

RUSH VALLEY MINING DISTRICT

Tooele County, Utah

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Lead, zinc, silver metallization was first discovered in the Rush Valley Mining District in 1864 and the mines have since produced more than \$120,000,000 from approximately 1,200,000 short tons of ore. The exposed sedimentary rocks of the district are an interbedded sequence of quartzites and limestones of the Pennsylvanian and Permian Oquirrh Formation that lie approximately 4000 feet to 9000 feet above the Manning Canyon shale. The limestone beds which range up to 100 feet in thickness are medium to dark gray, sandy and thin-bedded with occasional shaly partings. Dense, buff to gray, fine grained, glassy quartzites and calcareous sandstones separate the carbonate units. The sediments which form part of the northeast limb of the northwest plunging Ophir anticline strike approximately north 70° - 80° west and dip 60° - 80° north. Bedding is locally overturned in the northern part of the district with dips of 70° - 80° south. Two ages of faulting are evident in the district, (1) bedding plane faults of minor displacement, and (2) north-trending faults with steep westerly dips which controlled mineralizing solutions and may have controlled, in part, the emplacement of igneous dike rocks. The igneous dike rocks are predominantly quartz monzonite porphyry. The carbonate sediments are bleached and recrystallized near intrusive contacts and small bodies of calc-silicate minerals including diopside, epidote, andradite, idocrase, and wollastonite occur locally along dikes and fissures. The siliceous rocks are occasionally metamorphosed to a hornfels. The ore bodies are steeply north plunging pipe-like or blanket-like replacement deposits that are localized at the intersections of the north-trending fault, dike, and breccia zones and the more favorable limestone beds. The ore consists primarily of galena and argentite with varying amounts of sphalerite and chalcopyrite in a gangue of pyrite, calcite and quartz. The ore bodies are almost completely oxidized to a depth of 700 to 800 feet.