Boulder, cobble, pebble, and granule of continental crust rocksfrom the Wild Canyon, off Cape Darnley, East Antarctica: Preliminary results of dredged samples during KH-20-1 cruise, R/V Hakuho-maru

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The Cape Darnley Bottom Water (CDBW), which is produced in the Cape Darnley polynya (CDP), descends down the Wild Canyon (Ohshima et al., 2013). According to the mooring observations by Ohshima et al. (2013), significant signals of CDBW were found at the center of the Wild Canyon just off the CDP. Two months after the onset of active sea-ice production, a colder, less saline, and denser signal appeared and became dominant after June. However, there is no direct evidence for the transportation processes of geological materials in the Wild Canyon.

Dredge operation was performed during KH-20-1 cruise at the bottom of Wild Canyon. Approximately 170 kg of granitoid and metamorphic rocks that are consist of continental crust were recovered. They contain boulder, cobble, pebble, and granule size of granitoid and metamorphic rocks. Furthermore, they show subangular to subrounded shape. Based on deep-sea camera observation, sea-floor is covered with soft sediments and scattered boulders.

Lithology and petrological characteristics of continental crust rocks will reveal not only transportation and sedimentary processes at the Wild Canyon but also (tectonic) development history of both the Wild Canyon and East Antarctica.

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