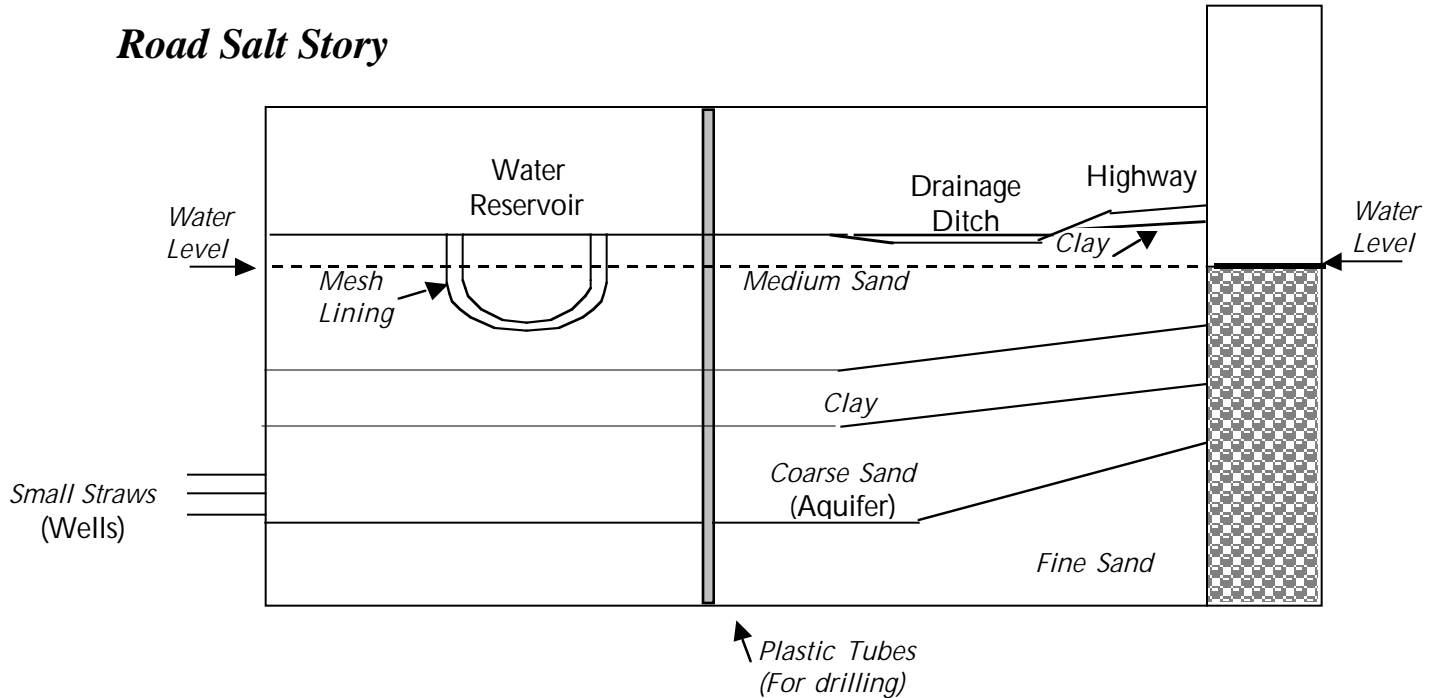


Follow-up to MIT Edgerton Center's Grungy Groundwater

Part One: Questions regarding the activity

Road Salt Story



Questions on Surface Pollution - the yellow "road salt" shaken onto the clay "highway, and then rained on.

- How does the "salt" travel through the soil?
- Does it pollute the surface of the soil around the Drainage ditch?
- Does it pollute the Fresh Water Reservoir?
- Does it pollute the aquifer that is supplying water to the Fresh Water Reservoir (if not, why not)?
- Has the pollution from the surface road salt mixed with the pollution from the drum of waste that you buried?
- Would you have seen evidence of this pollution if you lived in the town?
- How you might have protected the water in the medium sand, the coarse sand and the Reservoir from the effects of the surface road salt?

Questions on Drilling to Investigate - the plastic tube removed from the model

- What happens in the soil layers as a consequence of boring this hole?
- How did this affect the flow of water in your model?

- What conclusions do you draw from your observations?

Part Two: Real World Problems

A number of real world problems involve looking at the way pollution moves in groundwater.

- nuclear waste burial
- landfills for trash
- disposal of motor oil on grass
- application of pesticides, herbicides and fertilizers on land

Based on what you learned in your model:

- What soil type does pollution flow through the fastest?
- What soil type does pollution flow through the least?
- What are some ways you can think of to prevent the movement through soils (geological / barriers / etc.) so that pollution does not flow into places it should not be?
- Which do you think would be safer from a human health perspective: high concentration for only a little bit (called “acute exposure”) or low concentration for a long time (called “chronic exposure”)?