
Comparative diagenesis at three site on the Canadian continental margin

B. Boundreau, Alfonso Mucci, Bjorn Sundby, G.W. Luther & Norman Silverberg

Diagenesis of carbon, oxygen, nitrogen, and manganese at three sites on the Canadian continental margin is quantitatively compared and contrasted using results from a computer code (CANDI) published by Boudreau (1996a). The data at Station 3 (Cabot Strait) are well explained by the steady state output from CANDI, assuming a porewater balance created by diffusion and reaction only, whereas the data from Stations 4 (Emerald Basin-Scotia Shelf) and 5 (Scotia Slope) are not consistent, in one way or another, with this simple model. The deviations between model and data at Station 4 are best explained by nonsteady-state diagenesis. Model fits to the Station 5 S CO2 observations are improved dramatically by adding some irrigation at this site, but the S NH3 distribution appears to be subject to an additional anomalous transport to the O2 zone and subsequent oxidation to NO3 2. The mechanism for this latter phenomena is unknown and in need of future research. In addition, the O2 and

Para obtener copia del documento contacta con el autor (silverb@ipn.mx) o con el personal de la biblioteca (bibliocicimar@ipn.mx).