

## **Second Exam**

### **List of topics for review**

Isotropy and anisotropy in aquifers

Potentiometric surface – what is it?

Cone of Depression – what causes a cone of depression to form? What leads to the stabilization of a cone of depression?

Pump tests - How are they conducted, what is learned from them, when are they useful. What data are collected from a pump test? Why did the USGS perform a pump test on the Aberjona Aquifer in Woburn, MA? What questions were they trying to answer?

Slug tests - How are they conducted, what is learned from them, when are they useful. What conditions would favor doing a slug test over a pump test?

Long Islands Aquifer systems - major aquifers and confining units (Upper Glacial, Magothy, Lloyd, Jameco, Raritan Clay, Gardiners Clay, Monmouth Greensand)

Inputs and outflows for overall Long Island water budget.

What is the overall pattern of groundwater flow beneath Long Island?

How and why is the aquifer framework different beneath the northern necks of western Long Island than beneath the rest of Long Island?

Patterns of groundwater flow beneath Long Island, major recharge and discharge areas.

Northeastern region aquifers - Major types (surficial valley, surficial outwash plain, coastal plain, carbonate, sandstone, crystalline bedrock) and relative yields.