SALINITY EXPERIMENT DEMONSTRATION

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Description of experimental model

This is a stainless model fabricated at National Institute of Hydrology, Roorkee under Purpose Driven Study in National Hydrology Project to develop a fresh water pocket in saline environments.

A= fresh water tank
B= inlet fresh water
C= vedose zone
D = filter screen
E = verticle sampling ports
F= horizontal samplingports
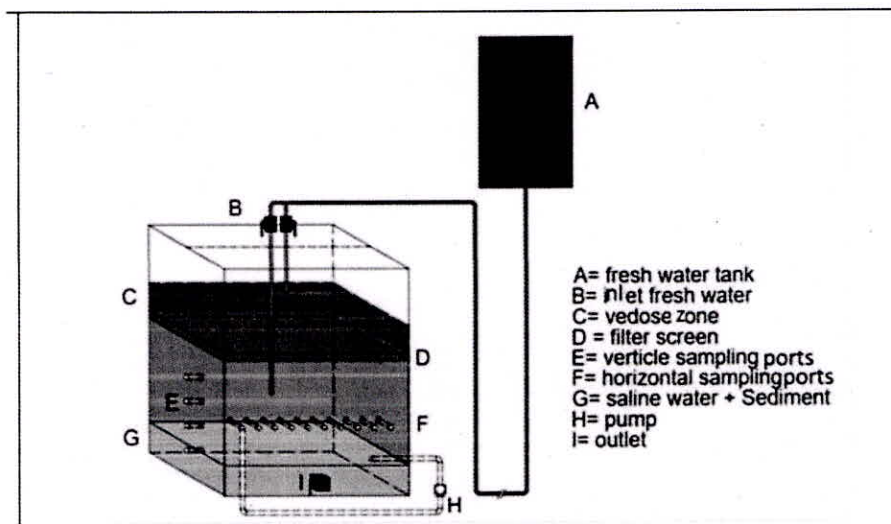G= saline water + Sediment
H= pump
I= outlet

Figure: Experimental model

As per the figure, 'G' portion of main body of the model contains sand/silt/clay in different combinations and it is saturated with saline water concentrations (EC upto 14000 µS/cm). Pump (H) is used for mixing the water.

Fresh water is induced into it from part 'A' at a specific depth. Generally, fresh water mixes with the saline water but in this model, fresh water will remain as such in high saline environments.

This has been established by measuring EC of the samples taken from horizontal as well as the vertical ports (E&F). It has been found that the fresh water pocket is developed in the centre.

spreadsheet, or database by "cutting and pasting" through the clipboard. Various pumping test analysis methods are available for confined, unconfined, leaky-confined, fractured aquifers.

References:

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- Theis, C.V. (1935). The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage: Transactions of the American Geophysical Union, v. 16, p. 519-524.

- Website: *http://nptel.ac.in/courses/105103026/module3/lec22/2.html*