

## **LOW TEMPERATUE CARBON ANALYIS**

The LECO RC-412 Carbon Determinator heats a sample to 450C in an oxygen atmosphere and converts the organic carbon present to CO<sub>2</sub>. The amount of CO<sub>2</sub> is measured by an IR detector. This amount is compared to a calibration curve for quantification of carbon.

Sample types are primarily calcium carbonates coated with organic fatty acids, and other organic coated minerals after their characterization by TGA-DTA.

Results are typically reported as % Carbon as Fatty Acid. The particular fatty acid used can be ascertained through product knowledge, by consulting the client, or by consulting the Technical managers. If the fatty acid cannot be determined, only a % carbon result will be reported.

### **Accuracy**

There is currently no CRM for accuracy for % Carbon as measured by this technique method. The Standardization sample 2002-58 and the Quality Standard 15764 values have been determined by consensus values derived from alternate methods and are traceable to LECO Standard 502-029, Lot 1060.

### **Precision**

Results vary +/- 3% relative or less.

### **Measurement Uncertainty**

The uncertainty of measurement (% Carbon) has been determined to be 6.9% relative, 95% confidence, k=2.

Sample Size: 0.5 g minimum

Turnaround: 2 weeks typical  
1 day minimum

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