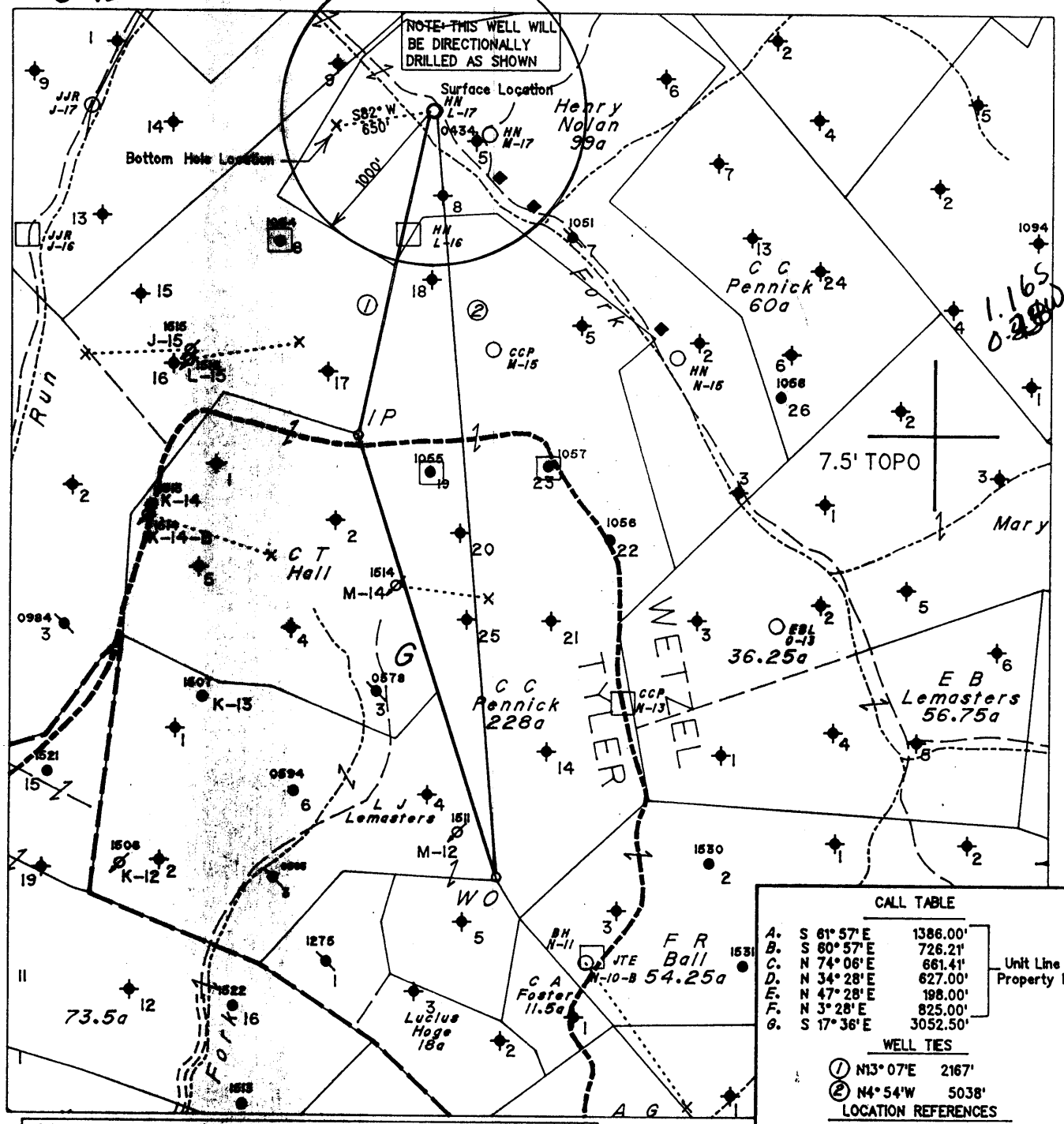


NS 5-6-73



Note: All Known Water Supply Sources Within 1000' Of Proposed Well Are Shown.

(H) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

CALL TABLE		
A.	S 61° 57' E	1386.00'
B.	S 80° 57' E	726.21'
C.	N 74° 06' E	661.41'
D.	N 34° 28' E	627.00'
E.	N 47° 28' E	198.00'
F.	N 3° 28' E	825.00'
G.	S 17° 36' E	3052.50'

Unit Line & Property Line

WELL TIES		
①	N13° 07' E	2167'
②	N4° 54' W	5038'

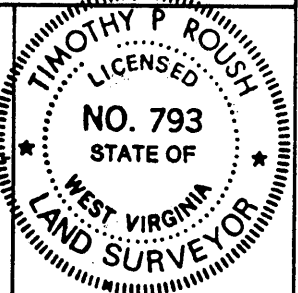
LOCATION REFERENCES

N64° 34' W	160' 10"	Sycamore
S36° 28' W	105' 8"	Sycamore
S8° 32' E	210' 8"	Rapier

FILE NO. 523
 MAP NO. N58 N 3 S E W 3
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1 in 200
 PROVEN SOURCE OF ELEVATION F.R. Ball No. 9
(47-095-0548) = 1152'

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) Timothy P. Roush
 TIMOTHY P. ROUSH PS 793



STATE OF WEST VIRGINIA
 DIVISION OF ENERGY
 OIL AND GAS SECTION



DATE March 31, 1993
 FARM Henry Nolan NO. L-17
 API WELL NO. 47-103-1542-L1-X

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 925' WATERSHED Piney Fork
 DISTRICT Green COUNTY Wetzel
 QUADRANGLE Centerpoint

SURFACE OWNER State of West Virginia ACREAGE 31 Ac.
 OIL & GAS ROYALTY OWNER Pennzoil Products Co. et.al. LEASE ACREAGE 160 Ac.
 LEASE NO. 24422-50

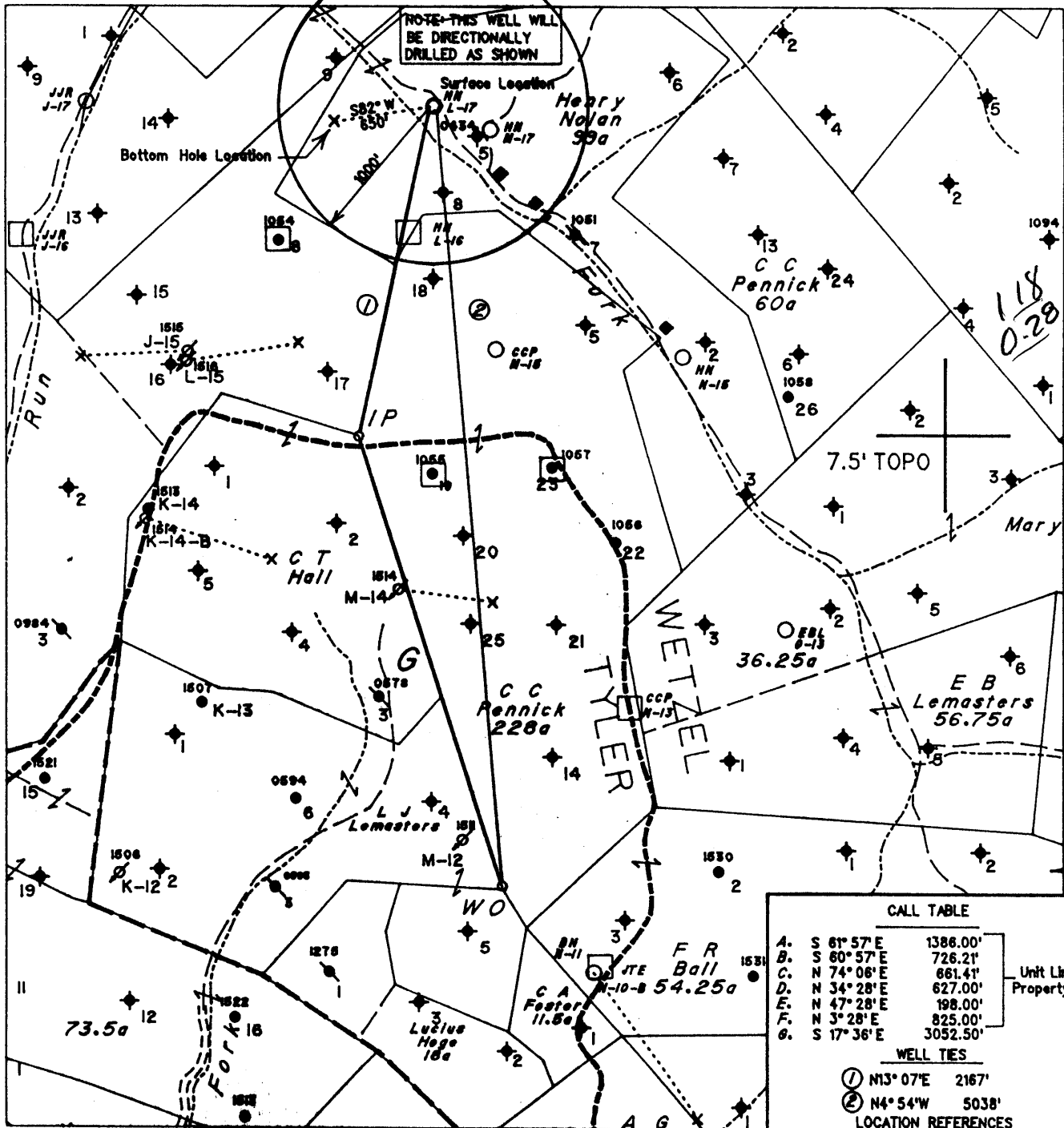
PROPOSED WORK: DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON CLEAN OUT AND REPLUG
 TARGET FORMATION Gordon ESTIMATED DEPTH 3015'
 WELL OPERATOR Pennzoil Products Company DESIGNATED AGENT James A. Crews
 ADDRESS P. O. Box 5519 ADDRESS P. O. Box 5519
Vienna, W.Va. 26105 Vienna, W.Va. 26105

MAR 24 1997

WET 1542-L1

MS 5-6-93



Note: All Known Water Supply Sources Within 1000' Of Proposed Well Are Shown.

(H) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

CALL TABLE		
A.	S 61° 57' E	1386.00'
B.	S 60° 57' E	726.21'
C.	N 74° 08' E	661.41'
D.	N 34° 28' E	627.00'
E.	N 47° 28' E	198.00'
F.	N 3° 28' E	825.00'
G.	S 17° 36' E	3052.50'

Unit Line & Property Line

WELL TIES

① N13° 07' E 2167'

② N4° 54' W 5038'

LOCATION REFERENCES

N64° 34' W 160' 10" Sycamore

S36° 26' W 105' 8" Sycamore

S8° 32' E 210' 8" Rapier

FILE NO. 523

MAP NO. N58 N 3 S E W 3

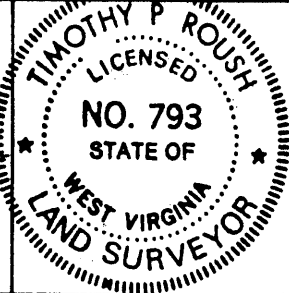
SCALE 1" = 1000'

MINIMUM DEGREE OF ACCURACY 1 in 200

PROVEN SOURCE OF ELEVATION F.R. Ball No. 9
(47-095-0548) = 1152'

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) Timothy P. Roush
TIMOTHY P. ROUSH PS 793



STATE OF WEST VIRGINIA
DIVISION OF ENERGY
OIL AND GAS SECTION



DATE March 31, 19 93

FARM Henry Nolan NO. L-17

API WELL NO. 47-103-1542-L1

WELL TYPE: OIL GAS LIQUID INJECTION X WASTE DISPOSAL
(IF "GAS") PRODUCTION STORAGE DEEP SHALLOW

LOCATION: ELEVATION 925' WATERSHED Placy Fork

DISTRICT Green 5 COUNTY Wetzel

QUADRANGLE Centerpoint N15 NW

SURFACE OWNER State of West Virginia ACREAGE 31 Ac.

OIL & GAS ROYALTY OWNER Pennzoil Products Co. et al. LEASE ACREAGE 160 Ac.

LEASE NO. 24422-50

PROPOSED WORK: DRILL X CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)

PLUG AND ABANDON CLEAN OUT AND REPLUG

TARGET FORMATION Gordon ESTIMATED DEPTH 3015'

WELL OPERATOR Pennzoil Products Company DESIGNATED AGENT James A. Crews

ADDRESS P. O. Box 5519 ADDRESS P. O. Box 5519

Vienna, W.Va. 26105 ADDRESS Vienna, W.Va. 26105

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

Farm name: WVA. PUBLIC LAND CORP. Operator Well No.: H, NOLAN ^{DEC 07} L-17

LOCATION: Elevation: 925.00 Quadrangle: CENTER POINT

District: GREEN County: WETZEL
Latitude: 6100 Feet South of 39 Deg. 30Min. Sec.
Longitude 2300 Feet West of 80 Deg. 40 Min. Sec.

Company: PENNZOIL PRODUCTS COMPANY
P. O. BOX 5519
VIENNA, WV 26105-5519

Agent: JAMES A. CREWS

Inspector: RANDAL MICK
Permit Issued: 05/12/93
Well work Commenced: 9/8/93
Well work Completed: 10/10/93

Verbal Plugging
Permission granted on: _____

Rotary X Cable _____ Rig
Total Depth (feet) 3017
Fresh water depths (ft) N/A

Salt water depths (ft) N/A

Is coal being mined in area (Y/N)? N
Coal Depths (ft): _____

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
8 5/8	189	189	100 Sks.
4 1/2	2990.77	2990.77	300 Sks.

OPEN FLOW DATA

Producing formation Gordon Pay zone depth (ft) 2896 - 2960
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 pressure) after _____ Hours

* Water Injection Well - Not Tested
Second producing formation _____ Pay zone depth (ft) _____
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 pressure) after _____ Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: PENNZOIL PRODUCTS COMPANY
By: [Signature]
Date: 12/6/93

TREATMENT:

Perforated: 2920 - 2922 }
2925 - 2936 } 2 Holes Per Foot - 26 Holes

Treated: 300 Gal. 15% HCL Acid, 271 Bbl. Gelled Water &
1500# 80/100 Sand & 3500# 20/40 Sand

WELL LOG:

Sand & Shale	0 - 580
Sand	580 - 632
Sand & Shale	632 - 1390
Sand	1390 - 1520
Sand & Shale	1520 - 1705
Sand	1705 - 1730
Shale	1730 - 1812
Sand	1812 - 1852
Shale	1852 - 2030
Little Lime	2030 - 2046
Pencil Cave	2046 - 2060
Big Lime	2060 - 2130
Big Injun	2130 - 2308
Shale	2308 - 2896
Stray	2896 - 2902
Gordon	2902 - 2960

T.D. 3017

DF - 411

DFT - 419

17182
3/91

RECEIVED
Office of Oil and Gas
UIC Section
APR 15 93
WV Department of Environmental Protection



1) Date: April 13, 1993
2) Operator's Well No. HENRY NOLAND #L-17
3) SIC Code
4) API Well NO. 47 - 103 - 1542
State County Peri S
5) UIC Permit No. Issued 05/12/93

STATE OF WEST VIRGINIA
NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION
for the
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
Expires 05/12/95

* NOTE: THIS WELL WILL BE DRILLED DIRECTIONALLY: S 82°W 650'

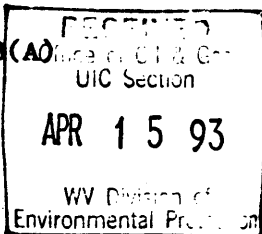
- 6) WELL TYPE: Liquid injection / Gas injection (not storage) / Waste disposal
- 7) LOCATION: Elevation: 925' / Watershed: Piney Fork / District: Green / County: Wetzel / Quadrangle: Centerpoint
- 8) WELL OPERATOR Pennzoil Products Co. 37450 / Address: P.O. Box 5519, Vienna, WV 26105
- 9) DESIGNATED AGENT J.A. Crews / Address: P.O. Box 5519, Vienna, WV 26105
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED
Name: Randall Mick / Mike Underwood / Address: 111 Blackshere Dr. Rt. #2, Box 135, Mannington, WV 26582 / Salem, WV 26426
- 11) DRILLING CONTRACTOR: Name: / Address: /
- 12) PROPOSED WELL WORK: *Drill / Drill deeper / Redrill / Stimulate / Plug off old formation / Perforate new formation / Convert / Other physical change in well (specify):
- 13) GEOLOGICAL TARGET FORMATION, Gordon / Depth, 2915 feet(top) to 2931 feet(bottom)
- 14) Estimated depth of completed well, (or actual depth of existing well) 3015' ft.
- 15) Approximate water strata depths; Fresh, 105 feet; salt, ~~120~~ feet.
- 16) Approximate coal seam depths: 750
- 17) Is coal being mined in the area? Yes / No
- 18) Virgin reservoir pressure in target formation 1400 psig. Source ESTIMATED
- 19) Estimated reservoir fracture pressure 3500 psig (BHFP)
- 20) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour: 25 / Bottom hole pressure 2380
- 21) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES: Fresh water, produced water, bactericides, and other chemicals as necessary to maintain water quality and improve oil recovery.
- 22) FILTERS (IF ANY): Cartridge Filters and/or Coal Bed Filters
- 23) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL:

24) 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	8 5/8	L.S.	20	X		200	200	Cement to	
Coal								Surface	Sizes
Intermediate									
Production	4 1/2	J-55	10.5	X		3015	3015	Cement over	Depths set
Tubing								Salt Sand	
Liners									Perforations:
									Top Bottom

25) APPLICANT'S OPERATING RIGHTS were acquired from Henry & Mary Noland by deed / lease / other contract / dated December 7, 1894, of record in the Wetzel County Clerk's office in Lease Book 46 at page 93

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



1) Date April 13, 1993
Operator's
2) Well No. HENRY NOLAND #L-17
3) SIC Code
4) API Well No. 47 - 103 - 1542
State County Permit

STATE OF WEST VIRGINIA

NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION for the

DIVISION OF OIL AND GAS, DEPARTMENT OF ENERGY

6) SURFACE OWNER(S) OF RECORD TO BE SERVED

7 (i) COAL OPERATOR N/A
Address

(i) Name WV Public Land Corp.
Address Bldg. #3, Room 643
1900 Kanawha Blvd., E.

(ii) Name Charleston, WV 25305
Address

(iii) Name Dept. Natural Resources
1304 Goose Run Road
Address Fairmont, WV 26554
ATTN: Gary Foster

7 (ii) COAL OWNER(S) WITH DECLARATION ON RECORD:
Name
Address

7 (iii) COAL LESSEE WITH DECLARATION ON RECORD:
Name
Address

TO THE PERSON(S) NAMED ABOVE: You should have received this Form and the following documents:

- (1) The Application for a Liquid Injection or Waste Disposal Well Work Permit on Form WW-3(B), which sets out the parties involved in the drilling or other work, and
(2) The plat (surveyor's map) showing the well location on Form WW-6; and
(3) The Construction and Reclamation Plan on Form WW-9 (unless the well work is only to plug a well), which sets out the plan for erosion and sediment control and for reclamation for the site and access road.

The date proposed for the first injection or waste disposal is _____, 19__.

THE REASON YOU RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON THE REVERSE SIDE OF THE COPY OF THE APPLICATION (FORM WW-3(B)) DESIGNATED FOR YOU. HOWEVER, YOU ARE NOT REQUIRED TO TAKE ANY ACTION AT ALL.

Take notice that under Chapter 22B of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a Well Work Permit with the Director of the Division of Oil and Gas, West Virginia Department of Energy, with respect to a well at the location described on the attached Application and depicted on attached Form WW-6. Copies of this Notice, the Application, the plat, and the Construction and Reclamation Plan have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Director.

The person signing this document shall make the following certification:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document 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.

PENNZOIL PRODUCTS COMPANY

Well Operator

By Timothy P. Roush

Its Supervisor - Surveying/Mapping

Telephone (304) 422-6565