



A gold ore exhibit commemorating recognition of the mine having the highest gold content in Japan (1997)

A World-leading Gold Mine in Modern Japan



The Hishikari Mine in Isa City, Kagoshima Prefecture, is one of the world's leading gold mines today in terms of the gold content of its mined ore and its cost performance.

SASAKI TAKASHI

THERE used to be many mines for gold, silver, copper, and iron in Japan, but today, the only gold mine operating on a commercial scale is the Hishikari Mine in Isa City, Kagoshima Prefecture, owned by Sumitomo Metal Mining Co., Ltd.

“In areas where there is volcanic

Hishikari Mine in Isa City, Kagoshima Prefecture

Pure gold with a purity of 99.99% refined at the Toyo Smelter & Refinery in Ehime Prefecture



activity, a variety of substances are dissolved in groundwater that is heated by magma. When these substances cool and harden, they become an ore deposit. Kagoshima Prefecture has always been a place of rich underground resources, and the gold ore deposits of Hishikari are a blessing of volcanoes, just as hot springs are,” says Sumitomo Metal Mining Public Relations and Investor Relations Dept. Manager Shirakawa Hirokazu.



A mine shaft of over 100 meters in length

In 1981, a promising gold ore deposit was found in the Hishikari Mine and gold has been produced here since 1985. The gold ore produced is refined at Sumitomo Metal Mining’s Toyo Smelter & Refinery in Ehime Prefecture, and there it becomes pure gold with a purity of 99.99%. The average production of

around six tons per year is an enormous amount compared to gold mines of the past in Japan. For example, while the times are different and a simple comparison cannot be drawn, the Sado Kinzan Gold Mine¹ produced more than 83 tons of gold in around 400 years up to the latter half of the 20th century, while the Hishikari Mine has produced a cumulative 260 tons in 40 years.

Hishikari’s most notable features are the amount of gold contained in the ore and the relatively low cost of refining it.

“Hishikari Mine features high-grade ore. Outside Japan, it is said that three grams of gold per ton of ore is sufficiently profitable, but the amount of gold found in the ore at Hishikari Mine exceeds 20 grams, which is first class. The cost of producing gold is roughly proportional to the amount of ore, so we can produce pure gold efficiently at low cost,” says Shirakawa.

With known current reserves of around 157 tons (as of the end of December 2021) at Hishikari Mine, simple calculations indicate that mining can continue at the site for another 25 years.

However, Shirakawa says, “From 2023, we have lowered the amount of

gold production from 6 tons to 4.4 tons per year. This is because it is our mission to make full use of the valuable underground resources by together mining ore with a comparatively low gold content from the surrounding seams.”

The Hishikari Mine operates in an environmentally conscious manner and contributes to the local area in various ways, such as by providing the high-temperature underground water that gushes out during mining to hot spring resorts for free. As the only gold mine in Japan, Hishikari Mine also provides a place for Japan’s future generations to learn practical mining techniques. Furthermore, they are keeping up with the times through digital transformation initiatives. Wi-Fi has been installed in the mining shafts, and they are promoting automatic operation of heavy machinery that loads, unloads, and transports the ore autonomously. This digital transformation helps improve safety and reduce costs, and will surely lead to forward-looking initiatives to continue mining gold stably in the long term. **7**

ⁱ See *Highlighting Japan* October 2022, “The Tokugawa Shogunate’s Gold Mines” https://www.gov-online.go.jp/eng/publicity/book/hj/html/202210/202210_05_en.html