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Effects Of Soil Type On Groundwater Contamination, Phase II

The objectives of this study were to determine which types of soil found in Kit Carson County, Colorado were the most effective at preventing groundwater contamination. Throughout the past year this comprehensive project was created to determine which soils are better suited for highly polluted areas such as landfills and feedlots. The variables tested in this project were average particle size, soil pH, and filtering ability of organic contaminants. The average soil particle size is a measure of the amount of sand, silt, and clay in a soil. This is quantified by measuring the specific gravity of a soil water mixture over time to see how quickly the particles settle out. Soil pH is a measure of how acidic or basic a soil is. This is measured by mixing the soil in a 1:1 solution with water, and measuring its pH with an electronic meter. The soil's filtering ability can be determined by letting contaminated water percolate through the soil, and then measuring the amount of contaminant left in the percolated water. Red food coloring was the contaminant used in this project. The results from these tests conclude that Loam was the best soil in Kit Carson County in preventing groundwater contamination. The worst soil was Sandy Loam. Further research and testing would be able to develop a comprehensive map that shows which areas in Kit Carson County are more susceptible to groundwater contamination.