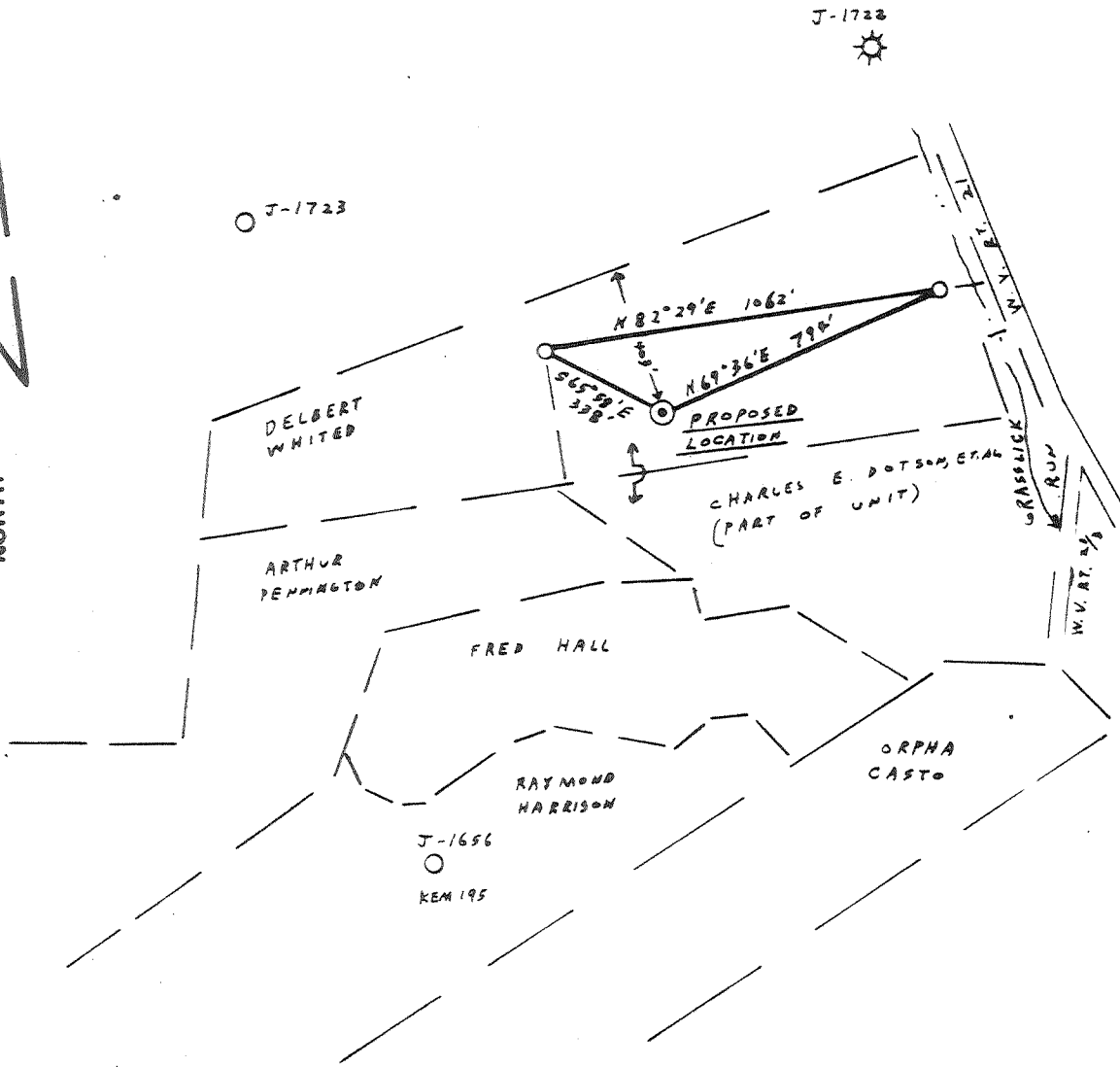


J-1652
KEM 153

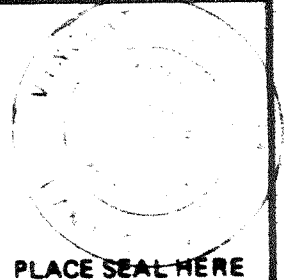
7.5
MIN

NORTH



FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION INTERSECTION W.V. RT 21 AND 2 1/27, ELEV. = 748

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



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-8 (8-78)



DATE JULY 8, 1982
 OPERATOR'S WELL NO. KEM 245
 API WELL NO. _____
47 - 035 - 1743-PP
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION ___ STORAGE ___ DEEP X SHALLOW ___
 LOCATION: ELEVATION 852 WATER SHED GRASS LICK RUN
 DISTRICT RIPLEY COUNTY JACKSON
 QUADRANGLE KENNA
 SURFACE OWNER MARY L. JOHNSON ACREAGE 8.796
 OIL & GAS ROYALTY OWNER MARY L. JOHNSON LEASE ACREAGE 8.796
 LEASE NO. 83-06-1953
 PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION X PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION ORISKANY ESTIMATED DEPTH 4947'
 WELL OPERATOR KAISER EXPLOR. & MIN. CO. DESIGNATED AGENT KAISER EXPLORATION AND MINING CO.
 ADDRESS P.O. BOX 8 RAYENSWOOD, W.V. 26164 ADDRESS P.O. BOX 8 RAYENSWOOD, W.V. 26164

FEB 08 1984

J-1652
KEM 153



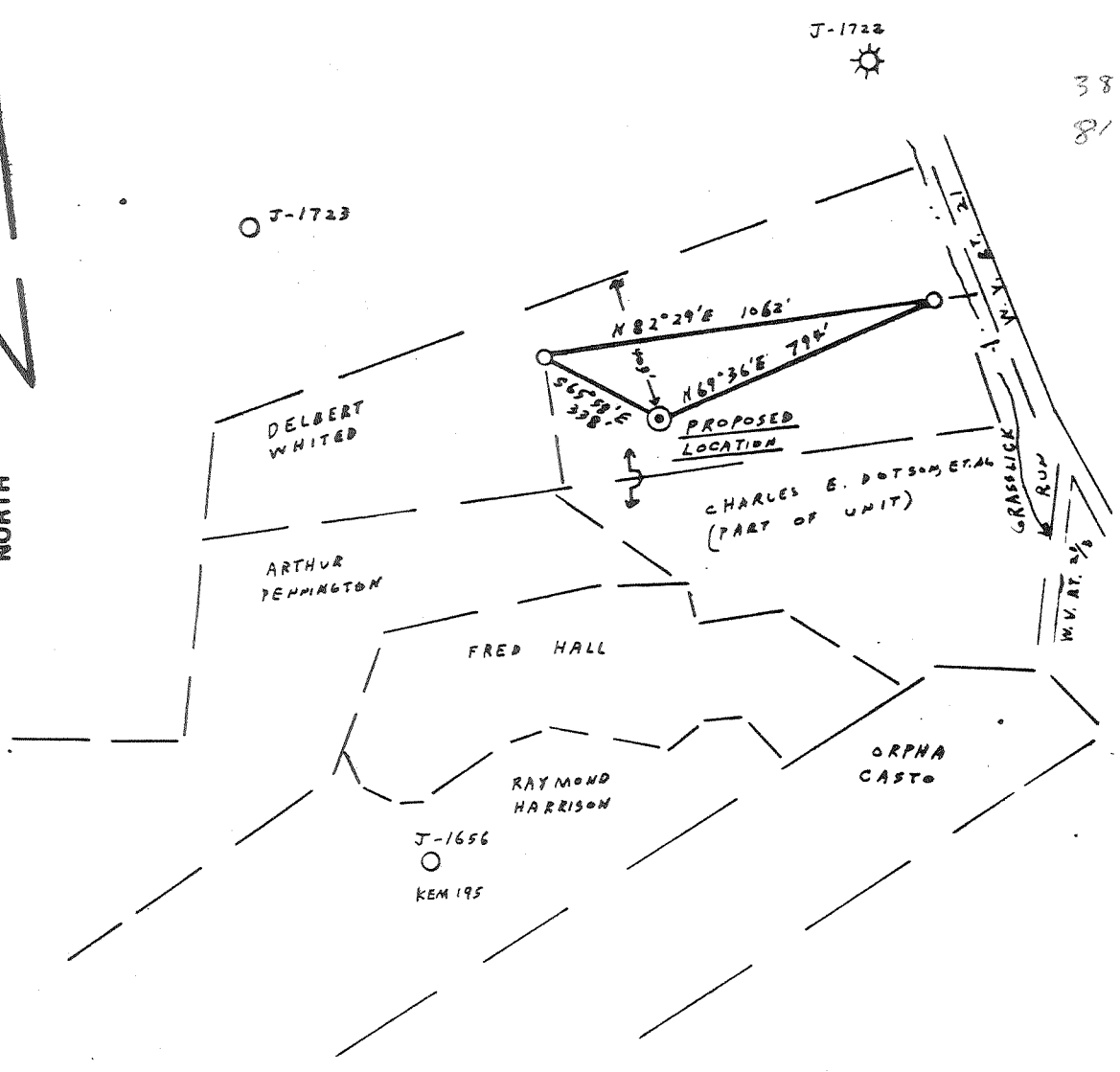
LATITUDE 38° 45' 00"

0.125
11443
1250

38 04 55
81 41 20

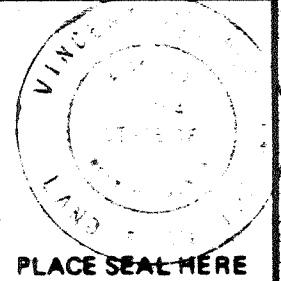
LONGITUDE 81° 40' 00"

NORTH



FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION INTERSECTION W.V. RT. 21 AND 27, ELEV. = 748

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



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-8 (8-78)



DATE JULY 8, 1982
 OPERATOR'S WELL NO. KEM 245
 API WELL NO. _____
47 - 035 - 1743
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP X SHALLOW ___
 LOCATION: ELEVATION 852 WATER SHED GRASS LICK RUN
 DISTRICT RIPLEY COUNTY JACKSON
 QUADRANGLE KENNA 415' NW
 SURFACE OWNER MARY L. JOHNSON ACREAGE 8.796
 OIL & GAS ROYALTY OWNER MARY L. JOHNSON LEASE ACREAGE 8.796
 LEASE NO. 83-06-1953
 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 ORISKANY ESTIMATED DEPTH 4947'
 WELL OPERATOR KAISER EXPLOR. & MIN. CO. DESIGNATED AGENT KAISER EXPLORATION AND MINING CO.
 ADDRESS P.O. BOX 8 ADDRESS P.O. BOX 8
RAYENSWOOD, W.V. 26164 RAYENSWOOD, W.V. 26164

AUG 2 1982

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

8/19/82 Oriskany: Perforated from 5152-5162', 5174-5179, 5204-5205' with 57 holes, 0.50" diameter.

5/23/82 Oriskany: Fracture crosslink type

10/22/82 Devonian Brown Shale: Set 3.71" O.D. permanent bridge plug in 4 1/2" @ 4410' (KB); perforated at 4101-4357', shot selectively, 22 holes, 0.39" diameter.

10/26/82 Devonian Brown Shale: Fractured with 90,000# of 20/40 sand; average rate: 12 BBL/min; average pressure: 2750 psig; ISIP: 1200 psig; total nitrogen 1,200,000 SCF; total water 486 bbl.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Sandstone & Shale			0	1160	
Sandstone			1160	1270	
Sandstone & Shale			1270	1724	
Limestone			1724	2035	
Sandstone & Shale			2035	2179	
Shale			2179	2528	
Coffee Shale			2528	2550	
Berea Sandstone			2550	2561	S/g @ 2555
Shale			2561	3799	S/g @ 3712
Brown Shale			3799	4360	S/g @ 3936, 4162, 4178
Shale			4360	4735	S/g @ 4500
Marcellus			4735	5036	
Onondaga Limestone			5036	5083	
Oriskany Sandstone			5083	5182	S/g @ 5144, 5164
Helderberg			5182	5259 TD	S/g @ 5194

4101
2561

1540

(Attach separate sheets as necessary)

KAISER EXPLORATION AND MINING COMPANY
Well Operator

By: R.A.P.

Date: October 29, 1982

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."



Date: July 22, 1982
Operator's Well No. KEM #245
API Well No. 47 035 1743
State County Permit

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

WELL TYPE: Oil / Gas X /
(If "Gas", Production X / Underground storage / Deep X / Shallow /)
LOCATION: Elevation: 852' Watershed: Grass Lick Run
District: Ripley County: Jackson Quadrangle: Kenna

WELL OPERATOR Kaiser Exploration and Mining Co. DESIGNATED AGENT R. A. Pryce
Address P. O. Box 8 Address P. O. Box 8
Ravenswood, WV 26164 Ravenswood, WV 26164

OIL & GAS ROYALTY OWNER Mary L. Johnson
Address Rt. 3, Box 54
Ripley, WV 25271

COAL OPERATOR None
Address

Acreage 8.796

COAL OWNER(S) WITH DECLARATION ON RECORD:

SURFACE OWNER Same

Name Same **RECEIVED**

Address

Address

Acreage

Name OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

FIELD SALE (IF MADE) TO:

Address

Address

Address

OIL & GAS INSPECTOR TO BE NOTIFIED

COAL LESSEE WITH DECLARATION ON RECORD:

Name Richard Morris

Name

Address P. O. Box 372

Address

Address Grantsville, WV

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed / lease X

other contract / dated June 23, 1982, to the undersigned well operator from Mary L. Johnson

widow
(If said deed, lease, or other contract has been recorded:)

Recorded on July 8, 1982, in the office of the Clerk of the County Commission of Jackson County, West

Va., in Lease Book 172 at page 188. A permit is requested as follows:

PROPOSED WORK: Drill X / Drill deeper / Redrill / Fracture or stimulate /

Plug off old formation / Perforate new formation /

Other physical change in well (specify)
—planned as shown on the work order on the reverse side hereof.

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.
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.

PLEASE SUBMIT COPIES OF ALL
GEOPHYSICAL LOGS DIRECTLY
TO:
WEST VIRGINIA OIL AND GAS
CONSERVATION COMMISSION
1615 WASHINGTON STREET EAST
CHARLESTON, WV 25311
TELEPHONE: (304) 348-3092

KAISER EXPLORATION AND MINING COMPANY
Well Operator
By R. A. Pryce
Its General Manager

BLANKET BOND

DRILLING CONTRACTOR (IF KNOWN) Clint Hurt & Associates, Inc.

Address P. O. Box 388

Elkview, WV 25071

GEOLOGICAL TARGET FORMATION, Oriskany

Estimated depth of completed well, 4947' feet Rotary X / Cable tools /

Approximate water strata depths: Fresh, feet; salt, feet.

Approximate coal seam depths: Is coal being mined in the area? Yes / No X /

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					250'	250'	150 sks class	A (to surface)
Coal									Sizes
Intermediate	7"					2437'	2437'	65 sks 50/50 100 sks class	ozmix A
Production	4 1/2"					4947'	4947'	225 sks 50/50	ozmix set
Tubing									
Liners									Perforations:
									Top Bottom

NOTE: 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.

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.

THIS PERMIT MUST BE POSTED AT THE WELL SITE
ALL PROVISIONS BEING IN ACCORDANCE WITH CHAPTER 22,
ARTICLE 4 OF THE W. VA. CODE, THE LOCATION IS HEREBY
APPROVED FOR drilling. THIS PERMIT SHALL EXPIRE
IF OPERATIONS HAVE NOT COMMENCED BY 3-29-83
BY [Signature]

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