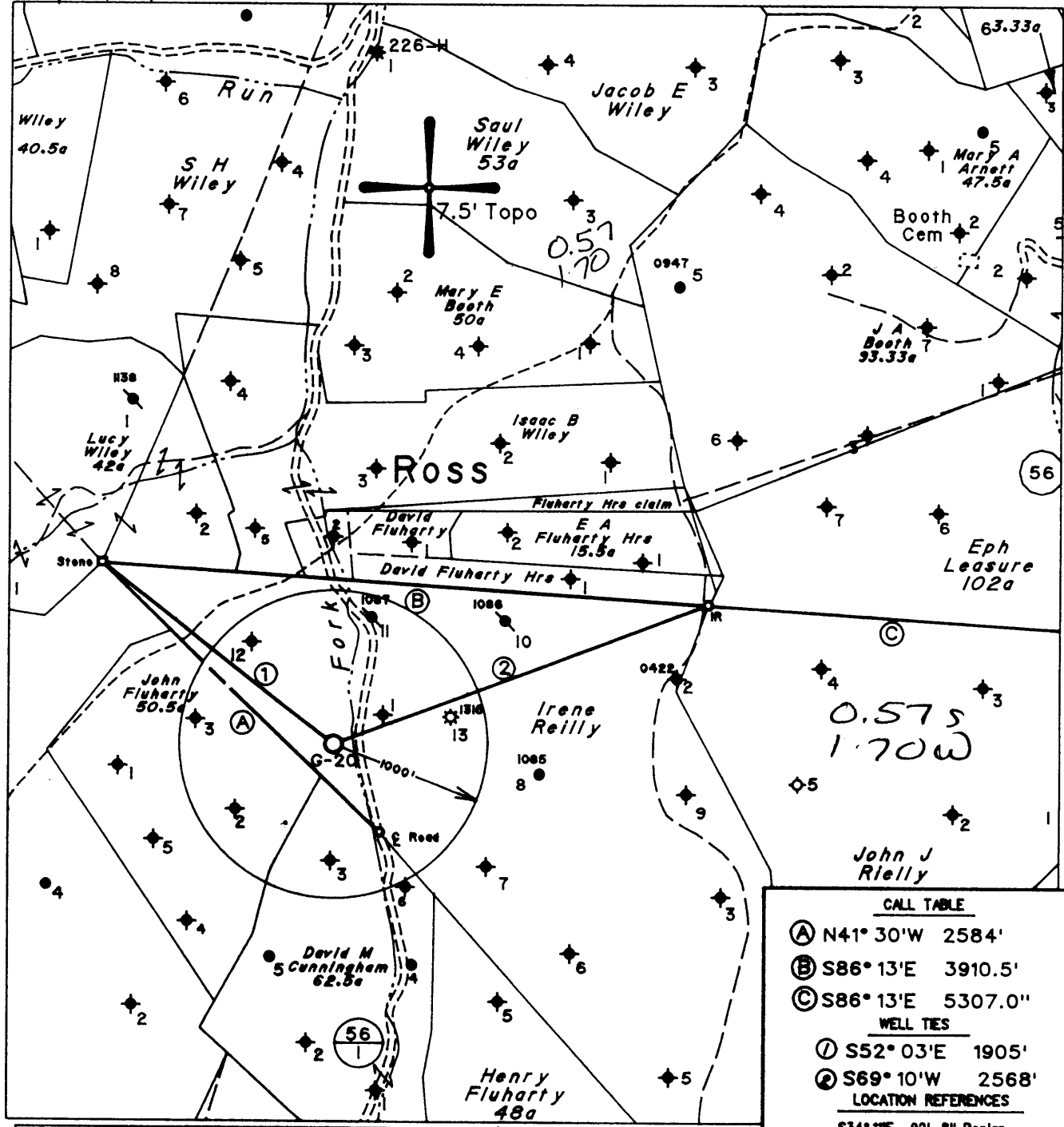


MS 9/14/94



**CALL TABLE**

(A) N41° 30' W 2584'

(B) S86° 13' E 3910.5'

(C) S86° 13' E 5307.0'

**WELL TIES**

(1) S52° 03' E 1905'

(2) S69° 10' W 2568'

**LOCATION REFERENCES**

S34° 11' E 92' 8" Poplar  
 S60° 32' E 227' 4" Elm  
 N75° 54' E 197' 8" Sycamore

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

FILE NO. 603

MAP NO. N58 N 4 S E W 5

SCALE 1" = 1000'

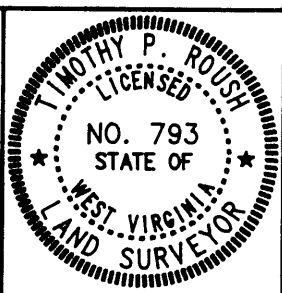
MINIMUM DEGREE OF ACCURACY 1 in 200

PROVEN SOURCE OF ELEVATION USGS BM - 902

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 September 7, 19 94

FARM Irene Reilly NO. G-20

API WELL NO. 47-103-1643-5

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL

(IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION 885' WATERSHED Fluharty Fork

DISTRICT Green COUNTY Wetzel

QUADRANGLE Centerpoint N15 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 2830'

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

OCT 8 1994

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: DEPT. NATURAL RESOURCES Operator Well No.: I. REILLY G-20

LOCATION: Elevation: 885.00 Quadrangle: CENTER POINT

District: GREEN County: WETZEL  
Latitude: 2950 Feet South of 39 Deg. 30Min. 0 Sec.  
Longitude 9000 Feet West of 80 Deg. 40 Min. 0 Sec.

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

Agent: JAMES A. CREWS

Inspector: RANDAL MICK  
Permit Issued: 10/04/94  
Well work Commenced: 12/08/94  
Well work Completed: \_\_\_\_\_  
Verbal Plugging \_\_\_\_\_  
Permission granted on: \_\_\_\_\_  
Rotary X Cable \_\_\_\_\_ Rig  
Total Depth (feet) 2923  
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	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
Size			To surface
8-5/8	220	220	60 sks.
4-1/2	2858.95	2858.95	300 sks.

OPEN FLOW DATA \* Water Injection Well

Producing formation Gordon Pay zone depth (ft) 2726-2768  
 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: 1/4/95

## TREATMENT

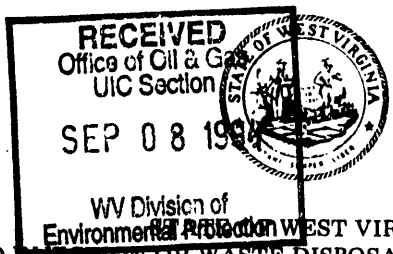
Perforated with 16 holes 2740'-2748'. Treated with 300 gallons 15% HCL acid, 255 barrels gelled water & 7000# 20/40 sand.

## WELL LOG

Sand & Shale	0'-1176'
Sand	1176'-1226'
Sand & Shale	1226'-1652'
Sand	1652'-1690'
Sand & Shale	1690'-1876'
Sand & Shale	1876'-2066'
Big Injun	2066'-2136'
Shale	2136'-2505'
Sand	2505'-2509'
Shale	2509'-2520'
Sand	2520'-2524'
Sand & Shale	2524'-2722'
Sand	2712'-2726'
Shale	2726'-2768'
T.D.	2923'

10/91

- 1) Date: September 7, 19 94
- 2) Operator's Well No. IRENE REILLY #G-20
- 3) SIC Code \_\_\_\_\_
- 4) API Well NO. 47 - 103 - 1643-L1  
State County Permit
- 5) UIC Permit No. \_\_\_\_\_



*Issued 10/04/94  
Expires 10/04/96*

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

DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

19848

WELL TYPE: Liquid injection  / Gas injection (not storage) \_\_\_\_\_ / Waste disposal \_\_\_\_\_  
 LOCATION: Elevation: 885' Watershed: Fluharty Fork  
 District: Green County: Wetzel Quadrangle: Centerpoint *286*  
 WELL OPERATOR Pennzoil Products Company 9) DESIGNATED AGENT James A. Crews  
 Address P. O. Box 5519 *4670 3745* Address P. O. Box 5519  
Vienna, WV 26105 Vienna, WV 26105

10) OIL & GAS INSPECTOR TO BE NOTIFIED  
 Name Mike Underwood  
 Address Route 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 *419* Depth 2730 feet(top) to 2745 feet(bottom)
- 14) Estimated depth of completed well, (or actual depth of existing well) 2830 ft.
- 15) Approximate water strata depths; Fresh, 65 feet; salt, 1092 feet.
- 16) Approximate coal seam depths: 697'
- 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 2332
- 21) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES: Freshwater, produced water, bactericides and other chemicals as needed to maintain water quality and improve oil recovery.
- 22) FILTERS (IF ANY): Cartridge and/or coalbed filters
- 23) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL: \_\_\_\_\_

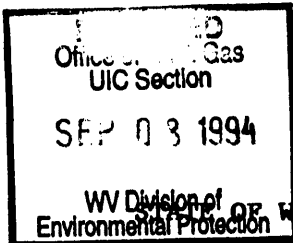
24) CASING AND TUBING PROGRAM

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 surface	Sizes
Coal									
Intermediate									
Production	4 1/2	J-55	10.5	x		2830'	2830'	Cement over salt sand	Depths set
Tubing									
Liners									Perforations: Top Bottom

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 September 7, 1994  
Operator's  
2) Well No. IRENE REILLY #G-20  
3) SIC Code \_\_\_\_\_  
4) API Well No. 47 - 103 - 1643  
State County Permit

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 <u>N/A</u><br>Address _____                                 |
| (i) Name <u>WV Public Land Corporation</u><br>Address <u>Building 3, Room 643</u><br><u>1900 Kanawha Blvd. E.</u>                                   | 7 (ii) COAL OWNER(S) WITH DECLARATION ON RECORD:<br>Name _____<br>Address _____ |
| (ii) Name <u>Charleston, WV 25305</u><br>Address _____  | (iii) COAL LESSEE WITH DECLARATION ON RECORD:<br>Name _____<br>Address _____    |
| (iii) Name <u>WV Department of Natural Resources</u><br><u>1304 Goose Run Road</u><br>Address <u>Fairmont, WV 26554</u><br><u>Attn: Gary Foster</u> |   |

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

OFFICE USE ONLY  
DRILLING PERMIT

Permit number 47-10301643-LI

October 4th. 1994  
Date

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 (if required) construction and reclamation plan, subject to any modifications and conditions specified below.

Permit expires 10-4-1996 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <input checked="" type="checkbox"/>	Plat: <i>[Signature]</i>	Casing: <i>[Signature]</i>	Fee: <i>CK# 20524</i>
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*Michael W. Jones*  
CHIEF, OFFICE OF OIL AND GAS

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

PERMIT MODIFICATIONS AND CONDITIONS (IF ANY) TO THE PROPOSED WELL WORK

OFFICE USE ONLY

This part of Form IV-3(b) is to record the dates of certain occurrences and any follow-up inspections.

	Date	Follow-up inspection(s)	Date(s)
Application received			
Well work started		" "	
Total depth reached		" "	
Well Record received		" "	
Reclamation completed		" "	

OTHER INSPECTIONS

Reason: \_\_\_\_\_

Reason: \_\_\_\_\_