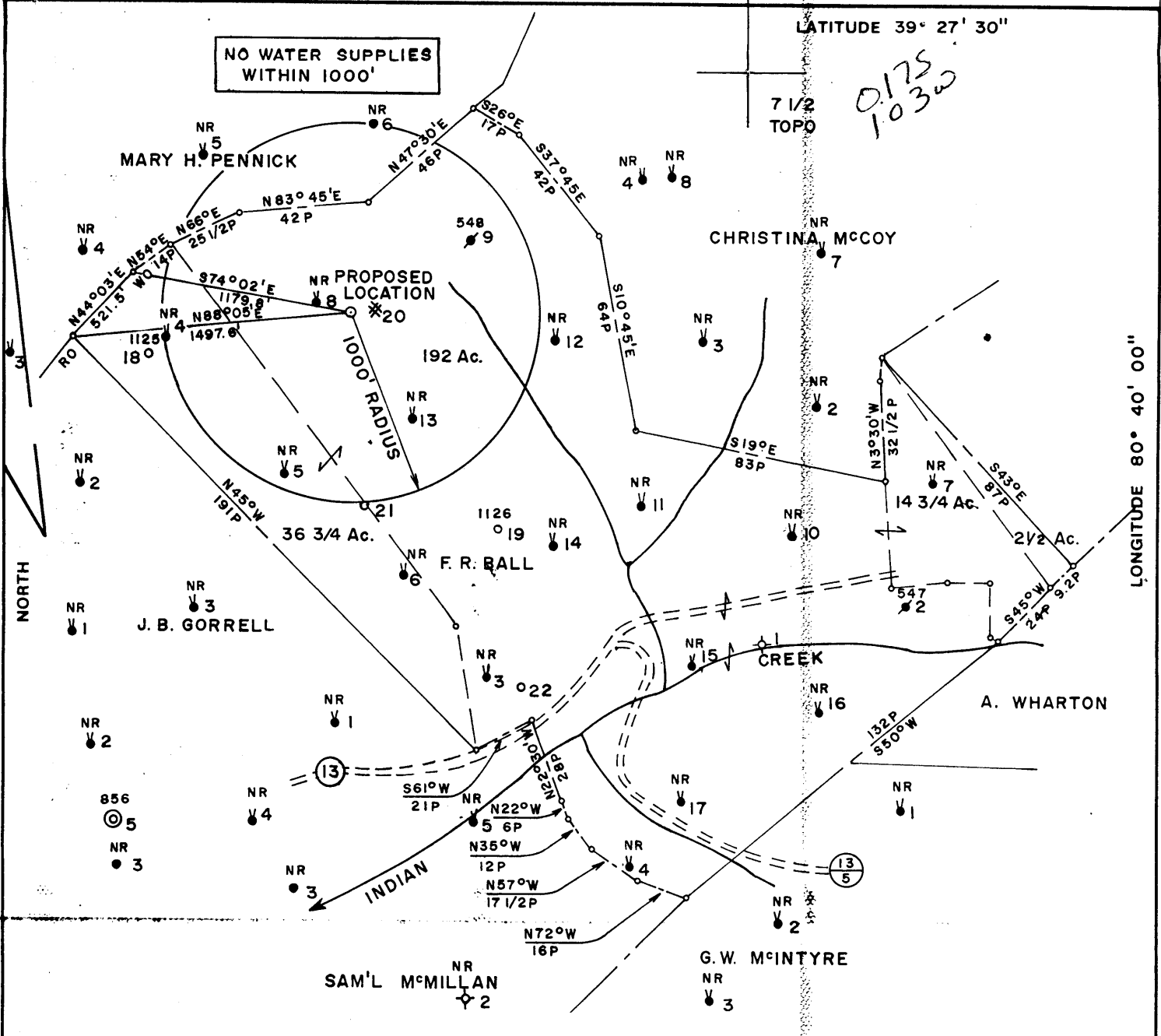


6-21-90

5,480'



LATITUDE 39° 27' 30"

7 1/2
TOPO

LONGITUDE 80° 40' 00"

LOCATION REFERENCES

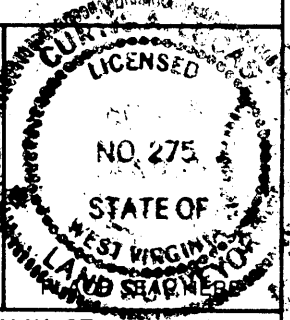
N5°55' W 126.0' (HD=125.3') TRIP CO
 N57°21' E 102.6' (HD=101.3') 6" HY
 S29°30' E 129.4' (HD=129.4') 8" BO

3.05 S
 1.03 W
 NW

Formerly 095-11394

FILE NO. 1280
 MAP N47 SQS NI W4
 SCALE 1" = 800'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION F. R. BALL #18
 =1093'

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) Curtis A. Lucas
 CURTIS A. LUCAS LLS 275



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION



DATE MAY 27, 19 86
 FARM F. R. BALL NO. 20
 API WELL NO.

47 - 095 - 17464
 STATE COUNTY PERMIT

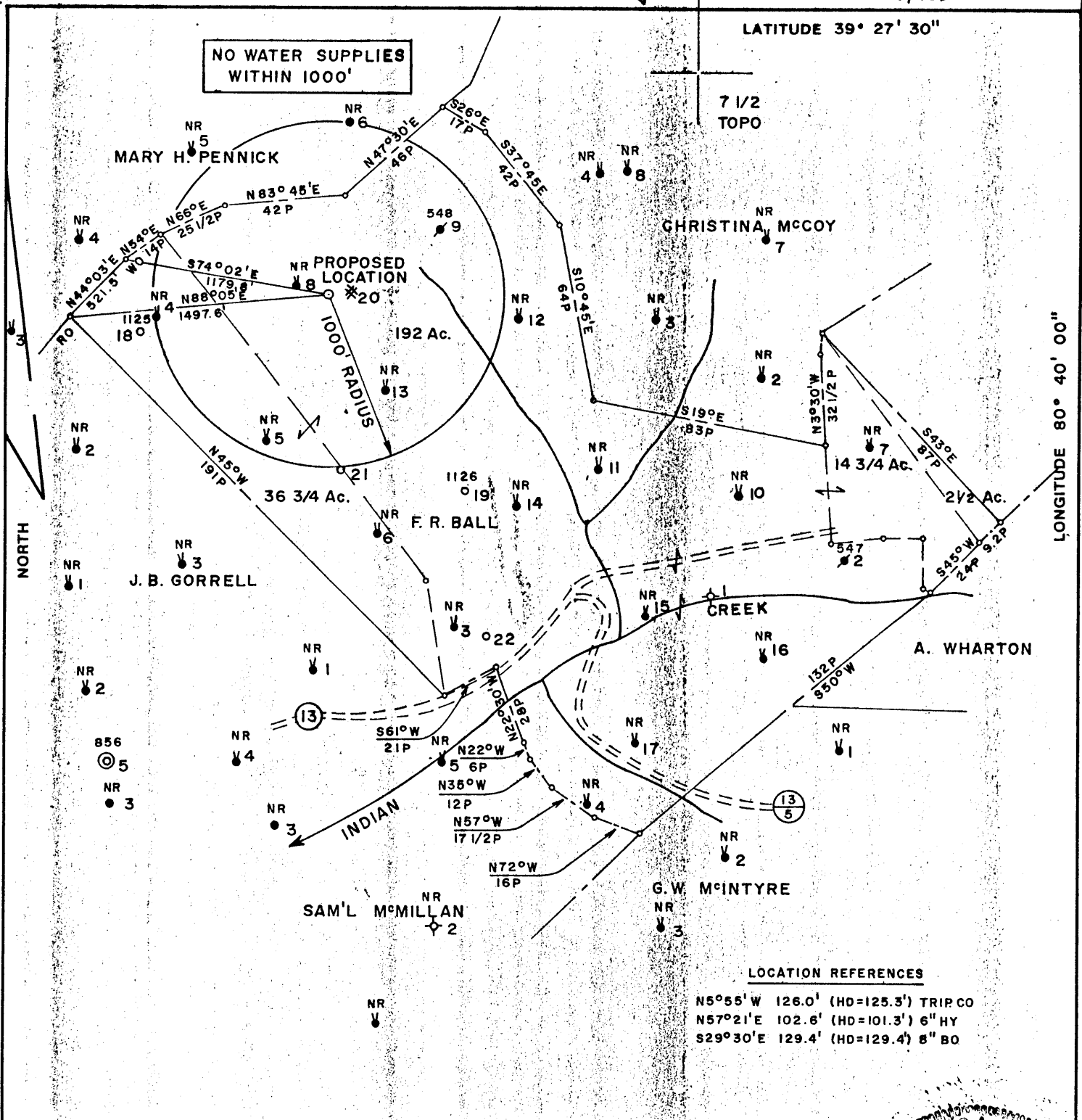
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WELL TYPE: OIL ___ GAS ___ LIQUID INJECTION X WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW ___
 LOCATION: ELEVATION 1235' WATER SHED INDIAN CREEK
 DISTRICT McELROY 5 COUNTY TYLER
 QUADRANGLE CENTER POINT
 SURFACE OWNER RALPH & BETTY HAYES ACREAGE 171.5
 OIL & GAS ROYALTY OWNER PENNZOIL CO. LEASE ACREAGE 250
 LEASE NO. 15459-50
 PROPOSED WORK: DRILL X 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 3196'
 WELL OPERATOR PENNZOIL COMPANY DESIGNATED AGENT JAMES A. CREWS
 ADDRESS P.O. BOX 1588 ADDRESS P.O. BOX 1588
 PARKERSBURG, W.V. 26101 PARKERSBURG, W.V. 26101

AUG 6 1990

FORM IV-6 (8-78)
 H. T. HALL

NO WATER SUPPLIES WITHIN 1000'

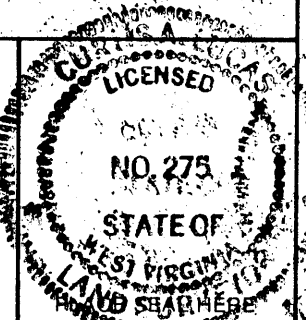


LOCATION REFERENCES

N5°55'W 126.0' (HD=125.3') TRIP CO
 N57°21'E 102.6' (HD=101.3') 6" HY
 S29°30'E 129.4' (HD=129.4') 8" BO

FILE NO. 1280
 MAP N47 SQS N1 W4
 SCALE 1" = 800'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION F. R. BALL #18
=1093'

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) Curtis A. Lucas
 CURTIS A. LUCAS LLS 275



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION



DATE MAY 27, 19 86
 FARM F. R. BALL NO. 20
 API WELL NO.

47 - 095 - 1139-LI
 STATE COUNTY PERMIT

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WELL TYPE: OIL ___ GAS ___ LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW ___
 LOCATION: ELEVATION 1235' WATER SHED INDIAN CREEK
 DISTRICT McELROY COUNTY TYLER
 QUADRANGLE CENTER POINT

CANCELLED

SURFACE OWNER RALPH & BETTY HAYES ACREAGE 171.5
 OIL & GAS ROYALTY OWNER PENNZOIL CO. LEASE ACREAGE 250
 LEASE NO. 15459-50

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 3196'
 WELL OPERATOR PENNZOIL COMPANY DESIGNATED AGENT JAMES A. CREWS,
 ADDRESS P.O. BOX 1588 ADDRESS P.O. BOX 1588
673 PARKERSBURG, W.V. 26101 PARKERSBURG, W.V. 26101

now: Tyler 1416

TYLER 1139-LI

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas

Well Operator's Report of Well Work

Farm name: DELONG, VERNON & ELIZ. Operator Well No.: F. R. BALL 20

LOCATION: Elevation: 1235.00 Quadrangle: CENTER POINT

District: MCELROY County: TYLER
Latitude: 925 Feet South of 39 Deg. 27Min. 30 Sec.
Longitude 5480 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: GLEN P. ROBINSON
Permit Issued: 07/30/90
Well work Commenced: 10-21-90
Well work Completed: 11-29-90
Verbal Plugging _____
Permission granted on: _____
Rotary X Cable _____ Rig _____
Total Depth (feet) 3206'
Fresh water depths (ft) _____
Salt water depths (ft) _____

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	490	490	360 Sks.
4-1/2	3186.70	3186.70	300 Sks.

OPEN FLOW DATA

Producing formation Gordon Pay zone depth (ft) 3144-3174
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

* Water injection well - not tested.

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: Timothy P. Roush Timothy P. Roush
Date: April 17, 1991

APR 19 1991

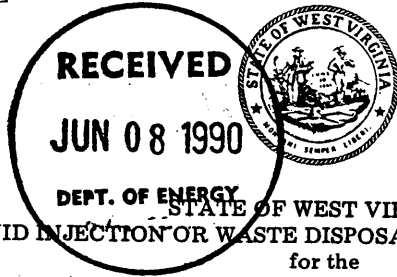
Stimulation

Perforated: Gordon 3144-3154 - 10 holes

Treated w/300 gals. reg. HR acid, 293 Bbls. gelled water and 1500# 80/100 and 3500# 20/40 sand.

<u>Well Log</u>	
Sand & Shale	00-684
Sand	684-710
Sand & Shale	710-1110
Sand	1110-1133
Shale	1133-1140
Sand	1140-1156
Shale	1156-1181
Sand	1181-1197
Shale	1197-1250
Sand	1250-1265
Shale	1265-1458
Sand	1458-1479
Shale	1479-1494
Sand	1494-1541
Sand & Shale	1541-1674
Sand	1674-1728
Shale	1728-1772
Sand	1772-1830
Shale	1830-1875
Sand	1875-1900
Shale	1900-1985
Sand	1985-2005
Shale	2005-2290
Little Lime	2290-2304
Shale	2304-2332
Big Lime	2332-2413
Big Injun	2413-2562
Shale	2562-3138
Gordon	3138-3174
Shale	3174-3206
T.D.	3206'

10786



1) Date: May 29, 19 90
 2) Operator's Well No. F. R. BALL NO. 20
 3) SIC Code _____
 4) API Well NO. 47 - 095 - 1416-LI
State County Permit
 5) UIC Permit No. UICZR09501AP

*Issued 7/30/90
Expires 7/30/92*

DEPT. OF ENERGY
STATE OF WEST VIRGINIA
NOTICE OF LIQUID INJECTION OR WASTE DISPOSAL WELL WORK PERMIT APPLICATION
for the
DEPARTMENT OF ENERGY, OIL AND GAS DIVISION

- 6) WELL TYPE: Liquid injection / Gas injection (not storage) _____ / Waste disposal _____
 7) LOCATION: Elevation: 1235' / Watershed: Indian Creek
 District: McElroy / County: Tyler / Quadrangle: Center Point 7.5'
 8) WELL OPERATOR Pennzoil Products Co. / 9) DESIGNATED AGENT James A. Crews
 Address P.O. Box 5519 / Address P.O. Box 5519
Vienna, W. Va. 26105-5519 / Vienna, WV 26105-5519
 10) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name Glen P. Robinson / 11) DRILLING CONTRACTOR:
 Address Rt. 1, #6 Mt. Pleasant Estates / Name _____
Mineral Wells, W. Va. 26150 / 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 3121' feet(top) to 3141' feet(bottom)
 14) Estimated depth of completed well, (or actual depth of existing well) 3196 ft.
 15) Approximate water strata depths; Fresh, 460 feet; salt, 1835 feet.
 16) Approximate coal seam depths: 1035'
 17) Is coal being mined in the area? Yes _____ / No
 18) Virgin reservoir pressure in target formation 1260 psig. Source Estimated
 19) Estimated reservoir fracture pressure 3500 psi _____ psig (BHFP)
 20) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour: 25 Bbl/Hr. Bottom hole pressure 2332 psi
 21) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES: Fresh/produced water treated w/bactericides and other chemicals as is necessary to maintain water quality.
 22) FILTERS (IF ANY): cartridge and/or coal bed filters
 23) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL: _____

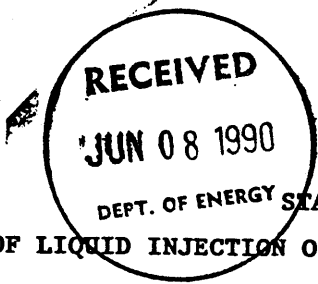
24) CASING AND TUBING PROGRAM

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	<u>8-5/8</u>	<u>H-40</u>	<u>24</u>	<input checked="" type="checkbox"/>		<u>490'</u>	<u>490'</u>	<u>Cmt to surface</u>	<u>Per 38CSR-18-11.3</u>
Coal									Sizes
Intermediate									
Production	<u>4-1/2</u>	<u>J-55</u>	<u>9.5</u>	<input checked="" type="checkbox"/>		<u>3190'</u>	<u>3190'</u>	<u>300 sks.</u>	Depths set <u>Per 38CSR-18-11.</u>
Tubing									
Liners									Perforations: Top Bottom

25) APPLICANT'S OPERATING RIGHTS were acquired from F. R. Ball
 by deed _____ / lease / other contract _____ / dated September 11, 19 1895, of record in the
Tyler County Clerk's office in Lease Book 27 at page 309

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

10786



1) Date May 29, 1990
Operator's
2) Well No. F. R. BALL NO. 20
3) SIC Code _____
4) API Well No. 47 - 095 - 1476-4
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 |
| (i) Name <u>Vernon D. & Eliz. DeLong</u> | Address _____ |
| Address <u>Alvy, W. Va. 26322</u> | 7 (ii) COAL OWNER(S) WITH DECLARATION ON RECORD: |
| <u>Ralph Hayes, Jacksonburg, WV 26377</u> | Name _____ |
| (ii) Name <u>John W.I. Jones & JoAnn & Kevin Leland</u> | Address _____ |
| Address <u>720 James Street</u> | 7 (iii) COAL LESSEE WITH DECLARATION ON RECORD: |
| <u>New Martinsville, WV 26155</u> | Name _____ |
| (iii) Name <u>Raymond V. & Norma S. Davis</u> | Address _____ |
| Address <u>General Delivery</u> | |
| <u>Alvy, W. Va. 26322</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 Timothy P. Roush
Its Supervisor, Surveying/Mapping
Telephone 304-422-6565



1) Date: May 29, 19 86
 2) Operator's Well No. F. R. Ball #20
 3) SIC Code _____
 4) API Well NO. 47 - 095 - 1139-LI
 State County Permit
 5) UIC Permit No. _____

RECEIVED
JUN 2 1986

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

DEPARTMENT OF ENERGY, OIL AND GAS DIVISION

DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY

- 6) WELL TYPE: Liquid injection / Gas injection (not storage) _____ / Waste disposal _____
- 7) LOCATION: Elevation: 1235 Watershed: _____
 District: McElroy County: Tyler Quadrangle: Centerpoint 7.5'
- 8) WELL OPERATOR Pennzoil Company 9) DESIGNATED AGENT James A. Crews
 Address P.O. Box 1588 Address P.O. Box 1588
Parkersburg, W. Va. 26102 Parkersburg, WV
- 10) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name Robert Lowther
 Address General Delivery
Middlebourne, WV 26149
- 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 3121 feet(top) to 3141 feet(bottom)
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- 18) Virgin reservoir pressure in target formation 1260 psig. Source Estimated
- 19) Estimated reservoir fracture pressure 3500 psi _____ psig (BHFP)
- 20) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour: 25 bbl/hr Bottom hole pressure 2332 psi
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	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor									Kinds
Fresh water	7	H-40	20#	X		1085	1085	cement to surface	Sizes
Coal									
Intermediate									
Production	4-1/2	J55	9.5	X		3196	3196	250 sks	Depths set
Tubing								50/50 posmix	
Liners									Perforations:
									Top Bottom

25) APPLICANT'S OPERATING RIGHTS were acquired from F. R. Ball
 by deed _____ / lease / other contract _____ / dated September 11, 1895, of record in the
Tyler County Clerk's office in Lease Book 27 at page 309

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