SITREP 1, November 20, 2011, Day 6 on Ice

Donald Voigt, SCO Rep
Written at McMurdo Station

I. Passenger movements

A. SCO

1. I traveled from home to McMurdo Station leaving the CONUS on 11/10, arriving in Christchurch on 11/13 and McMurdo station on 11/14 as scheduled.

2. S. Anandakrishnan, V. Miller (I-161) arrived 11/16

3. G. Clow, F. Urban (I-168), E. Waddington, and D. Kluskiewicz (I-162) arrived on 11/17 as scheduled.

B. IDDO

1. K. Dahnert, M. Jayred, J. Goetz and E. Morton traveled from home to McMurdo Station, arriving on 11/14

II. Cargo Movements

A. Cargo arriving from CONUS

1. All I-477 cargo arrived and has been put into the system for shipment to WSD.

2. No cargo delivered to WSD.

3. I met with Lt Col Matt LeClair, the Deployed Commander of the 139 EAS and Col Shawn Clouthier to go over plans for the cold deck later in the season. They showed me the work sheet that the aircraft commander will have to log temperatures in the aircraft. I am confident that we are as sure as we can be that if the aircraft can be cooled down before arriving at WSD, it will be kept cold for the return trip. If the aircraft can not be cooled down before approach into WSD, the camp staff will be instructed to load alternate cargo into for the return trip and the core will be taken back to the arch.

III. Camp Activities

A. Current camp population, 21 RPSC, 3 NANA (the cooks)

B. Construction of camp is complete and work on clearing the arch is progressing. The D4 still in McMurdo however, and this slows work clearing the arch. The arch has been accessed by the processing-end doors.

C. WSD is currently experiencing a significant storm. New snow and high winds have combined to put up some large drifts and have kept the camp staff and carpenter crew inside. Fortunately, this storm is not altering our plans to put in on Monday.

D. I am making comms with Dean (camp manager) daily at 10:00 to discuss logistics and to remain aware of the conditions at camp.

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 Borehole Logging team has started the process of training and preparing cargo for the put in at WAIS Divide. All of the cargo for T-350, I-477, I-161, and some of I-168 has been processed and is ready for delivery to WSD.

B. Flights scheduled for this week; D007 with the D4, D008 with T-350, myself, cargo and the explosives. Beyond that, we are in a state of flux. The D008 flight is already switched to a back up for a Pole flight and the weather is not supposed to improve either in McMurdo or at WAIS Divide.

C. Met with the Borehole Logging team (minus Peters and Bay) and T-350 for introductions, review of the put-in schedule, and discussion about safety (E. Morton is the drillers safety officer) around the arch and around camp. Also discussed the alcohol policy and reminded everyone that moderation is the order of the day and that no alcohol will be allowed in or around the arch, or during working hours.

SITREP 2, November 27, 2011, Day 5 at WSD

Donald Voigt, Chief Scientist, WAIS Divide
Written at WAIS Divide

I. Passenger movements

A. SCO

1. D. Voigt arrived at WSD on 11/22 at 2335 on D008
2. S. Anandakrishnan, V. Miller (I-161), G. Clow, F. Urban (I-168), E. Waddington, and D. Kluskiewicz (I-162) were scheduled to fly to WSD on 11/24 but their flight was canceled due to weather at McMurdo. The same McMurdo weather has kept R. Bay in Christchurch. He is scheduled to arrive in McMurdo on 11/28 with L. Peters.

B. IDDO

1. K. Dahnert, M. Jayred, J. Goetz and E. Morton arrived at WSD on 11/22.

II. Cargo Movements

A. Cargo arriving from CONUS

1. The bulk of the science cargo for the Borehole Logging team and the IDDO team has been delivered to WSD. This included the logging winch and level wind. These items were not drifted. The D-4 (Caterpillar) was returned to WSD on D007. This was critical for clearing of the Arch doors.
2. Other critical cargo is stuck in McMurdo with the remaining pax.

III. Camp Activities

A. Current camp population, 35, 4 T-350, 1 I-477, 27 RPSC, 3 NANA

B. Camp is in outstanding condition and ready for the science teams to arrive. The skiway is ready to take maximum ACL flights.

C. Thanksgiving was celebrated on Saturday, 11/25. Camp staff still worked half a day.

D. The food is excellent. Our Thanksgiving meal very nice.

E. The 953 Cat is having some track issues. Its use is being limited to critical picks because it will be needed when time comes to re-spool the drill cable and to set the winch in place.

F. Work has progressed on the Arch. The drill side floor was leveled as much as possible. Work has begun on the trench. The initial step was taken by T-350 on 11/23 with rotation of the tower to vertical. After covering the borehole TOC, work was started removing the ductwork that vents the trench. This was necessitated by the walls closing on the ducting. There is concern that a breach in the ductwork would prevent adequate ventilation of the trench. With the ducting removed, work will start on widening the trench. The plan is to work on the borehole end first so that logging can start while work continues on the trench. The ductwork will be replaced after logging is completed. We would like to consider replacing the current ductwork with flexible hose.

G. Work continues on clearing the Arch doors. The processing-side doors were completely cleared prior to the storm last week when the bowl was filled in again. The doors and approach to the doors are clear again. Work on the drill-side doors is more difficult but progress is being made with lots of hand shoveling involved. How to gain access to the “Moose Door” is now the question. There is significant drifting in this area with snow the full depth of the arch covering the door. Update, 11/27; The drill-side arch doors are clear enough that the man-door can be opened. I expect that the big door will be opened by 11/28 so that snow from the trench can be removed.

IV. Drill Depth and Time

A. N/A

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

A. N/A

VI. Status of Borehole Logging

A. By COB on Friday, 11/25, work on the trench has progressed far enough that borehole logging will be able to commence on schedule on December 1st.

VII. Other

A. D. Voigt and the members of T-350 held a “safety summit” on 11/26 with the intent of updating the WAIS Divide safety guidelines in light of the changes in direction planned for this season. It was felt that between the number of new people and the different evolutions that will take place this season, the safety plan needed to be revised.

B. I took the opportunity at the camp meeting after breakfast on 11/26 to remind all that, while science is important and support of science is what we are all doing here, safety still needs to be the priority. We do not need to rush tasks and take shortcuts that might lead to an injury in the name of science.

C. K. Dahnert, E. Morton and D. Voigt have inspected the Arch worksites at the start of each day to evaluate progress and assess the work environment. Safety concerns have been addressed with the Camp Manager and Construction Foreman, and corrections continue to be made.

D. Even with the flight delays this week we are in good position to start Borehole Logging on or before December 1, which was our target date.

SITREP 3, December 4, 2011, Day 12 at WSD

Donald Voigt, Chief Scientist, WAIS Divide
Written at WAIS Divide

I. Passenger movements
   A. SCO
      1. V. Miller (I-161), G. Clow, F. Urban (I-168), E. Waddington, S. Anandakrishnan and D. Kluskiewicz (I-162) arrived at WSD 11/29 on D009.
      2. R. Bay and L. Peters arrived at WSD on 12/1 at D011.
   B. IDDO
      1. N/A

II. Cargo Movements
   A. Cargo arriving from CONUS
      1. N/A
   B. Cargo arriving from McMurdo
      1. All remaining cargo for the Borehole Logging team arrived on D011.

III. Camp Activities
   A. Current camp population, 41, 4 T-350, 1 I-477, 1 I-122, 2 I-161, 2 I-162, 3 I-168, 21 RPSC, 6 NANA; All is well
   B. Camp continues to be kept in outstanding condition. Drifts are regularly groomed.
   C. The 953 Cat is still having some track issues. Its use is being limited to critical picks. Spare parts have arrived and repairs are scheduled for the coming week.
   D. Work by the RPSC Carpenter Crew in the Arch has been completed. The drill trench has been widened and the tray cleaned in time for Borehole Logging.
   E. Work continues on keeping the Arch doors cleared. The processing-side door has been drifting more than in past years forming a dangerous cornice. This area has been heavily flagged.
   F. Refrigerator Tech started freezer units in the Arch. While I felt this was too early, there was a need to increase the load on the generators and this was the best way to do it. This also give time for any problems to show up.
   G. The Fire Tech was at camp for one night. He initiated the fire alarm system in the Arch.

IV. Drill Depth and Time
   A. N/A

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

A. N/A

VI. Status of Borehole Logging

A. The winch was moved into position and the Weatherhaven construction completed on 11/30. The winch assembly was completed on 12/1 and testing began. Testing of all four tools was successfully completed by noon on 12/3. Borehole logging commenced at 1530 with lowering of the temperature probe.

B. Several problems were identified with regards to the logging operation;
   1. Radio interference shutting down the winch
   2. Power fluctuations
   3. Noise on cable from blowing snow
   4. Unanticipated power outages.

C. With cooperation between T-350, Camp Staff and the Borehole Loggers, all of these were addressed and remediations found.

D. In preparation for logging G. Clow asked the drillers about the zero mark for depth. In consultation with Jay Johnson (IDDO) a zero depth was established as used by the drillers. I am preparing a separate report on this question.

E. The generators suffered an extended failure the night of 12/2 due to overheating caused by problems with the ventilation system due to shifting winds. A temperature watch has been initiated to insure that this does not happen during logging. However, as I write this, we just lost power. The temperature logger is on the way up so we did not lose any time or data. We are discussing using the 20 kW generator to run the winch instead of the main camp gens. We need to know how reliable the 20 kW is though.

F. Weather is hampering the efforts of L. Peters to survey and drill shotholes. Camp is at Condition 2 at 0700 on Sunday and the weather forecast is not good. Peters is confident that he can be ready for the VSP on time.

VII. Other

A. Safety continues to be a primary focus of all residents at WAIS Divide.

B. 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 Construction Foreman, and corrections continue to be made.

VIII. G. Clow, F. Urban and E. Morton completed the first temperature log at 0500 on 12/4.

SITREP 4, December 11, 2011, Day 19 at WSD

Donald Voigt, Chief Scientist, WAIS Divide
Written at WAIS Divide

I. Passenger movements
   A. SCO
      1. N/A
   B. IDDO
      1. P. Sendelback arrived from McMurdo
II. Cargo Movements
   A. Cargo arriving from CONUS
      1. N/A
   B. Cargo arriving from McMurdo
      1. Ice core boxes
      2. O2 Monitor
III. Camp Activities
   A. Current camp population, 42, 1 A-108, 2 A-357, 5 T-350, 1 I-477, 1 I-122, 3 I-161, 3 I-162, 2 I-168, 19 RPSC, 5 NANA; All is well
   B. Camp continues to be kept in outstanding condition. Drifts are regularly groomed. We have finally had a few days with light winds.
   C. The 953 Cat is seeing limited duty. The Pisten Bully is hard down. Both are in need of parts that could easily have been available in McMurdo
   D. The loss of these two pieces of equipment along with the storms that have plagued us at the start of this season have made clearing of the Moose Door (the third egress from the Arch) next to impossible. I have summarized the problem in an e-mail to M. Kippenhan who has forwarded it on to J. Rand and others for comment. Camp is making every effort to keep the Arch clear and open the Moose Door, but safety of the entire Camp population is also a concern that takes time and effort of the Staff.
   E. Work continues on keeping the Arch doors cleared. The processing-side door has been drifting more than in past years forming a dangerous cornice. This area has been heavily flagged. Access to the processing-side doors is being maintained but, as there is no immediate need to drive forks to the processing side, other tasks have been completed first.
   F. S. Mikel, the Refrigerator Tech, stayed to monitor the freezer units after startup. Another Tech will be out to camp to check the units sometime during December.
   G. The generators has been monitored by Camp Staff and IDDO personnel, and has suffered no further shutdowns.

H. Two science teams (A-108 and A-357) arrived and space was made for them in the Science Rac Tent. With help from the Camp Staff quick work was made of both projects and both events have completed their work successfully.
I. Ed Waddington presented a talk at our (newly established) Monday Night Science Series.
J. Saturday was Stromboli Night.

IV. Drill Depth and Time
A. T-350 has been working to prepare the drill for borehole deepening. The old cable has been spooled off and the new cable will be loaded on the winch this week.

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

VI. Status of Borehole Logging
A. The initial round of logging has been directed towards measuring the thickness of ice remaining in the borehole. This work has been completed and the data is being analyzed.
1. Temperature logging; Two complete temperature logs have been obtained and the results are being processed (Clow).
2. Two complete round-trip optical logs were complete and are of excellent quality (Bay).
3. The sonic log was obtained to 2000 meters. At this point communications with the tool was lost. Repairs are being attempted (Waddington).
4. Seismic logging was completed. The locking arm was tested at 100 meters and failed to retract. The tool was brought to the surface successfully and the locking arm worked at the surface. <u>However, it was my decision that the locking arm not be used any further to avoid any risk of damage to the borehole.</u> The Logging team concurred with this decision. The seismic tool was deployed and used successfully with a sequence of seismic shots with the tool at the bottom of the hole, at 3000 meters, 2500 m and 2000 m. These shots were also recorded on an array of surface seismometers. The weather cooperated and the winds died down in time for the seismic shoot.

VII. Other
A. A request was made to replace the fixed ventilation ducting in the trench with flexible hose in order to save time and effort and to alleviate the problem of the ducting being crushed as the trench walls close in. The request was denied and the original ducting will be replaced before drilling starts.

B. Safety continues to be a primary focus of all residents at WAIS Divide.
C. 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.

SITREP 5, December 18, 2011, Day 26 at WSD

Donald Voigt, Chief Scientist, WAIS Divide
Written at WAIS Divide

I. Passenger movements
   A. SCO
      1. Jeff Severinghaus, Giff Wong and John Fegyveresi arrived in McMurdo on schedule. Logan Mitchell transitioned from Taylor Gl. to McMurdo. Their flight to WSD is scheduled for Tuesday, 20 December.
      2. Frank Urban returned to McMurdo and redeployed to the CONUS as scheduled
   B. IDDO
      1. C. Zander arrived from McMurdo on D017

II. Cargo Movements
   A. Cargo arriving from CONUS
      1. N/A
   B. Cargo arriving from McMurdo
      1. Ice core boxes

III. Camp Activities
   A. Current camp population, 37, 6 T-350, 1 I-477, 1 I-122, 3 I-161, 3 I-162, 1 I-168, 1 O-283, 16 RPSC, 5 NANA; All is well
   B. Camp continues to be kept in outstanding condition. This was our first week without 20+ knot winds.
   C. The 953 Cat has been repaired, even though the wrong parts were sent from McMurdo. The Pisten Bully is being repaired. “Unavailable” parts were found and arrived from McMurdo on Thursday.
   D. The D-4 has broken down halfway between the Arch and town. No word on the seriousness of the failure. With one person to maintain all the heavy equipment and the two diesel generators it might take some time for repairs to be made. Shawn Duheme deserves a special thanks for his work at camp. Above his normal work schedule he worked with the seismic team all Friday night turning the generator off and on during our shooting schedule. Meanwhile during the night, in his “spare time”, he also repaired the 953. Without Shawn’s hard work, science at WAIS would grind to a halt.
   E. Work on the third Arch access door (the Moose door) has moved forward. The surface was graded down about 10 to 15 feet and the chute to the door down another 20 feet. I am hopeful that with the 953 working again the door will be opened by Wednesday, even if the PB is not working. Loss of the D-4 may pose a challenge though.

F. Both Arch doors are cleared and the grades are in good condition.
G. The processing-side freezer units are running.
H. The generators have been monitored by Camp Staff, and have suffered no further shutdowns.
I. Two science teams (A-108 and A-357) were able to depart camp having finished their work ahead of schedule (again, thanks to the efforts of the Camp Staff). O-283 arrived and started work on maintaining the AWS.
J. Ryan Bay presented a talk at our Monday Night Science Series.

IV. Drill Depth and Time
A. T-350 has completed work spooling and terminating the new cable.
B. Two McMurdo Carpenters arrived to reinstall the ductwork that had to be removed during widening of the drill trench. That work should be completed by Monday.

V. Status of Drilling (# of runs, meters of ice drilled, core quality)
A. If all goes well this week I expect to start drilling on schedule.

VI. Status of Borehole Logging
A. The second round of logging was completed.
1. Temperature logging; Additional temperature experiments were carried out and the critical work of calibrating depth was completed. This was a two day task measuring the cable which then required significant analytical effort. This work was carried out while logging continued. Frank Urban departed and will be missed.
2. No additional optical logging was done as the optical experiment was completed in the first round of logging.
3. The sonic logging tool was successfully repaired with one transmitter (of two) disabled. A log was obtained to the bottom and back. One receiver (of two) stopped working on the way up. An additional log may be attempted this coming week if the work around the borehole is completed and time allows.

4. A second seismic VSP (Vertical Seismic Profile) was completed. The seismic team worked some very long days in order to prepare for one night of shooting. The experiment started at 8 PM Friday night. Shots were taken at five locations with the borehole seismometer at each of eight depths. The shots were taken over a 30 minute period with one hour allowed for travel of the seismometer tool to the new depth. During the shooting interval the camp generator was shut down and all vehicle traffic halted. One interval was missed during the arrival and departure of an LC-130. The experiment was completed at 8:30 on Saturday morning. Thanks to the camp staff for bearing with the interruptions caused by this effort. It would not have been possible without the cooperation of the camp.
5. For future reference; we need to remember to include time in the schedule for analysis of data. Both the temperature measurements and seismic data have required significant time to analyze. Meanwhile there is other work on the schedule as well. Arriving at a measurement of ice remaining at the bottom of the borehole has been one of the more difficult analytical challenges of the season. The borehole temperature numbers were provided to Jeff via Iridium today by Gary (our internet was down today) and the results of the seismic work should be released very shortly.

VII. Other

A. The original duct work is being replaced and should be completed in time for the drilling to start on schedule.
B. The third Arch access should be opened in order for drilling to start on schedule.
C. Safety continues to be a primary focus of all residents at WAIS Divide.
D. 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. Special concern is directed towards areas around the Arch where excavation is ongoing. During periods of flat light and poor surface definition changing surface topography presents a particularly serious problem. Even small drops on the surface can be very dangerous on a snowmobile.

VIII. Special thanks go out to Dean and all of the camp staff for their continued effort to make Science a priority at WAIS Divide.

SITREP 6, December 25, 2011, Day 33 at WSD

Donald Voigt, Chief Scientist, WAIS Divide
Written at WAIS Divide

I. Passenger movements
- A. SCO
  1. Jeff Severinghaus, Jacob Schwander, Giff Wong, John Fegyveresi and Logan Mitchel arrived from McMurdo on D018, December 23 at about 1400.
- B. IDDO
  1. N/A

II. Cargo Movements
- A. Cargo arriving from CONUS
  1. N/A
- B. Cargo arriving from McMurdo
  1. Ice core boxes
  2. Cargo for Severinghaus and the I-477 pax

III. Camp Activities
- A. Current camp population, 38, 6 T-350, 4 I-477, 1 I-122, 3 I-161, 3 I-162, 1 I-168, 2 I-476, 14 RPSC, 4 NANA; All is well
- B. Camp continues to be kept in outstanding condition. The winds are back though...
- C. The Pisten Bully is still being repaired. The D-4 is still BD.
- D. Work on the third Arch access door (the Moose door) has moved forward two steps and back one. We have been able to see the door twice but storms have come along to force a retreat. I anticipate that the door will be opened by tomorrow.
- E. The basin on the Processing-side of the Arch has drifted back in despite the best efforts of camp.
- F. The processing-side freezer units are ops-normal.
- G. There have been some further problems with the generators not related to wind or temperature. Shawn has been working with support to resolve the issues with the switch gear and believes he has been successful.
- H. O-283 finished work on maintenance of the AWS.
- I. Sridhar presented a talk at our Monday Night Science Series.
- J. We celebrated Christmas last night with a wonderful dinner.

IV. Drill Depth and Time

A. Work on the ducting was completed and the ventilation system was turned on.
B. T-350 has completed work on the drill and carried out several test runs, touching bed yesterday. They touched bed at 3333.453 meters. The runs involved more extensive reaming then has been necessary in previous years.
C. Sunday's drill run contained the pressure devices for Jeff's experiment in the screen section. Because of this the pumps could not be run and no core was obtained.

V. Status of Drilling (# of runs, meters of ice drilled, core quality)
A. The first core is expected tomorrow.

VI. Status of Borehole Logging
A. The Borehole loggers are standing by.
1. Additional Sonic logs were obtained to 2000 meters.
2. One additional Seismic experiment was carried out with the sensor at 2000 meters. (See report by Peters).

VII. Other
A. I held a Science Meeting on 12/24 which all science attended along with Dahnert from T-350 to discuss issues concerning the drill.
1. We discussed the schedule for the coming evolutions, Main Hole Deepening and Re-Logging.
2. Discussed the balance of fluid in the hole while drilling and when the hole is left at the end of the season. Further data needed.
3. Planned to drill 40 meters, stop, and evaluate using Schwander's "pinger". Further information may be available to allow further deepening at this time.
4. Planned to make pressure measurements with transducers Severinghaus brought. This will be attempted today along with a temperature measurement to compare the drill temperature with the temperature determined by Clow. This should help us track temperature with depth.
5. Briefly discussed the plan for Replicate Drilling.
B. The processing side of the Arch was made ready to received core. The Science Techs discussed how best to start measurements based on information from Nunn (NICL) about the CPL corrections applied to the core depth. We examined the piece of core that remained on site (Note: the whole last meter needed to be left on site in order to maintain continuity of measurements of depth).

C. Mitchell prepared a spreadsheet for logging modified from the one used previously, as well as a form for printing off tray cards for each meter. The NICL did not send the computers this season for logging core.
D. Safety continues to be a primary focus of all residents at WAIS Divide.
E. 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. Merry Christmas.

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 retuned 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 accidently 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 and 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 Crary about which event was making the request (the other being Taylor Gl). 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.

SITREP 8, January 8, 2012, Day 47 at WSD

Donald Voigt, Chief Scientist, WAIS Divide
Written at WAIS Divide

I. Passenger movements
   A. SCO
      1. Jakob Schwander returned to McMurdo, then home.
   B. IDDO
      1. N/A

II. Cargo Movements
   A. Cargo arriving from CONUS
      1. N/A
   B. Cargo arriving from McMurdo
      1. 370 blue ice packs needed in order to pack the core.

III. Camp Activities
   A. Current camp population, 37, 8 T-350, 4 I-477, 1 I-122, 2 I-161, 3 I-162, 1 I-168, 1 I-476, 13 RPSC, 4 NANA; All is well.
   B. Members of Polenet arrived for a morning to work on upgrades to the seismic station at WSD
   C. The Pisten Bully is still being repaired. The D-4 is operational.
   D. Access to the Processing-side of the Arch has continued to be a priority. As the snow drift patterns change, constant hand shoveling and snow removal by the 953 is required.
   E. The processing-side freezer units are ops-normal.
   F. One of our two generators sustained a critical failure Saturday night. Some of the parts necessary for repair have been located in McMurdo. Camp staff, Science Techs and I have put in place a plan for getting the core into the basement in the case of failure of the second generator. We are working to enable an alternative power source for the gantry which would be critical for this evolution. I will work with Camp and McMurdo to enable a cold deck this week instead of next. I am currently sleeping in the Arch Jamesway and have an alarm rigged to wake me if the power goes out. I can also hear the generator from that location. Enhanced radio comms are being kept as well.
   G. Jeff Severinghaus presented a talk at our Monday Night Science Series.
   H. Dean (Camp Manager) is spending a few days in McMurdo in order to plan the WSD Camp closing and pull out.

IV. Drill Depth and Time

A. Work has begun to configure the replicate coring drill. No core was obtained.

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

A. N/A

VI. Status of Borehole Logging

A. The Borehole loggers finished their repeat logging on Wednesday, on schedule. All three tools (temperature, optical and sonic) were used to log the additional 71 meters of the main borehole.

VII. Other

A. The Science Techs and I packed 24 boxes of ice core, made up skids and built up AF pallets for retro to McMurdo.

B. The winds continued this week unabated. Low visibility caused the cancelation or diversion of numerous flights, including the flights that were scheduled to take our borehole logging team back to McMurdo.

C. Safety continues to be a primary focus of all residents at WAIS Divide. Storm cleanup has become a continuous and most difficult task.

D. I have started working with Camp Staff to schedule retro of several items; ice core, the winch, and equipment and supplies that will not be needed in subsequent seasons at WSD (for example, triwall boxes of rubber mats and office supplies, and any excess BFC equipment I can find)

E. The flies for the SCO Arctic Oven Tents have numbered days. Sun damage combined with persistent snow drift have resulted in damage to many of the tent flies. I suspect the sun damage will make it difficult to repair the flies in the field. The tent bodies seem to be holding up, and I have observed no damage to tent poles.

F. J. Johnson, 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.

SITREP 9, January 15, 2012, Day 54 at WSD

Donald Voigt, Chief Scientist, WAIS Divide
Written at WAIS Divide

I. Passenger movements
   A. SCO
      1. The borehole logging team departed on D021, 9 Jan; Anandakrishnan, Peters, Waddington, Kluskiewicz, Bay, Greschke, along with Severinghaus.
   B. IDDO
      1. Mortensen arrived on D021, 9 Jan.; Hansen arrived on D022, 10 Jan. Dahnert and Sendelbach departed on D021

II. Cargo Movements
   A. Cargo arriving from CONUS
      1. N/A
   B. Cargo retro to McMurdo
      1. Assorted office supplies, steel tables (to NICL), rubber mats (to Science Construction), cargo for borehole logging events. Other items are being staged for retro.

III. Camp Activities
   A. Current camp population, 33, 8 T-350, 4 I-477, 1 I-168, 16 RPSC, 4 NANA; All is well.
   B. With the borehole logging evolution completed, the loggers departed after several weather delays.
   C. The Pisten Bully is up and working again.
   D. Missed in last week's report; Voigt, Morton, Wong and Mitchell (all Wilderness First Responders) attended a half-day emergency services training session held by the camp's NP. We discussed the Emergency Medical Services response at WSD and our role in it, refreshed on C-collar and spine stabilization, looked at available EMS equipment and its location and took part in a training drill.
   E. A second EMS drill was held on 1/12. Participants included camp staff NP, EMTs, WFRs plus Wong, Voigt, and Mitchell. These exercises have helped us gel as an EMS team and pointed out weaknesses and strengths in our ability to respond to a medical incident. In previous years one mass-casualty was held and there was no prior preparation or followup. This season is a good model for how camp staff and science event members can work towards providing a well trained and competent Emergency Medical Services response team.

F. The processing-side freezer units are ops-normal.
G. Due to the failure of one generator the date of our cold deck was advanced in order to assure the safety of the ice core.
H. John Fegyveresi and Gifford Wong presented a talk at our Monday Night Science Series.
I. Dean returned from McMurdo with the plan for camp closure and pull-out.
J. Deborah Roth, our RPSC POC for the drilling project, came out to spend a few days observing the operation at WSD. She was able to tour the arch and town and spend time talking to camp staff, IDDO and SCO personnel. Deb was scheduled to return on the cold deck. She will be spending the weekend at WSD.
K. Dawn Needham, Field Camp Operations Supervisor, arrived on the outbound cold deck to visit camp and observe operations.
L. A SAR (missing person) exercise was held by camp personnel on 1/14. I observed and was victim in an added on medical scenario. Camp response to both parts of the drill were excellent and the effort was well worth the time spent.

IV. Drill Depth and Time
A. Work has begun to configure the replicate coring drill. No core was obtained.

V. Status of Borehole Logging
A. Borehole logging is on standby until the deviation has been started.

VI. Cold Deck
A. Our cold deck was pushed up because of the failure of one generator and the concern for the safety of the ice if the second generator failed. The flight was scheduled for 2300 on 1/12 and arrived at 2255
B. Weather forecast for McMurdo was checked at 2230 and indicated conditions improving by 0300 for the return flight.
C. Weather at WSD was perfect for a cold deck, -22°C at 2200, -19°C during the loading evolution, overcast with light winds.
D. Cabin temperatures were 24°F at 7 feet, 21°F at the floor at 2230.
E. The first AFP left the arch at 2210, the second at 2230.
F. The first AFP was loaded at 2300, the second at 2310.

G. Our returning pax was not permitted to board. The reason given was that there were no aisle on the pallets. We configured the ice core skids in the same orientation as last season when this loading plan permitted pax to fly with ice core. Fixed Wing and the ANG knew we were planning to send a passenger back on this flight ahead of time and the decision seemed arbitrary. As there is no requirement for the core to be accompanied, it was hard to argue that a person was "required" to travel with the core.
H. The flight held at WSD because of a new TAF (forecast) showing deteriorating conditions at McMurdo around their time of arrival. Consideration was given to pulling the AFPs off the Herc and returning them to the Arch. Cabin temperatures were monitored and observed to be holding at the values reported on approach (the ramp was kept open and outside air temp was -21°C at 0015). The pilots determined that return to McMurdo was probable and the flight was off deck at 0030 arriving McMurdo at 0350.
I. Transportation of the ice was prearranged with Science Cargo and they completed the evolution around 0630 on 1/13
J. The decision to send the core is never straight forward. Factors other than those discussed in the "Temperature Specifications for Air Transport of Ice Cores" document often come into play. If we had two working generators and the weather had been warm and sunny I probably would have returned the core to the Arch and tried another day. How to evaluate the probability of a return to McMurdo should be clear cut, but without pre-established lines of communication to the flight crew it is hard to know what they are thinking. Shortly after a radio call to the aircraft asking their intentions, and during our evaluation of their answer, the engines were reved up and it was clear the flight crew had decided to depart. There will always be a measure of uncertainty in the decision to send the core. The best we can do is evaluate all of the factors, even those not outlined in the document, and base our decision on that.

VII. Other

A. The Science Techs and I completed the second AFP of ice core boxes with an eye towards a cold deck on Thursday.
B. Wong finished his science project, collecting 9 shallow cores and sampling a snow pit. These samples were included in the cold deck.
C. Five Arctic oven tents were dried out and repaired in preparation for winter over.

D. Safety continues to be a primary focus of all residents at WAIS Divide. The medical and SAR drills held this week have heightened camp personnel's situational awareness and our ability to respond to an emergency.
E. J. Johnson, 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 are addressed as necessary.

SITREP 10, January 22, 2012, Day 61 at WSD

Donald Voigt, Chief Scientist, WAIS Divide
Written at WAIS Divide

I. Passenger movements
   A. SCO
      1. John Fegyveresi departed WSD for home on 1/17, D024. This was earlier than scheduled but I felt it unnecessary to keep three Science Techs at camp for the remainder of the season.
   B. IDDO
      1. None

II. Cargo Movements
   A. None. Received a tankers with fuel but had only one cargo flight this week.

III. Camp Activities
   A. Current camp population, 29, 8 T-350, 3 I-477, 1 I-168, 12 RPSC, 5 NANA; All is well.
   B. The processing-side freezer units are ops-normal.
   C. One 225 kW gen is still down and will not be repaired before the EOS.
   D. All heavy equipment is working, the D-4, 953, Tucker and Pisten Bulley.
   E. Camp has started preparations for close-out. The carpenter crew arrives on Wednesday of the coming week. Dean, Jay, Gary and I have worked on a schedule to accommodate the continuation of drilling while also getting ready for our departure and the breakdown of camp structures. We are hoping that proper planning will constrain the rush that often accompanies the arrival of the carps.
   F. Stephan Hansen presented a talk on NEEM at our Monday Night Science Series. This will conclude our series for the season.
   G. I was able to spend some time talking with Deborah Roth and Dawn Needham about this year's camp, future plans for WAIS Divide and field camp operations in general.
   H. Our GOES satellite system is scheduled to come down on Thursday, 1/26. Today's will be the last regular Situation Report I send from WAIS Divide. I am scheduled to leave WSD on Monday, 1/30. Please begin adding my regular address, dev2@psu.edu to all emails so I am sure to receive them.

IV. Drill Depth and Time
   A. Work has continued on the replicate coring drill. No core was obtained.

V. Status of Borehole Logging

A. Borehole logging is on standby until the deviation has been started.

VI. Other

A. E. Morton and M. Jayred set up the Eclipse drill and finished drilling the new WDC12A hole to 121.5 meters. The hole was cased for the top two meters, the casing extending to 2 meters above the current snow surface. An additional 1.5 meters of casing is being stored in the Arch for extension in the future. Before we cased the borehole, I checked with Dean Einerson, Cindy Dean (Environmental) and Julie Palais to ensure that this was covered under our environmental permitting.

B. Wong and Mitchell completed a three walled snow pit to examine current accumulation patterns and to measure densities in the top two meters. Our hope is to eventually correlate all of the snow pit maps and density measurements that have been collected in past seasons.

C. The Science Techs spent a day cleaning the processing side of the Arch in preparation for pack-up.

D. Safety continues to be a primary focus of all residents at WAIS Divide. In our End of Week meeting Dean stressed the importance of continued vigilance over the coming weeks as the season draws to a close. He stressed that Camp Staff get the rest they need to avoid becoming fatigued. It is important that people work together and communicate well to avoid injuries. It is also important to avoid “non-event feedback” when something is done that could have resulted in an accident, but didn’t, and complacency sets in. Throughout the season Dean has asked that I attend the End of Week meeting each Saturday in my role as Chief Scientist. This has been a positive step in making Science part of Camp and Camp part of Science.

E. J. Johnson, 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 are addressed as necessary. Repairs were made to a safety light knocked down when the big doors were opened. The Science Techs are maintaining the processing side of the Arch, trying to keep up with the artificial snow that the freezer produce. Accumulation of snow makes the floors slippery. Since we are not processing core now and don’t have shifts in the Arch, it is easy to let this task slip.

F. It is the time of the season where everyone starts to slip physically. There are many comments that we are all having a difficult time staying warm. However, morale is high among Science and Camp Staff alike and all hands are working hard for a strong finish to an excellent season.

SITREP 10.5, January 25, 2012, Day 41 at WSD

Donald Voigt, Chief Scientist, WAIS Divide
Written at WAIS Divide

I. Passenger movements
   A. SCO
      1. G. Clow returned to McMurdo on 1/23.
   B. IDDO
      1. S. Hansen returned to McMurdo on 1/23.

II. Cargo Movements
   A. Retro cargo is streaming to McMurdo. We received the AFP blankets back from town along with the temperature loggers from the cold deck (see below).

III. Camp Activities
   A. Current camp population, 29, 7 T-350, 3 I-477, 14 RPSC, 5 NANA; All is well.
   B. Julie Palais, Lindsay Powers (RPSC Planning) and Sonia Esperansa (NSF AISS Program Manager) arrived for a turn-around tour of camp. We managed a quick tour of the Arch and they had a change to see the replicate coring drill on the tower.
   C. The processing-side freezer units are ops-normal.
   D. One 225 kW gen is still down and will not be repaired before the EOS. It will be brought down as soon after drilling as possible. Town will be powered from the 40 kW generator.
   E. All heavy equipment is working, the D-4, 953, Tucker and Pisten Bulley.
   F. Camp has started preparations for close-out. The carpenter crew arrives Wednesday, 1/25.
   G. Our GOES satellite system is scheduled to come down on Thursday, 1/26.
   H. The Logging and Arch Jamesways have been emptied and dug out and are ready to come down.

IV. Drill Depth and Time
   A. Work has continued on the replicate coring drill. No core was obtained.
   B. The borehole camera is working now. Images of the region around the deviation were obtained. Nothing was seen that indicates a problem that would stop work on the deviation.

V. Status of Borehole Logging

A. Borehole logging is on standby until the deviation has been started.
B. The winch power was rerouted directly to the winch tent so the logging Jamesway can be brought down.

VI. Other

A. Temperature loggers from the cold deck indicated a very successful evolution. Loggers on the top of the forward pallet, on the outside of the blanket showed temperatures staying between -9° and -10° C for the duration of the flight. Temperature spikes occurred on loading and unloading the aircraft but never exceeded -3° C for more than 30 minutes.
B. Position of WDC12A borehole is 79° 27.86' S, 112° 06.69' W.
C. Jay Johnson and I are planning to request a joint out-brief with RPSC/NSF upon his arrival in McMurdo. I will set that up when I arrive in town.