

## Article

# Dissolution of Carbonate Rocks in a Laboratory Setting: Rates and Textures

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## Supplementary Material

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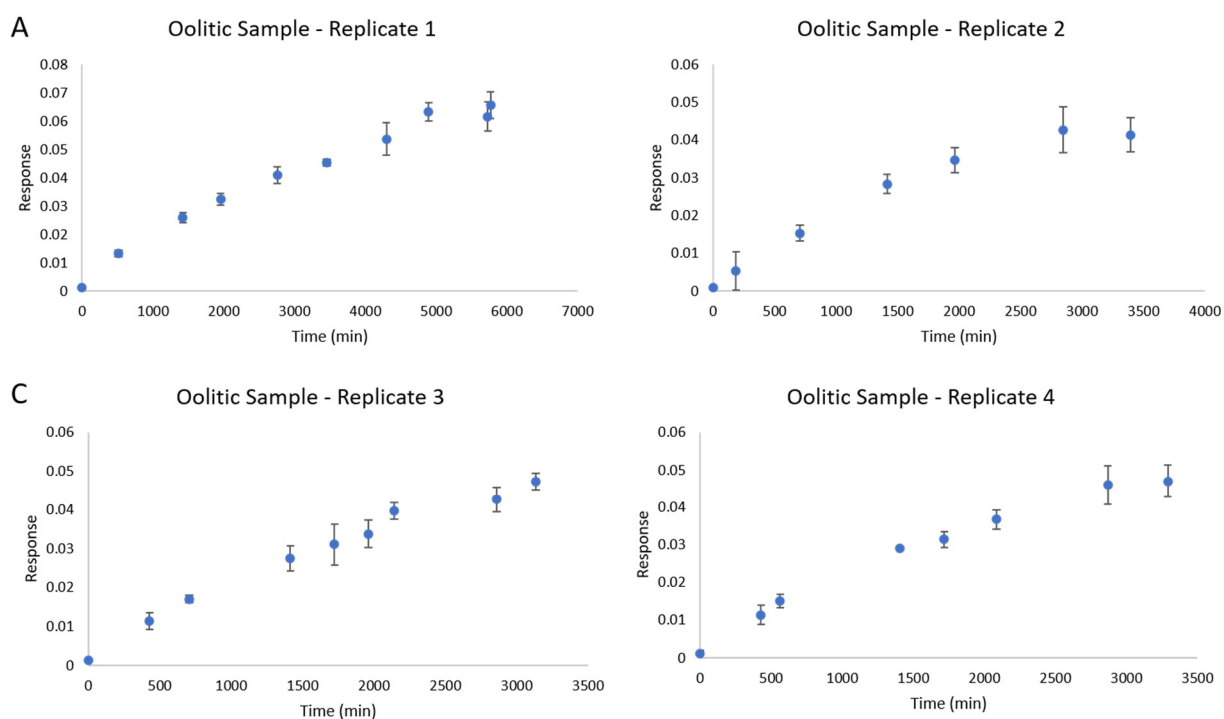
$$\text{Dissolution Rate} = \frac{V dc}{A dt} = \mu\text{mol cm}^{-2} \text{min}^{-1}$$

After a simple conversion of minutes to a given extrapolated time span, denudation can be calculated by simply dividing the result by the molar density of the bulk rock sample:

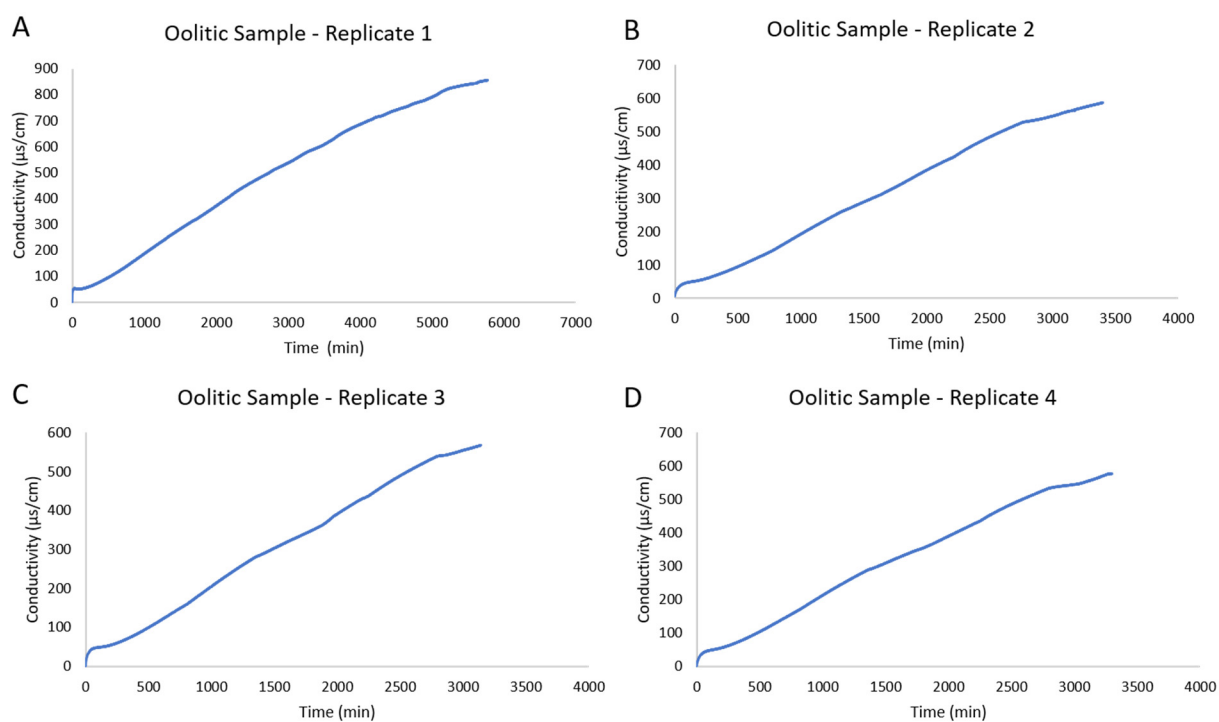
$$\text{Calcium molar density} = \frac{\text{Sample density } (\frac{\text{g}}{\text{cm}^3})}{\text{Calcium molar mass } (\frac{\text{g}}{\text{mol}})} = \frac{\text{mol}}{\text{cm}^3}$$

The result naturally being converting into  $\mu\text{mol}/\text{cm}^3$ . This allows a denudation rate to be calculated in conventional terms of distance/time while accounting for the geometric surface area of the bulk rock sample.

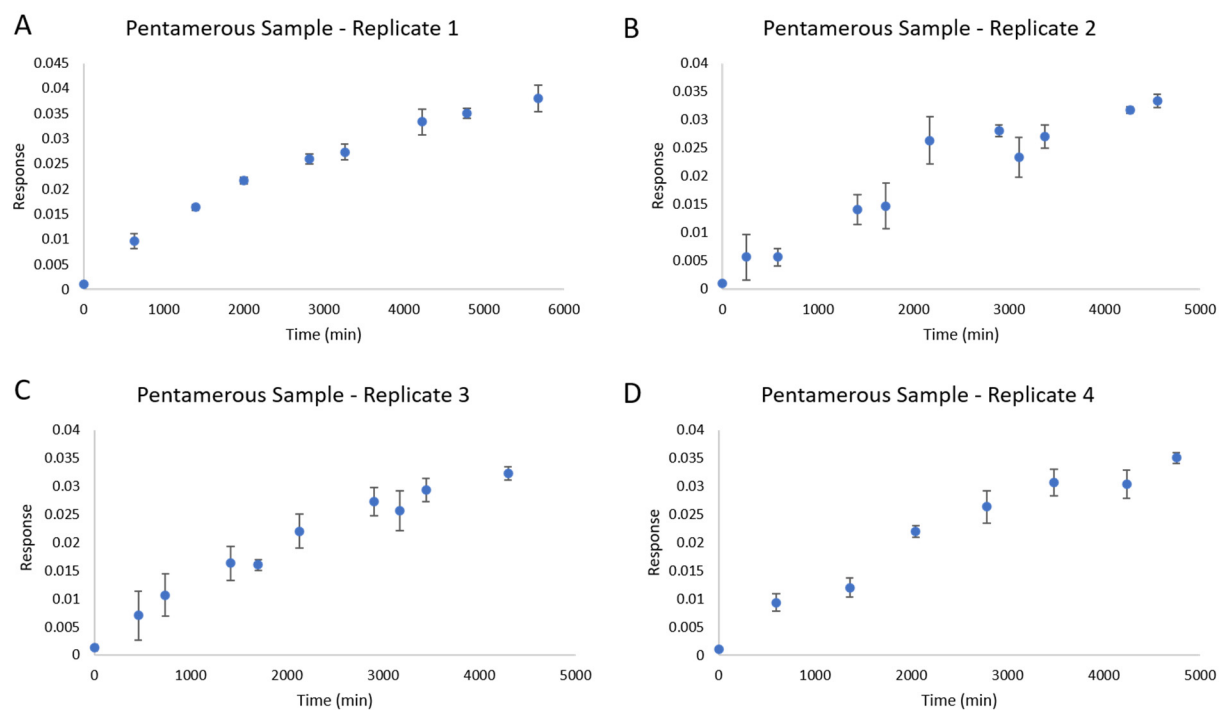
**Table S1.** Explanation of the units used from the raw data collected to calculate denudation rate.



**Figure S1.** AES data for each experimental replicate of the oolitic limestone sample.



**Figure S2.** Conductivity data for each experimental replicate of the Oolitic limestone sample.



**Figure S3.** AES data for each experimental replicate of the Pentamerous limestone (dolostone) sample.



**Figure S4.** Conductivity data for each experimental replicate of the Pentamerous limestone (dolostone) sample.