral Owner: Same as above.
Address: Same as above.

Coal Owner: Consolidation Coal Company
Address: Box 537, Moundsville, W. Va. 26041

Coal Operator: Same as Coal Owner.
Address: Same as shown for Coal Owner.

THIS PERMIT MUST BE POSTED AT THE WELL SITE

DATE: March 13, 1978
Company: Appalachian Exploration & Development, Inc.
Address: Box 628, Charleston, W. Va. 25322
Farm: D. Chaplin
Acres: 113ac-46P
Location (waters): Upper Bowman Run
Well No.: 1
Elevation: 1260
District: Meade
County: Marshall
Quadrangle: Glen Easton (7.5' Series)

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 July 25, 1973 by Dana A. Chaplin, made to McCombs, Conrad & Barrett and recorded on the 8th day of August, 1975 in Marshall County, Book 451, Page 189.

X 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 objections 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 on the same day, 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 GEOLOGICAL AND ECONOMIC SURVEY

WEST VIRGINIA GEOLOGICAL AND ECONOMIC SURVEY
P. O. BOX 879
MORGANTOWN, WEST VIRGINIA 26505
AC-304 - 292-6331

Very truly yours,
Appalachian Exploration & Development, Inc.
(Sign Name)

Box 628
Charleston
City or Town
West Virginia 25322
State

MARS-568 PERMIT NUMBER
47-051

*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 theretofore by the department and that the same is approved and the well operator authorized to proceed.

BLANKET BOND
"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

James R. Cleaveland

"591"
THIS IS AN ESTIMATE ONLY
ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION

PROPOSED WORK ORDER TO__X__DRILL__DEEPEN__FRACTURE-STIMULATE

DRILLING CONTRACTOR: (If Known)
NAME: Unknown
ADDRESS
TELEPHONE

ESTIMATED DEPTH OF COMPLETED WELL: 3110'
PROPOSED GEOLOGICAL FORMATION: 5th Sand

TYPE OF WELL: OIL__GAS__X__COMB.__STORAGE__DISPOSAL
RECYCLING__WATER FLOOD__OTHER

TENTATIVE CASING PROGRAM:

<table>
<thead>
<tr>
<th>CASING AND TUBING SIZE</th>
<th>USED FOR DRILLING</th>
<th>LEFT IN WELL</th>
<th>CEMENTED HOLE UP OR SACKS - CUBIC FT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 - 16</td>
<td>30'</td>
<td>30'</td>
<td>circ.</td>
</tr>
<tr>
<td>13 - 10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 - 5/8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 - 5/8</td>
<td>1000'</td>
<td>1000'</td>
<td>circ.</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 1/2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 1/2</td>
<td>3110'</td>
<td>3110'</td>
<td>45 sks.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>Perf. Top</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>Perf. Bottom</td>
</tr>
<tr>
<td>Liner</td>
<td></td>
<td></td>
<td>Perf. Top</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Perf. Bottom</td>
</tr>
</tbody>
</table>

APPROXIMATE FRESH WATER DEPTHS 50 FEET
APPROXIMATE SALT WATER 1300 FEET
APPROXIMATE COAL DEPTHS 680'; 830'; 950'

18 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