

# Delineation of Geologic Facies Controlling Contaminant Migration

Client/Partner: United States Geological Survey

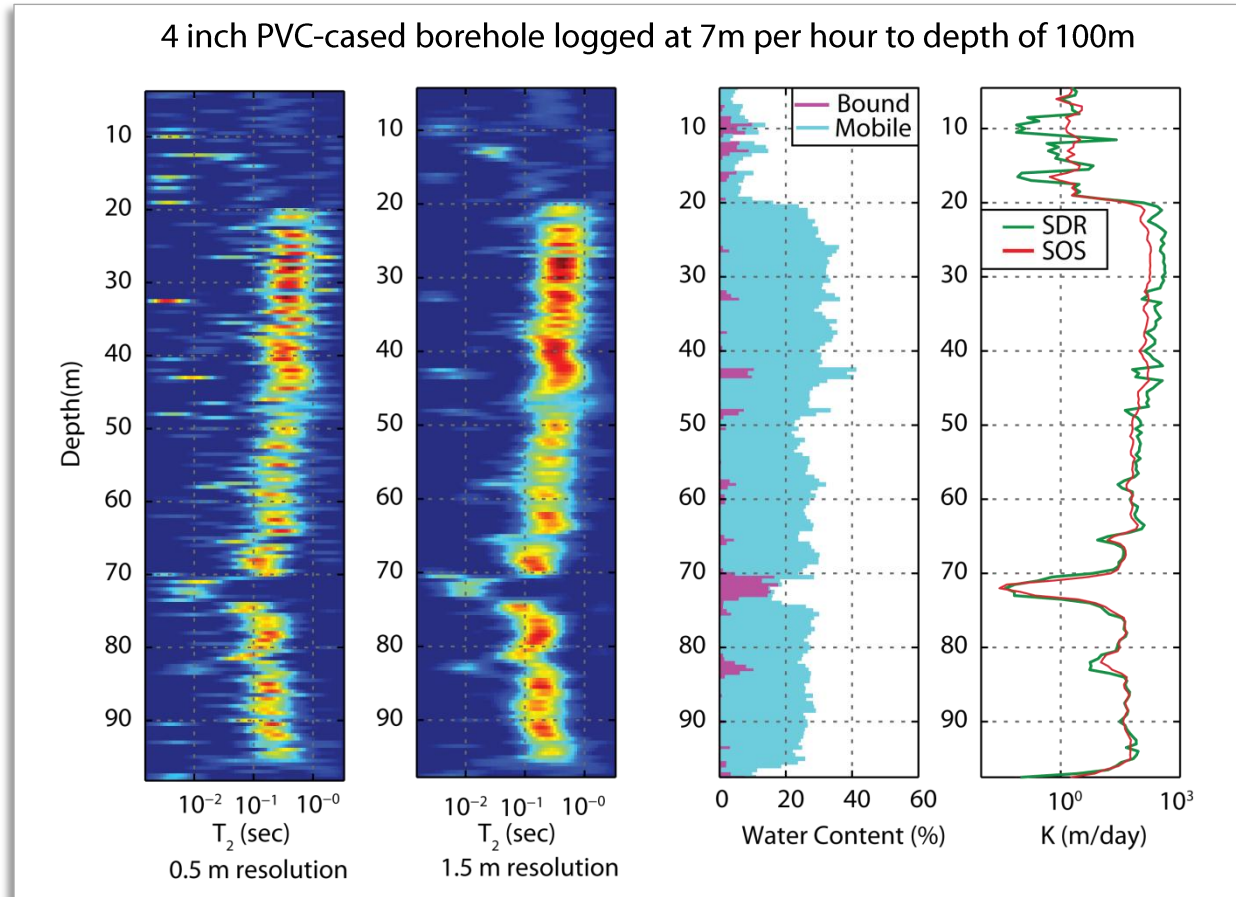
Location: Cape Cod, MA



Instrumentation: Javelin  
NMR logging - 3.5 inch probe



Javelin logs were collected in a multiple boreholes at the Massachusetts Military Reservation (MMR) on Cape Cod. Ongoing contaminant studies at the MMR are particularly interested in delineating the location of interbedded silt layers in the mostly sand aquifer. These low permeability silt layers are likely to control the movement of groundwater and migration of contaminant plumes.



The Javelin log identifies at least three likely silt zones at 65m, 70-74m, and 82-83m. These zones are evidenced by an increase in bound water content (signal with short T<sub>2</sub>) and decrease in mobile water content (signal with long T<sub>2</sub>) over two or more contiguous depth levels. A clay or silt layers may also be present in the unsaturated zone at 13m and 16m.