

TECH FOCUS 1

Detection and deportment of Li for mineralogical characterisation

With the increased focus on battery technologies, Li has become a sought-after metal. More routine mineralogical techniques, reliant on electron beam characterization, are unable to detect and quantify Li in ores and process products. Laser ablation-ICP-MS, on the other hand, is a technique that can be readily used to identify and quantify Li, thus enabling correct identification of Li minerals. Used in conjunction with such techniques as automated SEM, Li modal mineralogy and deportment can be determined to assist in processing for its upgrading and recovery. [Read more here.](#)

TECH FOCUS 2

Mineralogy as a predictor of acid mine drainage potential

Acid mine drainage arises from the oxidation of sulfide minerals from exposure to air or water, and poses a large environmental threat for mining and tailing storage. Prediction of AMD is often done via geochemical tests, which do not fully account for AMD potential or risk. In building on previous studies in the literature, Mintek has added mineral liberation to such traditionally considered factors as mineral acid production potential, modal abundance and reactivity, to predict AMD potential and risk of formation. [Read more here.](#)



MINTEREST



Printed circuit boards (PCB) are used as feedstock to recover precious metals as part of Mintek's eWasteSmelt™ technology. PCB pieces are set in resin, polished (left) and mapped (right) via automated SEM to provide modal proportions of alloy types present. This helps to model furnace conditions necessary for optimum partitioning of desired metals to the alloy.

ROCK



Welcome to our new manager and intern



Marian Manuel has been appointed Executive Manager of Mineralogy. She began her career at Mintek in 2005, before gaining further industry experience at Anglo American, ALS and Exxaro. She returned to Mintek as Head of Process Mineralogy in 2016, and will now lead the Division in her new role. Jonathan Desebrook, a Geology graduate from UKZN, recently joined the team on a DSI internship for the next two years. Congratulations!



MINERALOGY IN THE FIELD

SAIMM REE CONFERENCE 18-19 October 2021

The SAIMM hosted the Southern African Rare Earths International Conference online, from 18-19 October. Dr Desh Chetty presented a talk on process mineralogy in flowsheet development for rare earth element (REE) beneficiation, covering examples in minerals processing, leaching and extraction. Mintek's PyEarth™ technology was also discussed, covering the role mineralogical analysis played in developing the novel approach to treating ferruginous REE ore deposits.

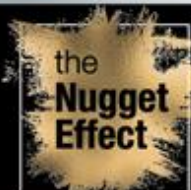
MINERALOGY WEBINAR 11 March 2022



Mineralogy will once again host its annual webinar to highlight various projects. This year will include new postgraduate research topics. Further details can be viewed [here.](#)

MEI FLOTATION '21 8-12 November 2021

The MEI Flotation '21 conference was held online from 8-12 November. Mintek submitted a number of contributions. Candice Carelse presented on flotation behavior of liberated PGM in laboratory tests conducted under starved reagent conditions. This forms part of a research study on PGM species floatability prediction. Additionally, Veruska Govender co-authored a contribution by Dr Jestos Taguta from the Minerals Processing Division. This presentation covered the efficacy of dithiophosphate collector in the flotation of Platreef ores.



The science of today is the technology of tomorrow – Edward Teller

MINERALOGY FACILITIES & CONTACT DETAILS

Sample preparation | X-ray diffraction | Scanning electron microscopy | Electron probe microanalysis | Optical microscopy | Sampling
Automated mineralogy facility – QEMSCAN, MLA | Laser ablation ICP-MS | Fourier transform infra-red spectroscopy
Micro-XRF imaging | GIS facility | X-ray computed tomography

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