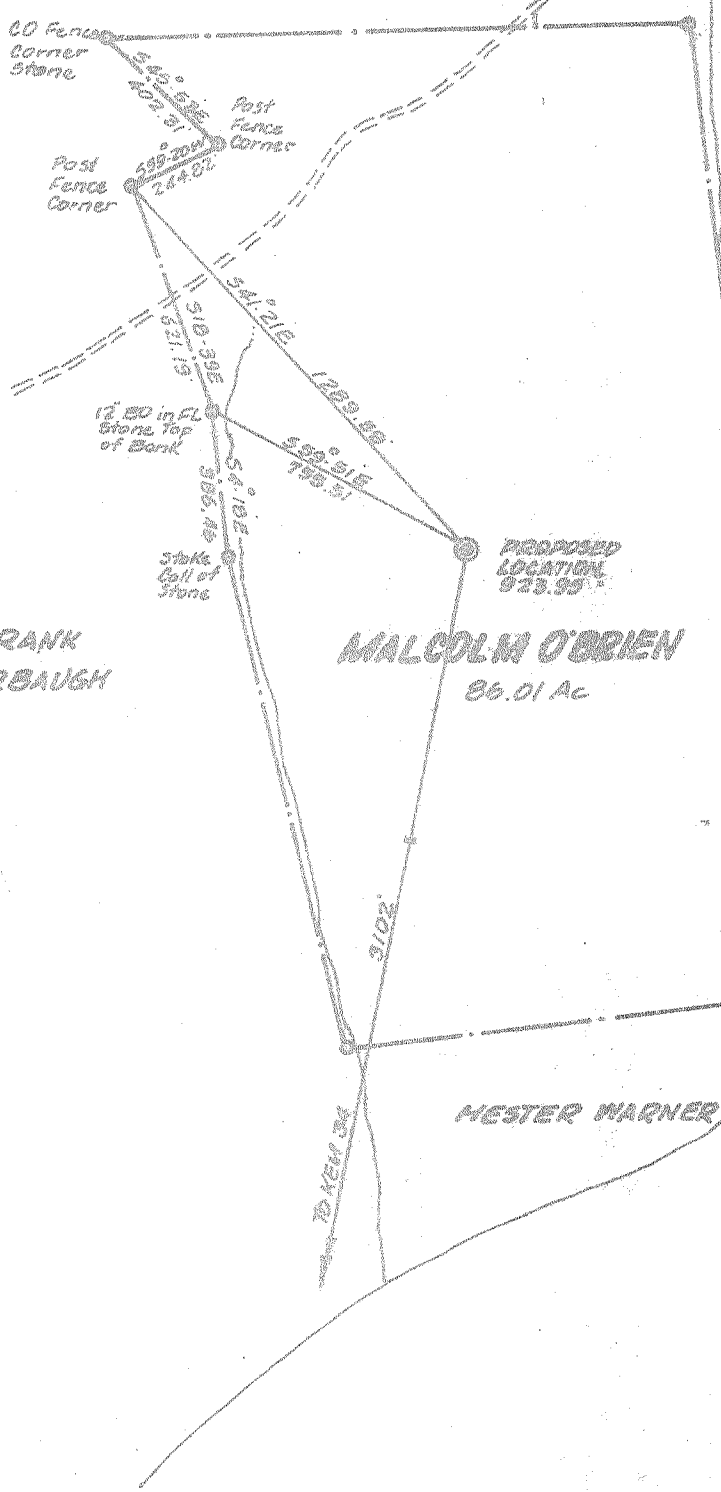


WALTER PICKENS

1965
0.18 W



BERT HESS

MALCOLM O'BRIEN
86.01 Ac

FRANK ARBAUGH

HESTER WARNER HEIRS

7 1/2'
1.915
0.19 W

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 H. Barber LL5 #289

- NEW LOCATION
- RECONDITION
- DRILL DEEPER
- ABANDONMENT

COMPANY KAISER EXPLORATION & MINING COMPANY
 ADDRESS P.O. BOX 8, RAVENSWOOD, WEST VIRGINIA
 FARM MALCOLM O'BRIEN
 MAP _____ ACRES 86.01 LEASE NO. _____
 WELL (FARM) NO. 1 SERIAL NO. KEM 35
 ELEVATION (SPIRIT LEVEL) 923.95
 QUADRANGLE ELMWOOD Winfield 15' N.C.
 COUNTY MASON DISTRICT UNION
 POINT OF PROVEN ELEVATION pt. on knob ELEV. 987
 FILE NO. _____ DRAWING NO. _____
 DATE FEB. 16, 1980 SCALE 1"=500 FT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON
 WELL LOCATION MAP
 FILE NO. 47-053-0220
 + DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS. SCALE 1 TO 24000. LATITUDE AND LONGITUDE LINES BEING REPRESENTED BY BORDER LINES AS SHOWN.
 - DENOTES ONE INCH SPACES ON BORDER LINE OF ORIGINAL TRACING.

DEEP WELL

6-6 ~~Foster~~ Rock Castle (345)

MAR 10 1980



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

Quadrangle Elmwood
Permit No. MAS -0220

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

Company Kaiser Exploration and Mining Company
Address P. O. Box 8, Ravenswood, WV 26164
Farm Malcolm O'Brien Acres
Location (waters) Bill King Branch of Sapsucker Run
Well No. KEM #35 Elev. 923.95
District Union County Mason
The surface of tract is owned in fee by
Same as above
Address
Mineral rights are owned by Same as above
Address
Drilling Commenced 6/26/80
Drilling Completed 7/5/80 ✓
Initial open flow 53 MCFD cu. ft. -- bbls.
Final production 7 cu. ft. per day bbls.
Well open 20 hrs. before test 1850 RP.
Well treatment details:

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
20-16			
13-10" 10 3/4"	251'(KB)	251'(KB)	150 sks class A 3% calcium clorid (to surface)
9 5/8			
8 5/8			
7	2679'(KB)	2679'(KB)	165 sks (1500' fillup)
5 1/2			
4 1/2	4920'(KB)	4920'(KB)	
3			
2			
Liners Used			

Attach copy of cementing record.

7% HCL acid in hole; perforated Oriskany 4850'-4855' (K.B.) with 3 1/8" nuline jets 4 holes/ft, 20 holes, .39" diameter; hydrofractured formation with 30,000# 80/100 sand, 30,000# 20/40 sand, and 195,000 SCF of nitrogen at an average pressure of 4650 psig, and an average rate of 20 BPM; used a total of 868 BBL of water in treatment.

produced 59,005 mcf in 1981 in 357 days on line

Coal was encountered at -- Feet -- Inches
Fresh water -- Feet -- Salt Water -- Feet
Producing Sand Oriskany sandstone Depth 4850'-4855'

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Shale			0	118		
Siltstone			118	191		
Sand			191	254		
Sand & Shale			254	301		
Red Rock			301	520		
Siltstone			520	544		
Sand			544	560		
Shale			560	591		
Siltstone			591	686		
Sand			686	694		
Shale			694	755		
Siltstone			755	858		
Sand			858	872		
Siltstone			872	955		
Sand & Shale			955	1088		
Shale			1088	1134		
Sand			1134	1170		
Shale			1170	1182		
Sand			1182	1258		
Shale			1258	1362		
Sand			1362	1388		
Sand & Siltstone			1388	1532		

*TOPS FROM
KB = 934*

(over)

* Indicates Electric Log tops in the remarks section.

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Sand			1532	1546		
Shale			1546	1570		
Sand			1570	1574		
Siltstone			1574	1678		
Sand			1678	1686		
Siltstone			1686	1803		
Sand			1803	1826		
Siltstone & Shale			1826	1936		
Big Lime			1936	2072		
Shale			2072	2120		
Big Injun			2120	2200		
Siltstone			2200	2543		
Coffee Shale			2543	2566		
Berea			2566	2580		
Shale			2580	3750		
Brown Shale			3750	4200	Show/Gas	3888', 3996'
Shale			4200	4539	Show/Gas	4268', 4290'
Marcellus			4539	4757		
Onondaga			4757	4828		
Oriskany			4828	4866	Gas	4851'
Helderberg			4866	4926		
Total Depth			4926			

GR log - el. 934' KB

H 3756

J 4198

A 4323

Rh 4539

OA 4757

Date November 12, 1980

APPROVED

Kath A. Payne

OWNER

By Operation Manager

(100)



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED

FEB 22 1980

Oil and Gas Division

OIL & GAS DIVISION
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

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

DATE February 20, 1980

Surface Owner <u>Malcolm O'Brien</u>	Company <u>Kaiser Exploration and Mining Company</u>
Address <u>1725 Forrest Hills Drive, Vienna, WV 26105</u>	Address <u>P. O. Box 8, Ravenswood, WV 26164</u>
Mineral Owner <u>Malcolm O'Brien</u>	Farm <u>Malcolm O'Brien</u> Acres <u>86.01</u>
Address <u>1725 Forrest Hills Drive, Vienna, WV 26105</u>	Location (waters) <u>Bill King Branch of Sapsucker</u>
Coal Owner <u>Union Carbide Corporation</u>	Well No. <u>KEM 35</u> Elevation <u>923.95</u>
Address <u>32 Sanderson Road, Clendenin, WV 25045</u>	District <u>Union</u> County <u>Mason</u>
Coal Operator <u>None</u>	Quadrangle <u>Elmwood</u>
Address <u>None</u>	

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 10-25-80.

INSPECTOR TO BE NOTIFIED Kenneth Butcher

ADDRESS RFD #1, Barboursville, WV 25504

PHONE 736-4885

Robert H. [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 September 20 1978 by Smith & Louise Daubenspeck made to Kaiser Exploration and Mining Co. and recorded on the 14th. day of November 1978, in Mason County, Book 44 Page 112

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
R. A. Pryce Well Operator
P. O. Box 8
 _____ Street
Ravenswood
 _____ City or Town
West Virginia
 _____ 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

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 (304) 273-5371 _____
 ESTIMATED DEPTH OF COMPLETED WELL: 4970 _____ ROTARY X _____ CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Oriskany _____
 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 10 3/4	250	250	Cement to surface
9 - 5/8			
8 - 5/8			
7	2620	2620	165 sk = 1300'
5 1/2			
4 1/2	4970	4970	225 SKS = 2300'
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? 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