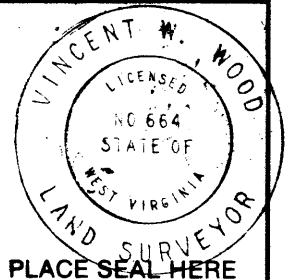


REFERENCE POINTS:
 W-251(02)
 N49°42'E 145' TO TELEGRAPH MARKER POST #1980
 S 11°15'W 125' TO 10" TWIN CHERRY. N 15 E 7

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

FILE NO. 8-33
 DRAWING NO. _____
 SCALE 1" = 500
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION ROAD INTERSECTION 1755' N.W. OF LOCATION, ELEV = 637

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



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
OIL AND GAS DIVISION

DATE AUG 5, 19 85
 OPERATOR'S WELL NO. KEM 653
 API WELL NO. 47-107-1380

WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS,") PRODUCTION STORAGE _____ DEEP _____ SHALLOW

LOCATION: ELEVATION 637 WATER SHED MIDDLE FORK OF LEE CREEK
 DISTRICT HARRIS 2 COUNTY WOOD
 QUADRANGLE LUBECK 449 009 WC4 Belleville

SURFACE OWNER DAVID D. STEELE ACREAGE 100
 OIL & GAS ROYALTY OWNER HAROLD KETCHUM LEASE ACREAGE 285
 LEASE NO. 90-04-873

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 SANDSTONE ESTIMATED DEPTH 1979

WELL OPERATOR KAISER EXPLORATION & MINING CO. DESIGNATED AGENT B.A. PRYCE
 ADDRESS P.O. BOX B, RAVENSWOOD, W.V. 26164 ADDRESS P.O. BOX B, RAVENSWOOD, W.V. 26164

OCT 1 1985

FORM IV-6 (8-76)

COUNTY NAME PERMIT



IV-35
(Rev 8-81)

Date January 30, 1986
Operator's
Well No. KEM #653
Farm Ketchum
API No. 47 - 107 - 1380

State of West Virginia
Department of Mines
Oil and Gas Division

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil / Gas / Liquid Injection / Waste Disposal /
(If "Gas," Production / Underground Storage / Deep / Shallow /)

LOCATION: Elevation: 637 Watershed Middle Fork of Lee Creek
District: Harris County Wood Quadrangle Lubeck

COMPANY Kaiser Exploration and Mining Company

ADDRESS P. O. Box 8, Ravenswood, WV 26164

DESIGNATED AGENT Robert A. Pryce

ADDRESS Same

SURFACE OWNER David D. Steele

ADDRESS Rt. #2, Belleville, WV

MINERAL RIGHTS OWNER Harold Ketchum

ADDRESS _____

OIL AND GAS INSPECTOR FOR THIS WORK Glen

Robinson ADDRESS Rt. 1, #6 Pleasant Estates

PERMIT ISSUED 10/1/85

DRILLING COMMENCED 10/29/85

DRILLING COMPLETED 11/07/85

IF APPLICABLE: PLUGGING OF DRY HOLE ON
CONTINUOUS PROGRESSION FROM DRILLING OR
REWORKING. VERBAL PERMISSION OBTAINED
ON _____

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size			
20-16 Cond.			
10 3/4" 13-10"	30'	30'	--
9 5/8			
8 5/8			
7	257'	257'	100 SKS class A
5 1/2			
4 1/2	1984'	1984'	100 sks 50/50 pozmix
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Berea Sandstone Depth 1979' feet

Depth of completed well 1992 feet Rotary / Cable Tools _____

Water strata depth: Fresh -- feet; Salt -- feet

Coal seam depths: None Is coal being mined in the area? No
Drilled on fluid, not known.

OPEN FLOW DATA

Producing formation Berea Sandstone Pay zone depth 1915-1918 feet

Gas: Initial open flow 0 Mcf/d Oil: Initial open flow 0 Bbl/d

Final open flow (10) Mcf/d Final open flow (10) Bbl/d

Time of open flow between initial and final tests 72 hours

Static rock pressure 500 psig (surface measurement) after 48 hours shut in
(If applicable due to multiple completion--)

Second producing formation _____ Pay zone depth _____ feet

Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d

Final open flow _____ Mcf/d Oil: Final open flow _____ Bbl/d

Time of open flow between initial and final tests _____ hours

Static rock pressure _____ psig (surface measurement) after _____ hours shut in

(Continue on reverse side)

FEB 24 1986

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

11/11/85 Young Wireline perforated the Berea from 1915-1918' with 12 shots.
 11/12/85 Dowell 75% foam fractured the Berea with 500 gal of 15% HCL, 45,000# of 20/40 sand, 15,000# 10/20 sand, 562 MSCF nitrogen, 297 bbls fluid.
 Treating pressure: 1900 psig. ISIP: 1200 psig. 5 min. SIP: 1100 psig.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
Shale			0	70	
Sand			70	106	
Shale			106	218	
Sand			218	237	
Shale			237	402	
Sand			402	485	
Shale & Siltstone			485	1220	
Sand			1220	1253	
Shale & Siltstone			1253	1372	
Sand			1372	1410	
Shale			1410	1430	
Salt Sands			1430	1576	
Shale			1576	1905	
Coffee Shale (Sunbury)			1905	1915	
<u>Berea</u> Sandstone			1915	1919	s/oil
Shale			1919	1994	
Total Depth (Logger)			1994		

(Attach separate sheets as necessary)

KAISER EXPLORATION AND MINING COMPANY

Well Operator

By: PA [Signature]

Date: January 30, 1986

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."



1) Date: August 7, 19 85
2) Operator's Well No. KEM #653
3) API Well No. 47-107-1380
State _____ County _____ Permit _____

AUG 12 1985

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

- 4) WELL TYPE: A Oil / Gas
B (If "Gas", Production / Underground storage _____ / Deep _____ / Shallow)
- 5) LOCATION: Elevation: 637' / Watershed: Middle Fork of Lee Creek
District: Harris 465 / County: Wood / Quadrangle: Lubeck
- 6) WELL OPERATOR Kaiser Exploration and Mining Company CODE: 25330 7) DESIGNATED AGENT R. A. Pryce
Address P. O. Box 8 Ravenswood, WV 26164 Address Same
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Glen Robinson Address Rt. 1, #6 Mineral Wells, WV
- 9) DRILLING CONTRACTOR: Name Clint Hurt Address P. O. Box 388 Elkview, WV
- 10) PROPOSED WELL WORK: Drill / Drill deeper _____ / Redrill _____ / Stimulate _____
Plug off old formation _____ / Perforate new formation _____
Other physical change in well (specify) _____
- 11) GEOLOGICAL TARGET FORMATION, Berea Sandstone 395
- 12) Estimated depth of completed well, 1979' feet
- 13) Approximate strata depths: Fresh, _____ feet; salt, _____ feet.
- 14) Approximate coal seam depths: _____ Is coal being mined in the area? Yes _____ / No

15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor									Kinds
Fresh water	7"					250	250	100 sks class A to surface	Sizes
Coal									
Intermediate									
Production	4 1/2"					1979	1979	180 sks class A to surface	Perforations:
Tubing									Bottom
Liners									
NOTE CONDITIONING OF ROAD ON CONSTRUCTION AND RECLAMATION PLAN									

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-107-1380 Date October 1 19 85

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 October 1, 1987 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>AB</u>	Plat: <u>MW</u>	Casing: <u>MW</u>	Fee: <u>968989</u> <u>968994</u>	WPCP: <input checked="" type="checkbox"/>	S&E: <input checked="" type="checkbox"/>	Other: <input checked="" type="checkbox"/>
-------------------------------------------	------------------	-----------------	-------------------	-------------------------------------	-------------------------------------------	------------------------------------------	--------------------------------------------

K. D. Dauth
Director, Division of Oil and Gas X
File

NOTE: Keep one copy of this permit posted at the drilling location.