

## *Ice Core Drilling*

After the new route was secured and the drilling, surveying, and camping equipment was transported up the mountain (Figure 4A), the scientists traveled from the Alpine Hut to the col. Drilling started the following day and two cores (CCA and CCB) were completed to bedrock on July 23 and July 26 (Figure 4C), respectively. Immediately afterward, the team relocated to the summit of the South Peak (Figure 4B), where drilling began on July 31 (Figure 4D). The first core to bedrock (SCA) was completed on August 2 and the second core (SCB) was completed 25 hours later. The drilling operation was conducted quickly and with very little difficulty. Borehole temperatures measured in one of the drill holes at the col ranged from  $-6.1^{\circ}\text{C}$  at 1 m depth to  $-4.0^{\circ}\text{C}$  at the ice-bedrock contact. At the summit site,

the borehole temperatures were consistently  $-9^{\circ}\text{C}$  from surface to the ice/bedrock interface.

An ice core processing tent was erected at the drill sites where the freshly recovered cores were logged, cut, and packed in tubes as they emerged from the drill holes (Figures 5A and 5B). Afterward they were stored in a large snow pit (Figure 5C). Eventually, porters and mountaineers under the direction of Félix Vicencio (Figure 5D) man-hauled the ice cores from the drill sites to the Alpine Hut (Figures 6A and 6B), where they were placed in insulated boxes (six cores per box), along with frozen cold packs (Figure 6C) before being flown by helicopter (Figure 6D) to the Río Santa Valley where the freezer trucks were waiting (Figure 7A). By August 17 all the ice cores had been removed from the mountain and loaded onto the trucks (Figure 7B) for immediate transport to Lima.