AGAT Laboratories

Acid Rock Drainage / Metal Leaching (ARD/ML)

AGAT Laboratories is a highly specialized, Canadian-based company that provides analytical laboratory services worldwide. We offer services to the Environmental, Energy, Mining, Industrial, Transportation, Agri-Food and Life Science sectors. With world-class facilities and state-of–the-art instrumentation, our qualified personnel adhere to our mission statement, delivering “Service Beyond Analysis”

Accreditation

AGAT Laboratories is accredited to ISO/IEC 17025:2017 for specific tests as listed on our current scope of accreditation from the Standards Council of Canada (SCC). Our Acid-Base Accounting Procedures are accredited for Paste pH, Sulphate Sulphur, Total Sulphur, and Neutralization Potential.

ARD/ML Testing

AGAT Laboratories offers full-service analysis capabilities for ARD/ML testing. We offer a complete range of solid phase geochemical analysis, static testing, leaching procedures (Shake Flask Extraction (SFE), Synthetic Precipitation Leaching Procedure (SPLP), and Toxicity Characteristic Leaching Procedure (TCLP)), Net-Acid Generation (NAG), and Kinetic Testing. We offer these services nationally to a variety of industries including mining, construction and infrastructure sectors.

Solid Phase Geochemical Analysis

AGAT offers a complete suite of solid phase geochemical analysis including sulphur speciation, carbon speciation, solid phase elemental analysis using various methods of sample digestion analyzed by Inductively Coupled Plasma-Optical Emission Spectroscopy (ICP-OES)and/or Inductively Coupled Plasma/Mass Spectroscopy (ICP-MS), and whole-rock analysis by X-Ray Fluorescence (XRF).

Mineralogical Analysis

AGAT offers mineralogical analysis including X-ray diffraction (XRD), optical microscopy on polished thin section, scanning electron microscope (SEM) analysis, and Quantitative Evaluation of Minerals by Scanning Electron Microscopy (QEMSCAN).

Static Testing

Static tests are used to quickly predict the potential of a sample to generate acid. Acid-Base Accounting (ABA) is the analytical cornerstone for static test predictions of ARD potential. ABA methods estimate the amount of acid-bearing material by measuring either total sulphur of sulphide-sulphur.

Based on this information, AGAT Laboratories reports the following:

- Neutralization Potential (NP)
- Acid Producing Potential (APP)
- Net Neutralization Potential (NNP)

In addition to Acid Base Accounting (ABA), AGAT Laboratories offers a complete range of static tests such as:

- Sulphur Speciation
- Carbon Speciation
- Net Acid Generation (NAG)

Plus, short term water extractions such as:

- MEND-SFE
- SPLP
- TCLP
- MWMP

These methods are based upon the procedures outlined by the MEND, ASTM and EPA methods.

Kinetic Testing

Routine kinetic tests include both MEND and ASTM humidity cell testing. Custom column testing and Subaqueous Disposal (SAD) column testing can also be conducted appropriate to site conditions and specifications. SAD columns simulate underwater disposal of waste material and these tests help assess water quality, acid production, drain water and pore water quality.

Custom Testing

Other custom tests include NAG, sequential and batch extractions and the analysis thereof. Using our state-of-the-art ICP-MS technology, leached elements such as arsenic, selenium, lead and mercury can quickly be determined.