



38 42 20
81 49 15

CERTIFICATE

- NEW LOCATION
- 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

Frank H. Barker #289

COMPANY KAISER EXPLORATION & MINING COMPANY
 ADDRESS PO BOX 8, RAVENSWOOD, WEST VIRGINIA
 FARM CHARLIE PICKENS ETAL
 MAP _____ ACRES 98.19 of 397.49 LEASE NO. _____
 WELL (FARM) NO. 3 SERIAL NO. KEM 36
 ELEVATION (SPIRIT LEVEL) 834
 QUADRANGLE ELMWOOD 15 Winfield 15 NE
 COUNTY MASON DISTRICT UNION
 POINT OF PROVEN ELEVATION BM EL. 628
 FILE NO. _____ DRAWING NO. _____
 DATE FEB 27 1980 SCALE 1" = 1000 FT.

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

WELL LOCATION MAP

FILE NO. 053-0222

+ 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.

6-6 DEEP WELL Rock Castle (346)

APR 9 1980



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

WELL RECORD

Quadrangle Elmwood

Permit No. MAS-0222

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

Company Kaiser Exploration and Mining Company

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

Farm Charlie Pickens, et al Acres 397.49

Location (waters) Sapsucker Run

Well No. KEM #36 Elev. 834'

District Union County Mason

The surface of tract is owned in fee by _____

C. Dallas & Rebecca Kayser

Address Pt. Pleasant, WV 25550

Mineral rights are owned by Charlie Pickens, et al

Address Leon, WV

Drilling Commenced 7/8/80

Drilling Completed 7/17/80

Initial open flow Trace cu. ft. -- bbls.

Final production 250 MCF cu. ft. per day -- bbls.

Well open _____ hrs. before test 1300 RP.

Well treatment details:

Basin Surveys perforated 4826'-4832' (K.B.) w/3 1/2" glass jets on strip, 4 holes/ft, 24 holes; Halliburton & B.J. Hughes hydrofractured Oriskany w/30,000# 80/100 sand and 30,000# 20/40 sand, 181,000 SCF nitrogen, 875 bbl of water, 2218 avg. HHP, 22 BPM avg. rate, 4150 psig avg. treating pressure, 4300 psig max. pressure; instantaneous shut in: 3500 psig; job done on August 7, 1980; used 1000 gal 28% HCL acid to spearhead treatment.

Coal was encountered at None Feet -- Inches
Fresh water -- Feet -- Salt Water Feet --
Producing Sand Oriskany Sandstone Depth 4826'-4832' (K.B.)

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size			
20-16			
Cond.			
13-10" 10 3/4"	252' (KB)	252' (KB)	150 sks class (to surface)
9 5/8			
8 5/8			
7	2583' (KB)	2583' (KB)	165 sks pozmix and class A (1400' fillup)
5 1/2			
4 1/2	4915' (KB)	4915' (KB)	225 sks pozmix (1500' fillup)
3			
2		4826' (KB)	
Liners Used			

Attach copy of cementing record.

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Soil			0	6		
Sand			6	72		
Siltstone			72	106		
Shale			106	168		
Sand			168	260		
Red Rock			260	484		
Shale			484	545		
Siltstone			545	592		
Sand			592	601		
Shale			601	658		
Siltstone			658	695		
Sand			695	707		
Red Rock			707	763		
Sand			763	776		
Red Rock			776	947		
Sand			947	984		
Shale			984	1055		
Sand			1055	1085		
Siltstone & Shale			1085	1236		
Sand			1236	1387		
Shale			1387	1412		
Sand			1412	1445		
Siltstone			1445	1630		

(over)

* Indicates Electric Log tops in the remarks section.

Rec'd 11/22/80

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	Remarks
Sand			1630	1676		
Shale			1676	1691		
Sand			1691	1713		
Shale			1713	1778		
Sand			1778	1805		
Shale			1805	1819		
Big Lime			1819	2007		
Shale			2007	2036		
Big Injun			2036	2098		
Siltstone			2098	2478		
Coffee Shale			2478	2504		
Berea			2504	2514		
Shale			2514	3697		
Brown Shale			3697	4162		Gas show 3541' - 3604'
Shale			4162	4497		Gas show 3709' - 3750', 3798, 3830'
Marcellus Shale			4497	4727		Gas show 4292'
Onondaga Lime			4727	4798		Gas show 4505' - 85', 4604' - 4727'
Oriskany Sand			4798	4842		Gas
Helderberg			4842	4912		
Total Depth			4912			

Tops From
KB = 845

GR log
H 3702
J 4150
A 4292
On 4842

Date December 2, 1980

APPROVED [Signature]
By Operations Manager

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

Date: December 4, 1981

FORM IV-35
(Obverse)

Operator: _____
Well No. KEM - 36

[08-79]

WELL OPERATOR'S REPORT
OF

API No. 47-053-0222
County Perkins

DEPARTMENT, TRADE, BRAND AND/OR SERVICE MARKING, AND PHYSICAL CHANGE

WELL TYPE: Oil ___ / Gas X / Liquid Injection ___ / Waste Disposal ___
(If "Gas", Production X / Underground storage ___ / Deep ___ / Shallow ___)
LOCATION: Elevation: 834 Watershed: Sapsucker Run
District: Union County: Mason Substrata: Elmwood (7.5')

WELL OPERATOR Kaiser Exploration and Mining Co. DESIGNATED AGENT SAME
Address P. O. Box 8 Address _____
Ravenswood, WV 26164

PERMITTED WORK: Drill ___ / Convert ___ / Drill deeper ___ / Ream ___
Plug off old formation X / Perforate new formation X / **RECEIVED**
Other physical change in well (specify) _____ FEB 9 - 1982

PERMIT ISSUED ON March 18, 19 80 OIL & GAS INSPECTOR FOR THIS WORK:
Name Kenneth Butcher (736-4885)
Address RFD #1
Barboursville, WV 25504

LOGICAL TARGET FORMATION: Plugged Oriskany / Frac'd Marcellus OLD Depth 4912 feet
Depth of completed well, 4750 feet Rotary ___ / Cable Tools ___
Water strata depth: Fresh, ___ feet; salt, ___ feet.
Coal seam depths: NONE Is coal being mined in the area? NO
Work was commenced September 3, 19 81, and completed September 14, 1981

LOGGING AND TUBING PROGRAM: See previous well record filed upon completion of Oriskany.

LOGGING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft	New	Used	For drilling		
Conductor								Rinds
Sh water								
1								Sizes
Intermediate								
Production								Depths set
Log								
ers								Perforations: Marcellus
								Top Bottom
								4527 4702

FLOW DATA
Producing formation Devonian Oriskany Sandstone OLD Pay zone depth 4826'-4832' (KB) feet
Gas: Initial open flow, Trace Mcf/d Oil: Initial open flow, NONE Bbl/d
Final open flow, 250 Mcf/d Final open flow, NONE Bbl/d
Time of open flow between initial and final tests, N/A hours
Static rock pressure, 1300 psig (surface measurement) after ___ hours shut in.

[If applicable due to multiple completion--]
Second producing formation Devonian Marcellus Shale NEW Pay zone depth 4527'-4702' (KB) feet
Gas: Initial open flow, N/A Mcf/d Oil: Initial open flow, NONE Bbl/d
Final open flow, 125 Mcf/d Final open flow, NONE Bbl/d
Time of open flow between initial and final tests, N/A hours
Static rock pressure, 1275 psig (surface measurement) after 84 hours shut in.

OCT 12 1982

[08-78]

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

- 9/03/81: Set permanent bridge plug in 4 1/2" casing above Oriskany Sandstone at 4750' (KB). Perforated the Marcellus Shale with 25 holes (.50" diameter; 3 1/2" ceramic jets), from 4527'-4702' (KB)
- 9/12/81: Fractured the Marcellus Shale interval with 1,376,000 SCF of nitrogen and spearhead fracture with 500 gallons of 15% HCL Acid. Formation fractured at a rate of 64,000 SCF/min with an average treating pressure of 3000 psig.

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all free and salt water, coal, oil and gas
<p><u>NOTE:</u> See previous well record filed with the completion of Oriskany Sandstone.</p>					

(Attach separate sheets to complete as necessary)

KAISER EXPLORATION AND MINING COMPANY
Well Operator
By R. A. P.
Its Operation Manager

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 core, encountered in the drilling of a well."



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED
MAR 11 1980
OIL & GAS DIVISION
DEPT. OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

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

Surface Owner C. Dallas & Rebecca Kayser
Address Pt. Pleasant, WV 25550
Mineral Owner Charlie Pickens, et al
Address Leon, WV
Coal Owner Union Carbide Corporation
Address 32 Sanderson Road, Clendenin, WV
Coal Operator None
Address None

DATE February 28, 1980
Company Kaiser Exploration and Mining Company
Address P. O. Box 8, Ravenswood, WV 26164
Farm Charlie Pickens, et al Acres 397.49
Location (waters) Sapsucker Run
Well No. KEM 36 Elevation 834
District Union County Mason
Quadrangle Elmwood

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 11-18-80.

INSPECTOR
TO BE NOTIFIED Kenneth Butcher
ADDRESS RFD #1, Barboursville, WV 25504
PHONE 736-4885

Robert H. [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
there to, (or as the case may be) under grant or lease dated May 26 19 78 by Charlie
Pickens et al made to Kaiser Exploration and Mining Co. and recorded on the 28 day of June
79 in Mason County, Book 45 Page 811

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
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
coal owners at their above shown respective address _____ day _____ before, or on the
_____ day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL
GEOLOGICAL LOGS DIRECTLY TO:

WEST VIRGINIA GEOLOGICAL AND
ECONOMIC SURVEY
P. O. BOX 879
MORGANTOWN, WEST VIRGINIA 26505
724-304 - 292-6331

Very truly yours,
(Sign Name) [Signature] Well Operator
R. A. Pryce
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 Not known at this time _____ NAME Robert A. Pryce _____
 ADDRESS _____ ADDRESS P. O. Box 8, Ravenswood, WV 26164 _____
 TELEPHONE _____ TELEPHONE 273-5371 _____
 ESTIMATED DEPTH OF COMPLETED WELL: 4935 _____ 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	200	200	Cement to surface
8 - 5/8			
7	2520	2520	125 sks = 570 feet
5 1/2			
4 1/2	4935	4935	125 sks = 1500 feet
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? 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

RECEIVED

FORM 06-0

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

AUG - 6 1982

OIL AND GAS DIVISION
WV DEPARTMENT OF MINES

AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVIT SHOULD BE MADE IN TRIPPLICATE. 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.

COAL OPERATOR OR OWNER _____
 ADDRESS _____
 COAL OPERATOR OR OWNER _____
 ADDRESS _____
 Charlie Pickens, EtAl
 LEASE OR PROPERTY OWNER
 Leon, WV
 ADDRESS _____

KAISER EXPLORATION AND MINING COMPANY
 NAME OF WELL OPERATOR
 P. O. Box 8 RAVENSWOOD, WV 26164
 COMPLETE ADDRESS
 19
 WELL AND LOCATION
 UNION District
 MASON County
 Well No. KEM-36
 PICKENS Farm

STATE INSPECTOR SUPERVISING PLUGGING KENNETH BUTCHER

AFFIDAVIT

STATE OF WEST VIRGINIA,
 County of MASON } ss:

R. A. Pryce and R. L. Coty
 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 _____ well operator, and participated in the work of plugging and filling the above well, that said work was commenced on the 3 day of September, 19 81, 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
ORISKANY Ss	PERMANENT BRIDGE PLUG SET AT 4750' (3/9/81)	BAKER PERMANENT BRIDGE PLUG IN 4 1/2" CASING	0	
MARCELLUS SHALE	PERMANENT BRIDGE PLUG SET AT 4200' (1/27/82)	BAKER PERMANENT BRIDGE PLUG MO- DEL S IN 4 1/2" CASING	0	
COAL SEAMS				
(NAME)		DESCRIPTION OF MONUMENT		
(NAME)		PARTIAL PLUGGING, NO MONUMENT		
(NAME)		ERECTED		
(NAME)				

and that the work of plugging and filling said well was completed on the 27 day of January, 19 82.

And further deponents saith not.

Sworn to and subscribed before me this 5th day of August, 19 82.

My commission expires:
 August 29, 1988

R. A. Pryce
R. L. Coty

Candi S. Kitchner
 Notary Public.
 Permit No. MAS-222