SITREP 1, November 21, 2010, Day 2 on Ice

Donald Voigt, SCO Rep
Written at McMurdo Station

I. Passenger movements

A. SCO

1. Seven pax traveled from home to McMurdo Station leaving the CONUS on 11/15, arriving in Christchurch on 11/17 and McMurdo station on 11/19; all as scheduled. D. Voigt, H. Roop, T. Cox, A. Buffen, T. Fudge and D. Winski.

2. Upon arrival at McMurdo, T. Fudge was informed of a family emergency which required his immediate return. Plans were made and he started north on 11/20.

B. NICL

1. Geof Hargreaves traveled from home to McMurdo Station, arriving on 11/17.

C. IDDO

1. K. Dahnert, J. Koehler, M. Jayred, S. Polishinski, J. Goetz traveled from home to McMurdo Station, arriving on 11/19

II. Cargo Movements

A. Cargo arriving from CONUS

1. Shipment with three pieces, blueboard, skis and hard hats, are on station.

2. Two pieces with “wire transformer” and “wire, clothing” still en-route to McMurdo.

3. No cargo delivered to WSD.

4. All cargo to WSD is prepared for shipment.

III. Camp Activities

A. Current camp population, 29 RPSC, 3 NANA (the cooks)

B. Construction of camp is complete and work on clearing the arch is progressing. The work on the arch has been slowed by the breakdown of the D4 however. The arch has been accessed and it

was determined that the trench has narrowed more than expected. Two drillers (Dahner and Koehler) will fly to WSD tomorrow (Monday, 11/22) to help expedite widening of the trench. This will be flight D005.

IV. Drill Depth and Time

A. N/A

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

A. N/A

VI. Other

A. The SCO team has started the process of training and preparing cargo for the put in at WAIS Divide. Training to date includes the Snow School Refresher which was presented in Christchurch on 11/20, Team Inbrief, Crary Lab Safety and Environmental Field Briefing and Outdoor Safety Lecture. Training scheduled for the coming week includes Snow School for the new Science Techs and Snowmobile.

B. The team has completed the process of checking and packing BFC gear and assigning TCNs to cargo that is on station.

C. Other tasks to complete this week include securing radio equipment and completing cargo work. I anticipate that we will start our safety training program as well.

D. The current anticipated put-in date is 29 November. Once the two drillers traveling to WSD are able to provide some information, we are hoping to move this date up. If we are not able to send the entire team, I am hoping to put-in at least two SCO and one NICL team members. Every indication is that camp is ready to start taking science personnel. I will contact Fixed Wing and our Cargo Coordinator to let them know that our cargo is ready and to check on the coming weeks flight schedule.

SITREP 2, November 28, 2010, Day 9 on Ice

Donald Voigt, SCO Rep
Written at McMurdo Station

I. Passenger movements

A. SCO

1. Two traveled from home to McMurdo arriving on 11/24, all as scheduled. J. Fegyveresi and V Gkinis.

B. NICL

1. None

C. IDDO

1. K. Dahnert, J. Koehler, put in to WSD on Tuesday, 11/23
2. N. Mortensen arrived on 11/24
3. E. Morton, D. Ferris, J. Robertson, P. Cassidy arrived on Friday, 11/26

II. Cargo Movements

A. Cargo arriving from CONUS

1. Two pieces with “wire transformer” and “wire, clothing” arrived in McMurdo. All cargo shipped as I-477 is accounted for.
2. No cargo has been delivered to WSD.
3. All cargo to WSD is prepared for shipment.

III. Camp Activities

A. Current camp population, 23 RPSC, 3 NANA, 2 T-350. Camp is at normal operations and ready to accept science groups.

B. Work on clearing the arch has progressed nicely. The NICL doors are functional and work is continuing on the drill side. Work continues on the trench and the floor.

C. The gantry crane on the drill side is working and the tracks are re-aligned.

D. The generators are running and the switch gear is working.

E. Camp should have internet access by Monday, 11/29.

IV. Drill Depth and Time

A. N/A

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

A. N/A

VI. Other

A. The SCO team continues training and preparation for the put in. Hargreaves and Roop will fly on Tuesday along with the drillers Jayred, Goetz and Mortensen. The remaining SCO personnel are scheduled to fly on Thursday. G. Wong is scheduled to arrive in McMurdo on Wednesday.

B. The cargo that arrived on Thursday will be entered in the cargo system tomorrow along with radios and other items secured late in the week.

C. I am planning an SCO meeting tomorrow to discuss arrival procedures, safety concerns for camp, the schedule for start up at the arch and to address any questions the Science Techs have.

D. Voigt, Hargreaves and Jayred met with NSF Science Reps, Lisa Clough and Julie Palais on Friday to update Julie (who arrived Wednesday) on the status of WAIS Divide.

E. The lack of a camp electrician remains a concern and we are discussing this with RPSC and NSF. Several solutions are being considered and further meetings are anticipated. I find it necessary to continually steer the discussion away from how/why this happened to how to resolve the problem. Unfortunately, this came to a head on Thanksgiving and several key people involved in the discussion were unavailable. The systems that are potentially compromised by not having an electrician on site are; fire alarm and suppression, ventilation, freezer units, power to the drill itself and power to the arch. It is apparent that electricians are in short supply on station with several large projects requiring their services at the start of the season. I will continue to update the SCO as information is available.

F. Supplies for the snow pit roof sections are being secured and will be shipped asap. There was some confusion because Science Construction had drawings from last season.

SITREP 3, December 5, 2010
Donald Voigt, SCO Rep
Written at WAIS DIvide

I. Passenger movements

A. SCO

1. Gifford Wong traveled from home to McMurdo, arriving on 12/1 as scheduled.

2. Heidi Roop traveled to WAIS DIvide on 12/1, flight D008.

3. Five Science Techs and SCO Rep traveled to WAIS Divide on 12/2, flight D009, arriving at 10:30 PM, A. Buffen, T. Cox, J. Fegyveresi, V. Gkinis, D. Voigt and D. Winski.

B. NICL

1. Geoff Hargreaves traveled to WAIS Divide on 12/1.

C. IDDO

1. M. Jayred, J. Goetz, N. Mortensen traveled to WAIS Divide on 12/1.

2. S. Polishinski traveled to WAIS Divide on 12/2.

II. Cargo Movements

A. All US generated cargo except one DNF box has been delivered to WAIS. We are also expecting materials for the snow pits.

III. Camp Activities

A. Current camp population, 17 RPSC, 4 NANA, 6 T-350, 7 I-477, 1 I-478, 6 I-158.

B. Work continues on the arch trench and the floor.

C. The generators are running.

D. Camp internet is functional but not in the Jamesway or arch. This is being addressed with McMurdo.

E. Camp is at operations normal for other purposes.

IV. Drill Depth and Time

A. N/A

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

A. N/A

VI. Other

A. An SCO team meeting was held on Monday, 11/29, to discuss the plan for the week, safety in camp, shifts and general work schedule, and camp life issues and to answer questions.

B. The tentative shift plan is to work two shifts, 8 to 8, with Fegyveresi and Buffen on the day shift supported by Roop and Wong, and Cox, Gkinis, and Winski on the night shift.

C. I had the opportunity to present a brief about the WAIS Divide Ice Core Project to the U.S. Ambassador to New Zealand, David Huebner, on 12/2 (45 minutes before transportation). I think it went well. Also present were Lisa Clough and three of the Amabassador's assistants.

D. The SCO team continues training and preparation of the Jamesway. Our work in the arch began today with some general housekeeping and installation of the FED.

E. Safety training is ongoing or competed on Hazard Identification, Lifting Hazards, Snowmobiles and Travel procedures. An Accident Response Exercise is being planned with camp and T-350. Other safety training opportunities will begin now that we have access to the arch.

F. Morning meetings between Camp (Pauline),I-478 (Geoff), T-350 (Krissy) and myself are being held.

G. The lack of a camp electrician still remains a concern. Krissy has been discussing this with RPSC and I am letting her lead on this so as not to confuse the issue. Everyone seems to be in agreement that this is a critical issue and a solution seems close at hand.

H. Supplies for the snow pit roof sections will be shipped. John is planning to begin his Physical Properties snow pit tomorrow.

I. The floor in the Jamesway was not covered with plywood as indicated in the RSP. McMurdo has been made aware and I am waiting for an answer. This item seems minor, but is not. the condition of the Jamesway floor is unacceptable, especially when the Science Techs change there every shift. Splinters are common, annoying and painful. We are laying rubber mats as a stop-gap measure.

J. The plan for two cold deck flights is in place. They will be late lines on 12/8 and 12/14. We will start clearing the arch floor on Monday 12/6 in preparation for this event.

K. The refer units have been installed and were started up today.

L. Work on the wall between the core handling and arch sides has been completed.

SITREP 4, December 12, 2010
Donald Voigt, Gifford Wong SCO Rep
Written at WAIS DIvide

I. Passenger movements
   A. SCO
      1. Gifford Wong arrived at WAIS Divide on 12/8.
   B. NICL
      1. N/A
   C. IDDO
      1. E. Morton, J. Robinson, P. Cassidy and D. Ferris arrived at WAIS Divide on 12/8.

II. Cargo Movements
   A. Plywood for snow pits arrived.
   B. Two AF pallets (8 skids) of ice core was sent to McMurdo on 12/8.
   C. There is no I-477 cargo left in McMurdo.

III. Camp Activities
   A. Current camp population, 21 RPSC, 4 NANA, 10 T-350, 8 I-477, 1 I-478.
   B. Work on the arch trench was completed on 12/9. The arch carpenters and the drilling crew put in a tremendous effort to finish this task in good time.
   C. The generators shut down on two occasions without the backup working. Power was out for over an hour on each occasion.
   D. IT techs came back out to WAIS Divide to attempt to correct problems with the internet system.
   E. I-158 finished field preparations and departed on their traverse. We have received four ISC boxes of ice from the traverse.
   F. Camp is at operations normal for other purposes.
   G. The PIG Traverse is expected to stop at WAIS Divide for one night on 12/11.
   H. Drilling is expected to begin sometime this week.

IV. Drill Depth and Time
   A. N/A

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

VI. Other
   A. The SCO team continues to meet to discuss safety, training and operations. This includes daily meetings to discuss the previous day's

evolutions, and to bring up safety and procedural problems. We have continued walk-throughs of the processing side of the arch.

B. On Friday 12/10 Gifford and I conducted a walk-through of the arch with Tom Olyjnik, RPSC Health and Safety. He also observed our operation on Saturday while we pulled core from the basement and loaded pallets. His help and advice was invaluable, and overall Tom was pleased with how we ran our operation. Several small changes to our procedures will be implemented.

C. The tentative shift plan is to work two shifts, 8 to 8, with Fegyveresi and Buffen on the day shift supported by Roop and Wong, and Cox, Gkinis, and Winski on the night shift. In addition, Roop, Wong and the NICL representative will stagger their presence at the arch in order to spend time with both shifts.

D. Eight skids of ice core boxes were pulled from the basement and loaded on air force pallets for shipment to McMurdo on 12/8. Temperature loggers were placed on the top of both pallets. The operation went smoothly with assistance from camp staff. The ANG required a change in the orientation of the skids on the air force pallets. Fortunately, we asked for camp to check the pallets before blankets and nets were added and changing the orientation of the skids went quickly. On Saturday, 12/11, the remaining skids were pulled from the basement and loaded on AF pallets for a cold deck planned for Monday.

E. The basement hatch was inspected and repairs were made. The hatch can now support weight with no exceptions.

F. Safety training is ongoing or competed on Hazard Identification, Lifting Hazards, Snowmobiles and Travel procedures. An Accident Response Exercise is being planned with camp and T-350. Other safety training opportunities will begin now that we have access to the arch.

G. Meetings between Camp (Paulene),I-478 (Geoff), T-350 (Krissy) and myself and Giff are being held to discuss meal schedules and house-mouse arrangements once production drilling starts.

H. The lack of a camp electrician still remains a concern. The arch fire alarm system was tested and failed on the core processing side and a Fire Tech is being sent out to make repairs.

I. John completed the first snow pit for Physical Properties and collected firn samples.

J. The floor in the Jamesway was not covered with plywood as indicated in the RSP. We still using rubber mats, and it may be necessary to

keep this as a final solution. Science Construction has no knowledge of our request for floor covering even though it appears in the RSP.

K. The refer units are running well. Steve Mikel continues to work on the system clearing rime ice from the vents and assuring everything is working well. He is working on the temperature problem in the equipment room. Leaks from the equipment room into the core handling room were plugged and will continue to be checked.

L. The need for additional harnessing points around the basement hatch was reevaluated and it was determined that three harness points are sufficient as long as there are no garbage cans blocking access to the harness points. Access to the basement will be minimal this season after the remaining core is removed from the basement.

M. An extensive cleaning effort and reorganization of the processing side of the arch was conducted in preparation for the start of drilling and for the NSF visit on Monday, 12/13.

N. An SCO Change of Command ceremony was held on Saturday evening. The many dignitaries were in attendance. Giff Wong has the bridge.

SITREP 5 - December 19, 2010
Gifford Wong, SCO Rep
Written at WAIS Divide

I. Passenger movements
   A. SCO
      1. D.Voigt departed WSD on 14Dec (D013R).
   B. NICL
      1. n/a
   C. IDDO
      1. J.Kyne and C.Gibson arrived WSD on 17Dec (D014)
      2. M.Jayred and J.Koehler departed WSD on 17Dec (D014R)

II. Cargo Movements
   A. Two AFPs (Air Force Pallets) of ice core (I-477) were sent to McMurdo on 13Dec (D012R).
   B. 35 skids (for I-477 ice core AFPs) arrived.

III. Camp Activities
   A. Current camp population as of 19Dec is 44: 13 RPSC, 4 NANA, 7 I-477, 1 I-478, 10 T-350, 4 I-157, 5 I-158.
   B. The generators shut down on one occasion this week without backup power engaging. Power was out for approximately 7 minutes.
   C. I-158 returned from their traverse. They retro'ed 8 ISC boxes' worth of ice cores on 19Dec, which brings their total to 12 ISC boxes of ice.
   D. The PIG Traverse departed this week after a couple of days in camp.
   E. I-157 arrived WSD on 17Dec (D014).
   F. Drilling has commenced!! Let the fun begin …

IV. Drill Depth and Time
   A. ~2582m and ~21.3kyr (per T.Neumann's calculation using standard Nye correction).

V. Status of Drilling (# of runs, meters of ice drilled, core quality)
   A. 6 Runs
   B. 17.966m of ice drillerd
   C. Core quality has been excellent. Some helical surface features are visible, but core diameter has remained consistent (121.5 mm). Azimuth, as determined by drill, appears to be consistent (±5° between runs). Run breaks have been good to fair (some spalling has occurred off the dog marks). Point deformation in FED-to-4m-Tray system is being investigated – it has left a very superficial "score" along the length of the lower 2/3rd of the week's last 3 runs.
   D. Distinct dark layer (1cm in thickness) with cloudy layers above and below appeared in the 2nd drill run of the season (approx. 2566m and 20.82kyr).

VI. Other

A. The SCO/IDDO Arch group met 15Dec to discuss safety, training, and operations with select camp staff (manager, asst. manager and medical staff). This included location of all pertinent PPE and first-aid equipment. We also discussed protocols for select situations (deteriorating weather, industrial mishaps, Arch first-aid response and Arch "involvement" in potential MCIs).
B. The SCO team continues to streamline and improve operations via daily meetings that discuss safety and procedural challenges.
C. Eight skids of ice cores were pulled from the basement and loaded onto AFPs for shipment to McMurdo on 13Dec. 3 temperature loggers were placed on each AFP. The loading configuration is of the modified orientation (see SitRep4; long-edge of skids parallel to long-edge of AFP). Camp staff (Hayden) approved our cargo packaging skills.
D. Shift work began this weekend. Shift One (Fegyveresi and Buffen supported by Roop and myself) worked Saturday afternoon and had Sunday off. Shift Two (Cox, Gkinis and Winski) began their transition (Saturday off) and will begin their workweek Sunday "night" (2000-0800). Hargreaves (NICL Rep), Roop and myself will stagger our presence between the two shifts so as to spend time with both groups.
E. Much was done in the way of final tweaks, including: leveling of receiving station through FED, leveling of one-meter station and cut station, installation and training on database, cleaning of receiving (4m) trays, and procurement of additional safety items for SCO gantry in Arch (come-along and safety pins (to be made), per Thomas Olyjnik of RPSC Health and Safety).
F. Julie Palais accompanied an NSF engineering site visit to WSD (13Dec – 14Dec). Overall, the group was pleased with what they observed, both procedurally and facilities-wise. They did remark at how organized the Arch "felt", both for the IDDO (drill) and SCO (processing) sides. They seemed to appreciate the nuances between operations.
G. Fegyveresi completed science on the "Physical Properties" snowpit, which included collecting firn samples and a 4m core.
H. Roop and myself began QA/QC via the Packing Station logging (and packing).
I. T.Tran, a previous WAIS Camp Manager, delivered a beautiful, baby boy!
J. Box of temperature loggers (9) returned to WSD from MCM. These were on the 3 shipments of previous AFPs (ice cores), and they have been successfully downloaded. NICL Rep and myself noted temperature plots, and will discuss with Camp Manager (P.Roberts) regarding correlating temperature to AFP placement.
K. Beach-themed fete occupied Saturday night … no benthic communities were harmed in the celebration of the first week of coring.

SITREP 6 - December 26, 2010
Gifford Wong, SCO Rep
Written at WAIS Divide

I. Passenger movements
   A. SCO
      1. n/a
   B. NICL
      1. n/a (B.Bencivengo is presently @ McMurdo)
   C. IDDO
      1. n/a

II. Cargo Movements
   A. Two AFPs (Air Force Pallets) of ice core were sent to McMurdo on 23Dec. 4 "skids' worth" of ice core for I-477 (~128 meters) and 12 ISC boxes (2 "skids' worth") for I-158.
   B. All but 16 of I-477's ISC boxes are now at WSD. 3 ¾ AFP's worth of misdirected ISC boxes are also now at WSD. These will be retro'ed at the first opportunity. No one (MCM/RPSC) yet seems to know how they were put onto WSD-bound aircraft.

III. Camp Activities
   A. Current camp population as of 26Dec is 37: 15 RPSC, 4 NANA, 7 I-477, 1 I-478, 10 T-350.
   B. I-157 departed WSD for their "Site 1" via KBA Basler on 23Dec. Before departure, we (S.Das, P.Roberts, G.Hargreaves and myself) discussed the storage and transport of their WSD-bound retro ice cores. See below for more information.
   C. Drilling continues … the fun continues!!

IV. Drill Depth and Time
   A. ~2672m and ~23.6kyr (per T.Neumann's calculation using standard Nye correction).

V. Status of Drilling (# of runs, meters of ice drilled, core quality) [operationally from 19Dec to 24Dec]
   A. 31 Runs (Run 1513; stopped on 24Dec for Christmas Dinner)
   B. 93m of ice drilled (Section 2676, as of 24Dec)
   C. Core quality remains excellent. Some helical surface features are visible, but core diameter has remained consistent (121.6 mm). Azimuth, as determined by drill, appears to be consistent (±5° between runs). Run breaks have been good to fair (some spalling has occurred off the dog marks).
   D. Point deformation in FED-to-4m-Tray system has ceased. We're not sure what all (or specifically) solved this particular issue, but the surface scoring stopped appearing and has been absent from recent runs. [We cleaned the FED, re-leveled the receiving station, and adjusted the tray lock-stops. We

also re-examined all of the 4m receiving trays and removed from service those which appeared "less than perfect".]

E. Cloudy "bands" continue to appear in the core. Though none have been as distinct as the band in our 2nd core of the season, there have been runs with multiple bands (ie. 5 in one run).
F. A few instances when the drill was down due to maintenance, and these will likely be addressed by the IDDO representative (DISC: K.Dahnert); 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!

VI. Other

A. The SCO team continues to streamline and improve operations via daily meetings that discuss safety and procedural challenges.
B. Four skids of I-477 ice cores were created and loaded onto AFPs, along with 2 skids of I-158 ice cores, for shipment to McMurdo on 23Dec. 6 temperature loggers were placed on each AFP, 3 in the usual top/end/"pocket" positions and 3 underneath the ice core blanket mirroring the above positions. The loading configuration was modified for the one "half pallet" of ice cores. We configured that AFP with symmetrical "aisles", cargo strapping the two skids to the AFP to provide adequate lateral motion control, and then cargo netted the whole (skids & blankets). Camp staff (Hayden) approved our cargo packaging skills.
    1. As an aside, Science Cargo (SciCo – M.Davis) communicated (via P.Roberts) the very real challenge of dealing with mixed-group AFPs. ALL skids are group-specific, but the potential for mixed-group AFPs will continue to be a given. This, unfortunately, will be something we will have to deal with when we begin to receive ice cores from I-157 (Das). I will update you with any new observations.
C. Shift work has run though an entire week. The early part of the week saw the typical difficulties in shifting one's sleep schedule, but that had all but disappeared by the second-half of this past week. Discussions (formal and informal) continue to occur to monitor the efficacy of 2 "twelves", and we will likely review this component of our operations until T.Fudge arrives in early 2011. I foresee 3 shifts/day being the way to go as of now.
    1. Roop, Hargreaves and myself have also 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.
D. This first full week of drilling (1st day = 16Dec) provided a few "improvement" projects to tweak out our processing operations: replacement of Packing Station computer due to a faulty clock battery, refinement of Balluff calibration procedures including the labeling of one specific meter stick as THE calibration stick (our testing revealed that nearly every measuring device on our side of the Arch has a play of a few mm relative to another), and re-

titling of certain logging station measurements so as to mitigate any user confusion.

E. Receipt of secondary "safety" come-along for SCO gantry in Arch, per Thomas Olyjnik of RPSC Health and Safety). This lives in the warming Jamesway.
F. Buffen completed science on his "Nitric" snowpit, which included collecting "high resolution" snow samples from a 2m snowpit.
G. Crary IT support personnel ("Deke", RPSC) traveled out to WSD to assist with some very necessary computer-related issues (connectivity between logging stations and server, for example). Kudos will be appropriately submitted.
H. Box of ice core blankets (4) returned to WSD from MCM. These were used for the shipments of previous AFPs (ice cores).
I. Hargreaves (NICL) has processed the temperature logger plots, and will discuss with Camp Manager (P.Roberts) regarding any possible corrective action(s). I will keep you apprised of any progress made in this regard. We're still determining if any temperature spikes noted are more in-line with landing and the long travel period to MCM from Willy's Field than the actual aircraft transport.
J. A UT (B.Buchwald) arrived (23Dec) and will install additional access covers on the ducting above the blowers in the Arch so as to enable more thorough preventive maintenance. He will also work on the generator louvers to allow them to run nearer to their optimum temperature.
K. Regarding I-157's ice cores … we have been given the three planned flights from their respective camp sites to WSD. Flights from WSD to MCM usually are between 2 and 4 days after each deep-fielt retrograde flight. We are confident that we have the capacity to accommodate the additional ice cores in the few days between their arrival and a cold-deck WSD departure.
    1. In discussing strategy for possible weather-delayed flights from the field to WSD (and the possible on-time WSD to MCM flight, I've reiterated our desire to have I-477 ice depart whenever possible (full AFPs when practical).
L. Christmas Eve dinner was Friday night … appetizers (spreads, cheeses, fondue) followed by a fantastic dinner (lobster tail, filet mignon, garlic mustard greens, potato duchess and salad drizzled with balsamic vinaigrette) and dessert (chocolate tort with raspberry sauce & whipped cream). Saturday enjoyed a showing of A Christmas Story and an afternoon BBQ (steak, grilled salmon, potatoes with peppers and onions, and baked beans). No cores were harmed in the consumption of our scrumptious holiday feast, but some waistbands may be on the verge of snapping … Cheers, from WSD!!

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 (±5° 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 2nd 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 (1st 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!!

SITREP 8 - January 9, 2011
Gifford Wong, SCO Rep
Written at WAIS Divide

I. Passenger movements
   A. SCO
      1. K.Taylor (PI), M.Twickler and TJ Fudge arrived WSD on 07Jan.
      2. M.Stan and J.Polk (NSF Media) also arrived WSD on 07Jan.
   B. NICL
      1. n/a
   C. IDDO
      1. J.Johnson arrived WSD on 05Jan.

II. Cargo Movements
   A. No ice has been retro'ed back to MCM since the occurrence of a potentially warm cold deck on 23Dec.
      1. Negotiations are on-going to identify, evaluate and resolve any potential shortcomings to the overall process of returning ice to CONUS via MCM from WSD.

III. Camp Activities
   A. Current camp population as of 09Jan is 43: 15 RPSC, 4 NANA, 10 I-477, 1 I-478, 10 T-350, 1 I-157, 2 NSF (Media).
   B. I-157 is ready to depart "Site 2" for their "Site 3" via KBA Basler. Unfortunately, weather and scheduling have thwarted their recent efforts.
   C. PIG Traverse returned to WSD … briefly. A couple days of well-deserved R&R in beautiful WSD was all they could afford before hitting the cold, snowy road back to Byrd.
   D. Drilling? Yes we are. Making a difference? With every run!

IV. Drill Depth and Time
   A. 2892m and ~33.4kyr as of 0730, 09Jan (per T.Neumann's calculation using standard Nye correction).

V. Status of Drilling (# of runs, meters of ice drilled, core quality) [operationally from 01Jan to 09Jan]
   A. 38 Runs (Run 1578; drill was down for approximately 3.5 days)
   B. 112m of ice drilled (Section 2866, as of 0730, 09Jan)
   C. Core quality remains excellent. The core diameter has remained consistent (121.6 to 121.7 mm). Run breaks have been good to fair (some spalling has occurred off the dog marks).
   D. FED performance is regularly monitored (cleanings occur when fluid extraction capacity diminishes).
   E. Cloudy "bands" continue to appear in the core. Though none have been as distinct as the band in our 2nd core of the season, there have been runs with multiple bands.

F. The drill was down hard this week due to a kink in the cable; this will be addressed by the IDDO representative (DISC: K.Dahnert/J.Johnson) in their weekly SitRep. Suffice it to say that everything is going well now, post cable/fiber optic terminations, and we are drilling as I type up this SitRep! Those drillers are an amazing lot, and they deserve HUGE kudos!
G. Extra caution is being exercised when logging ice core "chips" and "pieces" for "missing" chips and pieces can potentially act as foreign object debris (FOD) to the drill. It is possible that the drill (sonde) was most recently put down by some FOD "floating" in the borehole that jammed the sonde against the borehole during descent, kinking the cable.

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 "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 (though I-158 were transporting firn cores, so hopefully the spike in temperature will not be too detrimental). The effects are as yet unknown, but we now have loggers from all the pallet positions and 2 "interior" loggers from inside the ISC boxes.
    1. We are still 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 at WSD, will likely deal with the situation in-person (on the MCM side of things) and declare the "go" status, if earned.
    2. G.Hargreaves, who is now in NZ (somewhere fun!), had "read" two loggers placed in the top-most boxes of the aforementioned "skids"/AFPs. Temperatures from one box were slightly warmer than -20C for 4 hours, but temperatures from another box were warmer than -20C (peak of -7C) for 12 hours.
    3. K.Taylor is looking to initiate some procedural changes in the protocol so as to sufficiently "cold-soak" the aircraft. We hope to be able to test on-board temperatures right before cargo on-load to see how cool the aircraft is. We have at our disposal a high-end Omega temperature probe on-site.
C. The drill was, unfortunately, down hard for a significant portion of this past week. ~86 hours.
    1. V.Gkinis and T.Cox helped adjust the WSD satellite dish to improve the camp's Internet connectivity. They effectively gained 1.5 hours of Internet!
D. Still waiting (for good weather, mainly) to send some I-157 ice back to MCM. We currently have 7 ISC boxes waiting for some "Site 2" ice … due to the weather, their cargo estimate has grown from 9 to 12 to 14 to … ?
E. We observe a discrepancy between the Euro Marks (and associated "absolute depths") and the Cut Marks (and their associated "absolute depths"). Without

going into the details, Euro Marks are made on the whole centimeter and Cut Marks are made on the whole meter. We have noticed (over the past ~250 meters) a trend between the two that indicates a 10mm "discrepancy". Rough calculations for the season would put the total discrepancy (from this one component) at 25mm. We feel this is due to how we are cutting the ice on the Cut Mark, and that the Euro Mark (and associated "absolute depths") are holding "true" for this season and that, if anything, the Cut Marks (this season) may be migrating 1mm every 25 meters.

F. Shift work continues … albeit with one major change. We will be shifting to three shifts of "eight" starting next week. Discussions (formal and informal) occurred to monitor the efficacy of 2 "twelves", and we implemented a number of mitigation measures to counter potential fatigue in our operations. With T.Fudge at WSD, we are anxious to reduce our work load to a more civilized 8-hour day.
    1. Mid-season "evaluations" (conversations, one-on-one and group) occurred, both as part of the "8 v. 12" debate and to see how the crew is doing.
    2. H.Roop, B.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 deal with the requirements set forth this season.
    3. H.Roop and myself "switched" schedules so as to cover as much of the working crews as possible while still maintaining a decent sleep schedule.
G. In addition to the drill being repaired, this week also saw a little more "spring" cleaning:
    1. R. Kummelehne finished building a box to retro the MK aluminum.
    2. Balluffs were calibrated every ~36 hours (once with a fiberglass measuring tape and the rest with a steel measuring tape) and the Omega thermometers were calibrated once.
        - A trial of the fiberglass measuring tape revealed an inherent 'stretch' that was deemed unacceptable. A metal measuring tape is now the 'official' Balluff calibration stick.
    3. 4 "skids" of I-477 are on an AFP, with an additional 2 "skids" topside. We have cleaned up the Arch along the south wall to accommodate as much ice as possible without having to use the basement. Should we need it, however, the basement is ready to receive full skids of ice core.
H. H.Roop provided WSD Camp with a "Sunday Science Lecture" (02Jan) discussing ice cores, lake sediments and climate.
I. H.Roop hosted the 2nd of 3 PolarTREC events on 08Jan (07Jan in CONUS). This one was about "camp life" and there were many in attendance (from WSD) and roughly 600+ participants via the internet!
J. J.Fegyveresi, B.Bencivengo & myself extended the casing for WDC05A.

K. Regarding I-157's ice cores … 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 to make a 3-skid AFP. This will go first, on its own, when we resume cold decks.
L. Hand planers were delivered from MCM (thank you, Carp Supply). A test was done to discern any difference between the power planer and the hand planer. It has been decided that the hand planer is more suitable for our 1m-resolution, isotope sampling plan.
M. New Year's good tidings in the form of D.Ferris' charity fundraiser. This year WSD raised $2000!! For comparison's sake, MCM's Women's Soiree (an annual charity fundraiser) raised ~$1800 last year. WSD has roughly 40 folks and MCM has over 1500 folks! Half of the monies will be going to a NZ-based charity assisting with earthquake relief … and the other half will go to a charity of the iTouch winner's choice. In addition to the grand prize iTouch, there was a signed print from last year's Artist in Residence (A.McKee), a signed copy of ALONE (book by Adm. Byrd), and a vintage GISP2 patch. Cheers, from WSD!!

SITREP 9 - January 16, 2011
Gifford Wong, SCO Rep
Written at WAIS Divide

[Brought to you by the number **3000** (meters) and the letter '**A**' (as in "A-okay")]

I. Passenger movements
   A. SCO
      1. K.Taylor (PI) departed WSD on 10Jan.
      2. K.Taylor (PI) arrived WSD on 15Jan
      3. M.Twickler departed WSD on 15Jan.
   B. NICL & IDDO
      1. n/a

II. Cargo Movements
   A. Two AFPs (Air Force Pallets) of ice core (I-477) were sent to McMurdo on 15Jan [Skier 54, Tail number: 491].
      1. Negotiations between the NSF and ANG (and RPSC; 12Jan) were fruitful. K.Taylor flew from MCM to WSD (dep ~2200, 14Jan) to monitor on-board air and surface temperatures. 109th aircrew followed their (amended) cold-deck SOP, and temperatures were brought low enough for K.Taylor to "greenlight" this ice retro flight. M.Twickler continued to monitor aircraft temperatures as they flew back to MCM (dep WSD ~1330, 15Jan), and he reported the aircraft maintained suitable temperatures for ice transport. AFP logger information will arrive as soon as the loggers are returned to WSD.

III. Camp Activities
   A. Current camp population as of 16Jan is 39: 12 RPSC, 4 NANA, 11 I-477 (including 2 NSF-media), 1 I-478, and 11 T-350.
   B. I-157 arrived at "Site 3" via KBA Basler. Unfortunately, this meant H.Conway ("Twit") had to leave WSD (13Jan). This move, however, did bring in S.Das and L.Trusell for a couple days.
   C. PIG(let) Traverse returned to WSD this week … briefly. One well-deserved night of R&R at beautiful WSD was all they could afford before hitting the hard, sastrugi-strewn road back to Byrd.
   D. We watched our beloved camp carpenter return to the big city that is MCM. R.Kummelehne did so much for our group and this camp. Bon voyage!
   E. Drilling? You betcha! Our drill ops have been running "A-okay" this week … as for tempo, how does 3000m (at ~2145 on 14Jan) strike you? Ops tempo has been fantastic this week! So much so that the NICL side of the drill Arch looked more like a Chinese puzzle box than a core-processing facility.

IV. Drill Depth and Time
   A. 3019.8m and ~43.5kyr as of 1630, 15Jan (per T.Neumann's calculation using standard Nye correction).

V. Status of Drilling (# of runs, meters of ice drilled, core quality) [operationally from 09Jan to 15Jan]
    A. 52 Runs (Run 1630)
    B. 156m of ice drilled (Section 3022, as of 1630, 15Jan)
    C. 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).
    D. Ice temperatures (as measured by the drill) have shown 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). More in the next SitRep.
    E. FED performance is regularly monitored (cleanings occur when fluid extraction capacity diminishes).
    F. Cloudy "bands" continue to appear in the core, though this past week's throughput have revealed very few.
    G. 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. We continue to observe a discrepancy between the Euro Marks' associated "absolute depths" and the Cut Marks' associated "absolute depths". A brief synopsis was written last week. We see that, with our total throughput for this season, we now see a ~15mm "discrepancy" between the two depth scales. [Euro Marks are made on the whole centimeter and Cut Marks are made on the whole meter.]
        1. We have changed, ever so slightly, how we are cutting the ice on the Cut Mark to see if this will slow the trend down. It is too early to discern if this is true. We still believe the Euro Marks (and associated "absolute depths") are holding "more true" for this season and that, if anything, the Cut Marks (this season) may be migrating ~1mm every ~25 meters.
    C. As noted above, "we" (NSF, ANG, PI, RPSC, etc) have been greenlighted to continue ice retro flights from WSD to MCM.
        1. Procedurally, roughly 90 minutes from arrival to WSD, the aircrew will initiate their cold-deck SOPs to bring the on-board temperatures down to a suitable level. These temperatures are measured at 3 positions near the "640" cargo location: 8', eye-level, and the deck. These temperatures are monitored until landing at WSD (for "go/no-go" of ice retro). If it's a "go" for ice retro, after ascent to cruising

altitude on the return leg, the temperatures at these locations are continually monitored until arrival at MCM. The appointed ice core "monitor" may also accompany ice as it is transported, via Delta, to MCM "proper" from Pegasus Skiway for placement in the South Pole-designated reefer units. I-477 ice is staged here until the SafeCores arrive via vessel in late January.

D. Three shifts of "eight" have been GREAT. Informal conversations post-change indicate many on the crew feel more rested and better suited to engage a "full day's work" on the "eights". With T.Fudge now at WSD, we are not only able to reduce our workload to a more civilized ~8-hour day, but we gain a huge reservoir of enthusiasm and positive force of energy!
    1. The schedule change between H.Roop and myself has also worked quite well.
    2. H.Roop, B.Bencivengo and myself continue to discuss QA/QC and general core-handling oversight.
E. Regarding I-157's ice cores … we now have 3 "skids" sitting on the Arch floor. We are awaiting two things: 1) a planned deep-field retrograde flight of I-157 ice to arrive ~17Jan to make an AFP "plus" load for 2) a cold-deck retro flight of I-157 ice to MCM on 19Jan.
F. A hand planer has been used to collect isotope samples for ~100m of WDC06A ice. The sampling was begun shortly below 2900m "absolute depth". We are now collecting ~6g of sample per 1m of ice. There was some tweaking of the amount collected (blade plunge depth, essentially) while M.Twickler was still in camp. Our collection low was 3g and our high was 18g.
    1. K.Taylor and I have discussed implementing 0.5m resolution sampling. We may start this as early as next week.
    2. HUGE thanks go to J.Robinson for constructing a jig to be used with the pack-up station's cradle and J.Johnson for attaching rails on the planer so that it may be used while the ice is still sitting IN the ice core trays! We're currently using the latter technique, but we are better equipped having two choices.
G. There is a large, backlit snowpit a little removed from camp "proper" in place for all (of camp) to enjoy. Huge kudos go to R.Kummelehne and R.McDuff for spearheading this endeavor! M.Twickler, J.Fegyveresi and A.Buffen also lent muscle, both in the way of brains AND brawn!
    1. Thanks to J.Fegyveresi for collaborating with me on a short document outlining things to see (patterns) and do/don't (i.e. "don't fall in"). This was sent to all in camp as a quick and easy "reference email".
H. The NSF media crew (J.Polk and M.Stan) has been super busy filming 3 "shorts" based on (and in) this drill project/WSD. They've done quite a bit with the drill (and K.Dahnert and J.Johnson) as well as a number of core-handlers (background shots, voice-overs, and primary shots).

I. We all took a moment to celebrate the life of **Willi Dansgaard**. His nigh prescient proposal to study the ice of Greenland because he thought it might contain information on "climatic changes over a period of time of several hundred years of the past" (Dansgaard, 1954) is, in a number of very real ways, THE reason why we're ice-hunting in West Antarctica. Thank you, W.Dansgaard!

J. We also celebrated the incredible achievement of 3000 meters drilled! Our satisfaction of seeing the run "containing" that 3000th meter 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 … far more than just the few dozen that strolled out to the Arch on 14Jan to toast the 2nd time that 3000th meter saw the surface of the Earth. On behalf (unofficially) of those of us at WAIS Divide Camp now, working for or alongside I-477, I would like to toast all those persons involved with this project. From DC to Denver to Madison to McMurdo, from "year one" to "year now" … we are here at 3000m (and going beyond) because of your sweat, blood and smiles. Thank you.

    1. There was a small, bedrock-themed fete to help underscore this week's coring achievement. A multi-layer chocolate cake ~25cm tall anchored this celebration … and no bedrock was harmed in the celebration of coring 3000m of ice.

SITREP 10 - January 23, 2011
Gifford Wong, SCO Rep
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.Dahnert 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.

SITREP 11 (short) - January 27, 2011 [mid-week]
Gifford Wong, SCO Rep
Written at WAIS Divide

[Brought to you by the number **3270.2** and the letters **DOME - C**]

I. Passenger movements
   A. SCO
      1. J.Polk (NSF Media) departed WSD on 26Jan.
      2. K.Taylor (PI) arrived WSD on 26Jan.
   B. NICL
      1. n/a
   C. IDDO
      1. S.Polishinski departed WSD on 26Jan.

II. Cargo Movements
   A. One AFP (Air Force Pallet) of ice core (I-477) is ready to be sent to McMurdo (Originally slated for 26Jan cold-deck on Skier 33, but poor weather in MCM cancelled this cargo).
      1. The last two packed sections of ice did NOT sit in a drying booth for 12 hours. The decision was made to get a full AFP of ice out of WSD.
      2. There are 3 non-ice core ISC boxes on this flight: *in situ* isotope samples and two "PhysProps" boxes.

III. Camp Activities
   A. Current camp population as of 23Jan is 40: 16 RPSC, 4 NANA, 9 I-477 (including 1 NSF-media), 1 I-478, 9 T-350, and 1 A-108.
   B. Drilling Headlines … Extra, extra, read all about it!
      1. As of 11:45pm (NZ time) on 25 January 2011, the WAIS Divide Ice Core passed the core drilled at **Dome C** (EPICA). We passed their depth of **3270.2**m on the first run of Shift 3.
         - 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. 3276.9m and ~105.1kyr as of 0530, 26Jan (per T.Neumann's time scale).

SITREP 12 (final one) - January 30, 2011
Gifford Wong, SCO Rep
Written at WAIS Divide

[Brought to you by the number **3330.03** and the letters **D-O-N-E**!!]

I. Passenger movements
   A. SCO
      1. H.Roop departed WSD on 29Jan with the LAST cold deck of the summer.
      2. Scheduled to depart WSD on 31Jan: A.Buffen, T.Cox, J.Fegyveresi, TJ Fudge, V.Gkinis, D.Winski, G.Wong and K.Taylor.
   B. NICL
      1. Scheduled to depart WSD on 31Jan: B.Bencivengo.
   C. IDDO
      1. Scheduled to depart WSD on 31Jan: P.Cassidy, D.Ferris, J.Kyne, E.Morton, J.Robinson and K.Dahnert.
         - Scheduled to depart WSD on 02Feb: J.Goetz and J.Johnson.

II. Cargo Movements
   A. 1½ AFPs (Air Force Pallet) of I-477 ice core (6 skids) were sent to McMurdo via Skier 61 [Tail 490]. This represents the LAST of the ice for the 2010-11 summer season. This flight was originally scheduled for 29Jan.
      1. The last eight sections of ice (2 ISC boxes) packed did NOT sit in a drying booth for 12 hours. This decision was based on the timing of the originally scheduled cold-deck flight.
      2. There is a ~10cm "puck" carefully ensconced in a foam-filled Igloo ® cooler in the basement of the Arch. This piece has been extensively documented (notes and pictures), and there are two StowAway data loggers monitoring temperature inside the cooler.

III. Camp Activities
   A. Current camp population as of 23Jan is 45: 24 RPSC (including 4 "PIG'lets"), 4 NANA, 8 I-477, 1 I-478, and 8 T-350.
   B. Drilling Headlines … Extra, extra, read all about it!
      1. As of 11:10am* (NZ time) on 28 January 2011, ICDS passed the final drilled ice core of their drill season to the SCO core-handlers. It measured 2.755m long at the "4m-Receiving Station" (3.003m Driller's length). The WAIS Divide Ice Core project is **DONE** for the 2010-11 austral summer!
         - Everyone came out to the Arch to celebrate this momentous achievement! As during the whole of the season, we wholeheartedly acknowledge our debt to previous WSD crews and previous (deep) ice core projects. We thank you for this opportunity!

- Appropriate toasts with salubrious liquids were doled out to all that were present (I had my ubiquitous root beer!). Nearly all present (including me) appeased the W.Antarctic Ice Sheet with a small taste of Gammel Dansk. If you don't know … ask someone. ☺
    a. It was a virtual polar parking lot of Scandics, Alps and Tuckers outside the "Moose Chute" of the Arch.
- [*] At approximately 2110, or nearly 10 hours later, the ICDS drillers pushed the "Encore core" out of the barrel to waiting SCO core-handlers. This piece measured 0.123m at the "4m-Receiving Station".

IV. Drill Depth and Time
    A. **3330.03**m ("Euro Mark" depth scale) as of 2115 on 28Jan.

V. Status of Drilling (# of runs, meters of ice drilled, core quality) [operationally from 1607 16Dec to 2130 28Jan]
    A. 259 Runs [to run 1735]
    B. 767.168m of ice drilled [to section 3335]
    C. Core quality was excellent throughout the season. The core diameter was consistently between 121.6 to 121.7 mm. Run breaks have been good to fair (some spalling occurs near the dog marks).
    D. Ice temperatures (as measured by the drill sonde) demonstrated a distinct warming trend. Temperatures warmed from approximately -27C to -11C. Post-drilling temperatures showed a fairly uniform 5C rise (brought on by coring itself).
        1. Temperatures measured at the receiving "4m" station did 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).
    E. FED performance was monitored regularly (cleanings occurred when fluid extraction capacity diminishes).
    F. Cloudy "bands" appeared in the core throughout this season. We received many runs with especially interesting cloudy bands … dark or "splotchy" or "folded". These all await further interpretation by eyes more learned than ours.
    G. Extra caution was exercised when logging ice core "chips" and "pieces". This was 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. Throughout the season, the SCO team continued to streamline and improve operations via daily meetings.
    B. We observed a steady divergence between the Euro Marks' associated "absolute depths" and the Cut Marks' associated "absolute depths".
        1. An approximate 50mm of "drift" occurred over the 767m drilled this season.

C. Recent (cold-deck) LC-130s to WSD witnessed unusual encounters in the form of giant animals and fruit. To be specific, one gigantic banana, one endangered red panda, one fuzzy brown bear, one gorilla, two penguins, and one incredibly rare purple unicorn. Representatives from I-477 and the 109th photo-documented said encounters. One never knows what will turn up on the West Antarctic Ice Sheet!
D. A hand planer was used to collect isotope samples from WDC06A ice. The sampling was begun at ~2907m "absolute depth", and continued through to ~3330m. We collected 909 samples for water isotope analysis (at ~4g of ice per sample).
E. The Science Jamesway has been closed for the season. The Arch is all but buttoned-up for the long West Antarctic winter.
    1. All that lives on the "NICL" end of the Arch has been inventoried. The many storage areas/locations have been named after Star Wars characters.
F. We celebrated the incredible achievements of surpassing the drilled depths at Dome Fuji, GISP2 and Dome C. 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 2nd-deepest in the world) 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. 2010-11 Crew creed (taken from The Wolf by Rudyard Kipling)

"Now is the Law of the Jungle – as old and true as the sky;
And the wolf that shall keep it may prosper, but the wolf that shall break it must die.
As the creeper that girdles the tree-trunk, the Law runneth forward and back –
For the strength of the pack is the wolf, and the strength of the wolf is the pack."

G. WAIS Divide Ice Core WDC06A "Trivia":
    1. 1 Igloo® cooler will winter-over this season with the left-over "puck".
        - "Thanks" to M.Albert and K.Keegan for their generosity.
    2. 12 AFPs of ice core were shipped this season.
    3. 35 5000lb-rated cargo straps were used this season.
    4. 42 skids of ISC boxes (8 boxes per skid) were shipped this season.
    5. 144 temperature data loggers (Hobo and StowAway) were launched this season.
    6. 372 "D-buckles" were used to close ISC boxes this season.
        - An additional 4 were used for the winter-over "puck".

7. ~420 pencils (#2 and 6B) were sacrificed this season.

H. The aforementioned unusual encounters between LC-130s and rare "animals" did not endanger any of the following: giant bananas, red pandas, fuzzy brown bears, giant penguins, gorillas, or purple unicorns.

I. Thank you … and goodnight!