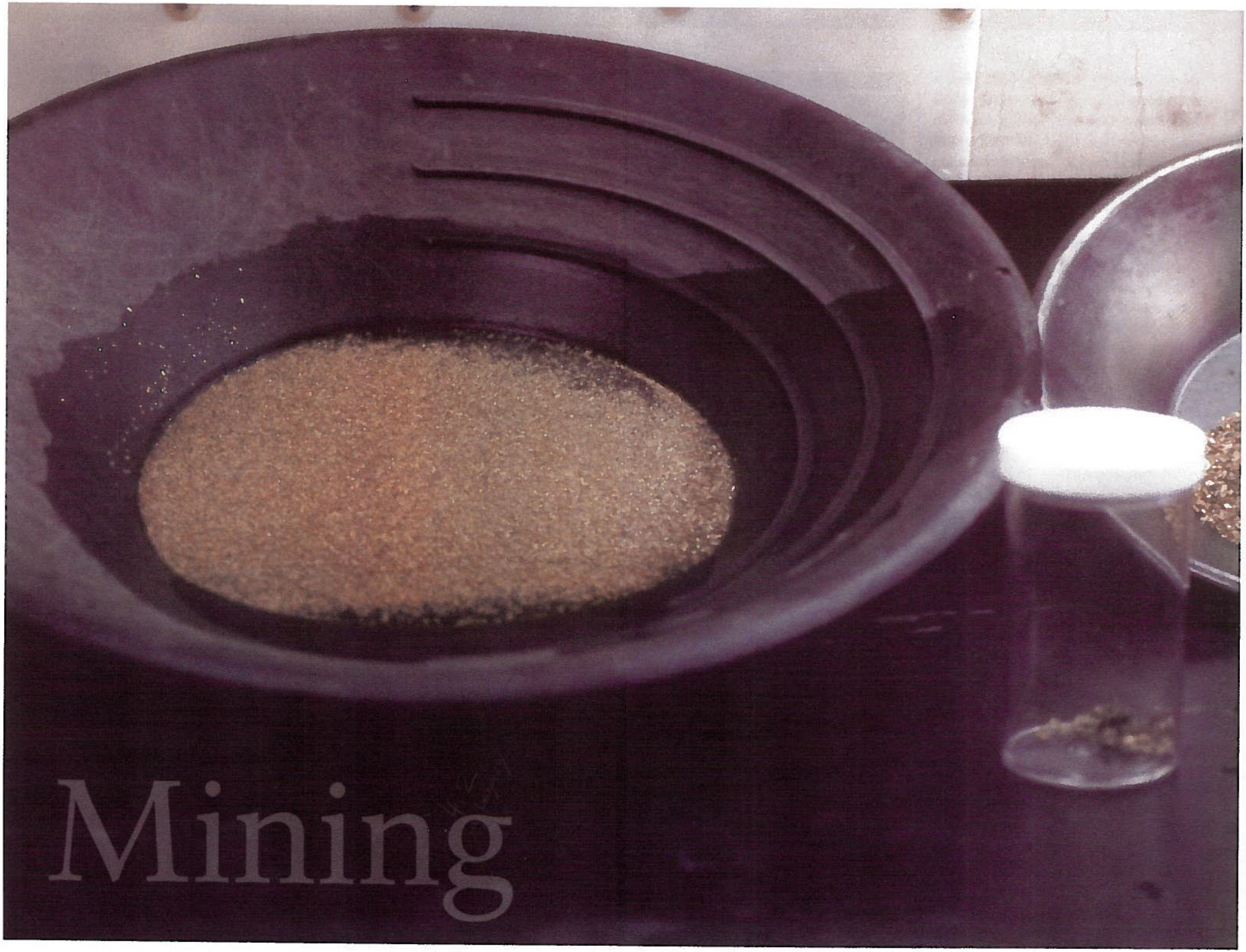
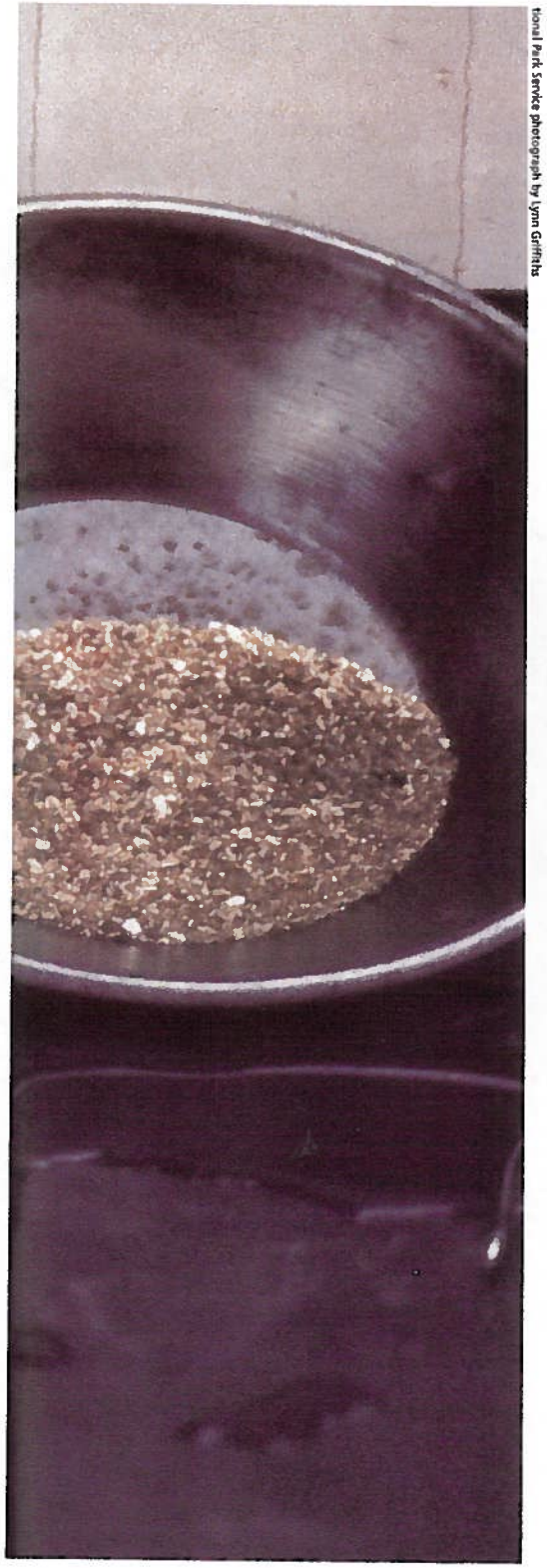

Mining



tional Park Service photograph by Lynn Griffiths

National Park Service photograph

Figure 1: The Bonanza Mine 3,700 feet above the Kennecott Mill was in production back in the early 1900s. The tram supplied ore to the mill and equipment, supplies, and personnel to the mine. This aerial cable tram was over 2.5 miles long and had an incredible elevation change.

Figure 2: Gold recovered from a washplant clean-up.

Mining Legacy in National Parks of Alaska

By Lynn Griffiths and Russell Kucinski

With the passage of ANILCA, over 4,000 administratively active mining claims came under the jurisdiction of the National Park Service in Alaska. There were reportedly 35 active mining operations in Denali National Park and Preserve alone when a court ordered injunction ceased most activity in 1985. The number of mining claims in Alaska park units has since decreased to about 600, most of which are patented claims (private lands). Mining has left many mine sites; some with a rich cultural history and some with disturbed lands and hazardous conditions *(Figure 1)*.

Mining claims brought under NPS jurisdiction are subject to prior existing rights determinations. Geologists are tasked with mapping and sampling the mining claims and running economic analyses to determine if the claims were economically viable at the time of creation of the park unit and continuously thereafter. If the mining claims do not meet the criteria, they are subject to "Null and Void" decisions.

There are two basic types of mining claims, placer and lode. Placer mining claims are those that are staked for the purpose of mining unconsolidated sediments to recover precious metals *(Figure 2)*. Recent mining has occurred in nine parks in Alaska, and hundreds of acres of land have been mined. The majority of recent placer gold mining activity has occurred in the Kantishna area of Denali *(Figure 3)*. Prospectors also staked lode mining claims for metals such as silver and copper. A lode deposit is a mineral deposit in solid rock. The Nabesna gold mine, Silver Star silver mine and Kennecott copper mine, all located within Wrangell-St. Elias are examples of this type of deposit.

Mining in a park is regulated by the NPS under the Mining in the Parks Act of 1978 and associated regulations. Any mining or mineral extraction related activity in a park requires approval of a Plan of Operations, which includes an analysis of environmental impacts. Although mining is regulated by

the NPS under the Mining in the Parks Act, the Alaska Mineral Resource Assessment Program (AMRAP), which was mandated by ANILCA, assesses minerals in the entire state, including national park units. The AMRAP program, headed by the U.S. Geological Survey, helps identify strategic and necessary mineral deposits for national security and the overall economic health of the United States.

Associated with mining is the need for access to the mining site. Some mines were accessed during the winter when route conditions were adequate for travel by heavy equipment. Others were accessed by airplane, including shipping supplies and fuel to the site by air. An all-season road was constructed across Cape Krusenstern National Monument for the Red Dog Mine, which is a major world source for lead and zinc concentrates *(Figure 4)*.

Alaska's history of mining has left some NPS areas in disarray, with tailings piles, disturbed un-vegetated areas, abandoned equipment and hazardous substances, such as barrels of diesel fuel. The NPS is currently conducting site clean-up and land restoration on several streams including Eureka Creek, Caribou Creek and Glen Creek, located in Denali National Park and Preserve.

Even though mining claims and mining in Alaska parks has all but disappeared, a rich mining history has been left in places such as the Kennecott mill and mines in Wrangell-St. Elias, and the mines in the Kantishna area of Denali. Interpretation of these and other historic mining sites enables park visitors to better understand mining's effects on Alaska.

National Park Service photograph by Lynn Griffiths

Figure 3: Modern placer mining operation in the early 1980s in the Kantishna area of Denali. An excavator feeds a washplant which cleans and sizes material allowing gold to be trapped in the sluice box.

National Park Service photograph by Lynn Griffiths

Figure 4: Trucks hauling ore concentrates across monument lands to the port and storage facility.

Mining in the Parks

By John Quinley

The ANILCA parks were vast, but within their boundaries were existing private uses, even whole towns in a few cases. Mining was among the uses, both on parcels of patented property and on unpatented mining claims. Mining is subject to the Mining in the Parks Act of 1978, giving the NPS jurisdiction over mining plans of operation and their effects on neighboring park land. In 1985, the government was sued, with plaintiffs asserting the NPS had failed to meet its legislated responsibilities to protect Alaska's park resources and account for the cumulative effects of mining. The courts eventually agreed, ruling that the NPS had to consider the effects of past mining as it evaluated proposals for new mining.

That order initiated a lengthy series of environmental impact statements regarding mining in Denali National Park and Preserve, Wrangell-St. Elias and Yukon-Charley Rivers National Preserve. Investigations were launched to look at resources in and near areas where there were concentrations of claims. The work included studies of water quality and flows, soils, vegetation, fish, wildlife, and historic resources.

There had been precursor studies of mining in parks, but the requirement for environmental impact statements brought about an effort to "gather more specific, in-depth information to try to assess the cumulative effects of mining on key resources, and determine how those effects related to the rest of the park," remembered Alex Carter, a manager in the Mineral Resources Division of the NPS in the late 1980s *(Personal communication, 2005)*.

The environmental impact statements established "resource protection goals," essentially limits to the amount of change in resource categories such as vegetation. Resource managers could then compare past uses and impacts with proposed uses. In addition, the studies determined that the NPS should purchase mining claims in these park units and conduct restoration of the environment in the vicinity of previously mined areas in order to reestablish natural conditions and processes.

Resource protection goals, resource data, the study areas and other decisions made in the environmental impact statement process held up under public scrutiny and federal appeals court review, and became an integral part of evaluating new mining plans of operations in parks. In Yukon-Charley Rivers and Wrangell-St. Elias, the data also formed some of the first baseline resource studies for the new parks, a forerunner to the more recent and expansive Natural Resource Challenge.