Windblown Sand Deposits
Riga Quadrangle, North Dakota

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UNIT DESCRIPTIONS

QUATERNARY SYSTEM

HOLOCENE

DUNE FORMATION

Gray-brown, quartzose, well sorted, medium to very-fine grained, windblown sand accumulated in high-relief dunes with relief ranging from 19 to 88 feet (5.8 to 26.8 m).

Quaternary Geology Undifferentiated

Surface Trust Land

Denbigh Experimental National Forest

TOPOGRAPHIC ELEVATIONS* ON HIGH-RELIEF DUNES

*Spot elevations determined from within the LiDAR elevation surface layer.

Deposits of windblown sand occurring within the Riga Quadrangle are depicted on this map at a scale of 1:24,000. Windblown sand in this quadrangle is found in high-relief dune fields where the overall dune heights are generally greater than 10 feet (3 m) and the maximum relief on dunes is greater than 19 feet (5.8 m). These high-relief dunes are common. These dunes are currently vegetation stabilized with low-relief dunes. Relief commonly from zero to ten feet (0 to 3 m) with maximum relief ranging from 19 to 88 feet (5.8 to 26.8 m). The remaining 60.7% of the quadrangle is covered dominantly with undulating sheet sands with occasional isolated dunes. Many windblown sand deposits are common. Dunes are oriented parallel to the prevailing northwesterly winds and are currently vegetation stabilized with blowouts common. These dunes are currently inactive. Undifferentiated Quaternary glacial deposits are found in the northeastern portion of the quadrangle. These windblown sands are sourced from within the former Glacial Lake Souris lake plain and as such are difficult to distinguish mineralogically from underlying glacial till or glaciolacustrine sands. Sand mineralogy consists dominantly of quartz with lesser amounts of feldspar (microcline and albite) with minor amounts of clays. Groundwater is shallow throughout the map area and commonly occurs at depths ranging from three to 11 feet outside of the high dune areas.

Geologic Symbol

— Boundary between high and low dune areas.

Other Features

Water
Highways

Local Road

railroad

US Route

Windblown Sand

Adjacent 24K Quadrangles

The quadrangles in this series have been produced in support of the exploration for variable-source-voltage-programmed air and for use in the hydraulic fracturing of wells in the Williston Basin.