

**Little Dome C**

Beyond EPICA Oldest Ice Drilling Site (75.29917 °S, 122.44516 °E)

**Situation Report #14, 15. December 2021**

**Personnel @LDC:**

Saverio Panichi (ENEA, Camp Leader), Carlo Barbante (ISP-CNR, PI), Olivier Alemany (IGE), Giacomo Bonanno (ENEA), David Brunet (IPEV), Romain Duphil (IPEV), Matthias Hüther (AWI), Calogero Monaco (ENEA), Anthony Pauty (IPEV), Philippe Possenti (IPEV), Michele Scalet (ENEA), Jakob Schwander (unibe), Thomas Stocker (unibe), Remo Walther (unibe)

**Personnel @DC:**

Gregory Teste (IGE)

**Weather at LDC 8 pm:** sunny

**Meteo at DC 8 pm:** T = -32°C, Wind = 10 knt, Wind Chill T = -45°C



David and Anthony built the wooden shelter for the main power distribution box. This is a small cabin of about 6 m<sup>2</sup> which will protect the installation also during the Antarctic winter. The final and topmost stage of reaming of the bore hole started today. This is a very tedious procedure carried out by Philippe and Romain. It will determine the integrity of the casing, and therefore very precise work is needed. Matthias and Olivier continued with the installation of the electric and hydraulic system of the drilling fluid recycling system.



The IGE reamer entering the BEOIC hole at the drilling trench floor at about 8 m depth.

Photo: C. Barbante (Leica SL2-S, 24 mm, f4.2, 1/100, ISO 100)

BEOIC drilling depth at the end of the day: 128.0 m



Michele and Calogero left for road repair work. With the PB 300 they ploughed away some of the hills and troughs along the last 4 km of the road from Dome C to Little Dome C.

Today, the RADIX team could celebrate the first milestone by reaching the depth of 107.6 m. This marks the location at which we are safely below the close-off depth of air bubbles. At this depth the firn drill progressed by about 2 to 3 mm per second and consumed about 30 Watts to cut the ice at about  $-55^{\circ}\text{C}$ . The casing will be set down to this depth. However, before this step the bore hole will be logged, with particular attention to the inclination.

Radix drilling depth: 107.6 m



The RADIX firn drilling was successfully completed today at 107.6 m depth. Photo: C. Barbante

TS & CB, 15.12.2021

