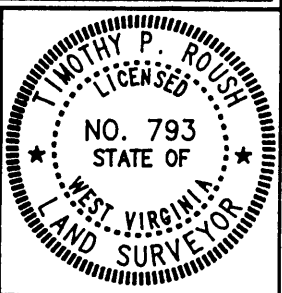


Call Table	
A	S20° W 62 P.
B	S61° 14'E 709.5'
C	N77° 47'E 594.0'
D	N60° 34'E 701.0'
E	N19° W 40 P.
WELL TIES	
①	N46° 23'E 5230'
②	N29° 34'E 4000'
LOCATION REFERENCES	
S68° 15'W 103'	J.L. McIntyre *2
N32° 00'W 144' 14"	Beech Snag

Note: All known water supply sources located within 1000' of proposed well are shown.   
 (H) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS   
 ♦ Denotes a Water Supply Source

FILE NO. 831  
 MAP NO. N47 N S1 E W5  
 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 August 20, 19 96  
 FARM J.L. McIntyre NO. 12  
 API WELL NO. 47-095-01666-5

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 1007' WATERSHED McIntyre Fork  
 DISTRICT McElroy COUNTY Tyler  
 QUADRANGLE Centerpoint 7.5'  
 SURFACE OWNER Fred & Dottie Glover ACREAGE 44.81 Ac.  
 OIL & GAS ROYALTY OWNER Pennzoil Products Co. et al. LEASE ACREAGE 64 Ac.  
 LEASE NO. 99229-00  
 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 3007'  
 WELL OPERATOR Pennzoil Products Company DESIGNATED AGENT Philip S. Ondrusek  
 ADDRESS P. O. Box 5519 ADDRESS P. O. Box 5519  
Vienna, W.Va. 26105 Vienna, W.Va. 26105

OCT 25 1996  
 8-0 95

FORM IV-6

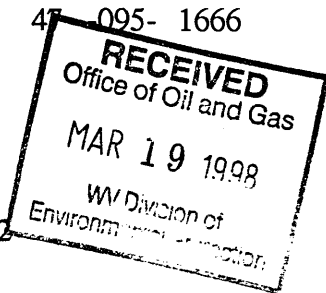
WR-35

API #

21-Oct-96  
095- 1666

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

Well Operator's Report of Well Work



Farm name: Glover, Fred & Dottie

Operator Well No.: J.L.McIntyre #12

LOCATION: Elevation: 1,007'

Quadrangle: Center Point

District: McElroy

County: Tyler

Latitude: 6,150' Feet south of 39 Deg 27 Min 30 Sec.

Longitude: 7,400' Feet west of 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: 10/21/96

Well work Commenced: 12/23/96

Well work Completed: 1/15/97

Verbal plugging permission granted on:

Rotary  Cable  Rig

Total Depth (feet) 3020'

Fresh water depths (ft) NA

Salt water depths (ft) NA

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

Coal Depths (ft): NA

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
8-5/8"	265'	265'	160 Sacks
4 1/2"	2932'	2932'	140 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) 2,888  
 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:         

Date: 3/16/98

TYL 1666 9991

**Treatment :**

Perforated Gordon sand with 16 holes from 2890'-2894' K.B. Fractured with 300 gals 15% HCL and 191 bbls gelled water and 9,200 lbs. 20/40 sand

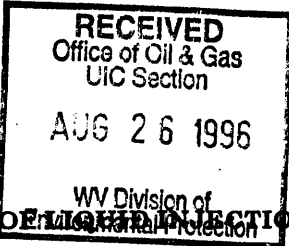
**Well Log :**

All depth are relative to K.B.

0	190 Sand and Shale
190	222 sand
222	600 Shale
600	620 sand
620	662 Shale
662	704 sand
704	873 Shale
873	910 sand
910	1024 Shale
1024	1054 sand
1054	1275 Shale
1275	1294 sand
1294	1438 Shale
1438	1480 sand
1480	1508 Shale
1508	1526 sand
1526	1790 Shale
1790	1844 sand
1844	2046 Shale
2046	2150 Big Lime
2150	2304 Big Injun
2304	2870 Shale
2870	2888 Gordon Stray
2888	2898 Gordon
2898	3020 Shale

28

1) Date August 20, 1996  
 2) Well No. J.L. McIntyre No.12  
 3) SIC Code \_\_\_\_\_  
 4) API Well No. 47 - 095 - 1666-S  
                   State      County      Permit  
 5) UIC Code \_\_\_\_\_



*Issued 10/21/96*  
*Expires 10/21/98*

22742

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

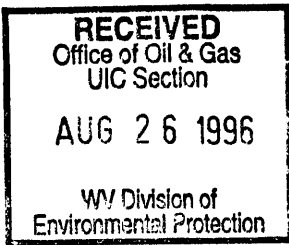
**DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**

- WELL TYPE:      Liquid Injection X      Gas Injection \_\_\_\_\_      Waste Disposal \_\_\_\_\_
- LOCATION:      Elevation 1007      Watershed McIntyre Fork      Centerpoint 286  
                   District McElroy      County Tyler      Quadrangle \_\_\_\_\_
- 8) WELL OPERATOR: Pennzoil Products Company      9) DESIGNATED AGENT: Philip S. Ondrusek  
                           P.O. Box 5519      P.O. Box 5519  
                           Vienna, WV 26105      Vienna, WV 26105
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED:      11) DRILLING CONTRACTOR:  
                   Name Mike Underwood      Name \_\_\_\_\_  
                   Address Route 2, Box 135      Address \_\_\_\_\_  
                   Salem, WV 26426      \_\_\_\_\_
- 12) PROPOSED WELL WORK:      Drill X      Drill Deeper \_\_\_\_\_      Redrill \_\_\_\_\_      Stimulate X  
   Plug Off Old Formation \_\_\_\_\_      Perforate New Formation \_\_\_\_\_      Convert \_\_\_\_\_  
   Other Physical Change in Well (specify) \_\_\_\_\_
- 13) Geological target formation      Gordon 419      Depth 2867      Ft. (Top) t 2882      Ft. (Bottom) \_\_\_\_\_
- 14) Estimated depth of completed well (or actual depth of existing well)      3007      Ft.
- 15) Approximate water strata depths:      Fresh 187      Ft.      Salt 1214      Ft.
- 16) Approximate coal seam depths:      819      Ft.
- 17) Is coal being mined in the area?      \_\_\_\_\_ Yes      X 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		257	257	Cement To	
Coal								Surface	Sizes
Intermediate									
Production	4 1/2"	J-55	10.5#	X		3007	3007	Cement Over	Depths Set
Tubing								Salt Sand	
Liners									Perforations
									Top Bottom

- 25) APPLICANTS OPERATING RIGHTS were acquired from Joseph McIntyre  
 by Deed \_\_\_\_\_ Lease X Other Contract \_\_\_\_\_ Dated March 20, 1894 of record in the  
                           Tyler      County Clerk's Office in      Deed      Book 23      Page 107



1) Date August 20, 1996  
2) Well No. J.L. McIntyre No.12  
3) SIC Code \_\_\_\_\_  
4) API Well No. 47 - 095 - 1666-5  
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 & Dottie Glover  
Address H.C. 62, Box 53  
Alvy, WV 26322  
  
(ii) Name \_\_\_\_\_  
Address \_\_\_\_\_  
  
(iii) Name \_\_\_\_\_  
Address \_\_\_\_\_

6 (iv) ADDITIONAL SURFACE OWNERS  
Name \_\_\_\_\_  
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 [Signature]  
Its Supervisor, Surveying/Mapping  
Telephone (304) 422-6565

OFFICE USE ONLY  
DRILLING PERMIT

Permit number 47-095-1666-S

October 21st. 19 **96**  
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 10-21-98 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	Fee <u>CH#</u>
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0301449528

*Michael D. Lewis*

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

CHIEF, OFFICE OF OIL AND GAS

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:	_____		