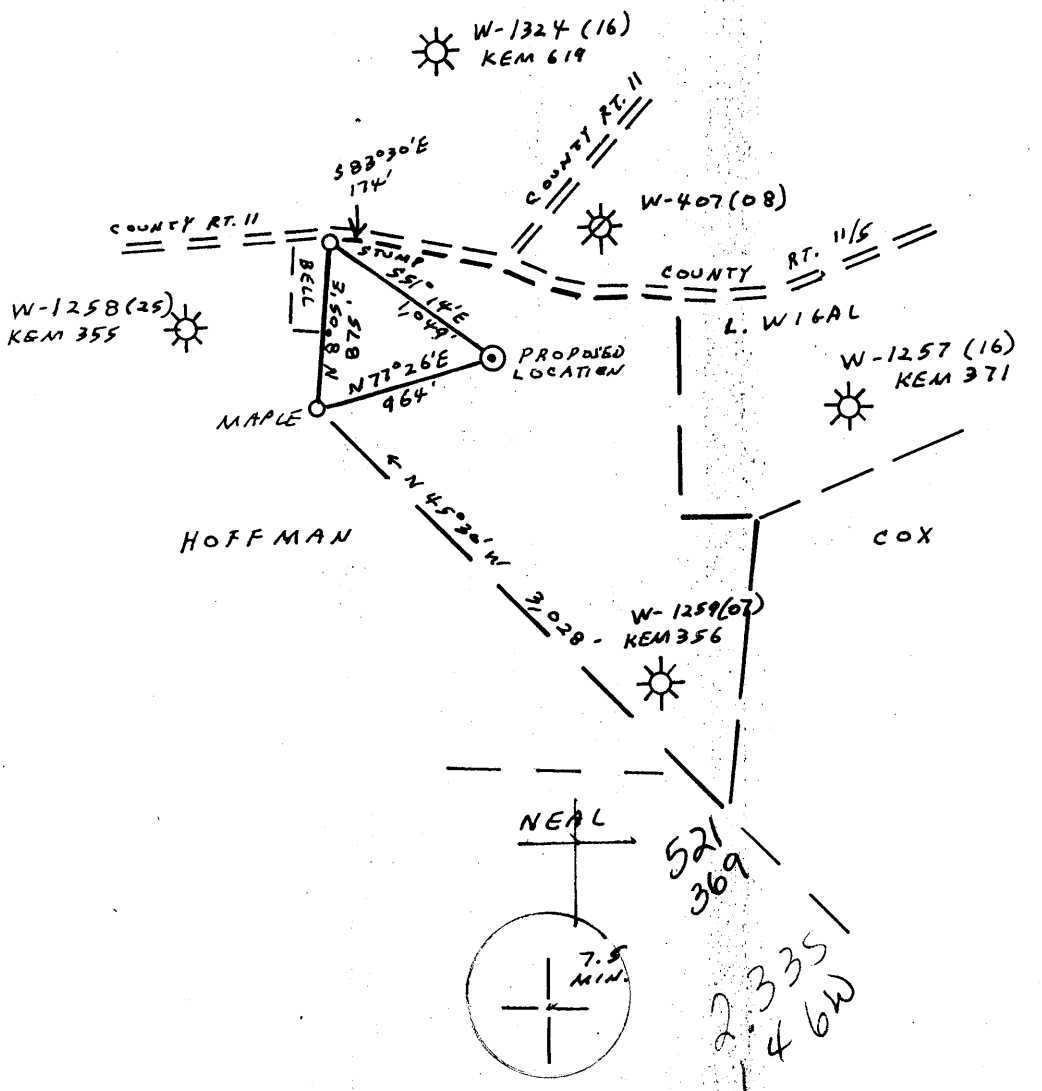


87B 11/19/86

7,750' 3915
 LATITUDE 39°12'30"

NORTH

8140'
 LONGITUDE 81°42'30"



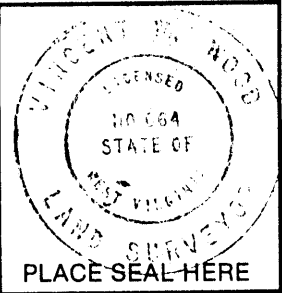
REFERENCE POINTS:
 N 62°59'E 157 FT. TO 30" GUM
 S 53°11'E 266 FT. TO 16" LOCUST

N 17 E 5

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

FILE NO. 8-64
 DRAWING NO. _____
 SCALE 1" = 1,000'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION ROAD INTERSECTION ELEV. = 744, 470' NORTH 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



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION



DATE NOVEMBER 13, 1986
 OPERATOR'S WELL NO. KEM 719
 API WELL NO. 47-107-1407
 STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
 LOCATION: ELEVATION 788 WATERSHED NORTH FORK OF LEE CREEK
 DISTRICT HARRIS 2 COUNTY WOOD
 QUADRANGLE LUBECK 449 009 NW, Belleville
 SURFACE OWNER ROY W. AND ROBERT E. WILDMAN ACREAGE 79.49
 OIL & GAS ROYALTY OWNER ROY W. AND ROBERT E. WILDMAN LEASE ACREAGE 79.49
 LEASE NO. 1935
 PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

COUNTY NAME
 PERMIT

PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION BEREA ESTIMATED DEPTH _____
 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

NOV 24 1986

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

445

IV-35
(Rev 8-81)

RECEIVED
DEC 24 1986



DIVISION OF OIL & GAS State of West Virginia
DEPARTMENT OF ENERGY Department of Mines
Oil and Gas Division

Date December 18, 1986
Operator's
Well No. KEM #719
Farm Wildman
API No. 47 - 107 - 1407

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

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

LOCATION: Elevation: 788' Watershed North 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 R. A. Pryce

ADDRESS same

SURFACE OWNER Roy & Robert Wildman

ADDRESS Rt. 1, New England Ridge, WV

MINERAL RIGHTS OWNER same

ADDRESS same

OIL AND GAS INSPECTOR FOR THIS WORK Glenn

Robinson ADDRESS Rt. 1, Mineral Wells, WV

PERMIT ISSUED 11/19/86

DRILLING COMMENCED 12/03/86

DRILLING COMPLETED 12/07/86

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.			
13-10"			
9 5/8			
8 5/8			
7	256	256%	100 sks Class A
5 1/2			
4 1/2	2024	2024	175 sks 50750 pozmix
3			
.2			
Liners used			

GEOLOGICAL TARGET FORMATION Berea Sandstone Depth 2003/2005 feet

Depth of completed well 2045 feet Rotary X / Cable Tools

Water strata depth: Fresh 400 (est) feet; Salt N/A feet

Coal seam depths: N/A Is coal being mined in the area? NO

OPEN FLOW DATA

Producing formation Berea Sandstone Pay zone depth 2003/2005 feet

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

Final open flow 400 (est.) Mcf/d Final open flow Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 800 psig (surface measurement) after 72 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 JAN 12 1987

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

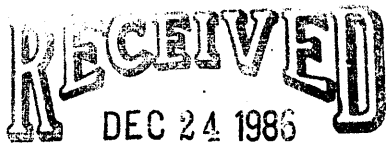
(Continue on reverse side)

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

12/10/86 - Young's Wireline perf Berea with 16 holes from 2003 - 2005.

12/11/86 - NOWSCO foam frac Berea Sandstone with 45,000 lbs 20/40 sand; 15,000 lbs 10/20 sand; 328 bbls fluid; 741,250 SCF of N₂; and ISIP: 1420 psig.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all free and salt water, coal, oil and gas
Shale and Siltstone			0	172	 DEC 24 1986 DIVISION OF OIL & GAS DEPARTMENT OF ENERGY SLT. S/OIL
Sand			172	225	
Shale and Siltstone			225	500	
Sand			500	547	
Shale			547	570	
Sand			570	601	
Shale and Siltstone			601	948	
Sand			948	968	
Shale and Siltstone			968	1190	
Dunkard Sands			1190	1390	
Shale			1390	1488	
Salt Sands			1488	1637	
Shale			1637	1970	
Coffee Shale (Sunbury)			1970	1998	
Berea Sand			1998	2002	
Shale			2002	2043	
Total Depth			2043		

(Attach separate sheets as necessary)

KAISER EXPLORATION AND MINING COMPANY

Well Operator

By:

R. A. P.

Date:

December 19, 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."

JAN 12 1987



1) Date: November 14, 1986
 2) Operator's Well No. KEM #719
 3) API Well No. 47-107-1407
 State County Permit

7/85
RECEIVED
 NOV 19 1986

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY, OIL AND GAS DIVISION

APPLICATION FOR A WELL WORK PERMIT

DIVISION OF OIL & GAS

DEPARTMENT OF ENERGY / Gas /

B (If "Gas", Production / Underground storage _____ / Deep _____ / Shallow)

5) LOCATION: Elevation: 788' Watershed: North Fork of Lee Creek

District: Harris County: Wood Quadrangle: Lubeck 449

6) WELL OPERATOR: Kaiser Exploration and Mining Company CODE: 29550 7) DESIGNATED AGENT R. A. Pryce
 Address P. O. Box 8 Address Same
Ravenswood, WV 26164

8) OIL & GAS INSPECTOR TO BE NOTIFIED Name Glen Robinson 9) DRILLING CONTRACTOR: Name Unknown
 Address #1 Mt. Pleasant Estates Address _____
Mineral Wells, 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, 2000' 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"			X		250'	250'	Cement to surface	Per Rule 15.05
Coal									Sizes
Intermediate									
Production	4 1/2"			X		2000'	2000'	100 sks 50/50 cement mix	as required by Rule 15.01
Tubing									Perforations:
Line									Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-107-1407

Date November 20 19 86

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 November 20, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>ALB</u>	Plat: <u>AS</u>	Casing: <u>AS</u>	Fee: <u>469840</u> 154	WPCP: <u>AS</u>	S&E: <u>AS</u>	Other: _____
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NOTE: Keep one copy of this permit posted at the drilling location.

Director, Division of Oil and Gas File