

## MINE SITE RECLAMATION AND CLOSURE PLANNING

Mining's temporary use of land demands that reclamation and closure be an integral part of all mining operations. Although early planning equates to maximum flexibility with regards to reclamation and closure options, SGS understands that your mining operation is unique and will require specialized expertise. To assist our clients effectively, we utilize a rare blend of people with practical mining, geological and geotechnical experience, world-renowned theoretical knowledge and the latest computer and software technology.

Our professionals can act as your NI 43-101 compliant Qualified Persons and are available to assist you worldwide with your reclamation and closure concerns. Whether you are in the prefeasibility stage of development, or late in the operating life of a mine, our professionals can offer you the following expert services:

- Production of mine site reclamation programs, reconversion and closure plans
  - Landscape analysis and inventory
  - Visual impact study
  - Land development and landscape architecture
- Concept and design of waste dumps
  - 3D animations (exploitation, progressive reclamation)
  - Photo-simulation with realistic renderings
  - Site works (management, field supervision, plantations and transplantations)
  - Technical plans and specification reports

### ACID ROCK DRAINAGE (ARD) SERVICES

For many mining operations, ARD may still be a concern beyond the active life of the mine. In these cases, ongoing testing may be required as well as mitigation strategies. SGS has been providing trusted ARD testing and solutions globally since 1998. Our laboratories offer complete acidic effluent testing services and we have the technical expertise to provide innovative, practical solutions for your ARD concerns.

SGS has developed a reputation as a consulting firm with exceptional understanding of acid rock drainage and can provide you with the following services in the detection and control of ARD:

- Site investigation before, during, or after mining operations to ensure the scope of your ARD situation is completely understood.
- Comprehensive laboratory analysis of effluent for the prediction and characterization of ARD including complete Static and Kinetic ARD testing in accordance with global standards such as ASTM and ISO.
- Complete design and pilot scale testing of ARD treatment processes.
- Construction management, commissioning, and start-up of water treatment solutions.



SGS has an unsurpassed reputation for delivering quality solutions to environmental challenges. Work with us to ensure your ARD problems are dealt with in an effective and environmentally responsible manner. Our design experts will provide you with practical, efficient methods of monitoring and mitigating ARD problems including:

- Lime precipitation including the HDS (High Density Sludge) process in which limestone/lime and recycled sludge are added to the lime-sludge mix tank at the beginning of the process to become the main neutralization agent
- Engineered wetlands
- Carbon adsorption
- Ion exchange
- Reverse osmosis
- Electrodialysis
- Biological systems
- Ozonation.



#### CONTACT INFORMATION

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