

**NEEM - SITREP no. 15, Sunday August 3, 2008.**

This SITREP covers the period July 28 – August 3, 2008 (inclusive).

**Movement of personnel:**

- 28th July: Timothy Burton (UK) from CPH to SFJ by SAS/Air Greenland.
- 28th July: Sverrir Hilmarsson(IS), Lars Berg Larsen(DK) and Anders Svensson(DK) to NEEM from NGRIP by traverse.
- 28th July: Dennis Sundermeyer(US), Carl Leuschen(US) and Keith Lehigh(US) from Schenectady to SFJ by 109<sup>th</sup> LC-130.
- 29th July: Elizabeth Elliott(AUS) from Ilulissat to SFJ by Air Greenland.
- 31st July: Connie Hedegaard(DK-DV), Kim Kielsen(GRL-DV), Håkan Ludvigsson(S-DV), Ian Parker(UK-DV), R.K.Pachauri(IND-DV), Thomas Sinkær(DK-DV), Klaus Bock(DK-DV), Nils O.Andersen(DK-DV), Jette Andersen(DK-DV), Katherine Richardson(US-DV), Stuart Bell(US-DV), Robert Hemenway(US-DV), Thomas Friedman(US-DV), Ann Friedman(US-DV), Bryan Walsh(US-DV) and Raj Chengappa(IND-DV) from SFJ to NEEM by 109<sup>th</sup> LC-130.
- 31st July: Trine Dahl-Jensen(DK), Jens Peter Rövekamp(CH-TV), Laurin Merz(CH-TV), Ramon Orza(CH-TV), Chiara Uglietti(I), Henry Rufli(CH), Jakob Schwander(CH), Olivier Alemany(F), Thomas Beck(CH) and Vas Petrenko(US) from NEEM to SFJ by 109<sup>th</sup> LC-130.
- 1<sup>st</sup> August: Timothy Burton(UK), Elizabeth Elliott(AUS), Dennis Sundermeyer(US), Carl Leuschen(US) and Keith Lehigh(US) from SFJ to NEEM by 109<sup>th</sup> LC-130.
- 1<sup>st</sup> August: Connie Hedegaard(DK-DV), Kim Kielsen(GRL-DV), Håkan Ludvigsson(S-DV), Ian Parker(UK-DV), R.K.Pachauri(IND-DV), Thomas Sinkær(DK-DV), Klaus Bock(DK-DV), Nils O.Andersen(DK-DV), Jette Andersen(DK-DV), Katherine Richardson(US-DV), Stuart Bell(US-DV), Robert Hemenway(US-DV), Thomas Friedman(US-DV), Ann Friedman(US-DV), Bryan Walsh(US-DV), Raj Chengappa(IND-DV), Anders Svensson(DK), Christian Panton(DK), Hans Peter Moret(CH), Lars Berg Larsen(DK), Simon Sheldon(DK), Theo Jenk(DK), Thomas Blunier(DK), Thomas Stocker(DK), Todd Sowers(US), Valerie Masson Delmotte(F), Steffen Bo Hansen(DK) and Sigfus Johnsen(IS) from NEEM to SFJ by 109<sup>th</sup> LC-130.
- 1<sup>st</sup> August: Jakob Schwander(CH), Chiara Uglietti(CH) and Thomas Beck(CH) from SFJ to CPH by Air Greenland.
- 2<sup>nd</sup> August: Anders Svensson(DK), Hans Peter Moret(CH), Lars Berg Larsen(DK), Simon Sheldon(DK), Theo Jenk(DK), Thomas Blunier(DK), Thomas Stocker(CH), Steffen Bo Hansen(DK) and Sigfus Johnsen(IS) from SFJ to CPH by Air Greenland.
- 2<sup>nd</sup> August: Vas Petrenko(US) and Todd Sowers(US) from SFJ to Schenectady by 109<sup>th</sup> LC-130

**Movement of Cargo:**

- 28<sup>th</sup> July: 600 kg food from Schenectady to SFJ by 109<sup>th</sup> LC-130.

- 28<sup>th</sup> July: Approx 15000 kg fuel, Caterpillar loader, snowmobiles, and various materials from NGRIP to NEEM by traverse.
- 31st July: 6920 kg drill fluid, gratings, food and spare parts from SFJ to NEEM by 109<sup>th</sup> LC-130.
- 31st July: 1200 kg ice core samples and gas equipment from NEEM to SFJ by 109<sup>th</sup> LC-130.
- 1<sup>st</sup> August: 8009 kg Kansas radar, fuel tank, lumber and drill fluid from SFJ to NEEM by 109<sup>th</sup> LC-130.
- 1st August: 3050 kg air sampling equipment and DK shallow drill from NEEM to SFJ by 109<sup>th</sup> LC-130.
- 2<sup>nd</sup> August: 600 kg U.S. firn gas equipment from SFJ to Schenectady by 109<sup>th</sup> LC-130

### **Camp Activities:**

During the week work has continued on the outside of the main dome. The rubber cover has now been fastened to the outside. Now only finishing by gluing the rubber sections together is needed. In the drill trench, the excavation of the 8.3 m deep inclined trench has been completed and stairs have been carved out in the trench for access. Some work has also been put into straightening out the walls of the drill trench. The science trench has been cleared for excess snow and the core buffer is now ready to receive 240 core troughs. The Toyota on Matrax has been made ready for the Kansas radar crew. On Monday at 14:00 the traverse came back to NEEM after a successful trip. They had performed remeasurement of the 2007 strain net and brought with them a lot of cargo from NGRIP, including the 8 ton Caterpillar loader and some fuel. A major event was the Distinguished Visitor trip on Thursday and Friday, which culminated with the 96% solar eclipse Friday morning at 7:30. The visit went well and both the Thursday and Friday planes were permitted by weather to fly on schedule. The planes also brought with them the final resupply for this season and brought out all samples and equipment from the firn air experiments. The satellite firn air drilling site has been closed and all equipment and structures have been brought back to camp.

### **Drilling:**

Drilling at the firn air site has been completed. Three bore holes have done. The Danish shallow drill has been returned to Kangerlussuaq for overhaul in Copenhagen before it is sent to Antarctica this winter. In the drill trench, the winch has been mounted in place as well as the base of the deep drilling tower. A 10 m hand augered core will be drilled outside the drill trench to ensure continuity all the way to the top of the NEEM main core. Besides from this there will be no more drilling this year, but the team continues mounting deep drilling equipment and installations in the drill trench.

### **Science:**

The processing of the firn air ice cores S2 and S3 has been completed. The age of both cores is around 350 years at the bottom. ECM has picked up volcanic markers from Katmai 1912, Krakatau 1887, Tambora 1815 and Laki 1783. The melt layer of 1889 is seen in both cores. Both cores have been sampled for isotopes at 2.5 cm resolution all the way to the top.

The Firn air project has been successfully completed by Wednesday. A total of approx. 400 air samples have been collected from over 20 depth levels in the S2 and S3 holes. An additional hole (S4) has been drilled to 60 m to collect 8 high volume samples.

The air lock-in zone at the NEEM site extends roughly from 62 to 80 m. The lowest samples have been obtained at 78 m depth with a CO<sub>2</sub> concentration of 312 ppm.

The temperature profile has been extended to 80 m in the S2 hole. It confirms the warming trend from -29°C to -28°C between 80-m and 10-m depth.

The two sampling sites have been taken down. All firm air equipment and samples have been retrograded to Kangerlussuaq.

The CReSIS radar team arrived to camp this week and have set the radar up together with a GPS system and a computer system to pre-process data. Test runs have been made in the camp and the team is ready to mount all equipment in the Toyota for the planned measurements.

**Weather:**

Weather all week has been mostly overcast, with winds at 2 – 8 m/s from SW. Temperatures from -5 C to -12 C. 30 minutes before the culmination of the solar eclipse the sky cleared, and clouds reappeared 30 minutes after the eclipse. This gave spectators an experience of several beautiful phenomena due to the sudden 4 C temperature drop from the eclipse: Haloes, diamond dust and rare colours.

**Camp population: 15**

In Kangerlussuaq, weather has been dry and warm up to 22 C.

NEEM Field operations office,

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