

# SITREP 7 - January 1, 2011

Gifford Wong, SCO Rep

Written at WAIS Divide **Happy New Year!!**

- I. Passenger movements
  - A. SCO
    - 1. n/a (K.Taylor and M.Twickler are presently in Christchurch, NZ)
  - B. NICL
    - 1. B.Bencivengo arrived WSD on 28Dec.
    - 2. G.Hargreaves departed WSD on 31Dec.
  - C. IDDO
    - 1. n/a (J.Johnson is presently in Christchurch, NZ)
- II. Cargo Movements
  - A. 3 ¾ AFP's (Air Force Pallet's) worth of misdirected ISC boxes have been retro'ed back to MCM.
  - B. Small parcel of parts was shipped to WSD from MCM on 31Dec.
- III. Camp Activities
  - A. Current camp population as of 01Jan is 36: 14 RPSC, 4 NANA, 7 I-477, 1 I-478, 10 T-350.
  - B. I-157 departed "Site 1" for their "Site 2" this week via KBA Basler.
  - C. PIG Traverse is on their return to WSD ... arrival imminent.
  - D. Drilling will continue until morale improves ... the fun continues!!
- IV. Drill Depth and Time
  - A. 2750m and ~26.5kyr (per T.Neumann's calculation using standard Nye correction).
- V. Status of Drilling (# of runs, meters of ice drilled, core quality) [operationally from 25Dec to 31Dec]
  - A. 27 Runs (Run 1540; stopped on 31Dec for New Years Eve celebration)
  - B. 78m of ice drilled (Section 2754, as of 31Dec)
  - C. Core quality remains excellent. Some helical surface features are visible (such as the cutter grooves), but the "barber" pole of the beginning of the season has all but disappeared in the cores brought up this week. The core diameter has remained consistent (121.6 to 121.7 mm). Azimuth, as determined by drill, appears to be consistent ( $\pm 5^\circ$  between runs). Run breaks have been good to fair (some spalling has occurred off the dog marks).
  - D. FED performance was improved via a quick tear-down and re-assemble. Chips, from the ubiquitous "chip puck" at the top of a core, had backed up in the FED's "plenum" causing it to perform poorly. It now seems to extract fluid off the ice core better.
  - E. Cloudy "bands" continue to appear in the core. Though none have been as distinct as the band in our 2<sup>nd</sup> core of the season, there have been runs with multiple bands.

- F. The drill was down hard this week due to mechanical and electrical issues; these will be addressed by the IDDO representative (DISC: K.Dahnert) in her weekly SitRep. Suffice it to say that everything is going well now and we are drilling as I type up this SitRep! Those drillers are an amazing lot, and they deserve kudos!

## VI. Other

- A. The SCO team continues to streamline and improve operations via daily meetings that discuss safety and procedural challenges.
- B. There was a probable "warm" cold-deck on the 23Dec ice retro flight into MCM. Skids 17-20 of I-477 and 2 skids of I-158 were affected. The effects are as yet unknown for we only have loggers from "outside" the ISC boxes: 3 are attached in various places outside the ANG cargo netting and 3 are attached underneath the NICL-supplied ice core "blankets".
  - 1. C.Kotrla ("Deke" – Crary IT) relayed via email that his flight to MCM (23Dec; the cold deck) was not cold at all.
  - 2. We are on a temporary "no-go" for ice retro flights from WSD to MCM. "Go" status will be granted upon satisfactory procedural mitigation on the part of the ANG, Fixed Wing, SciCo, WSD Camp and the SCO. K.Taylor, who is now in Christchurch, NZ (and will be rolling through MCM shortly) will deal with the situation in-person (on the MCM side of things) and declare the "go" status, if earned.
  - 3. G.Hargreaves, who is now in MCM, will be reading the loggers placed in the top-most boxes of the aforementioned "skids" to see what temperatures those ice cores actually experienced.
  - 4. I conducted a couple of experiments designed to mimic the "temperature loading" experienced by the loggers as they move from Arch to WSD Apron (pre-load) as well as to ascertain the variance between loggers.
  - 5. PDFs of the plots of the results were ftp'ed to MCM's IT Helpdesk as the files were too large to email from WSD. Per a recent email from K.Taylor to G.Hargreaves, I have also emailed screenshots of the 2 AFP temperature plots to pertinent personnel.
  - 6. I have talked with P.Roberts (WSD Manager) and L.Kauffman (Fixed Wing Coordinator), and they both understand the gravity of this situation and are committed to ensuring this doesn't happen again.
  - 7. Emails regarding solutions have involved the MCM NSF Rep (M.Scheuermann), the SFA Commander, and the project PI.
  - 8. We are awaiting word from K.Taylor regarding any future flights ... one step we can initiate for the 07Jan flight (should it remain a cold deck) is to perform an aircraft check to ensure protocol was followed and the area is sufficiently "cold-soaked" so as to better receive (and hold) ice cores. We have at our disposal a high-end Omega temperature probe on-site.
  - 9. Curious – how would we inform I-157 about this "warm" cold deck?

- C. The drill was, unfortunately, down hard for a significant portion of this past week. ~48 hours.
1. The Warming Jamesway was converted into a makeshift MASH facility for broken motor/pump sections. Two of the three were deemed fit-for-service, and were appropriately returned to the Arch.
  2. N.Mortensen and K.Dahnert performed an extraordinary fix on the one useable instrument section (we are coring now after all). This was all done before the shipment of parts from MCM arrived on the 31Dec LC-130 flight.
  3. H.Roop and J.Fegyveresi worked on outreach and videography (Teacher's Domain). H.Roop also used this time to prepare for the PolarTREC event on 07Jan.
  4. A.Buffen assisted with a camp effort to tweak their VHF communications coverage.
  5. Because the camp works mostly during the day, Shift 2 (T.Cox, V.Gkinis, D.Winski) worked on keeping the Arch "core-ready": disassembled and packed for retro 6 ice core handling carts and 66 ice core (1 meter) trays, swept and organized the Arch. They also assisted the drillers with moving the various pieces of the drill to heated work facilities (MEC and Jamesway).
- D. Based on communication received from Science Cargo (via P.Roberts), we are readying to construct a 2 AFP load for the next available cold deck. One AFP will be made up of I-477 ice, the other with I-157 ice.
- E. A measure "check" that is part of the "Euro Station" has been amended so as to allow for over-run lengths cut at other than 1m long. Without going into the details, we are now measuring from the "top most" cut mark to the "bottom-most" euro mark. This length should match the one arrived when adding the "euro mark-to-euro mark" length with the "top most" cut mark to the "top most" euro mark length.
- F. Shift work continues ... Discussions (formal and informal) continue to occur to monitor the efficacy of 2 "twelves", and we will continue to review this component of our operations until T.Fudge arrives in early 2011. Unlike last week, I am less inclined to heavily favor 3 shifts over 2. I have mulled over this past week's reactions and comments to the current set-up and feel much more comfortable about the 2 "twelves" as a viable personnel solution.
1. Roop, Hargreaves, Bencivengo and myself have discussed the time-management required of QA/QC, outreach and general core-handling oversight. We feel we've come up with an efficient way to provide each of the aforementioned personnel with adequate time for strong work.
- G. In addition to the drill being repaired and the FED unit improved, this week also saw a little "spring" cleaning (have designated some "MK aluminum" and an extraneous pallet jack as "ready for retro"). This second full week of drilling (1<sup>st</sup> day = 16Dec) provided a few "improvement" projects to tweak

- out our processing operations: improvement of the mobile vacuum "R2D2", use of the "Machinists Reference" to constrain our steel tape measure's coefficient of contraction due to the cold (1.2mm/3m), use of the steel tape measure so as to calibrate the entire run of the balluff, fetching "packing snow" with 2 large plastic cans (instead of one) so that they snow can "cold soak" before we throw it into an ISC box.
- H. The UT (B.Buchwald) installed 3 additional access covers on the ducting above the blowers in the Arch so as to enable more thorough preventive maintenance. He also installed louvers in the Generator Mod to allow the generators to run nearer their optimum temperature.
  - I. Regarding I-157's ice cores ... we received 7 ISC boxes from their "Site 1" camp. It appears there may have been unforeseen challenges (namely weather-related) that prevented them from drilling their planned 20 ISC boxes' worth at "Site 1".
    - 1. We have a 7-box "skid" sitting on an AFP now. We are awaiting a planned deep-field retrograde flight of I-157 ice to arrive on 06Jan (16 ISC boxes) which will make up 2 full "skids". These 3 skids will comprise I-157's AFP for the proposed MCM-bound cold deck on 07Jan (if that becomes a "go for flight").
  - J. New Year's Eve appetizers, which followed a Driller's sponsored "happy hour", were served at 2200 Friday night (bacon-wrapped scallops, chicken wings, beef empanadas, mini-quiches, and shrimp cocktail). A countdown occurred (aided by S.Polashinski's atomic wristwatch) and 2011 was ushered in with nary a bang (but many whoops and hollers). Cheers, from WSD!!