

**Method Number: TM 221**

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**Method Summary****Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer****Scope and Range**

This method describes the analysis of acid extractable sulphate in solids by acid digestion, followed by measurement using ICP-OES. The instrument calibration is capable of measuring levels up to 25,000mg/kg, with a reporting limit of 0.0048%, based on a 1g sample weight. The method is accredited to ISO17025 and MCERTS on sand, clay, and loam.

**References**

none

**Principle**

Preparation and Extraction:

1g of dried and crushed soil is weighed into a 50ml plastic tube with lid. 50ml of Hydrochloric Acid is added to the sample, the lid is secured and the tube is shaken to dislodge the soil from the bottom of the tube. Samples are placed into a Digiprep at 110°C for 30 minutes, then removed and allowed to cool to approximately 60°C. Samples are then shaken and then centrifuged at 1500rpm for 15 minutes. The extract is then decanted into an 13ml polypropylene tube.

Analysis:

Samples are analysed using a Optical Emission Spectrometer with Burgener nebuliser.

**Interferences**

Although the instrument is calibrated as sulphate, the wavelength monitored is characteristic of sulphur. Any acid soluble sulphur compound will also be detected.