

## **Pitkin County**

### **Lenado District (within Aspen District)**

Lenado has been generally considered as part of the larger **Aspen District** or **Roaring Fork District** (Dunn, 2003; Vanderwilt, 1947). Bryant (1978) mentions the Lenado District as a "satellite" district of the Aspen District.

The geology of the Lenado District is basically the same as the Aspen District. The Lenado Project discussed by Bryant (Ibid) provided some 1370 feet of diamond drilling in the Woody Creek valley with an accompanying geochemical study by McCarthy and Gott (1966). The drill core (albeit with poor recovery) revealed numerous faults and breccias that Bryant and other investigators interpret to a paleokarst origin - collapse of the active erosion surface by dissolution of underlying carbonates.

Spurr's landmark paper (1898) contains a small section on the Lenado Canyon area (pages 117-125.) Spurr delineates the stratigraphy as a shale overlying a carbonate overlying a Cambrian quartzite. At the Aspen Contact Mine, Spurr reports that the dolomite is "much broken up" with blocks of limestone and ore. He describes a breccia between the dolomite and the underlying quartzite referred to by the miners as "talc," where the richest ores occur. Those zones are significant - up to 40 feet thick stretching up to 300 feet laterally. (This description can certainly fit with Bryant's paleokarst explanation.)

The Leadville Mine shows the same geology as the Aspen Contact Mine. The ore is mainly lead and zinc sulfide with some carbonate (Spurr, Ibid).

Eberhart (1969) describes the town of Lenado as a small settlement in the midst of the best mines in the canyon. It became the home of the area's largest employer - the Varney Tunnel Company. A large lead mill opened in the town in the early 1890s and closed and opened several times. The last production was in 1917 to provide zinc to the war effort (Eberhart, Ibid).

Mines in the district (Dunn, 2003; mindat.org; Spurr, 1898) include:

- [Downunder Mine](#)
- [Lenado Tunnel](#)
- [Aspen Contact Mine\\*](#)
- [Leadville Mine\\*](#)
- [Bimetallic Tunnel\\*](#)
- [Tilly Shaft\\*](#)

Note: \*Mines described in detail in Spurr (1898).

Minerals listed in the district (mindat.org) include:

[Galena](#)

[Greenockite](#)

[Hemimorphite](#)

References:

Bryant, Bruce. 1979. Geology of the Aspen 15-minute Quadrangle, Pitkin and Gunnison Counties, Colorado. U.S. Geological Survey Professional Paper 1073.

Dunn, Lisa. 2003. Colorado Mining Districts: A Reference. Colorado School of Mines, Golden, Colorado.

Eberhart, Perry. 1969. *Guide to Colorado Ghost Towns and Mining Camps*. Fourth, revised edition. Swallow Press, Athens, Ohio.

McCarthy, J.H. Jr. and Gott, G.B. 1966. The Distribution of Ag, Pb, Zn, Sb, As, and Hg in Soils at Lenado, Aspen Quadrangle, Colorado. U.S. Geological Survey Open-File Report 66-83.

Spurr, J.E. 1898. Geology of the Aspen Mining District, Colorado, with Atlas. U.S. Geological Survey Monograph No. 31.

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

[www.mindat.org](http://www.mindat.org), accessed July 2015.