

## Job Description

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| <b>Job Title:</b>      | EA-IRMS Isotope Technician   |
| <b>Department:</b>     | Earth and Environmental Sciences, Environmental Isotope Laboratory |
| <b>Reports To:</b>     | Lab Manager and Senior Technologist                                |
| <b>Jobs Reporting:</b> | None   |
| <b>Salary Grade:</b>   | USG 6  |
| <b>Effective Date:</b> | June 2018  |

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### **Primary Purpose**

The Elemental Analyzer - Isotope Ratio Mass Spectrometry (EA-IRMS) technician is responsible for the weighing of solid samples and standards for isotopic analysis of carbon, nitrogen, oxygen and sulphur. The technician will at times input the group of samples in the autosampler and enter the sample list into control computer to be ready for analysis.

### **Key Accountabilities**

#### **Mass Spectrometer systems and peripherals operation**

- Responsible for the use and relevant maintenance of the following lab equipment:
  - Deltaplus Continuous Flow Stable Isotope Ratio Mass Spectrometer (CFSIR-MS) (Thermo Finnigan / Bremen-Germany) coupled to a Carlo Erba Elemental Analyzer (CHNS-O EA1108 - Italy)
  - Isochrom CFSIR-MS (GV Instruments / Micromass-UK) coupled to a Costech Instruments EA Model 4010 (Costech/Italy)
  - IsoPrime CFSIR-MS (IsoPrime / UK) coupled to elementar vario Pyro Cube High Temperature EA (elementar / Langensfeld-Germany)

#### **Sample Preparation**

- Weighing services primarily for solid elemental analysis stable isotope analysis but also for other uwEILAB lab staff on request
- Performs sample preparation – acid wash, grinding, milling, freeze drying, oven drying etc
- Helping to maintain the smooth operation of the EIL through providing assistance and knowledge to co-workers, post-docs, undergraduate and graduate students
- Responsible for housekeeping in the work area and proper removal of all chemical wastes involved in the above procedures while observing all University safety standards

#### **Supervision**

- Oversee and direct undergrad and graduate student casual lab help

*\*All employees of the University are expected to follow University and departmental health and safety policy, procedures and work practices at all times. Employees are also responsible for the completion of all health and safety training, as assigned. Employees with staff supervision and/or management responsibilities will ensure that assigned staff abide by the above, and actively identify, assess and correct health and safety hazards, as required.*

### **Required Qualifications**

#### **Education**

- College diploma required in a science related field, Undergraduate degree preferred
- An equivalent combination of education and experience will be considered

### **Experience**

- 1 year of experience in a general lab environment, experience working in an Isotope lab environment considered an asset
- Practical experience in general lab practices and safety

### **Knowledge/Skills/Abilities**

- A working knowledge of MS Word, MS Excel, Email and general PC use as well as other analytical techniques is required
- Must be able to work with a team to accomplish client analytical requirements in a timely manner
- Able to manage and prioritize hundreds of samples at a time
- Strong analytical and problem solving skills
- Excellent verbal and written communication skills

### **Nature and Scope**

- **Contacts:** Communicates with other staff members and at times with clients to answer questions, provide feedback and obtain more information as required for samples analysis.
- **Level of Responsibility:** Provides training to visitors. Must pay attention to details while dealing with large quantities of samples. Cleanliness - washing of glassware, must keep work areas free from contaminants.
- **Decision-Making Authority:** Organizes sample analyses based on analytical requirement and priorities as communicated by the senior technician and lab manager to be as efficient as possible.
- **Physical and Sensory Demands:** Manual dexterity and strength to open and close small vials and vial cap sealers and with the use of micro scoops and tweezers to manipulate microgram size samples and small tin capsules. Visual acuity to be able to weigh microgram quantities of sample into small tin capsules. Must be able to sit for long periods while performing routine sample preparation.
- **Working Environment:** The incumbent is required to work in a lab environment which can be noisy to work in, cool due to equipment requirements, or hot due to sample analysis procedures. May be subject to safety issues such as dealing with hot materials, open flame, glass, intense light, pressurized gas cylinders, syringes/needles, handling poisonous/dangerous materials.