

# Proficiency Testing Scheme for Chemical Analyses of Water in Africa

Southern African Development Community Cooperation in Measurement Traceability



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### Introduction

The Southern African Development Community Association of Water Testing Laboratories (SADCWaterLab) was established in 2005 to carry out water Proficiency Testing (PT) and to facilitate collaboration among participating water testing laboratories.

### Purpose

Access to safe drinking water quality is a human right and it is further dependent on the quality of the analyses conducted. This proficiency testing system offers the opportunity to laboratories to demonstrate their competence to customers, authorities and accreditation bodies.

### **Parameters**

The following parameters are included in the PT scheme: Anion sample: chloride, fluoride, nitrate, phosphate, sulphate, conductivity and total dissolved solids.

Cation sample: calcium, magnesium, potassium, sodium, iron, manganese, aluminum, arsenic, cadmium, chromium, cobalt, copper, lead, nickel and zinc.

### **Evaluation & assessment**

The assessment is based on z-scores, using the robust standard deviation of the data set as the standard deviation for proficiency assessment, provided it is lower than the fitness-for-purpose value agreed on and annually discussed between participants. The assigned value is derived from formulation of the samples

### Challenges & improvements

Various challenges and problems were addressed over the past years to improve the quality of laboratories.

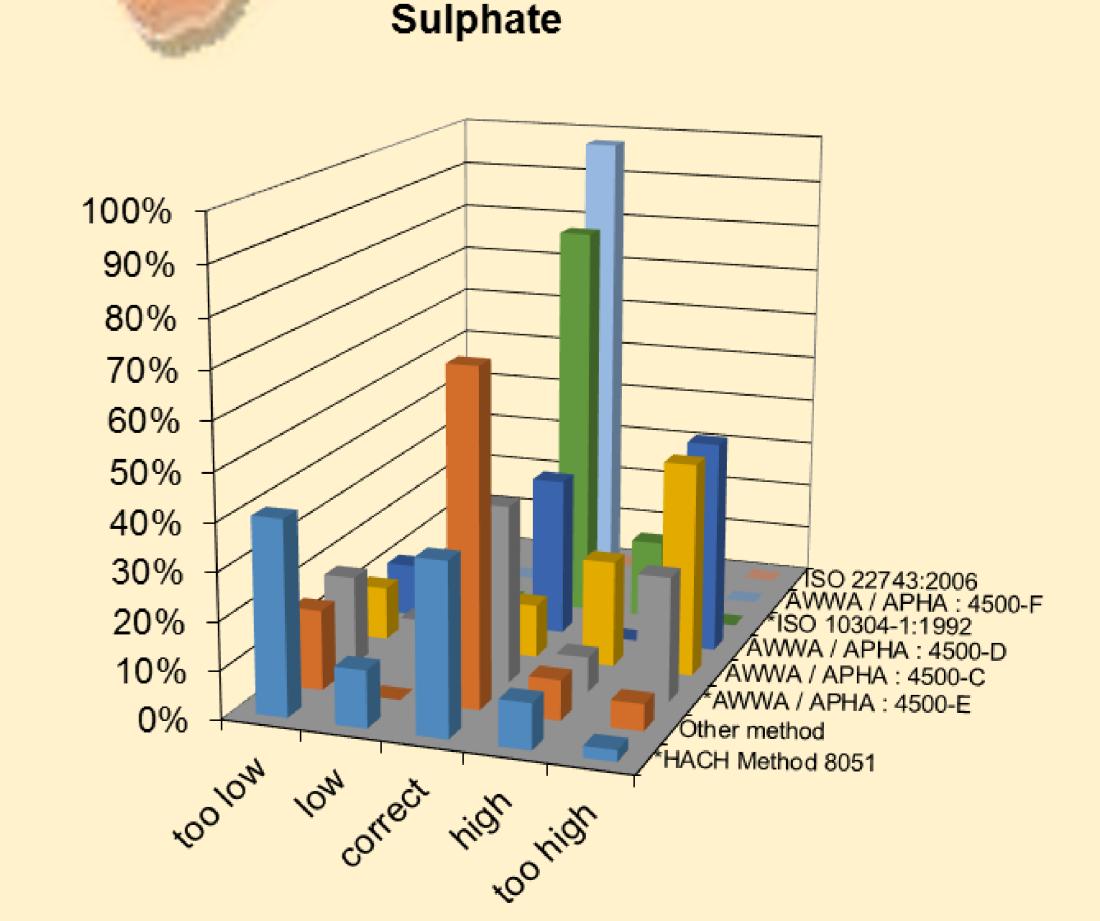
- SADCMet website was created for networking SADCWaterLab provides an organised interface at the regional level
- Local coordinators were appointed in SADC countries for awareness and marketing of the schemes
- Guidance for corrective actions was documented and distributed to all participants.
- Focus on the harmonisation of methods through a working group that was established.
- Training on quality management topics was provided at workshops and courses.

# Harmonisation of methods through established working group

### 4<sup>th</sup> PT round

# Sulphate 70% 60% 50% 40% 20% 10% Contect Right Rough Contect Right Rough Report Repor

## 10<sup>th</sup> PT round



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