

# Mining & Resource Studies

- ♦ Baseline environmental characterization for mining projects
- ♦ Source tracing of mine-related inputs
- ♦ Hydrological and geochemical investigations
- ♦ Environmental monitoring and compliance support
- ♦ Post-closure and long-term environmental assessment
- ♦ Dating findings from archaeological sites or artifacts found on native land

## Analytical Measurements

**Radiocarbon ( $^{14}\text{C}$ ):** Differentiation of modern vs fossil carbon in waters, gases, and carbon-bearing materials.

**$\delta^{18}\text{O}$  and  $\delta^2\text{H}$ :** Water source identification and flow system characterization.

**$\delta^{13}\text{C}$ :** Carbon source characterization in mining-affected systems.

**Strontium isotopes ( $^{87}\text{Sr}/^{86}\text{Sr}$ ):** Lithological and geological fingerprinting of waters, soils, and sediments.

**Lead isotopes ( $\text{Pb}$ ):** Tracing metal sources, dispersion pathways, and geochemical signatures.

**Boron isotopes ( $\delta^{11}\text{B}$ ):** Assessment of boron sources linked to geological or industrial inputs.

All analyses provide **quantitative laboratory results** only and are delivered with full documentation, QA/QC reporting, and method transparency.

## Sample Types

Groundwater and surface water  
Soils and sediments  
Mine drainage and porewater  
Carbonates and precipitates  
Dissolved carbon fractions

# Applications & Analytical Capabilities

SGS Beta is an ISO/IEC 17025-accredited laboratory with over 45 years of experience in radiocarbon and stable isotope analysis, providing high-precision, tracer-free results used worldwide in environmental, industrial, and research applications.

SGS Isobar is a specialist isotope laboratory offering high-precision radiogenic isotope and geochemical analyses to support environmental and geological investigations.

Together, SGS Beta and SGS Isobar deliver a comprehensive suite of isotope testing services, producing reliable, defensible data for environmental and regulatory use.

## Quality & Reporting

- ISO/IEC 17025-accredited methods (SGS Beta services)
- Tracer-free laboratory environments
- Results reported as numerical isotope values with stated uncertainty
- Full analytical documentation and QA/QC reporting
- Suitable for regulatory submissions, compliance reporting, and peer-reviewed research



[radiocarbon.com](http://radiocarbon.com) | [isobarscience.com](http://isobarscience.com)

