

SITREP 10 - January 23, 2011
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Written at WAIS Divide

[Brought to you by the number **3053** and the letters **G-I-S-P(2)**]

- I. Passenger movements
 - A. SCO
 1. M.Stan (NSF Media) departed WSD on 18Jan.
 2. K.Taylor (PI) departed WSD on 19Jan.
 3. K.Taylor (PI) arrived WSD on 21Jan; departed WSD on 21Jan
 - B. NICL
 1. n/a
 - C. IDDO
 1. N.Mortensen departed WSD on 18Jan.
- II. Cargo Movements
 - A. Two AFPs (Air Force Pallets) of ice core (I-477) were sent to McMurdo on 21 Jan [Skier 55, Tail number: 302].
 1. The last skid was packed with ice that did NOT sit in a drying booth for 12 hours. The decision was made to get ice out of WSD.
 2. Negotiations between the NSF and ANG (and RPSC; 12Jan) were fruitful. K.Taylor is now accompanying "our" ice from WSD to MCM. The 109th now has a new mission: Operation "Freeze Ken". So far so great! The exceptionally capable 109th aircrews have satisfactorily controlled temperatures in the LC-130s.
- III. Camp Activities
 - A. Current camp population as of 23Jan is 36: 12 RPSC, 4 NANA, 9 I-477 (including 1 NSF-media), 1 I-478, and 10 T-350.
 - B. I-157 returned from "Site 3" via KBA Basler on 17Jan. I-157 ice departed WSD on 19Jan along with A.Criscitiello and B.Medley. H.Conway departed WSD on 18Jan; L.Albershardt departed WSD on 21Jan.
 - C. Drilling Headlines ... Extra, extra, read all about it!
 1. Dome Fuji finished in 2006/07 at a depth of 3035.22m
 2. **GISP2**: A dedicated group of researchers and drillers pierced the Greenland Ice Sheet on 01 July 1993, producing an ice core **3053.44** meters in depth (1.55m of bedrock) as well as a cornucopia of climate change literature in the years to follow. It was the deepest endeavor of its kind at the time, and, even after Dome C and Vostok, it was the deepest US ice core drilled ...
 3. As of 1:05am (NZ time) on 18 January 2011, the deepest US ice core effort will now be known as WDC06A (WAIS Divide Ice Core). On this specific run, we reached a depth of 3056.010m.
 - Everyone here at WSD is thrilled to be a part of such exciting science! We are successful because of the many crews before

us, the supporters around us, and the people who push us to achieve greatly. We thank you for this opportunity!

IV. Drill Depth and Time

A. 3196.023m and ~73.0kyr as of 0800, 23Jan (per T.Neumann's time scale).

V. Status of Drilling (# of runs, meters of ice drilled, core quality) [operationally from 1500 16Jan to 0800 23Jan]

A. 58 Runs (Run 1688)

B. 176m of ice drilled (Section 3200, as of 0800, 23Jan)

C. The NSF has approved our extension request to drill until 29Jan.

D. Core quality remains excellent. The core diameter continues to be consistent (121.6 to 121.7 mm). Run breaks have been good to fair (some spalling occurs near the dog marks).

E. Ice temperatures (as measured by the drill) continue to demonstrate a distinct warming trend. Temperatures, as measured by the drill, pre- and post-drilling show a fairly uniform 5C rise (brought on by coring itself). Temperatures measured at the receiving "4m" station do not show as noticeable a rise, and we fear it might be a product of the long trip times more than an error in either measurement (drill v. handheld probe).

1. Temperatures have risen from -19C (approx) to -14.8C this week, pre-drill. Post-drill temperatures have risen to -10C.

F. FED performance is regularly monitored (cleanings occur when fluid extraction capacity diminishes).

G. Cloudy "bands" continue to appear in the core, though this past week's throughput have revealed very few. We received two runs with especially interesting cloudy bands ... both await further informed interpretation. One looked like a Petri dish experiment and the other looked as if there were mini-folds in the banding. Weird.

H. Extra caution continues to be exercised when logging ice core "chips" and "pieces". This is because "missing" chips and pieces, if not "topside" somewhere, can potentially act as foreign object debris (FOD) to the drill in the borehole.

VI. Other

A. The SCO team continues to streamline and improve operations via daily meetings that discuss safety and procedural challenges.

B. Camp lost power for ~3 seconds on 21Jan before the Generator Module's switch gear took the load and transferred to the other generator (or something to that effect). Databases "crashed" due to loss of communication with the server, but all was restored within 15 minutes. All is well now.

C. We continue to observe a discrepancy between the Euro Marks' associated "absolute depths" and the Cut Marks' associated "absolute depths".

D. As noted above, "we" (NSF, ANG, PI, RPSC, etc) have been greenlighted to continue ice retro flights from WSD to MCM.

1. This recent cold-deck (21 Jan) witnessed an unusual encounter in the shape of one gigantic banana, one endangered red panda, and

one incredibly rare purple unicorn. Fortunately, both I-477 and 2 representatives of the 109th photo-documented said encounter. One never knows what will turn up on the West Antarctic Ice Sheet!

- E. A hand planer has been used to collect isotope samples for the past ~300m of WDC06A ice. The sampling was begun shortly below 2900m "absolute depth". We are now collecting ~4g of sample per 1/3 m of ice.
 - 1. We started the week collecting at ~50cm resolution (17Jan), and we are now collecting at ~33cm resolution (22Jan), or 3 samples per meter of ice.
 - 2. Despite the earlier qualms over how we would sample at sub-meter resolution, labeling said isotope sampling bags has been the biggest challenge so far.
- F. The NSF media crew (J.Polk and M.Stan) has remained super busy filming this drill project/WSD. They've done quite a bit with the drill (and K.Dahmert and J.Johnson) as well as a number of core-handlers (background shots, voice-overs, and primary shots).
- G. H.Roop hosted the 3rd of 3 PolarTREC events on 22Jan (21Jan in CONUS).
 - 1. Title: Reaching Our Icy Goals: a summary of the last main drill season at WAIS Divide.
- H. A camp picture was taken on 22 Jan (initiated by S.Polishiniski).
- I. We have begun cleaning and organizing the Arch and Science Jamesway in preparation for the end-of-season closeout.
 - 1. Physical Properties band saw has been boxed for shipment.
 - 2. "NICL" tables have been disassembled and put in their box for storage.
 - 3. Currently drying NICL DNF boxes in the "KBA tent".
- J. We celebrated the incredible achievements of surpassing both Dome Fuji and GISP2's drilled depths. Similar to our passing of 3000m, our jubilation is founded upon the stout shoulders of ALL who came before us! From planning to funding to building, there are SO many people who deserve to be recognized. On behalf (unofficially) of those of us at WAIS Divide Camp now, working for or alongside I-477, I would like to toast again all those persons involved with this project. From DC to Denver and Madison to McMurdo, from "year one" to "year now" ... we are "the deepest US ice core" (and going beyond) because of your sweat, blood and smiles. Thank you.
 - 1. Previous W.Antarctic ice cores include Byrd 68 (2164m), Siple Dome (1004m) and Taylor Dome (554m).
 - 2. Dome C (EPICA) reached a depth of 3270.2m in 2004.
 - 3. The aforementioned unusual encounter with the LC-130 did not endanger any of the following: giant bananas, red pandas, or purple unicorns.