



## PROJECT BRIEF

Chemical Drum Cleaning and Recycling Facility Optimizes Reuse Rate, Realizing One-Year Investment Return with SAMCO Treatment Solution

### PROJECT OVERVIEW

When a Pennsylvania chemical drum cleaning and recycling facility needed to improve reuse rates and reduce sludge waste, it looked to SAMCO for a scalable wastewater treatment system (WWTS) that would deliver a rapid return on investment.

### OBJECTIVE

Treat wastewater streams from chemical drum recycling operations to meet stringent discharge limits and improve recycle/reuse rate for complex contaminants, including:

- Oil and grease
- Suspended solids
- Discoloration

### SCOPE OF SERVICE

SAMCO delivered a turnkey WWTS to suit the client's environment, beginning with a pilot treatability study, and comprising design, engineering, on- and off-premises fabrication, controls integration, and startup support.

### CHALLENGES

- Complex contaminants
- Stringent testing limits for biochemical oxygen demand (BOD) and chemical oxygen demand (COD)
- Exceptional durability for extended equipment life

### SOLUTION

SAMCO engineered a comprehensive 100 GPM WWTS to reduce sludge waste generated by plastic and metal drum recycling operations. To maximize investment return with a one-year payback, the design utilized a dissolved air flotation (DAF) system in lieu of a clarifier unit to remove suspended solids, allowing for a recycle/reuse rate of up to 70%, and higher efficiency through reductions in chemical feeds and sludge waste. To ensure long life and durability, the reaction tanks unit (RTU) and DAF system were constructed from corrosion-resistant SAE 304 stainless steel. The WWTS was also designed to allow for modular scalability to accommodate future growth, and outfitted with programmable logic controls (PLC) and remote telemetry to minimize on-site operation and maintenance demands while providing process monitoring capabilities.

### TECHNOLOGY

- WWTS components included:
- SAE 304 stainless steel RTU and DAF system
  - Chemical feeds
  - Recycle and influent pumps
  - Sludge handling/filter press
  - PLC controls

## OVERVIEW

**Industry**  
Chemical

**Location**  
Pennsylvania, US

**Objective**  
Treat drum recycling wastewater per stringent discharge requirements and recycle/reuse goals

**Solution**  
100 GPM Wastewater Treatment System