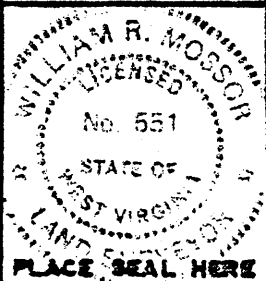


FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1:200
 PROVEN SOURCE OF ELEVATION Rt 2 Stream 623 Crossing

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF MINES.
 (SIGNED) William R. Mossor
 R.P.E. _____ L.L.S. 551



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6 (8-78)



DATE 2 March, 19 81
 OPERATOR'S WELL NO Northcraft #1
 API WELL NO. 47-095-0901
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL GAS LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS", PRODUCTION STORAGE _____ DEEP _____ SHALLOW
 LOCATION: ELEVATION 864' WATER SHED Ohio River
 DISTRICT Union COUNTY Tyler
 QUADRANGLE New Matamoros, Ohio 7 1/2' Quad. SE 4 15'
 SURFACE OWNER Robert + Grace Northcraft ACRES 56
 OIL & GAS ROYALTY OWNER S. Williamson + R. + G. Northcraft LEASE ACRES 56
 LEASE NO. _____
 PROPOSED WORK: DRILL CONVERT _____ DRILL DEEPER _____ REDRILL _____ FRACTURE OR STIMULATE _____ PLUS OFF OLD FORMATION _____ PERFORATE NEW FORMATION _____ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUS AND ABANDON _____ CLEAN OUT AND REPLUS _____
 TARGET FORMATION Shale ESTIMATED DEPTH 4600'
 WELL OPERATOR Lauderman O+G DESIGNATED AGENT Phillip Morgan
 ADDRESS Box 266 ADDRESS Box 266
Paden City, W. Va. 26159 Paden City, W. Va. 26159

ROBERT & GRACE NORTHCRAFT
WELL OPERATOR'S REPORT

API Well No. 17 - 095

State County

0901

[08-78,

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil x / Gas x / Liquid Injection ___ / Waste Disposal ___ /
(If "Gas", Production: x / Underground storage ___ / Deep x / Shallow ___ /).

LOCATION: Elevation: 864 Watershed: Ohio River
District: Union County: Tyler Quadrangle: 7 1/2

WELL OPERATOR Lauderman Oil & Gas DESIGNATED AGENT Phillip Morgan
Address 311 South Fourth Ave. Address SAME
Paden City, WV

PERMITTED WORK: Drill x / Convert ___ / Drill deeper ___ / Redrill x / Fracture or stimulate
Plug off old formation ___ / Perforate new formation ___ /
Other physical change in well (specify) FOAM FRACTURE

PERMIT ISSUED ON 3/04/, 19 81

OIL & GAS INSPECTOR FOR THIS WORK:

(IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED

Name Phillip Tracy FEB 24 1982

Address Route 23 OIL AND GAS DIVISION
Alma, WV WV DEPARTMENT OF MINES

GEOLOGICAL TARGET FORMATION: Middle Devonian Depth 4512 feet

Depth of completed well, 4512 feet Rotary x / Cable Tools ___

Water strata depth: Fresh, 90 feet; salt, 1550 feet.

Coal seam depths: No Coal Is coal being mined in the area? No

Work was commenced 3-5-, 19 81, and completed 3/12, 19 81

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKER
	Size	Grade	Weight per ft	New	Used	For drilling		
Conductor	20-16							Kinds
Fresh water	13-10							
Coal	9-5/8							Sizes
Intermediate	8 5/8				250	thru surface	250	Cement to Surface
Production	7							Deaths set
Tubing	5 1/2							
Liners	4 1/2				4700		4700	Cemented thru Payzone
	3							2000' fillup
	2							

OPEN FLOW DATA

Producing formation Devonian shale Union REDSON pay zone depth 4442

Gas: Initial open flow, 3700 Mcf/d Oil: Initial open flow, ___ bbl/d

Final open flow, 251 Mcf/d Final open flow, ___ bbl/d

Time of open flow between initial and final tests, 24 hours

Static rock pressure, 1400 psig (surface measurement) after 29 hours shut in.

[if applicable due to multiple completion--]

Second producing formation _____ Pay zone depth _____

Gas: Initial open flow, ___ Mcf/d Oil: Initial open flow, ___ bbl/d

Final open flow, ___ Mcf/d Final open flow, ___ bbl/d

Time of open flow between initial and final tests, ___ hours

Static rock pressure, ___ psig (surface measurement) after ___ hours shut in.

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

3987-89-; ~~4014-16-18-21-22~~; 4105-07-27-29;
 4228-33-77-78-83-84; 4322-23-86-89-94-98;
 4405-08-22-26-32-46-48-52-56-78-82 *Muron*
 Total Fluid 263 BBls - 47,000 20/40 sand 1,256,000 SEC
 At Rate 78,000 SEC MIN using no Perf Balls

WELL LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all and salt water, coal, oil and
Shale	Gray				
Sand	Gray				
Lime	Gray				
Slate	Black				
Shale	Gray				
Lime	Gray				
Rock	Red				
Lime	White				
Shale	Gray				
Salt Sand					
Shale	Gray				
Big Lime	Green		1665	1750	
Big Injun Sand			1750	1790	
Shale	Gray		1790	2020	
Shale	Brown		2020	2040	
Berea Sand			2040	2050	
Shale	Gray		2050	2270	
Gordon	Stray		2270	2330	
Shale	Gray		2330	2400	
Gordon Sand			2400	2445	
Shale	Gray		2445	3960	
Lime	Gray		3960	4390	
Ohio?	Shale		4390	4475	
Lime <i>BRANSON</i>	Gray		4475	4510	
	<i>Muron</i>				

3987 4482
 2050 2050
 1937 2432
 4510
 2050
 2460

(Attach separate sheets as complete as necessary.)

Well Operator
 By: *Phillip Morgan*

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 coal, encountered in the drilling of a well."



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

Oil and Gas Division

RECEIVED

MAR - 4 1981

OIL & GAS DIVISION
DEPT. OF MINES

OIL AND GAS WELL PERMIT APPLICATION

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

DATE March 4, 1981

Surface Owner Robert & Grace Northcraft
Address Friendly, W. Va. 26146
Mineral Owner Same
Address Same
Coal Owner _____
Address _____
Coal Operator None
Address _____

Company Lauderman Oil & Gas Drilling
Address 311 S. 4th Avenue, Paden City, W. Va.
Farm Northcraft #1 Acres 50
Location (waters) Ohio River
Well No. One Elevation 864'
District Union County Tyler
Quadrangle 7 1/2 New Matamoras Ohio

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 11-4-81.

INSPECTOR
TO BE NOTIFIED Phillip Tracy
ADDRESS Alma, W. Va.
PHONE 758-4573

J. Murphy
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 Mar. 10 1980 by Gene Carr made to Robert & Grace Northcraft and recorded on the 26th day of Aug. 19 80 in Tyler County, Book 226 Page 175

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) *Phillip Tracy*
Well Operator
311 S. 4th Avenue Street
Paden City, W. Va. City or Town
West Virginia 26159 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

47-095-0901 PERMIT NUMBER

"I have read and understand the reclamation requirements as set forth in Chapter 22, Article 4, Section 12-b and will carry out the specified requirements."

Signed by _____

**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 Apache Drilling NAME Phillip Morgan
 ADDRESS Marietta, Ohio ADDRESS 311 S. 4th Avenue
 TELEPHONE 614 -373-6384 TELEPHONE 304-337-2215
 ESTIMATED DEPTH OF COMPLETED WELL: 4700 ROTARY X CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Ohio Shale
 TYPE OF WELL: OIL X 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			
8 - 5/8	250 thru surface	250	<i>Cement to surface</i>
7			
5 1/2			
4 1/2	4700	4700	Cemented thru Payzone
3			Perf. Top <i>2000' fillup</i>
2			Perf. Bottom
Liners			Perf. Top
			Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 80 FEET 80 SALT WATER 1500 FEET
 APPROXIMATE COAL DEPTHS _____
 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