D-34 **THE RELATIONSHIP BETWEEN THE AQUIFER PARAMETERS AND GRADING OF SAND IN MAHAWELI SYSTEM ' A ' AREA**

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This paper highlights some interesting results obtained in studying the groundwater system in an alluvial plane area. The study area is the Mahaweli System ' A ' which is located in the flat lowland in North-Eastern part in Sri Lanka. It consists essentially of a peneplane of residual soils developed on precambrian rocks. The Mahaweli Ganga and its tributaries have eroded the Central plane and replaced it with their alluvial deposits. The northern and eastern coastal boundaries have been built up by excessive sand bar and lagoon formations.

Tube wells and piezometer were constructed in this area. Samples of formation were analysed and pumping tests were carried out in the wells, periodically groundwater level fluctuations were measured.

From this information the hydrogeologic parameters of the aquifer and groundwater flow pattern of the area and the magnitude of the flow were interpreted. The analysis showed the transmissivity and permeability increases with the average grain size and effective grain size. Flowing rate of groundwater through fine sand is more resist than coarse sand.