

PART. PLUG - 10/22/76

New Location
 Drill Deeper
 Abandonment

8/2/79

Minimum Error of Closure 1 IN 200
 Source of Elevation U.S.G.S. ELEV. 618' ROAD INTERSECTION
 SUGAR RUN

"I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by paragraph 6 of the rules and regulations of the oil and gas section of the mining laws of West Virginia."

Company KAISER EXPL. & MINING COMPANY
 Address P.O. Box 98, Ravenswood, West Virginia
 Farm CARL R. HOFF
 Tract _____ Acres 125 Lease No. 2522
 Well (Farm) No. DEK #13 Serial No. _____
 Elevation (Spirit Level) 690.0
 Quadrangle RAVENSWOOD EC
 County JACKSON District UNION
 Engineer N.L. Lepton
 Engineer's Registration No. 1832
 File No. _____ Drawing No. _____
 Date 8-6-76 Scale 1" = 500'

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

WELL LOCATION MAP
 FILE NO. JAC-1375-PP-P

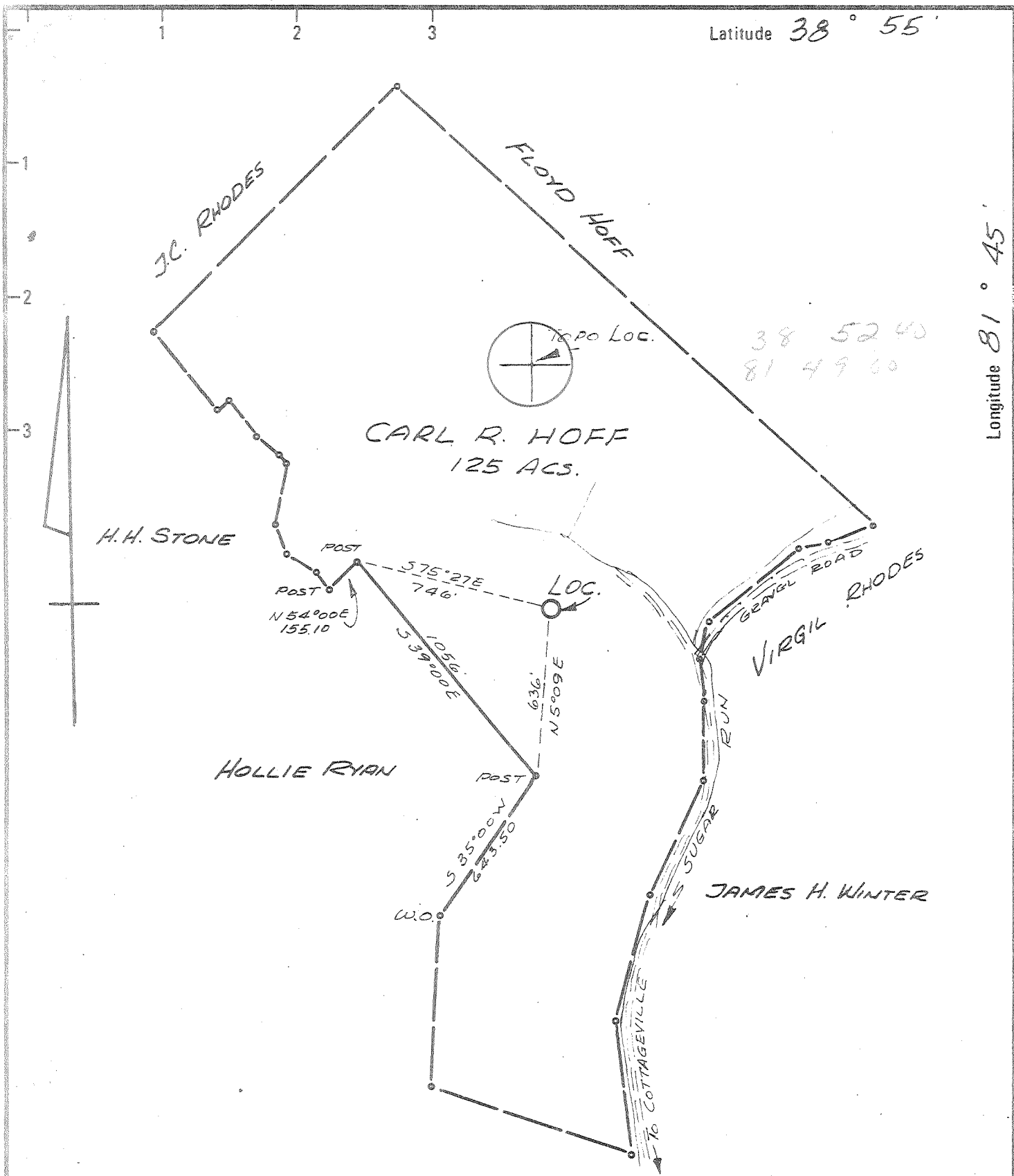
+ Denotes location of well on United States Topographic Maps, scale 1 to 62,500 latitude and longitude lines being represented by border lines as shown.

- Denotes one inch spaces on border line of original tracing.

47-035

AUG 13 1979

Deep Well



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Company KAISER EXPL. & MINING COMPANY
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 File No. _____ Drawing No. _____
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STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

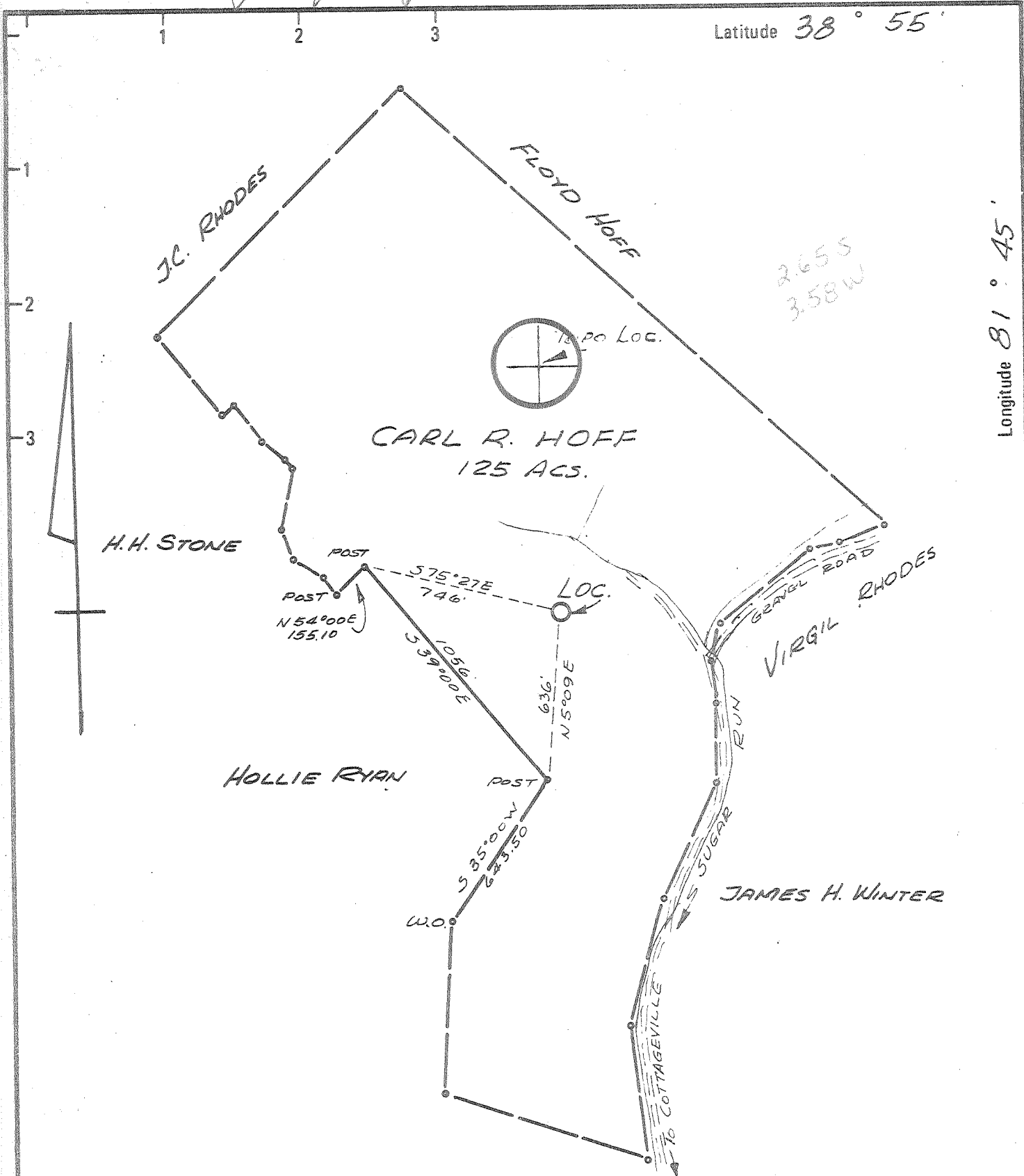
WELL LOCATION MAP
 FILE NO. JAC-1375 - PP

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47-035 NOV 18 1976

Latitude 38° 55'

Longitude 81° 45'



- New Location
- Drill Deeper
- Abandonment

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

WELL LOCATION MAP
 FILE NO. JAC-1375

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47-035



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OCT 12 1977

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
Oil and Gas Division

OIL & GAS DIVISION
DEPT. OF MINES

WELL RECORD

Quadrangle Ravenswood

Permit No. JAC 1375

Rotary _____ Oil _____
Cable _____ Gas show
Recycling _____ Comb. _____
Water Flood _____ Storage _____
Disposal _____ (Kind) _____

Company Kaiser Exploration & Mining Co.
Address Box 98, Ravenswood, WV
Farm Carl R. Hoff Acres _____
Location (waters) Sugar Run of Mill Creek
Well No. DEK #13 Elev. 690
District Union County Jackson
The surface of tract is owned in fee by _____
Carl R. Hoff, et ux
Address Rt. 2, Hillwood, WV 25262
Mineral rights are owned by Same as above
Address _____
Drilling Commenced October 4, 1976
Drilling Completed October 12, 1976
Initial open flow Show cu. ft. -0- bbls.
Final production _____ cu. ft. per day _____ bbls.
Well open _____ hrs. before test _____ RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size			
20-16			
Cond.			
13-10"			
9 5/8			
8 5/8			
7			
5 1/2			
4 1/2			
3			
2			
Liners Used			

Well treatment details: Attach copy of cementing record.
Perforated ^{Salina} 4 1/2" casing 4858 - 4860, ^{Salina} 4861 1/2 - 4862 1/2 & ^{Salina} 4864 - 4866. Formation would not break down at 4800 PSI. Filled hole with gel & set permanent bridge plug at 3740' with 10' cement plug on top. Perforated 4 1/2" casing @3568 to 3707 with 12 shots. Fractured with 1114 BBLs water and 51,500# sand. Open flow after frac: 18 MCF/Day. Shut in pressure = 240 psi.

Coal was encountered at _____ Feet _____ Inches
Fresh water _____ Feet _____ Salt Water _____ Feet _____
Producing Sand Brown Shale Depth 3568 - 3707

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Shale - Sand			0	39		
Sand			39	174		
Shale			174	398		
Sand			398	436		
Shale			436	570		
Sand			570	575		
Shale			575	589		
Sand			589	597		
Red Rock			597	655		
Shale			655	693		
Sand			693	706		
Shale-Sand			706	756		
Sand			756	768		
Shale			768	791		
Red Rock			791	802		
Shale			802	849		
Sand			849	871		
Red Rock			871	935		
Shale			935	954		
Sand			954	978		
Shale			978	986		
Salt Sand			986	1046		
Shale			1046	1067		
Broken Sand			1067	1150		

(over)

* Indicates Electric Log tops in the remarks section.

OCT 21 1977

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Shale			1150	1270		
Sand			1270	1284		
Shale			1284	1304		
Sand			1304	1458		
Shale			1358	1552		
Maxon			1552	1602		
Big Lime			1602	1692		
Keener Sand			1692	1719		
Shale			1719	1756		
Injun Sand			1756	1854		
Shale			1854	2157		
Coffee Shale			2157	2171		
Berea			2171	2180		
Shale			2180	3314		
Brown Shale			3314	3754		
Shale			3754	4157		
Marcellus Shale			4157	4285		
Onondaga L.S.			4285	4360		
Oriskany Sand			4360	4374		
Helderberg L.S.			4374	4478		
Silurian <u>Salina</u> Series			4478			
Log Total Depth				4974		

Date October 10, 1977

APPROVED Kalish A. Puzo Owner

By Staff Petroleum Geologist

(Title)



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED

AUG 31 1976

OIL & GAS DIVISION
DEPT. OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

TO THE DEPARTMENT OF MINES,
Charleston, W. Va.

DATE August 30, 1976

Surface Owner Carl R. Hoff, et ux Company Kaiser Expl. & Mining Company
 Address Rt. 2, Millwood, W. Va. 25262 Address Box 98, Ravenswood, W. Va.
 Mineral Owner same Farm Carl R. Hoff Acres 125 ac
 Address _____ Location (waters) Sugar Run of Mill Creek
 Coal Owner same Well No. DEK #13 Elevation 690
 Address _____ District Union County Jackson
 Coal Operator Not operated Quadrangle Ravenswood
 Address _____

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All conditions being in accordance with Chapter 22 of the W. Va. Code, the location is hereby approved for drilling. This permit shall expire if operations have not commenced by 12-31-76

Robert J. Bell
Deputy Director - Oil & Gas Division

INSPECTOR TO BE NOTIFIED Richard J. Morris
PH: 354-7259 ADDRESS Grantsville, W.Va.

GENTLEMEN:

The undersigned well operator is entitled to drill upon the above named farm or tract of land for oil and gas, having fee title thereto, (or as the case may be) under grant or lease dated April 22 19 75 by Carl R. Hoff, et ux made to Devon Corp. & Eason Oil Co and recorded on the 6th day of March 19 75 in Jackson County, Book 130 Page 263
XXXX NEW WELL _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE
 _____ OIL AND GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1969.

The enclosed plat was prepared by a registered engineer or licensed land surveyor and all coal owners and/or operators have been notified as of the above date.

The above named coal owners and/or operator are hereby notified that any objection they wish to make, or are required to make by Section 3 of the Code, must be received by, or filed with the Department of Mines within ten (10) days. *

Copies of this notice and the enclosed plat were mailed by registered mail, or delivered to the above named coal operators or coal owners at their above shown respective address _____ day _____ before, or on the same day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

Very truly yours, Kaiser Exploration & Mining Co.
(Sign Name) Ronald W. Lovell

D. H. Lovell, Resident Engineer
PO Box 98 _____
Ravenswood _____
City or Town
West Virginia, 26164 _____
State

PLEASE SUBMIT COPIES OF ALL PHYSICAL LOGS DIRECTLY TO:
West Virginia Geological and Economic Survey
P.O. Box 879
Martinsburg, W. Va. 26505

Address of Well Operator

*SECTION 3 . . . If no objections are filed or found by the Department of mines, within said period of ten days from the receipt of notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting the filing of such plat, that no objections have been made by the coal operators or found thereto by the department and that the same is approved and the well operator authorized to proceed.

BLANKET BOND

THIS IS AN ESTIMATE ONLY
ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION

PROPOSED WORK ORDER TO XXX DRILL _____ DEEPEN _____ FRACTURE-STIMULATE _____
 DRILLING CONTRACTOR: (If Known) RESPONSIBLE AGENT:
 NAME FWA Drilling Company NAME Bill W. Backus
 ADDRESS PO Box 448, Elkview, W. Va. ADDRESS PO Box 1433, Charleston, WV 25325
 TELEPHONE 965-3379 TELEPHONE 342-3171
 ESTIMATED DEPTH OF COMPLETED WELL: 4450' ROTARY XXX CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Oriskany
 TYPE OF WELL: OIL _____ GAS XXX COMB. _____ STORAGE _____ DISPOSAL _____
 RECYCLING _____ WATER FLOOD _____ OTHER _____

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE	USED FOR DRILLING	LEFT IN WELL	CEMENT FILL UP OR SACKS - CUBIC FT.
20 - 16			
13 - 10			
9 - 5/8	200	200	100 Sax
8 - 5/8			
7	2225	2225	75 Sax
5 1/2			
4 1/2	4450	4450	125 Sax
3			Perf. Top
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS _____ FEET SALT WATER _____ FEET
 APPROXIMATE COAL DEPTHS None anticipated
 IS COAL BEING MINED IN THE AREA? No BY WHOM? _____

TO DRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, \$100.00 PERMIT FEE, PERFORMANCE BOND AND PERMANENT COPY OF PLAT.

TO DRILL DEEPER OR REDRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, SHOWING ORIGINAL PERMIT NUMBER AND PERFORMANCE BOND. ON WELLS DRILLED PRIOR TO 1929, A PERMANENT COPY OF THE PLAT AND THE ORIGINAL WELL RECORD MUST ALSO BE SUBMITTED.

TO FRACTURE - STIMULATE:

OIL AND/OR GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1929, FIVE (5) COPIES OG - 1, PERFORMANCE BOND, PERMANENT PLAT AND ORIGINAL WELL RECORD.

OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND.

Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty-four (24) hours in advance.

The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt thereof.

WAIVER: I the undersigned, Agent for _____ Coal Company, Owner or Operator of the coal under this lease have examined and place on our mine maps this proposed well location.

We the _____ Coal Company have no objections to said well being drilled at this location, providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia Code.

For Coal Company

Official Title

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

RECEIVED
MAR 24 1980
OIL & GAS DIVISION
DEPT. OF MINES

AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVIT SHOULD BE MADE IN TRIPLICATE. ONE COPY MAILED TO THE DEPARTMENT, ONE COPY TO BE RETAINED BY THE WELL OPERATOR AND THE THIRD COPY (AND EXTRA COPIES IF REQUIRED) SHOULD BE MAILED TO EACH COAL OPERATOR AT THEIR RESPECTIVE ADDRESSES.

Not operated
COAL OPERATOR OR OWNER
--
ADDRESS
Carl R. Hoff
COAL OPERATOR OR OWNER
Rt. 2, Millwood, WV 25262
ADDRESS
Carl R. Hoff
LEASE OR PROPERTY OWNER
Rt. 2, Millwood, WV 25262
ADDRESS

Kaiser Exploration and Mining Company
NAME OF WELL OPERATOR
P. O. Box 8, Ravenswood, WV 26164
COMPLETE ADDRESS
March 17 1980
WELL AND LOCATION
Union District
Jackson County
Well No. DEK #13
Carl R. Hoff Farm

STATE INSPECTOR SUPERVISING PLUGGING Richard Morris

AFFIDAVIT

STATE OF WEST VIRGINIA,
County of Jackson } ss:

Richard L. Coty and Robert A. Pryce
being first duly sworn according to law depose and say that they are experienced in the work of plugging and filling oil and gas wells and were employed by Kaiser Exploration and Mining Co. well operator, and participated in the work of plugging and filling the above well, that said work was commenced on the 5th day of October, 1979, and that the well was plugged and filled in the following manner:

SAND OR ZONE RECORD FORMATION	FILLING MATERIAL	PLUGS USED SIZE & KIND	CASING		
			CSG PULLED	CSG LEFT IN	
Brown Shale: 3300'-3715'	PBTD: 3728'				
Berea: 2169'-77'	6% gel 3728'-3450'				
	Permanent Bridge Plug: 3450'	Go International Wireline Set			
	6% Gel 3450'-3100'				
	Class A Cement: 3100'-2900'	115 sx Total	2996'	1970'	4 1/2"
	6% Gel: 2900'-2350'				
	Class A Cement: 2350'-2150'	225 sx Class A Total	1300'	919'	7"
	6% Gel: 2150'-1400'				
	Class A Cement: 1400'-1200'				
	6% Gel: 1200'-800'				
	Class A Cement: 800'-700'				
	6% Gel: 700'-300'				
	Class A Cement: 300'-0'			216'	9 5/8"
	NOTE: Used 20 100 lb. bags of gel Total				
COAL SEAMS (NAME) <u>None</u>	DESCRIPTION OF MONUMENT 7' long piece of 6" casing filled w/concrete approximately 3' above ground level; properly labeled.				
(NAME)					
(NAME)					
(NAME)					

and that the work of plugging and filling said well was completed on the 12th day of October, 1979.

And further deponents saith not.

Sworn to and subscribed before me this 21 day of March, 1980.

My commission expires: August 6 1980

Robert A. Pryce
Richard L. Coty
Notary Public.
Permit No. 47-035-1375