

# Water Resource Quality Monitoring

## VOLUME 6

sampling protocol for

### **Water purification works**



September 2004

**the dwaf**

DEPARTMENT OF WATER AFFAIRS AND FORESTRY  
[www.dwaf.gov.za](http://www.dwaf.gov.za)



**Water  
Resource  
Quality  
Monitoring**

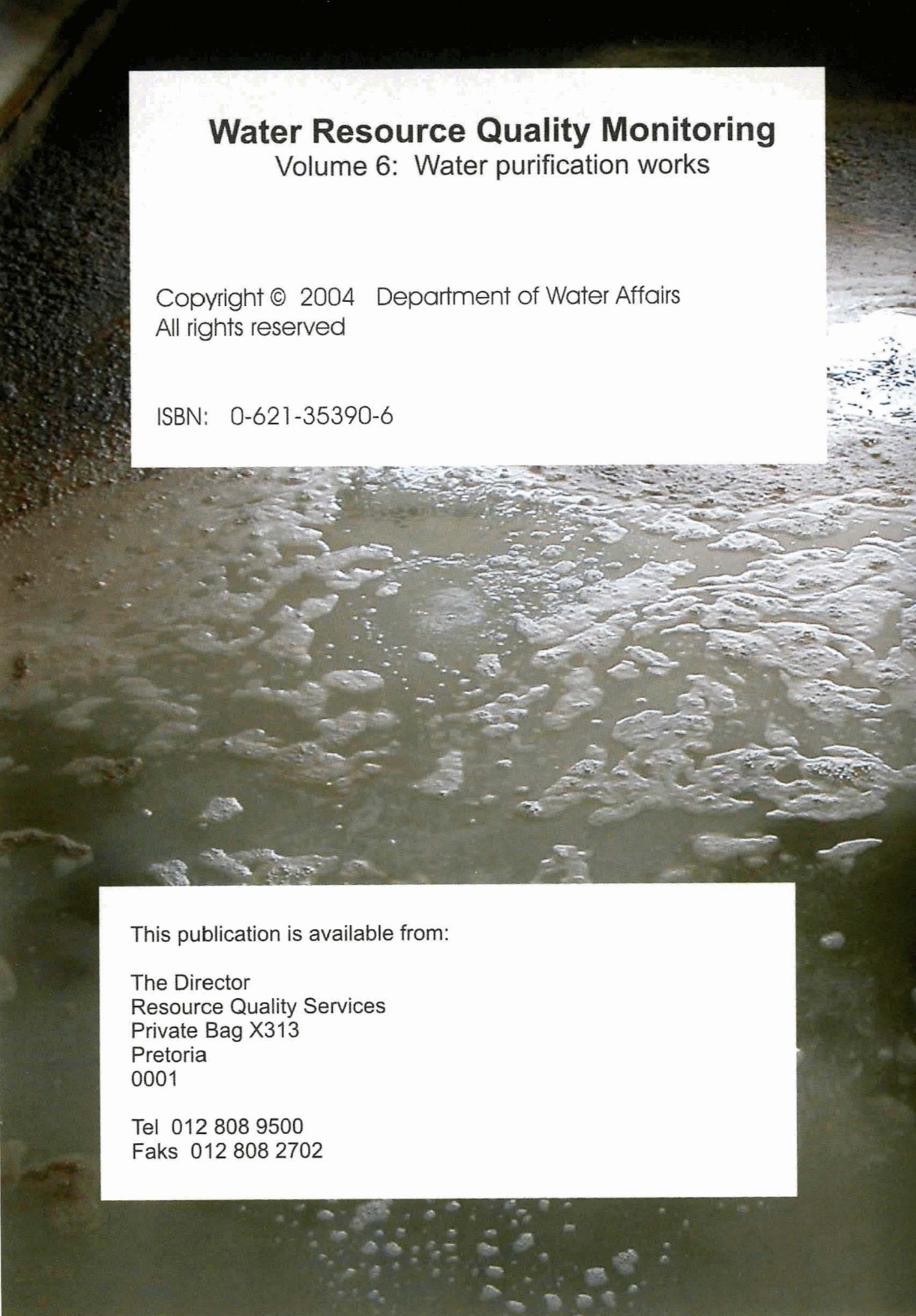
**VOLUME 6**

sampling protocol for

**Water purification  
works**

Resource Quality Services  
Department of Water Affairs

November 2004



# **Water Resource Quality Monitoring**

## **Volume 6: Water purification works**

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### **The Task Team**

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Hanlie Badenhorst - sampling protocol

Brendan Hohls - editing

Alfred Seloana - sampling techniques

### **Printing and binding**

Government Printers, Pretoria

The background of the entire page is a photograph of water with significant staining. The water is a pale, off-white color, but it is heavily marked with irregular, brownish-yellow and greenish-brown stains. These stains are most prominent in the upper and lower portions of the image, while the central area where the text box is located is relatively clearer. The staining appears to be organic in nature, possibly from algae or other biological growth.

## **Background information on Trihalomethanes**

Trihalomethanes are formed as by-products of chlorination in the water treatment process.

Some of the Trihalomethanes are suspected to be carcinogens.

The amount of Trihalomethanes formed depends on several factors such as the amount of dissolved organic material in the raw water



## **WATER PURIFICATION WORKS**

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Trihalomethanes

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## 1.0 THE SAMPLE BOTTLES

Each sampler will receive a cardboard box containing 4 glass bottles and tags



Three of the sample bottles are empty



**NB!**

The fourth bottle contains 0.2 mg L-ascorbic acid crystals







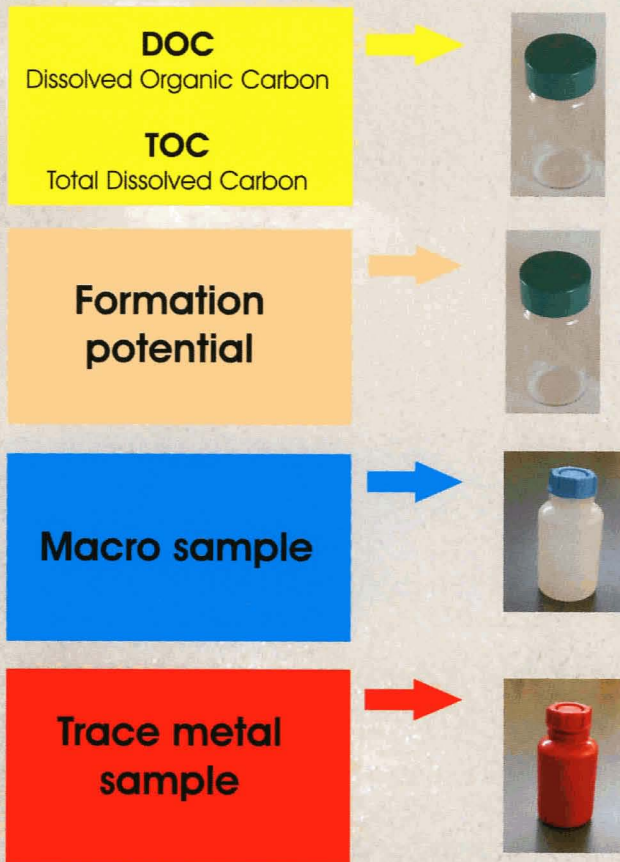
**Plastic sample bottles**



**The plastic bottles are for chemical water quality.  
See also sampling procedures in Volume 1,  
pages 15-16**

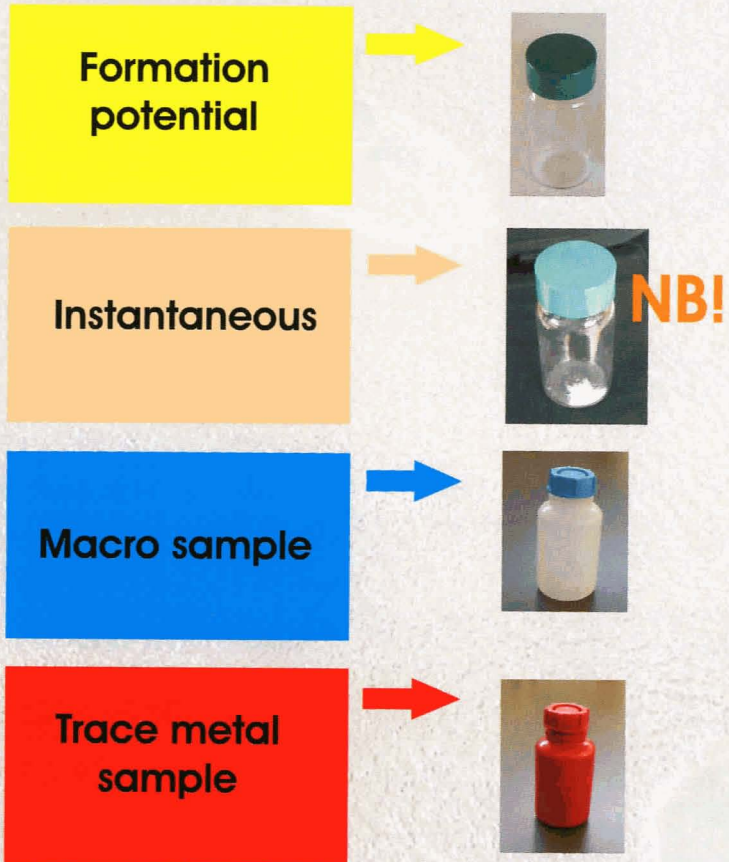
## 2.0 SAMPLES TO BE COLLECTED

### 2.1 From raw water





## 2.2 From final water



### 3.0 SAMPLING PROCEDURE

Collect water from the raw water source.



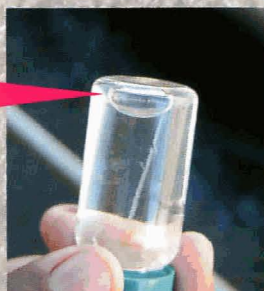
Fill 2 bottles with raw water.



Use water flowing slowly and fill bottles until the meniscus is visible. Close lids carefully.



**No air bubbles should be present in the sample.** Hold bottle upside down to see whether the bottle is leaking. Top up and tighten the lid if necessary.





Fill the other two bottles with final water. Collect sample just after chlorination point.

**Make sure not to lose any ascorbic acid from the "final- instantaneous" sample**



Photograph B. Hohls

Make sure that bottles carry the correct tags as supplied by RQS



Place bottles back into original container and proceed to the post office as soon as possible



Samples should be dispatched immediately or as soon as possible. A courier service works best.

Until such time the samples can be stored in the refrigerator at 4°C

**Do not store for more than 24 hours**



