

A shining past - a glowing future - the Steple Rock Mining District, Grant county, New Mexico

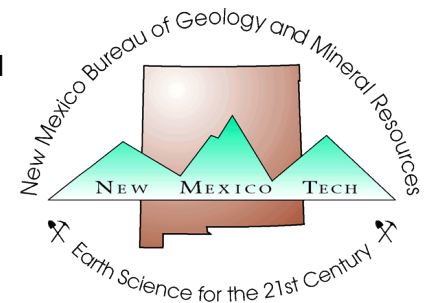
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The annual [New Mexico Mineral Symposium](#) provides a forum for both professionals and amateurs interested in mineralogy. The meeting allows all to share their cumulative knowledge of mineral occurrences and provides stimulus for mineralogical studies and new mineral discoveries. In addition, the informal atmosphere encourages intimate discussions among all interested in mineralogy and associated fields.

The symposium is organized each year by the [Mineral Museum](#) at the [New Mexico Bureau of Geology & Mineral Resources](#).



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A SHINING PAST - A GLOWING FUTURE – THE STEEPLE ROCK MINING DISTRICT, GRANT COUNTY, NEW MEXICO

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During the 2008 NM Mineral Symposium, Bob Walstrom gave a presentation titled Micromineral Occurrences, Steeple Rock District, Grant County, New Mexico. In his abstract he stated – “Although the Steeple Rock district did not appear to have many possibilities for collectable mineral specimens when researching the published data, on the ground searching of the dumps and mines turned up a surprising number of collectable items”. Over the last year or so, Christina Johnson and I have been following in Bob’s footprint. This presentation is dedicated Bob Walstrom for his many contributions to NM mineralogy.

This presentation started out as an update to Bob’s list of collectable minerals, but I realized this was only part of the story. The purpose of this presentation is twofold, to remind the listener of the district’s shining history and geological characteristics (with some photos of specimens recently found); and to describe Santa Fe Gold Corporation’s plans to reopen the Jim Crow group of mines in the southern part of the district and the Billali Mine in the northern part of the district. Other mines may also be reopened in the future if determined to be economically viable.

The Shining Past

In 1846 Lieutenant William H. Emory led a detachment of topographical engineers across an area southwest of Santa Fe for the purpose of establishing wagon roads. After visiting the Copper mines at Santa Rita, the group moved to the Gila River and down that waterway to camp at a point at what is now the border between New Mexico and Arizona. To the north the group observed a distinctive rock formation and by consensus named the edifice Steeple Rock. The name was duly noted in the margin of their survey map.

It was not until the 1860s that mineralization was noted northwest of Steeple Rock. However, it was not until 1880, after the Indian threat had abated, that the Steeple Rock district was organized and mining began. The district is located about 15 mi northeast of Duncan, Arizona, approximately 3 miles inside Grant County, New Mexico. The district, from 1880 to 1993, produced approximately 151,000 oz of Au, 3.4 million oz of Ag, 1.2 million lb of Cu, 5 million lb of Pb, 4 million lb of Zn in addition to commercial amounts of fluorite and manganese.

Rocks exposed in the Steeple Rock district are essentially a sequence of Tertiary units consisting of andesite, basaltic andesite, and dacite lavas. Mineralized epithermal quartz veins are structurally associated with generally northwest-southeast trend-

ing faults. Vein matter consists of quartz as much as 10 ft wide with some reaching several miles long.

Ore minerals include: gold, silver, acanthite, galena, sphalerite, chalcopyrite and pyrite. Published mineral species for the district include: acanthite, albite, alunite, augite, azurite, barite, biotite, calcite, chalcocite, chalcopyrite, chlorite sp., chrysocolla, dufrenite, epidote, fluorite, galena, gold, hematite, jarosite, kaolinite, limonite sp., magnetite, muscovite, orthoclase, plumbojarosite, pyrite, pyromorphite(?), quartz, silver, tetrahedrite, and vanadinite(?). Species new to the district include: aurichalcite, brochantite, cerussite, chalcantite copper, cuprite, desclozite, dolomite, duftite, goethite, gypsum, libethenite, malachite, mimetite, mottramite, pyrolusite, siderite, smithsonite, vanadinite, and willemite.

Most of the larger mines have been patented or otherwise are located on private property, and permission to collect must be obtained for access. Roads are gravel or compact dirt and include the Carlisle Road approaching from the southwest and Bitter Creek Road approaching from the northwest, both of which are well marked and county-maintained.

The Glowing Future

The Company’s properties consist of the Jim Crow group of mines of patented and unpatented claims in the southern part of the district and the Billali with a patented mining claim in the northern part of the district, all of them are fully permitted. The Billali mine is a lode mining claim patented in 1899. The Billali Mine has been rehabilitated, and Santa Fe Gold plans on starting underground mining production in late 2022 or early 2023. The Jim Crow group is made up of seven patented and two unpatented mining claims. Initial site investigations have been completed at the Jim Crow group of mines, and Santa Fe Gold plans on extending underground operations starting in late 2023.

A complete crusher circuit is in place and was used to prepare Flux material from the Summit Mine. A mill site in Duncan AZ has been acquired for milling operations. The property was originally the site of a Cotton Gin. The proposed mill circuit will produce concentrate at a projected rate of 50:1. The milling site will be advantageous and cost effective to ship the generated concentrate. Based on RDI (Resources Development Inc.) lab testing results have indicated an estimated recovery grade for Gold of 98% and Silver 93%, with head ore content of .2 toz/t or 6.22g/t of Gold and 8 toz/t or 248.8g/t of Silver.

References:

- Hedlund, D. C., 1990, Geology and mineral deposits of the Steeple Rock and Duncan mining districts, Grant and Hidalgo Counties, New Mexico, and Greenlee County, Arizona: U.S. Geological Survey, Open-file Report 90-239.
- McLemore, V. T., 2008, Geochemistry and statistical analyses of epithermal veins at the Carlisle and Center mines, Steeple Rock District, New Mexico, USA, Arizona Geological Society Digest 22
- McLemore, V. T., 2019, NMBGMR, Status of the Mining Industry in New Mexico - 2019
- Northrop, S. A., 1996, Minerals of New Mexico, 3rd ed., revised by F. A. LaBuzza: University of New Mexico Press, Albuquerque, 346 pp.