

Isotopic compositions of Carbon, Oxygen, and Strontium in authigenic carbonates from Umitaka Spur, off-Joetsu, southeast of Japan Sea

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We present isotopic compositions of Carbon ($\delta^{13}\text{C}$), Oxygen ($\delta^{18}\text{O}$), and Strontium ($^{87}\text{Sr}/^{86}\text{Sr}$) in authigenic carbonates from Umitaka Spur, off-Joetsu, southeast of Japan Sea.

The carbon isotopic values in authigenic carbonate from Umitaka Spur are higher than those of Joetsu Knoll and west off-Tobishima Island. This range corresponds to the $\delta^{13}\text{C}$ values of thermogenic methane (Bernard et al., 1978). Range of the $\delta^{18}\text{O}$ values of authigenic carbonates from Umitaka Spur is mostly equal to those of Joetsu Knoll and west off-Tobishima Island.

The $^{87}\text{Sr}/^{86}\text{Sr}$ ratios in authigenic carbonates from shallow depth of Umitaka Spur is equal to those of modern surface seawater in off-Joetsu. The Sr-isotopic ratios in authigenic carbonate from deeper depth are lower ratios. This Sr-isotopic trend can be correlated to the global Sr-isotopic trend in seawater from late Pleistocene to present. It indicates that Sr-isotopic ratio of authigenic carbonate reflects the Sr-isotopic ratio of seawater at the time of deposition. The Sr-isotopic ratios in pore water are parallel lower than those of authigenic carbonate. It indicates that pore water includes light Sr by diagenetic procedure.

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