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A new Quaternary sediment sequence from the eastern Mendeleev Ridge: preliminary stratigraphic subdivision based on IRD and microfossil records

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Sediment core KD12-03-10C (79°27,75'N, 171°55,08'W, 2200 m water depth) was retrieved in 2012 during Russian expedition aboard RV "Kapitan Dranitsyn". The 575 cm long sediment sequence was analyzed for IRD (>500 microns), planktic and benthic foraminifers and ostracods (from >125 micron fraction) with 10 cm interval (the uppermost 30 cm were analyzed continuously).

Correlation of the obtained results with previously published evidence (Polyak et al., 2004, 2013; Cronin et al., 2008, 2013, 2014; Adler et al., 2009; Stein et al., 2010; Hanslik, 2011; Poirier et al., 2012) allowed for a preliminary stratigraphic subdivision of the sediment sequence.

The major stratigraphic markers recorded so far in the sediments are:

- i) seven IRD peaks corresponding to the decay/growth of continental ice sheets in the upper 445 cm; sediments below 445 cm almost devoid of IRD with rare microfossils signify conditions of seasonal sea-ice cover and high productivity prior to the onset of major glaciations;
- ii) first occurrence of rare dolomites in the oldest IRD peak (MIS16?) and growing representation of dolomites upcore up to 40-60% in pink layers 1 and 2 at 170-180 (MIS7/8?) and 75-80 (MIS 5d?) cm, respectively;
- iii) the oldest peak in the abundance of planktic foraminifers at 240-310 cm dominated by *Turborotalita egelida* (MIS11) correlative with the peak abundance of diverse benthic foraminifers including agglutinated species *Cyclammina* sp.;
- iiii) faunal changes at 170-190 cm likely corresponding in age to MIS7-9 including disappearance of *T. egelida* and predominance of *Neogloboquadrina pachyderma* sin. among planktic foraminifers, appearance of *Oridorsalis tener* and the presence of indicative species *Pullenia bulloides* among benthic foraminifers;

iiii) occurrence of ostracod species *Henryhowella asperrima* in the limited depth interval 8-26 cm suggesting the age of MIS1-3 for this core interval.

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