

Project: T-350-M
Project Principal Investigator: Dr. Charles Bentley
Report No: 10 for period 1-16-11 through 1-22-11
Prepared by: Jay Johnson Date: 1-22-11

IDDO Personnel on Site: Patrick Cassidy
Kristina Dahnert
Dave Ferris
Chris Gibson
Josh Goetz
Jay Johnson
Jay Kyne
Nicolai Mortensen (departed WSD on 1/18/11)
Elizabeth Morton
Steve Polishinski
John Robinson

ACTIVITIES DURING PERIOD

- Once again a smooth week of drilling. It is evident that the ice is changing through the way it is cutting and the uneven core breaks we have seen.
- Nicolai departed WSD on Tuesday, 1/18/11.
- On Tuesday at 12:02AM we reached 3056m. This now makes the WAIS Divide ice core, known as WDC06A, the deepest US ice core ever drilled! The previous record was set in 1993 at GISP2 with a depth of 3053.44m.
- The shoe height was reduced .25mm (.01") resulting in an actual cutting pitch of 3.2mm. This change was prompted by two factors. First, the cutter torque graph was becoming increasingly erratic and our operational methods of calming it were not working. Secondly, the check valve and cutter head were packing with chips more frequently without increasing the depth drilled. The shoe change resolved both of these problems. However, towards the end of the week the frequency of the check valve packing with chips at the end of a run has again increased. Cutter torque generally remains stable throughout the run.
- Daily progress has increased from 24.61m to 27.72m as a result of the shoe change.
- We are continuing to recover 3-3.1m cores per run.
- At the start of coring we are now reading a borehole temp of -15°C.
- The winch has enough cable on it to drill to 3365m leaving 12 wraps on the drum. As of Wednesday we are down to the last layer of cable.
- We have observed that the motor end of the level wind lifts slightly during core breaks when they exceed 31,000 newtons.

- Core breaks are not as clean as they were a week ago. New core dogs were tried but they perform the same. They are engaging cleanly and without sliding, so the rough breaks may be due to the changing ice.
- We have drilled a total of 627m so far this season.
- Final Driller's depth for the week: -3191.481m. Total meters drilled this week: 171.712.

SAFETY

Nothing to report

COMMENTS

(Problems, Concerns, Recommendations, Etc.)

- The generator shut down due to an over frequency condition. The backup generator automatically came on line within 3 seconds. The winch and drill shut down and had to be restarted, but that was the extent of the inconvenience.