

TO EGRIP STEERING COMMITTEE MEMBERS, DANISH AND GREENLANDIC AUTHORITIES.

Expedition Permit C-18-5 EGRIP – SITUATION REPORT (SITREP) no.11, Sunday 08 July 2018

This SITREP covers the period July 02 – July 08, 2018 (inclusive).

Movement of personnel:

- 02. July:** Nicolas Rathmann (DK), Eliza Cook (UK/DK), Alexandra Mirjam Zuhr(D), Damiano della Lunga (D), from Kangerlussuaq (SFJ) to CPH by Air Greenland.
- 07. July:** Iben Koldtoft (DK), From CPH to Kangerlussuaq (SFJ) by Air Greenland.
- 08. July:** Tobias Zolles (N), Marie Kirk (DK), from Kangerlussuaq (SFJ) to CPH by Air Greenland.

Movement of cargo:

- 04. July** Royal Arctic Line /51 cll / 1.491 kg /Firn Air Campaign: NIPR, CIC, IMAU, LGGE, LSCE, and SNU, from Kangerlussuaq (SFJ) to Aalborg and from there to the respective countries.
- 06. July** (AWB- 631-2745-3112) /6 cll / 370kg / Norwegian DV cargo returned to Norway.

EGRIP camp activities:

Activities at EGRIP included main core drilling operations, RADIX drilling preparations, ice core processing and measurements, water vapor and surface monitoring.

Drilling:

Drilling from 1291.54m to m 1360.73m (drillers' depths) of main core. Drilling of pilot hole and casing installation at RADIX drill site.

Main core drillers report for 27/6 to 8/7:

After successfully running the NEEM drill electronics for 5 days due to refurbishments of the EGRIP gear section and motor, the drilling could continue with the EGRIP setup. A deadweight is installed at the top of the drill in order to improve travel speed down hole. In order to increase production rate even further, the most efficient cutting mode is to be found. This is done by changing cutting pitch, rotational speed of cutters and nature of cutters - changing one parameter at the time. During this process the electronics and motor are pushed to the limit, thus revealing the capabilities of the system. The limiting factors being the available electrical current, and the temperature of the electronic section.

Traditional DML cutters are tested with pitches of 2.8 mm to 3.5 mm with cores successfully recovered. The last known working configuration of step cutters (pitch ~1.5 mm) are used in between reconfigurations. Step cutters with pitches from 2.5 mm to 3.5 mm are to be tested during the coming days. After 3 days of drilling, 14 filter runs were completed, recovering ~450 kg of slush from the hole. After several days of testing drill head configurations, another 6 filter runs were completed. Fine slush is suspected to be generated while traveling with our (compared to last year) longer drill at depths with steep changes in inclination.

Drilling status: 1263.75 m to 1360.73 m for a total of 96.98m. Drill fluid used, approx. 18.6 L/m estimated.

During the coming days an optimized stable production using step cutters, a steeper cutting pitch and having reduced chips loss is expected to be found. Furthermore, as production seems to be hindered due to necessary filtering runs, a filter team has been formed to filter the hole in between drilling operations.

Science:

Processing of main core from 1218.25m to 1337.05m and logging of main core from 1303.53m to 1371.76m. Physical properties measurements from 1185.80m to 1328.80m and CFA isotope measurements from 789.25m to 864.05m.

Surface measurements of water vapor and surface snow sampling continued throughout the period.

Monitoring of snow crystals and surface albedo.

EGRIP Camp Population: 33

EGRIP iridium numbers:

Primary no.: +8816 7776 2837

Iridium Open port, field leader

Secondary no.: +8816 7776 2838

Common phone, main dome

Third no.: +8816 7776 2839

Handheld satellite phone

Link to webcam and weather station: <http://alice.egrip.camp/>

Weather at EGRIP:

Weather at EGRIP was mainly nice and sunny with temperatures between -20C and -1C. Winds were mostly from westerly directions and the wind strength generally modest, always below 13kt, with periods of complete calm. Brief periods of NE winds were associated with a few modest precipitation events and overcast conditions.

Kangerlussuaq activities:

Driving PAX to the airport, returning rental cars, sorting out and washing laundry coming back from EGRIP, cleaning up KISS, paperwork and the warehouse after the busy flight period. Preparing to hand over the next flight period to the next FOMs, making PAX and cargo planning and preparing the upcoming PAX manifests. Picking up the Black Ford from the mechanic and getting it registered. Handing over to Iben in the weekend. Start preparing the first pallet for next flight period. Start cleaning in the containers.

Weather in Kangerlussuaq/SFJ:

A few sunny days, but mostly overcast and rainy days. Still a lot of mosquitoes around. Temperatures between 6 and 18 degrees.

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