Mineral Technologies
A Downer Company

CELEBRATING 80 YEARS

Silica Sand

Mineral Technologies can help transform your silica sand resources into high quality products that meet the demanding standards of the glass manufacturing and foundry casting industries.

Silica sand is processed by first removing coarse material, including vegetation, followed by finer screening, desliming and classification.

The sand may need further treatment including attritioning, spiral separation, magnetic separation, leaching and then drying to produce a silica sand concentrate that meets particle size and grade requirements.

- Our Metallurgical Services team has extensive and on-going experience in the development of silica sand projects.
- Our fully equipped laboratory is routinely used to characterise silica ore, to determine its amenability to produce high-quality glass and foundry sands.
- We conduct large-scale testing using full-scale equipment to fine tune processing flowsheets and quantify expected performance measures like product grade and yield.
- When required, we produce marketing samples for product evaluation by potential customers.

Downer
Relationships creating success

Mineral Processing Solutions

Silica Sand

FLEXSERIES – incorporating the MP-12, Screen and Lyons Unit modules.

Our Experience

Galalar Silica Project

Diatreme Resources plan to develop a new open-pit silica mine and processing plant to treat 950,000 tonnes of silica sand annually.

The proposed facility will consist of screening, wet processing and product stockpiling. Mineral Technologies completed laboratory testing and the multi-disciplined engineering design of an offsite pre-assembled modular plant with a capacity of 150 tph.

Cape Flattery Silica Mine

Mineral Technologies has worked with Cape Flattery Silica Mines for many years, supplying metallurgical testwork and engineering services, as well as the supply of critical processing equipment.

Projects include the design and operation of their product slurry pipeline and the delivery of Mineral Technologies proprietary spiral separators, used to maximise the quality of their world-renowned silica product.

Terengganu Silica Consortium (TSC)

Mineral Technologies provided metallurgical testing, process development, mechanical design, control & instrumentation design and plant layout for TSC's Setiu operation in Malaysia.

We collaborated with local Malaysian engineering and construction firms to reduce capital costs where possible, and satisfy local statutory approvals.

Our support also included the provision of on-site operator training during commissioning.

Our Equipment

Mineral Technologies' innovative OEM product range is well-suited to silica and other sand processing operations:

Mobile Mining Unit (MMU) – a high-performance solution designed by Mineral Technologies, for mining sites where traditional dredging is not an option, or not cost effective.

LYONS Technology – an innovative surge bin that also provides constant slurry density, despite large fluctuations in feed density and flowrate. Also suitable for stabilising tailings discharges and in desliming and upgrading fine heavy mineral feeds.

MD Spiral Separators – several models are available for specific silica sand processing duties, including the 2-stage MG12, producing maximum separation efficiency with minimal operator attention. Mineral Technologies' range of MD spiral separators have been proven globally to provide years of consistent and trouble-free service.

Wet High Intensity Magnetic Separator (WHIMS) – a cost effective product suitable for applications requiring higher magnetic field gradients to remove weakly magnetic particles from non-magnetic concentrates.

***FLEX*SERIES (Modular Plant Range)** – cleverly engineered modular designs that utilise highly efficient proprietary equipment to meet the demand for flexible and adaptable processing solutions. *FLEX*SERIES plants can be mobilised to site quickly, operated simply, and relocated easily to even the most remote sites.