

Note: There are no known water supply sources located within 1000' of proposed well.

◆ Denotes a Water Supply Source

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

Call Table

- A S20° W 62 P.
- B S61° 14'E 709.5'
- C N77° 47'E 594.0'
- D N60° 34'E 701.0'
- E N19° W 40 P.

WELL TIES

- ① N87° 17'E 4000'
- ② N81° 45'E 2822'

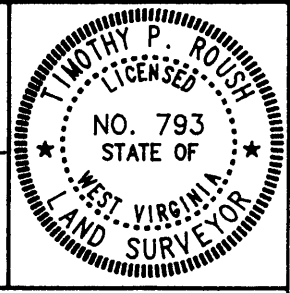
LOCATION REFERENCES

- N75° 04'W 129' 8" Poplar
- S33° 18'W 94' 5" Poplar
- S31° 50'E 180' 9" Maple

FILE NO. 458  
 MAP NO. N47 N S 2 E W 4  
 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 May 6, 19 96  
 FARM Enoch McIntyre NO. 10  
 API WELL NO. 47-095-01647-5

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 961' WATERSHED McIntyre Fork  
 DISTRICT McElroy COUNTY Tyler  
 QUADRANGLE Centerpoint 7.5'

SURFACE OWNER Fred Glover ACREAGE 104.95 Ac.  
 OIL & GAS ROYALTY OWNER Pennzoil Products Co. et.al. LEASE ACREAGE 108.75 Ac.  
 LEASE NO. 99173-00

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 2961'  
 WELL OPERATOR Pennzoil Products Company DESIGNATED AGENT Philip S. Ondrusek  
 ADDRESS P. O. Box 5519 ADDRESS P. O. Box 5519  
Vienna, W.Va. 26105 4670 Vienna, W.Va. 26105

JUN 11 1996  
 9-0 96

JAN 06 1997

State of West Virginia  
Division of Environmental Protection  
Section of Oil and Gas  
Well Operator's Report of Well Work

Permitting  
Office of Oil & Gas

Farm name: Glover, Fred etal

Operator Well No.: E. McIntyre #10

LOCATION: Elevation: 961.00'  
District: McElroy  
Latitude: 9,500' Feet south of  
Longitude: 7,200' Feet west of

Quadrangle: Center Point  
County: Tyler  
39 Deg 27 Min 30 Sec.  
80 Deg 40 Min 0 Sec.

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

Agent: PHILIP S. ONDRUSEK  
Inspector: Mike Underwood  
Permit Issued: 6/10/96  
Well work Commenced: 7/30/96  
Well work Completed: 10/4/96  
Verbal plugging permission granted on:  
Rotary X Cable \_\_\_\_\_ Rig \_\_\_\_\_  
Total Depth (feet) 2996'  
Fresh water depths (ft) NA  
Salt water depths (ft) NA  
Is coal being mined in area (Y/N) N  
Coal Depths (ft): 801-810

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
8 5/8"	220'	220'	140 Sacks
4 1/2"	2923.1'	2923.1'	275 Sacks

OPEN FLOW DATA \*Well was drilled as a waterflood injection well. No open-flow data was obtained

Producing formation Gordon Pay zone depth (ft) 2832-2847

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.

JAN 10 1997

For: PENNZOIL PRODUCTS COMPANY  
By: [Signature]  
Date: 12/24/96

**Treatment :**

**Perforations:**

**2838' - 2844' - 4 holes/ft. (24 holes)**

**Treatment:**

**Treated via 4.5" Casing with 300 gals. 15% HCl, 219 bbls.**

**Borate cross-linked gelled water and 13,650 lbs. of 20/40 sand.**

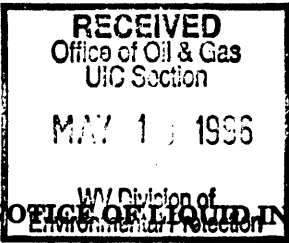
**Well Log :**

**TD - 2996'**

Sand & Shale	0	-	218
Shale	218	-	508
Sand	508	-	523
Shale	523	-	611
Sand	611	-	657
Sand	657	-	801
Coal	801	-	810
Shale	810	-	834
Sand	834	-	872
Shale	872	-	1300
Sand	1300	-	1355
Shale	1355	-	1562
Sand	1562	-	1578
Shale	1578	-	1696
Sand	1696	-	1704
Shale	1704	-	1980
Sand	1980	-	2006
Big Lime	2006	-	2084
Big Injun	2084	-	2252
Shale	2252	-	2822
Gordon Stray	2822	-	2832
Gordon	2832	-	2847
Shale	2847	-	2852
Sand	2852	-	2858
Shale	2858	-	2864
Sand	2864	-	2868
Shale	2868	-	2996

Obverse  
10/91

22137



1) Date May 7, 1996  
 2) Well No. Enoch McIntyre No.10  
 3) SIC Code \_\_\_\_\_  
 4) API Well No. 47 - 095 - 1647-LI  
 State WV County Tyler Permit Issued 06/10/96  
 5) UIC Code Expires 06/10/98

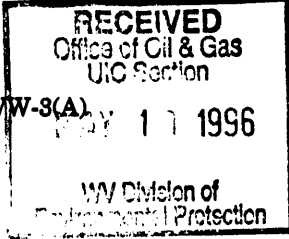
STATE OF WEST VIRGINIA  
 NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION  
 for the  
 DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

- WELL TYPE: Liquid Injection  Gas Injection \_\_\_\_\_ Waste Disposal \_\_\_\_\_
- LOCATION: Elevation 961 Watershed McIntyre Fork  
 District McElroy County Tyler Quadrangle \_\_\_\_\_ Centerpoint 386
- 8) WELL OPERATOR: Pennzoil Products Company 4670  
P.O. Box 5519  
Vienna, WV 26105
- 9) DESIGNATED AGENT: Philip S. Ondrusek  
P.O. Box 5519  
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 2821 Ft. (Top) to 2836 Ft. (Bottom)
- 14) Estimated depth of completed well (or actual depth of existing well) 2961 Ft.
- 15) Approximate water strata depths: Fresh 141 Ft. Salt 1168 Ft.
- 16) Approximate coal seam depths: 773 Ft.
- 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.
- 20) Maximum proposed injection operations: Volume per hour 25 bbl. Bottom Hole Pressure 2332 psig.
- 21) Detailed identification of materials to be injected, including additives: Fresh water, produced water, bactericides and other chemicals as needed 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 FILLUP OR SACKS	PACKERS
	Size	Grade	Weight	New	Used	For Drilling	Left in Well		
Conductor									Kinds
Fresh Water	8 5/8"	L.S.	20#	X		211	211	Cement To	
Coal								Surface	Sizes
Intermediate									
Production Tubing	4 1/2"	J-55	10.5#	X		2961	2961	Cement Over	Depths Set
Liners								Salt Sand	Perforations
									Top Bottom

- 25) APPLICANTS OPERATING RIGHTS were acquired from Kenneth G. McIntyre et al.  
 by Deed \_\_\_\_\_ Lease  Other Contract \_\_\_\_\_ Dated August 11, 1993 of record in the  
Tyler County Clerk's Office in \_\_\_\_\_ Deed Book 304 at Page 699



FORM WW-3(A)  
Obverse

MAY 11 1996

WV Division of  
Environmental Protection

1) Date May 7, 1996  
 2) Well No. Enoch McIntyre No.10  
 3) SIC Code \_\_\_\_\_  
 4) API Well No. 47 - 095 - 1647-01  
                   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 Fred Glover  
 Address H.C. 62, Box 53  
       Alvy, WV 26322

(ii) Name Forrest Glover  
 Address P.O. Box 332  
       Middlebourne, WV 26149

(iii) Name Marie A. Walters  
 Address c/o Dale Nice  
       P.O. Box 34  
       Reader, WV 26167

7 (i) COAL OPERATOR:

Name N/A  
 Address \_\_\_\_\_

7 (ii) COAL OWNER WITH DECLARATION ON RECORD:

Name N/A  
 Address \_\_\_\_\_

7(iii) COAL LESSEE WITH DECLARATION ON RECORD:

Name N/A  
 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 \_\_\_\_\_

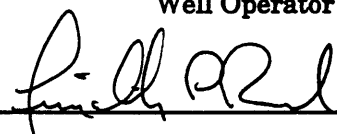
THE REASON YOU RECEIVED THESE DOCUMENTS IS THAT YOU HAVE RIGHTS REGARDING THE APPLICATION WHICH ARE SUMMARIZED IN THE "INSTRUCTIONS" ON THE REVERSE SIDE OF THE COPY OF THE APPLICATION (FORM WW-3(B)) DESIGNATED FOR YOU. HOWEVER, YOU ARE NOT REQUIRED TO TAKE ANY ACTION AT ALL.

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 

Its Supervisor, Surveying/Mapping

Telephone (304) 422-6565

OFFICE USE ONLY  
DRILLING PERMIT

Permit number 47-095-1647-LI

Date June 19th. 19 96

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 6-10-98 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: <u>MS</u>	Casing: <u>MS</u>	Fee: <u>CK#</u>
---	--	-----------------	-------------------	-----------------

0361344489

*[Signature]*  
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: \_\_\_\_\_