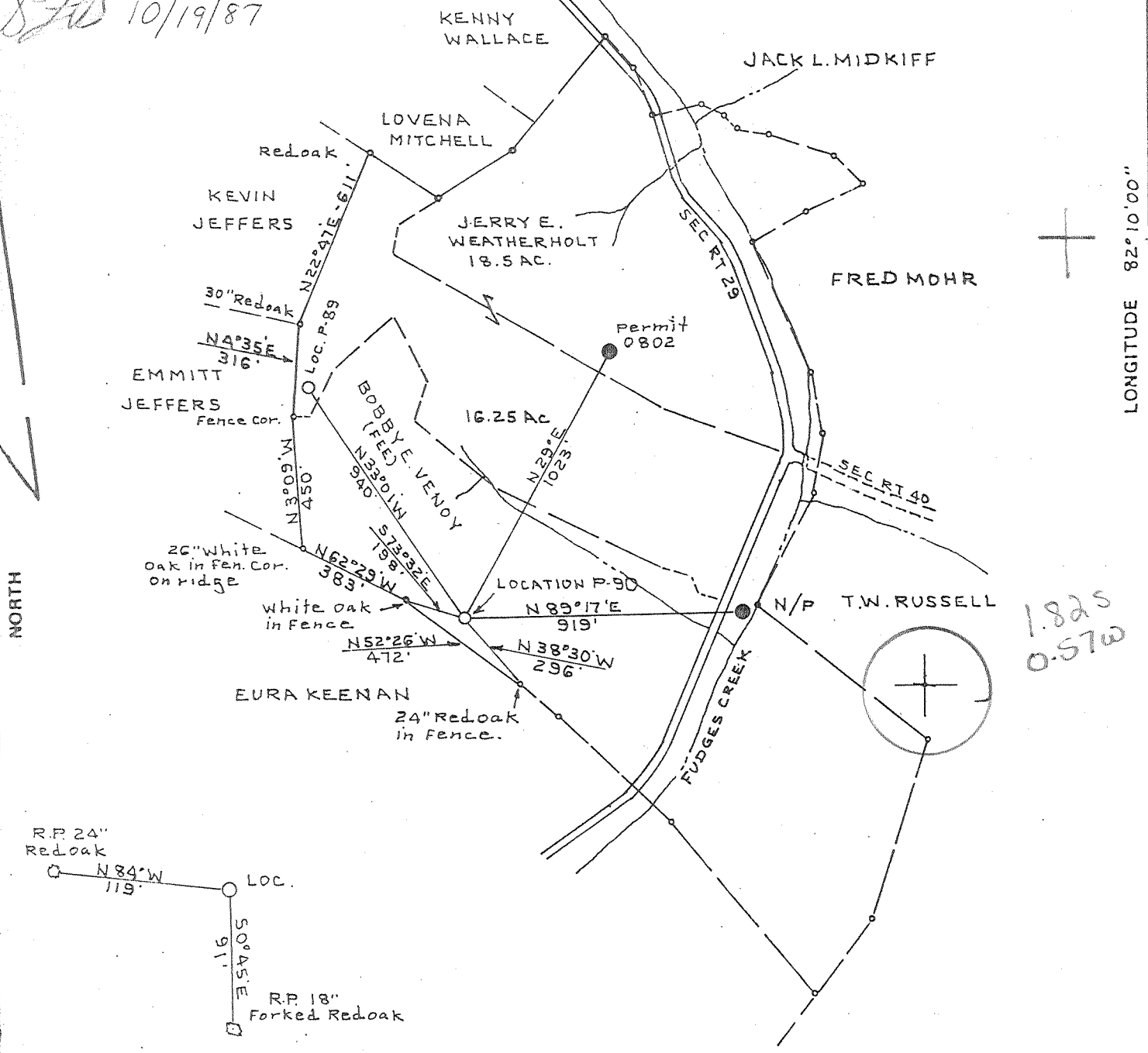


8340 10/19/87

LATITUDE 38°25'00"

3050



LONGITUDE 82°10'00"

9700

FILE NO. BK 102 P 22
 DRAWING NO. _____
 SCALE 1"=500'
 MINIMUM DEGREE OF ACCURACY 1:200'
 PROVEN SOURCE OF ELEVATION USGS BM-149JJ5
E1. 676

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) C. S. Valley Jr.
 R.P.E. LLS 92

PLACE SEAL HERE

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



DATE NOV 24, 19 86
 OPERATOR'S WELL NO. P-90
 API WELL NO. 47-011-0821
 STATE 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 897.15 WATER SHED FUDGES CREEK
 DISTRICT GRANT 3 COUNTY CABELL
 QUADRANGLE MILTON 476 081 WC4 +15'
 SURFACE OWNER BOBBY E. VENOY ACREAGE 19.693
 OIL & GAS ROYALTY OWNER BOBBY E. VENOY LEASE ACREAGE 80
 LEASE NO. LWC-20

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 BEREA ESTIMATED DEPTH 2550'
 WELL OPERATOR SOUTHEASTERN GAS CO DESIGNATED AGENT FRED RADFORD
 ADDRESS PO BOX 2347 ADDRESS PO BOX 2347
CHARLESTON WY 25329 921 CHARLESTON WVA 25328

NOV 2 1987

H. T. HALL

6-6 Merritt Creek - Salt Rock (206)

WR-35

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FEB 19 1988

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY



State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

Date 2-18-88
Operator's
Well No. P-90
Farm Wetherholt-Venoy
API No. 47-011-0821

WELL OPERATOR'S REPORT
OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 897.15 Watershed Fudges Creek
District: Grant County Cabell Quadrangle Milton 7.5'

COMPANY Southeastern Gas Company
ADDRESS Charleston, WV
DESIGNATED AGENT Fred A. Radford
ADDRESS Charleston, WV
SURFACE OWNER Bobby E. Venoy
ADDRESS Rt. 2, Milton, WV 25541
MINERAL RIGHTS OWNER L.B. Wetherholt, Etal
ADDRESS Rt. 2, Milton, WV 25541
OIL AND GAS INSPECTOR FOR THIS WORK
J. Tephabock ADDRESS Rt. 1, Ripley, WV
PERMIT ISSUED 10-27-87
DRILLING COMMENCED 11-21-87
DRILLING COMPLETED 12-8-87
IF APPLICABLE: PLUGGING OF DRY HOLE ON
CONTINUOUS PROGRESSION FROM DRILLING OR
REWORKING. VERBAL PERMISSION OBTAINED
CN

| Casing & Tubing | Used in Drilling | Left in Well | Cement fill up Cu. ft. |
|-----------------|------------------|--------------|------------------------|
| Size | | | |
| 20-16 Cond. | | | |
| 13-10" | | | |
| 9 5/8 | 902' | 902' | 300 sks |
| 8 5/8 | | | |
| 7 | 1793' | 1793' | 165 sks |
| 5 1/2 | | | |
| 4 1/2 | 2613' | 2613' | 80 sks |
| 3 | | | |
| 2 | | | |
| Liners used | | | |

GEOLOGICAL TARGET FORMATION Berea Depth 2650 feet
Depth of completed well 2616 feet Rotary X / Cable Tools
Water strata depth: Fresh 280 feet; Salt 1640 feet
Coal seam depths: 600' Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Berea Pay zone depth 2530 feet
Gas: Initial open flow 14.5 Mcf/d Oil: Initial open flow 22 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 420 psig (surface measurement) after 72 hours shut in
(If applicable due to multiple completion--)
Second producing formation Pay zone depth feet
Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/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

(Continue on reverse side)

FEB 22 1988

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

Perforated Berea from 2531' to 2541' (11 holes). Broke formation down with 500 gallons acid and N² at 2800 psig. Fractured with 75 quality foam, average injection rate 5.9 BPM (fluid), Average treating pressure 1,893 psig. I.S.I.P = 1500 psig, 15 minutes 1500 psig. Total sand 40,000#. Total load and treatment - 278 Bbls.

WELL LOG

| FORMATION | COLOR | HARD OR SOFT | TOP FEET | BOTTOM FEET | REMARKS |
|---------------------------|-------|--------------|----------|--------------|---|
| | | | | | Including indication of all fresh and salt water, coal, oil and gas |
| Sand | | | 0' | 270' | |
| Shale | | | 270' | 320' | Freshwater 280' |
| Sand | | | 320' | 345' | |
| Shale | | | 345' | 380' | |
| Sand | | | 380' | 430' | |
| Shale | | | 430' | 460' | |
| Red Rock | | | 460' | 490' | |
| Sand | | | 490' | 530' | |
| Red Rock | | | 530' | 540' | |
| Sand | | | 540' | 560' | |
| Red Rock | | | 560' | 620' | |
| Shale | | | 620' | 690' | |
| Red Rock | | | 690' | 750' | |
| Shale | | | 750' | 800' | |
| Sand | | | 800' | 865' | |
| Shale | | | 865' | 927' | |
| Sand | | | 927' | 1175' | |
| Shale | | | 1175' | 1220' | |
| Sand | | | 1220' | 1231' | Freshwater 1231' |
| Slate & Sand | | | 1231' | 1330' | |
| Salt Sand | | | 1330' | 1655' | Saltwater 1640' |
| Shale | | | 1655' | 1734' | |
| Big Lime | | | 1234' | 1940' | |
| Injun Sand | | | 1940' | 2080' | |
| Sand & Shale | | | 2080' | 2530' | |
| Berea Sand | | | 2530' | 2546' | Show Oil 2540' |
| Shale | | | 2546' | 2616' | |
| | | | | T.D. 2616' | |
| <u>Electric Log Tops:</u> | | | | | |
| Big Lime | | | 1740' | 1938' | |
| Injun Sand | | | 1938' | 2072' | |
| Pocono Shale | | | 2072' | 2484' | |
| Coffee (Sunbury) Shale | | | 2484' | 2530' | |
| Berea Sand | | | 2530' | 2543' | |
| Devonian Shale | | | 2543' | 2621' | Show Oil 2530'-2540' |
| | | | | L.T.D. 2621' | |

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FEB 19 1988

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

Southeastern Gas Company
Well Operator
By: W. A. Rufford, Vice President
Date: February 18, 1988

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 coal, encountered in the drilling of a well."

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1) Date: Oct. 9, 19 87
 2) Operator's Well No. P-90
 3) API Well No. 47 - 011 - 0821
 State County Permit

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

- 4) WELL TYPE: A Oil X / Gas X /
 B (If "Gas", Production / Underground storage / Deep / Shallow X)
 5) LOCATION: Elevation: 897.15 Watershed: Fudges Creek
 District: Grant 821 3 County: Cabell 011 Quadrangle: Milton 7.5' 476
 6) WELL OPERATOR Southeastern GasODE: 46400 7) DESIGNATED AGENT Fred A. Radford
 Address P O Box 2347 Address P O Box 2347
Charleston, WV 25328 Charleston, WV 25328
 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Jerry Tephabock Name Unknown
 Address Rt. 1, Box 101-4 Address
Ripley, WV 25271
 10) PROPOSED WELL WORK: Drill X / Drill deeper / Redrill / Stimulate X
 Plug off old formation / Perforate new formation
 Other physical change in well (specify)
 11) GEOLOGICAL TARGET FORMATION, Berea Sandstone
 12) Estimated depth of completed well, 2650' feet
 13) Approximate trata depths: Fresh, 352'; 870' feet; salt 2015, 1450, 1715 feet.
 14) Approximate coal seam depths: 131 640' Is coal being mined in the area? Yes / No X

15) CASING AND TUBING PROGRAM From Cab 19, 256, 343, 802

| CASING OR TUBING TYPE | SPECIFICATIONS | | | | FOOTAGE INTERVALS | | CEMENT FILL-UP OR SACKS (Cubic feet) | PACKERS |
|-----------------------|----------------|-------|----------------|-----|-------------------|--------------|--------------------------------------|-------------------------------------|
| | Size | Grade | Weight per ft. | New | Used | For drilling | | |
| Conductor | 13-3/8 | N/A | 48# | | X | 20' | 20' | To Surface |
| Fresh water | 9-5/8 | N/A | 36# | | X | 900' | 900' | To Surface by <u>38CSR18-11.3</u> |
| Coal | | | | | | | | Sizes |
| Intermediate | 7" | N/A | 23# | | X | 1800' | 1800' | Fillup 1000' by <u>38CSR18-11.1</u> |
| Production | 4-1/2" | J-55 | 10.5 | X | | 2650' | 2650' | Fillup 900' or/ |
| Tubing | 2-3/8 | N/A | 4.6 | X | | 2650' | 2650' | by <u>38CSR18-11.1</u> |
| Liners | | | | | | | | Perforations: |
| | | | | | | | | Top Bottom |

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-011-0821

October 27 19 87
 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 reclamation plan, subject to any modifications and conditions specified on the reverse hereof.
 Permit expires October 27, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

| | | | | | | | |
|------|-------|------|--------|-------------|-------|-----|-------|
| Bond | Agent | Plat | Casing | Fee | WPCCP | S&E | Other |
| | | | | <u>234</u> | | | |
| | | | | <u>3536</u> | | | |

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

John H. Hunter by Margaret J. House
 Director, Division of Oil and Gas

File

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