

HYDRODYNAMIC CHANGES DUE TO OPEN CAST MINING: RADIO CARBON AND CHLORIDE EVIDENCE

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Abstract

Environmental chloride, radiocarbon dating and piezometric level measurements on Neyveli groundwaters were carried out to understand the aquifer response in space and time to pumpage from the aquifer to facilitate open cast lignite mining. The chloride concentration and carbon-14 ages of groundwaters during 1985 and 1991 compared independently, revealed spatial shift in isochlore and isochrone's towards depressurization zone. The two tracers were concurrent in elucidating the effects of large-scale withdrawal of groundwater from the Neyveli groundwater basin.

Keywords: Environmental chloride; Radio carbon; Piezometric levels; Neyveli Groundwater basin; Depressurization.