

U.S. Geological Survey Toxic Substances Hydrology Program

# Toxic Substances in Surface Waters and Sediments—A Study to Assess the Effects of Arsenic-Contaminated Alluvial Sediment in Whitewood Creek, South Dakota



Professional Paper 1681

Photographs on the cover and within site maps of this report depict sampling sites along Whitewood Creek, South Dakota, in downstream order.

*Top left photograph*, Headwater site, 7 kilometers upstream from mining activities.

*Top center photograph*, Sewage-Treatment Plant site located 0.25 kilometer downstream from the wastewater-treatment plant in Deadwood, South Dakota.

*Top right photograph*, A sampling site along Whitewood Creek above the town of Whitewood, South Dakota. High gradient reach of stream below historic inputs of mine tailings. Photograph is near location of site C described in section II of this report.

*Bottom left photograph*, A site above Vale, South Dakota, showing a wider channel and slower velocities relative to upgradient, steeper sloping sites (note the thick algal and macrophytic mats lining the channel). A tangential-flow filtration device was used to collect and chemically characterized suspended sediments in the water column.

*Bottom right photograph*, Sheeler Seep site where ground-water seeps were marked along the channel banks by ferrihydrite precipitation. Photograph is near location of site A described in section II of this report.

Photographs were taken by J. Kuwabara and C. Fuller in August 1986.