

## **TERMS OF REFERENCE**

### **TECHNICAL ASSISTANT – CHEMICAL ANALYSIS**

#### **1. BACKGROUND**

1.01 Under the supervision of the component/team lead, the Technical Assistant (TA) – Chemical Analysis will be responsible for collecting and conducting chemical analyses on water samples collected in the Rio Cobre and Kingston Basins. They will use a variety of analytical techniques, including spectroscopy and chromatography, and assist with the interpretation of the results to produce detailed reports. The Technical Assistant must possess knowledge of laboratory safety, instrumentation, excellent problem-solving skills, and be able to work independently.

#### **2. OBJECTIVES**

2.01 To assist the component lead with fieldwork and data collection and laboratory analysis. They will also assist the component lead in writing reports and research publications.

#### **3. SCOPE OF WORK**

3.01 The duties of the research assistant will fall under the following categories:

- (a) Research Duties
  - (i) Draft reports and summaries.
  - (ii) Assist with historical data collection.
  - (iii) Maintain laboratory instrumentation.
  - (iv) Assist with the management of the Water Research Laboratory at The University of the West Indies.
- (b) Collection of Data
  - (i) Field data collection: water samples and in-situ measurements (e.g., pH, conductivity, temperature), streamflow, water levels in wells, pump tests, if needed, and collection of water consumption per sector and zones in the basins of study.
  - (ii) Laboratory analysis: analyse water samples collected using standard methods of analysis including a complete suite of water chemistry parameters, e.g., nitrate, phosphate, chloride, alkalinity, sodium and potassium.
- (c) Data entry, Analysis and Writing
  - (i) Prepare laboratory reports.
  - (ii) Data entry using quantitative software packages.
  - (iii) Assess data quality control.
  - (iv) Co-authoring research reports and manuscripts for journals.
  - (v) Dissemination of data for various purposes e.g., workshop and conference presentations.

- (d) General Administration
  - (i) Assist with tracking of fieldwork progress.
  - (ii) Secure management of data collection and storage.
  - (iii) Support the organisation of meetings and contacting stakeholders.
  - (iv) Support with the organising of research trips.
  - (v) Develop presentations and related materials.

#### **4. QUALIFICATIONS AND EXPERIENCE**

4.01 The Technical Assistant must have the following minimum qualifications and abilities:

- (a) Undergraduate degree in Chemistry or relevant disciplines.
- (b) Willingness to travel and availability for training.

4.02 The following experience and expertise is desirable in the Technical Assistant:

- (a) At least two years of experience in carrying out water quality research.
- (b) At least two of years of experience in Quantitative Research, including data collection and mapping.
- (c) Knowledge of quantitative software packages.

Skills:

- (a) Excellent writing and analytical skills.
- (b) Ability to communicate effectively in English.
- (c) Ability to write reports, research papers and presentation skills.

#### **5. DELIVERABLES**

5.01 The Technical Assistant will prepare monthly reports that will underscore inter-alia:

- (a) Main activities undertaken, and key results achieved, and
- (b) Key challenges and opportunities.

#### **6. DURATION**

6.01 The Technical Assistant will be hired for 16 consecutive months and paid on a monthly basis.