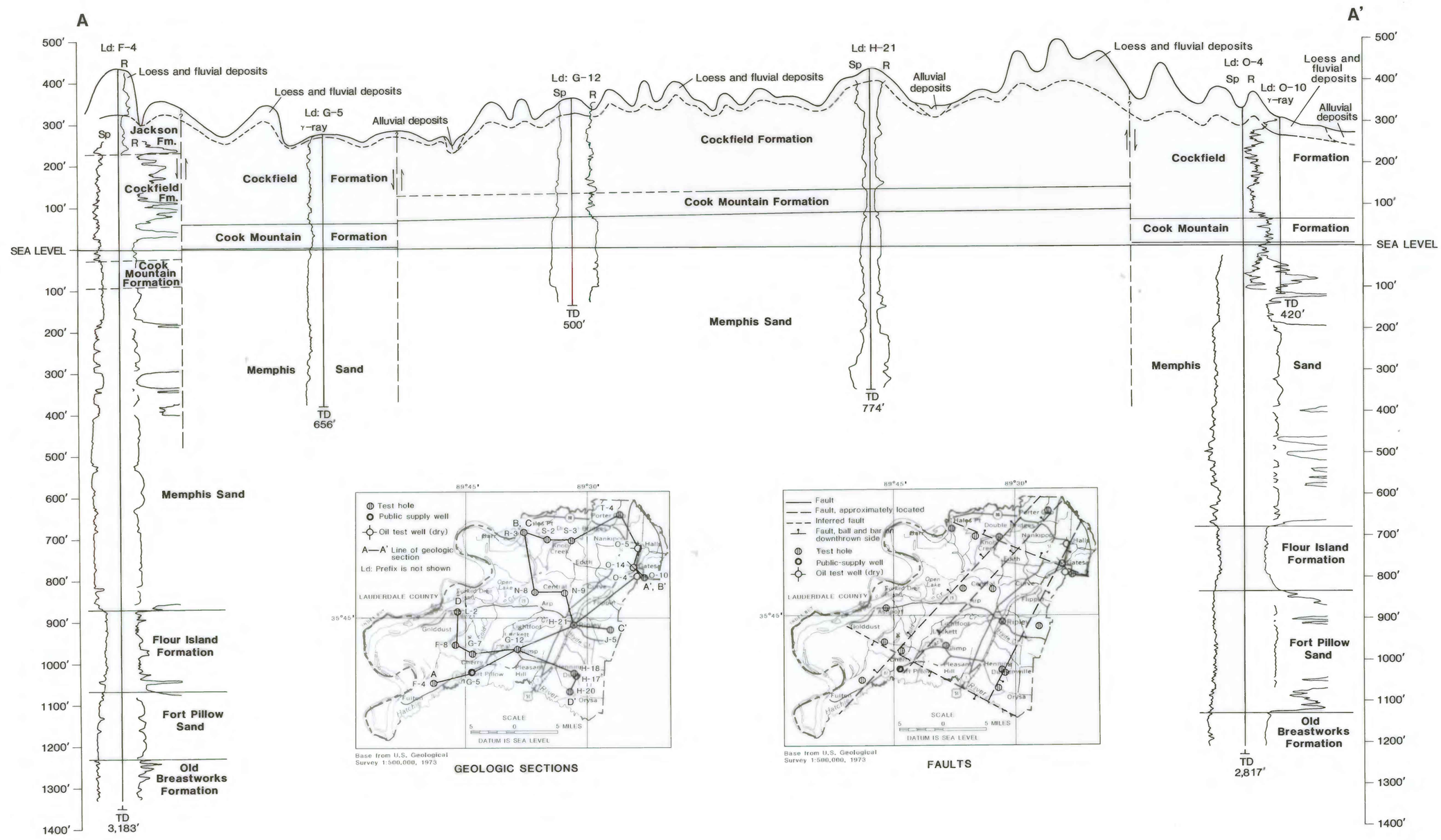


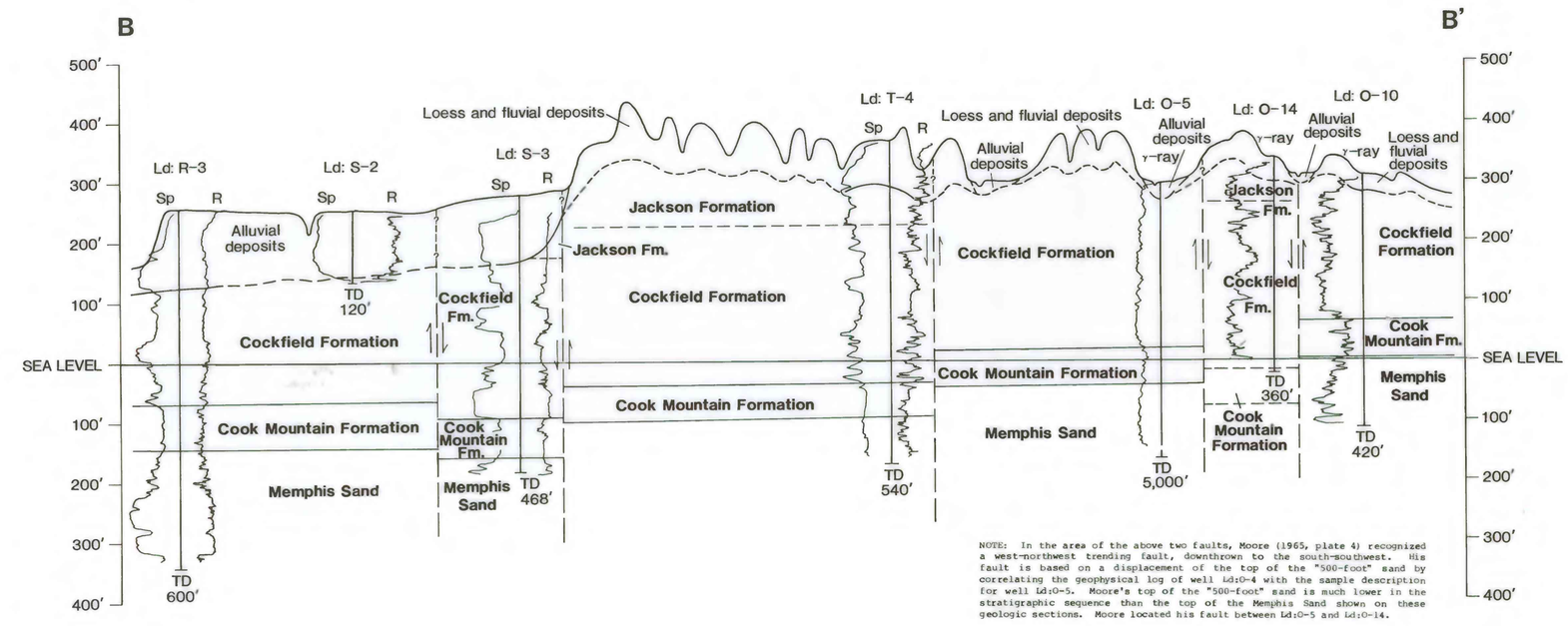


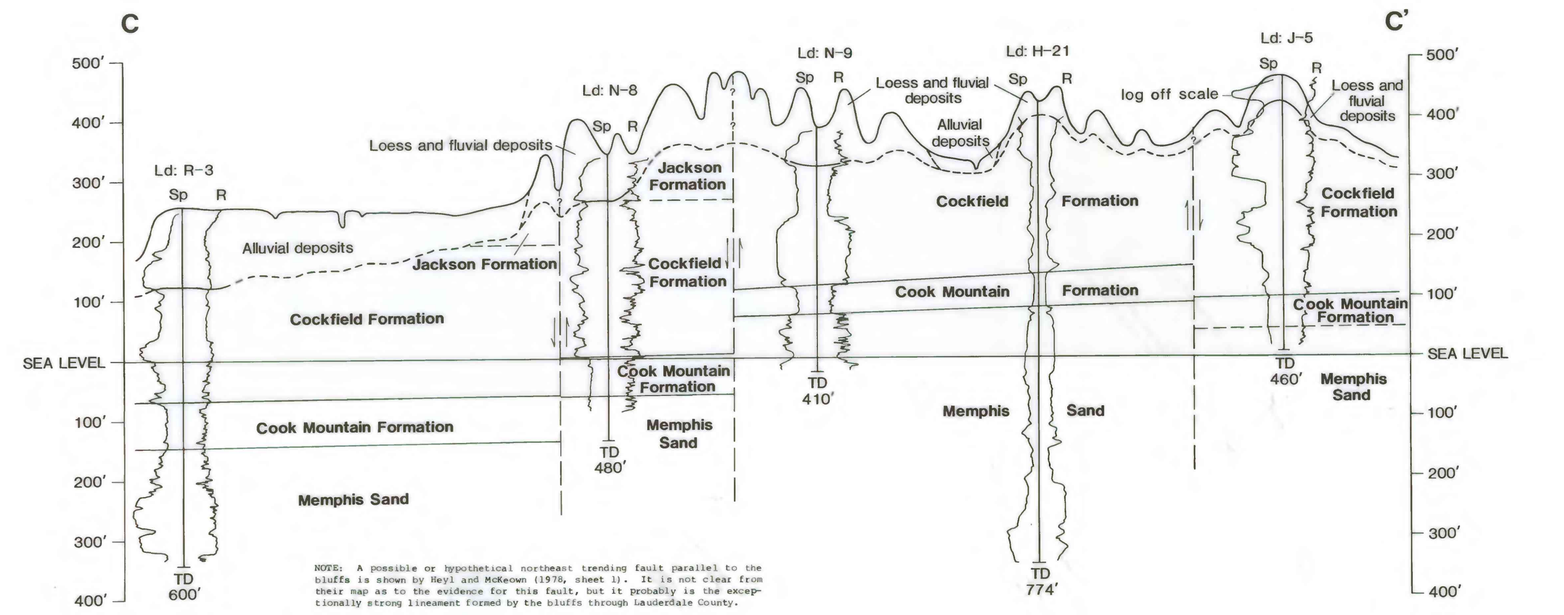


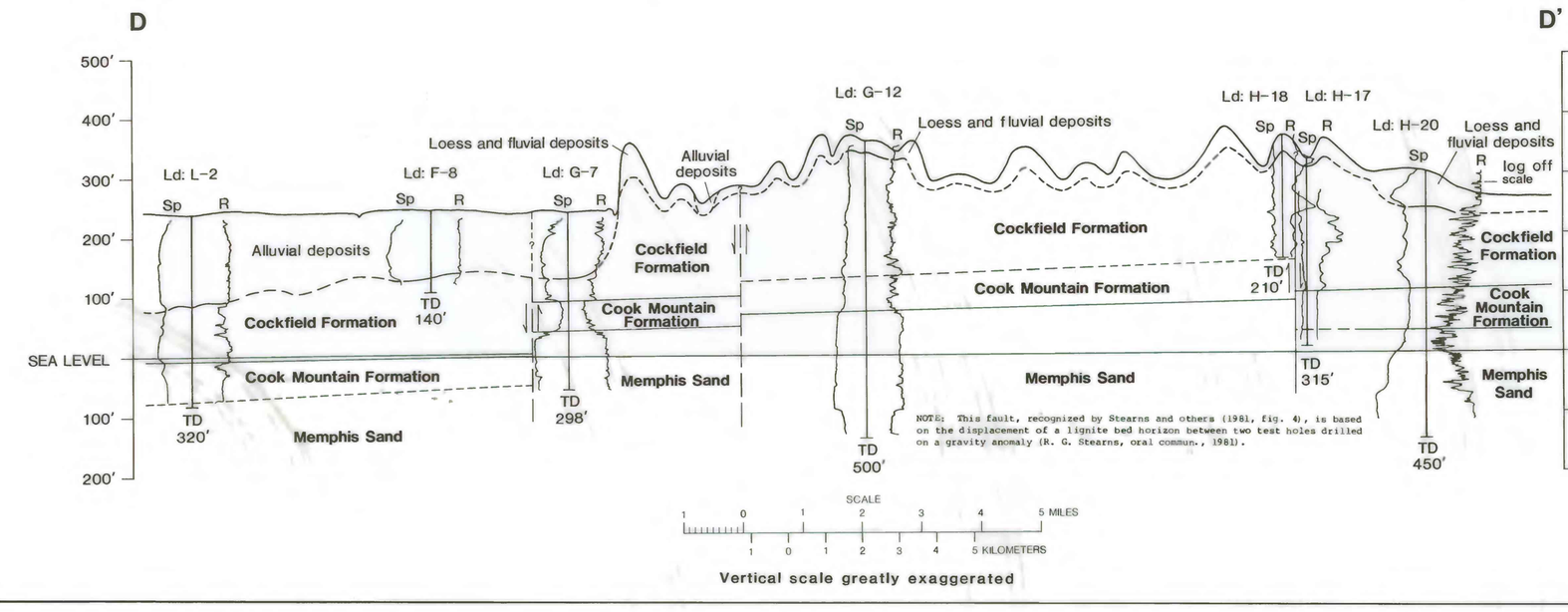


## EXPLANATION

### GEOLOGIC UNITS

| | | | |
|---|---|---|---|
| Alluvial deposits | | Holocene and Pleistocene | QUATERNARY |
| Loess | | Pleistocene | |
| Fluvial deposits | | Pleistocene and Pliocene(?) | QUATERNARY AND TERTIARY(?) |
| Jackson Formation | | | TERTIARY |
| Cockfield Formation | Claiborne Group | Eocene | |
| Cook Mountain Formation | | | |
| Memphis Sand | | | |
| Flour Island Formation | Wilcox Group | Eocene and Paleocene | |
| Fort Pillow Sand | | | |
| Old Breastworks Formation | | | |

### SYMBOLS USED ON GEOLOGIC SECTIONS

Known contact-- Identified by geophysical log interpretation and driller's log or sample description

Approximate contact-- Based solely on geophysical log interpretation

Inferred contact-- No data to establish but must be present

Known fault-- Existence established and location in subsurface known within a short distance. Arrows show direction of displacement.

Approximate fault-- Existence established by geophysical log correlation, but only approximately located. Arrows show direction of displacement.

Probable fault-- Existence uncertain, location depends on that of the parent fault.

γ-ray -- Gamma-ray log; radioactivity increases →

Sp -- Spontaneous-potential log

R -- Resistivity or resistance log

TD 450' -- Total depth of test hole or well in feet.

NOTE: The identification of the geologic units on these sections is based on stratigraphic information given by Moore and Brown (1969) with modification or refinement of some contacts. The existence of faults and their locations are based on correlations and interpretations of geophysical logs supplemented by structural information given by Heyl and McKeown (1978), Hildenbrand and others (1982), Moore (1965), and Stearns and others (1981). Identification of these faults also is based on the assumption that the Cook Mountain Formation is correctly identified on these logs. The faults, as shown on the location map, are oriented so that the direction and amount of displacement are in agreement with a reasonable areal pattern. The faults and their displacement as related to the altitude of the base of the Cockfield Formation (top of the Cook Mountain) is shown in figure 5. The faults displace near surface Tertiary geologic units (Jackson, Cockfield, Cook Mountain, and upper part of the Memphis Sand), but it is not known if they displace the older Tertiary units or the younger Quaternary and Tertiary (?) surficial deposits.

### WELLS FOR WHICH GEOPHYSICAL LOGS WERE USED ON GEOLOGIC SECTIONS

| Well number | Driller or company | Property owner |
|---|---|---|
| Ld:F-4 | Robert W. Ratliff | Fort Pillow State Historic Area |
| F-8 | Wilson, Inc. | Hobson M. Wakefield |
| G-5 | Layne-Central Co. | Fort Pillow State Prison Farm |
| G-7 | Phillips Coal Co. | Fort Pillow State Prison Farm |
| G-12 | Wilson, Inc. | James F. Hopper |
| H-17 | Wilson, Inc. | C. S. Carney No. 1 |
| H-18 | Wilson, Inc. | C. S. Carney No. 2 |
| H-20 | Parker & Jackson | Milton B. Rice |
| H-21 | Layne-Central Co. | City of Ripley No. 5 |
| J-5 | Parker & Jackson | Charles W. Guthrie |
| L-2 | Wilson, Inc. | Clifford R. Sweat |
| N-8 | Parker & Jackson | Don Holcomb |
| N-9 | Parker & Jackson | Mrs. Jane Hathcock |
| O-4 | Raymond Geer | T. A. Lee No. 1 |
| O-5 | Pure Oil Co. | R. E. Craddock No. 1 |
| O-10 | Parker & Jackson | Bernard Lewis |
| O-14 | Wilson, Inc. | City of Gates |
| R-3 | Parker & Jackson | Charles O. Viar |
| S-2 | Wilson, Inc. | Leon Meadows and Roger Meadows |
| S-3 | Wilson, Inc. | Fletcher Gin Co. |
| T-4 | Parker & Jackson | Raymond L. Kelly |

# GEOLOGIC SECTIONS, NORTH-SOUTH AND EAST-WEST, THROUGH LAUDERDALE COUNTY, TENNESSEE.

William S. Parks
1984