

# Soil Contamination

## Analyzing Spatial Data

### EVS 430 Advanced Quantitative Methods

An environmental consulting firm has taken soil samples on a regular grid pattern spaced at 100-foot intervals across an abandoned wood treating facility. The samples were analyzed for contaminant A, which is an organic liquid, relatively immobile in soils, used in treating wood to prevent rot. Where samples had concentrations above 100ppb, additional samples were taken at 50-foot midpoints of the grid, as will be clear when you plot the data in file *Soil.xls*. In all areas where the soil is contaminated above 120ppb, the top one foot of soil will be removed and trucked offsite for remediation. Assume that the site is a square with boundaries at coordinates 0,0 and 500,500. Your tasks are the following:

- Map the area of the soil that must be removed.
- Estimate the total volume of soil that must be removed.
- Determine what you might consider to try to save your client money if you were in charge of this project. What individual costs would you need to know in order to make a reasonable comparison of total costs? Are there other issues that you should consider?