NPL Site Narrative for Stibnite/Yellow Pine Mining Area

STIBNITE/YELLOW PINE MINING AREA
Yellow Pine, Idaho

The Stibnite/Yellow Pine Mining Area is about 14 miles east of the town of Yellow Pine in Valley County, Idaho, in the Payette National Forest. The site comprises a number of waste source areas resulting from mining along Meadow Creek and East Fork South Fork (EFSF) Salmon River. The site includes both National Forest Service lands and private lands, although most of the mining and processing areas, both historic and current, are on patented (private) claims.

Mining and milling of gold-antimony ore was begun in the 1930s. During World War II the mining area gained significance as the largest producer of strategic metals, specifically antimony and tungsten, which had many wartime uses. A smelter was constructed at Stibnite in 1948 to refine concentrates from the mill.

Exploration of gold reserves in the area resumed in 1970, and from 1979 through 1991 the Canadian Superior Mining (CSM) Company constructed and operated a successful cyanide heap-leaching process to recover gold from low-grade ore. Later owners included the Superior Mining Company, Mobil Oil Corporation, Pioneer Metals, Pegasus Gold Inc., and Stibnite Mine Inc. (SMI). Hecla Mining Corporation (Hecla) also conducted cyanide heap-leaching on properties formerly owned by Bradley Mining Company adjacent to SMI of historic stockpiled ore and new workings for supplemental ore.

Mining-related disturbances in Meadow Creek and EFSF Salmon River that are discrete source areas of potential contaminants include the Bradley tailings (main deposition area), smelter process area and wastes, process ponds, 5 heap-leach pads, and an open-pit mine. Contaminants associated with these source areas include heavy metals and cyanide in area soil, groundwater, seeps, and sediments.

In October 1991, the U.S. Fish and Wildlife Service documented a release of arsenic (6.38 parts per million) in steelhead trout taken from EFSF Salmon River below Sugar Creek, which exceeds the cancer risk and reference dose levels. In June, 1993, the Forest Service collected soil, sediment, surface water, and groundwater samples at 33 locations from above the Bradley tailings to Sugar Creek and arsenic was detected in all sampled media.

Concentrations of contaminants exceeding EPA freshwater chronic water quality criteria were detected in surface water samples collected from four sampling stations on Meadow Creek below the Keyway dam, Meadow Creek above its confluence with the EFSF Salmon River, EFSF Salmon River below its confluence with Meadow Creek, and EFSF Salmon River above its confluence with Sugar Creek. The Bradley tailings are in the upper Meadow Creek channel, with the creek diverted around the tailings. Meadow Creek joins the EFSF Salmon River about 0.9 mile downstream of the Bradley tailings. Concentrations of metals exceeding three times background were detected in sediment samples also collected from the same four sampling stations.

The East Fork of the South Fork of the Salmon River is habitat for the Snake River spring/summer Chinook salmon, a Federally-designated threatened species. All perennial streams, riparian areas, and floodplains in this watershed are designated critical habitat. These areas include Meadow Creek.

In addition to chinook salmon, there are several other fish species in the streams down gradient of the Bradley tailings including rainbow trout, cutthroat trout, and Dolly Varden. Sport fishing occurs in the area.

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at ATSDR - ToxFAQs (http://www.atsdr.cdc.gov/toxfaqs/index.asp) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.