



Method Summary

Determination of Total Carbon, Total Organic Carbon and Total Sulphur by ELTRA

Scope and Range

This method can be used to determine; total carbon, total sulphur and total organic carbon, in soils using an ELTRA CS800.

The working range of the method is from the detection limits to 100%, although in practical terms the usable range is up to 70% for the typical sample mass used as beyond this level the sample is prone to incomplete combustion, and the detector to saturation.

Detection Limits:	Total Carbon	0.20%
	Total Organic Carbon	0.20%
	Total Organic Carbon (Low Level)	0.02%
	Total Sulphur	0.02%

Principle

Preparation and Extraction

All samples are dried and crushed prior to analysis.

For Total Organic Carbon the sample is treated with hydrochloric acid to remove the inorganic carbon prior to analysis.

Analysis

Analysis is carried out using an ELTRA CS800 which heats the sample in a stream of oxygen. The carbon and sulphur are converted to their respective oxides, detected by IR and the percentage content of each element calculated with respect to the original sample.

Interferences

Total sulphur: Fresh reagents and glass wool used in various traps (especially KI and Antimony) appear to absorb a small amount of sulphur until a number of samples have been run. Therefore, after changing the filter and any reagents it is necessary to run a few samples to enable sulphur readings to equilibrate.

Total Carbon: None known

Total Organic Carbon: None known