

Piloting Operations

ANSTO's Minerals business unit has a full suite of mineralogical, chemical and hydrometallurgical facilities from laboratory through to demonstration scale to support the design and validation of process flowsheets for uranium, rare earths, lithium, base metals and specialty metals.

Our pilot plant operations are key to our service offering, and play a leading role in transferring the results of laboratory test work programs to industry. We take pride in working closely with our clients to design and operate pilot plant facilities that demonstrate the technical and financial viability of their projects.

The Pilot Plant facilities at ANSTO include: ore baking and roasting, leaching (acid and alkaline, heap and in-situ), impurity removal, nano-filtration, solvent extraction and ion exchange, and a wide range of conventional equipment for hydrometallurgical processing of ores and concentrates.

Equipment is typically capable of processing up to 10s' kg/h or up to 100s' L/h depending on the process flowsheet.

Our solvent extraction facility is one of the few facilities world-wide capable of separating individual rare earth elements, and has also been employed to validate a process for the production of high purity (>99.8%) hafnium dioxide. Our equipment has mixer and settler volumes ranging from 0.125–4.7 L and 0.45–20 L, respectively, with pulsed column equipment also available.

Our pilot plant facilities are flexible and built with a range of materials of construction. Specific materials of construction requirements and circuit sizing are routinely accommodated for our clients and the stage of development their projects are at.



We have operated numerous fully integrated pilot and demonstration plants from ore preparation to intermediate/final products for Lynas, Arafura, Alkane, Enrgi, Lithium Australia, Peak Resources, Hastings and A-Cap among others. On-site pilot installation and operation has also been undertaken for several clients requiring field trials.

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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