

Method Number: TM 125

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**Method Summary****Determination of Ferrous Iron in water and Associated matrices.****Scope and Range**

This method is applicable to the measurement of iron in the +2-oxidation state. This method is applicable to ground water, wastewater, leachates and other environmental waters.

This method is accredited to ISO 17025 for ground water and surface waters

The working range of the method is 0.1-6 mg/l FeII.

The accepted LOD for the method has been calculated at 0.1 mg/l FeII.

References

Examination of Waters and Wastewaters 20th Edition, APHA, Washington DC, USA. ISBN 0-87553-235-7

Principle

Samples should be received already filtered into a preserved bottle in Hydrochloric acid with a pH<2.

The method is based upon the spectrophotometer measurement of the coloured complex formed between the ferrous iron and the complexing agent 1,10 phenanthroline. The method utilises the reaction of iron present in the +2-oxidation state, which is preserved in the sample by maintaining a pH≤ 2. This is reacted with the complex agent and the absorbance measured at the absorbance maximum at 510nm using a spectrophotometer.

Interferences

There may be interferences apparent in some Samples containing high level of complex phosphates, copper, and zinc.

Oily and coloured samples are unsuitable for this test.