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Geologic Map and Topographic Profile of the Newark Quadrangle, Nebraska

Steven M. Condon

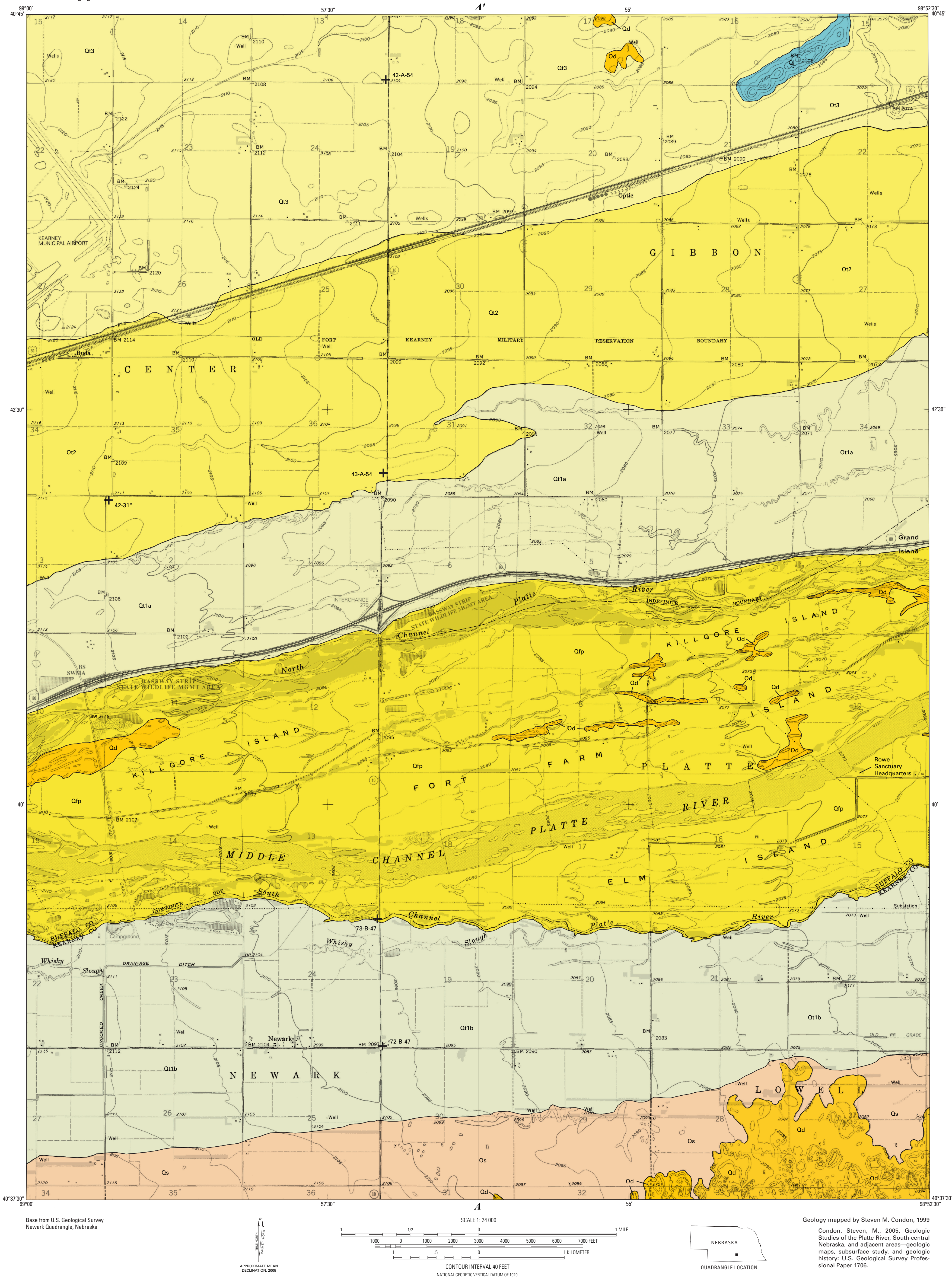
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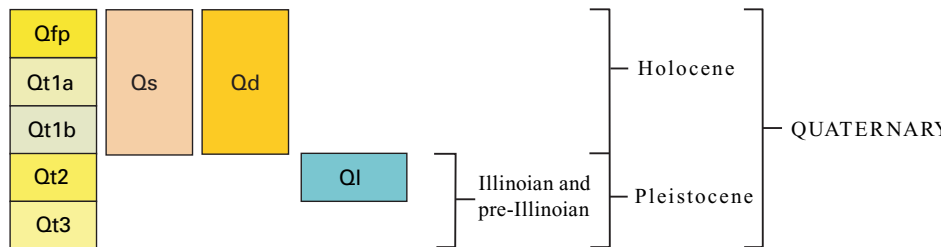
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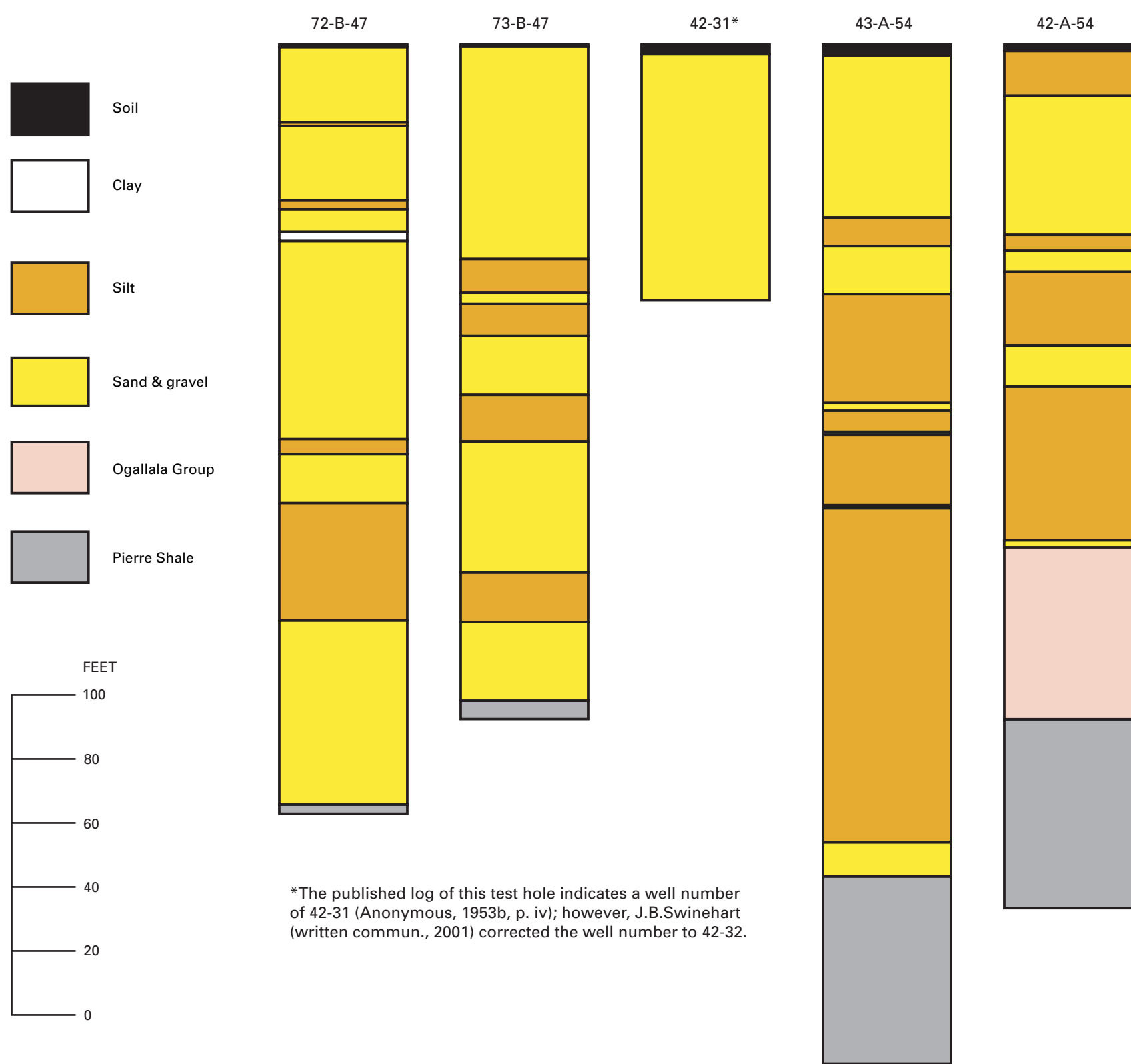
CORRELATION OF MAP UNITS



DESCRIPTION OF MAP UNITS

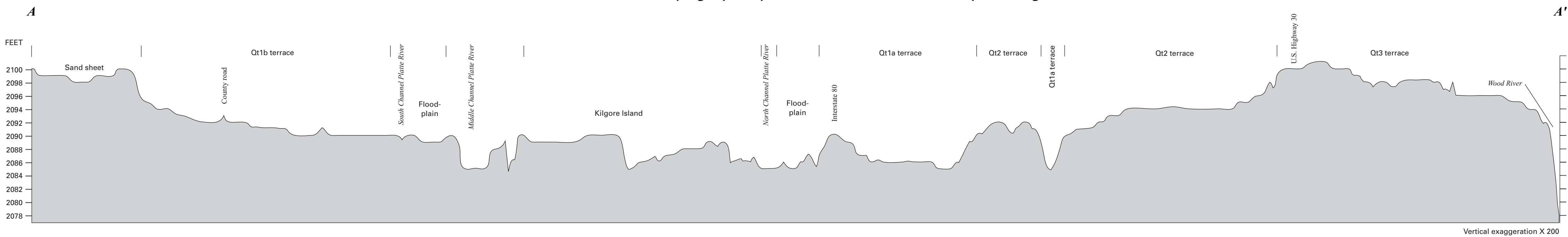
- Qfp Floodplain deposits (Holocene)**—Lowest floodplain and island areas of the Platte River. Deposits of this unit are mostly poorly sorted and clast supported. They consist of unconsolidated gravel in a sandy or silty matrix interbedded with or overlain by sandy silt and silty sand. Clasts are round to subangular and are composed of plutonic, metamorphic, and sedimentary rock types. Outside the active channels, many soil types mantle this unit, including Loamy alluvial land, Platte soils, Platte-Alda complex, Alda loam, Alda fine sandy loam, Leshara and Gibbon silt loam, Inavale, and minor Wann fine sandy loam. The Platte soils, Platte-Alda complex, and Leshara and Gibbon silt loam are the most abundant soil types recognized where Qfp is mapped. The Elm Island area, between the Middle and South channels of the Platte River, is the topographically lowest land area within this unit. Other island areas between the Middle and North channels (Killgore Island, Fort Farm Island) are slightly higher topographically.
- Qs Sand sheet (Holocene)**—The sand sheet in the south part of the quadrangle that borders the area of sand dunes consists mainly of Simeon sandy loam, and lesser amounts of Valentine loamy fine sand.
- Qd Dunes (Holocene)**—Main area in southeast part of the map consists of wind-deposited dunes and sand sheets intermixed with alluvial material in drainages. Soil types are mainly Valentine loamy fine sand. Small areas of Qd mapped on the Platte River floodplain are composed of small eolian dunes and sandy zones intermixed with other soil types. The dune area on the west margin of the map consists mainly of Inavale fine sandy loam. Small areas of dunes in the northeast corner of the map are mantled with Coxard silt loam and Wood River silt loam. Dunes in the main area of deposition in the southeast corner of the map have relief of as much as 20 ft; dunes in other areas have relief of 10 ft or less. Eolian deposits along the south edge of the map overlie older terrace deposits.
- Qt1a Terrace 1a deposits (Holocene)**—Deposits of the first terrace above the Platte River floodplain on the north side of the river. The surface is cut by numerous small abandoned stream channels; low areas are boggy and hold standing water in the spring. Soil types are mainly Alda loam, Lex silt loam, Platte soils, and Gibbon silt loam. Cass fine sandy loam, Wann loam, and Wann fine sandy loam are also present in minor amounts. There is an elevation gradient from south to north, from low-elevation Platte and Lex soils on the south to Gibbon silt loam farther north, mainly in the area within T. 9 N., R. 14 W. (Gibbon township). This terrace stands at an average of 1 ft above the floodplain.
- Qt1b Terrace 1b deposits (Holocene)**—Deposits of the first terrace above the Platte River floodplain on the south side of the river. This terrace is slightly higher, somewhat better drained, and is thought to be older than the Qt1a terrace on the north side of the river. Soil types that occur on this terrace include Alda loam, Boel fine sandy loam, Wann fine sandy loam, Gibbon loam, and Lex loam. This terrace stands at an average of 5 ft above the floodplain.
- Qt2 Terrace 2 deposits (Pleistocene)**—Deposits of the second terrace above the Platte River floodplain on the north side of the river. The southern edge of the terrace is defined by a marked topographic break, and by the soil types Wood River silt loam, Hall silt loam, and Hord silt loam, all on 1-3% slopes. Soil types over most of this terrace are Hord silt loam and a significant area of Hall silt loam. This terrace stands at an average of 5 ft above the floodplain.
- Ql Loess (Pleistocene?)**—Area of loess of unknown age in the northeast part of the quadrangle. A similar feature east of the quadrangle was drilled by the Conservation and Survey Division, University of Nebraska-Lincoln, and was found to be underlain by clayey silt (J.D. Swinehart, written commun., 2001).
- Qt3 Terrace 3 deposits (Pleistocene)**—Deposits of the third terrace above the Platte River floodplain on the north side of the river. This terrace forms the drainage divide between the Platte River and the Wood River in this area. A subtle elevation break separates this terrace from the Qt2 terrace to the south, and the railroad tracks are built along the boundary between the terraces. This surface is distinguished from the Qt2 terrace by extensive soil mottling that is visible on aerial photographs. Main soil types are Wood River silt loam and Hall silt loam. This terrace stands at an average of 12.5 ft above the floodplain.

— Contact
+ Location of test well



Graphical representations of test wells in the Newark quadrangle

South to north topographic profile across the Newark quadrangle



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By
Steven M. Condon
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