

# SITREP 5, December 16, 2012; Day 24 at WAIS Divide

Donald Voigt, SCO Rep., Chief Scientist at WAIS Divide

- I. Passenger movements
  - A. SCO
    - 1. None
  - B. IDDO
    - 1. Mike Jayred returned to McMurdo for a medical issue on D016...
    - 2. and returned to WSD on D017 the next day.
- II. Cargo Movements
  - A. Cargo arriving from McMurdo
    - 1. ISC boxes with tubes arrived on D016
    - 2. Ice core tubes; Michael Davis will ship 40 ISC boxes with 200 4.5 inch ID core tubes and hold 50 4.5" ID core tubes in reserve.
- III. Camp Activities
  - A. Current camp population; 45 total. 10 T-350, 1 I-476, 4 I-477, 10 G-079 (PoleNet), 17 ASC, 3 T-500 (KBA).
  - B. Saturday Safety meeting; After the camp End-of-week Review, we held a SAR exercise combined with a medical scenario.
  - C. All three access doors to the Arch are open. Grooming is ongoing.
  - D. Krissy Danhart and Elizabeth Morton (IDDO Safety Officer) presented an overview of Arch Safety to all Arch personnel including members of I-476 and I-477 on Monday and Tuesday.
  - E. Camp continues to be kept organized and looking great.
  - F. The skiway is in excellent condition.
  - G. The second 225kW generator is still down. No timeframe for completion of repairs. We are still waiting for parts. As of Saturday, the correct parts might be on continent. Evidently the parts ordered before the season started were correct by the manual, but the actual generators are a slightly different model.

- H. On Wednesday the main breaker on the working generator arced and melted shutting power to camp down. The drill was on the way to the surface and was secure. All IDDO systems on battery backup were brought down since we had no idea of the severity of the damage. Power was restored in an hour and 15 minutes and operations were resumed. Efforts to have two working generators onsite continue.
- I. On Thursday I called a meeting with Jay Johnson, Kaija Webster, Terry Jordan (Camp Mechanic) and Roxanne Hogenson (Camp Electrician) to discuss the response to a future shut-down of the main generator. My concern is that if we were to lose power while the drill was coring the potential exists for the drill to become stuck. Jay estimated that this could happen within 30 minutes, but that is an educated guess. It was agreed that Terry and Roxanne would prepare the 40 kW generator such that it could restore power to the Arch sufficient to bring the drill out of the hole. At that point other steps could be taken to resume operations, but the critical step is to get the drill up.
- J. We lost power again on Saturday. The the main generator was restarted and running normally within 45 minutes. Again, the drill was in a stable configuration and drill operations resumed immediately. We think the shut down was due to an interaction of the switch gear (used for switching between generators) and the controls for the working generator that stem from there being only one supply of power to the switch gear. Timing of the shut-down was awkward, just as people were between tent city and town at 6AM. This led to a longer response time.
- K. The freezers are running normally and temperature has reached  $-25^{\circ}\text{C}$  to  $-28^{\circ}\text{C}$ . Trays are emptied every 8 hours.
- L. During examination of the basement beneath the processing side of the Arch it was determined that in the case of a power failure the cart rack could not be used to lower carts of ice to the basement. Any ice that needed to be transferred to the basement would have to be packed in boxes and moved around the basement by hand. The floor of the basement has bulged too much for a cart or pallet jack to be used.
- M. Work on preparation of the processing line continues;
  - 1. Transfer table controls installed

2. Balluff (laser measurement system for ice core) was set up and calibrated
  3. O<sub>2</sub> Monitor installed
- N. The Science Techs trained on the procedures for logging core.
- O. We assisted Ross in the set-up of his equipment to be used for the Severinghaus experiment sampling fugitive gasses

IV. Drill Depth and Time

A. N/A

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

A. Broaching proceeded successfully. See the IDDO report for details.

B. Logging tool test; A successful Logging Tool Test was run at about 1/3 the full depth of the deviation.

C. Camera runs proved invaluable (see photos sent during the mid-week update) for determining the effectiveness of the broaching and milling tools. The new light source works very well.

VI. Flights;

Tuesday; D016 CNX due to McMurdo weather

Thursday; D016 brought cargo and fuel

Friday; D017, cargo fuel and two pax.

VII. Other

A. John Fegyveresi and Brad Markle have been working on their side projects while we were waiting for core. Emily Longano has been assisting.

B. Terry Wilson (G-079, PoleNet) gave a Wednesday evening science talk that was well attended.