

SGS Geosol Environmental Laboratory

Acid Mine Drainage



In its broad scope of environmental services, SGS Geosol is an unique environmental laboratory in Brazil, capable of performing acid mine drainage tests – DAM. The tests, statics and kinetics, are useful tools to evaluate potential of environmental damage associated with an specific mining activity, mainly in extraction of coal, gold, copper, zinc and uranium ores, where the sulfide minerals oxidize in presence of humidity, undergoing microorganism´s action.

By means of acid mine drainage tests, one can evaluate, among others:

- the potential of sulfide oxidation, acid generation and heavy metals mobility;
- the impacts on mine waste rock dumps and tailing piles;
- the impact on productive or exhausted sub-surface mines and open-pits;
- the action of weathering over waste rock dumps and tailing piles;
- the potential or contribution limits from an specific mining activity in the contamination of surface and underground waters;
- the efficiency of shutting down mines procedures;
- the efficiency of environmental remediation procedures;

SGS Geosol`s portfolio includes:

- A dedicated laboratory for static geochemical testwork, including MABA - Modified Acid-Base Accounting, NAG - Net Acid Generation, ANC - Acid Neutralizing Capacity, TCLP - Toxicity Characteristic Leaching Procedure – USEPA Method 1311 and SPLP - Synthetic Precipitation Leaching Procedure – USEPA Method 1312;
- Kinetic geochemical testwork using columns (free leach) and humidity cells, according to ASTM D5744 Standard, as well as SEM/AVS – Simultaneously extracted metals/Acid-volatile sulfide Method;
- Characterization of solid wastes – sampling, leaching and solubilization test methods, according to ABNT NBR 10.004:2004 Standard Series, with INMETRO accreditation;
- Metallic contaminants analysis using inductively coupled plasma optical emission (ICP-OES) and mass spectrometry (ICP-MS), with detection limits below legal requirements;

With a multidisciplinary team of chemists, biologists, environmental engineers and qualified lab technicians, and using modern analytical equipment, the preventive acid mine drainage tests from SGS Geosol are the best option to avoid the high costs of environmental remediation.

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