

Mining & Metals



SAMCO

Separation from the ordinary

PROJECT BRIEF

Major Metals Reprocessing and Recycling Facility Optimizes Metals Recovery with SAMCO's Wastewater Treatment Plant

PROJECT OVERVIEW

At a leading metals reprocessing and recycling facility in the Northeastern US, valuable metals resources were lost to the plant's highly complex and variable wastewater streams. SAMCO helped the client develop a rapid, turnkey solution to capture these resources despite the challenging environment.

OBJECTIVE

Treat variable wastewater streams to recover valuable metals waste for purification.

- Reduction of total suspended solids (TSS) to < 50 ppm
- Reduction of elemental metals to < 1 ppm

SCOPE OF SERVICE

The client collaborated with SAMCO to create a comprehensive fast-track solution, beginning with a treatability study, and comprising design, engineering, on- and off-premises construction, and startup support of a waste water treatment plant to suit client needs.

CHALLENGES

- Stringent discharge limits
- Minimal operator availability
- Highly explosive contaminants and variable wastewater streams

SOLUTION

In line with client needs, SAMCO engineered a scalable integrated batch equalization and homogenization strategy to accommodate varied stream flow and contaminants, as well as future plant expansion.

To optimize investment return with a one-year payback, the design included a bulk solids settling and clarifier unit to recover valuable magnesium and reduce sludge waste. The solution featured an explosion-proof design for handling elemental metals safely. Additionally, the solution was delivered in a modular, skid-mounted form, with PLC and remote telemetry to minimize on-site installation and operation demands.

TECHNOLOGY

Project deliverables and equipment included:

- Solids settling system
- Elemental metals oxidation reaction tanks unit (RTU)
- Inclined plate clarifier (IPC)
- Multimedia filters (MMF)
- Sludge handling/filter press
- PLC controls/SCADA

OVERVIEW

Industry

Mining & Metals

Location

Northeast US

Objective

Recover valuable metals from complex & variable wastewater streams

Solution

100 GPM Wastewater Treatment Plant

Need help recovering valuable metals from your wastewater? Is water purity an issue? Contact us today at SamcoTech.com • askengineers@samcotech.com • (716) 743 9000