

CAPABILITY STATEMENT

SUBJECT

# Drill Rig

MARKETS

Feasibility and Mine Planning | Mine Operations | Mine and Quarry Closure  
Rehabilitation, Monitoring and Research

ISO

9001:2015 | 14001:2015 | 45001:2018





## Drill Rig

Environmental sampling at waste rock and tailings storage facilities using a drill rig offers several dynamic advantages. Depth and accessibility provided by drill rigs allow for sampling at depth which can give insight into potential contamination and geological characteristics below the surface. Sampling at depth is crucial for assessing potential environmental impacts on the receiving environment. Further, precision and consistency of sampling allows sampling at specific depths and locations.

Accuracy is essential for obtaining representative samples and reliable data for environmental assessments that will facilitate identification of potential risks. Drill rigs offer efficiency in environmental sampling by reducing the time and labour required for sampling activities, especially when dealing with large storage facilities. This efficiency results in cost savings, faster completion and timely environmental monitoring and assessment.

## Key considerations

- 1. Accuracy and reliability:** Precise and reliable sampling to ensure collected samples accurately represent environmental conditions.
- 2. Versatility and adaptability:** Adaptable to various sampling depths and locations with the ability to provide flexibility in sampling strategies.
- 3. Data quality and interpretation:** Generates high-quality data that can be interpreted and analysed to assess environmental impacts, monitor changes over time and make informed decisions regarding mitigation measures.
- 4. Cost-effectiveness:** Cost savings by optimising sampling efforts, reducing sampling time and minimising the need for additional equipment or resources.

## Approach

SGME uses downhole continuous auguring, top hammer split tube or a combination of both for environmental sampling of waste rock and tailings storage facilities. Our team of trained professionals will use our in-house SIMCO Earthprobe 200 Drill Rig that has capability of five tonne of pulldown, six tonne of pull back force and sampling depth of 15 metres in most media.

Downhole auguring involves using a rotating auger attached to the end of the drill string to bore into the subsurface and extract sample for analysis. The auger is pulled down and, as it rotates, it cuts into the media to break it apart and bring the cuttings to the surface. An advantage of downhole auguring is its ability to penetrate different types of media including cohesive soils, soft rock formation, waste rock and tailings.

Top hammer split tube sampling is another commonly used sampling technique for cohesive soils, soft rock formation, waste rock and tailings. In this method, a top hammer delivers rapid percussion impacts to the drill string. The split tube sampler is attached to the bottom of the drill string and collects intact sample in its casing. An advantage is that it collects undisturbed samples with minimal disturbance to the surrounding substrate.



## Outcomes

Engaging our experienced SGME team and drill rig service will give you distinct advantages and a range of outcomes tailored precisely to your environmental sampling requirements. Our collaborative approach and efficient sampling process will ensure timely monitoring and cost-effective solutions offering versatility and adaptability of our proven sampling techniques. Our comprehensive environmental assessment with accurate, reliable and trustworthy data and results enables informed decision-making, cost savings, faster completion and timely environmental monitoring and assessment.

## Working with SGME

Engaging SGME as a collaborative partner delivers numerous benefits:

- **Improved return on investment (ROI):** Our expertise maximises ROI to satisfy investor expectations.
- **Reduced mine closure risks and disruptions:** Our strategies minimise complex closure risks to ensure a smooth future land use transition.
- **Addressing environmental, social, and governance (ESG) risks:** We focus on ESG criteria to mitigate environmental impacts and meet regulatory standards.
- **Enhanced strategic insight:** Collaboration boosts your performance through strategic planning.
- **Industry collaboration:** We foster partnerships with mining experts, staying abreast of technology and regulatory advancements.
- **Future risk vigilance:** Our proactive approach anticipates future risks to aid informed decision-making.
- **Innovative solutions for safe execution:** Our expertise delivers innovative solutions to ensure safe execution.

Our proactive and ethical approach ensures adaptability, sustainability and responsible development to safeguard the mining industry and create enduring value.

**CONTACT**

HEAD OFFICE

3/37 McDonald Road  
Windsor, Qld, Australia, 4030

[info@sgme.au](mailto:info@sgme.au)

RESEARCH AND DEVELOPMENT

20/37 McDonald Road  
Windsor, Qld, 4030

[research@sgme.au](mailto:research@sgme.au)

t: (+61) 7 3148 6288

[sgme.au](http://sgme.au)