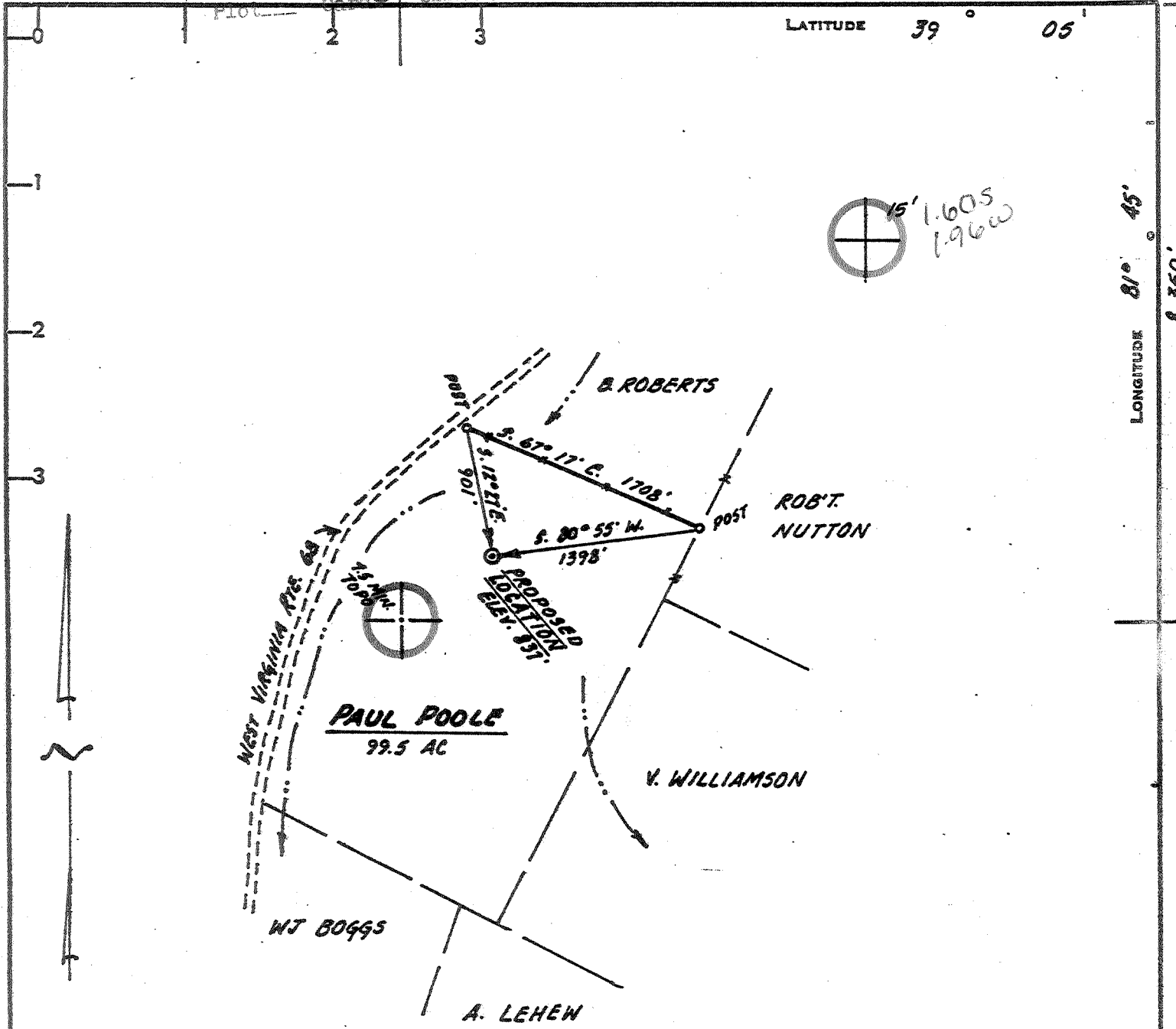


ch 4/8

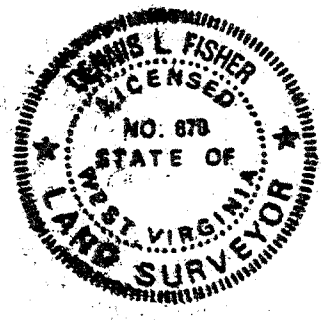
10,200'

LATITUDE 39° 05'

LONGITUDE 81° 45' 0,350'



[ SURFACE : PAUL POOLE  
 MINERAL : PAUL POOLE, ETAL ]



**CERTIFICATE**

"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."

Minimum degree of accuracy is one part in 200  
 Signed: Dennis L. Fisher LLS #670

- NEW LOCATION
- RECONDITION
- DRILL DEEPER
- ABANDONMENT

COMPANY	KAISER EXPLORATION AND MINING COMPANY		
ADDRESS	PO BOX #8, RAVENSWOOD, WEST VIRGINIA 26164		
FARM	PAUL POOLE		
MAP	ACRES	LEASE NO.	
	99.5		
WELL (FARM) NO.	SERIAL NO.	KEM 89	
ELEVATION (SPIRIT LEVEL)	837		
QUADRANGLE	PORTLAND, OHIO - W.VA. 7.5 MIN. SE		
COUNTY	DISTRICT	JACKSON GRANT	
POINT OF PROVEN ELEVATION	ROAD INTERSECTION ELEV. 772 2200' NE OF PROPOSED LOCATION		
FILE NO.	DRAWING NO.		
DATE	MARCH 25, 1981		
	SCALE	1" = 1000'	

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION  
 CHARLESTON  
**WELL LOCATION MAP**  
 FILE NO. 035-1573

+ DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS. SCALE 1 TO 24,000 LATITUDE AND LONGITUDE LINES BEING REPRESENTED BY BORDER LINES AS SHOWN.  
 - DENOTES ONE INCH SPACES ON BORDER LINE OF ORIGINAL TRACING.

3-6 Newburg DEEP WELL 4925 APR 28 1981 Neptune 4975' (500)

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
**Oil and Gas Division**  
**WELL RECORD**

Quadrangle Portland, O/WV

Permit No. JAC-1573

Rotary X Oil \_\_\_\_\_  
Cable \_\_\_\_\_ Gas X \_\_\_\_\_  
Recycling \_\_\_\_\_ Comb. \_\_\_\_\_  
Water Flood \_\_\_\_\_ Storage \_\_\_\_\_  
Disposal \_\_\_\_\_ (Kind) \_\_\_\_\_

Company Kaiser Exploration and Mining Co.  
Address P. O. Box 8, Ravenswood, WV 26164  
Farm Paul Poole Acres 99.5  
Location (waters) Ohio River  
Well No. KEM #39 Elev. 837'  
District Grant County Jackson  
The surface of tract is owned in fee by Paul Poole  
Address Rt. 1, Murraysville, WV 26153  
Mineral rights are owned by Same  
Address Same  
Drilling Commenced 6/13/81  
Drilling Completed 6/21/81  
Initial open flow 0 cu. ft. -- bbls.  
Final production 200,000 cu. ft. per day -- bbls.  
Well open 5 hrs. before test 1375 RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size 20-16			
Cond. 13-10" 11 3/4	255' (KB)	255' (KB)	175 sks class A, 3% calcium clori
9 5/8			1/4#/sk flocele
8 5/8	1982' (KB)	1982' (KB)	100 sks 50/50 po
7			10% salt, 100 sk
5 1/2	4948' (KB)	4948' (KB)	class A, 3% calc
4 1/2			chloride
3			425 sks 50/50 poz
2			10% salt, 1/4#/s
Liners Used			flocele

Well treatment details:

Attach copy of cementing record.

6/25/81: perforated Oriskany from 4292'-4302' (KB), 40 holes, 4 holes/ft, 3 5/8" hollow steel carrier; 7/7/81: hydrofractured zone (Halliburton) with 15,000# of 80/100 sand, 45,000# 20/40 sand, 180,000 SCF of nitrogen, and 881 bbl of water; avg treatment rate was 34 BPM at an avg treating pressure of 3000 psig; instantaneous shut in pressure was 1900 psig.

Coal was encountered at -- Feet -- Inches --  
Fresh water -- Feet -- Salt Water -- Feet --  
Producing Sand Oriskany Sandstone Depth 4292'-4302'

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
* All formation tops taken from electric log depths						
Soil & Siltstone			0	65		
Shale			65	102		
Siltstone			102	122		
Shale			122	222		
Sand			222	262		
Shale			262	340		
Sand			340	348		
Sand & Shale			348	471		
Sand			471	519		
Shale			519	535		
Sand			535	569		
Shale			569	606		
Sand			606	640		
Red Rock & Shale			640	1155		
Salt Sand			1155	1300		
Sandy Shale			1300	1448		
Shale			1448	1560		
Sand			1560	1586		
Shale			1586	1618		
Sand			1618	1639		
Shale			1639	2090		

(over)

\* Indicates Electric Log tops in the remarks section.

DEC 13 1982

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Coffee Shale (Sunbury)			2090	2107		
Berea Sand			2107	2110		
Shale			2110	3245		
Brown Shale			3245	3696	Show/Gas	3690'
Shale			3696	4012		
Marcellus Shale			4012	4202		
Onondaga Lime (Corniferous)			4202	4284		
Oriskany Sand			4284	4314	Smell of gas	
Helderberg Lime			4314	4337		
Chert & Dolomite			4337	4982		
Newburg Sand (Williamsport)			4982	4986	Dry; <u>plugged back to 4360'</u>	
<u>Bloomsburg</u>			4986	5025		
Total Depth			<u>5025</u>			

5025  
4314  


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711 expl. ftg.

Date August 26 1981

APPROVED: Kath A. P. (Name)

By: General Manager (Title)



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES

RECEIVED

APR - 6 - 1981

Oil and Gas Division

OIL & GAS DIVISION  
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

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

DATE April 2, 1981

Surface Owner Paul Poole  
Address Rt. 1, Murraysville, WV 26153  
Mineral Owner Paul Poole, et al  
Address Rt. 1, Murraysville, WV 26153  
Coal Owner Paul Poole  
Address Rt. 1, Murraysville, WV 26153  
Coal Operator None  
Address

Company Kaiser Exploration and Mining Company  
Address P. O. Box 8, Ravenswood, WV 26164  
Farm Paul Poole Acres 99.5  
Location (waters) Ohio River  
Well No. KEM #89 Elevation 837'  
District Grant County Jackson  
Quadrangle Portland, O-WV

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions 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 12-14-81

INSPECTOR  
TO BE NOTIFIED Richard Morris  
ADDRESS P. O. Box 372, Grantsville, WV  
PHONE 354-7259

*[Signature]*  
Deputy Director - Oil & Gas Division

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 May 31 1978 by Paul & Rose Poole made to Kaiser Exploration and Mining Company and recorded on the 8 day of June 1978, in Jackson County, Book 148 Page 280

X 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.

PLEASE SUBMIT COPIES OF ALL  
GEOPHYSICAL LOGS DIRECTLY TO:

WEST VIRGINIA GEOLOGICAL AND  
ECONOMIC SURVEY  
P. O. BOX 879  
MORGANTOWN, WEST VIRGINIA 26505  
AC-304 - 292-6331

Very truly yours,  
(Sign Name) Robert C. Poyce / de  
Well Operator  
Kaiser Exploration and Mining Company  
P. O. Box 8  
Street  
Ravenswood  
City or Town  
West Virginia 26164  
State

\*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 X DRILL \_\_\_\_\_ DEEPEN \_\_\_\_\_ FRACTURE-STIMULATE \_\_\_\_\_  
 DRILLING CONTRACTOR: (If Known) \_\_\_\_\_ RESPONSIBLE AGENT: \_\_\_\_\_  
 NAME Clint Hurt & Associates, Inc. NAME Robert A. Pryce  
 ADDRESS P. O. Box 388, Elkview, WV 25071 ADDRESS P. O. Box 8, Ravenswood, WV 26164  
 TELEPHONE 273-5371 TELEPHONE 273-5371  
 ESTIMATED DEPTH OF COMPLETED WELL: 4975' ROTARY X CABLE TOOLS \_\_\_\_\_  
 PROPOSED GEOLOGICAL FORMATION: Newburg  
 TYPE OF WELL: OIL \_\_\_\_\_ GAS X COMB. \_\_\_\_\_ STORAGE \_\_\_\_\_ DISPOSAL \_\_\_\_\_  
 RECYCLING \_\_\_\_\_ WATER FLOOD \_\_\_\_\_ OTHER \_\_\_\_\_

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE	USED FOR DRILLING	LEFT IN WELL	CEMENT FILL UP OR SACS - CUBIC FT.
20 - 16			
13 - 10 11 3/4"	250	250	175 sks class
9 - 5/8			
8 - 5/8	2000	2000	65 sks 50/50 pozmix
7			100 sks class A
5 1/2	4975	4975	500 sks 50/50 pozmix
4 1/2			
3			Perf. Top:
2		4975	Perf. Bottom
Liners			Perf. Top:
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS \_\_\_\_\_ FEET SALT WATER \_\_\_\_\_ FEET  
 APPROXIMATE COAL DEPTHS \_\_\_\_\_  
 IS COAL BEING MINED IN THE AREA? None 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