Introduction

This bedrock surface topography map is useful for showing and predicting the elevation of bedrock surface materials which may be a control on shallow groundwater supplies tapped by private and municipal wells throughout the Crystal Lake Quadrangle.

Methods

Bedrock surface topography was created from the bedrock surface grid that provides the bedrock surface (Curry 2005a). Bedrock surface elevation data were hydrography updated from imagery dated 1999. Base map compiled by Illinois State Geological Survey from digital data provided by the Illinois State Geological Survey. The orientation and location of the depressions or valleys also may be controlled by the surface materials penetrated by a well from the ground surface elevation. Land surface contours, if not shown, were derived from air photo mosaics (amplitude ratio). The bedrock surface data are inferred by the contouring program Vertical Mapper Version 2.0 (ESRI, 1993) and all contours are drawn at 1-foot intervals.

Contour lines are dashed where bedrock surface data points are separated by a distance of less than 1 foot. The bedrock surface grids are updated by the Illinois State Geological Survey. Engineering boring that penetrate the bedrock surface (Curry 2005a). Bedrock surface elevations were interpreted from the logs of water-well borings and engineering test borings that penetrate the bedrock surface (Curry 2005a). Bedrock surface data points are separated by a distance of less than 1 foot.

Discussion

The large depression in the southwestern corner of the map between Algonquin and Elgin was developed by glacial erosion. An alternative explanation for the depression is that it may be covered with unweathered bedrock. A glacial terrace, although not shown by the map, may be present on the surface of the terrain. The bedrock surface in the Crystal Lake Quadrangle is controlled by the resistant Silurian sedimentary strata of the Silurian rock body that occurs in this area. The bedrock surface in the Crystal Lake Quadrangle is controlled by the resistant Silurian sedimentary strata of the Silurian rock body that occurs in this area. The bedrock surface in the Crystal Lake Quadrangle is controlled by the resistant Silurian sedimentary strata of the Silurian rock body that occurs in this area.

References

Bauer, R.A., J.P. Kempton, B.B. Curry, W.G. Dixon, Jr., A.M. Graese, M.J. Hasek, R.C. Vaiden, 1992. The orientation and location of the depressions or valleys also may be controlled by the surface materials penetrated by a well from the ground surface elevation. Land surface contours, if not shown, were derived from air photo mosaics (amplitude ratio). The bedrock surface data are inferred by the contouring program Vertical Mapper Version 2.0 (ESRI, 1993) and all contours are drawn at 1-foot intervals.

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