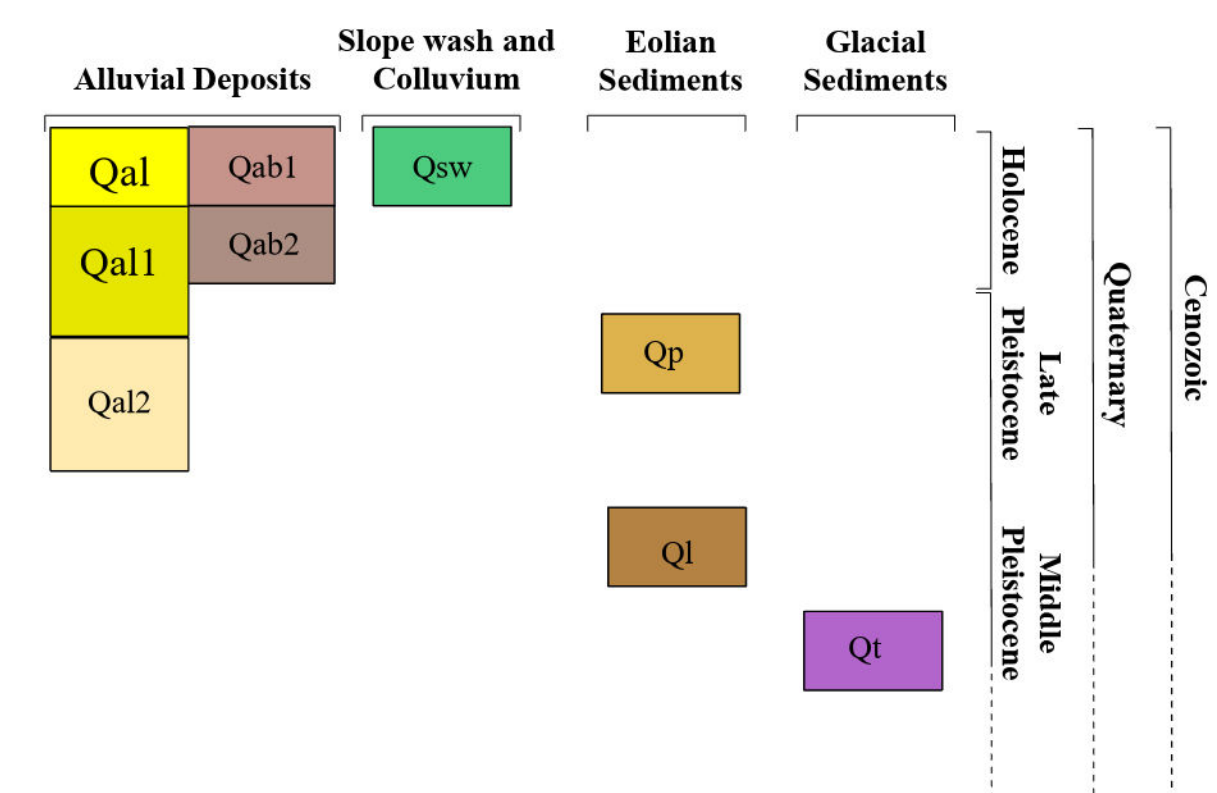


# Surficial Geology of the Clatonia 7.5 Minute Quadrangle, Nebraska

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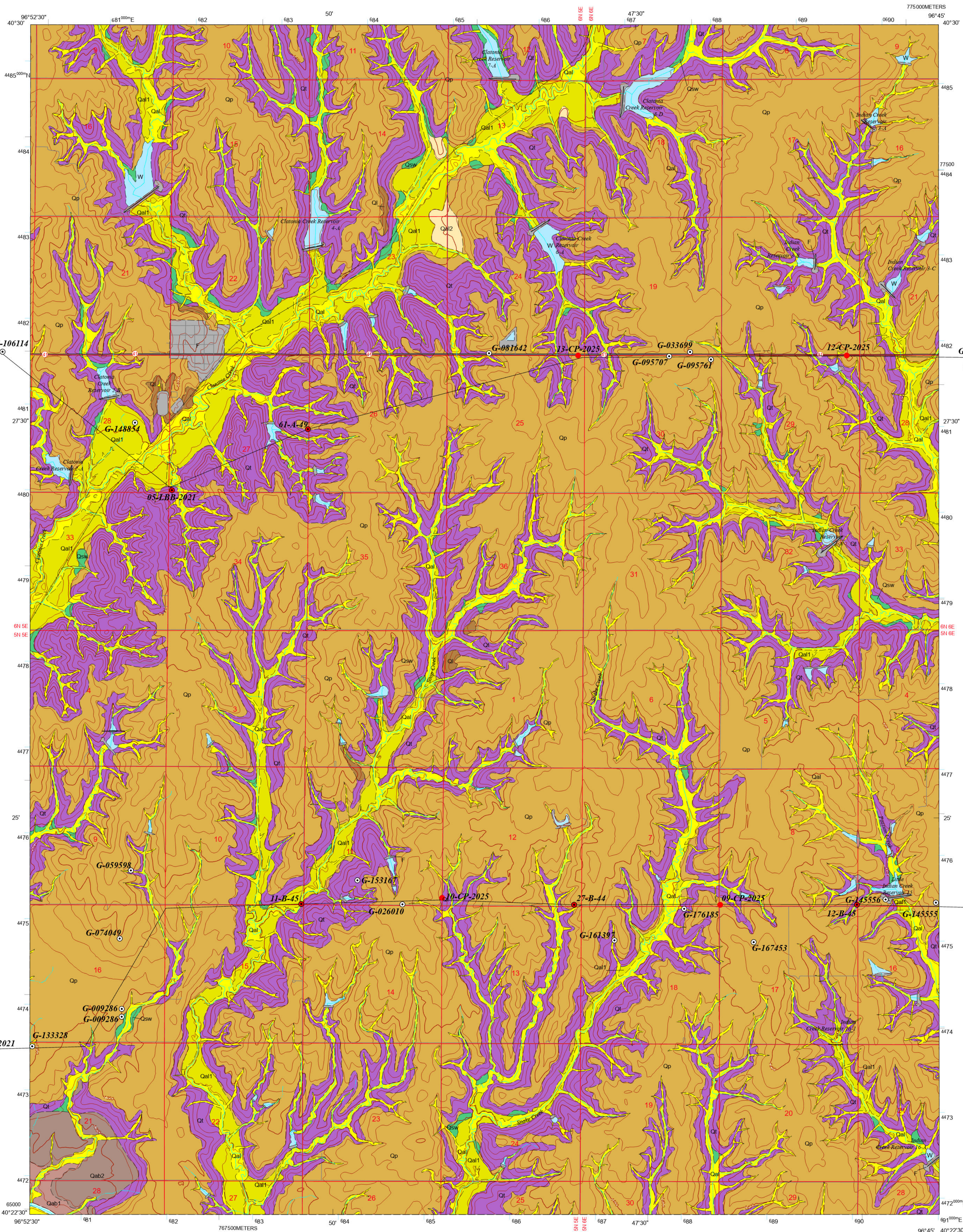
## Description of Mapping Units

- Qal** **Recent alluvium (Holocene)**  
*Silty clay with local sands and gravels*  
 Alluvial and floodplain deposits of smaller streams tributary to the Big Blue River. These sediments are directly adjacent to streams, and underlie active flood channels. The upper portions of this unit are generally fine-grained sediment (silt and silty clay) that overlies varying thicknesses of coarser sediment (sand and sand and gravel). Generally the overlying silty sediments are less than 2 meters (m) thick. Qal alluvium directly overlies glacial sediment. Qal sediments are regularly inundated in seasonal flooding events.
- Qal1** **Higher recent alluvium (Holocene)**  
*Clay to coarse sand*  
 Older higher alluvium of smaller streams tributary to the Big Blue River. Areas mapped as Qal1 are relatively flat and comprise the majority of the valley floor adjoining the more recent Qal deposits. Qal1 deposits are generally less than 4 m thick, but can be locally thicker. Alluvial features are distinctly visible on areas mapped as Qal1. These deposits are occasionally inundated during large-scale flood events. Active river channels are approximately 2.5-8 meters below the top of the Qal1 sediments.
- Qal2** **Qal2 Alluvial terraces in larger stream valleys (Late Pleistocene)**  
*Silt and clay with gravel*  
 Higher older alluvial deposits of smaller streams tributary to the Big Blue River. Terrace trends are ~15-20 m above modern stream levels. Terrace trends are covered with ~3 m of Peoria Loess, and intermittently 1-2 m of Loveland Loess. Where present, thin alluvial sediments below the loess directly overlie glacial sediments and are generally composed of silts and clays with gravel. Terrace fills are mid to late Pleistocene in age.
- Qab1** **Qab1 Recent alluvium of the Big Blue River (Holocene)**  
*Clay to coarse sand*  
 Alluvial and floodplain deposits of the Big Blue River deposited during the latest Holocene. Qab1 sediments comprise the majority of the floor of the Big Blue River Valley. Sediments are generally less than 3 m in thickness. Alluvial features are distinctly visible on areas mapped as Qab1. These deposits are routinely inundated during large-scale flood events. The Big Blue River was entrenched historically and the active channel lies approximately 3-8 meters below the top of the Qab1 sediments.
- Qab2** **Qab2 Higher alluvium of the Big Blue River (Holocene)**  
*Clay to coarse sand*  
 Older, higher alluvium of the Big Blue River. The surface of these sediments are between 8 and 12 m above the present river level. Sediments are generally 2-5 m thick. Few alluvial features are visible on the surface of these deposits.
- Qsw** **Qsw Slope wash (Holocene)**  
*Clay to silt, with local sand to boulders*  
 Sediments located at the base of slopes. Generally, slope wash is sourced from adjacent loess or till. Slope wash sourced from till contains a concentration of large boulders mixed with clay. Slope wash sourced from loess is silty. Slope wash deposits are generally less than 3 m thick and typically thin with distance from their source.
- Qp** **Qp Peoria Loess (late Pleistocene)**  
*Silt to silty clay*  
 Late Pleistocene aged loess. Loess is a wind-blown silt and clay deposit. Peoria Loess is tan-yellow-gray with frequent accumulations of secondary carbonates. Peoria Loess thickness ranges from 1-8 m in the mapping area. Locally, some areas may be less than one meter in thickness near unit boundaries and on steep slopes.
- Ql** **Ql Loveland Loess (Mid-Pleistocene)**  
*Silty clay to clayey silt*  
 Loveland Loess is older than the overlying Peoria Loess (Qp). Loveland Loess can be distinguished from Peoria Loess (Qp) by its characteristic red or pink color and finer clay-rich texture. Some areas mapped as Loveland Loess may contain areas of reworked Loveland Loess mixed with older alluvial sands and gravels.
- Qt** **Qt Glacial till (Mid-Pleistocene)**  
*Clay with sand and gravel*  
 Tills in Nebraska were deposited by glaciers between ~2,500,000 and 600,000 years ago (Pre-Illinoian aged). Tills in the mapping area are generally hard, reddish brown or bluish gray clay to silty clay with varying amounts of sands and gravels. Locally, till may contain a high concentration of sand, a feature not typical of southeast Nebraska. The clay matrix of Glacial till may contain accumulations of secondary carbonates ranging from barely perceptible when treated with weak acid, to large (>2 cm) visible carbonate concretions.
- F** **F Fill**  
 Built up areas where natural sediments are obscured, such as cities, gravel pits and dams.
- W** **Water**
- Historic test hole drilled by the CSD drilling program (last two digits indicate year drilled).
- New test hole drilled in 2025.
- Registered well

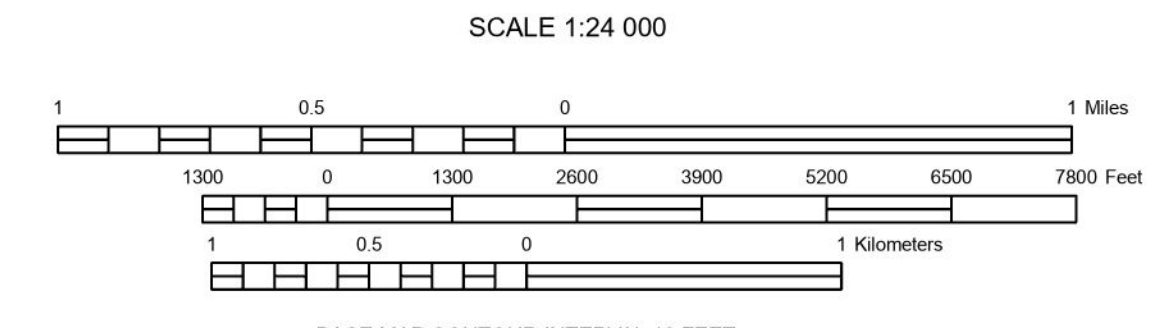
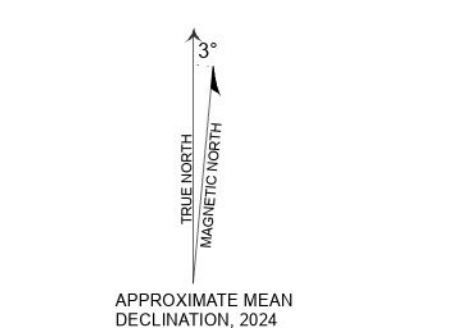


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Unit contacts are drawn to the best available data, in this case 1 m LiDAR imagery. Therefore, contact lines may not align precisely with contour lines on the map.



North American Datum of 1983 (NAD 83)  
 Projection: Universal Transverse Mercator  
 1,000-meter ticks: Universal Transverse Mercator, zone 14T  
 Basemap compiled by Nebraska Conservation and Survey Division from digital data (2023 US Topo) provided by the United States Geological Survey and the Nebraska Department of Natural Resources. Shaded relief derived from 2011 LiDAR elevation data.



Crete South	Hallam	Cortland
Wilber	Clatonia	Pickrell
Plymouth	Beatrice West	Beatrice East



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