



CERTIFICATE

"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 degree of accuracy is one part in 200

Signed

Frank V. Borden LLS # 200

- NEW LOCATION
- RECONDITION
- DRILL DEEPER
- ABANDONMENT

COMPANY KAISER EXPLORATION & MINING COMPANY
 ADDRESS P.O. BOX 8 RAVENSWOOD, WEST VIRGINIA
 FARM GRACE MORRISON G.W. SAYRE'S
 MA⁶ _____ ACRES 168 LEASE NO. _____
 WELL (FARM) NO. 2 SERIAL NO. KEM 32
 ELEVATION (SPIRIT LEVEL) 718
 QUADRANGLE ELMWOOD 7 1/2 WINFIELD 15' N8
 COUNTY MASON DISTRICT _____
 POINT OF PROVEN ELEVATION Forks Road Shown Above EL 641
 FILE NO. _____ DRAWING NO. _____
 DATE FEB 7, 1980 SCALE 1" = 500 FT

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

WELL LOCATION MAP

FILE NO. **47-053-0219**

+ 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.

DEEP WELL 11890 G-CO. Trust Chapel 346 (200) FCPL 5 1980

RECEIVED

JUL - 5 1984

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

OIL & GAS DIVISION DEPT. OF MINES

WELL RECORD

Quadrangle Elmwood

Permit No. MAS-219

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

Company Kaiser Exploration and Mining Company
Address P. O. Box 8, Ravenswood, WV 26164
Farm G. W. Sayre, Heirs Acres 168
Location (waters) Thirteen Mile Creek
Well No. KEM #32 Elev. 718
District Union County Mason
The surface of tract is owned in fee by _____
Grace M. Morrison
Address Rt. 1, Box 372, Leon, WV 25123
Mineral rights are owned by G. W. Sayre, Heirs
Address Rt. 1, Eleanor, WV 25070
Drilling Commenced 9/19/80
Drilling Completed 9/25/80
Initial open flow Trace cu. ft. -- bbls.
Final production 200 M cu. ft. per day -- bbls.
Well open 10 hrs. before test 1300 RP.

| Casing and Tubing | Used in Drilling | Left in Well | Cement fill up Cu. ft. (Sks.) |
|-------------------|------------------|--------------|------------------------------------------------|
| Size | | | |
| 20-16 | | | |
| Cond. | | | |
| 13-10" 10 3/4 | 257' (KB) | 257' (KB) | 150 sks class A (to surface) |
| 9 5/8 | | | |
| 8 5/8 | | | |
| 7 | 2537' (KB) | 2537' (KB) | 65 sks 50/50 po 100 sks class A (1400' fillup) |
| 5 1/2 | | | |
| 4 1/2 | 4830' (KB) | 4830' (KB) | 225 sks 50/50 p (2000' fillup) |
| 3 | | | |
| 2 | | 4727' (KB) | |
| Liners Used | | | |

Well treatment details:

Attach copy of cementing record.

Perforated Oriskany from 4736'-4744' (K.B) 4 holes/ft, 32 holes, .39" diameter (Basin Survey Halliburton and B.J. Hughes on location 9/29/80 to hydrofracture zone; used 500 gal 28% HCL acid, 15,000# 80/100 sand, 45,000# 20/40 sand, 819 BBL water, 2236 hydraulic horsepower, 200,000 SCF of nitrogen; treated at 22.5 BPM at 4100 psig; 3500 psig instantaneous shut in pressure; 15 minute shut in was 3300 psig.

Coal was encountered at -- Feet -- Inches
Fresh water -- Feet -- Salt Water -- Feet --
Producing Sand Oriskany Sandstone Depth 4736'-4744' (K.B)

| Formation | Color | Hard or Soft | Top Feet | Bottom Feet | Oil, Gas or Water | * Remarks |
|--------------|-------|--------------|----------|-------------|-------------------|-----------|
| Sand | | | 0 | 52 | | |
| Shale | | | 52 | 101 | | |
| Sand | | | 101 | 293 | | |
| Shale | | | 293 | 608 | | |
| Sand | | | 608 | 626 | | |
| Shale | | | 626 | 752 | | |
| Sand | | | 752 | 770 | | |
| Shale | | | 770 | 802 | | |
| Sand | | | 802 | 926 | | |
| Shale | | | 926 | 1046 | | |
| Salt Sands | | | 1046 | 1282 | | |
| Shale | | | 1282 | 1354 | | |
| Sand | | | 1354 | 1382 | | |
| Shale | | | 1382 | 1494 | | |
| Sand | | | 1494 | 1502 | | |
| Shale | | | 1502 | 1530 | | |
| Sand | | | 1530 | 1640 | | |
| Shale | | | 1640 | 1692 | | |
| Big Lime | | | 1692 | 1896 | | |
| Shale | | | 1896 | 1962 | | |
| Big Injun | | | 1962 | 2073 | | |
| Shale | | | 2073 | 2383 | | |
| Coffee Shale | | | 2383 | 2405 | | |
| Berea Sand | | | 2405 | 2416 | | |

Tops probably from KB - about 728'

(over)

JUL 30 1984

053-0219

| Formation | Color | Hard or Soft | Top Feet | Bottom Feet | Oil, Gas or Water | Remarks |
|--------------------|-------|--------------|-------------|-------------|-------------------|----------------------------|
| Shale | | | 2416 | 3598 | Show/Gas | 3369', 3415', 3449' |
| Brown Shale | | | 3598 | 4064 | Show/Gas | 3625', 3662', 3840', 3962' |
| Shale | | | 4064 | 4404 | | |
| Marcellus | | | 4404 | 4637 | Show/Gas | 4517', 4548', 4567' |
| Onondaga Lime | | | 4637 | 4708 | | |
| Oriskany Sand | | | 4708 | 4754 | Show/Gas | 4725' |
| Helderberg Lime | | | 4754 | 4858 | | |
| Total Depth | | | <u>4858</u> | | | |

GR log - el. 1228' 1/2

H-3598

J-4064

A-4404

Rh-4407

On-4637

November 12, 1980

80

Ed A. P.

Operation Manager



RECEIVED
FEB 13 1980

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

OIL & GAS DIVISION
DEPT. OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

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

DATE January 24, 1980

Surface Owner Grace M. Morrison

Company Kaiser Exploration and Mining Company

Address Rt. 1, Box 372, Leon, WV 25123

Address P. O. Box 8, Ravenswood, WV 26164

Mineral Owner G. W. Sayre, heirs

Farm G. W. Sayre, heirs Acres 168

Address Rt. 1, Eleanor, WV 25070

Location (waters) Thirteen Mile Creek

Coal Owner G. W. Sayre, heirs

Well No. KEM 32 Elevation 718

Address Rt. 1, Eleanor, WV 25070

District Union County Mason

Coal Operator None

Quadrangle Elmwood

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 10-15-80.

INSPECTOR
TO BE NOTIFIED Kenneth Butcher

ADDRESS RFD #1, Barboursville, WV 25504

PHONE 736-4885

Robert K. [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 or lease dated November 12 1979 by G. W. Sayre, heirs made to Kaiser Exploration & Mining & recorded on the 22 day of January 1980, in Mason County, Book 47 Page 463

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

Address
of
Well Operator

Very truly yours,
(Sign Name) R. A. Pryce
Well Operator
R. A. Pryce, Operations Manager
Kaiser Exploration and Mining Company
Street
P. O. Box 8, Ravenswood
City or Town
West Virginia 26164
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.

BLANKET BOND

47-053-0219

PERMIT NUMBER

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) _____ RESPONSIBLE AGENT:
 NAME Not known at this time _____ NAME Robert A. Pryce
 ADDRESS _____ ADDRESS P. O. Box 8, Ravenswood, WV 26164
 TELEPHONE _____ TELEPHONE 273-5371
 ESTIMATED DEPTH OF COMPLETED WELL: 4890' ROTARY X CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Briskany Z
 TYPE OF WELL: OIL _____ GAS X 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 | | | |
| 9 - 5/8 10 3/4" | 200 | 200 | Cement to surface |
| 8 - 5/8 | | | |
| 7 | 2375 | 2375 | 120 sks = 570 feet |
| 5 1/2 | | | |
| 4 1/2 | 4890 | 4890 | 125 sks = 1500 feet |
| 3 | | | Perf. Top |
| 2 | | | Perf. Bottom |
| Liners | | | Perf. Top |
| | | | Perf. Bottom |

APPROXIMATE FRESH WATER DEPTHS _____ FEET SALT WATER _____ FEET
 APPROXIMATE COAL DEPTHS _____
 IS COAL BEING MINED IN THE AREA? Not at this time 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