

## Intermediate depth ice core drilling project 2015/2016 and some results of deep borehole logging, Antarctic ice sheet

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We plan the intermediate depth drill in 2015/2016 on the coastal region of Antarctic ice sheet. We decided the dry drilling for 300-500m deep. Problems are bad core quality and borehole closure.

The deep ice core drilling in depth of 3,035m was succeeded at Dome Fuji Station, Antarctica in January, 2007. It is almost depth of the bedrock. We used butyl acetate as borehole liquid. The liquid level was approximately 120m from the surface. We carried out borehole logging observation from surface to bottom in January 2007, 2011 and 2013. Measurement items were liquid temperature, ice temperature, liquid pressure and borehole diameter. The resolution of temperature was 0.05 degree Celsius. We discuss the diameter change/inclination of borehole, distribution of heat flow rate in ice sheet using the data of some years.

Keywords: ice core, Antarctic ice sheet, intermediate depth ice core drilling, borehole logging, heat flux