CASE STUDY

project:	Manufacturing trade waste compliance
product:	Coagulants, Flocculants, oxidising agent
industry:	Manufacturing
location:	NSW

background

A metal manufacturer was experiencing unplanned downtime with its Oil Water Treatment Plant (OWTP), caused by insufficient oil separation and metal precipitation. This resulted in elevated copper and zinc levels in the permeate, reduced permeate flow, blocked filters and oily water storage tanks operating at capacity.

These issues reduced plant output, increased sludge disposal requirements and contributed to higher trucking costs. The client needed a more reliable treatment approach to increase permeate flow, improve contaminant removal and better manage overall OWTP performance.

Water Treatment Services (WTS) was engaged to develop a solution to increase the permeate flow, reduce copper and zinc levels for onward discharge to trade waste and better manage the OWTP.

solution

WTS collected samples and provided proof of concept using a jar test to demonstrate superior pretreatment chemicals to enable oil separation, to address the issue of clogging filters, and contaminants precipitation and clarification.

Subsequently WTS was invited to carry out a one-week plant trial with WTS Coagulants/Flocculants and an oxidising agent to optimise oil phase separation, contaminant precipitation, and clarification processes to increase the output of permeate flow. WTS also monitored the sludge and flow rate of permeate during the trial.



OWTP inlet

WTS key solutions

- WTS Coagulants/Flocculants and oxidising agent

results and benefits

- **Compliance:** Achieved required discharge limits for copper and zinc in trade waste to meet council requirements
- **Operational efficiency:** OWTP has less downtime and increased permeate flow.
- **Less load on filters:** Substantial decrease in oil entering the filters
- **Reduced sludge formation:** Increased permeate flow resulting in less sludge.
- **Savings:** Reduced sludge disposal and operational cost for treatment.



Permeate flow

CASE STUDY

project:	Manufacturing trade waste compliance
product:	Coagulants, Flocculants, oxidising agent
industry:	Manufacturing
location:	NSW

Trial Permeate Discharge Results

One-week plant trial with WTS Coagulants/Flocculants and oxidising agent to optimise contaminant precipitation.

Contaminant	Trade Waste Discharge Limit	Permeate Discharge Result during Trial
Zinc	5 ppm	0.01 ppm – 0.15 ppm
Copper	5 ppm	0.04 ppm – 3.27 ppm