Smelting technology after the Meiji Restoration

After the middle of the 19th century, smelting technique in Sado Mine changed as a result of the introduction of Western technology, and improved independently. In the late 19th century, stamp amalgamation process, pan amalgamation process and later the KISS process were implemented. Cyanide process was implemented in the 1900s and flotation process was implemented in the 1930s. Throughout the modernization period, workers at Sado Mine took on constant innovative changes in production including ore dressing and smelting, as well as in studying and adopting mining and smelting techniques such as stamp amalgamation, the KISS process, cyanidation and flotation. In order to accommodate new technology, mining facilities were renovated or updated on a large scale. Particularly notable is the application of flotation techniques conventionally used in processing sulfide ore, primarily copper, to process siliceous ore containing gold and silver, which in 1940 led to a record annual high of gold production volume since the Meiji Period. Application of flotation techniques to treat ore containing silver and low-grade ore proved to be unique to Sado Mine at the time, a milestone of remarkable significance in the history of mining technology.

Transition of Gold Production in Sado

<table>
<thead>
<tr>
<th>Period</th>
<th>Mines mainly developed</th>
<th>Smelting techniques</th>
<th>Gold Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>12th century - 16th century</td>
<td>Nishimikawa Alluvial Gold Deposits, Tsurushi / Niibo Silver Mine</td>
<td>Cupellation</td>
<td>?</td>
</tr>
<tr>
<td>Edo 1603-1867</td>
<td>Aikawa Gold and Silver Mine</td>
<td>Cementation process with sulfur, Cementation process with salt</td>
<td></td>
</tr>
<tr>
<td>Meiji 1868-1911</td>
<td>Aikawa Gold and Silver Mine, Government-operated Sado Mine sold off to Mitsubishi</td>
<td>Stamp amalgamation process, Pan amalgamation process, The KISS process, Cyanide process</td>
<td></td>
</tr>
<tr>
<td>Taisho 1912-1925 Showa 1926-1989</td>
<td>Aikawa Gold and Silver Mine</td>
<td>Flotation process</td>
<td></td>
</tr>
</tbody>
</table>

Sado Gold and Silver Mine produced 78 tons of gold and 2,330 tons of silver before its closure in 1989.
Mining picture scrolls

There are a lot of historic documents which illustrate the gold and silver mines of Sado. Particularly, more than a hundred mining picture scrolls, including duplicates, which illustrate Sado Mine in the Edo period remain both domestically and internationally. This fact makes Sado Mine outstanding among the mines in Japan. Mainly, a series of processes such as mining, smelting, and manufacturing *Koban* (oval gold coins) in the Aikawa Gold and Silver Mine are drawn in detail in these picture scrolls.

Rise of a unique culture

There are many traditions that originated from mining such as more than thirty Noh play stages, Noh drama, and ritual drama "*Yawaragi*"*. These rich, time-honored traditions were well-received and became firmly established in rural communities, and they are certainly alive on Sado Island today.

*A special celebration called *Yawaragi* was held on the first work day of the year. *Yawaragi*, literally meaning comfort or softness, and miners performed this ritual to comfort the spirit of the mountain god and pray that the veins become softer for easy mining.*

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