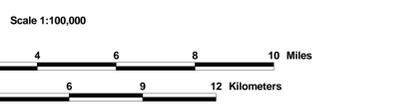
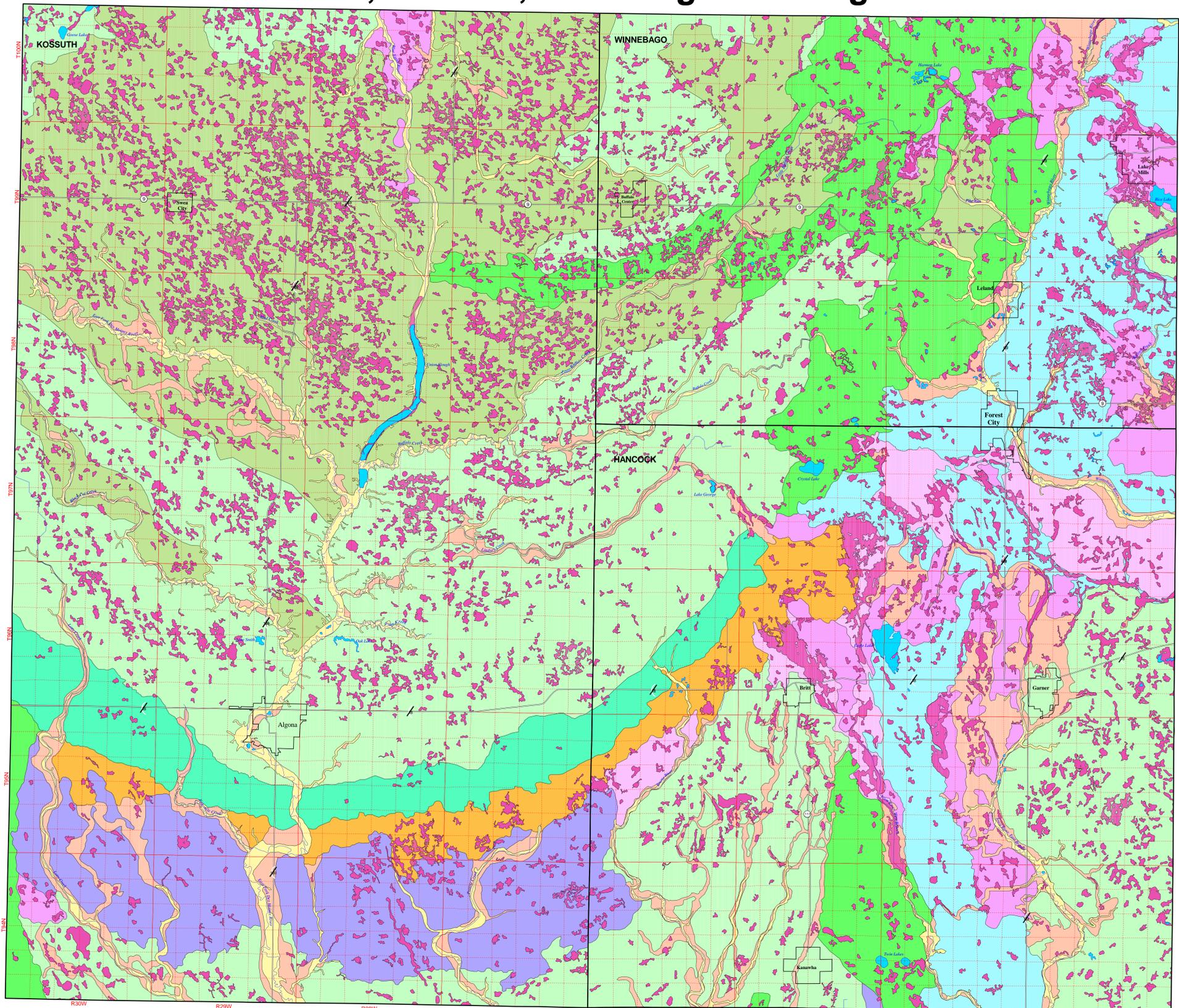


Surficial Geology of the Des Moines Lobe of Iowa Hancock, Kossuth, Winnebago and Wright Counties



Geological Survey Bureau Open File Map 99-1 June 1999

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Supported by the U. S. Geological Survey
Cooperative Agreement Number 98HQAG2051
National Cooperative Geologic Mapping Program (STATMAP)

Energy and Geological Resources Division
Geological Survey Bureau



Iowa Department of Natural Resources
Paul W. Johnson, Director

Acknowledgements

Recognized for direct contributions to the map's production: Timothy J. Kemmis, Donald L. Koch, Joan C. Poir, Lynette S. Stigley, Keith E. Schilling, Calvin F. Walter, Mary P. Skopce, Michael Bouak, Matthew A. Culp, Robert M. McKay, Billy J. Bunker, Jackson L. Gilmore, Raymond R. Anderson, Adrian Goettmannel, Andy Aesch, Courtney Stewart, Joe Krige, Kathryn Benz, Jessica Overmole, Coulter Wood, Mary Ellis, Shane Smith, Skipp Starnow, and Rhonda Fetters. Bridge boring information was provided by Engineer's offices of Hancock, Kossuth, Winnebago, and Wright Counties. Special thanks to the Iowa DOT for providing soil boring data, Dean Lewis at Marple Family Farms for providing soil boring information, and to Jim Schneider, Joe Johnson, Bob Tideman and Robert Wines of the NRCS for assistance with field drilling and mapping. Deep drilling was provided under contract by Aquapoint, core descriptions and field assistance provided under contract by B. Brandon Curry. The following individuals graciously allowed access to their land for drilling: Maurice Elbecker, Alvin Hare, Tom Bank, Lennie Schmidt, Todd Nyquist, Stanley Sandberg, Marion and Clarence Casey, Henry Pfeiffer, Russ Bode, Larry Verpe, Rod Olhoff, Mike Smith, Larry Nummers, Jack Henry, and Larry Buscher. Special thanks also to Bruce Ladin, Wright County Conservation Board and Steve Reitz, Asst. Wright County Engineer for arranging access for drilling on land owned by Wright County.

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LEGEND

Description of Mapping Units

Hudson Episode

- Qd-Mack and Peat (Hudson Formation-Woods Mts)** Generally 2 to 11 m of Mack to very dark gray, calcareous, blocky peat and silty clay loam calcareous and organic sediments in drained and undrained closed and semi-closed depressions. Overlies a gray calcareous, massive, dense loam (Hudson Fm. - Alden Mts) or may overlie Wash Creek Fm. sand and gravel. Low relief features that occupy depressions and low sags on the landscape. Seasonal high water table.
- Qd-Albion (Hudson Formation-Undifferentiated)** Variable thickness of less than 1 m to 5 m of a very dark gray to brown, micaceous, stratified silty clay loam, clay loam, loam to sandy loam alluvium and colluvium in stream valleys, hilltops and closed depressions. May overlie Hudson Formation or Alden Mts., Wash Creek Formation or Des Moines River. Occupies low relief, modern floodplain, closed depressions, modern drainage or landscape positions on the landscape. Seasonal high water table.

Late Wisconsin Episode

- Qd-Till plain (Dows Formation-Morgan Mts)** Less than 8 m of yellowish brown, often calcareous and fractured, stratified loam to silt loam to sandy loam (Dows Formation) textures can be quite variable. Overlies gray calcareous, massive, dense loam (Dows Fm. - Alden Mts.). Low to moderate relief (3 to 8 m), undulating plain with irregular surface pattern. Seasonal high water table.
- Qd-Till plain with linear ridge forms (Dows Formation-Morgan Mts)** Less than 3 m of yellowish to grayish brown, often calcareous and fractured, stratified loam to silt loam to sandy loam (Dows Formation) textures can be quite variable. Overlies gray calcareous, massive, dense loam (Dows Fm. - Alden Mts.). Low relief (Dows Fm. is of local relief), slightly undulating plain with irregular surface pattern. **Linear ridge forms (Dows Formation-Morgan Mts./Pike Knob Mts.)** Less than 8 m of yellowish brown, often calcareous, stratified loam to silt loam to sandy loam (Dows Formation) textures can be quite variable. Occasionally, these ridges consist primarily of sand and gravel and exhibit evidence of synpositional collapse (Pike Knob Mts.). Overlies gray calcareous, massive, dense loam (Dows Fm. - Alden Mts.). Rises to well-defined linear ridge oriented transverse to glacial flow are most on all plains. Ridges are moderate to high relief features (3 to 8 m). Overall landform is a swell and wide topography. Seasonal high water table.
- Qd-Till escarpment (Dows Formation-Morgan Mts)** Less than 4 m of yellowish to grayish brown, usually calcareous and fractured, stratified loam to silt loam to sandy loam (Dows Formation) textures can be quite variable. Overlies gray calcareous, massive, dense loam (Dows Fm. - Alden Mts.). Locally on topographic Morgan Mts. thickness can exceed 18 m. High relief steep central landform (crest) exceeds 8 m.
- Qd-Till ridge (Dows Formation-Morgan Mts)** Generally 1 to 15 m of yellowish to grayish brown, usually calcareous and fractured, stratified loam to silt loam to sandy loam (Dows Formation) textures can be quite variable. Overlies gray calcareous, massive, dense loam (Dows Fm. - Alden Mts.). Moderate to high relief landform, crest exceeds 3 to 8 m.
- Qd-Dark outwash channel (Wash Creek Formation)** Generally less than 3 m of yellowish brown coarse grained sand and gravel. Overlies gray calcareous, massive, dense loam (Dows Fm. - Alden Mts.) or in several locations Paleozoic limestone bedrock. In valley positions, it is the best indicator of older terraces. On the land surface, it is best defined by the high relief alluvium. Low relief landform that may be deposited to broad terraces, but narrow longitudinal terraces or in escape-charged gullies.
- Qd-Terrace (Dows Formation)** Thickness can be quite variable from 3 to 12 m of yellowish brown coarse grained sand and gravel. May overlie yellowish to grayish brown stratified calcareous, stratified loam to silt loam to sandy loam (Dows Formation) textures can be quite variable (Dows Fm. - Morgan Mts.) or may overlie a gray calcareous, massive, dense loam (Dows Fm. - Alden Mts.). Narrow low relief (up to 3 m) terrace slope away from the terrace front. Seasonal high water table.
- Qd-Lake plain (Dows Formation-Lake Mts)** Generally less than 3 m of dark grayish brown, massive, calcareous silty clay loam, silt loam overlying a thin bed of sand and gravel (c. 1 m). Overlies yellowish to grayish brown stratified calcareous, stratified loam to silt loam to sandy loam (Dows Formation) textures can be quite variable (Dows Fm. - Morgan Mts.) or may overlie a gray calcareous, massive, dense loam (Dows Fm. - Alden Mts.). Low relief broad plain with less than 3 m of local relief. Seasonal high water table.
- Qd-Colleget Lake sediment-hummocky isolated low-lying lake plain-degraded hummocks (Dows Formation-Lake Mts)** Generally less than 3 m of dark grayish brown, massive, calcareous silty clay loam to silt loam overlying a thin bed of sand and gravel (c. 1 m). In some yellowish to grayish brown stratified calcareous, stratified loam to silt loam to sandy loam (Dows Formation) textures can be quite variable (Dows Fm. - Morgan Mts.) or may overlie a gray calcareous, massive, dense loam (Dows Fm. - Alden Mts.). Low relief broad plain with less than 3 m of local relief. Seasonal high water table.

Complexes

- Qdgr-Supraglacial complex (Dows Formation-Pike Knob Mts)** Greater than 3 m but less than 15 m of yellowish brown, often calcareous and fractured, stratified sand and gravel with interbedded stratified loam (Dows Formation) textures are usually evident. In depressions and sags on the land surface, the sand and gravel may be brecciated by the Dows Fm. Overlies gray calcareous, massive, dense loam (Dows Fm. - Alden Mts.). Moderate to high relief (3 to 8 m) to hummocks, head-of-ridge, lanes and narrow linear drainage on land surface.
- Qdgl-Complex glacial till plain (Dows Formation)** Greater than 3 m but less than 15 m of grayish brown, often calcareous, stratified sand and gravel. Overlies gray calcareous, massive, dense loam (Dows Fm. - Alden Mts.) or in several locations Paleozoic limestone bedrock. It may have sand and gravel at the land surface. In depressions and sags it may be brecciated by several meters of bedrock (Dows Fm. - Woods Mts.). Low relief broad plain with less than 3 m of local relief. Seasonal high water table.

- Water features**

