

Iowa Geological & Water Survey Strip Logging

During the earliest geologic mapping projects in Iowa, geologists had to rely completely upon exposures of earth materials at the land surface. From exposures in the northeastern corner and other scattered areas of the state, a geologic sequence of strata was established. The oldest rocks were found to occur at the surface in northeast Iowa, and progressively younger rocks were seen toward the southwest. The entire sequence of rock units was determined to be dipping downward to the southwest. However, with most of the landscape mantled by glacial deposits, other details of the underlying geology could not be well defined. With the advent of new drilling technology and the need for increased quantities of potable water, many of Iowa's communities, business, and home owners began drilling wells for their water supplies. Samples have been collected during the drilling of many of these wells, and in conjunction with drillers' logs, have provided the Iowa Geological & Water Survey with a valuable source of data about Iowa's geology and water resources. Information derived from study of these samples and logs provides invaluable data, unavailable to early geologists, and have opened an era of subsurface investigations that continues today.

Production of Striplogs



Binocular Microscope

Data acquired from drilling is studied and refined, and is copied onto *geologic striplogs* (diagram, right). The drill samples are processed and logged at a depth scale of 1 inch to 50 feet by Survey geologists using *binocular microscopes* (photo, left) and simple chemical tests. Normally, a sample interval of five feet is used on these logs. Each striplog contains a graphic column, with different colors and patterns used to describe various rock types, minerals, fossils, and rock porosity. To the right of this column is a detailed written lithologic description. To the left of the column, the names of rock formations and other stratigraphic units are noted. Information concerning water yields and well construction are also noted on the log. After a sample set is logged the information is entered into a computerized database [GEOSAM](#) system that provides rapid access to the broad range of recorded information on subsurface stratigraphy and hydrology in Iowa.

