

ERRATUM

ON A REACTIVE CONTINUUM REPRESENTATION OF ORGANIC MATTER DIAGENESIS

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The paper by Boudreau and Ruddick (1991, v. 291, p. 507–538) contains significant errors in the section entitled “Energetics of Decomposition” (p. 531–533). This material was added by the senior author to the paper after the formal review, and I apologize sincerely for any problems it may have caused to the readers and the journal. Major errors in this development include a misstatement of the Arrhenius law, eq (53), and an incorrect value for the gas constant. More importantly, the theoretical argument in this section does not serve the purpose to which it was intended, and it is not possible to conclude from our development anything regarding the temperature dependence of the effective activation energy, E_{eff} . We do wish to reiterate, however, that the Arrhenius plots of experimental and field data found in Abdollahi and Nedwell (1979), Westrich and Berner (1988), and Mackin and Swider (1989) do not exhibit appreciable curvature within the errors of their data. This argues that E_{eff} cannot be a strong function of temperature under the conditions in these various studies.

REFERENCES

- Abdollahi, H., and Nedwell, D. B., 1979, Seasonal temperature as a factor influencing bacterial sulfate reduction in saltmarsh sediment: *Microbial Ecology*, v. 5, p. 73–79.
- Mackin, J. E., and Swider, K. T., 1989, Organic matter decomposition pathways and oxygen consumption in coastal marine sediments: *Journal of Marine Research*, v. 47, p. 681–716.
- Westrich, J. T., and Berner, R. A., 1988, The effect of temperature on rates of sulfate reduction in marine sediments: *Geomicrobiology Journal*, v. 6, p. 99–117.