

## **Geochemistry of pore water and carbon/nitrogen profiles of cuttings from the Nankai accretionary prism**

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AND THE IODP EXPEDITION 348 SCIENTISTS

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Integrated Ocean Discovery Program (IODP) Expedition 348 at Site C0002 has successfully deepened Hole C0002F (Exp. 338) down to 3058.5 mbsf, deep into the Nankai accretionary prism. During Exp. 348, cuttings were collected from Holes C0002N (875 to 2325 mbsf) and C0002P (1975 to 3058.5 mbsf), and limited coring was performed from 2176 to 2218 mbsf in Hole C0002P. This study reports the main geochemical results from IODP Exp. 348.

Interstitial waters were collected using the GRIND method [1], in which core sediments were ground in an agate mill with ultra-pure water. Ion concentrations were corrected for water content of sediments dried at 60°C and 105°C. The GRIND method yielded very high dissolved ion concentrations in some samples. Normalised to chlorinity, the results are comparable to those observed in pore waters at shallower depths of Site C0002.

Downhole profiles of carbonates (as CaCO<sub>3</sub>), total organic carbon (TOC) and total nitrogen (TN) were determined from cuttings of 1-4 mm and >4 mm sizes and compared with core samples, showing good agreement between the 2 types of samples. Carbonate veins were observed in core samples exhibiting shear at ~2205 mbsf, but no increase was observed at the same depth in the carbonates profile. While showing a general decreasing, locations of some changes in the CaCO<sub>3</sub> and TOC profiles trends match the unit boundaries determined from lithological changes observed in the cuttings.

[1] Wheat, Boulègue & Mottl (1994), Proc. ODP, Sci. Results, 139: College Station, TX (Ocean Drilling Program), 429–437