

A STUDY OF THE CENTRAL PART OF THE INDEPENDENCE MINING DISTRICT, PARK AND SWEET GRASS COUNTIES, MONTANA

by
Phillip R. Moyle
and Alan R. Buehler
Bureau Of Mines
Western Field Operations Center
East 360 3rd Ave.
Spokane, WA 99202-1413

Independence mining district, at the head of the Boulder River in south-central Montana, was the subject of a recent site-specific mineral investigation by the U.S. Bureau of Mines. Fieldwork consisted of detailed mapping, magnetic surveys, soil sampling, and rock sampling from workings and outcrops. A 3,000-ft by 2,000-ft area containing anomalous gold concentrations was identified as a result of the study. The study concentrated on the zoned, polyphase intrusive core of Independence volcano. The Late Cretaceous-age volcano erupted along the northwest-trending Cooke City fault zone. Final emplacement of the stock was followed by hydrothermal alteration, including sericitization, kaolinization, and pyritization, associated with precious and base metal mineralization. Minor pre-1900 production from the mining district is unrecorded; but, between 1900 and 1940 three mines intermittently produced minor amounts of gold, silver, and copper. Ore was mined from steeply-dipping narrow veins which strike northwest in the granodiorite core of the stock. Production came primarily from supergene oxide zones reported to be less than 100 ft (30 m) deep. Mining attempts were abandoned wherever unoxidized material was encountered, and production from the district ceased in 1940.