LABORATORY ANALYSIS

Laboratory testing for Oxidisable sulfur is carried out using the Total Oxidisable Sulfur (TOS) method, the Chromium Reducible Sulfur (SCR) method or the Peroxide Oxidisation - Combined Sulfide Oxidation method (SPOS). A 'measuring depth' of 100 mm is used for all TOS and SCR methods. Soil samples are wet sieved through a 2 mm sieve. A 'measuring depth' of 100 mm is used for the SPOS method. Soil samples are wet sieved through a 10 mm sieve. The Oxidisable Sulfur is determined by the difference between the SPOS and TOS. A limiting value for Oxidisable Sulfur is recommended as 0.03% in all soils. The use of this methodology would allow the detection of sulfur sediments that could be indicative of Acid Sulfate Soil (ASS) potential.

While the presence of Oxidisable sulfur is an indicator of ASS potential, the results of laboratory analysis alone do not confirm the presence of ASS. Field assessment of the properties of the soil is required to confirm or refute the presence of ASS.

Acid sulfate soils (ASS) are characterized by their high concentrations of Oxidisable sulfur, which can be detected in laboratory analysis. The method used is the Total Oxidisable Sulfur (TOS) method, the Chromium Reducible Sulfur (SCR) method or the Peroxide Oxidisation - Combined Sulfide Oxidation method (SPOS). A 'measuring depth' of 100 mm is used for all TOS and SCR methods, and a 'measuring depth' of 100 mm is used for the SPOS method.

In some cases, partial or full treatment may have been carried out on the land. This may include sulfur from organic compounds and modern accretion of sulfides in a wet, organic rich environment. ASS typically includes actual and potential acid sulfate soils. Unless used with the superscript P, the code 'S' implies sulfidic sediments of Holocene age. The superscript P implies sediments of Pleistocene age.

Limited or no field checking has been carried out in disturbed lands. Disturbed land, eg. Canal estate, Marina, Aquaculture, Quarry, Urban, Industrial likely to contain ASS. (In some cases partial or full treatment may have been carried out on the land.)

The outer boundary of Holocene estuarine ASS commonly occurs at the intersection with hard rock or other materials of non-estuarine origin. It is either at the 5m contour or at lower elevation.

Limited field assessment but occurs in a landscape position where there is a reasonable probability of ASS occurrence. This is usually land where the present use precludes any disturbance eg. National Parks, Reserves etc., or land where accessibility is severely restricted.

LAND NOT ASSESSED

Produced at the Indooroopilly Sciences Centre by Natural Resource Information Management, Natural Resource Sciences, by DT Malcolm, JJ Adams, JK Loi, EV Barry and IR Hall, QASSIT, Natural Resource Sciences, Department of Natural Resources and Mines.

Note: This map is GDA94 compliant.