





STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

Oil and Gas Division

RECEIVED

OCT 12 1977

OIL & GAS DIVISION  
DEPT. OF MINES

WELL RECORD

Quadrangle Ravenswood

Permit No. JAC - 1377

Rotary XXX Oil \_\_\_\_\_  
Cable \_\_\_\_\_ Gas XXX  
Recycling \_\_\_\_\_ Comb. \_\_\_\_\_  
Water Flood \_\_\_\_\_ Storage \_\_\_\_\_  
Disposal \_\_\_\_\_ (Kind) \_\_\_\_\_

Company Kaiser Exploration & Mining Co.  
Address Box 98, Ravenswood, WV  
Farm Thomas R. Goodwin Acres 200  
Location (waters) Cow Run of Mill Creek  
Well No. DEK #3 Elev. 593  
District Union County Jackson  
The surface of tract is owned in fee by \_\_\_\_\_  
Thomas R. Goodwin, et al  
Address 500 Church Street, Ripley, WV  
Mineral rights are owned by Same as above  
\_\_\_\_\_ Address \_\_\_\_\_  
Drilling Commenced October 23, 1976  
Drilling Completed October 31, 1976  
Initial open flow Show cu. ft. \_\_\_\_\_ bbls.  
Final production \_\_\_\_\_ cu. ft. per day \_\_\_\_\_ bbls.  
Well open \_\_\_\_\_ hrs. before test \_\_\_\_\_ RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size 20-16			
Cond. 13-10"			
9 5/8	203	203	100 sax
8 5/8			
7	2196	2196	75 sax
5 1/2			
4 1/2	4437	4437	110 sax
3			
2		4377	
Liners Used			

Well treatment details:

Attach copy of cementing record.

Perforated 4 1/2" casing @ 4383 to 4384 with 16 shots.  
Fractured with 685 bbl water and 32,500# sand  
Open flow after frac = 143 MCF/Day. Shut in pressure = 1600 psi  
Perforated 4164 to 4214 with 16 shots - O.F. = 215 Natural, 1325 psi.  
Perforated 3535 - 3740 with 23 shots. Frac with 1291 bbl water & 80,000# sand. Shut in pressure 800 psi O.F. = 353 MCFD.

Coal was encountered at \_\_\_\_\_ Feet \_\_\_\_\_ Inches  
Fresh water \_\_\_\_\_ Feet \_\_\_\_\_ Salt Water \_\_\_\_\_ Feet \_\_\_\_\_  
Producing Sand Oriskany Sand, Marcellus & Br. Shale Depth 4283 to 4284

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Red Shales and Sands			0	377		
Sand			377	381		
Red Rock			381	509		
Shale			509	549		
Red Rock			549	607		
Shale			607	637		
Red Rock			637	644		
Shale			644	675		
Sand			675	685		
Red Rock			685	694		
Shale			694	753		
Sand			753	758		
Red Rock			758	775		
Shale			775	884		
Salt Sand			884	980		
Shale			980	998		
Sand			998	1015		
Shale			1015	1016		
Sand			1046	1074		
Shale			1074	1119		
Sand			1119	1140		
Shale			1140	1409		
Sand			1409	1430		
Shale			1430	1450		

(over)

\* Indicates Electric Log tops in the remarks section.

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Maxon			1450	1578		
Big Lime			1578	1617		
Keener Sand			1617	1628		
Shale			1628	1643		
Injun Sand			1643	1796		
Shale			1796	2110		
Coffee Shale			2110	2127		
Berea			2127	2137		
Shale			2137	3290		
Brown Shale			3290	3744		
Shale			3744	4150		
Marcellus Shale			4150	4285		
Onondaga L.S.			4285	4362		
Oriskany Sand			4362	4384		
Helderberg L.S.			4384	TD		
Log Total Depth				4455		

Date October 10, 19 77.

APPROVED

Robert A. Payne

Owner

By Staff Petroleum Geologist  
(Title)



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

Oil and Gas Division

RECEIVED  
OCT 21 1976  
OIL & GAS DIVISION  
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

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

DATE October 18, 1976

Surface Owner Thomas R. Goodwin, et al Company Kaiser Expl. & Mining Co.  
 Address 500 Church Street, Ripley, W. Va. Address Box 98, Ravenswood, W. Va.

Mineral Owner Same as above Farm Thomas R. Goodwin, et al Acres 200  
 Address \_\_\_\_\_ Location (waters) Cow Run of Mill Creek

Coal Owner Same as above Well No. DEK #3 Elevation 601 KB  
 Address \_\_\_\_\_ District Union County Jackson

Coal Operator Not operated Quadrangle Ravenswood 15' Cottageville 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 2-21-77.

INSPECTOR  
TO BE NOTIFIED Richard Morris

ADDRESS Grantsville, W. Va.

PHONE 354-7259

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 Nov. 22 1966 by James W. Casto, et ux made to Commonwealth Gas Corp. and recorded on the 17th day of December 1966, in Jackson County, Book 103 Page 648

XXXX 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, KAISER EXPLORATION & MINING CO.

(Sign Name) Donald H. Lovell  
Well Operator

D. H. Lovell, Resident Engineer

Box 98 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.

JAC-1377 PERMIT NUMBER

47-035

"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 Donald H. Lovell

BLANKET BAND

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

PROPOSED WORK ORDER TO XXXX DRILL \_\_\_\_\_ DEEPEN \_\_\_\_\_ FRACTURE-STIMULATE \_\_\_\_\_  
 DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT:  
 NAME FWA Drilling Company NAME Bill W. Backus  
 ADDRESS Box 448, Elkview, W. Va. 25071 ADDRESS Box 1433, Charleston, W. Va.  
 TELEPHONE 965-3379 TELEPHONE 342-3171  
 ESTIMATED DEPTH OF COMPLETED WELL: 4450 ROTARY XXXX CABLE TOOLS \_\_\_\_\_  
 PROPOSED GEOLOGICAL FORMATION: Oriskany  
 TYPE OF WELL: OIL \_\_\_\_\_ GAS XXX 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	200'	200'	100 Sax
8 - 5/8			
7	2175'	2175'	75 Sax
5 1/2			
4 1/2	4450'	4450'	100 Sax
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS \_\_\_\_\_ FEET \_\_\_\_\_ SALT WATER \_\_\_\_\_ FEET \_\_\_\_\_  
 APPROXIMATE COAL DEPTHS None anticipated.  
 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