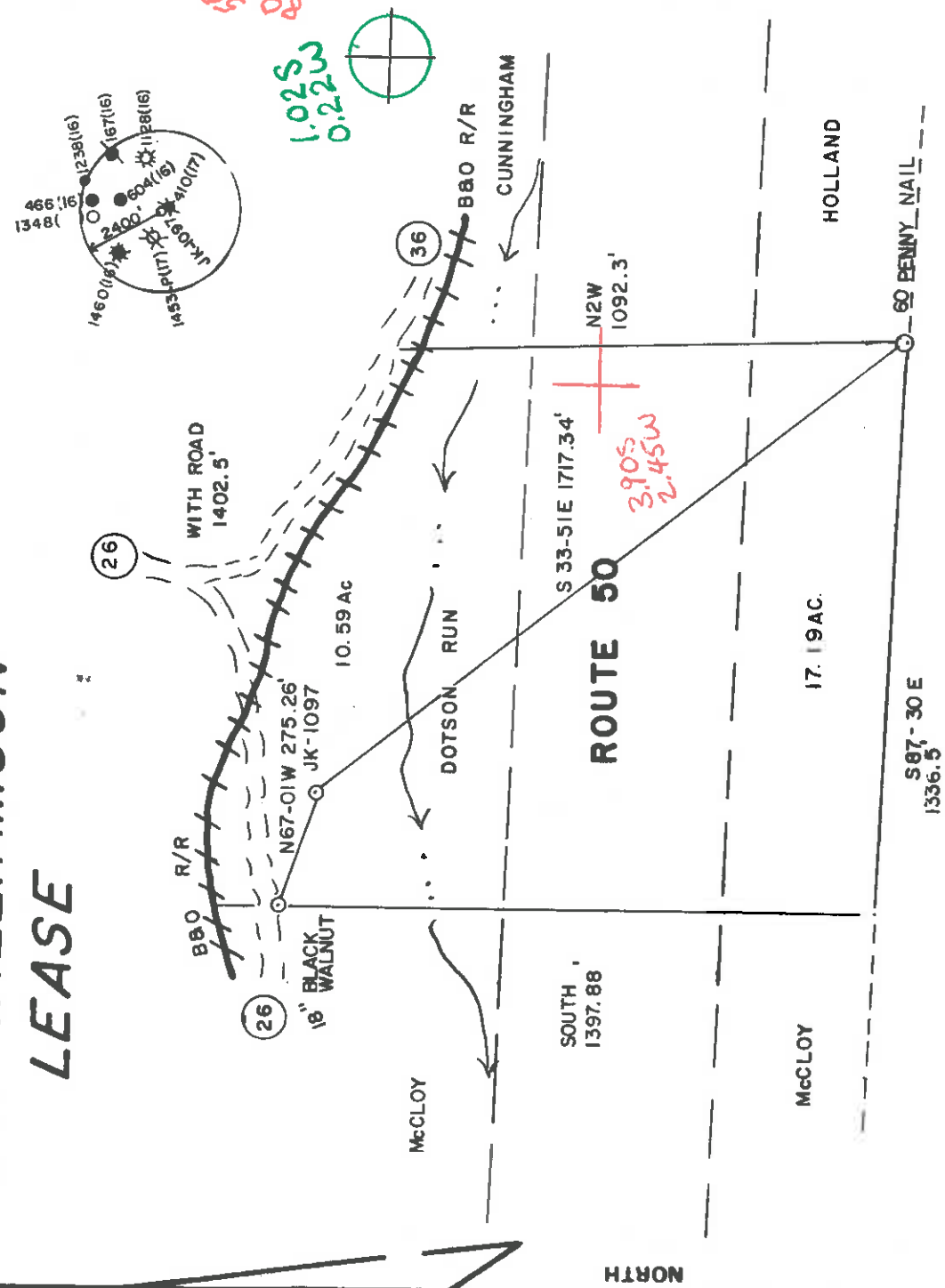


CODE  PLOT  1160'

# G. F. WILLIAMSON LEASE

LATITUDE 39-17-30

LONGITUDE 80-52-30



1.025  
0.225W

NORTH

## WELL NO. JK-1097

### 27.78 ACRES ±



#### REFERENCES

TELEPHONE POLES

NO. 1084  
 N 50-51 W 89.69'  
 JK-1097

N 87-00 W 263.29'  
 JK-1097

1" = 200'

FILE NO. 16-26  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 400'  
 MINIMUM DEGREE OF ACCURACY 1/200  
 PROVEN SOURCE OF ELEVATION BM. ELEV. = 941'

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) Gregory A. Smith  
 R.P.E. L.L.S. 677

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 FORM IV-6 (8-78)

PLACE SEAL HERE



DATE OCT 1 19 84  
 OPERATOR'S WELL NO. JK-1097  
 API WELL NO. 47-017-3388  
 STATE 47 COUNTY PERMIT

STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS") PRODUCTION  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION 880 WATER SHED DOTSON RUN  
 DISTRICT CENTRAL COUNTY DODDRIDGE

QUADRANGLE PENNSBORO 7.5 133 West Union 15' S 68  
 SURFACE OWNER FRANCES GERALD WILLIAMSON, et. al. ACREAGE 10.59  
 OIL & GAS ROYALTY OWNER HERMAN DOTSON, et. al. LEASE ACREAGE 27.78

LEASE NO. JJ-1672

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 ALEXANDER ESTIMATED DEPTH 5500'

WELL OPERATOR JBJ ENTERPRISES, INC. DESIGNATED AGENT RICHARD REDDECLIFF DEC 17 1984  
 ADDRESS P.O. BOX 48 427 ADDRESS P.O. BOX 48 BUCKHANNON, WV 26201

BUCKHANNON, WV 26201

6-6 Greenwood (89)

**RECEIVED**

MAR 13 1985

Office of West Virginia

Department of Mines

OIL & GAS DIVISION Oil and Gas Division

DEPT. OF MINES

WELL OPERATOR'S REPORT

OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

Date March 8, 1985

Operator's

Well No. JK-1097

Farm

Herman Dotson

API No. 47 - 017 - 3388

TYPE: Oil / Gas x / Liquid Injection / Waste Disposal /  
(If "Gas," Production x / Underground Storage / Deep / Shallow x /)

LOCATION: Elevation: 880 Watershed Dotson RUN

District: Central County Doddridge Quadrangle Pennsboro

PANY J&J Enterprises, Inc.

RESS P.O. Box 48, Buckhannon, WV 26201

IGNATED AGENT Richard Reddecliff

RESS P.O. Box 48, Buckhannon, WV 26201

RFACE OWNER Frances Gerald Williamson, etal

RESS Rt. # 1, Box 23, Greenwood, WV 26360

NERAL RIGHTS OWNER Same as surface

DRESS

L AND GAS INSPECTOR FOR THIS WORK Mike

Underwood ADDRESS Rt. # 2, Box 114, Salem, WV

26426

RMIT ISSUED 12/4/84

ILLING COMMENCED 1/29/85

ILLING COMPLETED 2/4/85

IF APPLICABLE: PLUGGING OF DRY HOLE ON  
CONTINUOUS PROGRESSION FROM DRILLING OR  
WORKING. VERBAL PERMISSION OBTAINED

| Casing<br>Tubing       | Used in<br>Drilling in Well | Left<br>in Well | Cement<br>fill up<br>Cu. ft. |
|------------------------|-----------------------------|-----------------|------------------------------|
| Size<br>20-16<br>Cond. |                             |                 |                              |
| 13-10"                 | 30.60                       | 0               | 0 sks.                       |
| 9 5/8                  |                             |                 |                              |
| 8 5/8                  | 1234.60                     | 1234.60         | 275 sks.                     |
| 7                      |                             |                 |                              |
| 5 1/2                  |                             |                 |                              |
| 4 1/2                  | 5184.14                     | 5184.14         | 285 sks.                     |
| 3                      |                             |                 |                              |
| 2                      |                             |                 |                              |
| Liners<br>used         |                             |                 |                              |

GEOLOGICAL TARGET FORMATION Alexander

Depth 5019 -5051 feet

Depth of completed well 5379 feet Rotary 0 / Cable Tools

Water strata depth: Fresh 18,70,1010feet; Salt 0 feet

Coal seam depths: None Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Alexander

Pay zone depth 5019-51 feet

Gas: Initial open flow Mcf/d Oil: Initial open flow Pbl/d

Final open flow 395 Mcf/d Final open flow Bbl/d

Time of open flow between initial and final tests hours

Static rock pressure 1500 psig(surface measurement) after hours shut in

(If applicable due to multiple completion--)

Second producing formation Benson & Riley Pay zone depth feet

Gas: Initial open flow Mcf/d Oil: Initial open flow Pbl/d

Final open flow Mcf/d Oil: Final open flow Bbl/d

Time of open flow between initial and final tests hours

Static rock pressure psig(surface measurement) after hours shut in

MAR 25 1985 (Continue on reverse side)

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

Riley: Perforations: 4341-45 (12 holes) 4354-55 (4 holes)  
 Fracturing: 350 sks. 20/40 sand: 500 gal. acid: Foam frac.  
 Benson: Perforations: 4736-38 ( 8 holes)  
 Fracturing: 400 sks. 20/40 sand:500 gal. acid: Foam frac.  
 Alexander: Perforations: 5019-23 (6 holes) 5031-34 (6 holes) 5049-51 ( 4 holes)  
 Fracturing: 400 sks. 20/40 sand: Foam frac.

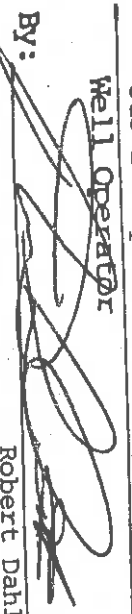
BOTTOM HOLE PRESSURE Pf=PweXGLS  $\frac{1}{1}$   
 t=60 + (0.0075 x 5184) + 459.7 = 559 X=53.35 x 559=29823 =0.000034 Pf=1500 x 2.72 (0.000034)  
 (0.698) (4696) (0.9) =1500 x 2.72<sup>0.1</sup> = 1500 x 1.1  
 Pf= 1650 psi

WELL LOG

| FORMATION              | COLOR | HAPP OR SOFT | TOP FEET | BOTTOM FEET | REMARKS                  |
|------------------------|-------|--------------|----------|-------------|--------------------------|
| Top Soil & Sand        |       |              | 0        | 12          | 1 1/2" stream @ 18'      |
| Red rock & sand        |       |              | 12       | 145         |                          |
| Sandy shale & sand     |       |              | 145      | 640         | 1" stream @ 70'          |
| Red rock & sandy shale |       |              | 640      | 900         |                          |
| Sandy shale & sand     |       |              | 900      | 1735        | 2" stream @ 1010'        |
| Little lime            |       |              | 1735     | 1745        |                          |
| Shale                  |       |              | 1745     | 1765        | Gas ck @ 1978 No show    |
| Big lime               |       |              | 1765     | 1825        |                          |
| Sand & sandy shale     |       |              | 1825     | 2290        | Gas ck @ 3279 No show    |
| Sandy shale            |       |              | 2290     | 2860        |                          |
| Sandy shale            |       |              | 2860     | 3310        | Gas ck @ 4450 No show    |
| Sandy shale            |       |              | 3310     | 4341        |                          |
| Riley                  |       |              | 4341     | 4355        | Gas ck @ collars No show |
| Sand & shale           |       |              | 4355     | 4736        |                          |
| Benson                 |       |              | 4736     | 4738        |                          |
| Sand & shale           |       |              | 4738     | 5019        |                          |
| Alexander              |       |              | 5019     | 5051        |                          |
| Sand & shale           |       |              | 5051     | 5379        |                          |

T.D.

(Attach separate sheets as necessary)

J&J Enterprises, Inc.  
 Well Operator  
 BY:   
 Robert Dahlin-Geologist  
 Date: 3/8/85

Note: Regulation 2.02(i) provides as follows:  
 "The term 'log' or 'well log' shall mean a systematic  
 detailed geological record of all formations, including  
 sand, encountered in the drilling of wells."



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES, OIL AND GAS DIVISION  
APPLICATION FOR A WELL WORK PERMIT

4) WELL TYPE: A Oil  Gas   
 B (If "Gas", Production  Underground storage  Deep  Shallow   
 5) LOCATION: Elevation: 880 Watershed: Dotson Run  
 District: Central County: Doddridge Quadrangle: Pennsboro 7.5  
 6) WELL OPERATOR J & J Enterprises, Inc. 7) DESIGNATED AGENT Richard Reddecliff  
 Address P.O. Box 48 Address P.O. Box 48  
Buckhannon, WV 26201  
 8) OIL & GAS INSPECTOR TO BE NOTIFIED  
 Name Mike Underwood  
 Address Rt. 2 Box 114  
Salem, WV 26426

10) PROPOSED WELL WORK: Drill  deeper  Redrill   
 Plug off old formation,  Perforate new formation,   
 Other physical change in well (specify) Alexander

11) GEOLOGICAL TARGET FORMATION, Alexander  
 12) Estimated depth of completed well, 5500' feet  
 13) Approximate true depths: Fresh, 125' feet; salt, N/A feet.  
 14) Approximate coal seam depths: N/A Is coal being mined in the area? Yes  No

15) CASING AND TUBING PROGRAM

| CASING OR TUBING TYPE | SPECIFICATIONS |       | New  | Used | FOOTAGE INTERVALS |              | Kinds                        |
|-----------------------|----------------|-------|------|------|-------------------|--------------|------------------------------|
|                       | Size           | Grade |      |      | Weight per ft.    | For drilling |                              |
| Conductor             | 1 3/4          | H-40  | 42   | X    | 30                | 0            | 0 sacks                      |
| Fresh water           | 8 5/8          | ERW   | 23   | X    | 980               | 980          | To surface                   |
| Coal                  | 8 5/8          | ERW   | 23   | X    | 980               | 980          | To surface                   |
| Intermediate          |                |       |      |      |                   |              |                              |
| Production Tubing     | 4 1/2          | J-55  | 10.5 | X    | 5500              | 5450         | 300 sacks                    |
| Liners                |                |       |      |      |                   |              | or as required by rule 15-01 |

Performance: \_\_\_\_\_  
 Top \_\_\_\_\_  
 Bottom \_\_\_\_\_

RECEIVED  
NOV - 7 1984

OFFICE USE ONLY  
DRILLING PERMIT

Permit number 47-017-3388 Date December 4, 19 84

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 reclamation plan, subject to any modifications and conditions specified on the reverse hereof.  
 Permit expires December 4, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

|       |        |       |        |      |
|-------|--------|-------|--------|------|
| Bond: | Agent: | Plat: | Casing | Fee  |
| 92    | TS     | MU    | TS     | 1850 |

*Margaret J. Haan*  
 Administrator, Office of Oil and Gas

NOTE: Keep one copy of this permit posted at the drilling location.  
 See the reverse side of the APPLICANT'S COPY for instructions to the well operator. File

