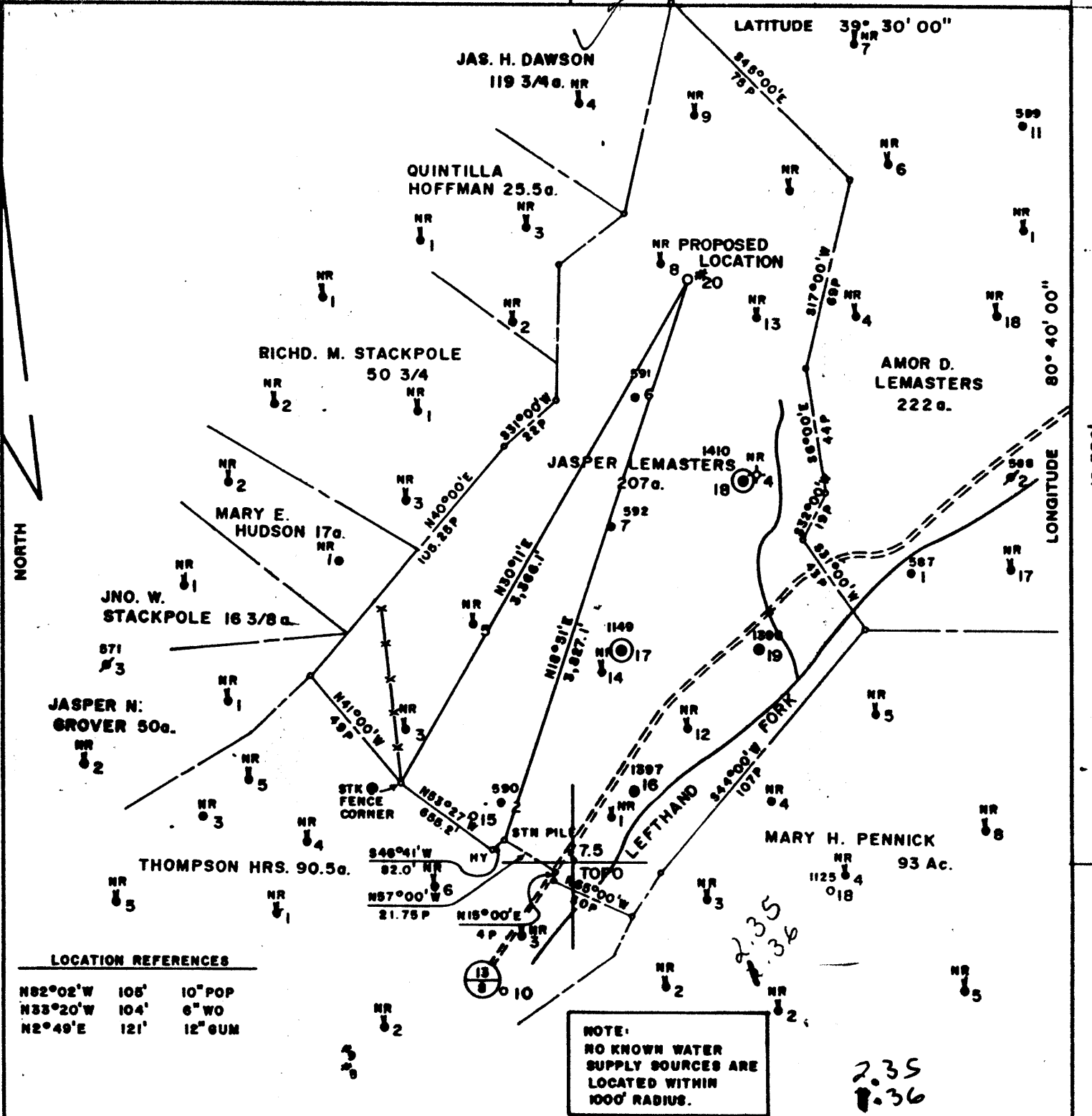


GS 7-14-92

7,250'



LOCATION REFERENCES

N82°02'W	105'	10" POP
N33°20'W	104'	6" WO
N2°49'E	121'	12" GUM

NOTE:
NO KNOWN WATER
SUPPLY SOURCES ARE
LOCATED WITHIN
1000' RADIUS.

2.35
2.36
2.35
2.36

FILE NO. 1753
 MAP N47 SQS N1/2 W4/5
 SCALE 1"=800'
 MINIMUM DEGREE OF ACCURACY 1 in 200
 PROVEN SOURCE OF ELEVATION J. LEMASTERS NO. 18 (47-095-1410) = 913'

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 PS 793



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION



DATE JULY 10 19 92
 FARM JASPER LEMASTERS NO. 20
 API WELL NO

47 - 095 - 1501-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 1,186' WATER SHED LEFTHAND FORK
 DISTRICT McELROY S COUNTY TYLER
 QUADRANGLE CENTERPOINT 7 1/2 Q15 NW
 SURFACE OWNER FRANCES & C.I. WADSWORTH ACREAGE 110
 OIL & GAS ROYALTY OWNER DON E. RIDDLE LEASE ACREAGE 207
 LEASE NO. RG 2171-00
 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 3,215'
 WELL OPERATOR PENNZOIL COMPANY DESIGNATED AGENT JAMES A CREWS
 ADDRESS P.O. BOX 5519 ADDRESS P.O. BOX 5519
VIENNA, WV 26105 8-0 Jacksonboro - VIENNA, WV 26105 Stringtown (0915)

AUG 3 1992

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

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

SEP 15 93

Permitting
Office of Oil & Gas

Well Operator's Report of Well Work

Farm name: WADSWORTH, FRANCIS & C.I.

Operator Well No.: JASPER LEMASTERS #20

LOCATION: Elevation: 1186.00 Quadrangle: CENTER POINT

District: MCELROY County: TYLER
Latitude: 12,350 Feet South of 39 Deg. 30Min. 0 Sec.
Longitude 7,250 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: MIKE UNDERWOOD
Permit Issued:
Well work Commenced: 09/03/92
Well work Completed: 05/01/93
Verbal Plugging
Permission granted on:
Rotary X Cable _____ Rig
Total Depth (feet) 3220
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

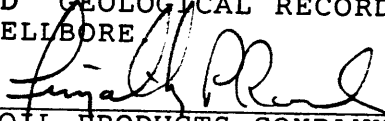
Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
8-5/8"	450.59'	450.49'	To Surface 300 sks.
4-1/2"	3173.60'	3173.60'	300 sks.

OPEN FLOW DATA (Water Injection Well)

Producing formation Gordon Pay zone depth (ft) 3056-3095
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: Timothy P. Roush, Supervisor - Surveying/Mapping
Date: September 14, 1993

Treatment:

8

Perforated: Gordon w/10 holes 3086' - 3091'

Treated: w/300 gal. 15% HCL acid, 286 bbls. gelled water, 1500# 80/100 sand and 3500# 20/40 sand.

Well Log

Sand & Shale	0 - 505
Shale	505 - 575
Sand & Shale	575 - 755
Shale	755 - 793
Limestone	793 - 890
Shale	890 - 1010
Limestone	1010 - 1020
Shale	1020 - 1062
Sand & Shale	1062 - 1210
Shale	1210 - 1414
Sand	1414 - 1480
Sand & Shale	1480 - 1620
Sand	1620 - 1675
Sand & Shale	1675 - 1815
Sand	1815 - 1884
Shale	1884 - 1988
Sand	1988 - 2150
Shale	2150 - 2210
Little Lime	2210 - 2224
Shale	2224 - 2237
Blue Monday	2237 - 2273
Big Lime	2273 - 2337
Big Injun	2337 - 2503
Shale	2503 - 3056
Gordon	3056 - 3095
T.D.	3220

DF - 411

OFT - 419



1) Date: July 13, 19 92
 2) Operator's Well No. JASPER LEMASTERS NO. 20
 3) SIC Code _____
 4) API Well NO. 47 - 095 - 1501-LI
 State County Permit
 5) UIC Permit No. _____

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

Issued 7/31/92

RECEIVED
 Office of Oil & Gas
 Permitting
 JUL 14 1992
 WV
 Environment

Expires 7/31/94

- 6) WELL TYPE: Liquid injection / Gas injection (not storage) _____ / Waste disposal _____
- 7) LOCATION: Elevation: 1186' / District: McElroy / Watershed: Lefthand Fork
 County: Tyler / 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:
 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 3068 feet(top) to 3083 feet(bottom)
- 14) Estimated depth of completed well, (or actual depth of existing well) 3215 ft.
- 15) Approximate water strata depths: Fresh, 360 feet; salt, > 360 feet.
- 16) Approximate coal seam depths: 990'
- 17) Is coal being mined in the area? Yes _____ / No /
- 18) Virgin reservoir pressure in target formation 80 psig. Source ESTIMATED
- 19) Estimated reservoir fracture pressure 3500 psig (BHFP)
- 20) MAXIMUM PROPOSED INJECTION OPERATIONS: Volume per hour: 25 Bottom hole pressure 2470
- 21) DETAILED IDENTIFICATION OF MATERIALS TO BE INJECTED, INCLUDING ADDITIVES: Fresh and produced water from Stringtown field operations with bacteriacide
- 22) FILTERS (IF ANY): _____
- 23) SPECIFICATIONS FOR CATHODIC PROTECTION AND OTHER CORROSION CONTROL: _____

24) CASING AND TUBING PROGRAM

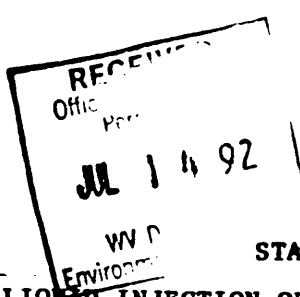
14028

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACS (Cable feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor									
Fresh water	8 5/8	LS	20	X		440'	440'	To Surface	Kinds
Coal									Sizes
Intermediate									
Production	4 1/2	M-50	10.5	X		3215'	3215'	Cement over Salt Sand	Depths set
Tubing									
Liners									Perforations

A THOROUGH AREA OF REVIEW SHALL BE CONDUCTED AND APPROVED BY THE OFFICE OF OIL & GAS PRIOR TO ANY INJECTION OPERATIONS INCLUDING AN MIT.

25) APPLICANT'S OPERATING RIGHTS were acquired from Jasper & Mary Lemaster
 by deed _____ / lease / other contract _____ / dated March 23, 1897, of record in the
Tyler County Clerk's office in Deed Book 33 at page 73

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



1) Date July 13, 1992
Operator's
2) Well No. JASPER LEMASTERS NO. 2
3) SIC Code _____
4) API Well No. 47 - 095 - 1501
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 | 7 (i) COAL OPERATOR <u>N/A</u>
Address _____ |
| (i) Name <u>Frances & C.I. Wadsworth</u>
Address <u>Alvy, WV 26322</u> | 7 (ii) COAL OWNER(S) WITH DECLARATION ON RECORD:
Name _____
Address _____ |
| (ii) Name _____
Address _____ | 7 (iii) COAL LESSEE WITH DECLARATION ON RECORD:
Name _____
Address _____ |
| (iii) 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 [Signature]
Timothy P. Roush
Its Supervisor - Surveying/Mapping
Telephone (304) 422-6565

