



## **Record of the early Holocene deglaciation from the East Antarctic Adélie Land margin: IODP Site U1357**

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Drilling at Site U1357 yielded a 185.6 m section of Holocene continuously laminated diatom ooze as well as a portion of an underlying Last Glacial Maximum diamict. We present sedimentological and geochemical data of the time of the first Holocene deglaciation. The use of CT-Scanner has allowed us to characterize in detail sedimentary facies dominated by iceberg rafted debris, silt layers and biogenic laminations. In addition, geochemical studies have been conducted at ultra-high (seasonal to decadal) resolution using X-Ray Fluorescence scanning, allowing to reconstruct detrital input, paleoproductivity and redox conditions. Comparison between CT-Scan images and geochemical data show that the intervals with high Ba/Al and Si/Al are associated to poor detrital levels allowing to use these ratios along the entire core as detrital/paleoproductivity proxies. Detrital proxies (e.g., Zr content) anticorrelate with bottom redox conditions proxies (U/Th) pointing to well oxygenated deep waters as generator for silt layers. These preliminary observations point to an unprecedented high resolution ice fjord-like sequence in the studied region with strong water column stratification and pulsational detrital input acting as a main forcing for environmental variations. Ongoing radiocarbon analysis, performed in the bulk fraction and also in compound-specific, will allow us to recognize timing, cycles and if major variations occurred in the reservoir age during the deglaciation.