DESCRIPTION OF MAP UNITS

EPOCH

Cenozoic

Palaeogene

Neogene

Paleogene

Eocene

Oligocene

Miocene

Pliocene

Pleistocene

Holocene

Recent

The map depicts the distribution and origin of surficial materials in the area of the Crown Quadrangle. Materials are mapped using aerial photographs taken in 1977 (1:80,000 scale) and U.S. Geological Survey aerial photographs taken in 2001 (1:20,000 scale). Data sources include soil sample profiles, boreholes, and drill holes. Additional data from a previous mapping effort and other sources. 1955, 1975 and 1987, Illinois State Geological Survey data were also included in the analysis and interpretation of map units.

Neogene:

Loam to loam at depth. Topography is generally high relief, with isolated irregular, hummocky areas. Troughs where shown by the map symbol below. This area is underlain predominantly by sand and gravel, with unsorted sediments (till, cobbles, boulders). The unit was sampled only in gravel pits or drill holes, with no surficial expression. Rarely, recent till or cobbles. Isolated areas of colluviation. 

Recent:

Colluvium:

Recent colluvium is commonly dispersed in the terrain in small patches or patches throughout the area. It may be exposed at the surface or may have little to no till cover. It may be associated with bedrock or surficial materials. 

Morphology:

Surface expression is generally inconspicuous, except for small patches or patches, which may be undifferentiated from the surrounding materials. 

REFERENCES

Lusardi, B.A., 2002a, Surficial geology of the Big Lake quadrangle, Anoka and Isanti Counties, Minnesota: Minnesota Geological Survey Miscellaneous Map Series, Map M-134, scale 1:24,000 [printed map].

Lusardi, B.A., 2002b, Historical geology of the St. Croix quadrangle, Anoka and Isanti Counties, Minnesota: Minnesota Geological Survey Miscellaneous Map Series, Map M-133, scale 1:24,000 [printed map].

Acknowledgments:

Howard C. Shirley and John R. Knesel drafted the Chippewa lake to be used in this report. The DEM was milled using the Data Milling and Analysis software, developed by the Environmental Systems Research Institute (ESRI), Redlands, California. The Chippewa Lake is a part of the State of Minnesota's statewide digital elevation model (DEM). The DEM was generated by the Minnesota Geological Survey and the Minnesota Department of Natural Resources. It was acquired from the U.S. Geological Survey and the Minnesota Department of Natural Resources. The Chippewa Lake DEM was used to create the topographic map. The topographic map was created using the Data Milling and Analysis software.