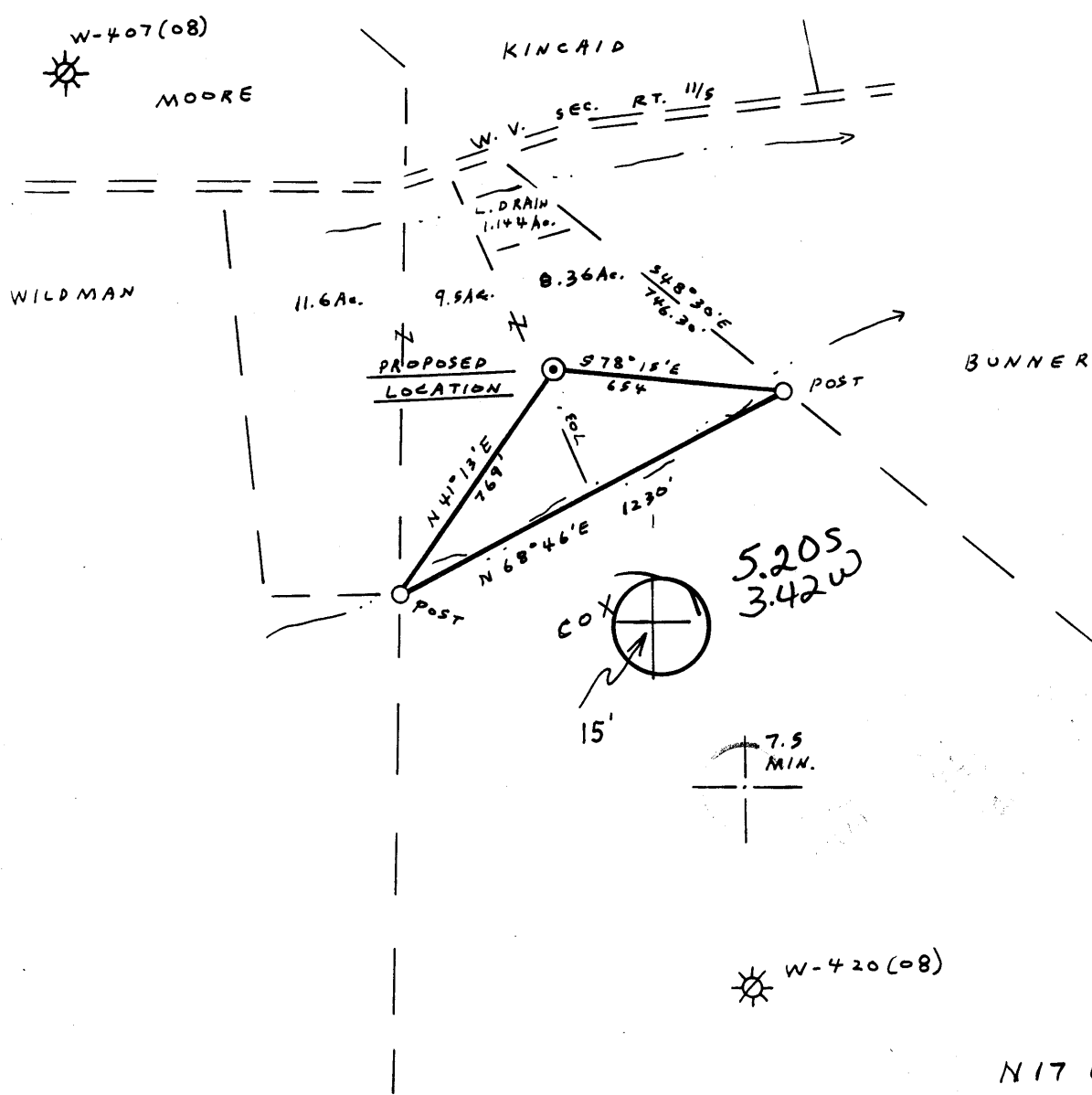


NORTH



FILE NO. 6-7
DRAWING NO. _____
SCALE 1" = 500'
MINIMUM DEGREE OF ACCURACY 1:200
PROVEN SOURCE OF ELEVATION INTER. W. V. RT. 11 AND 11/5
ELEV. = 744, 2000' N.W. 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 APRIL 14, 1983
OPERATOR'S WELL NO. KEM 371
API WELL NO. _____
47 - 107 - 1257
STATE COUNTY PERMIT

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 724 WATERSHED NORTH FORK OF LEE CREEK
DISTRICT HARRIS COUNTY WOOD
QUADRANGLE LUBECK Bellville 15' NW
SURFACE OWNER LESTER E. AND GENEVA WIGAL ACREAGE 8.36
OIL & GAS ROYALTY OWNER LESTER E. AND GENEVA WIGAL LEASE ACREAGE 30
LEASE NO. 82-06-200
PROPOSED WORK: DRILL X 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 DEVONIAN BROWN SHALE ESTIMATED DEPTH 4064' New England (296)
WELL OPERATOR KAISER EXPLOR. & MIN. CO. DESIGNATED AGENT KAISER EXPLORATION AND MINING CO.
ADDRESS P.O. BOX 8 ADDRESS P.O. BOX 8

FORM IV-6 (8-78)

WOOD 1257

IV-35
(Rev 8-81)

RECEIVED
MAY 21 1984



OIL & GAS DIVISION State of West Virginia
DEPT. OF MINES Department of Mines
Oil and Gas Division

Date 5-02-84
Operator's
Well No. KEM-371, Wigal
Farm Lester Wigal
API No. 47 - 107 - 1257

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

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

LOCATION: Elevation: 724 Watershed North Fork of Lee Creek
District: Harris County Wood Quadrangle Lubeck

COMPANY Kaiser Exploration and Mining Co.

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

DESIGNATED AGENT Same

ADDRESS Same

SURFACE OWNER Lester E. and Geneva Wigal

ADDRESS Rt. 1, Box 52, New England, WV

MINERAL RIGHTS OWNER Same

ADDRESS Same

OIL AND GAS INSPECTOR FOR THIS WORK Homer

Daugherty ADDRESS Looneyville, WV

PERMIT ISSUED

DRILLING COMMENCED Dec. 8, 1983

DRILLING COMPLETED Dec. 11, 1983

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"	291' KB	291' KB	175 sx Class 3% CaCl ₂ ; 1/4# floccule
9 5/8			
8 5/8			
7		1991' KB	100 sx 50/50 posmix, 10% s
5 1/2			100 sx Class 3% CaCl ₂
4 1/2			
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Berea Sandstone Depth 2011' KB feet

Depth of completed well 1991' KB feet Rotary x / Cable Tools

Water strata depth: Fresh N/A feet; Salt N/A feet

Coal seam depths: None Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Berea Sandstone Pay zone depth 1938'-1942' (KB) feet

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

Final open flow 850 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

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

(Continue on reverse side)

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

4/16/84 YOUNG'S WIRELINE - Perfs. 16 holes (.41" dia.) from 1938'-1942',
 4/17/84 NOWSCO Foam Frac, 15% HCL pad. 200 bbl foam pad. Treated pressure 1850 psig.
 Used 45,000# 20/40 sand, 15,000# 10/20 sand. Total nitrogen 638,100 MSCF,
 total fluid 306 bbls; ISIP 1600 psig. SIP = 1440 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
Soil and Shale			0	57	
Sand			57	145	
Shale and Siltstone			145	430	
Sand			430	490	
Shale			490	594	
Sand			594	605	
Shale			605	770	
Sand and Shale			770	914	
Shale			914	1058	
Sand			1058	1082	
Shale			1082	1125	
Little Dunkard Sand			1125	1198	
Shale			1198	1221	
Big Dunkard Sand			1221	1320	
Shale and Siltstone			1320	1426	
Salt Sands			1426	1565	
Shale			1565	1919	
Coffee Shale			1919	1936	
Berea Sand			1936	1940	S/g, slight S/oil
Grey Shale			1940	2011	

(Attach separate sheets as necessary)

Kaiser Exploration and Mining Company

Well Operator

By: RAP

Date: May 2, 1984

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: April 21, 1983
 2) Operator's Well No. XE1 #071
 3) API Well No. 47 State County Permit

DRILLING CONTRACTOR:

Clint Hurt

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

OIL AND GAS WELL PERMIT APPLICATION

- 4) WELL TYPE: A Oil / Gas / B (If "Gas", Production / Underground storage / Deep / Shallow)
- 5) LOCATION: Elevation: 721 Watershed: North Fork of Lee Creek
 District: Harris County: Wood Quadrangle: Lubeck
- 6) WELL OPERATOR Kaiser Exploration and Mining Company 11) DESIGNATED AGENT R. A. Fryce
 Address P. J. Box 3 Ravenswood, WV 26164 Address Barab
- 7) OIL & GAS ROYALTY OWNER Lester E. and Geneva Wigal 12) COAL OPERATOR None
 Address Rt. 1, Box 52 New England, WV Address _____
- 8) SURFACE OWNER Lester E. and Geneva Wigal 13) COAL OWNER(S) WITH DECLARATION ON RECORD:
 Address Same Name None Address _____
- 9) FIELD SALE (IF MADE) TO: Name _____ Address _____
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED Name Homer Dougherty 14) COAL LESSEE WITH DECLARATION ON RECORD:
 Address Linden Rt., Box JA Looneyville, WV Name None Address _____
- 15) PROPOSED WORK: Drill / Drill deeper / Redrill / Fracture or stimulate
 Plug off old formation / Perforate new formation
 Other physical change in well (specify) _____
- 16) GEOLOGICAL TARGET FORMATION, Devonian Brown Shale
- 17) Estimated depth of completed well, 4064 feet
- 18) Approximate water strata depths: Fresh, _____ feet; salt, _____ feet.
- 19) Approximate coal seam depths: _____ Is coal being mined in the area? Yes / No

20) 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	10 3/4"			X		215 215		100 sks class A to surface	
Coal								55 sks 50/50	Sizes
Intermediate	7"			X		1854	1854	100 sks class A	
Production	4 1/2"			X		4064	4064	225 sks 60/70	Depths set
Tubing									
Liners									Perforations:
									Top Bottom

21) EXTRACTION RIGHTS

Check and provide one of the following:

- Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil or gas.
 The requirement of Code 22-4-1-(c) (1) through (4). (See reverse side for specifics.)

22) ROYALTY PROVISIONS

Is the right to extract, produce or market the oil or gas based upon a lease or other continuing contract or contracts providing for flat well royalty or any similar provision for compensation to the owner of the oil or gas in place which is not inherently related to the volume of oil or gas so extracted, produced or marketed? Yes No

If the answer above is No, nothing additional is needed. If the answer is Yes, you may use Affidavit Form IV-60.

23) Required Copies (See reverse side.)

24) Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

Notary: _____
 My Commission Expires _____

Signed: [Signature]
 Its: General Manager

OFFICE USE ONLY
DRILLING PERMIT

Permit number _____ Date _____

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. 10) 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.)

Permit expires _____ unless drilling is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing	Fee
-------	--------	-------	--------	-----

Administrator, Office of Oil and Gas

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

Line Item Explanation

- 1) Date of Application
- 2) Your well name and number
- 3) To be filled out by office of oil & gas
- 4A) "Oil" means natural crude oil or petroleum and other hydrocarbons, regardless of gravity, which are produced at the well in liquid form by ordinary production methods and which are not the result of condensation of gas after it leaves underground reservoirs: "Gas" means all natural gas and all other fluid hydrocarbons not defined as oil.
- 4B) "Shallow well" means any well drilled and completed in a formation above the top of the uppermost member of the "Onondaga Group" or a depth less than six thousand feet, whichever is shallower.
"Deep well" means any well drilled and completed in a formation at or below the top of the uppermost member of the "Onondaga Group" or at a depth less than six thousand feet, whatever is shallower.
- 5) Where well is located
- 6) Before a permit can be issued in a corporation, company partnership, or fictitious name, the name must be registered with the Secretary of State Office
- 7) Use separate sheet if necessary
- 8) Present surface owner at time application is filed.
- 9) Optional
- 11) See Reg. 7.01 relating to code §22-4-1k
- 12) "Coal Operator" means any persons, firm, partnership, partnership association or corporation that proposes to or does operate a coal mine. See Note 24
- 13 & 14) As per §22-4-20; See Note 24
- 15) Work that will be attempted—A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is noted as such on the Form IV-2 filed in connection therewith.
- 16) Anticipated formation for which well will be completed
- 17) Self explanatory
- 18) Depth to deepest freshwater, and shallowest salt water, taken from nearby wells corrected for differences in elevation
- 19) All coal seam depths
- 20) Proposed casing program and cementing refer to Code 22-4-5, 22-4-6, 22-4-7, 22-4-8, 22-4-8a Reg 9.01, 15.01, 15.02, 15.03, 15.04, 25.01, 25.02, 25.03, 25.04
- 21) Code 22-4-11(c) - In lieu of filing the lease or leases or other continuing contract or contracts, the applicant for a permit described herein may file the following:
 - (1) A brief description of the tract of land including the district and county wherein the tract is located;
 - (2) The identification of all parties to all leases or other continuing contractual agreements by which the right to extract, produce or market the oil or gas is claimed;
 - (3) The book and page number wherein each such lease or contract by which the right to extract, produce or market the oil or gas is recorded;
 - (4) A brief description of the royalty provisions of each such lease or contract.
- 22) Code 22-4-11(d) and 22-4-11(e).
- 23) Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code §22-4-2, (iii) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code §22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code §22-4-12a, and (v) if applicable, the consent required by Code §22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.
- 24) The above named coal operator, coal owner(s), and coal lessee are hereby notified that any objection they wish to make or are required to make by Code §22-4-3 must be filed with the Department of Mines within fifteen (15) days after the receipt of this Application by the Department.

.....

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code 22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof.

WAIVER

The undersigned coal operator _____/ owner _____/ lessee _____/ of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: _____, 19_____ By _____
Its _____