EXECUTIVE SUMMARY

A site inspection (SI) was performed at the Akers Mine site, located in the Malheur National Forest, in northeastern Oregon. The SI was conducted to determine if the site poses an immediate or potential threat to human health or the environment, and to collect information to support a decision regarding the need for further action.

The inactive mine site consists of one open adit with water discharge, one large waste rock pile, one small waste rock pile, one small stained soil/tailings pile, and several small pits or excavations. There are no buildings or other structures located on the site, which is situated along Windlass Creek approximately 3.5 miles above its confluence with the Middle Fork John Day River. At the time of the SI, a local citizen was working a claim downstream of the site and had erected several structures and placed various pieces of equipment along the site access road.

Tasks performed during the SI included background research and file review, onsite and offsite reconnaissance, and collection and analysis of soil, waste, surface water, pore water, sediment, plant tissue, and benthic macroinvertebrate samples. Field activities were performed in June 2004. Results of the SI indicated the following (contaminant concentration data are provided in the SI Data Summary Sheet):

- **Groundwater Pathway:** Records were found for two private wells within a 4-mile radius of the site. However, both are located more than two miles from the site and are not downgradient. Based on this, the groundwater pathway is incomplete and no further investigation of this pathway appears warranted.

- **Surface Water Pathway:** Metal contaminants have been released into Windlass Creek from the site and appear to have impacted surface water (primarily arsenic), pore water (lead) and stream sediments (several metals) causing concentrations to exceed comparison criteria primarily for ecological receptors. Therefore, the surface water pathway is complete. However, results of the benthic macroinvertebrate survey do not indicate an impact from the mine.

- **Soil Pathway:** A release of hazardous substances has been documented in this SI. The soil pathway is complete for both human and ecological receptors. Onsite soil and waste rock samples exceeded the U.S. Environmental Protection Agency Industrial Preliminary Remediation Goals for arsenic, lead, and iron. In addition, onsite vegetation appears to be impacted by site activities. Lead and iron were detected at slightly elevated concentrations in an onsite plant tissue sample, compared to background plant tissue.

- **Air Pathway:** Air samples were not collected as part of the SI. The most likely exposure route of contaminants through the air is via inhalation of particulate matter. This pathway is considered complete because arsenic-impacted soil and waste material is concentrated near the ground surface, where human and ecological receptors could be exposed to particulate matter. Because the air pathway is directly related to the soil exposure pathway, addressing and/or eliminating contaminated soils at the site would likely render the air pathway incomplete. Therefore no further assessment of the air pathway appears warranted.

Based on the information gathered during the SI and presented in this report, the performance of a streamlined Engineering Evaluation/Cost Analysis (EE/CA) at the Akers Mine site is recommended. As part of the EE/CA, a risk assessment should be performed to assess potential human and ecological impacts, establish site removal cleanup standards, assess whether a removal action is warranted, and evaluate alternative remediation technologies.