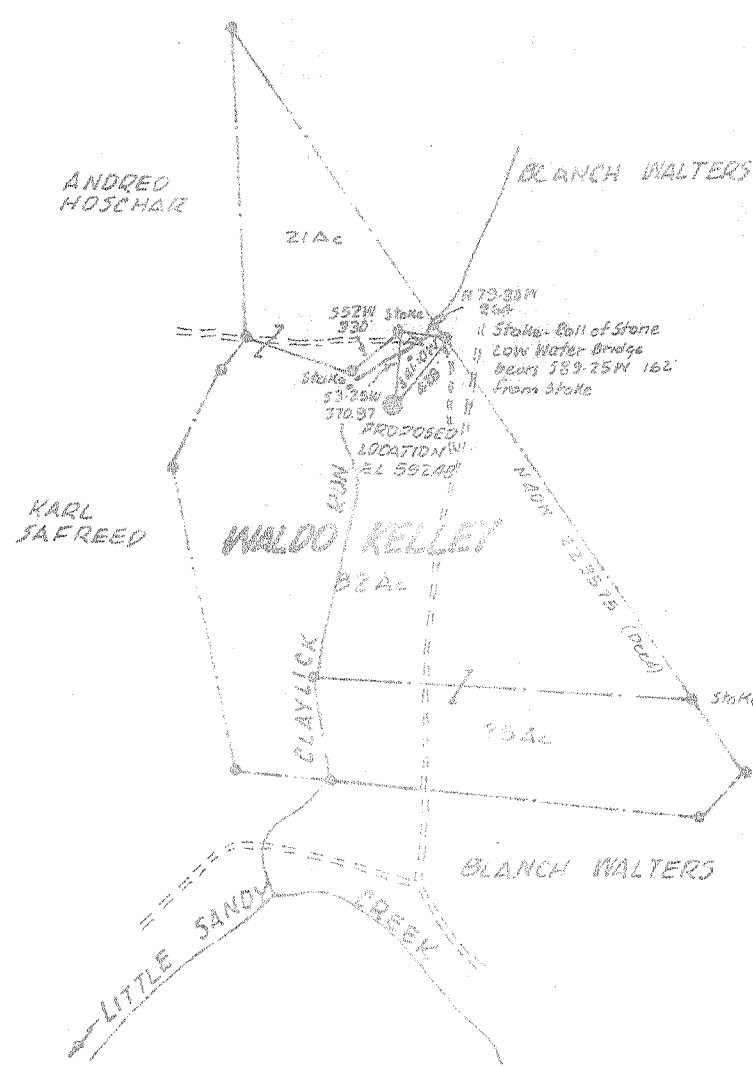


0.155  
3.24W  
77  
101-7-30 RD  
LATITUDE 39°-00'  
LONGITUDE 81°-40'  
81°-42'-30"



**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 # 229

- NEW LOCATION
- RECONDITION
- DRILL DEEPER
- ABANDONMENT

COMPANY KAISER EXPLORATION & MINING COMPANY  
 ADDRESS P.O. BOX RAVENSWOOD, WEST VIRGINIA  
 FARM WALDO KELLEY  
 MAP \_\_\_\_\_ ACRES 128 LEASE NO. \_\_\_\_\_  
 WELL (FRANK) NO. 1 SERIAL NO. KEM 89  
 ELEVATION (SPIRIT LEVEL) 592.40  
 QUADRANGLE SANDYVILLE RIPLEY 15 NW  
 COUNTY JACKSON DISTRICT GRANT  
 POINT OF PROVEN ELEVATION Road Intersection EL. 602  
 FILE NO. \_\_\_\_\_ DRAWING NO. \_\_\_\_\_  
 DATE JULY 17 1980 SCALE 1" = 1000'

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION  
 CHARLESTON  
**WELL LOCATION MAP**  
 FILE NO. **035-1528**  
 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.  
3053 NEWBURG  
 DENOTES ONE INCH SPACES ON BORDER LINE OF ORIGINAL TRACING.

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

Quadrangle Sandyville

Permit No. JAC-1528

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 Waldo Kelley Acres 128  
Location (waters) Clay Lick of Little Sand Crk.  
Well No. KEM #49 Elev. 592.48  
District Grant County Jackson  
The surface of tract is owned in fee by \_\_\_\_\_  
Waldo & Audrey Kelley  
Address Rt. 1, Box 12, Sherman, WV 26173  
Mineral rights are owned by Same  
Address Same  
Drilling Commenced 9/16/80  
Drilling Completed 9/25/80  
Initial open flow 0 cu. ft. -- bbls.  
Final production 300 M cu. ft. per day -- bbls.  
Well open 6 hrs. before test 1300 RP.  
Well treatment details:

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size			
20-16			
Cond.			
13-10" 10 3/4'	223' (KB)	223' (KB)	280 sks class (to surface)
9 5/8	1825' (KB)	1825' (KB)	260 sks 50/5
8 5/8			100 sks class
7	5013' (KB)	5013' (KB)	150 sks 50/5
5 1/2			100 sks class
4 1/2			(2600' fillu
3			
2		4331' (KB)	
Liners Used			

Attach copy of cementing record.

Newburg dry; set 7" permanent bridge plug at 4425' (KB); dumped 15' of calseal on top of plug; perforated Oriskany Sandstone from 4343'-4353' (KB); hydrofractured formation w/25,000# 80/100 sand, 1000 gal 28% HCl acid, 250 BBL water, 170,000 SCF of nitrogen; 25 BPM avg rate, 3800 psig avg pressure; breakdown: 2800 psig.

Coal was encountered at -- Feet -- Inches  
Fresh water -- Feet -- Salt Water -- Feet  
Producing Sand Oriskany Sandstone Depth 4343'-4353' (KB)

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Soil & Shale			0	16		
Sand			16	144		
Siltstone			144	266		
Shale			266	322		
Sand			322	394		
Shale			394	451		
Sand			451	502		
Red Rock			502	838		
Sand			838	851		
Shale			851	877		
Sand			877	910		
Red Rock			910	1012		
Salt Sand			1012	1184		
Shale			1184	1417		
Salt Sand			1417	1574		
Shale			1574	1997		
Coffee Shale			1997	2020		
Berea Sand			2020	2024		
Shale			2024	3165	Show/Gas	3050'
Brown Shale			3165	3670	Show/Gas	3210', 3230', 3508'
Shale			3670	4010	Show/Gas	3680', 3774'
Marcellus Shale			4010	4240	Show/Gas	4065', 4130'-73
Onondaga Lime			4240	4328	Show/Gas	4354' - 68'
Oriskany Sand			4328	4370	Show/Gas	4345'

1  
Please log tops in these wells section.

SEP 7 1982

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Helderberg Lime			4370	4404		
Chert & Dolomite			4404	5043		
Newberg Sand (Williamsport)			5043	5057		
Bloomsburg			5057	5140		
TOTAL DEPTH			5140			

Show/Gas 4960'

5140  
 4370  
 ---  
 770 - exp'd

Date March 11,

81

APPROVED *Zell A. P.*

H. General Manager



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

RECEIVED

JUL 29 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 July 18, 1980

Surface Owner Waldo & Audrey Kelley  
Address Rt. 1, Box 12, Sherman, WV 26173  
Mineral Owner Waldo and Audrey Kelley et al  
Address Rt. 1, Box 12, Sherman, WV 26173  
Coal Owner Same as above  
Address Same as above  
Coal Operator None  
Address \_\_\_\_\_

Company Kaiser Exploration and Mining Company  
Address P. O. Box 8, Ravenswood, WV 26164  
Farm Waldo Kelley Acres 128  
Location (waters) Clay Lick of Little Sand Creek  
Well No. KEM #49 Elevation 592.48  
District Grant County Jackson  
Quadrangle Sandyville

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 4-4-81.

INSPECTOR

TO BE NOTIFIED Richard Morris

ADDRESS P. O. Box 372, Grantsville, WV

PHONE 354-7259

[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 January 7 & 16 1980 by Waldo and  
Audra Kelley made to Kaiser Exploration and Mining Co and recorded on the 31 day of January  
1980, in Jackson County, Book 155 Page 18 & 24

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

Very truly yours,

(Sign Name) [Signature]

Well Operator

R. A. Pryce

Kaiser Exploration and Mining Company

Street

Address  
of  
Well Operator

P. O. Box 8

City or Town

Ravenswood, WV 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

47-035-1528

PERMIT NUMBER

[Signature]

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 Burdette Drilling Company NAME Robert A. Pryce  
 ADDRESS P. O. Box 10167, Charleston, WV 25312 ADDRESS P. O. Box 8, Ravenswood, WV 26164  
 TELEPHONE 744-1361 TELEPHONE 273-5371  
 ESTIMATED DEPTH OF COMPLETED WELL: 5050' ROTARY X CABLE TOOLS \_\_\_\_\_  
 PROPOSED GEOLOGICAL FORMATION: Newburg  
 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.
10 - 16			
13 - 10 13 3/4"	250'	250'	Cement to surface
9 - 5/8	2060'	2060'	350 Pozmix Cement
8 - 5/8			
7	5050'	5050'	250 Pozmix Cement
5 1/2			
4 1/2			
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