

## What is bioremediation?

Bioremediation is the use of microorganisms to decrease, eliminate, or contain contaminants. This technology is not new: Bioremediation in the form of composting has been practiced since the beginning of agriculture. The use of this technology for treatment of wastes is becoming more common, particularly for clean up of spilled gasoline and other fuels. The potential to use bioremediation for wastes containing metals and radionuclides, however, has been relatively unexplored. This is the focus of the DOE Natural and Accelerated Bioremediation Research (NABIR) Program.

## Why study bioremediation of metals and radionuclides?

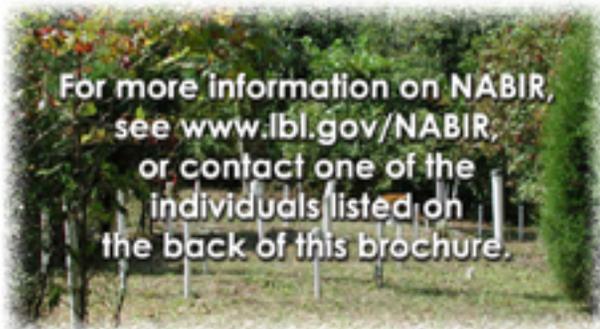
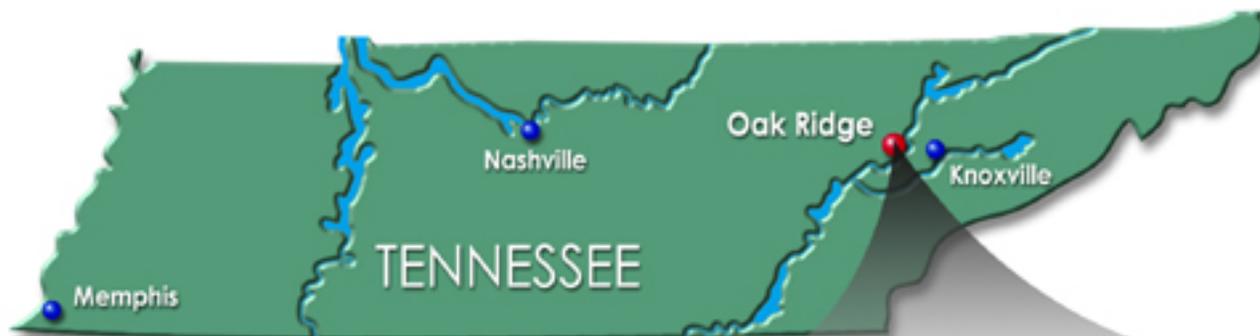
Metal and radionuclide contamination resulted from the legacy of nuclear weapons manufacturing, testing, and storage. Scientists in the NABIR program are discovering ways to use microorganisms to remove these contaminants from groundwater by immobilizing them within the subsurface sediments. This bioremediation strategy will reduce the risk to human health and the environment.

## The NABIR Field Research Center in Oak Ridge, Tennessee

The NABIR Field Research Center is located on DOE's Oak Ridge Reservation at the Y-12 National Security Complex in eastern Tennessee. Prior research at this site has provided baseline information on the nature and extent of contamination. NABIR researchers will compare a site contaminated with uranium, technetium, and nitrate to an uncontaminated background site.

## About DOE's NABIR Program

The NABIR Program provides the scientific foundation for the development of bioremediation strategies for metal and radionuclide contamination in groundwater and subsurface sediments. The program supports a combination of laboratory, field, and theoretical research in microbiology, ecology, chemistry, geology, and computer science. The research is focused on bioremediation of uranium, technetium, plutonium, chromium, lead, and mercury.



For more information on NABIR, see [www.lbl.gov/NABIR](http://www.lbl.gov/NABIR), or contact one of the individuals listed on the back of this brochure.

### FRC Uncontaminated Background Area

