Piloting Operations

Adrian Manis
Pilot Plant Operations Manager
adrian.manis@ansto.gov.au
T: +61 2 9717 9214
M: +61 477 733 165

Pilot Plant Capability

ANSTO Minerals 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. ANSTO Minerals prides itself on working closely with our clients to design and operate pilot plant facilities that demonstrate the technical and financial viability of their projects.

ANSTO Minerals Pilot Plant facilities 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.

ANSTO Minerals’ solvent extraction facilities are worthy of particular note. 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. The solvent extraction facility at ANSTO Minerals is one of the few facilities world-wide capable of separating individual RE, and has also been employed to validate a process for the production of high purity (>99.8%) hafnium dioxide.

Our pilot plant facilities are flexible and built with a range of materials of construction. Specific materials of construction requirements are routinely accommodated for our clients.

ANSTO Minerals has operated numerous fully integrated pilot and demonstration plants from ore preparation to intermediate/final products for Lynas, Arafura, Alkane, Enirgi, Lithium Australia, Peak Resources, Hastings and A-Cap among others.

About ANSTO Minerals

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

We provide review and consulting services, process development 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.