

Prairie Valley School Quadrangle, Montague County, Texas

(1:24,000)

QUATERNARY

Qal—Alluvium. Unconsolidated sand, silt, clay, and gravel along minor ephemeral streams and drainages. Inset into compositionally similar but older Red River alluvial terrace and eolian deposits in places, particularly near the Red River. Distinguished from older deposits by lesser degree of soil formation. Includes some local outcrops of Nocona Formation sandstone or mudstone. Deposits are generally less than a few feet thick and are confined to a zone within a few tens of feet of the drainages.

Qal-rr—Red River alluvium. Sand, gravel, silt, and clay deposited in broad channel and floodplain environments of the modern Red River. Includes vegetated and unvegetated deposits and the actively migrating Red River. Found at the lowest elevations within the Red River valley (generally 730 to 770 ft above sea level). Deposits generally less than 20 ft thick within a topographic low that is as much as 1 mi across. May include local outcrops of Nocona Formation.

Qds—Vegetated and stabilized dunes. Unconsolidated sand and silt deposited in dunes on Qt1 at its boundary with Qal-rr. Dunes have been stabilized by vegetation and form low rolling hills 10 to 20 ft high.

Qt1—Intermediate Red River terrace alluvium. Sand, silt, clay, and gravel deposited in channel and floodplain environments by ancestral Red River. Broad, well-preserved terrace as much as 2 mi wide and about 40 ft above modern floodplain at elevations of 785 to 800 ft above sea level. Deposits as much as 50 ft thick; channel gravel and sand common in lower part, overbank silt and clay common in upper part. May be blanketed in places by veneer of windblown sand and silt.

Qt2u—Undivided high Red River terrace alluvium and eolian deposits.

Unconsolidated sand, silt, gravel, and clay deposited in channel and floodplain environments by ancestral Red River at elevations more than 800 ft above sea level. Unit includes underlying gravel lag and overlying eolian sand and silt sheet. Terrace shape modified by later drainage development and eolian activity. Above 830 ft, unit consists of thin, basal gravel lag and overlying eolian sand and silt. Unit ranges from less than 1 ft to several feet thick, generally thickening toward the river. Includes some local outcrops of Nocona Formation.

PERMIAN

Pn—Nocona Formation. Undivided sandstone, mudstone, siltstone, and conglomerate.

Sandstones and conglomerates in broad channel-fill bodies, tan to dark reddish brown, fine grained to very coarse grained, thin to thick bedded. Soft-sediment deformation typical in thicker beds, large-scale crossbeds common. Friable to moderately well cemented with silica, limonite, and hematite. Chert-pebble conglomerate mostly near base of thicker sandstone units. Thickness of individual sandstone members 5 to 40 ft. Mudstone, reddish-brown, yellowish-brown, locally gray and olive, unstratified and thick-bedded, calcareous nodules and ferruginous concretions locally common; sandstone and siltstone in lentils and platy thin beds throughout, laminated, cross-laminated, crossbedded. Total thickness of Nocona Formation 330 to 350 ft (McGowen and others, 1991).

MAP SYMBOL

- d Area disturbed by oil-field-related activity, including excavations, saltwater discharge pits, and barren areas caused by near-surface salinization.