



Photo: D. Weis

RESOLUTION laser ablation system and Agilent 7700x ICP-MS at PCIGR

## Trace Element Analysis Services

Welcome to the Pacific Centre for Isotopic and Geochemical Research, at the University of British Columbia in Vancouver, Canada. PCIGR is an all-in-one research facility that provides analytical services to investigators from academia, government and industry, both across Canada and around the world.

### Trace Element Analysis at PCIGR

PCIGR offers a wide spectrum of elemental analyses, from major, minor to trace elements. Our sample analysis capabilities include:

- Analysis in solution or in-situ
- Detection at ultra-low concentrations
- Small sample sizes
- A variety of sample types and matrices

For specialized applications, our scientific and technical team can assist with custom-designed method development. Contact us for details.

### High-resolution Sector Field ICP-MS

Our Nu Instruments AttoM analyzes most trace elements down to sub-ppt levels (parts per trillion).

- Couples to a RESOLUTION excimer laser ablation system for minimally invasive, in-situ elemental analyses

PCIGR's Thermo Fisher Scientific Element2 analyzes many trace elements at concentrations as low as ppt levels.

- Most polyatomic interferences can be removed by careful selection of the resolution mode used

### Quadrupole ICP-MS

PCIGR's Agilent 7700x single-quadrupole ICP-MS allows for trace elemental analysis in high-matrix samples.

- Low backgrounds and more effective polyatomic interference removal with collision/reaction cell run in He mode
- Couples to a RESOLUTION excimer laser ablation system

Our Agilent 8900 triple-quadrupole ICP-MS/MS allows for ultra-trace elemental analysis in samples.

- High sensitivity, low backgrounds and effective polyatomic interference removal with collision/reaction cell run in He, H<sub>2</sub>, O<sub>2</sub> or NH<sub>3</sub> mode
- Couples to an New Wave Research excimer laser ablation system



## Our Capabilities

PCIGR can analyze the following types of sample materials\* for trace elements:

- Rocks and minerals (solution or in-situ)
- Sediments, soils and dusts (solution)
- Water (e.g., seawater, lake water, pore water) (solution)
- Plant materials (solution)
- Animal tissue (both soft and mineralized tissues) (solution or in-situ)
- Food and pharmaceuticals (solution)
- Archaeological materials (in-situ)

\* Please note that PCIGR is not equipped to accept radioactive or bio-hazardous materials.

Trace element analyses completed at PCIGR have the following applications:

- Critical minerals exploration
- Water purification studies
- Leaching studies
- Metal mobility in environmental studies
- Complete trace elemental profiling of lithologic materials
- Trace metal assays of standard reference materials in rock matrices
- Lab quality control (blank testing, column calibration)

Consult our other brochures for related capabilities, or visit our website below for more information.

- **PCIGR: All-in-One Analytical Services**
- **Sample Preparation Services**
- **Isotopic Analysis Services**
- **Geochronology Services**
- **In-situ and Microanalysis Services**

## Our Commitment

PCIGR is committed to working with you to achieve the best outcomes for your project.

Contact us with your analytical and research needs.



Thermo Fisher Scientific Element2 HR-SF-ICP-MS



Nu Instruments AttoM HR-SF-ICP-MS



Agilent 7700x single quadrupole ICP-MS



Agilent 8900 triple-quadrupole ICP-MS

