

## Hazards of Heavy Metals at Abandoned Mine Sites in Arizona

Dr. Tom Cahill

The early days of mining in Arizona consisted of relatively small mines that were worked by hand for silver, copper, gold and lead. Only the most concentrated, high-grade ore was removed and processed, which left considerable low-grade ore on site in waste rock and tailing piles. These ores often contain high concentrations of toxic elements, such as arsenic, lead and uranium. Many of these small scale mines were simply abandoned prior to environmental regulations requiring cleanup of these sites, so these mines remain un-mitigated where they can leach toxic elements into the environment. Research in the Cahill lab investigates the environmental hazards associated with these sites by: 1) measuring the elements in these abandoned mine site soils and the plants growing in them; and 2) growing native plants in the laboratory in soils from these mines and comparing them to control soils.