



Total Carbon, Nitrogen, and Organic Carbon

EQUIPMENT

1. Balance
2. Elementar Vario Max

PROCEDURE

*For analysis of total organic carbon, we first treat the soil with water and 8% hydrochloric acid to volatilize the carbonates from the sample. The soil sample is mixed, allowed to incubate for several hours and then dried in a 105°C oven.

A representative sample (~0.5g) is loaded into a steel crucible and combusted in an oxygen atmosphere at 1200°C in a Elementar Vario Max Total Combustion Analyzer (Langensfeld, Germany). Elemental C and N are converted into CO₂, NO_x, and N₂. These gases are then passed through the IR (infrared) cells to determine the carbon content and a TC (thermal conductivity) cell to determine N₂. Results are reported in %.

REFERENCES

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Kirsten, W. J., 1979. Automated methods for the simultaneous determination of carbon, hydrogen, nitrogen and sulfur, and sulfur alone in organic and inorganic materials. Anal. Chem. 51:1173-1179.