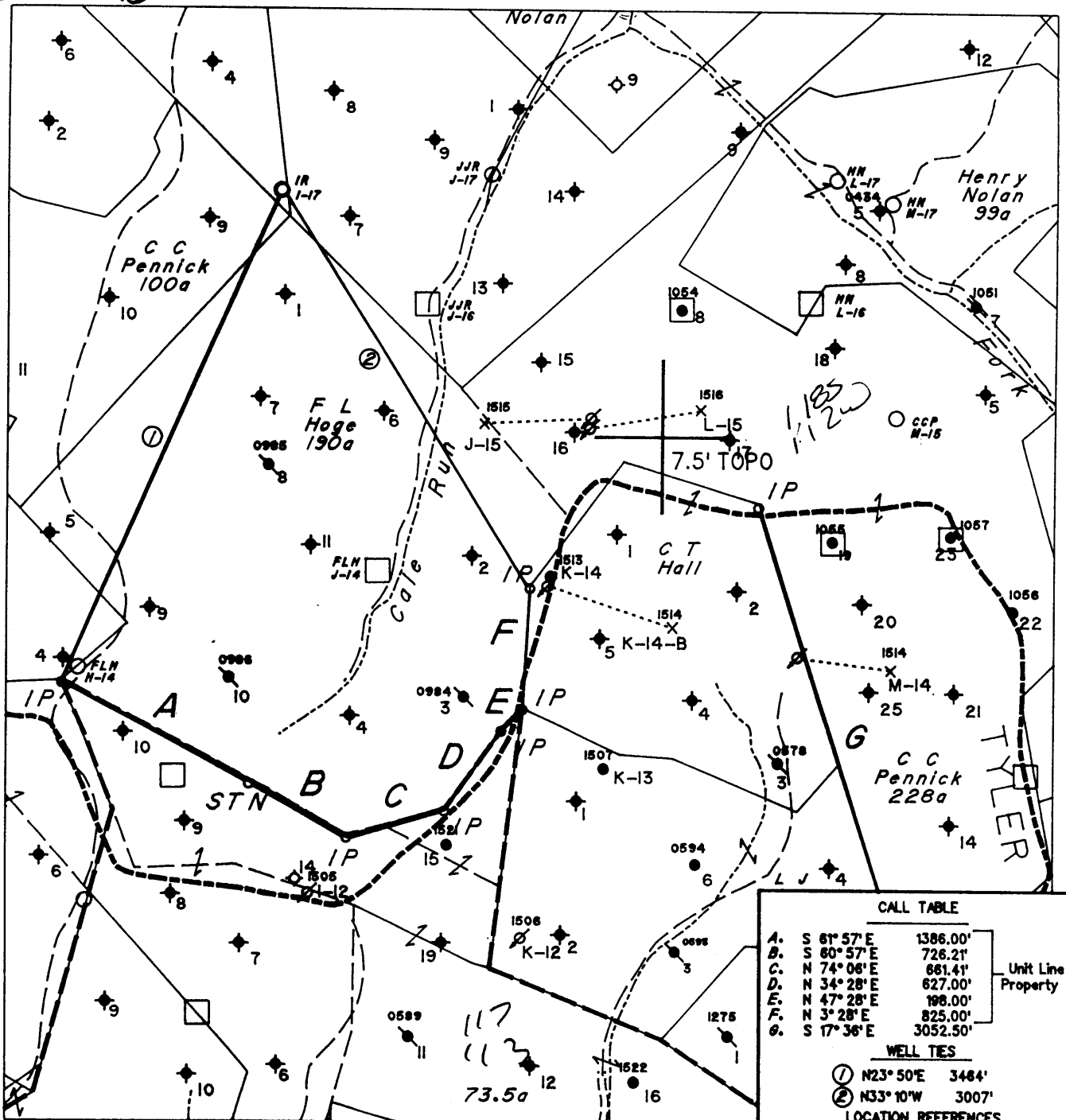


AS 5-6-93

5900'

LATITUDE 39° 30' 00"

LONGITUDE 80° 40' 00"



Note: No Known Water Supply Sources Are Located Within 1000' Of Proposed Well

(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

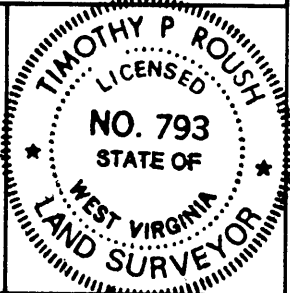
WELL TIES	
①	N23° 50' E 3464'
②	N33° 10' W 3007'

LOCATION REFERENCES	
N67° 17' W	119' 6" Maple
N62° 35' W	170' 8" Maple
N24° 02' W	130' 8" Maple

FILE NO. 603
 MAP NO. N57 N 3 S E W 4
 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 Irene Reilly NO. 1-17
 API WELL NO. 47-103-1541-L1

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1288' WATERSHED Cale Run
 DISTRICT Green COUNTY Wetzel
 QUADRANGLE Centerpoint NW

Frac

SURFACE OWNER State of West Virginia ACREAGE 190.35 Ac.
 OIL & GAS ROYALTY OWNER Pennzoil Products Co. et al. LEASE ACREAGE 191 Ac.
 LEASE NO. 15634-50

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 3270'

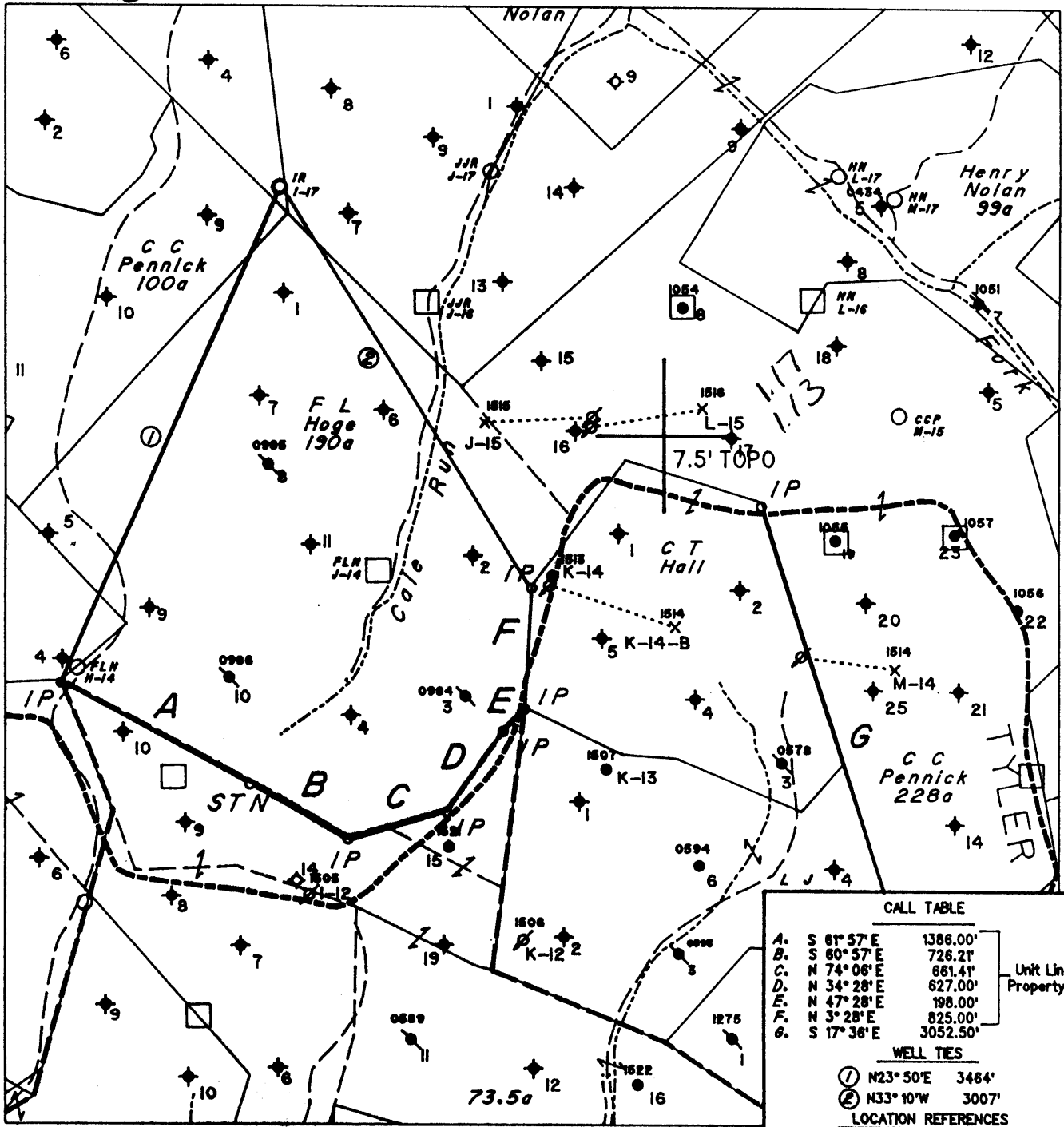
WELL OPERATOR Pennzoil Products Company DESIGNATED AGENT James A. Crews
 ADDRESS P. O. Box 5519 ADDRESS P. O. Box 5519
Vienna, W.Va. 26105 673 Vienna, W.Va. 26105

JUL 14 1995

FORM IV-6

WEST 1541-L1

AS 5-6-93



Note: No Known Water Supply Sources Are Located Within 1000' Of Proposed Well

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

CALL TABLE		
A.	S 81° 57' E	1386.00'
B.	S 80° 57' E	726.21'
C.	N 74° 06' E	861.41'
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

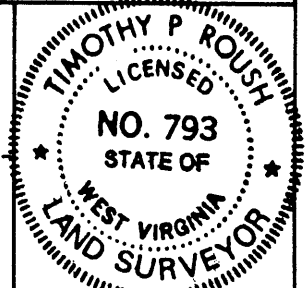
WELL TIES	
①	N23° 50' E 3464'
②	N33° 10' W 3007'

LOCATION REFERENCES			
N67° 17' W	119'	6" Maple	
N62° 35' W	170'	8" Maple	
N24° 02' W	130'	8" Maple	

FILE NO. 603
 MAP NO. N57 N 3 S E W 4
 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) [Signature]
 TIMOTHY P. ROUSH PS 793



STATE OF WEST VIRGINIA
 DIVISION OF ENERGY
 OIL AND GAS SECTION



DATE March 31, 19 93
 FARM Irene Reilly NO. 1-17
 API WELL NO. 47-103-1541-L1

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1288' WATERSHED Cole Run
 DISTRICT Green 5 COUNTY Wetzel
 QUADRANGLE Centerpoint NE NW

SURFACE OWNER State of West Virginia ACREAGE 190.35 Ac.
 OIL & GAS ROYALTY OWNER Pennzoil Products Co. et al. LEASE ACREAGE 191 Ac.
 LEASE NO. 15634-50

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 3270'

WELL OPERATOR Pennzoil Products Company DESIGNATED AGENT James A. Crews
 ADDRESS P. O. Box 5519 ADDRESS P. O. Box 5519
 Vienna, W.Va. 26105 673 Vienna, W.Va. 26105

MAR 24 1993

8-0 95

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

Well Operator's Report of Well Work

Farm name:

Operator Well No.: IRENE REILLY I-17

LOCATION: Elevation: 1288

Quadrangle: CENTER POINT

District: GREEN

Latitude: 5900

Longitude 6150

Feet South of

Feet West of

County: WETZEL

39 Deg. 30 Min.

80 Deg. 40 Min.

Sec.

Sec.

Company: PENNZOIL PRODUCTS COMPANY

P. O. BOX 5519

VIENNA, WV 26105-5519

Agent: JAMES A. CREWS

Inspector: Randal Mick
Permit Issued: 09/04/93
Well work Commenced: 08/31/93
Well work Completed: 05/13/94

Verbal Plugging
Permission granted on:

Rotary x Cable _____ Rig _____

Total Depth (feet) 3250'

Fresh water depths (ft) N/A

Salt water depths (ft) N/A

Is coal being mined in area (Y/N)? N

Coal Depths (ft): N/A

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft. To surface
8-5/8	558'	558'	175 sks.
4-12/	3211.50'	3211.50'	300 sks.

OPEN FLOW DATA

WATER INJECTION WELL

Producing formation Gordon Pay zone depth (ft) 3178'-3190'
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

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: 7/8/94

TREATMENT

Perforated: Gordon with 10 holes 3182' - 3187'
Treated with 300 gal. 15% HCL, 333 bbls. gelled water
and 1500# 80/100 sand, 5000# 20/40 sand.

WELL LOG

Caving Problems	
No log	0 - 2300
Little Lime	2304 - 2316
Shale	2316 - 2344
Big Lime	2344 - 2354
Shale	2354 - 2397
Big Injun	2397 - 2583
Sand & Shale	2583 - 2966
Berea	2966 - 2973
Shale	2973 - 3155
Stray	3155 - 3174
Shale	3174 - 3178
Gordon	3178 - 3190
T.D.	3250

10/91

20909

RECEIVED
Office of Oil & Gas
UIC Section
JUN 22 1995



WV Division of Environmental Protection
NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION
for the
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

- 1) Date: June 20, 19 95
- 2) Operator's Well No. Irene Reilly #I-17
- 3) SIC Code _____
- 4) API Well NO. 47 - 103 - 1541 - FRAC
State County Permit
- 5) UIC Permit No. _____

Issued 07/13/95
expires 07/13/97

WV Division of Environmental Protection

- WELL TYPE: Liquid injection Gas injection (not storage) _____ Waste disposal _____
- 7) LOCATION: Elevation: 1288' District: Green Watershed: Cale Run County: Wetzel Quadrange: Centerpoint
- 8) WELL OPERATOR Pennzoil Products Co., 37450 Address: P. O. Box 5519, Vienna, WV 26105
- 9) DESIGNATED AGENT James A. Crews Address: P. O. Box 5519, Vienna, WV 26105
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED Name: Mike Underwood Address: Rt. 2, Box 135, 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 3178 feet(top) to 3190 feet(bottom)
- 14) Estimated depth of completed well, (or actual depth of existing well) 3250 ft.
- 15) Approximate water strata depths; Fresh N/A feet; salt N/A feet.
- 16) Approximate coal seam depths: _____
- 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: Produced water, bactericides and other chemicals as necessary to maintain water quality
- 22) FILTERS (IF ANY): Cartridge filters and/or coal bed filters and improve oil recovery.
- 23) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL: _____

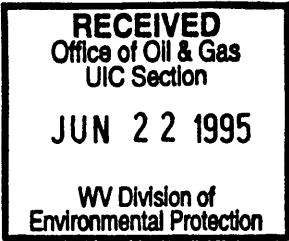
24) CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILLUP 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		558	558	Existing	Sizes
Coal									Depths set
Intermediate									Perforations:
Production	4-1/2	J-55	10.5	X		3211.5	3211.5	Existing	Top Bottom
Tubing									
Liners									

25) APPLICANT'S OPERATING RIGHTS were acquired from Irene Reilly, et al
by deed _____ / lease / other contract _____ / dated September 23, 1895, of record in the
Wetzel County Clerk's office in Lease Book 47 at page 193

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

File



- 1) Date June 20, 1995
Operator's _____
- 2) Well No. Irene Reilly #I-17
- 3) SIC Code _____
- 4) API Well No. 47 - 103 - 1541.7
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

- (i) Name WV Public Land Corporation
Address Bldg. #3, Room 643
1900 Kanawha Blvd. E.
- (ii) Name Charleston, WV 25305
Address _____
Dept. of Natural Resources
- (iii) Name 1304 Goose Run Road
Address Fairmont, WV 26554
Attn: Gary Foster

7 (i) COAL OPERATOR N/A
Address _____

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 Timothy P. Roush
Its Supervisor, Surveying/Mapping
Telephone (304) 422-6565

FILE COPY
 OIL & Gas
 UIC Section
 APR 15 93
 WV Division of
 Environmental Protection



1) Date: April 13, 1993
 2) Operator's Well No. IRENE REILLY #I-17
 3) SIC Code _____
 4) API Well NO. 47 - 103 - 15415
 State County Per.
 5) UIC Permit No. _____
Issued 05/12/93
Expires 05/12/95

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

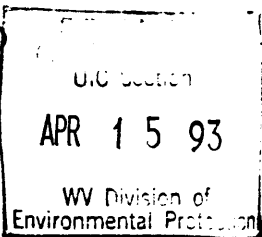
- 6) WELL TYPE: Liquid injection / Gas injection (not storage) _____ / Waste disposal _____
- 7) LOCATION: Elevation: 1288' Watershed: Cale Run
 District: Green County: Wetzel Quadrangle: Centerpoint
- 8) WELL OPERATOR Pennzoil Products Co. 37450 9) DESIGNATED AGENT J.A. Crews
 Address P.O. Box 5519 Address P.O. Box 5519
Vienna, WV 26105 Vienna, WV 26105
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED 11) DRILLING CONTRACTOR:
 Name Randall Mick Mike Underwood
 Address 111 Blackshere Drive Rt. #2, Box 135
Mannington, WV Salem, WV 26426
26582
- 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 3168 feet(top) to 3183 feet(bottom)
- 14) Estimated depth of completed well, (or actual depth of existing well) 3270 ft.
- 15) Approximate water strata depths: Fresh, 468 feet; salt, 2400 feet.
- 16) Approximate coal seam depths: 1100
- 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		540	540	Cement to Surface	Sizes
Coal									
Intermediate									
Production	4 1/2	J-55	10.5	X		3270	3270	Cement over Salt Sand	Depths set
Tubing									Perforations:
Liners									Top Bottom

25) APPLICANT'S OPERATING RIGHTS were acquired from Irene Reilly, et al
 by deed _____ / lease / other contract _____ / dated September 23, 1985, of record in the
Wetzel County Clerk's office in Lease Book 47 at page 193

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. IRENE REILLY #I-17
3) SIC Code _____
4) API Well No. 47 - 103 - 1541
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
 - (i) Name WV Public Land Corp.
Address Bldg. #3, Room 643
1900 Kanawha Blvd., E.
 - (ii) Name Charleston, WV 25305
Address _____
Dept. Natural Resources
 - (iii) Name 1304 Goose Run Road
Address Fairmont, WV 26554
ATTN: Gary Foster
- 7 (i) COAL OPERATOR N/A
Address _____
- 7 (ii) COAL OWNER(S) WITH DECLARATION ON RECORD:
Name _____
Address _____
- 7 (iii) COAL LESSEE WITH DECLARATION ON RECORD:
Name _____
Address _____

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- (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.

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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.

PENNZOLD PRODUCTS COMPANY

Well Operator

By Timothy P. Roush
Its Supervisor - Surveying/Mapping

Telephone (304) 422-6565