

07 - Cerro Rico – A unique mineral and metal ore mountain – Potosi / Bolivia

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Cerro Rico is a mountain close to the old colonial town of Potosi (founded in 1545) which is famous since the 16th century. The elevation of Potosi is 4067 m above sea level, Cerro Rico is about 4800 m (Figure 1). Potosi was one of the world famous towns due to the tremendous occurrences of silver producing more than 50% of the world's silver production at that time (Figure 2). The population of about 160.000 inhabitants in 1600 was similar to the population of Amsterdam or London at that time. Nowadays the mines still produce zinc, tin, tungsten, lead, copper and silver. The Cerro Rico magmatic dome ores are enriched in different veins in quartz porphyric rocks, breccias and tuffs and is part of the central Andean tin belt. Therefore it is a vein-hosted polymetallic deposit. Silver is enriched in the upper part of the deposit and tin is mainly occurring in the lower part. It is described that more than 60.000 t of silver and 100.000 t of tin were produced. Cerro Rico contains many different minerals and is a type locality for 2 new tin sulfide minerals (ottemannite – Sn_2S_3 and berndtite - SnS_2). The Spanish king Charles V stated „I am rich Potosi“ to document the richness produced in Potosi at that time.

A summary of the most important minerals are given in www.mindat.org/loc-325.html. Besides the typical ore minerals especially from all minerals probably the best crystals of slightly green phosphophyllite, $(\text{Zn}_2\text{Fe}(\text{PO}_4)_2 \cdot 4\text{H}_2\text{O})$, were found there. A literature about the Potosi mine is described too.



Figure 1. View of Cerro Rico and mine dumps at the rim of the mountain.



Figure 2. Mining at the rims of Cerro Rico.

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