

10/20/79

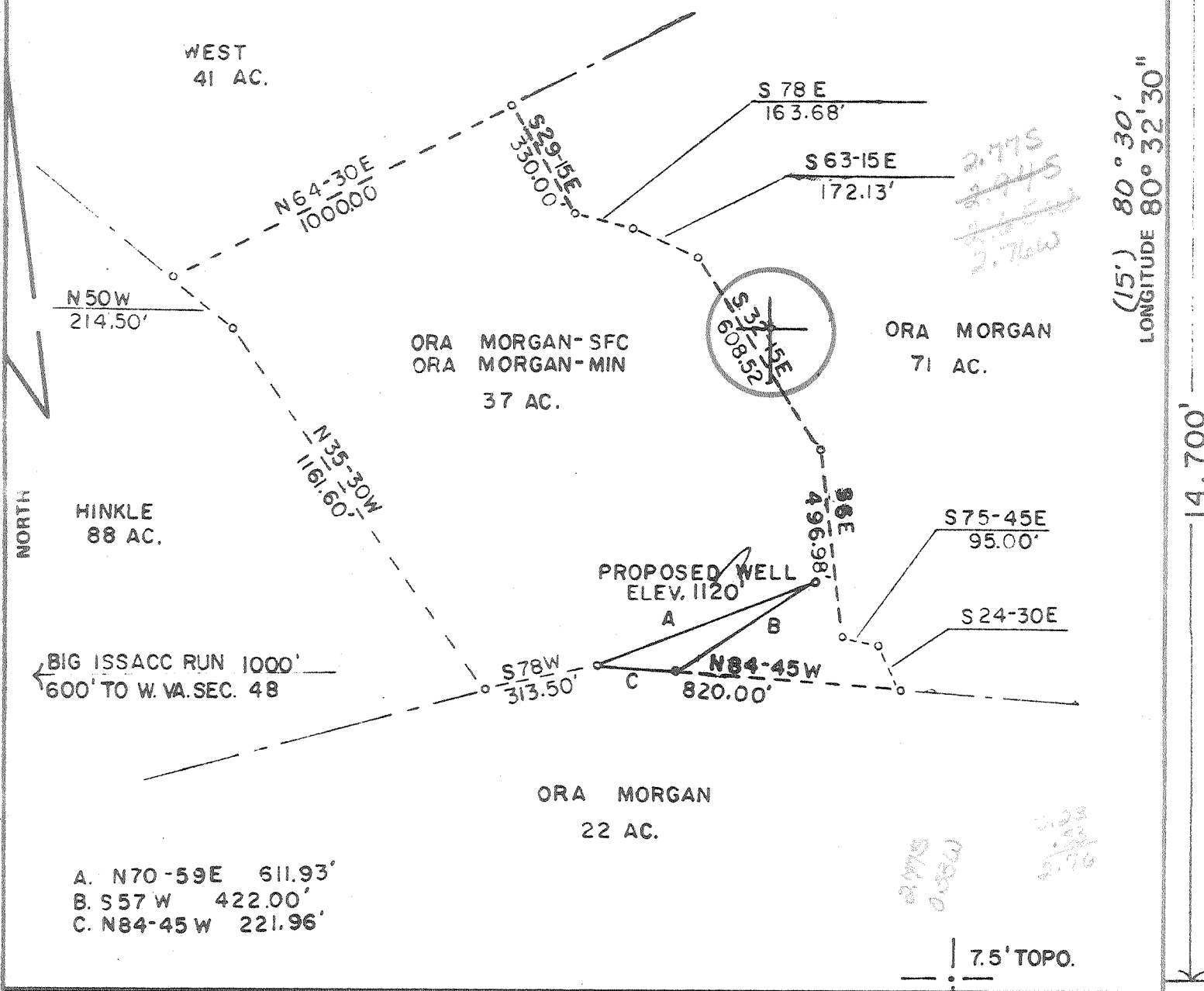
2350'

LATITUDE 39° 15' 00"

(15') 80° 30'
LONGITUDE 80° 32' 30"

14,700'

NORTH



- A. N70-59E 611.93'
- B. S57W 422.00'
- C. N84-45W 221.96'

FILE NO. _____
 DRAWING NO. _____
 SCALE 1"=400'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION USGS BM MT. OLIVE CHURCH 1276' USGS' BIG ISSACC

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) Wayne D. Peeler
 R.P.E. _____ L.L.S. 624

PLACE SEAL HERE

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



DATE OCTOBER 1, 19 79
 OPERATOR'S WELL NO. O. MORGAN #1
 API WELL NO. 47 - 017 - 2444-REV
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW X
 LOCATION: ELEVATION 1120 WATER SHED BIG ISSACC RUN
 DISTRICT GREENBRIER COUNTY DODDRIDGE
 QUADRANGLE BIG ISSACC 7 1/2, 15' VADIS 15'
 SURFACE OWNER ORA E. MORGAN ACREAGE 37 NE
 OIL & GAS ROYALTY OWNER ORA E. MORGAN LEASE ACREAGE 37
 LEASE NO. _____
 PROPOSED WORK: DRILL X 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 _____ ESTIMATED DEPTH _____
 WELL OPERATOR NRM PETROLEUM CORP. DESIGNATED AGENT R.L. HOPKINS
 ADDRESS BOX 816 ADDRESS BOX 816
G= BUCKHANNON W.VA. 26201 BUCKHANNON W.VA. 26201

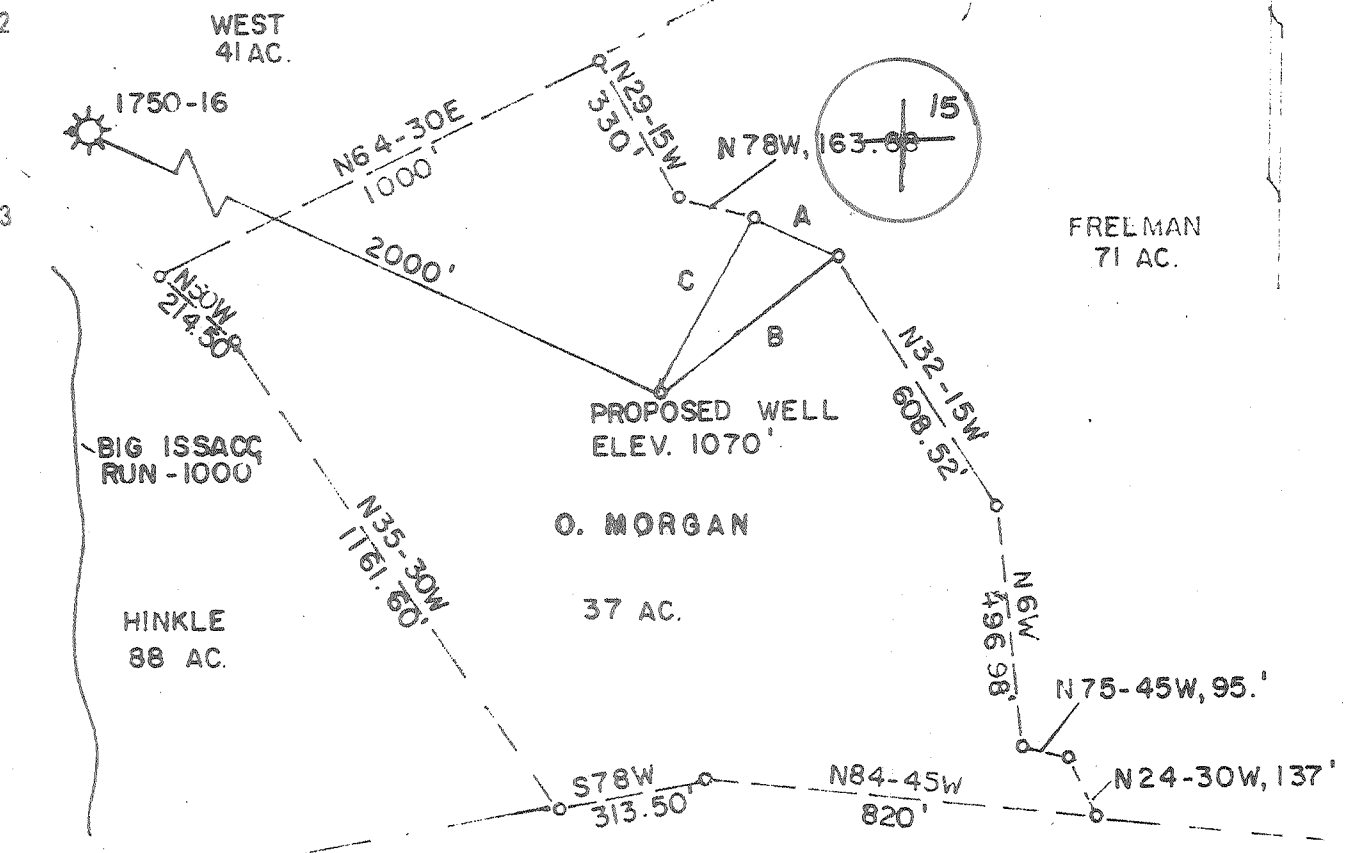
OCT 22 1979

6-6 1516 ISSACS

147

Latitude 39° 15' 00"

Longitude 80° 30'
80° 32' 30"



- A. N63-15W, 172.13'
- B. S52-74W, 440.19'
- C. N30-15E, 394.76'

600' TO WEST VA ROUTE 48

New Location
 Drill Deeper
 Abandonment

Minimum Error of Closure 1 IN. 200
 Source of Elevation USGS BM MT. OLIVE CHURCH 1276'
 USGS BIG ISSACC

"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 8 of the rules and regulations of the oil and gas section of the mining laws of West Virginia."
Wayne D. Norton

Company NRM PETROLEUM CORP.
 Address BOX 816, BUCKHANNON, W. VA.
 Farm O. MORGAN
 Tract _____ Acres 37 Lease No. _____
 Well (Farm) No. 1 Serial No. _____
 Elevation (Spirit Level) 1070' *NE*
 Quadrangle BIG ISSACC, VADIS 15'
 County DODDRIDGE District GREENBRIER
 Engineer WAYE D. NORTON
 Engineer's Registration No. 624
 File No. _____ Drawing No. _____
 Date 6/6/79 Scale 1" = 400'

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

WELL LOCATION MAP
 FILE NO. 47-017-2444

+ 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.

JUN 26 1979

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

Date October 22, 1979

FORM IV-35
(Obverse)

Operator's
Well No. O. Morgan #1

[08-78]

WELL OPERATOR'S REPORT
OF

API Well No. 17 - 017 - 2444
State County Putnam

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 1120' Watershed: Big Isaac Creek
District: Greenbrier County: Doddridge Quadrangle: Big Isaac

WELL OPERATOR NRM Petroleum Corporation DESIGNATED AGENT Mr. Rick Hopkins
Address Post Office Box 816 Address P.O. Box 816
Buckhannon, W. Va. 26201 Buckhannon, W. Va. 26201

PERMITTED WORK: Drill / Convert / Drill deeper / Re-drill / Fracture or stimulate
Plug off old formation / Perforate new formation
Other physical change in well (specify) _____
OCT 24 1979

PERMIT ISSUED ON June 14, 1979 OIL & GAS DIVISION
OIL & GAS INSPECTOR FOR THE DEPT. OF MINES
Name Paul Garrett
Address Clarksburg, W. Va.

IF APPLICABLE: PLUGGING OF DRY HOLE OR CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED _____, 19____
GEOLOGICAL TARGET FORMATION: Devonian Shale Depth 4898 - 5600 feet
Depth of completed well, 5749 feet Rotary / Cable Tools
Water strata depth: Fresh, 65 feet; salt, _____ feet.
Coal seam depths: 3-8' Is coal being mined in the area? _____
Work was commenced September 28, 1979, and completed October 4, 1979

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		
Drill pipe							
Fresh water	11 3/4			X			Winds
Coal	8 5/8			X		220 sks.	Cases
Intermediate							
Production	4 1/2"		11.60			820 sks.	Winds
Tubing							
Packers							Perforations:
							Top Bottom

OPEN FLOW DATA
Producing formation BRAL. Devonian Shale and Benson Sand Pay zone depth _____
Gas: Initial open flow, 43 Mcf/d Oil: Initial open flow, _____ Bbl/d
Final open flow, 1074 Mcf/d Final open flow, _____ Bbl/d
Time of open flow between initial and final tests, 4 hours
Static rock pressure, 1780 psig (surface measurement) after _____ hours shut in
[If applicable due to multiple completion--]
Second producing formation _____ Pay zone depth _____ feet
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)

NOV 14 1979

[08-78]

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

Devonian Shale perforated from 5220'-5222'; 5248'-5266'; and 5318'-5320'.

Frac Devonian Shale, Broke at 1750#; 547 bbls. fluid, 1500# 80/100 sand and 30,000# 20/40 sand, Average rate 29.8 bbls./min. Average Pressure 2300#.

Frac Benson, Broke at 1950#; 593 bbls. fluid; 15,000# 80/100 sand and 29,000# 20/40 sand. Average rate 29.7 bbls./min., average pressure 2300#.

Benson Sand perforated from 4906'-4912'

WELL LOG

FORMATION	Color	Hard or Soft	S Top Feet	Bottom Feet	Including ^{gas} inclusion of all fresh and salt water, oil and gas
Topsoil			0	9	
Coal			5	18	
Shale			8	60	
Sand			40	45	
Red Rock and Shale			65	140	Damp @ 65'
Sand & Shale			140	285	
Shale & Red Rock			285	390	
Red Rock			390	470	
Red Rock & Shale			470	560	
Shale			560	670	
Red Rock			670	800	
Red Rock & Shale			800	940	
Sand			940	1013	
Shale			1013	1104	
Red Rock			1104	1167	
Shale			1167	1244	
Sand & Shale			1244	1936	
Little Lime			1936	1936	
Shale			1936	1936	
g Lime			1936	1984	
g Injun			1984	2043	
ite			2043	2130	
r			2130	2152	
dy Shale			2152	2200	Gas Chk. 2173' No show
e			2200	2300	
dy Shale			2300	2412	
don			2412	2590	Gas Chk. 2423' No show
dy Shale			2590	2728	
ron			2728	3236	
le			3236	3296	
r Speechley			3296	3314	
y Shale			3314	3455	
chley			3455	3592	
y Shale			3592	3646	
town			3646	3730	
y Shale			3730	3912	
on			3912	4897	Gas Chk. 4830' 40 H
			4897	4923	

(Attach separate sheets to complete as necessary.)

SEE SEPARATE SHEET

Well Operator NRM Petroleum Corp.

By R. H. Hopkins
Its Vice-President

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."

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

WELL LOG Allegheny Nuclear Surveys

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all free gas and salt water, coal, oil and sand
47-017-2444 (Continued)					
Sandy Shale			4921	5184	Gas chk. 4988' 57 M
Alexander			5184	5323	Gas chk. 5109' 53 M
Sandy Shale <i>BPAL.</i>			5323		Gas chk. 5612' 59 M
TOTAL DEPTH				5794	43 M

(Attach separate sheets to complete as necessary.)

HEM PETROLEUM CORPORATION
 Well Operator
 By Richard Hopkins *R.L. Hopkins*
 Vice President

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."

[08-78]

OIL AND GAS WELL PERMIT APPLICATION

Operator's Well No. O. Morgan # 1

API Well No. 47 - 017 - 2444
State County Permi

WELL TYPE: Oil / Gas X /
(If "Gas", Production X / Underground storage / Deep / Shallow /)

LOCATION: Elevation: 1070 Watershed: Big Isaac Creek
District: Greenbrier County: Doddridge Quadrangle: Big Isaac

WELL OPERATOR NRM Petroleum Corporation
Address P.O. Box 816
Buckhannon, WV 26201

DESIGNATED AGENT Rickard L. Hopkins
Address P.O. Box 816
Buckhannon, WV 26201

OIL & GAS ROYALTY OWNER Ora and Mona Morgan
Address Rt. 3
Salem, WV

COAL OPERATOR _____
Address: _____

Acres 36.37

COAL OWNER(S) WITH DECLARATION ON RECORD:

SURFACE OWNER Ora and Mona Morgan
Address Rt. 3
Salem, WV

Name Willis G. Tetrick, Jr., Maxwell Y. Sutton
Address and the Union National Bank, as
Trustees - Clarksburg, WV

Acres 36.37

Name _____

FIELD SALE (IF MADE) TO:

Address _____

Name _____

Address _____

Address _____

COAL LESSEE WITH DECLARATION ON RECORD:

OIL & GAS INSPECTOR TO BE NOTIFIED
Name Robert Stewart Paul Barrett
Address Jane Lew, WV Clarksburg, W.V.
884-7782 Tele: 622-3871

Address _____
JUN 14 1979

OIL & GAS DIVISION
DEPT. OF MINES

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed / lease / other contract X / dated May 21, 19 79, to the undersigned well operator from Mark Schumacher to NRM Petroleum Corporation
[If said deed, lease, or other contract has been recorded:]

Recorded on May 21, 19 79, in the office of the Clerk of the County Commission of _____ County, West Virginia, in Lease Book 105 at page 410. A permit is requested to follow:

PROPOSED WORK: Drill X / Drill deeper / Redrill / Fracture or stimulate /
Plug off old formation / Perforate new formation /
Other physical change in well (specify) _____

--planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any objection they wish to make or are required to make by Code § 22-4-3 must be filed with the Department of Mines within fifteen (15) days after the receipt of this Application by the Department.

Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL
OR PHYSICAL LOGS DIRECTLY TO:
WEST VIRGINIA OIL AND GAS
CONSERVATION COMMISSION
111 WASHINGTON STREET EAST
CHARLESTON, WV 25311
TELEPHONE: (304) 348-3092

BLANKET BOND

NRM PETROLEUM CORPORATION
Well Operator
By R.L. Hopkins
Its Vice-President

[08-78]

PROPOSED WORK ORDER

THIS IS AN ESTIMATE ONLY:
ACTUAL INFORMATION MUST BE SUBMITTED ON FORM IV-35 UPON COMPLETION

DRILLING CONTRACTOR (IF KNOWN) Union Drilling Company
Address Drawer 40
Buckhannon, WV 26201

GEOLOGICAL TARGET FORMATION, Devonian Shale

Estimated depth of completed well, 5400' feet Rotary X / Cable tools /
Approximate water strata depths: Fresh, 90' feet; salt, feet.
Approximate coal seam depths: 950' Is coal being mined in the area: Yes / No X /

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									Kinds
Fresh water						1230	1230	Cement to surface	
Coal									Sizes
Intermediate									
Production						5400		350 sks. cement	Intervals
Tubing									
Liners									Perforations:
									Top Bottom

NOTE: Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code § 22-4-2, (iii) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code § 22-4-12a, and (v) if applicable, the consent required by Code § 22-4-8a from the owner of any water well or drilling within 200 feet of the proposed well.

A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and included is such on the Form IV-2 filed in connection therewith.

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 2-15-80

Robert T. Bell
Deputy Director, Oil & Gas Division
The coal operator and by any coal owner or coal lessee who has recorded a declaration under Code § 22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof:

W A I V E R

The undersigned coal operator Agent for owners / lessee / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

12 June, 1979

Willis G. Tetrick, Jr., Maxwell Y. Sutton, and The Union National Bank, as Trustees

By Willis G. Tetrick Jr.

Its Agent