Journal of Environmental Hydrology

THE HYDROGEOLOGY OF THE KUTESHWAR LIMESTONE DEPOSITS, MADHYA PRADESH, INDIA

B. Venkatanarayana, Shakeel Ahmed and Vanita Agnihotri
National Geophysical Research Institute, Hyderabad, India

ABSTRACT
Geological and hydrogeological studies of an aquifer in the Kuteshwar limestone deposit area, Madhya Pradesh, India show a highly cavernous and karren limestone on the left bank of the Chhoti Mahanadi River, while the right bank consists of thick porcellanite deposits in addition to the limestone. These thick porcellanites are practically impervious silts and clays that act as barriers to surface and subsurface water flow. Though the limestone deposits show easterly dips, subsurface water flow from the river into the mined areas, which are located on the eastern side of the river and the barrier, is insignificant. Thus a large number of shear zones, faults and karren structures developed in the mining region east of the porcellanite barrier became isolated. These investigations, and inferences from earlier studies, reveal that groundwater flow is controlled by intensely developed conduits in the western part of the area. In the eastern part, flow is controlled by aquifers that consist of two major formations, limestone with various degrees of karstification and fractured porcellanite. Aquifer thickness varies enormously and this variation contributes significantly to the spatial variability of aquifer parameters.
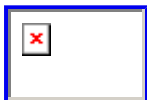
CONTACT:

Shakeel Ahmed
National Geophysical Research Institute
Uppal Road
Hyderabad
500 007 India

E-mail: postmast@csngri.ren.nic.in

  Return to HydroWeb Homepage