MINING

JAPAN SET TO RAMP UP GOLD PRODUCTION

Irving Resources forms partnership with Newmont Goldcorp

by Dr. Edward Schiller

In a previous article in *Resource World* magazine, in 2017, I reported on gold exploration activities in Japan by **Irving Resources Inc.** [IRV-CSE; IRVRF-OTC].

Many mining stock investors may not be aware that the history of lode gold mining in Japan goes back to 1370 and continued until 1980 with sporadic production from 76 mines over this 600+ year period.*

In 1981, Sumitomo Metal Mining Company discovered and developed the Hishikari gold mine in Kyushu province and since production began in 1985, it has produced 236.20 tons of gold to the end of March 2018. Currently, the underground Hishikari Mine produces 200,000 to 225,000 ounces of gold per year at a grade of 30-40 grams/tonne; this in contrast to average gold mining operations worldwide that grade around 2 or 3 g/t.

Hishikari's reserves and resources are reportedly substantial. The high-grade ores are sorted by hand or by optical sorters rather than processed in a conventional mill and, due to their high silica content, the ores are utilized by Sumitomo's Japanese copper smelters as a smelter flux with gold and silver being fully recovered during electrolytic refining of copper.

Similarly, Mitsui produces gold-bearing smelter flux from its Akeshi Mine and its Kushikino refinery is the only cyanide extraction facility operating in Japan. Kushikino has a 100-year operating history with a cumulative production mining record of 56 tons of gold.

Most Japanese gold mines are epithermal

vein deposits generated due to volcanism related to plate subduction and other tectonic events that affected the region. They all carry varying amounts of silver. These volcanic/hydrothermally generated veins are characteristically vuggy, crustiform silica-rich banded quartz. They are typically low in sulphide content and carry minimal amounts of arsenic, antimony, mercury and other deleterious metals (that are environmentally unfriendly and unsuitable as a smelter flux).

Japan with its little known history of gold mining, has never been recognized by Canadian and international mining companies and was sort of a sleeping giant until Vancouver -based Irving Resources recognized the country's gold potential in 2016. Irving has assembled a substantial land package in working with Mitsui Mineral Development Engineering and has identified a number of promising prospective projects in northern and central Japan: Omu, Utanobori, Rubeshibe, Eniwa, Engaru and Shimokawa.

In addition, at Sado Island, a small island west of Honshu Island, Irving has been granted 25 prospecting licenses covering 86.53 km² by the METI, Kanto Bureau. Sado Island is host to the Sado Kinzan gold mine (Mitsubishi Materials Corporation) and about 30 smaller mines.

Irving's most advanced project is Omu where recent drilling has intersected quartz-rich veins of potential importance. Two holes drilled to date in the current program have encountered prospective rocks. Hole 190MS-001 intercepted silicification and clay alteration ranging from weak to intense over the entire hole drilled to 515 metres with notable zones of disseminated and/or veinlet pyrite over the same interval. Hole 190MS-002, drilled in the opposite direction to Hole 001, intersected similar silicification and pyrite mineralized zones over varying intensities over the entire length of the hole with several intervals of banded quartz – see photograph.

Assays from hole 190MS-002 included a 0.32-metre interval of banded quartz vein displaying ginguro, silver sulphide minerals, assaying 118.5 g/t gold and 1,410 g/t silver, or 135.09 g/t gold equivalent.

In April 2019, newly-merged Newmont Goldcorp Corp. [NGT-TSX; NEM-NYSE] committed to purchase 3,715,630 million shares of Irving at a price of CDN \$2.16 per share totalling US \$6 million. This is a remarkable undertaking by Newmont Goldcorp who just weeks earlier saw Newmont merge with Goldcorp in a US \$10 billion arrangement. This action by Newmont Goldcorp demonstrates the company's interpretation of the precious metal potential of Japan and the outstanding quality of Irving's exploration work to date.

Irving also holds, through a subsidiary, a Project Venture Agreement with Japan Oil, Gas and Metals National Corporation (JOGMEC) for joint regional exploration programs in the Republic of Malawi, Africa.

Irving Resources is headed by Akiko Levinson, President, Chief Executive Officer and director, who has over 20 years of experience in the junior mining sector and mining finance as well as 'end-to-end' rare earth mineral investment. Levinson was previously President of Gold Canyon Resources Inc. that was bought out by First Mining Gold and is currently a director of Novo Resources Corp. She also has the advantage of being born and raised in Japan.

Dr. Quinton Hennigh, P.Geo., director, Irving's Technical Advisor and Qualified Person, is an economic geologist with more than 25 years of exploration experience with major gold mining firms including Homestake Mining, Newcrest Mining and Newmont Mining. Currently, Dr. Hennigh is CEO and director of Novo Resources Corp. and director of TriStar Gold, Inc., Precipitate Gold Corp and NV Gold Corp. Dr. Hennigh was previously a director and Technical Advisor to Gold Canyon Resources, where he helped successfully refocus exploration at the company's Springpole Gold Project in the Red Lake area of Ontario. Dr. Hennigh obtained a Ph.D. in Geology/Geochemistry from the Colorado School of Mines.

*Gold from placers was discovered in A.D. 749 at Tohoku and used to gold plate copper of the famous statue of Buddha in Todaiji temple and is now a famous foreign tourist site.



Diamond drill core showing banded quartz-sulfide vein from approximately 85 metres in hole 19OMS-002. Photo courtesy Irving Resources Inc.

