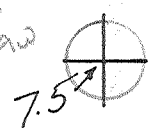


Janie 3/7/90

4700' LATITUDE 38° 37' 30"

1000'

195  
.89W

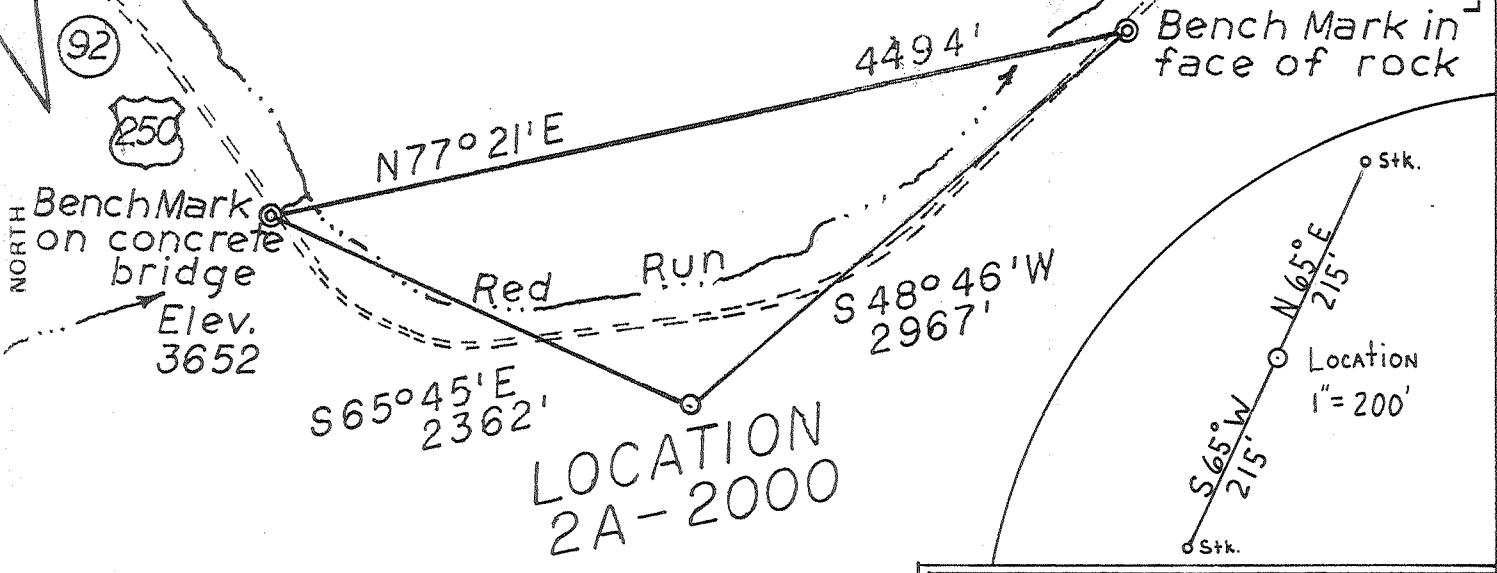


Shavers Fork

W.M.  
R.R.

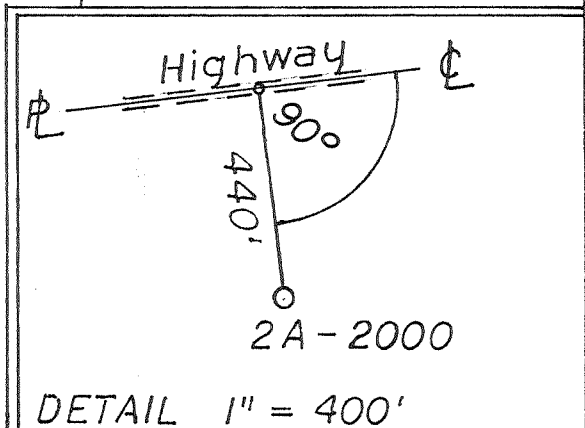
LONGITUDE 79° 52' 30"

Mower Lumber Co. - Mineral  
U.S. of A. National Forest - Surface  
North of Highway



Mower Lumber Co. - Fee  
South of Highway

Monongahela Nat'l Forest  
15' loc  
3.07  
3.14



FILE NO. UDI-3-54  
DRAWING NO. 84-10  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY 1 in 200  
PROVEN SOURCE OF ELEVATION B.M. on conc. bridge, el. 3652

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) Thomas F. Weaver, Jr.  
R.P.E. \_\_\_\_\_ L.L.S. 410

PLACE SEAL HERE

STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION



DATE March 7 1984  
OPERATOR'S WELL NO. 2A-2000  
API WELL NO. (21175)  
47 - 083 - 0904 - Free.  
STATE COUNTY PERMIT

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
WELL TYPE: OIL \_\_\_ GAS  LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
(IF "GAS,") PRODUCTION  STORAGE \_\_\_ DEEP  SHALLOW \_\_\_  
LOCATION: ELEVATION 3710 WATER SHED Red Run of Shavers Fork  
DISTRICT Huttonsville COUNTY Randolph  
QUADRANGLE Snyder Knob  
SURFACE OWNER Mower Lumber Co. ACREAGE 62,606.3  
OIL & GAS ROYALTY OWNER Mower Lumber Co. LEASE ACREAGE 62,606.3  
LEASE NO. 509310 Amoco  
PROPOSED WORK: DRILL  CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_

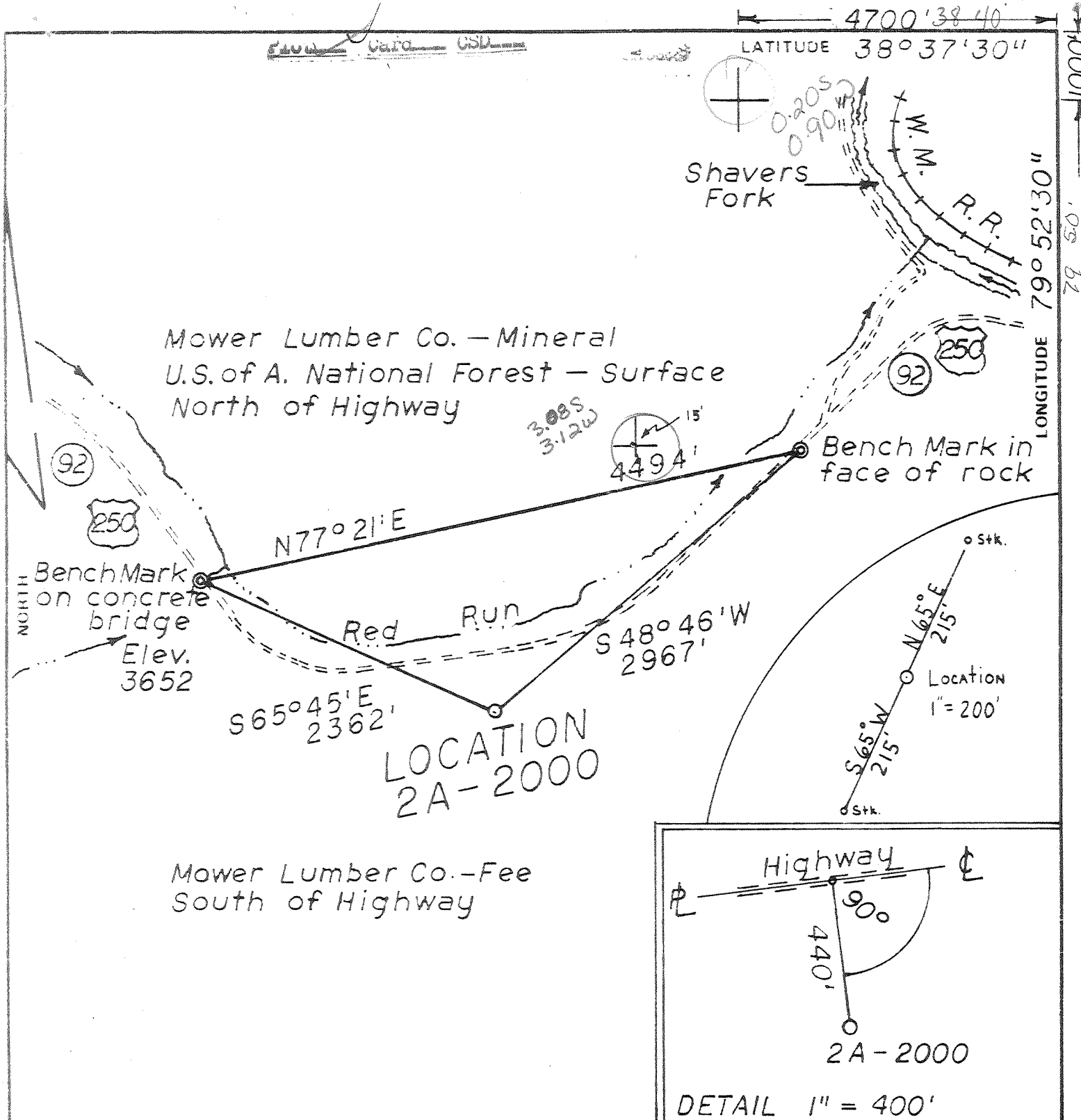
PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
TARGET FORMATION Oriskany ESTIMATED DEPTH 8525'

Columbia Natural Resources Co. Inc.  
P.O. Box 6070  
Charleston, Wva. 25362

AGENT Joseph E. Campbell  
ADDRESS Same Address  
PH: 304-353-5000

MAR 22 1984

RAND. 0904- Free.



FILE NO. UDI-3-54  
 DRAWING NO. 84-10  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY 1 in 200  
 PROVEN SOURCE OF ELEVATION B.M. on conc. bridge, el. 3652

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) Thomas F. Heaver, Jr.  
 R.P.E. \_\_\_\_\_ L.L.S. 410

PLACE SEAL HERE

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION



DATE March 7 1984  
 OPERATOR'S WELL NO. 2A-2000  
 API WELL NO. \_\_\_\_\_  
47 - 083 - 0904  
 STATE COUNTY PERMIT

(P) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 WELL TYPE: OIL \_\_\_ GAS  LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS,") PRODUCTION  STORAGE \_\_\_ DEEP  SHALLOW \_\_\_  
 LOCATION ELEVATION 3710 WATER SHED Red Run of Shavers Fork  
 DISTRICT Huttonsville COUNTY Randolph  
 QUADRANGLE Snyder Knob Durbin 15' CS  
 SURFACE OWNER Mower Lumber Co. ACREAGE 62,606.3  
 OIL & GAS ROYALTY OWNER Mower Lumber Co. LEASE ACREAGE 62,606.3  
 LEASE NO. 509310 Amoco  
 PROPOSED WORK: DRILL  CONVERT \_\_\_ DRILL DEEPER \_\_\_ REDRILL \_\_\_ FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION \_\_\_ PERFORATE NEW FORMATION \_\_\_ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_  
 MAY 14 1984

PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
 TARGET FORMATION Oriskany ESTIMATED DEPTH 8525' 6-6 Shavers Fork (369)  
 WELL OPERATOR Union Drilling, Inc. DESIGNATED AGENT Joseph C. Vanzant, Jr.  
 ADDRESS P.O. Drawer 40 ADDRESS P.O. Drawer 40  
Buckhannon, Wv. 26201 Buckhannon, Wv. 26201



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

On 07/24/84 perforated oriskany at 8359/62 (4 shots), 8365/70 (6 shots), 8371/75 (5 shots). On 8/1/84 spotted 500 gallon 12% acid and pumped away. On 08/03/84 pumped away 1000 gallon 12% HCL and citric acid and unloaded hole with 127,400 SCF Nitrogen. On 08/07/84 pumped away 500 gallon 12% acid. On 09/05/84 fractured with sand laden fluid.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
<i>From 8-ray log.</i>					
Sand and Shale			0	1327	
Big Lime			1327	1500	
Big Injun			1500	1697	
Undifferentiated Upper Devonian Sandstones and Shales			1697	2600	
Shale			2600	2693	
Speechly			2693	2744	
Shale			2744	2860	
Balltown			2860	2947	
Shale			2947	3684	
Riley			3684	3718	
Shale			3718	3960	
Benson			3960	4072	
Shale			4072	4670	
Lower Alexander			4670	4696	
Shale			4696	4910	
Elk			4910	4998	
Shale			4998	7706	
Upper Marcellus <i>Burkett</i>			7706	7757	
Purcell Limestone			7757	7770	<i>top thick</i>
Shale <i>Barhantawap</i>			7770	7916	
Lower Marcellus			7916	8016	<i>Upper Marcellus 7916 44</i>
Onondaga			8016	8042	<i>Purcell 7960 40</i>
Huntersville Chert			8042	8137	<i>Lower Marcellus 8000 16</i>
Needmore Shale			8137	8212	
Oriskany Sandstone			8212	8395	
Helderberg			8395	8570TD	

(Attach separate sheets as necessary)

UNION DRILLING, INC.

Well Operator

By: Joseph C. Pettey  
 Date: 10/19/84 Joseph C. Pettey, Vice President of Prod.

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 ..., encountered in the drilling of a well."

**RECEIVED**  
MAY 10 1984



1) Date: May 10, 19 84  
 2) Operator's Well No. 2000  
 3) API Well No. 47-083-0904  
 State County Permit

**\*\*\* TO BE HELD CONFIDENTIAL \*\*\***

**OIL & GAS DIVISION**  
**DEPT. OF MINES** STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES, OIL AND GAS DIVISION

**APPLICATION FOR A WELL WORK PERMIT**

- 4) WELL TYPE: A Oil          / Gas X /  
 B (If "Gas", Production X / Underground storage          / Deep X / Shallow         )
- 5) LOCATION: Elevation: 3710 Watershed: Red Run of Shavers Fork  
 District: Huttonsville County: Randolph Quadrangle: Snyder Knob
- 6) WELL OPERATOR Union Drilling, Inc. 7) DESIGNATED AGENT Joseph C. Vanzant  
 Address Post Office Drawer 40 Address Post Office Drawer 40  
Buckhannon, WV 26201 Buckhannon, WV 26201
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:  
 Name Phillip Tracy Name Union Drilling, Inc.  
 Address Forest Festival Terrace, Apt. #24 Address Post Office Drawer 40  
Elkins, WV 26241 Buckhannon, WV 26201
- 10) PROPOSED WELL WORK: Drill X / Drill deeper          / Redrill          / Stimulate X /  
 Plug off old formation          / Perforate new formation           
 Other physical change in well (specify)
- 11) GEOLOGICAL TARGET FORMATION, Oriskany
- 12) Estimated depth of completed well, 8525 feet
- 13) Approximate trata depths: Fresh, ? feet; salt, ? feet.
- 14) Approximate coal seam depths: ? Is coal being mined in the area? Yes          / No XX
- 15) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor	13-3/8			X		30'	30'	21 sacks	Kinds
Fresh water									
Coal									Sizes
Intermediate	9-5/8			X		1600'	1600'	555 sacks	
Production	5-1/2			X		8525'	8525'	2256 sacks	Depths set
Tubing									
Liners									Perforations:
									Top Bottom

**OFFICE USE ONLY**  
**DRILLING PERMIT**

Permit number 47-083-0904 Date May 10, 19 84

This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector, (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.  
 Permit expires May 10, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>BLANKET</u>	Agent: <u>OK</u>	Plat: <u>[Signature]</u>	Casing: <u>[Signature]</u>	Fee: <u>017241</u>
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[Signature]  
 Administrator, Office of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.

File

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

OS 3 904

- 1) Well Operator: <sup>1013</sup> Columbia Natural Resources, Inc. 10460 (3) 613
- 2) Operator's Well Number: 21175 3) Elevation: 3710
- 4) Well type: (a) Oil \_\_\_ / or Gas X /  
(b) If Gas: Production X / Underground Storage \_\_\_ /  
Deep X / Shallow \_\_\_ /
- 5) Proposed Target Formation(s): <sup>463</sup> Huntersville Chert
- 6) Proposed Total Depth: 8125 feet
- 7) Approximate fresh water strata depths: \_\_\_\_\_
- 8) Approximate salt water depths: \_\_\_\_\_
- 9) Approximate coal seam depths: \_\_\_\_\_
- 10) Does land contain coal seams tributary to active mine? Yes \_\_\_ / No X /
- 11) Proposed Well Work: Stimulate/Fracture additional zone. See attached procedure.
- 12)

Issued 3/19/90  
Expires 3/19/92

CASING AND TUBING PROGRAM (EXISTING)

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT Fill-up (cu. ft.)
	Size	Grade	Weight per ft.	For drilling	Left in well	
Conductor	13-3/8"				39.7	
Fresh Water						
Coal						
Intermediate	9-5/8"	K	36#	<i>Acid... well</i>	1831.95	826 CF
Production	5-1/2"	N	20#		8546.57	871.15 CF
Tubing						
Liners						

PACKERS : Kind \_\_\_\_\_  
 Sizes \_\_\_\_\_  
 Depths set \_\_\_\_\_

**RECEIVED**  
FEB 27 1990

For Division of Oil and Gas Use Only      DIVISION OF OIL & GAS  
 DEPARTMENT OF ENERGY

Fee(s) paid:     Well Work Permit     Reclamation Fund     WPCP  
 Plat     WW-9     WW-2B     Bond Security     Agent  
 (Type)

**RECEIVED**  
FEB 27 1990

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

1) Date: January 24, 1990  
2) Operator's well number 21175  
3) API Well No: 47 - 083 - 0904-FRAC  
State - County - Permit

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served:	5) (a) Coal Operator:
(a) Name <u>U.S.A. Monongahela Natl. Forest</u>	Name <u>U.S.A. Monongahela Natl. Forest</u>
Address <u>200 Sycamore Street</u>	Address <u>200 Sycamore Street</u>
<u>Elkins, WV 26241</u>	<u>Elkins, WV 26241</u>
(b) Name _____	(b) Coal Owner(s) with Declaration
Address _____	Name <u>U.S.A. Monongahela Natl. Forest</u>
(c) Name _____	Address <u>200 Sycamore Street</u>
Address _____	<u>Elkins, WV 26241</u>
	Name <u>Mower Ltd., Partnership</u>
	Address <u>1300 Charleston Natl. Plaza</u>
	<u>Charleston, WV 25301</u>
6) Inspector <u>Phillip Tracy</u>	(c) Coal Lessee with Declaration
Address <u>Rt. 2, Box 37-A</u>	Name _____
<u>Montrose, WV 26283</u>	Address _____
Telephone (304)- <u>636-8798</u>	

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

       Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR

  X   Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through        on the above named parties, by:

- X   Personal Service (Affidavit attached)
- Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator Equitable Resources Exploration, a division  
 By: Douglas P. Jany of Equitable Resources Energy Company  
 Its: Operations Manager - North  
 Address P. O. Drawer 40  
Buckhannon, WV 26201  
 Telephone (304) 472-4610

Subscribed and sworn before me this 26<sup>th</sup> day of January, 1990

Lester S. Corfield  
 My commission expires December 23, 1997 Notary Public

*Columbia Natural Resources*