



CERTIFICATE

- NEW LOCATION REVISED
- RECONDITION
- DRILL DEEPER
- ABANDONMENT

"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 [Signature]

COMPANY RADE EXPLORATION & MINING COMPANY
 ADDRESS P.O. Box 8 RAVENSWOOD, WEST VIRGINIA
 NAME LEOMA TEETS
 ACRES 15 1/8 Pt. of 251.25 Ac Unit on LEASE
 WELL (FARM) NO. 1 SERIAL NO. KEM 43
 ELEVATION (SPIRIT LEVEL) 739.98
 TRIANGLE ELMWOOD 7 1/2 WINFIELD NE
 TOWNSHIP MASON DISTRICT UNION
 POINT OF PROVEN ELEVATION BM EL. 635
 DRAWING NO. JULY 29, 1987 SCALE 1" = 500 FT.

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON
 WELL LOCATION MAP
 FILE NO. 053-0236

+ 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 MAP

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

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

Quadrangle Elimwood
Permit No. MAS-236

Company Kaiser Exploration and Mining Company
Address P. O. Box 8, Ravenswood, WV 26164
Farm Leoma Teets Acres 739.98
Location (waters) Mudlick Fork
Well No. KEM #43 Elev. 739.98
District Union County Mason
The surface of tract is owned in fee by _____
Leoma Teets
Address Rt. 3, Box 153-A, Leon, WV 25123
Mineral rights are owned by Same as above
Address Same as above
Drilling Commenced 10/8/80
Drilling Completed 10/15/80
Fluid open flow 75 M cu. ft. per day -- bbls.
Final production 125 M cu. ft. per day -- bbls.
Well open 14 hrs. before test 1550# RP.
Well treatment details:

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size 20-16			
Cond. 13-10" 10 3/4	260' (KB)	260' (KB)	150' sks cla
9 5/8			3% cacl ₂ (to
8 5/8			65 sks 50/5
7	2491' (KB)	2491' (KB)	100 sks cla
5 1/2			(1400' fil
4 1/2	4774' (KB)	4774' (KB)	225 sks 50
3			(2000' fil
2		4701' (KB)	
Liners Used			

Attach copy of cementing record.

Perforated Oriskany from 4701'-4709' (K.B.), 4 holes/ft, 32 holes, .41" diameter (Basi
Surveys); 10/13/80; Halliburton and B.J. Hughes on location to hydrofracture formation
used 10,000# 20/100 sand and 30,000# 20/40 sand, 1000 gal 28% HCL acid, 1057 bbl of wa
200,000 SCF of nitrogen; 2419 hydraulic horsepower; treated at avg. of 19 BPM and 5250
maximum pressure: 5400 psig.

Fluid was encountered at None Feet -- Inches
Fresh water _____ Feet -- Salt Water _____ Feet --
Producing sand Oriskany Sandstone Depth 4701'-4709' (K.B.)

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Sand & Shale			0	61		
Sand			61	291		
Shale			291	438		
Sand			438	462		
Shale			462	518		
Sand			518	538		
Shale			538	687		
Sand			687	723		
Shale			723	924		
Sand			924	956		
Shale			956	1024		
Sand			1024	1064		
Shale			1064	1126		
Sand			1126	1252		
Shale			1252	1276		
Sand			1276	1290		
Shale			1290	1327		
Sand			1327	1349		
Siltstone			1349	1644		
Sand			1644	1662		
Shale			1662	1684		
Big Lime			1684	1876		
Shale			1876	1917		

Stratigraphic Unit	Top Foot	Bottom Foot	Oil, Gas or Water	Remarks
Big Injun	1917	2049		
Shale	2049	2358		
Coffee Shale	2358	2387		
Berea Sand GR log el. 750' KB	2387	2400		
Shale	2400	3585	Show/Gas	3066'
Brown Shale	3585	4041		
Shale	4041	4385		
Marcellus Shale	4385	4608	Show/Gas	4429'
Onondaga Lime	4608	4680		
Oriskany Sand	4680	4717	Show Gas	4705'
Helderberg Lime	4717	4810		
Total Depth	4810			

Tops From
KB = 750'

GR log. el. 750' KB

- H 3592
- J 4040
- A 4175
- Rh 4386
- On 4608

November 12, 1980
K. A. Pryor / de
Operation Manager



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

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

DATE August 4, 1980

Surface Owner Leoma Virginia Teets
Address Rt. 3, Box 153A, Leon, WV 25123
Mineral Owner Same as above
Address Same as above
Coal Owner Union Carbide Corporation
Address 32 Sanderson Road, Clendenin, WV 25045
Coal Operator None
Address _____

Company Kaiser Exploration and Mining Company
Address P. O. Box 8, Ravenswood, WV 26164
Farm Leoma Teets Acres 15 1/8
Location (waters) Mudlick Fork
Well No. KEM #43 Elevation 739.98
District Union County Mason
Quadrangle Elmwood

THIS PERMIT MUST BE POSTED AT THE WELL SITE

provisions being in accordance with Chapter 2,
the W. Va. Code, the location is hereby approved
for drilling. This permit shall expire if
operations have not commenced by 4-18-81

INSPECTOR
TO BE NOTIFIED Kenneth Butcher
ADDRESS RFD #1, Barboursville, WV
PHONE 736-4885

[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
therein (or as the case may be) under grant or lease dated March 24, 1980 by Leoma
Virginia Teets made to Kaiser Exploration and Mining Co. and recorded on the 27th day of March
80 in Mason County, Book 47 Page 783

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
and 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
PHYSICAL LOGS DIRECTLY TO:

BLANKET BOND

Very truly yours,
[Signature]
(Sign Name) R. A. Pryce
Well Operator

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

Address _____
of _____
Well Operator _____
P. O. Box 8 _____
City or Town _____
Ravenswood, WV 26164 _____
State _____

RECEIVED

AUG - 7 1980

OIL & GAS DIVISION
DEPT. OF MINES

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) Burdette Drilling Company RESPONSIBLE AGENT: Robert A. Pryce
 NAME Burdette Drilling Company NAME Robert A. Pryce
 ADDRESS P. O. Box 10167, Charleston, WV 25312 ADDRESS P. O. Box 8, Ravenswood, WV 26164
 TELEPHONE 744-1361 TELEPHONE 273-5371
 ESTIMATED DEPTH OF COMPLETED WELL: 4850' ROTARY X CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Oriskany
 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 SACKS - CUBIC FT.
20 - 16			
13 - 10			
9 - 5/8 10 3/4"	250'	250'	Cement back to surface
8 - 5/8			
7	2470'	2470'	125 sks = 570'
5 1/2			
4 1/2	4850'	4850'	125 sks = 1500'
3			Perf. Top
2			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? Not at the present time 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 hereof.

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