

SITREP 7, January 1, 2012, Day 40 at WSD

Donald Voigt, Chief Scientist, WAIS Divide

Written at WAIS Divide

I. Passenger movements

A. SCO

1. Vicki Miller returned to the ConUS, on schedule

B. IDDO

1. Jay Johnson and Chris Gibson arrived in McMurdo on 12/29

II. Cargo Movements

A. Cargo arriving from CONUS

1. N/A

B. Cargo arriving from McMurdo

1. N/A

III. Camp Activities

- A. Current camp population, 37, 6 T-350, 4 I-477, 1 I-122, 2 I-161, 3 I-162, 1 I-168, 2 I-476, 14 RPSC, 4 NANA; All is well.

- B. Two members of the PIG traverse returned to WSD on the way back to Byrd.

- C. Camp celebrated New Year's Eve with a dinner last night. It was a great party, but well restrained.

- D. The Pisten Bully is still being repaired. The D-4 is still sitting halfway between the Arch and town. (No, I did not accidentally leave this in the report from last week.)

- E. Work on the third Arch access door (the Moose door) was completed in time for the start of drilling.

- F. Access to the Processing-side of the Arch has been cleared in a "T-slot" pattern which allows the 953 to come down the ramp to pick pallets. This configuration is easier to maintain than clearing the entire dish, and has no negative impact on the scientific mission.

- G. The processing-side freezer units are ops-normal.

- H. The generators have been running ops-normal.

- I. The Logging Team presented a talk at our Monday Night Science Series.

- J. I-158 sent 18 ISC boxes of core to WSD for storage and retro. The core was brought out of the field by Twin Otter. The boxes have been loaded on skids and palletized by the SCO Science Techs.

IV. Drill Depth and Time

- A. Drilling began on 12/26 and the first core came up at 10:20.
- B. Sunday's drill run contained the pressure devices for Jeff's experiment in the screen section. Results show that the borehole is 21 meters under compensated. This can be corrected by raising the fluid level to 47 meters, but other options are being examined as well.

V. Status of Drilling (# of runs, meters of ice drilled, core quality)

- A. 31 runs were made for a total of 71.59 meters of excellent quality core.

VI. Status of Borehole Logging

- A. The Borehole loggers are standing by to re-log the hole starting January 2 as scheduled.
- B. Jakob Schwander's sonic pinger tool was lowered twice. Drilling was stopped on Wednesday, 12/28 in order to switch over to the logging winch. This involves disassembling the drill so the hole can be accessed. The first test was completed by morning and drilling resumed. Schwander made modification to the tool and, at the completion of drilling on 12/31, a second test was carried out. Neither test showed any reflections other than the bottom of the borehole. A third experiment was conducted on 1/1 but testing at 100 meters depth showed that the test would not work and the experiment was ended.

VII. Other

- A. Based on my observations of the sampling done on the ice core in the field this season I would like to make a recommendation. If, in the future, someone is sent down to sample the ice core the process should be vetted thoroughly and demonstrated to work on ice, in the freezer at NICL. In addition, training should include methods of care for the core and samples with emphasis on maintaining the integrity of the core.

- B. After the initial run of 42 meter of deepening, Jakob's pinger experiment provided no further information on the depth of the bed. With urging by Severinghaus and assurances by him that he could demonstrate that the data showed a bed depth at least 3450 meters, the decision was made to continue deepening another 30 meters to a depth of 3405 meters (allowing an additional 5 meters for the inclination of the hole). While I urged caution, at some point it became necessary to trust Jeff's judgement in this matter in his role as Chief Scientist for Borehole Deepening. While continuing the additional 30 meters, the Drillers and I paid particular attention to any signs of trouble with the drill. In particular we closely monitored temperature of the drill before and after the a core was taken. We also made observations of the drill head before the core was removed. The Drillers always pay close attention to how the drill is performing during the cutting of the core as well. At no time did I feel the safety of the drill or borehole was in jeopardy. The temperature recorded by the drill closely tracked the temperature rise expected from Clow's temperature measurements with an offset of -1.5 degrees. Only on the last run did the post-drilling temperature rise to within 1 degree of the expected melting temperature
- C. It was discovered that the Blue Ice Packs were not sent out from McMurdo as I had expected. Evidently there was confusion at the Cray about which event was making the request (the other being Taylor GI). They should arrive on Monday's flight. We are continuing to pack ice as I am concerned that it not be left to sublimate on the drying racks. We will add ice packs to the boxes before making skids.
- D. We have continued using the spreadsheet that Logan Mitchell prepared for logging the core and for printing off tray cards for each meter.
- E. Safety continues to be a primary focus of all residents at WAIS Divide.
- F. K. Dahnert, E. Morton, G. Clow and D. Voigt have continued to inspect the worksites at the Arch and Logging Winch to evaluate progress and assess the work environment. Safety concerns have been addressed with the Camp Manager and corrections continue to be made.

VIII. Happy New Year.