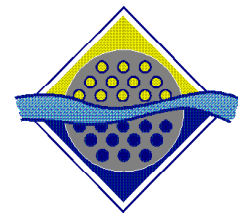
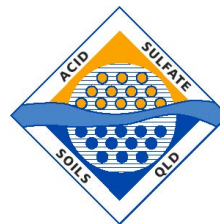


# Acid Sulfate Soils

## Laboratory Methods Guidelines

Version 2.1—June 2004

**Joint Project of**  
**Queensland Acid Sulfate Soils Investigation Team (QASSIT), Queensland Department of**  
**Natural Resources, Mines and Energy (Qld NRM&E)**  
**Southern Cross University (SCU)**  
**National Committee for Acid Sulfate Soils (NatCASS)**  
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This document supersedes the chapter *Acid Sulfate Soils Laboratory Methods Guidelines* (Ahern *et al.* 1998) in the *Acid Sulfate Soil Manual 1998* (Stone *et al.* 1998).

## **DISCLAIMER**

While the Acid Sulfate Soils Management Advisory Committee (ASSMAC), Queensland Acid Sulfate Soils Management Advisory Committee (QASSMAC), Queensland Department of Natural Resources, Mines and Energy (NRM&E), Southern Cross University (SCU) and the authors have prepared this document in good faith, consulting widely, exercising all due care and attention, no representation or warranty, express or implied, is made as to the accuracy, completeness or fitness of the document in respect of any user's circumstances. Users of the methods should undertake their own laboratory quality controls, standards, safety procedures and seek appropriate expert advice where necessary in relation to their particular situation or equipment. Any representation, statement, opinion or advice, expressed or implied in this publication is made in good faith and on the basis that the State of New South Wales and Queensland, Southern Cross University, its agents and employees are not liable (whether by reason of negligence, lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in respect of any representation, statement or advice referred to above.

## **STATUS OF THESE GUIDELINES AND UPCOMING AUSTRALIAN STANDARDS**

The SPOCAS method and its components, along with chromium reducible sulfur, acid volatile sulfur and acid neutralising capacity methods are currently being compiled in association with Standards

Australia with the intention of producing a united set of laboratory methods (in the form of Australian Standards) that will be applicable nationwide. Separate Standards are expected to be completed for analysis of wet samples and for dried samples.

At this stage, what is being proposed to Standards Australia is essentially that which is being proposed here. It is the intention that when the Australian Standards are issued that they will supersede and replace the methods herein. It is believed that there will be no substantial differences between these Guidelines and the Standards Australia methods.

These Guidelines will be updated periodically. Readers should either contact QASSIT directly, or visit the QASSIT web-site (<http://www.nrme.qld.gov.au/land/ass>) to ensure that they have the most recent version of the Guidelines.

## **REVIEWING AND UPDATING THE GUIDELINES**

It is expected that these Guidelines will be updated from time to time to strengthen and refine the acid sulfate soil analytical methods as a result of experience and research. Any updates of the methods will aim to make them more effective tools for understanding the risks associated with ASS and improve the economics of providing dependable information for environmental management. Technical questions may be discussed with Col Ahern (e-mail [Col.Ahern@nrm.qld.gov.au](mailto:Col.Ahern@nrm.qld.gov.au)) or Angus McElnea (e-mail [Angus.McElnea@nrm.qld.gov.au](mailto:Angus.McElnea@nrm.qld.gov.au)) or the authors of the individual methods (with an information copy for Col Ahern).

Any suggestions or recommendations should be directed in writing (with supporting data) to QASSIT. ASSMAC, QASSMAC and NatCASS will be responsible for organising, refereeing, reviewing and approving changes to the Guidelines, in consultation with other relevant professional organisations, industry and government departments. To receive future updates to the Acid Sulfate Soils Laboratory Methods Guidelines and information on new methods, please contact Kristie Watling (e-mail [Kristie.Watling@nrm.qld.gov.au](mailto:Kristie.Watling@nrm.qld.gov.au)) or Angus McElnea (e-mail [Angus.McElnea@nrm.qld.gov.au](mailto:Angus.McElnea@nrm.qld.gov.au)), QASSIT, Department of Natural Resources, Mines and Energy, Gate 2, Block C, 80 Meiers Road, Indooroopilly Qld 4068.

## **RISKS ASSOCIATED WITH CHEMICAL METHODS**

There are risks inherent in performing any chemical method. It is the responsibility of any laboratory that performs chemical methods to minimise these risks (to persons, property and the environment) by putting in place appropriate safeguards and following good laboratory practice.

Relevant Materials Safety Data Sheets (MSDS) should be at hand for all chemicals and reagents used. Analysts must wear protective equipment appropriate to the method being performed (eg. as safety glasses/goggles/face shield/face mask, gloves, covered shoes, laboratory coat). Where indicated in particular methods, fume hoods that comply with appropriate Australian Standards need to be used due to the generation of toxic, carcinogenic and potentially flammable gases. Laboratories should provide adequate training of analysts in performing analytical methods including an explanation of the risks involved.

In these Guidelines, the attention of operators is drawn to the most acute risks associated with particular methods. However, the stated risks and warnings are not comprehensive and operators should be cognisant of other more general risks associated with particular methods (eg. from concentrated acids or alkalis). Finally, it is the duty of laboratories that any wastes generated from these methods are disposed of in an environmentally responsible manner.

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These Guidelines were circulated to over 180 people in Australia and overseas.

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