

TITLE: POLLUTION PREVENTION IN THE NATIONAL PARK SERVICE

AUTHOR: HUNT, S.N., NPS

CONTACT: Hunt, Steven (970) 225-3513

ABSTRACT:

The national park system consists of 367 park units covering more than 80 million acres across the United States and its possessions. The NPS is responsible for resource preservation, facility operations, and management of park visitation, and must administer the national park system according to a standard that will keep the parks unimpaired for future generations. In addition, pollution prevention and right-to-know laws are now by executive order applicable to the federal government. An effective pollution prevention program can lead to improved environmental management, reduced use of toxic chemicals, and decreased generation of hazardous waste.

TITLE: TREATMENT OF MINING AND MINERAL PROCESSING WATERS USING A SYSTEMS APPROACH

AUTHORS: JEFFERS, T.H., USBM and A.E. Isaacson

CONTACT: Jeffers, Tom (801) 584-4135

ABSTRACT:

In response to a critical need to remove toxic metals from our Nation's streams and waterways the U.S. Bureau of Mines (USBM) is combining innovative USBM-developed water treatment techniques with existing technologies to create more effective systems for complex water. A systems approach is used to ensure that the best combination of unit operations can be tailored for a particular site. The USBM technologies include primary treatments to recover salable metals and minimize solid waste generation and secondary treatments to produce effluents meeting strict water quality criteria. Examples of primary treatments include biogenic sulfide generation, passive biological treatment liquid emulsion membranes and processes that improve alkaline neutralization. Secondary treatments include polymeric beads containing immobilized extractants biological adsorbents zeolites and ion elutriation. These technologies are currently in various stages of development and three have achieved commercial application. This strategy is applicable to contaminated waters emanating from abandoned adits and pits waste rock dumps and active workings. A significant current focus of USBM activities is application of the systems approach to remediation of waters on Federal lands administered by the Bureau of Indian Affairs the U.S. Forest Service and the National Park Service.

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