

## Australian Standard®

**Analysis of acid sulfate soil—Dried samples—  
Methods of test****Method 8: Determination of hydrochloric acid  
extractable sulfur ( $S_{\text{HCl}}$ ), calcium ( $Ca_{\text{HCl}}$ ) and  
magnesium ( $Mg_{\text{HCl}}$ )**

AS 4969.8—2008

## PREFACE

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand for Committee EV-009, Sampling and Analysis Soil and Biota, Working Group EV-009-02-01, Analysis of Acid Sulfate Soil.

The objective of this Standard is to provide a method for the determination of hydrochloric acid extractable sulfur ( $S_{\text{HCl}}$ ), calcium ( $Ca_{\text{HCl}}$ ) and magnesium ( $Mg_{\text{HCl}}$ ) in acid sulfate soil.

## METHOD

**1 SCOPE**

This Standard specifies a method for the determination of hydrochloric acid extractable sulfur ( $S_{\text{HCl}}$ ), calcium ( $Ca_{\text{HCl}}$ ) and magnesium ( $Mg_{\text{HCl}}$ ) in acid sulfate soil following extraction with 4 M hydrochloric acid.

## NOTES:

- 1 This extraction procedure recovers soluble and exchangeable sulfate, sulfate from gypsum, the relatively insoluble iron and aluminium hydroxy-sulfate compounds (e.g. jarosite, natrojarosite, and aluminite) as well as some sulfur from organic matter. It also recovers soluble and exchangeable calcium and magnesium, calcium from gypsum, as well as calcium and magnesium from oxides, hydroxides and carbonates of these two elements.
- 2 The  $S_{\text{HCl}}$ ,  $Ca_{\text{HCl}}$  and  $Mg_{\text{HCl}}$  measurements can be used in combination with KCl extractable sulfur ( $S_{\text{KCl}}$ ), calcium ( $Ca_{\text{KCl}}$ ) and magnesium ( $Mg_{\text{KCl}}$ ) (AS 4969.4) to determine the net acid-soluble sulfur ( $S_{\text{NAS}}$ ), calcium ( $Ca_{\text{NAS}}$ ) and magnesium ( $Mg_{\text{NAS}}$ ) (AS 4969.11).

**2 REFERENCED DOCUMENTS**

The following documents are referred to in this Standard:

AS	
4969	Analysis of acid sulfate soils—Dried samples—Methods of test
4969.0	Part 0: Introduction and definitions, symbols and acronyms
4969.1	Method 1: Pre-treatment of samples