



## **EPICA DomeC – reaching the final depth**

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During the 2004/2005 season the final depth of the Dome C deep ice core was reached. Drilling of the deepest part was difficult, because ice temperatures were very close to the pressure melting point, but in general the quality of the ice cores were good. The core lengths vary between 0.03 m and 1.5 m and 10% of the cores show signs of heat damage from the surface procedures.

In the field, registration of crystal size was done by counting the crystals along the center line of a 3 cm thick slab observed through polarized light. Crystals with cross sections up to 40 cm was observed and bands with smaller crystals were found. Internal cracks along crystal boundaries indicate that liquid water has been seeping between the crystals and this is further supported by the finding of reddish material mainly in the crystal boundaries in the bottom 5 m of the ice core.

In addition, a measurement of the electrical conductivity (ECM) was made at 55 cm averages by the use of the Danish hand held ECM setup. A comparison of the ECM record with the marine isotope record suggests a bottom age of 890.000 years and a basal melt rate of 0.5 mm/yr.

Only few of the core pieces could not be fitted well together so even with the varying core quality we believe only few cm of ice is missing. The final logging depth of the EPICA DomeC 2 ice core is 3259.72 m.