

## SULPHURIC ACID PLANT INTEGRATION IN NICKEL HYDROMETALLURGICAL FACILITIES

By

Matthew King, Benjamin Senyard, <sup>2</sup>Herbert Lee

Worley Chemetics, Australia <sup>2</sup>Worley Chemetics, Canada

Presenter and Corresponding Author

Matthew King

## ABSTRACT

Nearly all base metals hydrometallurgical processes require sulphuric acid. This acid is often produced on-site in one or more conventional double contact double absorption (DCDA) type sulphuric acid plants. On-site production has the key benefit of providing steam and electricity as co-products.

This paper provides an overview of sulphuric acid plants used at nickel leaching operations and insight into the challenges faced when balancing acid, steam and electricity demand - especially during transient and turndown operation.

CORE-SO2<sup>™</sup> technology is presented which has been tailored to specifically meet the industry's need for lower capital cost, decreased tail gas emissions (without effluent generation), maximized energy recovery along with reliable turndown capability and zero CO<sub>2</sub> emissions. CORE-SO2<sup>™</sup> plants can produce from 100 t/d up to 13,000 t/d of acid in a single train.

Keywords: Sulphuric acid plants, base metal and nickel hydrometallurgy, emissions