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MAR - 6 1978

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
Oil and Gas Division

OIL & GAS DIVISION
DEPT. OF MINES

WELL RECORD

Quadrangle Ravenswood

Permit No. JAC 1413

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

Company <u>Kaiser Exploration & Mining Co.</u>	Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Address <u>Box 98, Ravenswood, WV</u>				
Farm <u>John P. Kay et al</u> Acres <u>52</u>				
Location (waters) <u>Branch of Lick Run</u>				
Well No. <u>DEK #38</u> Elev <u>816 KB</u>	Size 20-16			
District <u>Union</u> County <u>Jackson</u>	Cond. 13-10"			
The surface of tract is owned in fee by <u>Rachel Kay</u>	9 5/8	244	244	110 Sax=to surface
Address <u>2807 Lincoln Ave., St. Albans, WV</u>	8 5/8			
Mineral rights are owned by <u>John P. Kay et al</u>	7	2377	2377	75 Sax=625'
Address <u>as above</u>	5 1/2			
Drilling Commenced <u>August 13, 1977</u>	4 1/2		4615	150Sax=1800'
Drilling Completed <u>September 2, 1977</u>	3			
Initial open flow <u>42 MCFD</u> XXXXX bbls.	2			
Final production <u>50 MCFD</u> cu. ft. per day bbls.	Liners Used			
Well open _____ hrs. before test <u>650</u> RP.				

Well treatment details:

Attach copy of cementing record. All cementing by Halliburton.

Perforated Oriskany section at 4511'-4513' with (3) omeja jet shots/ft. Fractured with 1000 gallons acid, 33,000# sand and 713 bbl. water.

Perforated Brown Shale @ 3717 to 3860 with 25 shots. Fractured with 1000 gal. MCA, 90,000# sand and 952 bbls. water.

Coal was encountered at None Feet _____ Inches _____
Fresh water _____ Feet _____ Salt Water _____ Feet _____
Producing Sand Oriskany, Br. Shale Depth 4511-4513 & 3717-3860

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Red Shale & Shells			0	277		
Sand			277	314		
Slate & Shells			314	518		
Sand			518	558		
Red Rock			558	586		
Slate			586	628		
Red Rock			628	652		
Sand			652	682		
Red Rock			682	704		
Slate			704	744		
Sand			744	762		
Red Rock			762	816		
Slate			816	890		
Sand			890	902		
Red Rock			902	923		
Slate			923	940		
Sand			940	952		
Slate & Shells			952	1054		
Salt Sand			1054	1104		
Shale			1104	1134		
Salt Sand			1134	1184		
Slate			1184	1211		
Salt Sand			1211	1250		

(over)

* Indicates Electric Log tops in the remarks section.

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Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Slate			1250	1315		
Salt Sand			1315	1460		
Slate & Shells			1460	1692		
Maxon Sand			1692	1724		
Big Lime			1724	1813		
Shale			1813	1870		
Injun Sand			1870	1976		
Shale & Shells			1976	2279		
Coffee Shale			2279	2292		
Berea Sand			2292	2299		
Gray Shale			2299	3438		
Brown Shale			3438	3891		
Gray Shale			3891	4296		
Marcellus Shale			4296	4428		
Onondaga L.S.			4428	4502		
Oriskany Sand			4502	4524		
Helderberg L.S.			4524	4641		
Log Total Depth				4641		

Date March 2, 1978

APPROVED Kath A. Payne, Owner

By Operations Manager
(Title)



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

RECEIVED

AUG 12 1977

OIL & GAS DIVISION
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

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

Surface Owner Rachel Kay
Address 2807 Lincoln Ave., St. Albans, WVa.
Mineral Owner John P. Kay, et al
Address 2807 Lincoln Ave., St. Albans, WVa.
Coal Owner Same
Address _____
Coal Operator Not Operated
Address _____

DATE August 9, 1977
Company Kaiser Exploration & Mining Co.
Address Box 98, Ravenswood, WVa.
Farm John P. Kay Acres 52
Location (waters) Br. of Lick Run
Well No. DEK #38 Elevation 809
District Union County Jackson
Quadrangle Ravenswood

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 12-12-77

[Signature]
Deputy Director - Oil & Gas Division

INSPECTOR
TO BE NOTIFIED Richard J. Morris
ADDRESS P. O. Box 372, Grantsville, W.Va.
PHONE 354-7259

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 May 14th 19 76 by Rachel Kay, et al made to Devon & Eason and recorded on the 23rd day of July 19 76 in Jackson County, Book 140 Page 304
XXX 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) [Signature] Well Operator Robert A. Pryce
Box 98
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

JAC-1413 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 [Signature]
Robert A. Pryce

[Handwritten Signature]

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

PROPOSED WORK ORDER TO XXX DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT:
 NAME FWA Drilling Company NAME Bill W. Backus
 ADDRESS Box 448, Elkview, WV ADDRESS Box 1433 Charleston, WV
 TELEPHONE 965-3379 TELEPHONE 342-3171
 ESTIMATED DEPTH OF COMPLETED WELL: 4620 ROTARY XXX CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: _____
 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	250	250	110 sax = to surface
8 - 5/8			
7	2390	2390'	75 sax = 625'
5 1/2			
4 1/2	4620	4620	150 sax = 1800'
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