

# SITREP 6, December 13, 2009

Bruce Vaughn, SCO Rep

Written at WAIS Divide

Much progress has been made at WAIS Divide this past week. All of the drilling and core handling teams are on site now, fully trained, and on Friday December 11, we brought up the first ice core of the season. In short, the camp is fully operational, and we are off to the races.

## I. ICE CORE PROCESSING

- A. Nearly all of the ice from the 2008-09 season traveled safely on 7 Air Force pallets in 3 different LC-130 flights to end up in McMurdo freezer storage vans. Four of those seven had the luxury of landing on the sea ice runway close to town, and the others arrived at Pegasus air field for a longer ride home. The few remaining boxes of ice will be palletized and shipped out when there is enough ice drilled to make up another pallet. The wood floors heaved enough in the winter (~ 3 to 4 cm) that core processing tables needed to be re-leveled, first with carpenter's levels, followed by more precision adjustment with surveying transit. The core logging software has been loaded into the two bench-side computers, as well as their networked server that is also connected to the drillers computer. Core handling crews have been trained and are anxious to get logging.

## II. DRILLING

- A. The first ice core was brought up on the morning of December 11, 2009. Two runs were made in the hole - the first one to ream the hole and touch off the bottom to reset the depth measurement, and the second run as a filtering run, pumping down the hole with screens and a 10 micron filter bag in the screen section to capture any ice or debris. On the first actual drill run there was some difficulty in getting good ice penetration with the cutters. One possibility may be the complications from copious amounts of detritus from the cable void filler that was present on the cable at delivery that come off steadily when in use. These small bits of void filler collect at the bottom of the hole, impairing the ability of the drill to start a vibration-free hole. Consequently the first short (66 cm) core was 119.9 mm diameter, as opposed to the normal 122 mm, and displayed odd spiral indentations, oddly in the opposite direction of the normal helix of the cutter marks. After a couple of more short attempts with minor adjustments to the drill, the drill head cutters were finally set to a much steeper pitch (8 mm, as opposed to 4 mm) and the problem was solved, yielding normal great core quality. Next runs will drop to 5 mm pitch, then eventually back to the 3.5 mm, which was the winning setting from last season. To further remedy the problem, the cable was cleaned using multiple hands holding scotch-bright pads as the cable paid out. Now the cable appears to be almost as clean as last years. In addition, the drilling crew spent Sunday installing new bearings on the crown sheave and extended the drill tower by 1 meter for the anticipated longer runs that will come with the new core barrel. They are very anxious to drill.

## III. OTHER PROJECTS

- A. This week camp hosted A-357 (James Weygland) who was on a mission to recover an ailing magnetometer not far from WAIS. It was his good fortune to have stellar weather, and catch the camp on one of the few days when extra hands were available to help dig out his instrument, some 2.5 meters below the surface. He provided us a science talk on his magnetosphere research. On Sunday December 13, a Byrd traverse crew of 3 left

WAIS with two Challenger tractors and sleds. The CReSIS grooming team, (2 pairs of 2) will be in town next week to groom skiways for the twin otter crew that will be caching fuel for CReSIS. SCO team has dug two snow pits, one a multi-wall back lit pit that John Fegyveresi sampled, and another pit further from camp that Bess Koffman sampled for snow chemistry. The back-lit snow pit will likely be useful for the media visit in January.

#### IV. FLIGHTS & PAX MOVEMENT

- A. We had 5 successful LC-130 missions this week and only one cancellation due to weather in McMurdo. We also had 2 successful Basler MKB flights from WSD to support CReSIS open field fuel caches for I-189. Camp population peaked this week at 52, and we are currently back down to 43. The coming week -weather/flights depending- has pax flights that may bring us back up to peak levels.

#### V. FUEL & EQUIPMENT

- A. Currently on site we have: 5,568 gal. of JP8, 400 gal. mogas, and 500 gal. premix. Caterpillars, Tucker, and Piston Bully are functional. Our skiway is well groomed and its current ACL is 21.9K

#### VI. GENERAL

- A. The coming week we are scheduled early in the week for a turn-around visit by NSF representative Lisa Clough, and later in the week by RPSC Tom Ellis and Doug Freer. The camp seems to be getting into its groove, as people are getting to know one another better, and the air is full of anticipation for the work ahead. Each morning after breakfast we are led in a group stretch/yoga session that sets the tone for the day, and goes a long way to safeguard otherwise stiff bodies for the sometimes strenuous work ahead in the day. Sometimes in the evening you can hear live music from a collection of violin, harp, guitar, and mandolin. We expect to be working in three shifts around the clock by the middle of the week. Outreach efforts continue to be a part daily life here for at least 3 of our core handlers. You can find links to the blogs on the WAIS Divide web site: <http://www.waisdivide.unh.edu/blogs/index.html>