USE OF CYCLOGRAM TECHNIQUE FOR THE INTERPRETATION OF WATER SUPPLY BOREHOLE DATA: A CASE STUDY IN POLONNARUWA AREA

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Cyclogram mapping technique represents and illustrates well strata logs that depict penetrating lithologies of the boreholes together with other hydrogeologic parameters. This method has been successfully utilized in some other countries, to describe borehole data from sedimentary areas. However, the method has not been applied in crystalline rock areas. Since 90% of the land area of Sri Lanka is a crystalline rock terrain and a large number of water supply boreholes have been drilled in it, an attempt was made to illustrate borehole data using the cyclogram technique.

Under the present study, interpretation of borehole data using cyclograms was done for one hundred water supply boreholes in the Polonnaruwa 1:50 000 topographic map. Drawing of cyclograms was done using Microsoft Paint and plotting on map layers was done with Adobe Photoshop 5.5 software packages. Cyclograms were set on a map illustrating all available geological and hydrogeological information on the same layout.

Mapping of water supply borehole data using the cyclograms revealed that the method could be successfully applied for showing location of wells and boreholes, three-dimensional illustration of penetrated strata and presentation of other technical and hydrogeologic data from wells, all on a single map. Consequently, it was found that the cyclogram map could be used as a base map of well records, which is essential for proper interpretation of groundwater conditions in crystalline rock areas.