

# Base Metal Processing

The Minerals business unit has undertaken a significant amount of work on the processing of base metals minerals to produce saleable products. This experience includes process development, operational support, and plant design.

The majority of our work has been conducted on sulphide concentrates. In addition we have performed work on other feed sources such as oxides, carbonates and silicates.

Our expertise in process flowsheet development includes the application of roasting, leaching (both atmospheric and pressure including HPAL and POX), impurity removal by precipitation, ion-exchange, solvent extraction and cementation, through to the production of metallic, carbonates and oxide products. We have also contributed to the scale up from bench scale test work to demonstration plant scale.



Laterite processing via HPAL for the recovery of cobalt and nickel, including high density sludge (HDS) for improving water balance, was a feature of our support to WA-based nickel operations.

Impurity control has been extensively investigated by our team and we have developed and implemented processes in base metal operations to control soluble silica and iron in incoming feeds.

ANSTO has conducted a significant amount of process modelling and scoping level engineering to support our base metal clients. We have developed detailed process models using Ideas™ (Limn™ and METSIM packages also considered) followed by techno-economic evaluation of processing options.



## About ANSTO's minerals experience

ANSTO has a 40-year track record of providing practical solutions and innovative technology to the mining and minerals processing industries. We have a team of 60+ dedicated professionals and technicians with expertise covering chemical engineering, metallurgy, mineralogy, chemistry, geology and radiation safety working within the Minerals business unit.

We provide process development services, technical review and consulting services, as well as collaborative and contract research on uranium, rare earth and specialty metals processing, radioactivity control and management, novel flowsheet design and modelling, and scoping level engineering / cost estimates.

## Contact

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