



New Location
 Drill Deeper
 Abandonment

Minimum Error of Closure 1 - 200
 Source of Elevation Well No. Jackson-1378 Elev. 659' SW of location
 "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 Exploration & Mining Co.
 Address PO. Box 537 Ripley, W.V.
 Farm Roy Hoschar
 Tract _____ Acres 69 Lease No. 3259
 Well (Farm) No. DEK59 Serial No. _____
 Elevation (Spirit Level) 897' SE
 Quadrangle 7.5' Cottageville 15' Ravenswood
 County Jackson District Union
 Surveyor James D. DePuy
 Surveyor's Registration No. 147
 File No. _____ Drawing No. _____
 Date 8/11/78 Scale 1" = 400'

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

WELL LOCATION MAP
 FILE NO. JAC-1460

+ 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 SEP 1 1978

4630 Marcellus shale 6-6 Providence (359) DEEP WELL



MAR 16 1979

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
Oil and Gas Division

OIL & GAS DIVISION
DEPT. OF MINES

WELL RECORD

Quadrangle Cottageville
Permit No. JAC-1460

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

Company KAISER EXPLORATION & MINING CO.
Address Box 537, Ripley, WV
Farm Roy Hoschar Acres 69
Location (waters) Left Fork of Cow Run
Well No. DEK #59 Elev. 905 KB
District Union County Jackson
The surface of tract is owned in fee by Roy Hoschar
Address Rt. 2, Cottageville, WV
Mineral rights are owned by Same
Address _____
Drilling Commenced 8/28/78
Drilling Completed 9/4/78
Initial open flow Zero cu. ft. _____ bbls.
Final production 158 cu. ft. per day _____ bbls.
Well open 6 hrs. before test 880 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	331	331	110 Sax
8 5/8			
7	2508	2508	75 Sax
5 1/2			
4 1/2		4629	200 Sax
3			
2			
Liners Used			

Well treatment details:

Attach copy of cementing record.

Perforated 4 1/2" csg. 4467' to 4556' with 19 shots in Marcellus foam frac with 212 bbl water and 60,000 lbs sand. Tested 158 MCF/Day with 880 PSI shut in pressure after frac.
Perforated 4 1/2" @ 3975' to 4065' in Brown Shale section foam frac w/30/ bbl water & 60,000# sand.

Coal was encountered at None Feet _____ Inches _____
Fresh water _____ Feet _____ Salt Water _____ Feet _____
Producing Sand Brown Shale & Marcellus Depth 3975-4065 & 4467-4556

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Surface			0	20		
Shale			20	295		
Sand			295	327		
Shale			327	515		
Sand			515	558		
Shale			558	623		
Sand			623	640		
Shale			640	668		
Sand			668	700		
Shale			700	730		
Sand			730	783		
Shale			783	883		
Broken Sand			883	1049		
Shale			1049	1200		
Sand			1200	1293		
Shale			1293	1780		
Maxon Sand			1780	1850		
Shale			1850	1857		
Big Lime			1857	1997		
Shale			1997	2010		
Injun Sand			2010	2142		
Shale			2142	2470		
Coffee Shale			2470	2490		
Berea Sand			2490	2502		

(over)

* Indicates Electric Log tops in the remarks section.

APR 10 1979

Formation	Color	Hard or Soft	Top Feet ±	Bottom Feet	Oil, Gas or Water	* Remarks
Shale			2502	3651		
Brown Shale			3651	4094		
Shale			4094	4489		
Marcellus Shale			4489	4630		
Total Depth			4630			
0907.0 4628 WTL						

Date March 9

1979

APPROVED

Robert A. Pryce

Owner

Robert A. Pryce

BY

Operations Manager

(101)

*



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED

AUG 15 1978

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 14, 1978
Company Kaiser Exploration & Mining Co.
Address PO Box 537, Ripley, WV 25271
Farm Roy Hoschar Acres 69
Location (waters) Left Fork of Cow Run
Well No. DEK #59 Elevation 897
District Union County Jackson
Quadrangle Cottageville 7½

Surface Owner Roy Hoschar
Address Rt. 2, Cottageville, WV 25239
Mineral Owner Same as above
Address _____
Coal Owner Same as above
Address _____
Coal Operator Not Operated
Address _____

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 12-16-78.

INSPECTOR
TO BE NOTIFIED Richard Morris
ADDRESS Grantsville, W. Va.
PHONE 354-7259

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 10th 19 69 by Roy Hoschar, et ux made to Commonwealth Gas Co. and recorded on the _____ day of _____ 19____, in Jackson County, Book 109 Page 390
XXX 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 AND MINING COMPANY

(Sign Name)
Well Operator Operations Manager

P. O. Box 537, 118 McGraw

Street

Ripley

City or Town

West Virginia

State

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

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

JAC-1460

PERMIT NUMBER

47-035

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 Co. NAME Robert A. Pryce
 ADDRESS Box 448, Elkview, W. Va. ADDRESS PO Box 537, Ripley, WV
 TELEPHONE 965-3379 TELEPHONE 372-2827
 ESTIMATED DEPTH OF COMPLETED WELL: 4630 ROTARY XXX CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Marcellus Shale
 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	300	300	125 sax=to surface
8 - 5/8			
7	2575	2525	75 sax=630 feet
5 1/2			
4 1/2		4630	150 sax=1800 feet
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