DANMARKS OG GRØNLANDS GEOLOGISKE UNDERSØGELSE RAPPORT 2011/105

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Cruise Report - R/V Paamiut 20th to 26th June 2011

Tove Nielsen, Troels Laier, Naja Mikkelsen
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1. Introduction and Objectives.

The cruise was conducted as part of the marine component of the Geocentre project "*Impact on permafrost, gashydrates and periglacial processes following climate changes in Greenland*" (Permagas)

The overall objective of the Permagas project is to study the impact of global climate change on permafrost and gashydrates in the Disko Bay area and to link the marine and terrestrial occurrences of gas emissions. The project is divided into three work packages (WP), where WP2 covers the marine part.

The heading of the Permagas WP2 is 'Gashydrates and methane studies offshore Disko', and the objectives of the package are (a) to compile and re-examine existing data in order to map the occurrence of likely gashydrates in the offshore Disko area, and (b) to verify through fieldwork the occurrence and nature of gashydrates in the offshore Disko area.

To partly meet these objectives, the present cruise with the Greenlandic research vessel R/V Paamiut was planned for the period 20 – 27 June 2011. The ship was made available at a reduced cost while performing the Permagas field investigations at night during the annual fishery scientific survey by the Naturinstitutet in Nuuk. Given the limited time sediment sampling and onboard geochemical sub-sampling were prioritised for this cruise. Based on prior desk study of existing data, four areas were selected for sampling (Fig. 1).

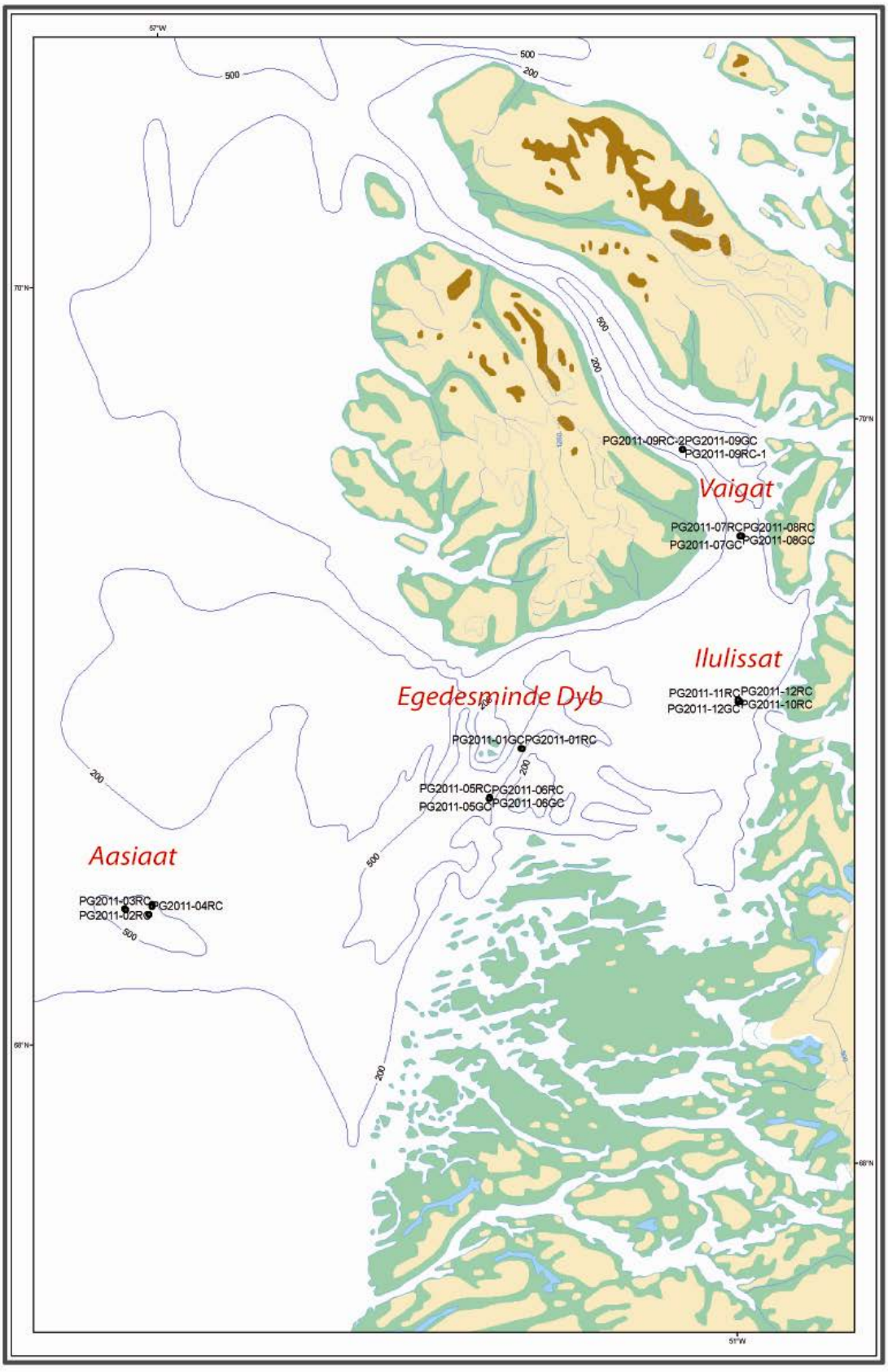

Figure 1. Permagas WP2 sampling sites with the 4 study areas noted in red. Sampling label: PG2011-xxGC = gravity core on site xx; PG2011-xxRC= corresponding Rumohrlot core on site xx.

2. General survey information

Due to fog, the start of the cruise was postponed from the 20th to the 21th of June. The 5-nigths survey started at the ships departure from Aasiaat (West Greenland) Tuesday the 21th of June 2011 at 20:00 hrs (local time), and ended on Sunday the 26th of June 2011 at 09:00 hrs (local time) in Ilulissat (Disko Bay). During the daytime of the 26th of June, additional geo-chemical measurements were done on some of the retrieved sediment sub-samples while the ship was in port.

Our night-time sampling survey was planned in cooperation with the chief scientist of the day-time fishing survey (Nanette Hammeken, Greenland Institute of Natural Resources (GINR)). The survey was favoured by very good weather conditions throughout the period with almost no wind and only light swells. Due to the presence of a large quantity of icebergs, a planned coring site within the landward part of the Ilulissat study area was cancelled (Fig. 1). No major technical problems or navigation errors occurred during the 5 nights of surveying.

A total of 11 gravity cores and 13 Rumohrlot cores were acquired and 1 CTD (conductivity-temperature-depth) cast performed.

2.1 List of Permagas - WP2 participants

Tove Nielsen (chief-scientist, GEUS)
Troels Laier (scientist, GEUS)
Naja Mikkelsen (scientist, GEUS)
Jakob Bruun Kristensen (student, KU)

2.2 Survey journal

All following indications of time refer to local Greenlandic summer-time that was 2 hours behind UTC. Location of mentioned study areas is shown on Figure 1.

A list of retrieved sediment cores and CTD cast is shown in Table 1. Sub-sampling of sediment and pore-water for geo-chemical investigations were done on 8 gravity cores and 9 Rumohrlot cores immediately after retrieval of the cores on deck - see Table 2. The remaining core material was sealed and stored for post-cruise geological investigations.

Night 1 (21-22/6): Departure from Aasiaat ca. 21:00 hrs. Take 2 CTD for GN on transit to Egedesminde Dyb area. Acquired gravity core PG2011-01GC; problems with GEUS's meter counter on the gravity corer wire. Attempts made with 2 m Rumohrlot corer without successes. Start steaming towards GN next position at 04:45.

Night 2 (22-23/6): Transit to Aasiaat sampling area started at 18:00 hrs with arrival at 20:10 hrs. Acquired gravity cores PG2011-02GC and -03GC, and Rumohrlot cores PG2011-02RC, -03RC and -04RC. GEUS meter counter out of order, i.e. distance markers on wire used for the rest of the survey to estimate lowering depth of gravity corer. Stopped around 05:00 hrs and started transit to GN site.

Night 3 (23-24/6): Transit to Egedesminde Dyb area started at ca. 17:00 hrs with arrival at 18:55 hrs. Acquired gravity cores PG2011-05GC and -06GC, and Rumohrlot cores PG2011-01RC, -05RC and -06RC. Performed CTD-21 cast using the GN equipment, and following their number system. Stopped at 04:00 hrs and started transit to GN site.

Night 4 (24-25/6): Transit towards Vaigat area started around 17:00 hrs, arrival at site 18:30 hrs. Acquired gravity cores PG2011-07GC, -08GC and -09GC, and Rumorhlot cores PG2011-07RC, -08RC and -09RC-1&2. A new deck procedure was introduced for retrieval of the gravity corer on deck to avoid backwards tipping of the core. Stopped at 03:45 hrs and headed for next GN site.

Night 5 (25-26/6): Start transit towards Ilulissat area at 16:00 hrs. A planned sampling site near land was cancelled due to the iceberg situation and fog. Acquired gravity cores PG2011-10GC, -11GC and -12GC, and Rumorhlot cores PG2011-10RC, -11RC and -12RC. Stopped at 03:00 hrs and headed for Ilulissat. Arrived at port at 09:00 hrs.

3. Methods, Processing and Storage.

To obtain the objective of the cruise, a 6-m long gravity corer system and a 1-2 m long Rumohrlot corer system were used for sediment sampling. For navigation, echo sounding and CTD cast the ships systems were used.

3.1 Navigation.

The positioning was supplied by the ships DGPS navigational system. The position of the coring sites was determined by readings on the bridge at the time the equipment hit the bottom. For the CTD cast the position was noted on the bridge at the immersion and return of the equipment to the sea surface.

3.2 Echo sounding

For detection of water depths and for bottom investigation prior to the sediment sampling, the ships dual-frequency (28 & 50 Hkz) FURUNO Color lcd sounder fcv-1200 L system with hull mounted transducer was used. All data were recorded on the ships sea-map plotter MAKSEA system, but due to a closed file format the data could not be copied. The seabed morphology was therefore visual inspected on the screen during the survey, and subsequently screen-dumps were made of a 3-D visualisation of the echo soundings around the individual sampling sites (see Fig. 2).

3.3 Gravity Coring

For coring a 6-m long gravity corer with an inner liner diameter of 12 cm was used. The corer weights 750 kilo when empty and ca. 1000 kilo when filled with sediments. The system was accommodated on the star board side, next to the trawls from where it was launched and retrieved along the stern of the ship using a hired 14 mm thick and 1000 m long steel wire (Fig. 3). For cores taken with the purpose of geochemical investigations, 22 mm diameter holes were drilled in the core liner (Fig. 4) in order to obtain samples each 25 cm. The holes were sealed with tape before launching the system into the water.

When on deck, the core catcher was sampled first and hereafter the gravity core liner was cut into sections that was sealed and marked and brought to the geochemical lab for subsampling. Sub-sampling of the bottom of each section was performed immediately after the

cutting, prior to sealing of the section (Tables 1 & 2). After sub-sampling for 2-3 hours the holes in the liner were sealed again before final storage of the core.

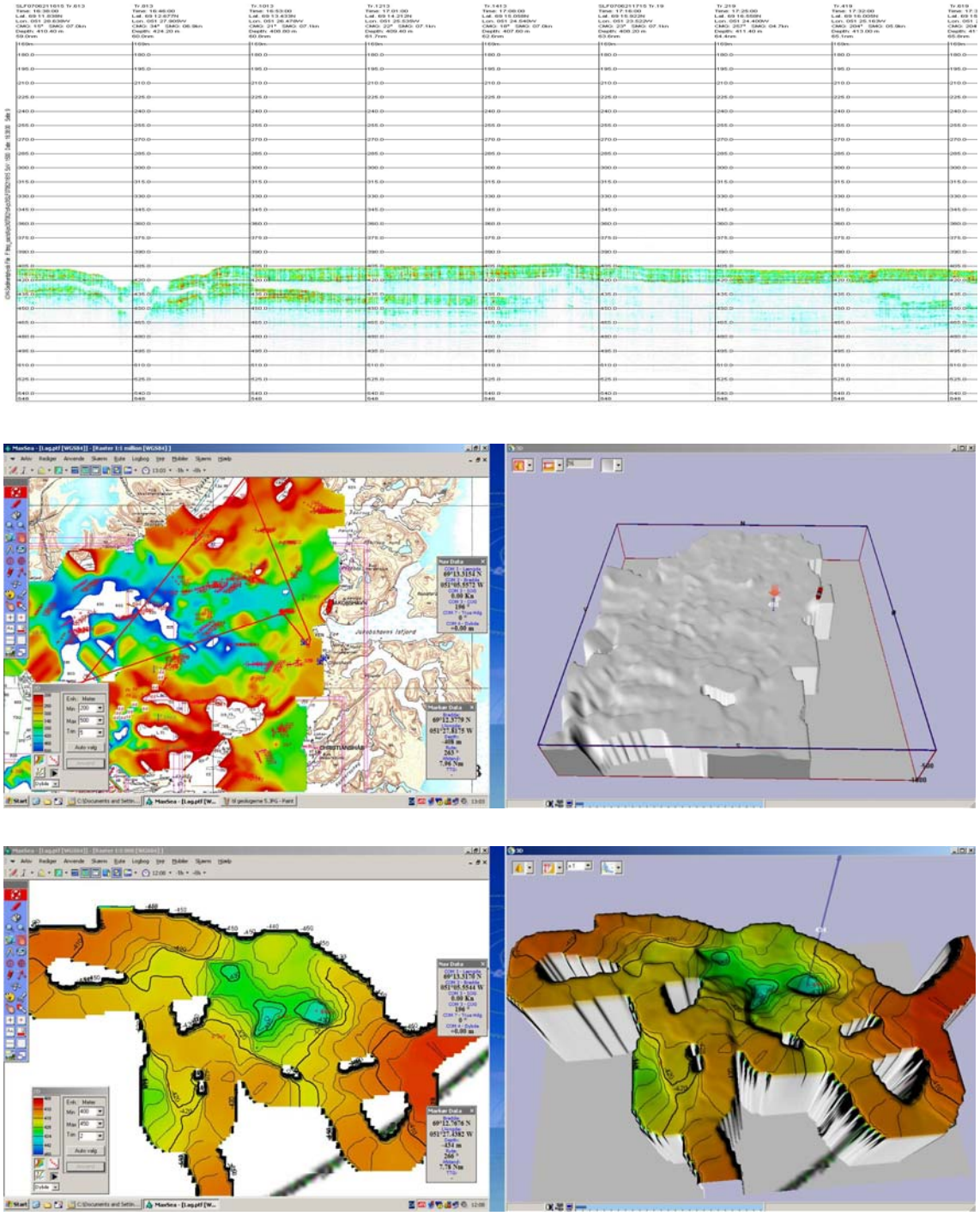

Figure 1. ***Upper:*** **Existing chirp profile from the Ilulissat area showing a pock mark and indication of sub-seabed fluid or sediment flow. A site was planned for sampling inside the pockmark.** ***Middle:*** **2D and 3D maps created from the ships MAKSEA chart plotter system showing all echosounder data collected by R/V Paamiut.** ***Lower:*** **2D and 3 D zoom on MAKSEA map showing the echo sounder data collected in the present survey and the position of gravity core PG2011-12GC inside the pock mark.**

Figure 3. Gravity core on deck immediately after retrieval

Figure 4. Drilling 22 mm diameter holes in liner for geochemical sub-sampling.

3.4 Rumohrlot coring

For undisturbed seabed sediment sampling a 'Rumohrlot' corer system was used. The weight of the corer is 80 kg. The plastic core liner was 75 mm in diameter and the length varied between 1m and 2m. The system was deployed from the port-side of the ship using the onboard CTD wire system (Fig. 5).

Figure 5. Rumohrlot core being launched from the ships CTD platform.

For cores taken with the purpose of making geochemical sub-sampling, 22 mm diameter holes were drilled at a distance of 10 cm along the length of the liner, and sealed with tape before launching the system into the water. When on deck, these cores were sealed and labelled and taken to the laboratory deck for geochemical sampling. Before the final sealing and storage, the top 2cm seabed sediments was sampled and preserved with Bengal Rosa diluted in 70 % Ethanol.

3.5 Geochemical sub-sampling

3.5.1 Methane concentration

A sediment sample of 3 cc was taken with a 3 mL syringe with the luer tip removed.
The sample was transferred to a 12 mL serum vial containing 3 mL NaOH (2.5 %). After sampling the vial was immediately closed with a thick septum and an aluminum crimp seal Fig. 6).
The sample was shaken thoroughly, left ca.1 h for gas equilibration, and 200 µL of the headspace is taken for methane analysis by gas chromatography, TCD.

The methane peak was quantified by calibration with 0.5% and 99% methane standard gases. The concentration of methane (mM) in the pore water of the sediment sample is calculated as:

$$[CH_4] = \frac{[CH_4]_{Headspace} \times 0.868}{(1 + 0.01[CH_4]_{Headspace})} \times \frac{1}{\Phi}$$

Where Φ is porosity and the factor 0.868 is calculated from the expression: ($V_{headspace}$/ V_{sample})*(*10/24) /0.96*. *V* denotes volumes of headspace and sample respectively, the factor 10 convert vol% $CH_{4(Headspace)}$ to mL/L, 24 is the molar volume of gas at 1 bar and 25 C. 0.96 is the partition factor of methane between headspace and solution.

Figure 6. Sediment in serum vial for methane analysis

3.5.2 Sediment Sampling

Twenty cc of sediment was sampled using a 20 mL syringe with the luer tip cut off (Fig. 7). The sample was transferred to a 30 mL plastic vial and capped with a tight lid. The sediment sub-sample is intended for analysis of water content as well as organic matter content.

A larger quantity of sediment from the bottom of each core were sealed in 100 cc cans for methane isotopic analysis

Figure 7. Sediment sub-sampling

3.5.3 Pore Water Sampling

Pore water samples were obtained using the Rhizon method. Rhizons are prepared by soaking for 2 hours in 10% HCl solution, followed two deionized water rinses. Rhizons are connected to 10 ml disposable plastic syringes.

The Rhizon was carefully inserted in through the pre-drilled hole into the side of the gravity core. Care was observed to ensure that the entire porous tip was in the zone where pore water was to be obtained (not along the rim). A vacuum was applied by pulling out the syringe piston and holding it in place (Fig. 8). The first mL or so of pore water was ejected from the syringe.

After the completion of pore water extraction (0.5 to 3 hours) the syringe was detached from the Rhizon and the volume of water was noted. Any gas in the syringe was pushed out and the syringe and the pore water distributed according to the scheme below.

Figure 8. Rhizon samplers inserted into the various sections of a gravity core.

3.5.4 Pore Water Distribution

Aliquots of pore water are injected directly into a vial (with or without fixative) for various types of analyses to be performed onshore.

Example Pore Water Distribution Scheme

Sulfate/Dissolved Sulfide: 1,0 mL of pore water was injected into a 1.5 mL Eppendorf vial containing 100 µl of 5% Zn(Ac)2 solution and shaken.
Dissolved inorganic carbon (DIC): 2.0 mL of pore water was injected into a 5.9 ml glass (Exetainer) vial. 100 µl of HCl 10% was added and the vial capped immediately, and shaken. Furthermore, the remaining solution after DIC measurement can be used for cation measurements including trace metals, ammonium and phosphate.
The rest of the pore water was transferred to a 6 mL Exetainer vial, capped and stored in the cold until further analysis.

3.5.5 DIC, Dissolved Inorganic Carbon

2.0 ml of pore water is reacted with 0.1 ml HCl in 5.9 ml glass “Exetainer” type vials to release CO_2 from dissolved inorganic carbon, (dissolved CO_2, bicarbonate and carbonate) into the headspace. The CO2 concentration was then measured using a gas chromatograph with a TCD detector.

4. Results

Coring took place in four areas within the Disko Bay, i.e. in the Egedesminde Dyb, off the Ilulissat Icestream, in the southern Vaigat and on the shelf off Aasiaat (Fig. 1).
The coring sites were chosen on the basis of pre-cruise analysis of existing seismic and acoustic data in combination with results from previous seabed sampling surveys During the cruise, the sites were scanned by echo sounder before the coring took place (Fig. 2).

The gravity and Rumohrlot cores were labelled with pre-fix PG2011 (stands for Permagas 2011 survey) and numbered in chronological order with reference to the site number, i.e. PG2011-01GC (gravity core at site 01) and PG2011-01RC (corresponding Rumohrlot core at site 01), etc. A list of all cores is found in Table 1.

4.1 Gravity cores

Generally, the sampled sediments were fine grained and thus penetration of the gravity corer was high. It is likely that over-penetration occurred at some sites where the entire system was covered by mud when retrieved on deck. A total of 11 gravity cores were collected, with a total recovery of more than 50 m sediment (Table 1).

The content of the cores was inferred from inspection of the sediments at either ends of the core sections. The cores taken in the Egedesminde Dyb area (Fig. 1) contained soft, organic rich greenish-black sediments with a smell of hydrogen sulphide. After sealing, the core caps started to bulge out, indicating presents of gas. The cores taken in the Aasiaat area (Fig. 1) contained army-green, stiff silty clay with some smell of hydrogen sulphide. In the Vaigat area (Fig. 1), the southernmost core (PG 2011—07GC) contained stiff light grey clay with a downwards increasing sand content, while the northern one (PG2011-09GC) contained light-grey , homogenious clay with shell fragments and a 1 cm large drop stone in the core catcher. During cutting, the sediment ‘shrunk’ and small holes appeared. The sediments sampled in the Ilulissat area (Fig. 1) were light-grey sandy-silty clay. A weak small of hydrogen sulphide occurred from some of the sections during cutting.

4.2 Rumohrlot cores

13 Rumohrlot cores were recovered from 12 different sites (Table 1). These cores were taken in order to obtain undisturbed samples of the upper 1 to 2 m below the seabed for geochemical investigations and for sediment surface samples for recent fauna studies.

Generally, the surface sediment in the cores consisted of unconsolidated mud with some content of organic matter. Below this, the cores contained mixed sediment of brownish-green clay with a downward increase in consolidation. The sediment recovered by the Ru-

mohr Lot at the two stations at the Ilulissat site appeared to be less consolidated compared to the sub-seafloor sediments at the other sites. Channels more or less continuous were seen along the rim of the plastic liner, making sub-sampling of sediments through the pre-drilled 22 mm holes impossible without draining a considerable amount of water given the vertical position of the core. Though, pore water sampling could be performed inserting the Rhizon through a tiny hole in the tape sealing the hole.

4.3 Geochemical samples

The geo-chemical sub-samples were numbered in chronological order irrespectively of the type of sample. The numbers were listed in a table identifying the type of sample and its exact position with respect to core number and section number including the distance in cm above bottom of the section. Given the information regarding the length of each core (Tables 1-2) the depth below seafloor was calculated for each sample. Finally the table was re-ordered with respect to core number and type. List of all samples are presented in tables 3-19. A total of 246 pore water samples, 185 sediment samples and 161 sediment/gas samples were taken for further analysis onshore.

Figure 9. Selection of sediment sub-samples for geochemical analyses.

5. Summary and concluding remarks

From the late afternoon of June 20th to early morning of June 26th 2011, the Geological Survey of Denmark and Greenland (GEUS) carried out a scientific cruise to the Disko Bay area off West Greenland onboard R/V "Paamiut". Only the night time between 6 p.m. to 6 a.m. was at GEUS's disposal, while the day-time was used by Greenland Institute of Natural Resources (GINR) for fishing investigations.

GEUS's part of the cruise was to collect sediment samples by means of gravity- and Rumohrlot coring to investigate possible presents of gas hydrates in the Disko Bugt area. This was done as part of the marine work package WP2 of the Geocentre Permagas project.

Four areas were selected for investigations, i.e. the 'Aasiaat area', the 'Egedesminde Dyb', the 'Ilulissat area' and the 'Vaigat area' (see Fig. 1). In total 11 gravity cores and 13 Rumohrlot cores were retrieved and 1 CTD (conductivity-temperature-depth) cast was performed. Geochemical sub-sampling and measurements were executed immediately after retrieval of the cores on deck.

The cooperation with GINR went smoothly, and skipper and his crew onboard Paamiut showed great skill and helpfulness. Thanks to this, and fine weather throughout the period, the cruise was very successful. Financial support to use Paamiut for a follow-up Permagas WP2 cruise in 2012 is applied for at 'Dansk Center for Havforskning'.

Figure 10. Paamiut at port in Ilulissat at the end of the Permagas WP2 cruise

6. Acknowledgement

The success of this cruise strongly depended on the operational skills of the Captain and crew of the R/V Paamiut and the onboard cooperation with GN scientific team. We thank all for their valuable efforts in making this survey a success. Finally, Antoon Kuijpers (GEUS) is thanked for his effort in the preparation of the cruise.

This cruise was supported by a grant from Geocenter Denmark to the Permagas-project, lead by Naja Mikkelsen, GEUS. The coring equipment was supplied by GEUS free of charge and rigged on the ship while in port at Frederikshavn (Denmark) by GEUS technician John Boserup.

7. Tables

Table 1. List of Gravity cores (OBS: Sections numbered from below, i.e. #1 = bottom of core)

Station	Date	Time (local)	Location (see fig 1)	Latitude [N] Longitude [W]	Water depth [m]	Pene-tra-tion [m]	Recov-ery [cm]	No. of sec-tions (#)	Comment
PG2011-01GC	22-06-11	01:08	Egedes-minde Dyb-B	69°00,579 53°07,841	842	>6	495	5 + 7 cm of #6	Grey clay. # 4: core shrunk in both length (17 cm) and width after cut up-. Core catcher al-most empty, only small amount of granular grey clay
PG2011-02GC	22-06-11	21:05	Aasiaat-C	68°25,972 55°47,970	544	>6	567,5	6	Grey- green-black clay with strong smell of hydrogen sul-phide. Section 6 (top) collapsed ca. 10 cm after cut up.
PG2011-03GC	23-06-11	01:00	Aasiaat-A	68°24,472 56°00,139	537	>6	552	6	Green silty clay with black areas. Strong smell of hydrogen sul-phide. Difficult to retrieve from seabed – core stretched ?.
PG2011-04GC	-	-	-	-	-	-	-	-	No gravity core -only Rumohrlot
PG2011-05GC	23-06-11	19:10	Egedes-minde Dyb-A	68°51,978 53°19,465	865	>6	482	5	Greenish-black, stiff clay with organic content. Smell of hydro-gen sulphide. Core-caps on sec. 3 & 4 bulged out shortly after retrieval => gas present
PG2011-06GC	23-06-11	21:05	Egedes-minde Dyb-A	68°51,865 53°19,614	867	<6	482	5	Black, stiff clay with organic content. Smell of hydrogen sul-phide. Same area as -05GC. Top 20 cm of # 1 disturbed. No geochemical sampling or meas-urements
PG2011-07GC	24-06-11	18:30	Vaigat-D	69°39,228 51°33,902	316	>6	554 +10	6	Light-gray, stiff clay with sand content increasing downwards. Top 10 cm of # 6 in plastic bag.
PG2011-08GC	24-06-11	20:35	Vaigat-D	69°39,191 51°34,786	308	<6	<350 (?)	4	Light-grey, stiff clay. Hit a stone => less penetration. Same area as -07GC. No geochemical sampling or measurements
PG2011-09GC	25-06-11	01:00	Vaigat-C	69°52,005 52°07,515	469	>6	489	5	Light-grey clay. Small holes + core shrunk after cutting up. Core catcher sample with shell fragments, dropstones (max. 1cm) and 'worm-tupe'
PG2011-10GC	25-06-11	19:45	Ilulissat - A	69°12,412 51°27,392	408	>6	554	6	Light-grey sandy-silty clay. Refer-ence core (outside pockmark). Top (seabed) lost. Smell of hy-drogen sulphide in # 3.
PG2011-11GC	25-06-11	21:10	Ilulissat - A	69°12,477 51°26,640	403	>6	?	6 (?)	Light-grey sandy-silty clay. Refer-ence core (outside pockmark). Same area as -10GC. No geo-chemical sampling or measure-ments

PG2011-12GC	25-06-11	23:50	Ilulissat - A	69^{0}12,762 51^{0}27,541	431	>6	?	6 (?)	Core inside pockmark. Same area as -10GC. 'Noice' in water coloum above pockmark.

Table 1 (continues) List of Rumohrlot cores

Station	Date	Time (local)	Location (see fig 1)	Latitude [N] Longitude [W]	Water depth [m]	Recovery [cm]	Comment
PG2011-01RC	24-06-11	00:55	Egedesminde Dyb-B	69^{0}00,564 53^{0}07,256	844	79	Correspond to gravity corer PG2011-01GC. 1 seabed sample (top 2cm) in Bengal Rosa dissolution
PG2011-02RC	22-06-11	23:15	Aasiaat-C	68^{0}25,680 55^{0}47,892	544	41	Correspond to gravity corer PG2011-02GC. 1 seabed sample (top 2cm) in Bengal Rosa dissolution
PG2011-03RC	23-06-11	01:55	Aasiaat-A	68^{0}24,409 55^{0}59,395	539	43	Correspond to gravity corer PG2011-03GC. 2 x seabed samples (top 2cm) in Bengal Rosa dissolution
PG2011-04RC	23-06-11	04:25	Aasiaat-B	68^{0}24,327 55^{0}48,648	550	128	No gravity core. 2 x seabed samples (top 2cm) in Bengal Rosa dissolution
PG2011-05RC	23-06-11	22:10	Egedesminde Dyb-A	68^{0}52,059 53^{0}19,562	863	104	Correspond to gravity corer PG2011-05GC. 2 x seabed samples (top 2cm) in Bengal Rosa dissolution
PG2011-06RC	23-06-11	22:54	Egedesminde Dyb-A	68^{0}51,808 53^{0}19,735	869	108	Correspond to gravity corer PG2011-06GC. No sampling or geochemical measurements
PG2011-07RC	24-06-11	21:45	Vaigat-D	69^{0}39,254 51^{0}34,530	312	157	Correspond to gravity corer PG2011-07GC. 2 x seabed samples (top 2cm) in Bengal Rosa dissolution.
PG2011-08RC	24-06-11	21:05	Vaigat-D	69^{0}39,198 51^{0}34,416	311	100	Correspond to gravity corer PG2011-08GC. No sampling or geochemical measurements
PG2011-09RC-1	25-06-11	02:45	Vaigat-C	69^{0}52,023 52^{0}07,466	470	79	Correspond to gravity corer PG2011-09GC. 2 x seabed samples (top 2cm) in Bengal Rosa dissolution.
PG2011-09RC-2	25-06-11	03:06	Vaigat-C	69^{0}52,020 52^{0}07,220	471	77	Correspond to gravity corer PG2011-09GC. No sampling or geochemical measurements
PG2011-10RC	25-06-11	22:05	Ilulissat - A	69^{0}12,424 51^{0}27,519	408	?	Correspond to gravity corer PG2011-10GC. 2 x seabed samples (top 2cm) in Bengal Rosa dissolution.
PG2011-11RC	25-06-11	21:35	Ilulissat - A	69^{0}12,480 51^{0}26,438	402	?	Correspond to gravity corer PG2011-11GC. No sampling or geochemical measurements
PG2011-12RC	26-06-11	01:22	Ilulissat - A	69^{0}12,756 51^{0}27,612	433	195	Correspond to gravity corer PG2011-10GC. 2 x seabed samples (top 2cm) in Bengal Rosa dissolution.

Table 1 (continued). CTD station

Station	Date	Location	Time (UTC)	Latitude [N] Longitude [W]	Water depth [m]	Comments
CTD 21	24-06-2011	Egedesmin-de Dyb - B	Start: 03:26 End: 03:40	Start: $69^0$00,748 – $53^0$07,548 End: $69^0$00,806 – $53^0$07,497	Start: 842 End: 839	In same area as PG2011-01GC / RC. CTD number follows the ship data files. Stopped 10-15 m above seabed.

Table 3. List of sub-samples from Gravity core PG2011-01GC, Egedesmide Dyb.

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl	Sec-tion	cm above bottom
6	01GC	4		3 cc				6	0-3
38	01GC	16	20 cc					5	76
36	01GC	19			8.0		√	5	73
37	01GC	26	20 cc					5	66
35	01GC	29			10.0	√	√	5	63
34	01GC	39			9.5	√	√	5	53
33	01GC	49			8.5	√	√	5	43
32	01GC	59			8.0	√	√	5	33
31	01GC	69			10.0	√	√	5	23
30	01GC	79			10.5	√	√	5	13
5	01GC	89		3 cc				5	0-3
29	01GC	100			6.0	√	√	4	93
28	01GC	110			8.0	√	√	4	83
27	01GC	120			8.5	√	√	4	73
26	01GC	140			10.5	√	√	4	53
25	01GC	170			8.5	√	√	4	23
24	01GC	180			3.0	√		4	13
4	01GC	190		3 cc				4	0-3
23	01GC	201			8.0	√	√	3	93
22	01GC	221			4.0	√	√	3	73
21	01GC	241			10.0	√	√	3	53
20	01GC	261			6.5	√	√	3	33
19	01GC	281			10.5	√	√	3	13
3	01GC	291		3 cc				3	0-3
18	01GC	301			8.5	√	√	2	94
17	01GC	321			10.0	√	√	2	74
16	01GC	341			10.0	√	√	2	54
15	01GC	361			10.0	√	√	2	34
14	01GC	381			4.5	√	√	2	14
2	01GC	392		3 cc				2	0-3
13	01GC	402			10.0	√	√	1	95
12	01GC	423			6.5	√	√	1	74
11	01GC	442			9.0	√	√	1	55
10	01GC	462			8.0	√	√	1	35
9	01GC	482			2.0	√	√	1	15
7	01GC	-		G				1	15
1	01GC	494		3 cc				1	0-3

S: Sediment for analysis, stored in tight 30 cc vial; G: sediment in crimp cap vial for gas analysis; PW: pore water extracted, stored in 6 cc vials. ZnAc: subsample for H2S analysis; HCl: subsample for CO2 analysis

Table 4. List of subsamples from Rumohr core PG2011-01RC, Egedesmide Dyb.

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	HCl
315	01RL	10		3 cc			
327	01RL	-			10.0	√	
339	01RL	-	20 cc				
316	01RL	20		3 cc			
328	01RL	-			10.0	√	
340	01RL	-	20 cc				
317	01RL	30		3 cc			
329	01RL	-			10.0	√	
341	01RL	-	20 cc				
318	01RL	40		3 cc			
330	01RL	-			11.0	√	
342	01RL	-	20 cc				
319	01RL	50		3 cc			
331	01RL	-			7.0	√	
343	01RL	-	20 cc				
320	01RL	60		3 cc			
332	01RL	-			9.5	√	
344	01RL	-	20 cc				
321	01RL	70		3 cc			
333	01RL	-			8.0	√	
345	01RL	-	20 cc				
322	01RL	80		3 cc			
334	01RL	-			9.0	√	
346	01RL	-	20 cc				
323	01RL	90		3 cc			
335	01RL	-			7.0	√	
347	01RL	-	20 cc				
324	01RL	100		3 cc			
336	01RL	-			9.0	√	
348	01RL	-	20 cc				
325	01RL	110		3 cc			
337	01RL	-			6.5	√	
349	01RL	-	20 cc				
326	01RL	120		3 cc			
338	01RL	-			7.5	√	
349.5	01RL	-	20 cc				

Table 5. List of sub-samples from Gravity core PG2011-02GC , Aasiaat area

Lab ID	Core	cm below seafloor	subsample S	G	PW cc	ZnAc	HCl	Section	cm above bottom
93	02GC	3			10.5	√	√	6	100
89	02GC	-	20 cc					6	100
88	02GC	-		3 cc				6	100
52	02GC	16		3 cc, top kerne				6	80-83
53	02GC	17	20 cc					6	77-82
94	02GC	24			10.5	√	√	6	75
87	02GC	-	20 cc					6	75
86	02GC	-		3 cc				6	75
95	02GC	49			10.5	√	√	6	50
85	02GC	-	20 cc					6	50
84	02GC	-		3 cc				6	50
96	02GC	74			10.5	√	√	6	25
83	02GC	-	20 cc					6	25
82	02GC	-		3 cc				6	25
97	02GC	89			10.5	√	√	6	10
51	02GC	96	20 cc					6	0-5
50	02GC	-		3 cc				6	0-3
98	02GC	124			10.5	√	√	5	75
81	02GC	-	20 cc					5	75
80	02GC	-		3 cc				5	75
99	02GC	149			10.5	√	√	5	50
79	02GC	-	20 cc					5	50
78	02GC	-		3 cc				5	50
100	02GC	174			10.5	√	√	5	25
77	02GC	-	20 cc					5	25
76	02GC	-		3 cc				5	25
49	02GC	196	20 cc					5	0-5
48	02GC	-		3 cc				5	0-3
101	02GC	224			10.5			4	75
75	02GC	-	20 cc					4	75
74	02GC	-		3 cc				4	75
102	02GC	249			10.0			4	50
73	02GC	-	20 cc					4	50
72	02GC	-		3 cc				4	50
103	02GC	274			10.0			4	25
71	02GC	-	20 cc					4	25
70	02GC	-		3 cc				4	25
47	02GC	296	20 cc					4	0-5
46	02GC	-		3 cc				4	0-3
104	02GC	324			8.4			3	75

Table 5 cont.

Lab ID	Core	cm below seafloor	subsample S	G	PW cc	ZnAc	HCl	Section	cm above bottom
69	02GC	324	20 cc					3	75
68	02GC	-		3 cc				3	75
105	02GC	349			8.0			3	50
67	02GC	-	20 cc					3	50
66	02GC	-		3 cc				3	50
106	02GC	374			9.0			3	25
65	02GC	-	20 cc					3	25
64	02GC	-		3 cc				3	25
45	02GC	396	20 cc					3	0-5
44	02GC	-		3 cc				3	0-3
63	02GC	424	20 cc					2	75
62	02GC	-		3 cc				2	75
107	02GC	449			7.0			2	50
61	02GC	-	20 cc					2	50
60	02GC	-		3 cc				2	50
108	02GC	474			7.0			2	25
59	02GC	-	20 cc					2	25
58	02GC	-		3 cc				2	25
43	02GC	496	20 cc					2	0-5
42	02GC	-		3 cc				2	0-3
109	02GC	518			9.5			1	47
57	02GC	523	20 cc					1	42
56	02GC	-		3 cc				1	42
110	02GC	543			10.5	√	√	1	22
55	02GC	548	20 cc					1	17
54	02GC	-		3 cc				1	17
39	02GC	571	20 cc					CC	CC
41	02GC	-	100 cc					CC	CC
40	02GC	-		3 cc				CC	CC

Table 6. List of sub-samples from Rumohrlot core PG2011-02RC, Aasiaat area

Lab ID	Core	cm below seafloor	S	G	PW cc	Subsample ZnAc	HCl
315	01RL	10		3 cc			
327	01RL	-			10.0	√	
339	01RL	-	20 cc				
316	01RL	20		3 cc			
182	02RL	2			10.0	√	
181	02RL	7			10.0	√	
204	02RL	-	20 cc				
180	02RL	12			10.0	√	
179	02RL	17			10.0	√	
205	02RL	-	20 cc				
178	02RL	22			10.0	√	
177	02RL	27			7.5	√	
206	02RL	-	20 cc				
176	02RL	32			10.5	√	
175	02RL	37			11.0	√	
207	02RL	-	20 cc				

Table 7. List of sub-samples from Gravity core PG2011-03GC, Aasiaat area

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl	Section	cm above bottom
123	03GC	3	20 cc					6	top
158	03GC	7			10.5	√	√	6	45
157	03GC	-	20 cc					6	45
156	03GC	-		3 cc				6	45
159	03GC	32			10.5	√	√	6	20
155	03GC	-	20 cc					6	20
154	03GC	-		3 cc				6	20
122	03GC	49	20 cc					6	0-5
121	03GC	-		3 cc				6	0-3
160	03GC	82			10.5	√	√	5	70
153	03GC	-	20 cc					5	70
152	03GC	-		3 cc				5	70
161	03GC	107			9.5	√	√	5	45
151	03GC	-	20 cc					5	45
150	03GC	-		3 cc				5	45
162	03GC	132			10.5	√	√	5	20
149	03GC	-	20cc					5	20
148	03GC	-		3 cc				5	20
120	03GC	149	20 cc					5	0-5
119	03GC	-		3 cc				5	0-3
163	03GC	182			10.5	√	√	4	70
147	03GC	-	20 cc					4	70
146	03GC	-		3 cc				4	70
164	03GC	207			10.0	√	√	4	45
145	03GC	-	20 cc					4	45
144	03GC	-		3 cc				4	45
165	03GC	232			8.5	√	√	4	20
143	03GC	-	20 cc					4	20
142	03GC	-		3 cc				4	20
118	03GC	249	20 cc					4	0-5
117	03GC	-		3 cc				4	0-3
166	03GC	282			10.0	√	√	3	70
141	03GC	-	20 cc					3	70
140	03GC	-		3 cc				3	70
167	03GC	307			8.0	√	√	3	45
139	03GC	-	20 cc					3	45
138	03GC	-		3 cc				3	45
168	03GC	332			10.0	√	√	3	20
137	03GC	-	20 cc					3	20
136	03GC	-		3 cc				3	20

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl	Section	cm above bottom
cont									
116	03GC	349	20 cc					3	0-5
115	03GC	-		3 cc				3	0-3
169	03GC	382			6.0	√	√	2	70
135	03GC	-	20 cc					2	70
134	03GC	-		3 cc				2	70
170	03GC	407			10.5	√	√	2	45
133	03GC	-	20 cc					2	45
132	03GC	-		3 cc				2	45
171	03GC	432			8.0	√	√	2	20
131	03GC	-	20 cc					2	20
130	03GC	-		3 cc				2	20
114	03GC	449	20 cc					2	0-5
113	03GC	-		3 cc				2	0-3
172	03GC	482			8.5	√	√	1	70
129	03GC	-	20 cc					1	70
128	03GC	-		3 cc				1	70
173	03GC	507			4.5	√		1	45
127	03GC	-	20 cc					1	45
126	03GC	-		3 cc				1	45
174	03GC	532			8.5	√	√	1	20
125	03GC	-	20 cc					1	20
124	03GC	-		3 cc				1	20
112	03GC	549	20 cc					1	0-5
111	03GC	-		3 cc				1	0-3
91	03GC	558	20 cc					CC	CC
92	03GC	-	100cc					CC	CC
90	03GC	-		3 cc				CC	CC

Table 8. List of sub-samples from Rumohrlot core PG2011-03RC, Aasiaat area

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample HCl	ZnAc
190	03RL	5			7.5	√	
208	03RL	-	20 cc				
189	03RL	10			10.0	√	
188	03RL	15			9.5	√	
209	03RL	-	20 cc				
187	03RL	20			10.5	√	
186	03RL	25			10.0	√	
210	03RL	-	20 cc				
185	03RL	30			9.0	√	
184	03RL	35			9.5	√	
211	03RL	-	20 cc				
183	03RL	40			8.0	√	

Table 9. List of sub-samples from Rumohrlot core PG2011-04, Aasiaat area

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample HCl	ZnAc
202	04RL	6			10.0	√	
212	04RL	-	20 cc				
201	04RL	16			10.0	√	
213	04RL	-	20 cc				
200	04RL	26			10.0	√	
214	04RL	-	20 cc				
199	04RL	36			10.0	√	
215	04RL	-	20 cc				
198	04RL	46			10.5	√	
216	04RL	-	20 cc				
197	04RL	56			10.0	√	
217	04RL	-	20 cc				
196	04RL	66			11.0	√	
218	04RL	-	20 cc				
195	04RL	76			11.0	√	
219	04RL	-	20 cc				
194	04RL	86			10.5	√	
220	04RL	-	20 cc				
193	04RL	96			11.0	√	
221	04RL	-	20 cc				
192	04RL	106			10.5	√	
222	04RL	-	20 cc				
191	04RL	116			10.5	√	
223	04RL	-	20 cc				

Table 10. List of sub-samples from gravity core PG2011-05GC, Egedesminde Dyb

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl	Section	cm above bottom
235	05GC	3	20 cc					5	top
234	05GC	-		3 cc				5	top
280	05GC	6			10.0	√		5	76
265	05GC	-	20 cc					5	76
264	05GC	-		3 cc				5	76
281	05GC	36			10.0	√		5	46
263	05GC	-	20 cc					5	46
262	05GC	-		3 cc				5	46
282	05GC	61			9.0	√		5	21
261	05GC	-	20 cc					5	21
260	05GC	-		3 cc				5	21
269	05GC	77		6 cc				5	5
233	05GC	79	20 cc					5	0-5
232	05GC	-		3 cc				5	0-3
283	05GC	106			9.0	√		4	76
259	05GC	-	20 cc					4	76
258	05GC	-		3 cc				4	76
284	05GC	136			8.5	√		4	46
257	05GC	-	20 cc					4	46
256	05GC	-		3 cc				4	46
285	05GC	161			9.0	√		4	21
255	05GC	-	20 cc					4	21
254	05GC	-		3 cc				4	21
268	05GC	177		8 cc				4	5
231	05GC	179	20 cc					4	0-5
230	05GC	-		3 cc				4	0-3
286	05GC	206			10.0	√		3	76
253	05GC	-	20 cc					3	76
252	05GC	-		3 cc				3	76
287	05GC	236			10.5	√		3	46
251	05GC	-	20 cc					3	46
250	05GC	-		3 cc				3	46
288	05GC	261			10.0	√		3	21
249	05GC	-	20 cc					3	21
248	05GC	-		3 cc				3	21
267	05GC	277		8 cc				3	5
229	05GC	279	20 cc					3	0-5
228	05GC	-		3 cc				3	0-3
289	05GC	306			10.0	√		2	76

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl	Section	cm above bottom
Cont.									
247	05GC	306	20 cc					2	76
246	05GC	-		3 cc				2	76
290	05GC	336			9.5	√		2	46
245	05GC	-	20 cc					2	46
244	05GC	-		3 cc				2	46
291	05GC	361			9.5	√		2	21
243	05GC	-	20 cc					2	21
242	05GC	-		3 cc				2	21
266	05GC	377		6 cc				2	5
227	05GC	379	20 cc					2	0-5
226	05GC	-		3 cc				2	0-3
292	05GC	406			8.5	√		1	76
241	05GC	-	20 cc					1	76
240	05GC	-		3 cc				1	76
293	05GC	436			9.5	√		1	46
239	05GC	-	20 cc					1	46
238	05GC	-		3 cc				1	46
294	05GC	461			10.0	√		1	21
237	05GC	-	20 cc					1	21
236	05GC	-		3 cc				1	21
225	05GC	479	20 cc					1	0-5
224	05GC	-		3 cc				1	0-3

Table 11. List of sub-samples from Rumohrlot core PG2011-05RC, Egedesmide Dyb

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl
279	05RL	9		3 cc			
295	05RL	-			10.5	√	
305	05RL	-	20 cc				
278	05RL	19		3 cc			
296	05RL	-			11.0	√	
306	05RL	-	20 cc				
277	05RL	29		3 cc			
297	05RL	-			11.0	√	
307	05RL	-	20 cc				
276	05RL	39		3 cc			
298	05RL	-			11.0	√	
308	05RL	-	20 cc				
275	05RL	49		3 cc			
299	05RL	-			10.0	√	
309	05RL	-	20 cc				
274	05RL	59		3 cc			
300	05RL	-			10.0	√	
310	05RL	-	20 cc				
273	05RL	69		3 cc			
301	05RL	-			10.0	√	
311	05RL	-	20 cc				
272	05RL	79		3 cc			
302	05RL	-			9.5	√	
312	05RL	-	20 cc				
271	05RL	89		3 cc			
303	05RL	-			10.0	√	
313	05RL	-	20 cc				
270	05RL	99		3 cc			
304	05RL	-			9.0	√	
314	05RL	-	20 cc				

Table 12. List of sub-samples from gravity core PG2011-07GC, Vaigat area

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl	Section	cm above bottom
364	07GC	3	10 cc					6	top
363	07GC	-		3 cc				6	top
397	07GC	12			9.0			6	42
398	07GC	37			11.0			6	17
396	07GC	-	20 cc					6	17
395	07GC	-		3 cc				6	17
362	07GC	51	20 cc					6	0-5
361	07GC	-		3 cc				6	0-3
399	07GC	87			10.5			5	67
394	07GC	-	20 cc					5	67
393	07GC	-		3 cc				5	67
400	07GC	112			9.0			5	42
392	07GC	-	20 cc					5	42
391	07GC	-		3 cc				5	42
401	07GC	137			10.5			5	17
390	07GC	-	20 cc					5	17
389	07GC	-		3 cc				5	17
360	07GC	151	20 cc					5	0-5
359	07GC	-		3 cc				5	0-3
402	07GC	187			11.0			4	67
388	07GC	-	20 cc					4	67
387	07GC	-		3 cc				4	67
403	07GC	212			10.0			4	42
386	07GC	-	20 cc					4	42
385	07GC	-		3 cc				4	42
404	07GC	237			10.0			4	17
384	07GC	-	20 cc					4	17
383	07GC	-		3 cc				4	17
358	07GC	251	20 cc					4	0-5
357	07GC	-		3 cc				4	0-3
405	07GC	287			10.5			3	67
382	07GC	-	20 cc					3	67
381	07GC	-		3 cc				3	67
406	07GC	312			10.0			3	42
379	07GC	-	20 cc					3	42
380	07GC	-		3 cc				3	42
407	07GC	337			10.0			3	17
378	07GC	-	20 cc					3	17
377	07GC	-		3 cc				3	17
356	07GC	351	20 cc					3	0-5

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl	Section	cm above bottom
Cont.									
355	07GC	351		3 cc				3	0-3
408	07GC	387			10.0			2	67
376	07GC	-	20 cc					2	67
375	07GC	-		3 cc				2	67
409	07GC	412			10.0			2	42
374	07GC	-	20 cc					2	42
373	07GC	-		3 cc				2	42
410	07GC	437			5.0			2	17
372	07GC	-	20 cc					2	17
371	07GC	-		3 cc				2	17
354	07GC	451	20 cc					2	0-5
353	07GC	-		3 cc				2	0-3
411	07GC	487			10.0			1	67
370	07GC	-	20 cc					1	67
369	07GC	-		3 cc				1	67
412	07GC	512			6.5			1	42
368	07GC	-	20 cc					1	42
367	07GC	-		3 cc				1	42
413	07GC	537			6.5			1	17
366	07GC	-	20 cc					1	17
365	07GC	-		3 cc				1	17
352	07GC	551	20 cc					1	0-5
351	07GC	-		3 cc				1	0-3
350	07GC	560	100 cc					CC	CC

Table 13. List of sub-samples from Rumohrlot core PG2011-07RC, Vaigat area

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	HCl
414	07RL	2			10.0		
415	07RL	12			10.5		
451	07RL	-	20 cc				
416	07RL	22			10.0		
417	07RL	32			10.0		
418	07RL	42			10.0		
419	07RL	52			10.0		
420	07RL	62			10.0		
421	07RL	72			10.0		
452	07RL	-	20 cc				
422	07RL	82			10.0		
423	07RL	92			10.0		
424	07RL	102			10.5		
425	07RL	112			10.0		
426	07RL	122			10.0		
427	07RL	132			9.5		
428	07RL	152			10.5		
453	07RL	-	20 cc				

Table 14. List of sub-samples from gravity core PG2011-09GC, Vaigat area

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl	Section	cm above bottom
454	09GC	22			9.5			5	67
455	09GC	47			9.5			5	42
449	09GC	-	20 cc					5	42
449	09GC	-		3 cc				5	42
456	09GC	72			10.5			5	17
439	09GC	86	20 cc					5	0-5
439	09GC	-		3 cc				5	0-3
457	09GC	122			10.5			4	67
458	09GC	147			10.0			4	42
447	09GC	-	20 cc					4	42
447	09GC	-		3 cc				4	42
459	09GC	172			10.0			4	17
437	09GC	186	20 cc					4	0-5
437	09GC	-		3 cc				4	0-3
460	09GC	222			10.0			3	67
461	09GC	247			9.5			3	42
445	09GC	-	20 cc					3	42
445	09GC	-		3 cc				3	42
462	09GC	272			9.5			3	17
435	09GC	286	20 cc					3	0-5
435	09GC	-		3 cc				3	0-3
463	09GC	322			8.5			2	67
464	09GC	347			7.0			2	42
443	09GC	-	20 cc					2	42
443	09GC	-		3 cc				2	42
465	09GC	372			7.5			2	17
433	09GC	386	20 cc					2	0-5
433	09GC	-		3 cc				2	0-3
466	09GC	422			8.5			1	67
467	09GC	447			4.5			1	42
441	09GC	-	20 cc					1	42
441	09GC	-		3 cc				1	42
468	09GC	472			8.5			1	17
431	09GC	486	20 cc					1	0-5
431	09GC	-		3 cc				1	0-3
429	09GC	495	20 cc					CC	CC
430	09GC	-		3 cc				CC	CC

Table 15. List of sub-samples from Rumohrlot core PG2011-09RC, Vaigat area

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample HCl	ZnAc
469	09RL	2			9.0		
470	09RL	12			9.5		
477	09RL	-	20 cc				
471	09RL	22			9.5		
472	09RL	32			9.5		
473	09RL	42			9.5		
478	09RL	-	20 cc				
474	09RL	52			9.5		
475	09RL	62			9.5		
476	09RL	72			9.0		
479	09RL	-	20 cc				

Table 16 List of sub-samples from gravity core PG2011-10GC, Ilulissat area

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl	Sec-tion	cm above bottom
505	10GC	34			9.0			6	20
504	10GC	-	20 cc					6	20
503	10GC	-		3				6	20
492	10GC	51	20 cc					6	0-5
491	10GC	-		3				6	0-3
506	10GC	84			10.0			5	70
507	10GC	109			10.0			5	45
502	10GC	-	20 cc					5	45
501	10GC	-		3				5	45
508	10GC	134			7.5			5	20
490	10GC	151	20 cc					5	0-5
489	10GC	-		3				5	0-3
509	10GC	184			9.0			4	70
510	10GC	209			9.0			4	45
500	10GC	-	20 cc					4	45
499	10GC	-		3				4	45
511	10GC	234			9.5			4	20
488	10GC	251	20 cc					4	0-5
487	10GC	-		3				4	0-3
512	10GC	284			8.5			3	70
513	10GC	309			8.0			3	45
498	10GC	-	20 cc					3	45
497	10GC	-		3				3	45
514	10GC	334			10.0			3	20
486	10GC	351	20 cc					3	0-5
485	10GC	-		3				3	0-3
515	10GC	384			10.0			2	70
516	10GC	409			10.0			2	45
496	10GC	-	20 cc					2	45
495	10GC	-		3				2	45
517	10GC	434			6.5			2	20
484	10GC	451	20 cc					2	0-5
483	10GC	-		3				2	0-3
518	10GC	484			10.0			1	70
519	10GC	509			10.0			1	45
494	10GC	-	20 cc					1	45
493	10GC	-		3				1	45
520	10GC	534			??			1	20
480	10GC	551	20 cc					1	0-5
481	10GC	-		3				1	0-3
482	10GC	560	20 cc					CC	CC

Table 17 List of sub-samples from Rumohrlot core PG2011-10RC, Ilulissat area

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	HCl
521	RL10	9			10.0		
522	RL10	19			10.0		
523	RL10	29			10.0		
524	RL10	39			10.0		
525	RL10	49			10.0		
526	RL10	59			10.0		
527	RL10	69			10.0		
528	RL10	79			10.0		
529	RL10	89			10.0		
530	RL10	99			10.0		
531	RL10	109			10.0		
532	RL10	119			10.0		
533	RL10	129			10.0		
534	RL10	??			10.0		
535	RL10	139			10.0		

Table 18 List of sub-samples from gravity core PG2011-12GC (in pockmark), Ilulissat area

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl	Sec-tion	cm above bottom
548	12GC	3	20 cc					6	top
549	12GC	-		3				6	top
561	12GC	14			9.5			6	40
562	12GC	39			9.5			6	15
546	12GC	51	20 cc					6	0-5
547	12GC	-		3				6	0-3
563	12GC	89			8.5			5	65
564	12GC	114			9.0			5	40
559	12GC	-	20 cc					5	40
559	12GC	-		3				5	40
565	12GC	139			8.5			5	15
544	12GC	151	20 cc					5	0-5
545	12GC	-		3				5	0-3
566	12GC	189			9.5			4	65
557	12GC	213	20 cc					4	41
557	12GC	-		3				4	41
567	12GC	214			9.0			4	40
568	12GC	239			9.0			4	15
542	12GC	251	20 cc					4	0-5
543	12GC	-		3				4	0-3
569	12GC	289			7.5			3	65
555	12GC	312	20 cc					3	42
555	12GC	-		3				3	42
570	12GC	314			8.0			3	40
571	12GC	339			9.5			3	15
540	12GC	351	20 cc					3	0-5
541	12GC	-		3				3	0-3
572	12GC	389			8.5			2	65
553	12GC	411	20 cc					2	43
553	12GC	-		3				2	43
573	12GC	414			9.0			2	40
574	12GC	439			9.0			2	15
538	12GC	451	20 cc					2	0-5
539	12GC	-		3				2	0-3
575	12GC	489			7.0			1	65
551	12GC	510	20 cc					1	44
551	12GC	-		3				1	44
576	12GC	514			8.0			1	40
577	12GC	539			8.0			1	15
536	12GC	551	20 cc					1	0-5
537	12GC	-		3				1	0-3
550	12GC	560	100					CC	CC

Table 19. List of sub-samples from Rumohrlot core PG2011-12RC (in pockmark), Ilulissat area

Lab ID	Core	cm below seafloor	S	G	PW cc	subsample ZnAc	subsample HCl
578	12RL	10			10.0		
579	12RL	20			10.5		
580	12RL	30			10.5		
581	12RL	40			9.0		
582	12RL	50			9.0		
583	12RL	60			9.0		
584	12RL	70			9.5		
585	12RL	80			9.5		
586	12RL	90			8.5		
587	12RL	100			8.5		
588	12RL	110			6.0		
589	12RL	120			9.0		
590	12RL	130			5.0		
591	12RL	140			10.5		
592	12RL	150			9.5		