STANDARDS AUSTRALIA

RECONFIRMATION

OF

AS 4969.12–2009

Analysis of acid sulfate soil–Dried samples–Methods of test

Method 12: Complete suspension peroxide oxidation combined acidity and sulfur (*SPOCAS*) method

RECONFIRMATION NOTICE

Technical Committee EV-009 has reviewed the content of this publication and in accordance with Standards Australia procedures for reconfirmation, it has been determined that the publication is still valid and does not require change.

Certain documents referenced in the publication may have been amended since the original date of publication. Users are advised to ensure that they are using the latest versions of such documents as appropriate, unless advised otherwise in this Reconfirmation Notice.

Approved for reconfirmation in accordance with Standards Australia procedures for reconfirmation on 02 May 2018.

The following are represented on Technical Committee EV-009:

Australasian Land & Groundwater Association
Australian Contaminated Land Consultants Association
Chem Centre
Department of Economic Development, Jobs, Transport and Resources (VIC)
Department of Environment and Science (QLD)
Environmental Laboratory Industry Group
National Association of Testing Authorities Australia
National Measurement Institute
Soil Science Australia
The University of Sydney
University of South Australia

NOTES

AS 4969.12—2009
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Australian Standard®

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PREFACE

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

The objective of this Standard is to encompass the determination of the various components of soil acidity and/or alkalinity, depending on pH, into a combined method to streamline the process of acid base accounting. It specifies methods for the determination of pH_{KCl}, titratable actual acidity (*TAA*), potassium chloride extractable sulfur (S_{KCl}), calcium (Ca_{KCl}) and magnesium (Mg_{KCl}) in acid sulfate soil (ASS), as well as for the determination of pH_{OX}, titratable peroxide acidity (*TPA*), excess acid neutralizing capacity (ANC_E), peroxide sulfur (S_P), calcium (Ca_P), magnesium (Mg_P) and residual acid soluble sulfur (S_{RAS}). These results can be used to calculate titratable sulfidic acidity (*TSA*), reacted calcium (Ca_A), reacted magnesium (Mg_A) and peroxide oxidizable sulfur (S_{POS}).

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is only for information and guidance.

METHOD

1 SCOPE

This Standard specifies a method for the determination of pH in a 1 M KCl soil suspension, and where required, titratable actual acidity (*TAA*) in acid sulfate soil. Following this, potassium chloride extractable sulfur (S_{KCl}), calcium (Ca_{KCl}) and magnesium (Mg_{KCl}) are determined. On a separate test portion, peroxide pH (pH_{OX}), titratable peroxide acidity (*TPA*) and excess acid neutralizing capacity (ANC_E) are determined following digestion with 30% hydrogen peroxide. Following this, peroxide sulfur (S_P), calcium (Ca_P) and magnesium (Mg_P) are determined. On samples where jarosite is present, or $pH_{KCl} < 4.5$, residual acid soluble sulfur (S_{RAS}) is determined on the soil residue remaining after peroxide digestion.