



REFERENCE POINTS:
 N87°14'W 163' TO 10" PINE
 N11°24'E 190' TO 9" PINE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

N16E9

FILE NO. 8-18
 DRAWING NO. _____
 SCALE 1" = 1,000'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION ROAD INTER ELEV. 662, 1,370' N.E. OF LOCATION

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF MINES.
 (SIGNED) Vincent W. Wood
 R.P.E. _____ L.L.S. 664

PLACE SEAL HERE

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION



DATE NOVEMBER 30, 1984
 OPERATOR'S WELL NO. KEM 630
 API WELL NO. _____

47-107-1333
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS _____ LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS,") PRODUCTION _____ STORAGE _____ DEEP _____ SHALLOW _____
 LOCATION: ELEVATION 827 WATERSHED NORTH FORK OF LEE CREEK
 DISTRICT HARRIS 2 COUNTY WOOD
 QUADRANGLE LUBECK 449 Bellville 15' C5
 SURFACE OWNER GEORGE FAWCETT ACREAGE 28 1/2
 OIL & GAS ROYALTY OWNER GEORGE FAWCETT LEASE ACREAGE 93
 LEASE NO. 87-03-1530

PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE PLUG OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON _____ CLEAN OUT AND REPLUG _____
 TARGET FORMATION BEREA ESTIMATED DEPTH 2225'
 WELL OPERATOR KAISER EXPLORATION & MINING CO. DESIGNATED AGENT R.A. PRYCE
 ADDRESS P.O. BOX 8, RAVENSWOOD, W.V. 26164 ADDRESS P.O. BOX 8, RAVENSWOOD, W.V. 26164
465 h-6 unnamed (b)

DEC 31 1984

FORM IV-6 (8-78)
 H.T. HALL

COUNTY NAME
 PERMIT

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

3/19/85 Perforations at 2153' to 2157', 4 holes/ft, 16 total holes, 3 1/8 hollow steel by Young Wireline. Dowell to fracture using 75% quality foam on Berea Sandstone. 500 gal of 15% HCl in hole. Broke formation @ 1700 psig. Max. pressure: 1850 psig. Used 46,000# of 20/40 sand at 4 - 10 ppg concentrations, and 15,000# of 10/20 sand at 4 - 8 ppg concentrations. Water rate: 5 bbl/min; N₂ rate: 12.5 mscf/min; foam rate: 20 bbl/min. Total N₂: 525 mscf; total sand laden fluid: 228 bbl; total fluid: 323 bbl; ISIP: 1550 psig; 5 min SIP: 1390 psig.

WELL LOG

*Perforation depths taken from gamma ray-cement bond log log.

FORMATION COLOR HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
			Including indication of all fresh and salt water, coal, oil and gas
Shale and Sand	0	338	
Sand	338	374	
Shale and Siltstone	374	716	
Sand	716	782	
Shale and Siltstone	782	1146	
Sand	1146	1186	
Shale and Siltstone	1186	1486	
Salt Sands	1486	1709	
Shale	1709	2122	
Coffee Shale (Sunbury)	2122	2150	
Berea Sandstone	2150	2154	Slt. S/G
Shale	2154	2225	
Total Depth:	2225	Berea @ TD.	

(Attach separate sheets as necessary)

Kaiser Exploration & Mining Co.
Well Operator

By: K. A. P.

Date: May 20, 1985

Note: Regulation 2.02(i) provides as follows:
"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."

RECEIVED

DEC 07 1984



1) Date: December 5, 1984, 19
2) Operator's Well No. KEM #630
3) API Well No. 47 - 107 - 1333
State County Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES, OIL AND GAS DIVISION
APPLICATION FOR A WELL WORK PERMIT

OIL & GAS DIVISION
DEPT. OF MINES

- 4) WELL TYPE: A Oil X / Gas X
B (If "Gas", Production X / Underground storage / Deep / Shallow X)
5) LOCATION: Elevation: 827' Watershed: North Fork of Lee Creek
District: Harris County: Wood Quadrangle: Lubeck
6) WELL OPERATOR Kaiser Exploration and Mining Co.7) DESIGNATED AGENT R. A. Pryce
Address P. O. Box 8 25550 Address Same
Ravenswood, WV 26164
8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Glen Robinson
Address Rt. 1, #6 Mt. Pleasant Estate Mineral Wells, WV 26150
9) DRILLING CONTRACTOR: Name Clint Hurt
Address P. O. Box 388 Elkview, WV
10) PROPOSED WELL WORK: Drill X / Drill deeper / Redrill / Stimulate
Plug off old formation / Perforate new formation
Other physical change in well (specify)
11) GEOLOGICAL TARGET FORMATION, Berea Sandstone
12) Estimated depth of completed well, 2225 feet
13) Approximate trata depths: Fresh, 2275 feet; salt, feet.
14) Approximate coal seam depths: Is coal being mined in the area? Yes / No X

15) CASING AND TUBING PROGRAM

Table with columns: CASING OR TUBING TYPE, SPECIFICATIONS (Size, Grade, Weight per ft., New, Used), FOOTAGE INTERVALS (For drilling, Left in well), CEMENT FILL-UP OR SACKS (Cubic feet), PACKERS (Kinds, Sizes, Depths set, Perforations: Top, Bottom). Includes handwritten entries for Fresh water, Coal, and Intermediate casing.

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47 - 107 - 1333 Date December 10, 19 84

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector, (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.
Permit expires December 10, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Table with columns: Bond (86), Agent (MN), Plat (MN), Casing (MN), 9 Fee (9.88), 512

Margaret J. Hassi
Administrator, Office of Oil and Gas