

Boulder County

Ward District

The Ward District lies about ten miles west of the city of Boulder. The area is underlain by the Precambrian Idaho Springs Formation, including quartz-mica schist, sillimanite schist, quartz-biotite schists and the Silver Plume Granite. These are intruded by the Laramide-age White Raven quartz monzonite porphyry. The contact of this quartz monzonite with country rock is commonly mineralized. Much of the ores are auriferous pyrite and argentiferous galena. The productive zones occur in tabular shoots and chimneys. While there are some gold tellurides locally, most of the gold ore was pyrite/chalcopyrite in quartz (Worcester, 1924). The silver-lead ores occur in a gangue of calcite and byrite. The pyritic ores ranged in grade from 0.1 to 0.5 ounces per ton, with up to 3 ounces per ton in the oxidized zone.

Aggregated production, according to Vanderwilt (1947) was approximately 80,000 ounces of gold, 20,420 ounces of silver, 170,380 pounds of copper and 25,755 pounds of lead. All the major mines were developed by 1871, and continued producing sporadically until 1945. While more than 200 mines produced in the Ward District, only thirty-four mines were producing in 1935.

Minerals listed by Mindat.org are the following:

Acanthite	Coloradoite	'K Feldspar'	Siderite
'Albite-Anorthite Series'	Columbite	Krennerite	Silver
Altaite	Copper	Malachite	Sphalerite
Azurite	Dawsonite	'Mica Group'	Stibnite
Baryte	Fizélyite	Molybdenite	Sylvanite
Beryl	Galena	Pearceite	Tantalite
Bornite	Gold	Petzite	Tennantite
Calcite	var: Electrum	Polybasite	<i>Weissite ?</i>
Cervelleite	Hessite	Pyrite	Wolframite
Chalcocite	Hübnerite	Quartz	
Chalcopyrite	Jalpaite	Samarskite-(Y)	

Significant mines included the following:

Celestial	Celestial Extension	Morningstar
B&M	Baxter	Boston
Columbia	Madelaine	Niwot
Sullivan No. 5	Utica	White Raven
Dew Drop	Orphan Boy	Free Coinage
Copper Glance	Ruby.	

References:

[Mineral Resource Data System \(MRDS\) - Online Spatial Data – Ward District](#)

Del Rio, S. M., 1960, *Mineral Resources of Colorado, First Sequel*, State of Colorado Mineral Resources Board, Denver, CO.

Lovering, T.S. and Goddard, E.N., 1950, *Geology and Ore Deposits of the Front Range, Colorado*; U.S.G.S. Professional Paper 223.

Vanderwilt, John W., 1947, *Mineral Resources of Colorado*, State of Colorado Mineral Resources Board, Denver, CO.

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