

1.34 WASTE CONTAINMENT AND SITE REMEDIATION TECHNOLOGY HOMEWORK 1 – DUE FEBRUARY 20, 2004

You may collaborate in working on the homework, but the work you submit should be your own. Questions are by design open-ended: you may need to make assumptions or develop your own approach.

Question 1

You are the owner of a former industrial site in the state of Massachusetts. You are planning to sell the property, but have heard you have to check the property's environmental condition under the state's "21E" program. You conduct a site investigation and find your property is clean, but the ground water beneath the property is contaminated by a neighbor's operations. What is your property's status under the 21E program? Be sure to make appropriate citations to the applicable regulations.

Question 2

You are the engineer for farmer Anderson who is planning a residential housing development in his former apple orchard in Massachusetts. Soil samples analyzed for arsenic show the following results:

Sample	Concentration in soil (mg/kg)
Sample 1	52.7
Sample 2	11.3
Sample 3	4.9

What do you advise your client based on this information?

Question 3

You are the consulting engineer to a dry cleaner in trouble with the EPA. The dry cleaner used perchloroethylene ("perc") in his dry cleaning shop and perc has been found to contaminate the ground water nearby. He says he has always been careful with his operation and the perc in the ground water must be from some other source. He says he stored clean perc in a closed tank located above ground inside his shop, used the perc in his dry cleaning machines, and saved used perc in drums that were taken away for recycling by a licensed waste-handling company. He said he occasionally had small spills where he transferred used perc to drums, but cleaned them off of the concrete floor right away. Your client asks you "I could not have contaminated the ground water, could I?" What do you answer? You are going to visit his operation tomorrow. What will you plan to look for at and around the site?