

Lithium Processing

The Minerals business unit has undertaken a significant amount of work on the processing of lithium deposits to produce saleable lithium chemical concentrates.

We have expertise in lithium flowsheet development and the application of roasting, leaching, purification / neutralisation, crystallization, ion exchange, membrane separation, electrolysis and process water treatment unit processes.

For many of our lithium clients we have undertaken small scale continuous piloting, at 1-5 kg/h solid feed or 5-10 L/h brine feed, through to demonstration plant design and operation (2 m³/h brine feed). Through these projects, we have demonstrated the production of battery grade lithium carbonate and / or lithium hydroxide. Our team has a clear understanding of what it takes to produce and analyse high purity lithium concentrates.

We have applied our considerable hydrometallurgy experience from the processing of uranium, rare earths, base metals and other specialty metals to develop alternative brine process flowsheets which challenge the 'norms' of lithium brine processing.



We have conducted a significant amount of process modelling and scoping level engineering to support our lithium clients developing detailed process models using Ideas™ followed by techno-economic evaluation of processing options. These efforts have directly supported NI 43-101 reports and preliminary and definitive feasibility studies.

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

Dr Chris Griffith
Technical Lead – Lithium Processing
chris.griffith@ansto.gov.au
T: +61 2 9717 3923
M: +61 404 944 284