Phosphate grains—Predominantly a yellowish-gray to light brown, a heterolithic unit composed mostly of light-colored material. The Tunnel City Group, formerly named the Mazama Formation, is dominated by white to yellow, medium- to coarse-grained sandstone. The map shows how the bedrock surface would appear with the St. Croix horst volcanic sequence visible. Part of the St. Croix horst volcanic sequence includes the North Branch mafic volcanic sequence (shown only on Fig. 4 and the cross sections). Transportation BaseMap data; digital base annotation by the Minnesota Geological Survey.

**INTRODUCTION**

The Prairie du Chien Group (Lower Ordovician) consists mainly of sandstones and quartzite siltstones deposited in eolian, fluvial, and lacustrine environments (Jirsa and others, 2012). The hydrostratigraphic classification, shown by brown and blue colors on the hydrostratigraphic unit digital elevation models, provide a three-dimensional depiction of the rock properties that control the ability to retard water flow to underlying aquifers. There is no precise boundary between shallow aquifers and unconfined aquifers in Hennepin County, the Mazama Formation can reach as much as 50 feet (15 meters) thick.

**DEMODEL**

The Lone Rock Formation ranges in thickness from 85 feet to as much as 145 feet (26 to 44 meters). It is composed of coarse quartz sandstone with interbedded, brown, dolomitic sandstone. Glauconitic grains and shells are commonly associated with the Lone Rock Formation. Ordovician formations, in contrast, are dominated by thicker units and show a deposit of variably thick iron-cemented sandstone and ooidal chert intraclasts incorporated in the sandstone. The uppermost Mazama Formation and lowermost Lone Rock Formation. Further refinement was accomplished by using the geologic cross sections on Plate 3, showing the map of geologic cross sections and Plate 4, showing the map of geologic cross sections.

**HYDROSTRATIGRAPHY**

The Minnesota department of natural resources is responsible for the quality and quantity of water resources and the protection of groundwater supplies. The hydrostratigraphic classification, shown by brown and blue colors on the hydrostratigraphic unit digital elevation models, provide a three-dimensional depiction of the rock properties that control the ability to retard water flow to underlying aquifers. There is no precise boundary between shallow aquifers and unconfined aquifers in Hennepin County, the Mazama Formation can reach as much as 50 feet (15 meters) thick.

**MEASUREMENTS**

The Minnesota department of natural resources is responsible for the quality and quantity of water resources and the protection of groundwater supplies. The hydrostratigraphic classification, shown by brown and blue colors on the hydrostratigraphic unit digital elevation models, provide a three-dimensional depiction of the rock properties that control the ability to retard water flow to underlying aquifers. There is no precise boundary between shallow aquifers and unconfined aquifers in Hennepin County, the Mazama Formation can reach as much as 50 feet (15 meters) thick.