Mineralogy

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Mineralogy Capability

ANSTO Minerals has in-house expertise in the identification and characterisation of uranium, rare earth, base metal, lithium and other value containing minerals, and their associated gangue assemblages.

Our Mineralogy facilities are well-equipped and can handle a diverse range of samples, particularly those containing elevated concentrations of uranium and thorium. Our team provides specialised knowledge on the mineralogy of ores/concentrates and the wide variety of solids and residues typically generated in hydromet processes.

Specific information provided by our facility includes:

- Phase identification;
- Phase quantification – modal mineralogy (inc. size by size);
- Phase liberation – quantification and evaluation;
- Mineral association – quantification and evaluation;
- Modal mineralogy – size by size

As an integral part of our Process Development and piloting programs, mineralogy provides invaluable insight into the behaviour of both valuable (target) and gangue minerals. Examples include the comparative mineralogy of head and process intermediate samples, size by size modal mineralogy to optimise grinding and extraction, and waste stream characterisation to better understand valuable element losses.

ANSTO Minerals has proven across a wide variety of projects, for a wide variety of valuable elements, that the incorporation of mineralogical studies throughout the process development stages decreases technical risk by increasing understanding of the entire hydromet process – from ore to final product.

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.