



PROJECT BRIEF

Recycling Facility Works with SAMCO to Recover Valuable Semi-Precious Metals from Scrap Alloy

PROJECT OVERVIEW

When a recycling facility in Canada, required a demonstration facility to prove out a process for extracting semi-precious metals from scrap alloy, SAMCO worked with the client to devise a solution to recover the metal in the form of salt crystals using an efficient ion exchange-based hydrometallurgical process.

OBJECTIVE

Recover valuable semi-precious metals in the form of high-purity salt crystals.

SCOPE OF SERVICE

SAMCO delivered a detailed process, mechanical and electrical design and engineering, controls integration, system fabrication, installation, commissioning, startup, and training.

CHALLENGES

- Loss of valuable/salable semi-precious metals
- Need for high-purity salt crystals

SOLUTION

SAMCO worked with the client to utilize alloy leaching and ion exchange-based hydrometallurgy to process their scrap metal alloy. The system SAMCO designed and delivered helped the customer effectively recover salable semi-precious metals with a combination of treatments in addition to the leaching and ion exchange including precipitation, filtration, evaporation, and crystallization. To compensate for limited operator availability, SAMCO installed programmable logic controllers (PLC) to automate flow, temperature, pressure, and resistivity monitoring.

TECHNOLOGY

Project deliverables and equipment included:

- Leaching reactor kettles
- Precipitation tanks
- Filter press
- Ion Exchange
- Evaporator
- Batch crystallization equipment

OVERVIEW

Industry
Chemical

Location
Canada

Objective
Recover valuable semi-precious metals in the form of salt crystals

Solution
Ion Exchange-Based Hydrometallurgical Process