UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
TEXAS BOARD OF WATER ENGINEERS

WATER-SUPPLY PAPER 1481 PLATE 4

GEOLOGIC MAP OF THE WINTER GARDEN DISTRICT, TEXAS

EXPLANATION

Alluvium (Pleistocene and Recent; Quaternary)
Alluvial silt, sand, and gravel. Yields small supplies to domestic and stock wells and moderate supplies to irrigation wells in the Leona and Nueces River valleys

Cook Mountain formation — Tcm (Eocene; Claiborne group; Tertiary)
Sandstone interbedded with clay and limestone. Yields small supplies in southeastern Zavala County

Mount Selman formation — Tmu; Tmb (Eocene; Claiborne group; Tertiary)
Clay with sandstone and limestone. Upper part (post-Bigford beds, as used by Lonsdale and Day, 1937), Tmu; Bigford member, Tmb. Bigford yields small supplies of good water in part of northern Zavala County. Elsewhere in district formation yields highly mineralized water

Carrizo sand — Tc (Eocene; Claiborne group; Tertiary)
Sand with clay and sandstone. Yields moderate to large quantities of potable water. Principal aquifer in Winter Garden district

Indio formation — Twi (Eocene; Wilcox group; Tertiary)
Gypsiferous clay with sandstone. Yields small supplies of water with variable chemical quality in outcrop. Elsewhere water is highly mineralized

Kincaid formation — Tk (Paleocene; Midway group; Tertiary)
Shale with sandstone and limestone. Yields no water to wells in this district

Escondido formation — Kes (Gulf; Navarro group; Cretaceous)
Shale and sandstone. Yields no water to wells in this district

Olmos formation — Ko (Gulf; Navarro group; Cretaceous)
Shale, sandy shale, coal, and sandstone. Yields no water to wells in this district

San Miguel formation — Ksm (Gulf; Cretaceous)
Sand, sandy limestone, clay, and shale. Yields no water to wells in this district

Contact
Dashed where approximately located

Fault (D, downthrown side; U, upthrown side)
Dashed where approximately located

Adapted from geologic map of Texas, U. S. Geological Survey, 1937, and geologic maps by Trowbridge (1923) and Deussen (1924)

Outcrop of the Carrizo sand mapped by A. N. Sayre and S. F. Turner; alluvium in the vicinity of Batesville mapped by W. O. George

5 0 5 10 Miles

508883 O - 60 (In pocket) No. 4