Geophysical Research Abstracts,
Vol. 10, EGU2008-A-02782, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-02782
EGU General Assembly 2008

ICDP FAR-DEEP – 3600m of drillcores from 2500-2000 Ma rocks from Russian Fennoscandia: tracking the rise of atmospheric oxygen and related environmental changes.

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The Paleoproterozoic is one of the critical time intervals in the evolution of the Earth System, when biota, atmosphere, hydrosphere and geosphere experienced global-scale changes. Among the hallmark events/processes that characterise this time interval were widespread rifting activity, possible upper mantle oxidation, the global Huronian glaciation(s), a rise in atmospheric oxygen, the Lomagundi-Jatuli carbon isotope excursion, an increase of oceanic sulphate, formation of oldest known phosphorites, change in organic matter mineralisation and generation of significant amounts of petroleum are. The Fennoscandian Arctic Russia – Drilling Early Earth Project (FAR-DEEP) has been established in the framework of the International Continental Drilling Program (ICDP) to study these events and processes in Palaeoproterozoic sedimentary and volcanic successions. It is expected that the cores from 15 holes totalling 3560 m that were obtained from the Onega basin, and the Pechenga and Imandra-Varzuga greenstone belts during the drilling campaign in May-October 2007 will provide a unique rock archive for the period 2500-2000 Ma. A degree of core recovery close to 100%, clean drilling in pure water, and non-oil-based lubricants offer an optimal approach for studying a time of profound change in both the interior and exterior of our planet, the time during which aerobic Earth Systems emerged. The cores will be

stored at the Geological Survey of Norway in Trondheim. The cores will be archived in February-October 2008, and will be available for sampling and research by the international group of FAR-DEEP scientists in winter 2008. The entire science community will have access to the cores after a one-year moratorium. The FAR-DEEP scientists cover a wide range of expertise and research objectives. However, the project is still open for new associates in the research fields that are essential for tracking the environmental upheavals during the Archaean-Paleoproterozoic transition. For additional information refer to http://far-deep.icdp-online.org.