

Mining & Metals



SAMCO

Separation from the ordinary

PROJECT BRIEF

Fortune 100 Manufacturing Plant Utilizes Wastewater Treatment Plant to Bring Highly Complex Wastewater into Industry Compliance

PROJECT OVERVIEW

When a Fortune 100 manufacturing facility was challenged to bring their complex wastewater up to industry compliance standards, SAMCO was selected to design, build, own, operate, and maintain (DBOOM) a major wastewater treatment plant (WWTP) at the company's primary location in the Northeast.

OBJECTIVE

DBOOM WWTP at client's main manufacturing location to treat highly complex and variable wastewater per industry compliance standards, including:

- Oil and grease < 60 ppm
- Total suspended solids (TSS) < 100 ppm
- Zinc < 1.5 ppm
- Chromium < 0.5 ppm
- Phenol < 0.8

SCOPE OF SERVICE

The client worked with SAMCO to develop an effective solution that comprised a treatability/pilot study, detailed design/engineering, system fabrication/integration, field installation, commission/startup, and ongoing operation and maintenance (O&M).

CHALLENGES

- Highly complex contaminants and varied flow
- Plant expansion/increased wastewater volume
- Stringent discharge limitations
- Reduce O&M cost

SOLUTION

Trucked in from multiple locations, the client's contaminated waste resulted from press pit, zyglo dye, fume exhaust, and high pH etching manufacturing procedures, among others. SAMCO efficiently utilized source-segregation strategies to reduce contaminant loads, chemical feed, and sludge waste. Dissolved air flotation was used in lieu of a clarifier to remove suspended solids, reduce chemical feed and sludge waste, handle the added expansion load, and provide the client with a less-than-one-year payback. A prepackaged system and modular design enabled quick and easy installation with guaranteed performance and future add-on capabilities, and SAMCO also included programmable logic controllers (PLC) that automate monitoring of flow, temperature, pressure, and resistivity.

TECHNOLOGY

Project deliverables and equipment included:

- Equalization tanks
- Influent pumps
- Chemical feeds
- Reaction tanks unit
- Oil/water separator
- Dissolved air flotation
- Inclined plate clarifier
- Sludge handling/filter press
- Multimedia and activated carbon filters
- Platform/stairs
- PLC controls

OVERVIEW

Industry

Mining & Metals

Location

Northeast, US

Objective

Treat variable and highly complex waste per the mining and metal industry's stringent discharge regulations

Solution

100 GPM Wastewater Treatment Plant

Need help bringing your wastewater quality into compliance? Is contamination an issue? Contact us today at SamcoTech.com • askengineers@samcotech.com • (716) 743 9000