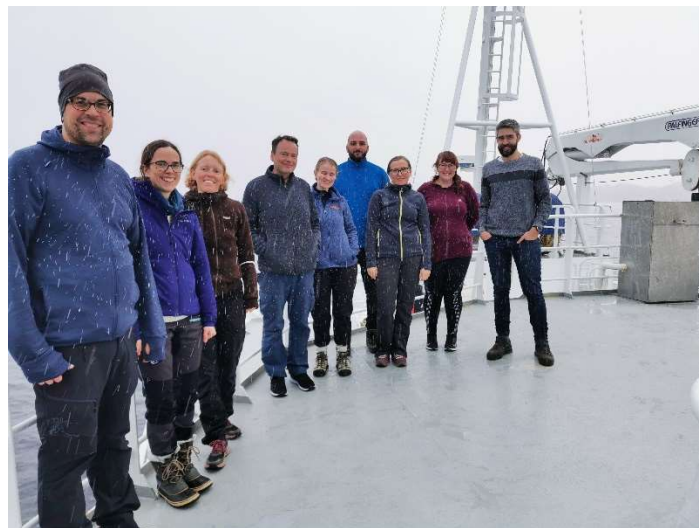


CRUISE REPORT

KB2022602 / KB22 – 237

2-5 February 2022

Lurefjorden & Masfjorden



Elin Darelius & Stijn De Schepper

With contributions from: Agnes Weiner, Irina Polovodova Asteman, Mattia Ferraro, Dag Inge Blindheim, Bjørg Risebrobakken, Torunn Sagen, Kristin Jackson-Misje and Algot Peterson

SUMMARY

We collected sediments, water samples and CTD-profiles from several Western Norway fjords to investigate the impact of stressors, i.e. climate change, increased fresh water runoff, oxygen depletion, on the modern and past fjord environment and their ecosystems. Two oceanographic moorings were recovered, and one was deployed during the cruise. These activities are part of the NFR project FJO₂RD and SKD/Bjerknes Strategic project CLIFORD.

1.1 Introduction and scientific objectives

The aim of the cruise is to collect oceanographic data and sediment cores for the projects FJO₂RD (RCN, 323986) and CLIFORD (BCCR) in order to a) reconstruct the oxygenation history of the fjords Masfjorden and Lurefjorden during the last 400-500 years and to improve our understanding of b) the processes and factors determining the renewal frequency and the observed de-oxygenation and c) the dynamics of deep-water renewal.

In addition to determining the oxygenation history, we aim at reconstructing changes in freshwater influence, biodiversity, and the ecosystem. Surface sediment samples and water samples are collected to map the present-day conditions and calibrate proxies towards known instrumental values and water mass characteristics.

Prior to the deep-water renewal occurring during the summer of 2021, Masfjorden oxygen concentrations were alarmingly low, and commercial aquaculture was banished.

1.2 Participants

TABLE 1: KB2022602 CRUISE PARTICIPANTS

Elin Darelius	GFI, UiB	Cruise leader
Stijn De Schepper	NORCE	Researcher
Irina Polovodova Asteman	GU, Sweden	Researcher
Agnes Weiner	NORCE	Researcher
Algot Peterson	GFI, UiB	Mooring technician
Dag Inge Blindheim	NORCE	Coring engineer
Kristin J. Misje	GFI, UiB	Biogeochemistry technician
Torunn Sagen	GFI, UiB	PhD-student
Mattia Ferraro	GFI, UiB	PhD-student

1.3 Cruise track & cruise narrative

The main study area is Masfjorden and Lurefjorden in Western Norway.

The cruise started from Bergen at 12:00 on 02/02/2022. The first activity was to deploy moorings at the entrance of Lurefjorden. In the evening, we started the geology program (= 1 CTD, 2 MC and 1 GC) with Stations 01 and 02 in Lurefjorden. This was followed by a CTD transect in Lurefjorden overnight and picking up a mooring in Masfjorden. The geology program continued on 03/02 in Masfjorden (Stations 03–05) and was followed by a nighttime CTD transect in Masfjorden. On 04/02 we had a geology program at Stations 06–10 and in between collected a mooring and picked up two journalists in Masfjordnes. At station 08 and 09, we only collected one MC. On 05/02 the waves were too high to have a station in the more open water northeast of Fedje, and we relocated the final geology station (11) to Mangerfjorden.

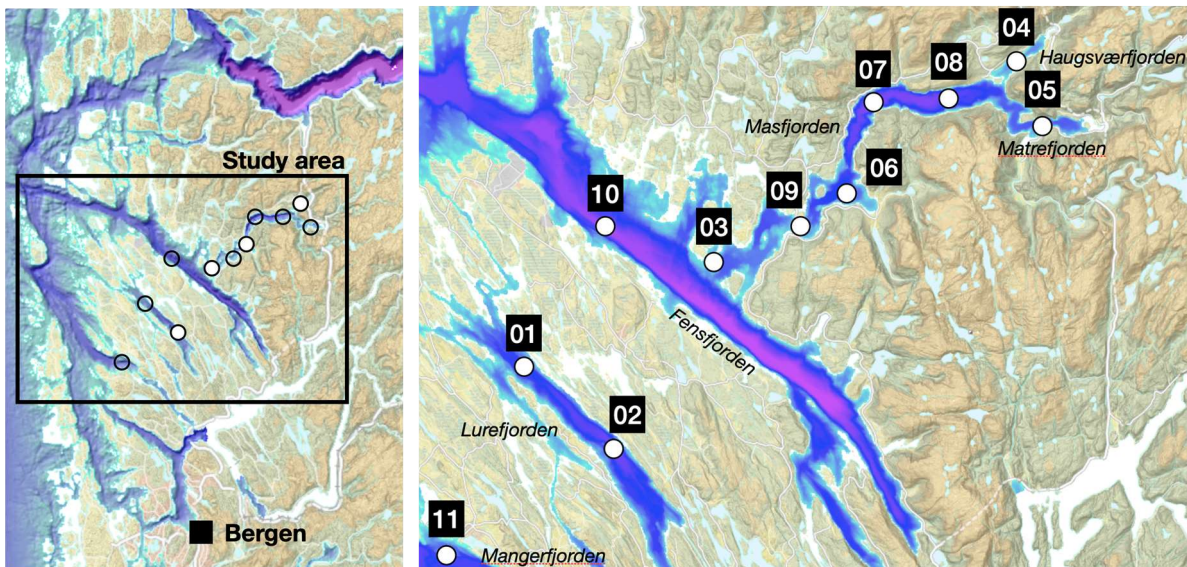
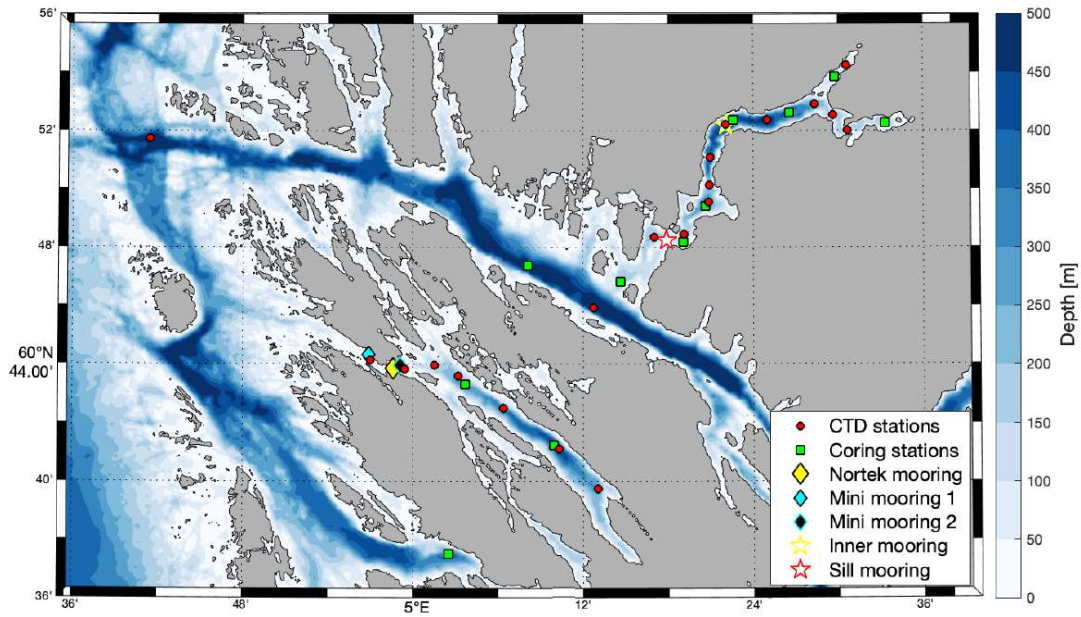


FIGURE 1: MAPS SHOWING THE POSITIONS OF MOORINGS, CTD AND CORING STATIONS

2. Physical & geobiochemical oceanography

2.1 Moorings

2.1.1 Mini-moorings

Two mini-moorings were deployed, one on each side of the sill, see Table 2: Mini-mooring deployment. Both instruments were set to start logging at 12:00 2/2 2022. The clock of the two instruments were synchronized using the same PC.

TABLE 2: MINI-MOORING DEPLOYMENT

	Longitude	Latitude	Date & time	Sensor, sn	Sampling interval
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Mini – mooring 1	4 56.891E	60 44.300N	2/2 15:20	SBE39 sn 3252	10 s
Mini – mooring 2	4 59.107E	60 43.944N	2/2 15:25	RBR Duo 051098	1 s

2.1.2 Mooring deployment

A mooring containing an ADCP provided by Nortek (for educational purposes) was deployed at 50 m depth just inside the sill of Lurefjorden, see Table 3 and Figure 4 (Appendix). The instrument was set up to measure the mean current every tenth minutes, while sampling for 5 minutes at maximum sampling rate. For the average currents, the bin size was set to two meters. In addition, the instruments samples for ten minutes in “burst mode”, with both the slanted and the vertical beams. The bin size is 0.5 m for the burst profiles. Screen shots from the deployment is shown in Figure 2 and Figure 3 (Appendix B).

TABLE 3: MOORING DEPLOYMENT

	Longitude	Latitude	Date & time	Depth [m]
LF – ADCP	4 58.625E	60 43.847N	2/2 16:02	55

2.1.3 Mooring recovery

Mooring MF – inner & MF - sill was recovered without any problem, see details in Table 4Table 4: Mooring recovery. MF – sill was covered with biology. Mooring drawings are shown in Figure 5 and Figure 6 (appendix C).

MF – inner:

SBE37ODO 12338 – one of the pins in the connector was broken when last recovered, but since it was still possible to connect to the instrument, it was re-deployed. Upon recovery, the pins were now completely corroded.

MF – sill:

RDCP – the instrument had recorded all variables, but velocity was equal to zero throughout the deployment period.

TABLE 4: MOORING RECOVERY

	Longitude	Latitude	Date & time	
MF – sill	5 17.875	60 48.231	4/2 2022 ca 09:30	
MF – inner	5 22.042	60 52.193	3/2 2022 11:25	

2.2 CTD

CTD-profiles were obtained using the ship-CTD and water samples were collected with the rosette. We occupied two CTD – sections during the cruise, one in Masfjorden and one in Lurefjorden (see **Error! Reference source not found.**). At these stations, water samples for O₂-calibration were taken at most stations (Appendix A), and at selected stations, including additional stations in Byfjorden (traditionally referred to as sta #4) and at the shelf, we sampled for total carbon/alkalinity and for nutrients (Appendix A).

The oxygen samples were analyzed onboard.

In addition, we took one CTD-cast at each of the (full) coring stations (01–11), except stations 08 and 09. At these stations, we took water samples for DNA-filtering, trace metals and $\delta^{18}\text{O}$ (Table 5).

Water-samples for calibration of the conductivity sensor were taken by IMR at the bottom of all stations.

All stations and water samples are listed in Appendix A.

Comments:

Sta0129 & Sta0130: Water smelled of rotten eggs

Sta0142: Something obviously happened with the oxygen sensor a few tenths of meters above the bottom. Values remain strange for the remainder of the profile and measured O₂ – values cannot be used for calibration (since the values from the bottle file are wrong). The lower part of the O₂-profile needs to be cut.

TABLE 5: BOTTLE INFORMATION FOR TRACE METAL, ISOTOPE AND DNA-FILTERING SAMPLES.

Coring station	CTD – station	Pressure [dbar]	Niskin, Iso/trace	Niskin, filtering
LF2 / 01	118	273	1	2-4
		45	5	6-8
		5	9	10-12
LF3 / 02	119	436	4	1-3
		50	8	5-7
		6	12	9-11
MF4 / 03	128	182	4	1-3
		60	8	5-7
		6	12	9-11
MF7 / 04	129	103	4	1-3
		32	8	5-7
		6	12	9-11
MF8 / 05	131	174	4	1-3
		80	8	5-7
		6	12	9-11
MF6/06	143	294	4	1-3
		69	8	5-7
		5	12	9-11
MF6 / 07	144	458	4	1-3
		176	8	5-7
		7	12	9-11
FF / 10	145	497	4	1-3
		250	8	5-7
		5	12	9-11
Shelf / 11	146	362	4	1-3
		150	8	5-7
		5	12	9-11

2.2.1 Calibration

2.2.1 Oxygen calibration

The correction applied was:

$$\text{CTD_corrected} = \text{CTD_raw} \times 0.9834 + 3.4$$

See appendix C for details.

2.2.2 Conductivity

Water bottles for calibration of the conductivity sensor was taken at the bottom of each station and analyzed at IMR, Norway. The suggested calibration (0.0009 S/m) was added to the measured conductivity values.

3. Paleoceanography

3.1 Stations and cores

The position of coring stations and the obtained cores are listed in Appendix 1 & Table 6, while cores not used are listed in Table 7. Sea urchins found in two multicores were given to Henrik Glenner, BIO, UiB.

TABLE 6: MULTICORE ARCHIVES COLLECTED DURING THE CRUISE FOR PALEOCLIMATE RESEARCH.

Station	MC	Deployment	Length (cm)	Purpose	Storage	Responsible
KB22-237-01	A	1	40.5	ARCHIVE	4 °C	BR
KB22-237-01	B	1	41.5	ARCHIVE	4 °C	BR
KB22-237-01	C	1	38	ARCHIVE DNA	4 °C	AW
KB22-237-02	A	1	50	ARCHIVE	4 °C	BR
KB22-237-02	B	1	45	ARCHIVE	4 °C	BR
KB22-237-02	C	2	47	ARCHIVE DNA	4 °C	AW
KB22-237-03	A	1	35.5	ARCHIVE	4 °C	BR
KB22-237-03	E	2	38.5	ARCHIVE	4 °C	BR
KB22-237-03	F	2	34.2	ARCHIVE	FROZEN	AW
KB22-237-03	G	2	37	ARCHIVE DNA	4 °C	AW
KB22-237-04	A	1	51	ARCHIVE	4 °C	BR
KB22-237-04	B	1	57	ARCHIVE	4 °C	BR
KB22-237-04	C	1	57	ARCHIVE DNA	4 °C	AW
KB22-237-04	G	2	56	ARCHIVE	FROZEN	AW
KB22-237-05	A	1	38.5	ARCHIVE	4 °C	BR
KB22-237-05	D	2	38.5	ARCHIVE + DNA	4 °C	BR/AW
KB22-237-06	A	1	46	ARCHIVE	4 °C	BR
KB22-237-06	B	1	39.5	ARCHIVE	4 °C	BR
KB22-237-06	C	1	46.5	ARCHIVE DNA	4 °C	AW
KB22-237-06	E	2	45.5	ARCHIVE	FROZEN	AW
KB22-237-06	H	2	47	ARCHIVE	4 °C	BR
KB22-237-07	A	1	41	ARCHIVE	4 °C	BR
KB22-237-07	B	1	46	ARCHIVE	4 °C	BR
KB22-237-07	C	1	45.5	ARCHIVE DNA	4 °C	AW
KB22-237-07	H	2	42	ARCHIVE	4 °C	BR
KB22-237-08	A	1	47.5	ARCHIVE	FROZEN	AW
KB22-237-09	A	1	17	ARCHIVE	4 °C	BR
KB22-237-10	A	1	49	ARCHIVE	4 °C	BR
KB22-237-10	C	1	46	ARCHIVE DNA	4 °C	AW
KB22-237-10	E	2	39	ARCHIVE	4 °C	BR
KB22-237-11	A	1	59	ARCHIVE	4 °C	BR
KB22-237-11	B	1	58	ARCHIVE	4 °C	BR
KB22-237-11	C	1	57	ARCHIVE DNA	4 °C	AW

TABLE 7: TWO COLLECTED ARCHIVES CANNOT BE USED FOR PALEOCLIMATE STUDIES AFTER DISCOVERY OF URCHINS (SEE PICTURES BELOW).

Station	MC	Deployment	Length (cm)	Purpose	Storage	Responsible
KB22-237-05	E	2	40	urchin	4 °C	-
KB22-237-07	G	2	?	urchin	4 °C	?



3.2 Equipment

Multicorer

We used a multicorer (MC) to collect seafloor sediments and the undisturbed bottom water/sediment interface. The multicorer (MC) is built by KC Denmark A/S with four transparent plastic core liners (or tubes) of 60 cm length, an 11 cm outer and 10.6 cm inner diameter, was deployed at all stations (Fig. 6). The multicore was attached to a winch rope and lowered through the water column. When the MC reaches the seafloor, a weight of ~350 kg pushes the tubes into the sediments. At several of the fjord stations, we removed weight so that the tubes do not over-penetrate the sediment and an intact bottom water/sediment interface is retrieved. When retracted from the sediments, arms with spatulas close the bottom of each tube. The MC with sediment tube were immediately brought back on deck and sampled onboard or archived after securing the bottom and top of each tube with plastic end caps.



Gravity corer

A gravity corer (GC) with a total weight of ~650 kg was used. The GC is a 5 m long steel barrel with an inner diameter of 11.4 cm, a steel-mantled lead weight at the top, and a core head with a core catcher at the bottom. For each deployment, a 5 m plastic liner (pipe) with an 11 cm outer and 10.94 cm inner diameter was inserted into the steel barrel and the core head and catcher was mounted. The gravity core is lowered through the water column and its speed is increased in the last few meters above the seafloor. Its own weight drives the corer into the sediments. The core is then retrieved back to deck.



3.3 Methods and protocols

Water filtering eDNA

Method parameter:	Metabarcoding (DNA) of eukaryotes
Method responsible:	Agnes Weiner
Description of parameter:	cells and environmental DNA collected on filter, to be used for DNA isolation. Will result in OTU table of organisms.
Special requirements:	clean area for filtration/ sample handling, -20 °C freezer, Sterivex filters = 0.22 µm
Sampling depths:	Three depths, covering the different water masses (surface, mid, deep)
eDNA water sample labelling	CRUISE_STATION_CTD1_DEPTH_FILTERNUMBER

Method:

NOTE *This method is based on the protocol described in Nansen Legacy protocols document, Chapter 7.15 Metabarcoding (DNA and RNA) of protists and prokaryotes and the KH21-234 Cruise Report (AGENS!).*

IMPORTANT

- Always use lab gloves (also when handling equipment, e.g. washing, storing). Immediately after use, rinse all containers, tubes and filtration equipment with MilliQ water and leave to dry in clean area.

Prior to sampling:

- Clean work surfaces
- Prepare pump (insert tubing)
- Label 1x 20L carboy for each depth (surface, mid, deep = ~10m from bottom)
- Label and number Sterivex filters (KB22-237_Station_CTD1_surface/mid/bottom_F1/F2/F3).
- Rinse carboys and tubes with distilled water

CTD on deck:

- Use one tube per depth to drain Niskin bottle in a carboy. Prior to draining an entire bottle, rinse the tube and the carboy with the sampled seawater.
- Collect 15L of water from Niskin bottles into clean carboys (labelled with depth)
- Bring carboys to filtration lab and filter as soon as possible

LAB:

- Set the pump speed (300 Rpm) and the pump in forward position

- Rinse tubes with 1L of MilliQ water
- Negative control (at start of each station): filter 1 L of MilliQ water through Sterivex 0.22 µm filter unit.
- Rinse the tubes by pumping appr. 1L of sample seawater through them
- Connect the Sterivex 0.22 µm filter unit to the Luer-Lok fittings on the tube
- The filter is hung in a measuring beaker
- Filter ca. 5L of seawater through each Sterivex 0.22 µm filter unit (2 filters per depth per station). Make sure the connections are tight and that there is no pressure buildup (seen as considerable expansion of tubing and leaks). If a pressure buildup occurred, filtering should be stopped, and time and amount of filtered water should be recorded
- Disconnect the Sterivex filter unit from the tube and remove as much of the remaining water as possible using a syringe (e.g. 60 ml) filled with air
- Cap the filter in both ends with the inlet and outlet caps. Put in a plastic sample bag and transfer to a freezer (-20 °C).
- Note down the volume of filtered water from the measuring beakers.
- *When changing to a different depth, always rinse with MilliQ and sea water of target depth.*

Multicore sampling

Method parameter:	Bottom water, sedimentary ancient DNA (<i>sedaDNA</i>), foraminifers and other microfossil or geological analyses
Method responsible:	Agnes Weiner, Irina Polovodova Asteman, Mattia Ferraro
Description of parameter:	Collect samples for <i>sedaDNA</i> , foraminifers and other microfossil or geological analyses.
Multicore labelling	CRUISE_STATION_MULTICORE
Multicore subsample labelling	CRUISE_STATION_MULTICORE_SAMPLEDEPTH_METHOD

Prior to sampling:

Make sure that all equipment is cleaned for *sedaDNA* sampling i.e.

- use nitrile gloves when coming in contact with sediment
- soak end-caps in hot water*
- clean all working surfaces in the wet lab with bleach
- pre-label Falcon tubes and whirlpak bags for subsample collection
- clean plastic spoons with bleach and rinse with MQ as needed
- check that all consumables are correctly labelled according to above labelling scheme

Core on deck:

- retrieve core liner from multicorer and close the top and bottom with endcaps or foam blocks*
- clean exterior of core, label and complete log sheet (document sediment characteristics, core length etc.)
- transport core to laboratory

Core in laboratory:

- collect bottom water for geochemical analysis using pipettes
- place core on extruder and push it up until about 3 cm above the sediment surface
- collect bottom water and marine snow subsample (using pipettes)
- pipette off remaining water
- subsample 0-1 and 1-2 cm for *sedaDNA* using bleach-disinfected plastic spoon
- subsample every cm from 0 to 10 cm for living foraminifers, and stain with Rose Bengal
- subsample 0-1 and 1-2 cm for other microfossil or geological analyses
- small amount of sediment from the surface and intervals with different lithology were washed over 63 µm sieves and screened for foraminifera
- store subsamples in appropriate conditions (freezer, fridge or room temperature)
- thoroughly clean working surfaces using 5% bleach solution and rinse with MQ

** Note that end-caps and foam blocks were not bleached and rinsed with fresh water. Endcaps were rinsed with hot water to make sure they could be mounted on the multicores in the cold weather. For aDNA sampling of the sediment: keep away from the bottom and top of the sediment cores that are in contact with the end caps*

Gravity core sampling

Method parameter:	Sediments for different geological analysis; microfossils for C-14 dating
Method responsible:	Dag Inge Blindheim, Irina Polovodova Asteman, Mattia Ferraro Stijn De Schepper
Description of parameter:	Collect samples for C14 dating at core sections.
Gravity core labelling	CRUISE_STATION_GRAVITYCORE_SECTION

Prior to sampling:

Make sure that all equipment is cleaned for aDNA sampling i.e.

- use nitril gloves when coming in contact with sediment
- clean fish wire with bleach
- soak end-caps in hot water*

Sediment description and sampling on deck:

- retrieve core liner from gravity corer and indicate top and bottom
- clean the core liner with bleach where core will be cut in 1.5 m sections
- measure and label the sections
- describe lithology at top/bottom of core sections
- collect sample for C14 dating at bottom of each section
- small amount of sediment from the core catcher was washed over 63 µm sieves and screened for foraminifera

- add end caps*
- complete log sheet with information on core length, lithology (as observed from core liners) and any other important information (broken tube, etc.)
- transport to lab or to cool storage

** Note that end-caps were not bleached and rinsed with fresh water. Endcaps were soaked in hot water to make sure they could be mounted on the tubes in the cold weather. For aDNA sampling of the sediment: keep away from the bottom and top of the sediment cores that are in contact with the end caps*

3.4 Activities on board

Rosette water samples. Water samples were collected at three different depths (surface, mid, bottom) using the Niskin bottles on the CTD/rosette. Once on deck, the water was drained from the Niskin bottles using plastic tubes into carboys. Both, tubes and carboys had been rinsed with distilled water before each station and were rinsed with the station water before draining the entire bottle content. The original plan was to filter 2 x 5 L per depth per station, so we first collected 15 L water per depth per station. We immediately filtered the water over 0.22 μm Sterivex filters to collect the eDNA. The filters clogged very fast and it was not possible to reach the 5 L. From station 2 on we therefore increased the number of filters per depth to 3 and aimed at filtering at least 1 L over each filter, however, often the filters clogged before. We then only collected 10 L water per depth per station. We noted down the amount of water filtered and the time it took. Tubes and beakers used for filtering were rinsed with MilliQ water between stations. Filters were capped and frozen at $-20\text{ }^{\circ}\text{C}$ until transported to NORCE where they are again stored in the freezer. No water samples were collected at stations 8 and 9.



Samples for trace elements were filled into ultra-clean 500 ml plastic bottles, that were rinsed twice with water from the Niskin bottle. 1 ml (22 drops) of ultrapur HCL (37%) were added to the bottles, which were then stored in double plastic bags in the fridge.

The isotope bottles were rinsed once with water from the Niskin bottle, capped and stored in the fridge.

Multicorer. Once on deck, the multicore tubes were cleaned, labelled, archived and/or subsampled for DNA, foraminifers and *other* analyses. All tubes were stored on deck during the cruise and transferred to the cool storage at NORCE where they are kept at stable temperatures ($\sim 4^{\circ}\text{C}$). Four tubes from station 03, 04, 06 and 08 were frozen and are stored frozen at NORCE. Water has been drained from each multicore.



From each station, 2 cores were archived for dating and microfossil assemblage work and 1 core for sedimentary ancient DNA (*sedaDNA*) work. An additional core was archived and immediately frozen onboard. One core was sampled for *sedaDNA* (fluffy layer; 0-1 and 1-2 cm) and foraminifers (0-10 cm; staining with Rose Bengal). Two more cores were sampled for *sedaDNA* (fluffy layer; 0-1 and 1-2 cm) and other geological analyses (0-1 and 1-2 cm). Bottom water, i.e. the water recovered with the MC overlying the sediment, was subsampled with pipettes for trace elements and isotope sampling. The sediments were allowed to settle – once over night – before samples were obtained from the water overlying the cores.



Gravity corer. After retrieval, the plastic liner was manually cut into sections, while taking care of the plastic sawdust. A sample of the sediment was taken at the base of each section in order to have easy-accessible samples for dating immediately after the cruise. The section ends were secured with plastic caps and the sections were labelled. All sections were stored on deck during the cruise and transferred to the cool storage at NORCE where they are stored at stable temperatures ($\sim 4^{\circ}\text{C}$).

3.5 Station reports

Station KB22-237-01 (Lurefjorden)

IMR activity number: *CTD118, MC1 (ABCD), MC2 (EF), Geologi1*

We arrived at the site on Wed 02/02/2022, after deploying mooring equipment at the entrance of Lyrefjorden, near the bridge, in the early evening. Work on the site started in the dark at 16:50 and ended at 20:02 UTC.

CTD/ROSETTE

We closed the Niskin bottles at 3 depths (272.8 m, 45.9 m and 5.3 m), following the CTD profile. Fresh cold water in upper 5m meters. Warmer increasingly saline waters down to ca. 100 m. Stable water column, same T and S all the way to the bottom.

Four Niskin bottles were closed at each depth and samples were collected for TE, isotopes and eDNA at these depths.

MC

We attempted to collect tubes of 70 cm with the *small MC*. Both attempts failed. The shoes did not close, because the release got stuck. Inspection of the equipment showed that the piston is likely bent somewhat. We did not use the *small MC* further on this station.

Instead, we used the *large MC*, which has 4 tubes of 60 cm. MC1 recovered four tubes (ABCD) with sediment (ca. 39 cm). The ship moved ca. 10 m before the next MC deployment. MC2 recovered four tubes with sediment (ca. 39 cm); three (DEF) were sampled. We kept three archives (ABC) and stored these on deck. From one MC bottom water was subsampled for trace elements prior to sediment sampling.

GC

After MC2 deployment, the ship moved ca. 10m and we deployed the GC. It seemed the corer had penetrated the seafloor with > 3m (mud on outside of steel barrel). In the core catcher, we found green grey mud and a shell (ca. 1 cm) and sampled it. The core liner was shortened, labelled and stored on deck until it was cut into two sections. We recovered 215 cm of sediment.

Station KB22-237-02 (Lurefjorden)

IMR activity number: *CTD119, MC3 (ABD), MC4 (CEF), Geologi2*

Work on the site started in the dark on Wed 02/02/2022 at 20:35 and ended at 23:30 UTC.

CTD/ROSETTE

We closed the Niskin bottles at 3 depths (436 m, 50 m and 5 m), following the CTD profile. Fresh, cold water in upper 5m meters. Warmer increasingly saline waters down to ca. 100 m. Below 100 m, stable water column,

same T and S all the way to the bottom. Four Niskin bottles were closed at each depth and samples were collected for TE, isotopes and eDNA at these depths.

MC

We used the *large MC* (60 cm tubes).

MC3 recovered three tubes with sediment (ca. 47 cm). Two recovered a long section, and had murky water on top. Both were archived (AB). Tube D was immediately used for sampling surface sediments. The ship moved ca. 10 m between MC deployment. MC4 recovered four tubes with sediment (ca. 47 cm). Tube C was archived, tube EF were sampled for sediments. Bottom water sampling was done on one of the MCs. The three archives (ABC) were stored on deck.

GC

The ship moved ca. 10m and we deployed the GC. Difficult to remove tube. Long scratch on the steel barrel, which was also dented close to the core catcher. Most likely, the scratch/dent happened during deployment of the GC when the steel pipe, attached to the cable and winch, was dropped against the rolling edge on the back deck. The GC needed fixing before the next deployment.

Station KB22-237-03 (near Kvamsøya)

IMR activity number: *CTD128, MC5 (ABCD), MC6 (EFGH), Geologi8*

Work on the site started in the morning of 03/02/2022 at 09:09 and ended at 10:07 UTC. We positioned the ship at ca. 190m water depth, deeper than originally planned. The seafloor appeared flatter in the area we took the station (compared to the planned location). Sediment recovery with the MC was very good.

CTD/ROSETTE

We closed the Niskin bottles at 3 depths (181 m, 60 m and 5 m), following the CTD profile. Fresh, cold water in upper 10 m meters. Warmer increasingly saline waters from 10 to 45 m. From 45 m to bottom show stable T and S. Four Niskin bottles were closed at each depth and samples were collected for TE, isotopes and eDNA at these depths.

MC

We used the *large MC* (60 cm tubes). We kept three archives (AEG) and stored these on deck. One additional archive (F) was stored frozen. The surface sediments of three tubes (CDH) were sampled.

GC

The GC was not deployed at this station on 03/03/2022. We revisited the site *en route* from Station 09 to Station 10, and recovered a 213 cm long record with the GC.

Station KB22-237-04 (Haugsværfjorden, innermost Masfjorden)

IMR activity number: *CTD129, MC7 (ABCD), MC8 (EFG), Geologi3*

We arrived at the site around lunchtime on an overcast, wet and rainy day (03/02/2022). Visibility in the fjord was good. The mountains are covered with snow. The entrance to the fjord is very narrow and has to be done in daylight. We encountered some floating ice at the entrance of the fjord, and also in the inner part of the fjord (where we collected some ice). First activity on station 04 (CTD) started at 12:39 UTC. We positioned close to overhanging electricity cables, in a basin that is ca. 110 m deep.

We left the station at 14:23 UTC. We returned to the station for a taking GC2 which started at 15:29 and was completed at 15:39 UCT.

CTD/ROSETTE

We closed the Niskin bottles at 3 depths (102 m, 32 m and 5 m), following the CTD profile. Fresh, cold water in upper 15 m meters. Warmer increasingly saline waters from 15 to 45 m. From 45 m to bottom show stable T and S. Oxygen decreases with depth, and reaches zero at 75 m. Four Niskin bottles were closed at each depth and samples were collected for TE, isotopes and eDNA at these depths. The water was smelling of organic decay.

MC

We used the *large MC* (60 cm tubes). The first MC deployment penetrated too deep in the soft sediments. The sediment that was brought up with this MC contained several shells. The heave was not logged.

We deployed the MC 2 more times and took off all the lead weight, and recovered very full (up to 57 cm) tubes. From the first heave we archived three (ABC) and one (D) was processed for surface sediment sampling. We moved 5m and deployed the MC for a second time. On this second heave, one tube came up empty, one tube was archived for freezing (G), two were sampled for sediment and bottom water (E,F). At the base of the MC, sediment changed from dark gray, soft smelly mud (gyttja) to more sticky, still soft, clayey sediments.

GC

GC1 was deployed after moving ca. 5 m from the MC2 coordinates. The recovery was less than 3 m (286 cm). We returned to the site after a nearby CTD deployment (*CTD130*) and attempted to collect a longer GC. We revisited the location at 15:29 to deploy a second GC, and then we recovered 150 cm of sediment.

ICE

We collected one ice sample from a nearby CTD station (*CTD130*), further in the fjord, in an ca. 100 m deep basin that is separated by a sill from our station 04.

Station KB22-237-05 (Matresfjorden, innermost Masfjorden)

IMR activity number: *CTD, MC9 (ABC), MC10 (DEF), Geologi5*

We came up to the station when darkness set around 16:00 UTC on 03/02/2022. We left the station around 19:00 to start a CTD transect (not part of the Geology program).

CTD/ROSETTE

We closed the Niskin bottles at 3 depths (175 m, 80 m and 5 m), following the CTD profile. Four Niskin bottles were closed at each depth and samples were collected for TE, isotopes and eDNA at these depths.

MC

We used the *large MC* (60 cm tubes). We kept three archives (ADE) and stored these on deck. The surface sediments of three tubes (BCF) and bottom water in one tube were sampled. It was discovered that we an urchin lived in tube E and disturbed the sediment record. Tube E cannot be used for paleoclimate studies.

GC

GC was deployed after moving ca. 5 m from the MC station and recovered 150 cm sediment.

Station KB22-237-06 (Masfjorden, shallow basin, between sills)

IMR activity number: *CTD143, MC11 (ABCD), MC12 (EFGH), Geologi6*

We arrived at the site in the morning on 04/02/2020. It was still dark outside, but weather was calm.

CTD/ROSETTE

Cool, fresh water in upper 5-10m, 10-50 m warmer water, stable T and O₂ from ca. 100 m

We closed the Niskin bottles at 3 depths (295 m, 70 m and 5 m), following the CTD profile. Four Niskin bottles were closed at each depth and samples were collected for TE, isotopes and eDNA at these depths.

MC

We used the *large MC* (60 cm tubes). We kept two regular archives (AH) and stored these on deck, one was for DNA (C), and one was frozen (E). The surface sediments of three tubes (DFG) were sampled.

GC

GC was deployed after moving ca. 5 m from the MC station and recovered a 286 cm record.

Station KB22-237-07 (Masfjorden, deep basin)

IMR activity number: *CTD144, MC13 (ABCD), MC14 (FG), Geologi7*

We arrived at the site around 11:00 on 04/02/2020. Good visibility, overcast weather, occasional snow shower. We left the station at 13:00 UTC.

CTD/ROSETTE

Similar CTD profile as other Masfjorden sites. We closed four Niskin bottles at 3 depths (458.1 m, 176 m and 6.2 m) and samples were collected for TE, isotopes and eDNA at these depths.

MC

We used the *large MC* (60 cm tubes). We kept three regular archives (ABC, C=DNA) and stored these on deck. The top of tube D broke off when offloading from multicorer. The second deployment recovered four tubes with sediments. Three tubes (DEF) were sampled. Observations from the sea floor sediment that travelled up with the MC: sea urchin. Tube G contained an urchin and could not be used for paleoclimate studies. Tube H was also archived. The MC also recovered a brittle star, seaweed. The MC have clear lithological differences: uppermost 0-3 cm is dark, organic-rich; 3-10 cm seems to have coarser sediment, containing shells debris, below that there is stiffer grey-olive clay.

GC

GC was deployed after moving ca. 5 m from the MC station. The clay in the core catcher was stiff. We recovered ca. 360 cm of sediments.

Station KB22-237-08 (Masfjorden, deep basin)

IMR activity number: *MC15 (ABCD)*

We arrived at the site around 14:24 UTC on 04/02/2020 in the middle of a snow/hail shower. Overall good visibility, mainly overcast weather. This was an extra station added during the cruise, hence only one heave with MC was done.

MC

We used the *large MC* (60 cm tubes) for a single deployment only to collect seafloor surface sediments for DNA and foraminifer work. We kept tube A as archive and sampled the surface of cores B, C and D.

Station KB22-237-09 (Masfjorden, shallow basin between sills; Sandnesosen)

IMR activity number: *MC16 (ABCD)*

MC

We used the *large MC* (60 cm tubes) for a single deployment only to collect seafloor surface sediments for DNA and foraminifer work. We kept tube A as archive and sampled the surface of cores B, C and D. This was another extra station added during the cruise, hence only one heave with MC was done.

Station KB22-237-10 (Fensfjorden)

IMR activity number: *CTD145, MC17 (ABCD), MC18 (EF), Geologi9*

We arrived at the site around 16:50 UTC on 04/02/2020. Dark outside, but good visibility. Mongstad is clearly visible towards the north. Note that we moved between CTD and coring stations.

CTD/ROSETTE

We did a CTD profile and closed four Niskin bottles at 3 depths (497.4 m, 249.9 m and 6 m). Samples were collected for TE, isotopes and eDNA at these depths.

MC

Following the CTD, we moved the ship northwards to a slightly deeper station at ca. 580 m, which may have a flatter seafloor. Here we took 2 MCs. We used the *large MC* (60 cm tubes). We kept three regular archives (AEC, C=DNA) and stored these on deck. Three tubes (B,D,F) were sampled for sediments, and bottom water was collected from one tube. A sea star was brought up from the seafloor with the multicorer.

GC

The gravity corer recovered 428 cm sediment. Samples were collected at core sections and core catcher for C14 dating.

Station KB22-237-11 (Mangerfjorden)

IMR activity number: *CTD146, MC19 (ABCD), MC20 (EF), Geologi10*

We aimed to get a reference station at the mouth of Fensfjorden. Unfortunately, the weather was bad, and the swell was too much to safely deploy our equipment. We sailed south toward the entrance of Lurefjorden, and also there the conditions were not favourable for coring. We sailed further south, and we arrived at a site in Mangerfjorden around 9:49 UTC on 05/02/2020. We left the station around 12:00 UTC.

We took a CTD, two MCs, and one gravity corer. Due to some miscommunication, we left the station after MC, i.e. too early. We returned immediately to the same coordinates to collect sediments with the gravity corer.

CTD/ROSETTE

We did a CTD profile and closed four Niskin bottles at 3 depths (361.8 m, 150.8 m and 5.5 m). Samples were collected for TE, isotopes and eDNA at these depths.

MC

Following the CTD, we took 2 MCs. All had great recovery. We used the *large MC* (60 cm tubes). We kept three regular archives (ABC, C=DNA) and stored these on deck. Three tubes (D,E and F) were sampled.

GC

We recovered ca. 450 cm sediment.

Appendices

- Appendix A CTD – log
- Appendix B Mooring drawings, deployment & ADCP setup
- Appendix C Oxygen calibration
- Appendix 1. Cruise number, station coordinates and Log sheets explanations
- Appendix 2. Station activities logs (IMR numbers, coordinates, water depth, weather conditions)
- Appendix 3. List of collected multicores (MC)
- Appendix 4. List of collected gravity cores (GC)
- Appendix 5. Multicore samples collected onboard
- Appendix 6. Gravity core section samples collected onboard for radiocarbon dating
- Appendix 7. eDNA water samples collected onboard
- Appendix 8. Multicore logs
- Appendix 9. Gravity core logs

Appendix A: CTD-log

St.name	CTD File	Date			UTC	Depth	Latitude/ N		Longitude/ E		Water samples					
		year	mon	day	hh:mm	m	deg	min	deg	min	Salt	O2	CT/nutrients	filtering	Isotopes	Trace m.
LF2/01	118	2022	2	2	16:55	278	60	43.295	5	3.6554	1			2-4,6-8,10-12	1,5,9	1,5,9
LF3/02	119	2022	2	2	20:37	443	60	40.157	5	09.943	4			1-3,5-7,9-11	4,8,12	4,8,12
LF-1	120	2022	2	2	23:55	311	60	39.724	5	13.033	1	all 12				
LF-2	121	2022	2	3	01:00	425	60	41.118	5	10.308	1	all 12	1,2,4,6,7,11			
LF-3	122	2022	2	3	02:14	394	60	42.492	5	06.362	1	1,2,3,4,5				
LF-4	123	2022	2	3	03:15	252	60	43.569	5	03.194	1	1,2,3,4,5				
LF-5	124	2022	2	3	03:58	184	60	43.945	5	01.544	1	1,2,3,4,5				
LF-6	125	2022	2	3	04:39	74	60	43.805	4	59.413	1	1,2,3,4				
LF-7	126	2022	2	3	05:09	70	60	44.132	4	56.977	1	1,2,3,4				
Shelf	127	2022	2	3	06:45	500	60	51.745	4	41.403	1	1,2,3,4	1,2,3,4			
MF4/03	128	2022	2	3	09:10	190	60	49.669	5	20.340	4			1-3,5-7,9-11	4,8,12	4,8,12
MF7/04	129	2022	2	3	12:40	110	60	53.854	5	29.575	4			1-3,5-7,9-11	4,8,12	4,8,12
HF	130	2022	2	3	14:45	125	60	54.254	5	30.579	1		1,2,3,4			
MF8/05	131	2022	2	3	16:12	180	60	52.259	5	33.309	4			1-3,5-7,9-11	4,8,12	4,8,12
M33	132	2022	2	3	18:40	193	60	52.011	5	30.648	1	1,2,3,4,5				
M32	133	2022	2	3	19:11	171	60	52.539	5	29.652	1	1,2,3,4,5				
M31	134	2022	2	3	19:48	276	60	52.900	5	28.367	1	1,2,3,4,5				
MF_deep	135	2022	2	3	20:32	482	60	51.694	5	24.374	1	1-7	1,2,3,4,5,6,7			
M24	136	2022	2	3	21:26	460	60	52.216	5	22.064	1	1,2,3,4,5				
M22	137	2022	2	3	22:04	429	60	51.070	5	20.961	1	1,2,3,4,5				
M18	138	2022	2	3	22:43	124	60	50.128	5	20.913	1					
MF_sha.	139	2022	2	3	23:08	300	60	49.545	5	20.827	1	1,2,3,4,5	1,2,3,4,5			
M14	140	2022	2	3	23:55	142	60	48.447	5	19.136	1	1,2,3,4				
M11	141	2022	2	4	00:25	200	60	47.802	5	15.781	1	1,2,3,4,5				
M04	142	2022	2	4	01:40	651	60	45.927	5	12.760	1	1,2,3,4	1,2,3,4			
MF5/06	143	2022	2	4	07:00	300	60	49.432	5	20.617	4			1-2,5-6,9-10	4,8,12	4,8,12
MF6/07	144	2022	2	4	11:50	463	60	52.395	5	22.651	4			1-2,5-6,9-10	4,8,12	4,8,12
FF / 10	145	2022	2	4	16:50	487	60	47.343	5	09.254	3			1-2,5-6,9-10	4,8,12	4,8,12
11	146	2022	2	5	09:23	366	60	37.500	5	02.485	4			1-2,5-6,9-10	4,8,12	4,8,12
BF Sta 4	147	2022	2	5	14:33	300	60	25.784	5	15.881	1		1-5			

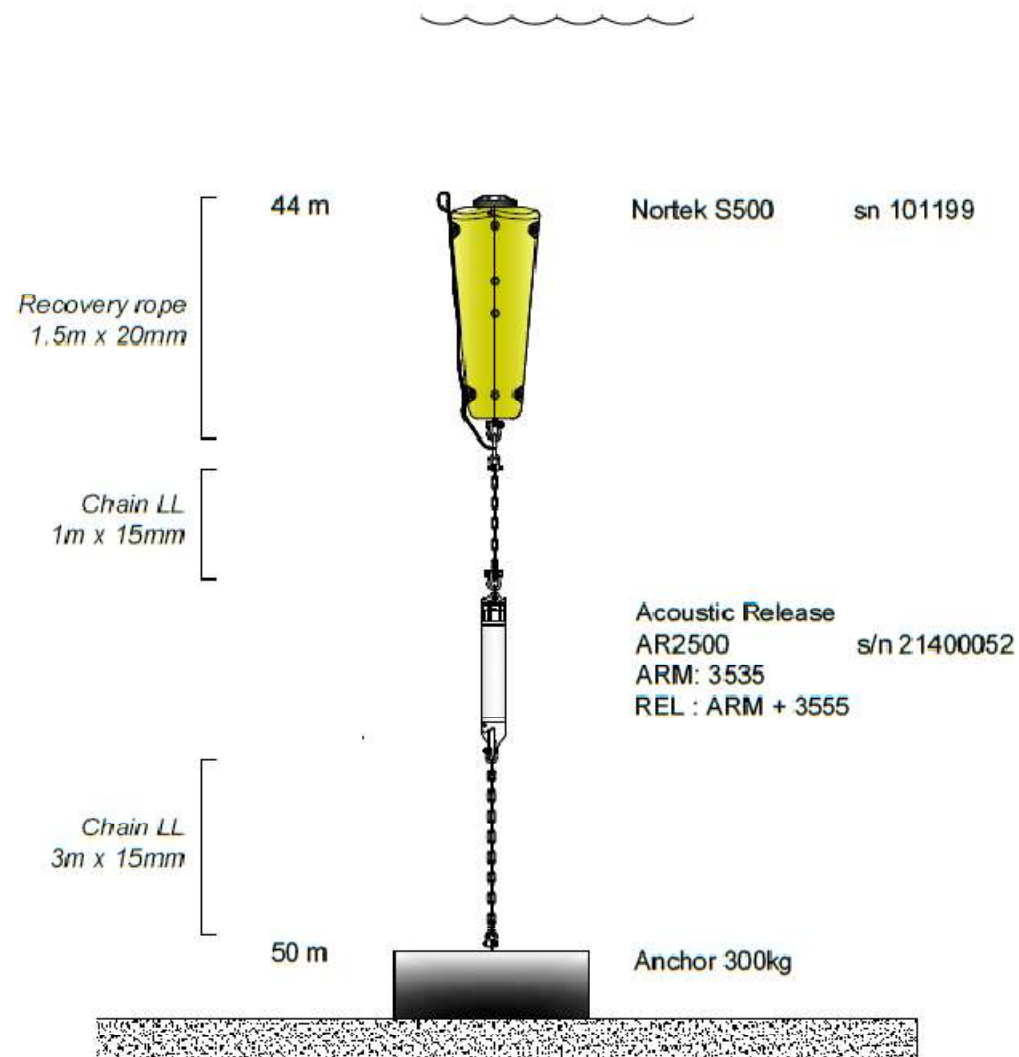
Appendix B: Mooring drawings, deployment & ADCP setup


Configuration		Summary	
Name	Average	Burst 1-5	
^ Performance			
Configured length (days)	30	← total	
Estimated max length (days)	35.7	← total	
Battery capacity (Wh)	1080	←	
Power usage (Wh)	760.5	151.6	
Recorder capacity (MB)	122070.3	←	
Memory usage (MB)	642.6	3876	
^ Data sampling			
Power level (dB)	0	0	
Long range mode	ON	n/a	
Multiplexing	OFF	n/a	
Number of pings	1200	1	
^ Slanted beams			
Horizontal prec. (cm/s)	0.2	23.77	
Vertical prec. (cm/s)	0.07	7.84	
Velocity range (m/s)	2.5	2.5	
^ Vertical beams			
Vertical prec. (cm/s)	n/a	14.8	
Velocity range (m/s)	n/a	2.5	
^ Measurement range			
Desired range (m)	50	50	
Configured range (m)	54.5	55	
Estimated range (m)	68.2	40.4	
Blanking distance (m)	0.5	0.5	
Cell size (m)	2	0.5	
Number of cells	27	109	
Number of beams	4	5	
Altimeter	OFF	OFF	
Ice drift	OFF	OFF	
Pulse distance	n/a	n/a	
Altimeter start (m)	n/a	n/a	
Altimeter end (m)	n/a	n/a	

FIGURE 2: ADCP CONFIGURATION, 1

^ Sampling rate		
Measurement interval	00:10:00	00:30:00
Configured average interval	00:05:00	n/a
Actual average interval	00:05:00	n/a
Sampling rate (Hz)	n/a	2
#Samples	n/a	1200
Burst duration (s)	n/a	00:10:00

FIGURE 3: ADCP CONFIGURATION, 2




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Mooring name: **Nortek**

Project: FJO2RD
 Location: Lurefjorden terskel
 Position: Lat 60°43.847 N
 Lon 4° 58.625' E

Depth: 50 m
 Deployed: 2022 16:02 UTC

Recover: 2022

Notes:
 Recovery rope attached to lifting ring below buoy. Lightly attached to top of buoy.

Latest update: 07/02/2022

FIGURE 4: MOORING DESIGN, NORTEK ADCP

Appendix C: Mooring drawings, recovery

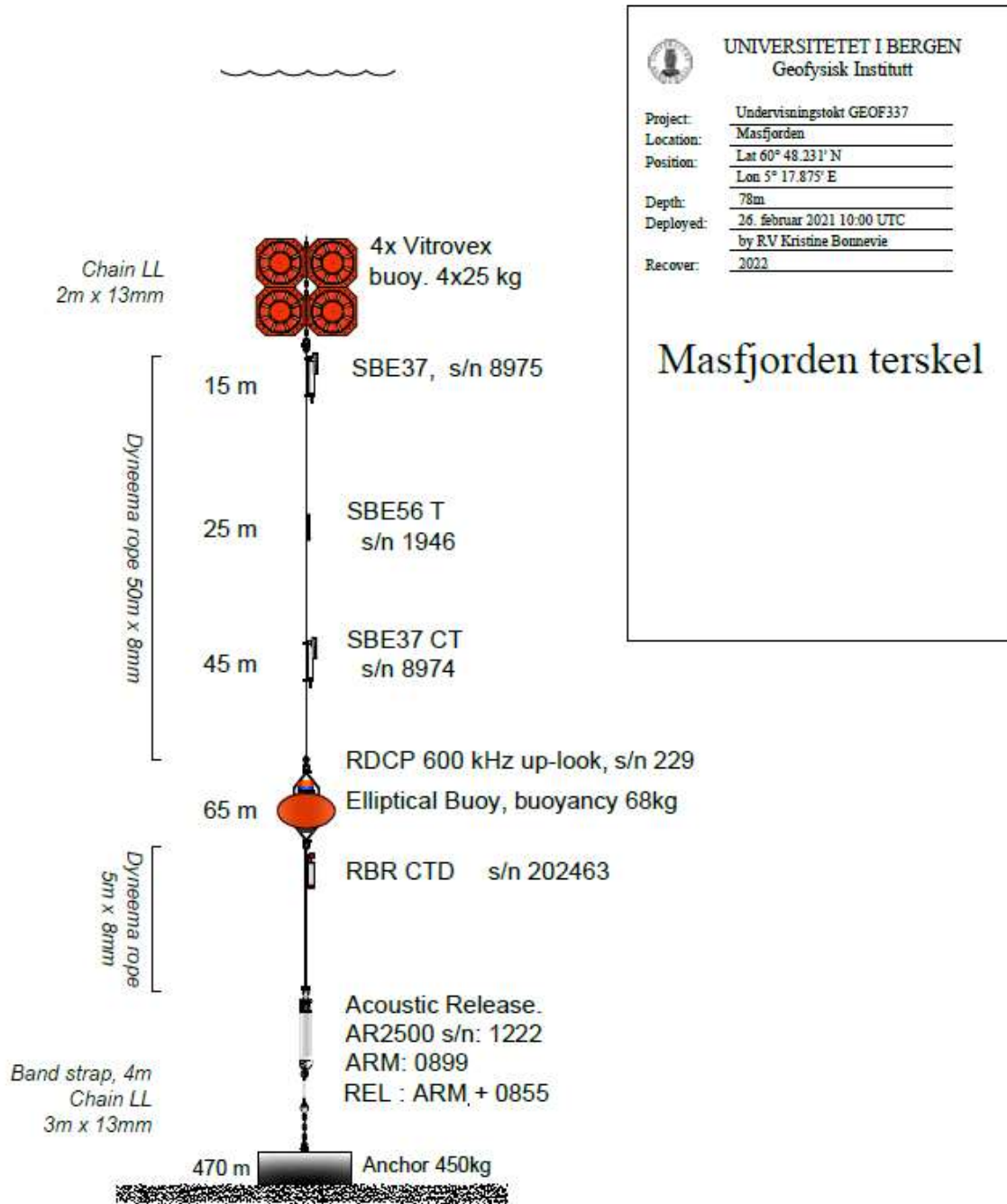


FIGURE 5: MOORING DESIGN, MASFJORDEN SILL

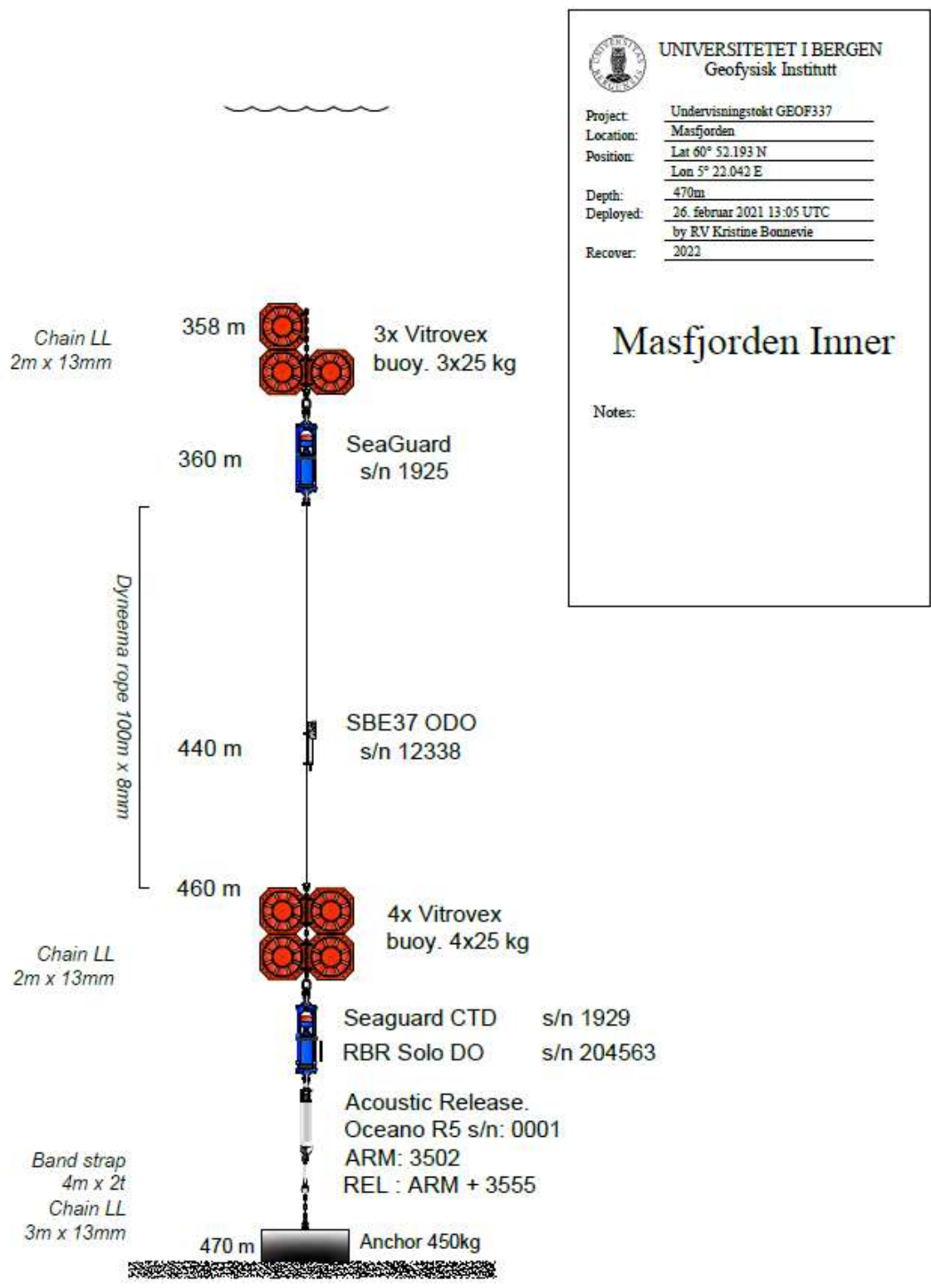


FIGURE 6: MOORING DESIGN, MASFJORDEN INNER

Appendix C: Oxygen calibration

Values from the oxygen sensor was calibrated against values from Winkler titration. Data were converted to $\mu\text{mol/kg}$ (using the uncorrected salinity from the btl-file and the draw-temperature) prior to the analysis. The potential density was calculated using the gsw package for python.

Data flagged as bad or uncertain were removed prior to analysis (this included overtitration, clear signs of bubbles, $\text{DO} \leq 10 \mu\text{mol/kg}$ etc and duplicates with a difference larger than $3 \mu\text{mol/kg}$). Bottles collected above 50 m depth were not included in the analysis. 67 out of 114 samples were retained (most of the discarded samples were from shallow depths). There were no obvious signs on dependency on time (station number), pressure or Niskin bottle (Fig. 7)

We obtained a linear regression between O_2 measured by the CTD (from the btl-file) and the bottle data (Winkler), and removed outliers in an iterative process: points with an error $> 2.5 \times \text{RMSE}$ were removed and a new linear regression was obtained. This was repeated until either a) no more outliers were removed or $\text{rmse} < 2$. Seven outliers were removed in this way (Figure 8).

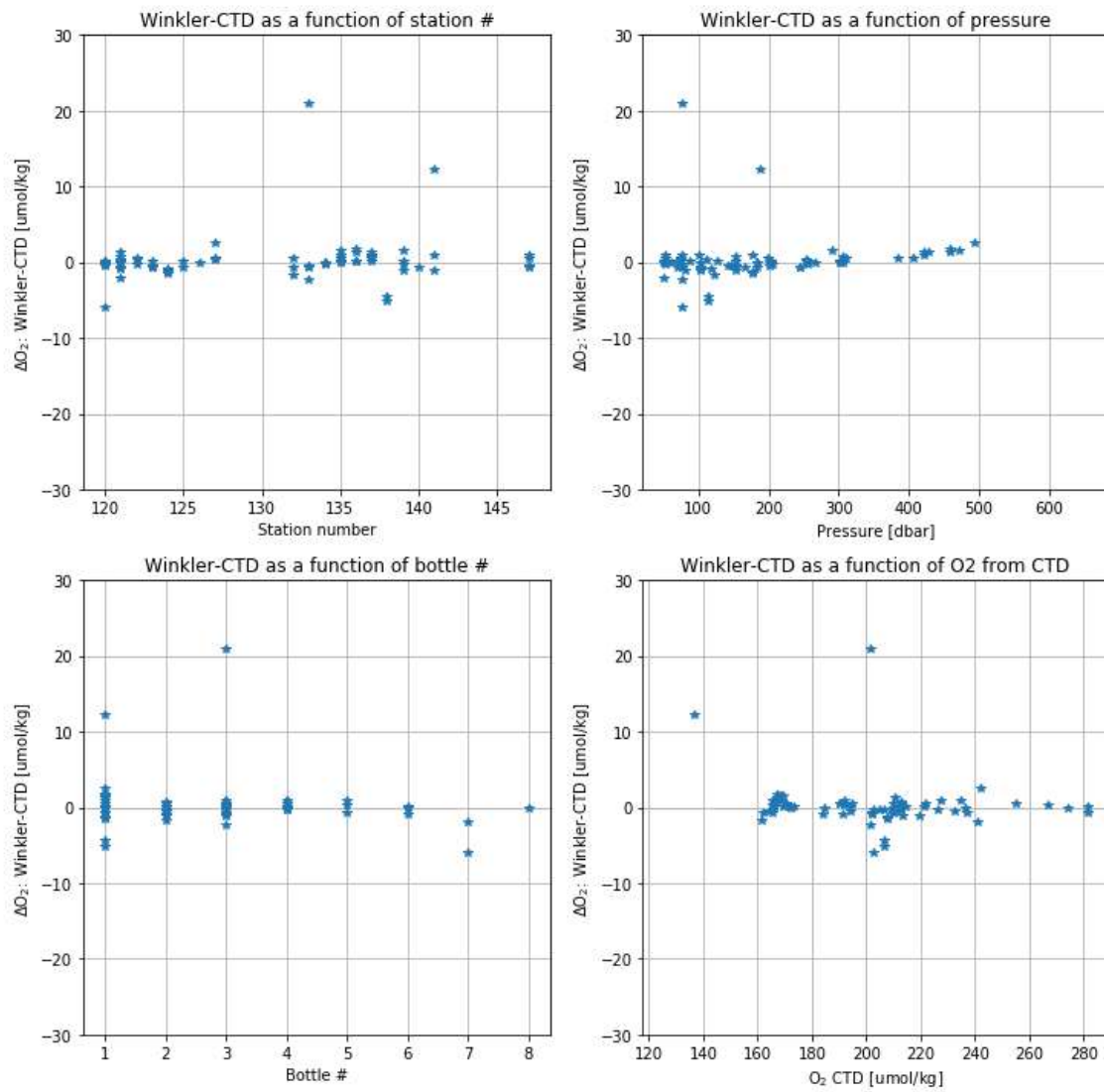


FIGURE 7: DIFFERENCE BETWEEN DISSOLVED OXYGEN CONCENTRATION MEASURED BY THE CTD AND THAT MEASURED BY WINKLER TITRATION AS A FUNCTION OF A) STATION NUMBER, B) PRESSURE, C) NISKIN BOTTLE AND D) OBSERVED DO-CONCENTRATION.

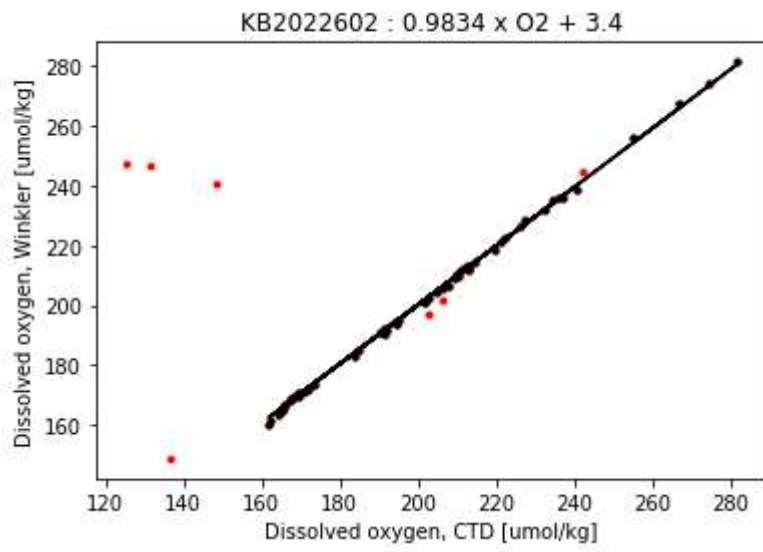


FIGURE 8: DISSOLVED OXYGEN FROM CTD VS DISSOLVED OXYGEN FROM WINKLER TITRATION.

Cruise number GEO KB22-237 Stig Monsen

Cruise number IMR KB2022602 Elin Darelus

In the LOG sheets:

TIME (UTC) and DATE	Note that we are listing Start Time and Date of the operation
LONGITUDE (N)	Note that we are listing Start Lon
LATITUDE (E)	Note that we are listing Start Lat
WATER DEPTH (m)	Note that we are listing Start Depth

COORDINATES

(AVERAGE OF ALL ACTIVITIES AT THE STATION)

Station	Latitude N	Longitude E	Water depth (m)	Date
KB22-237-01	60.721513	5.061093	278.355	02/02/2022
KB22-237-02	60.6873518	5.1657875	443.66	02/02/2022
KB22-237-03	60.7803141	5.243665375	190.1725	03/02/2022
KB22-237-04	60.8975017	5.4958917	109.368	03/02/2022
KB22-237-05	60.87098	5.555663125	180.11125	03/02/2022
KB22-237-06	60.8238283	5.343716625	299.7675	04/02/2022
KB22-237-07	60.8725986	5.376827	462.41375	04/02/2022
KB22-237-08	60.8770285	5.442521	417.855	04/02/2022
KB22-237-09	60.8032325	5.31774	141.49	04/02/2022
KB22-237-10	60.7897473	5.135291625	554.395	04/02/2022
KB22-237-11	60.6248143	5.042141375	366.25625	05/02/2022

KB22-237-01																			
Station type	Ref. no	Loc.St.No	Date	Time (UTC)	Log	Latitude	Longitude	Latitude N	Longitude E	Water depth (m)	Heading	Speed	Water temp	Wind	Wind dir	Air temp	Air pressure	Humidity	Comment
CTD with watersample start	1	118	02/02/2022	16:50:03	9767.812	60°43.294490' N	05°03.655190' E	60.721575	5.06092	278.2	131.33	0	5.7	5.64	314.33	2.7	1007.3	84	1
CTD with watersample stop	1	118	02/02/2022	17:06:56	9767.812	60°43.294589' N	05°03.655287' E	60.721576	5.060921	277.94	130.83	0	5.8	2.17	24.82	2.2	1007.3	83	1
Multicorer start	1	1	02/02/2022	18:37:04	9767.812	60°43.292627' N	05°03.660646' E	60.721544	5.061011	278.21	130.84	0	5.7	3.54	158.78	2.3	1007.2	82	1
Multicorer stop	1	1	02/02/2022	18:46:23	9767.812	60°43.292375' N	05°03.660471' E	60.72154	5.061008	278.18	131.25	0	5.7	2.66	149.25	2	1007.3	82	1
Multicorer start	1	2	02/02/2022	19:13:19	9767.812	60°43.290271' N	05°03.668553' E	60.721504	5.061143	278.32	130.89	0	5.8	3.2	160.91	1.6	1007.2	83	2
Multicorer stop	1	2	02/02/2022	19:25:32	9767.812	60°43.290259' N	05°03.667453' E	60.721504	5.061124	278.35	130.77	0	5.7	4.2	158.77	1.6	1007	84	2
Geologi start	1	1	02/02/2022	19:53:22	9767.812	60°43.285799' N	05°03.678745' E	60.72143	5.061313	278.82	130.76	0	5.7	4.44	150.77	1.5	1007	85	Geologi
Geologi stop	1	1	02/02/2022	20:02:23	9767.812	60°43.285860' N	05°03.678214' E	60.721431	5.061304	278.82	130.49	0	5.7	4.61	153.48	1.4	1007.2	85	Geologi
Average coordinates / water depth :								60.721513	5.061093	278.355									

KB22-237-02																			
Station type	Ref. no	Loc.St.No	Date	Time (UTC)	Log	Latitude	Longitude	Latitude N	Longitude E	Water depth (m)	Heading	Speed	Water temp	Wind	Wind dir	Air temp	Air pressure	Humidity	Comment
CTD with watersample start	2	119	02/02/2022	20:35:07	9771.506	60°41.242720' N	05°09.947696' E	60.687379	5.165795	443.19	125.96	0.4	5.7	5.76	132.84	1.4	1007	86	
CTD with watersample stop	2	119	02/02/2022	20:54:58	9771.506	60°41.242512' N	05°09.949464' E	60.687375	5.165824	443.24	127.13	0	5.8	5.84	138.13	1.4	1007.2	86	
Multicorer start	2	3	02/02/2022	21:30:57	9771.506	60°41.243860' N	05°09.938173' E	60.687398	5.165636	443.69	126.37	0	5.6	5.74	131.36	1.7	1007	85	1
Multicorer stop	2	3	02/02/2022	21:43:36	9771.506	60°41.243473' N	05°09.937850' E	60.687391	5.165631	443.63	126.39	0	5.8	5.02	131.39	1.8	1007	84	1
Multicorer start	2	4	02/02/2022	22:41:19	9771.506	60°41.239896' N	05°09.948012' E	60.687332	5.1658	443.82	127.18	0	5.7	6.18	130.19	1.8	1006.9	84	2
Multicorer stop	2	4	02/02/2022	22:56:20	9771.506	60°41.240052' N	05°09.948306' E	60.687334	5.165805	443.88	127.08	0	5.8	6.04	125.08	1.8	1006.8	84	2
Geologi start	2	2	02/02/2022	23:05:45	9771.506	60°41.238052' N	05°09.954178' E	60.687301	5.165903	443.91	127.61	0	5.7	5.72	121.65	1.5	1006.7	84	Geologi
Geologi stop	2	2	02/02/2022	23:30:08	9771.506	60°41.238220' N	05°09.954333' E	60.687304	5.165906	443.92	127.65	0	5.7	7.21	124.61	1.5	1006.4	84	Geologi
Average coordinates / water depth :								60.68735175	5.1657875	443.66									

KB22-237-03																			
Station type	Ref. no	Loc.St.No	Date	Time (UTC)	Log	Latitude	Longitude	Latitude N	Longitude E	Water depth (m)	Heading	Speed	Water temp	Wind	Wind dir	Air temp	Air pressure	Humidity	Comment
CTD with watersample start	3	128	03/02/2022	09:09:34	9813.289	60°46.818493' N	05°14.619798' E	60.780308	5.243663	190.25	177.44	0	5.4	7.51	144.43	4	997.9	87	
CTD with watersample stop	3	128	03/02/2022	09:22:28	9813.289	60°46.818545' N	05°14.619447' E	60.780309	5.243658	190.18	169.8	0	5.4	10.34	133.8	3.9	997.7	87	
Multicorer start	3	5	03/02/2022	09:33:24	9813.289	60°46.818464' N	05°14.619674' E	60.780308	5.243661	190.28	169	0	5.5	7.58	148.01	4	997.5	87	1
Multicorer stop	3	5	03/02/2022	09:43:22	9813.289	60°46.818361' N	05°14.619697' E	60.780306	5.243662	190.45	169.42	0	5.7	7.8	134.19	4	997.5	87	1
Multisampler start	3	6	03/02/2022	10:01:23	9813.289	60°46.818736' N	05°14.620055' E	60.780312	5.243668	190.41	169.41	0	5.7	7	132.41	4	997.3	87	2
Multisampler stop	3	6	03/02/2022	10:07:20	9813.289	60°46.818442' N	05°14.619722' E	60.780308	5.243662	190.67	169.47	0	5.7	10.54	145.42	4	997.4	88	2
Geologi start	3	8	04/02/2022	16:11:23	9874.037	60°46.819969' N	05°14.619732' E	60.780333	5.243662	189.57	216.83	0.1	5.4	10.14	206.94	4.2	984.4	64	Geologi 22-237-03 (MF4)
Geologi stop	3	8	04/02/2022	16:19:20	9874.037	60°46.819753' N	05°14.621203' E	60.780329	5.243687	189.57	208.44	0	5.8	7.69	208.46	4.3	984.6	62	Geologi 22-237-03 (MF4)
Average coordinates / water depth :								60.78031413	5.243665375	190.1725									

KB22-237-04																			
Station type	Ref. no	Loc.St.No	Date	Time (UTC)	Log	Latitude	Longitude	Latitude N	Longitude E	Water depth (m)	Heading	Speed	Water temp	Wind	Wind dir	Air temp	Air pressure	Humidity	Comment
CTD with watersample start	4	129	03/02/2022	12:39:44	9826.346	60°53.850490' N	05°29.750002' E	60.897508	5.495833	109.78	35.23	0	6.6	5.67	35.23	2.6	996	89	
CTD with watersample stop	4	129	03/02/2022	12:47:05	9826.346	60°53.850449' N	05°29.749504' E	60.897508	5.495825	109.8	35.81	0	7.1	4.76	29.81	2.8	996	89	
Multicorer start	4	7	03/02/2022	13:16:22	9826.346	60°53.850374' N	05°29.750363' E	60.897506	5.495839	109.74	36.18	0	7.4	5.16	68.48	5.3	995.5	89	
Multicorer stop	4	7	03/02/2022	13:25:31	9826.346	60°53.848245' N	05°29.755377' E	60.897471	5.495923	109.65	35.57	0.1	7.2	7.73	83.54	5.3	995.4	87	
Multicorer start	4	8	03/02/2022	13:35:43	9826.346	60°53.846242' N	05°29.759418' E	60.897438	5.49599	109.47	53.97	0.1	7.1	7.74	95.23	5.5	995.2	83	
Multicorer stop	4	8	03/02/2022	13:55:11	9826.346	60°53.845456' N	05°29.760413' E	60.897422	5.496007	109.24	53.72	0	6.7	7.65	91.77	6.1	994.8	80	
Geologi start	4	3	03/02/2022	14:09:39	9826.346	60°53.841592' N	05°29.757808' E	60.89736	5.495963	109.1	57.9	0	6.9	5.76	80.89	6.3	994.5	78	Geologigravity corer
Geologi stop	4	3	03/02/2022	14:23:44	9826.346	60°53.841633' N	05°29.757133' E	60.897361	5.495952	109.04	57.63	0	7.2	6.38	90.68	6.4	994.4	78	Geologigravity corer
Geologi start	4	4	03/02/2022	15:19:13	9827.492	60°53.862964' N	05°29.747760' E	60.897716	5.495796	108.95	215.86	0	7.6	1.72	71.84	7	993.8	76	Geologi gravity corer
Geologi stop	4	4	03/02/2022	15:29:27	9827.492	60°53.863515' N	05°29.747335' E	60.897725	5.495789	108.91	215.88	0.1	7.7	2.24	191.88	6.1	993.7	77	Geologi gravity corer
Average coordinates / water depth :								60.8975017	5.4958917	109.368									

KB22-237-05																			
Station type	Ref. no	Loc.St.No	Date	Time (UTC)	Log	Latitude	Longitude	Latitude N	Longitude E	Water depth (m)	Heading	Speed	Water temp	Wind	Wind dir	Air temp	Air pressure	Humidity	Comment
CTD with watersample start	5	131	03/02/2022	16:11:30	9831.071	60°52.257874' N	05°33.316596' E	60.870964	5.555277	180.07	135.63	0	5.5	2.35	42.43	5.1	993.4	80	
CTD with watersample stop	5	131	03/02/2022	16:31:58	9831.071	60°52.259699' N	05°33.341958' E	60.870995	5.555699	180.36	137.02	0	7.1	2	159.01	5.3	992.9	80	
Multicorer start	5	9	03/02/2022	17:02:15	9831.071	60°52.258974' N	05°33.343524' E	60.870983	5.555725	180.15	139.95	0	7.2	0.86	172.94	4.8	992.4	80	
Multicorer stop	5	9	03/02/2022	17:18:18	9831.071	60°52.258760' N	05°33.343298' E	60.870979	5.555722	180.12	139.92	0	7.3	0.93	103.92	4.8	992	81	
Multicorer start	5	10	03/02/2022	17:33:14	9831.071	60°52.258772' N	05°33.343199' E	60.870979	5.55572	180.06	139.9	0.1	7.2	2.36	92.93	5.2	991.6	81	
Multicorer stop	5	10	03/02/2022	17:37:38	9831.071	60°52.258850' N	05°33.343708' E	60.870981	5.555728	180.07	139.98	0	7.2	0.34	203	5.1	991.5	81	
Geologi start	5	5	03/02/2022	17:53:43	9831.071	60°52.258672' N	05°33.342823' E	60.870978	5.555714	179.95	139.62	0.1	7.3	3.12	101.04	5.6	991.3	80	Geologi
Geologi stop	5	5	03/02/2022	18:02:46	9831.071	60°52.258852' N	05°33.343203' E	60.870981	5.55572	180.11	139.51	0	7.4	1.58	126.49	5.3	991	80	Geologi
Average coordinates / water depth :								60.87098	5.555663125	180.11125									

KB22-237-06																			
Station type	Ref. no	Loc.St.No	Date	Time (UTC)	Log	Latitude	Longitude	Latitude N	Longitude E	Water depth (m)	Heading	Speed	Water temp	Wind	Wind dir	Air temp	Air pressure	Humidity	Comment
CTD with watersample start	6	143	04/02/2022	07:02:42	9852.234	60°49.432115' N	05°20.626699' E	60.823869	5.343778	299.45	243.04	0	4.9	5.68	128.03	3.6	986.3	75	
CTD with watersample stop	6	143	04/02/2022	07:18:46	9852.234	60°49.432008' N	05°20.627206' E												

Multicorer start	6	12	04/02/2022	08:18:32	9852.234	60°49.429903' N	05°20.623302' E	60.823832	5.343722	299.95	222.22	0	6.5	7.04	205.21	4.1	986.6	68	2
Multicorer stop	6	12	04/02/2022	08:29:48	9852.234	60°49.429714' N	05°20.623599' E	60.823829	5.343727	299.98	222.54	0	6.6	10.31	204.54	4.1	986.6	67	2
Geologi start	6	6	04/02/2022	08:37:38	9852.234	60°49.425049' N	05°20.614769' E	60.823751	5.343579	299.93	223.53	0.1	6.5	12.43	196.45	4	986.5	67	Geologi
Geologi stop	6	6	04/02/2022	08:49:23	9852.234	60°49.424481' N	05°20.614271' E	60.823741	5.343571	299.94	223.34	0	6.3	6.82	215.37	4	986.4	68	Geologi

Average coordinates / water depth : **60.82382825 5.343716625 299.7675**

Station type	Ref. no	Loc.St.No	Date	Time (UTC)	Log	Latitude	Longitude	Latitude N	Longitude E	Water depth (m)	Heading	Speed	Water temp	Wind	Wind dir	Air temp	Air pressure	Humidity	Comment
CTD with watersample start	7	144	04/02/2022	10:50:43	9859.65	60°52.391538' N	05°22.659516' E	60.873192	5.377659	462.85	270.03	0.1	4	6.48	270	1.8	986.2	78	
CTD with watersample stop	7	144	04/02/2022	11:14:24	9859.704	60°52.348505' N	05°22.599361' E	60.872475	5.376656	462.44	218.1	0	4.4	5.86	248	2.1	985.9	77	
Multicorer start	7	13	04/02/2022	11:26:55	9859.704	60°52.348755' N	05°22.599132' E	60.872479	5.376652	462.55	218.49	0	4.3	6.68	249.52	2.3	985.9	77	
Multicorer stop	7	13	04/02/2022	11:38:09	9859.704	60°52.348646' N	05°22.599108' E	60.872478	5.376652	462.56	218.83	0	4.3	6.25	235.78	2.7	985.8	76	
Multicorer start	7	14	04/02/2022	11:52:23	9859.704	60°52.352364' N	05°22.603094' E	60.872539	5.376718	462.21	218.37	0.1	4.3	10.62	221.45	3.3	985.6	68	
Multicorer stop	7	14	04/02/2022	12:16:08	9859.704	60°52.352550' N	05°22.605464' E	60.872543	5.376758	462.37	210.63	0	4.5	13.86	205.63	3.8	985	64	
Geologi start	7	7	04/02/2022	12:31:03	9859.704	60°52.352643' N	05°22.605537' E	60.872544	5.376759	462.15	213.87	0.1	4.6	12.67	229.94	3.6	985	67	Geologi
Geologi stop	7	7	04/02/2022	13:00:02	9859.704	60°52.352346' N	05°22.605710' E	60.872539	5.376762	462.18	218.35	0	4.4	10.28	231.39	3	985.2	74	Geologi

Average coordinates / water depth : **60.87259863 5.376827 462.41375**

Station type	Ref. no	Loc.St.No	Date	Time (UTC)	Log	Latitude	Longitude	Latitude N	Longitude E	Water depth (m)	Heading	Speed	Water temp	Wind	Wind dir	Air temp	Air pressure	Humidity	Comment
Multicorer start	8	15	04/02/2022	14:24:51	9864.639	60°52.621871' N	05°26.550389' E	60.877031	5.442506	417.81	188.87	0	4.7	5.13	266.8	3.6	984	68	
Multicorer stop	8	15	04/02/2022	14:44:40	9864.639	60°52.621560' N	05°26.552148' E	60.877026	5.442536	417.9	196.78	0.1	4.8	14.09	252.83	3.9	984	67	

Average coordinates / water depth : **60.8770285 5.442521 417.855**

Station type	Ref. no	Loc.St.No	Date	Time (UTC)	Log	Latitude	Longitude	Latitude N	Longitude E	Water depth (m)	Heading	Speed	Water temp	Wind	Wind dir	Air temp	Air pressure	Humidity	Comment
Multicorer start	9	16	04/02/2022	15:37:23	9871.246	60°48.193847' N	05°19.064425' E	60.803231	5.317741	141.42	238.16	0	5.3	6.06	154.09	3.3	985	68	
Multicorer stop	9	16	04/02/2022	15:45:26	9871.246	60°48.194042' N	05°19.064319' E	60.803234	5.317739	141.56	237.2	0.1	5.3	8.22	173.89	3.5	985	67	

Average coordinates / water depth : **60.8032325 5.317774 141.49**

Station type	Ref. no	Loc.St.No	Date	Time (UTC)	Log	Latitude	Longitude	Latitude N	Longitude E	Water depth (m)	Heading	Speed	Water temp	Wind	Wind dir	Air temp	Air pressure	Humidity	Comment
CTD with watersample start	10	145	04/02/2022	16:50:25	9876.755	60°47.343325' N	05°09.264245' E	60.789056	5.154404	487.79	241.07	0.1	6	16.25	259.11	4.5	984.5	67	
CTD with watersample stop	10	145	04/02/2022	17:13:26	9876.755	60°47.344226' N	05°09.263627' E	60.789071	5.154394	476.96	247.38	0.1	5.9	14.25	235.35	3.8	984.8	72	
Multicorer start	10	17	04/02/2022	17:46:27	9877.502	60°47.399552' N	05°07.738452' E	60.789993	5.128974	578.53	279.88	0.1	6.3	11.06	242.82	3.6	984.6	76	1
Multicorer stop	10	17	04/02/2022	17:58:43	9877.502	60°47.399862' N	05°07.738286' E	60.789998	5.128971	578.51	279.04	0.1	6.1	7.96	237.98	3.6	984.7	72	1
Multicorer start	10	18	04/02/2022	18:27:15	9877.502	60°47.399023' N	05°07.739733' E	60.789984	5.128996	578.65	242.43	0.1	6.1	6.37	240.41	3.8	984.8	74	2
Multicorer stop	10	18	04/02/2022	18:41:33	9877.502	60°47.399319' N	05°07.739218' E	60.789989	5.128987	578.41	243.37	0.1	6	10.08	249.37	4	984.8	70	2
Geologi start	10	9	04/02/2022	19:00:19	9877.502	60°47.396857' N	05°07.728104' E	60.789948	5.128802	578.21	243.35	0.1	6	7.12	224.41	4	984.7	65	Geologi
Geologi stop	10	9	04/02/2022	19:20:03	9877.502	60°47.396332' N	05°07.728300' E	60.789939	5.128805	578.1	242.83	0.1	6	6.82	233.76	3.9	985	68	Geologi

Average coordinates / water depth : **60.78974725 5.135291625 554.395**

Station type	Ref. no	Loc.St.No	Date	Time (UTC)	Log	Latitude	Longitude	Latitude N	Longitude E	Water depth (m)	Heading	Speed	Water temp	Wind	Wind dir	Air temp	Air pressure	Humidity	Comment
CTD with watersample start	11	146	05/02/2022	09:23:09	9919.852	60°37.497596' N	05°02.493058' E	60.62496	5.041551	365.79	265.2	0	5.2	3.9	137.2	1.6	991.5	82	
CTD with watersample stop	11	146	05/02/2022	09:40:38	9919.852	60°37.497649' N	05°02.493265' E	60.624961	5.041554	365.84	266.83	0	5.7	5.8	146.94	1.4	991.2	84	
Multicorer start	11	19	05/02/2022	09:49:15	9919.852	60°37.497557' N	05°02.493403' E	60.624959	5.041557	365.92	266.77	0	5.6	5.63	152.76	1.6	991.1	84	1
Multicorer stop	11	19	05/02/2022	09:56:45	9919.852	60°37.491124' N	05°02.493388' E	60.624852	5.041556	366.07	270.57	0.1	5.7	4.69	193.03	1.9	991	84	1
Multicorer start	11	20	05/02/2022	11:01:34	9919.852	60°37.487805' N	05°02.493098' E	60.624797	5.041552	366.5	266.78	0.1	6	6.47	170.35	4.6	990	67	
Multicorer stop	11	20	05/02/2022	11:20:07	9919.852	60°37.488122' N	05°02.493188' E	60.624802	5.041553	366.7	267.03	0.2	6.1	8.68	221.55	4.6	989.8	65	
Geologi start	11	10	05/02/2022	11:45:29	9921.065	60°37.475404' N	05°02.634317' E	60.62459	5.043905	366.61	204.59	0	6.2	7.36	187.58	4.2	989.4	70	Geologi
Geologi stop	11	10	05/02/2022	11:50:33	9921.065	60°37.475564' N	05°02.634142' E	60.624593	5.043903	366.62	204.58	0	6	7.62	190.6	4.2	989.3	70	Geologi

Average coordinates / water depth : **60.62481425 5.042141375 366.25625**

Station	MC	Deployment	Length (cm)	Purpose	Activity	Responsible
KB22-237-01	A	1	40.5	ARCHIVE	4 degC	BR
KB22-237-01	B	1	41.5	ARCHIVE	4 degC	BR
KB22-237-01	C	1	38	ARCHIVE DNA	4 degC	AW
KB22-237-01	D	1	37	Sampled	DNA (0-2), Forams (0-10)	AW / BR
KB22-237-01	E	2	38.5	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-01	F	2	39	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-02	A	1	50	ARCHIVE	4 degC	BR
KB22-237-02	B	1	45	ARCHIVE	4 degC	BR
KB22-237-02	C	2	47	ARCHIVE DNA	4 degC	AW
KB22-237-02	D	1	45	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-02	E	2	41.5	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-02	F	2	48	Sampled	DNA (0-2), Forams (0-10)	AW / BR
KB22-237-03	A	1	35.5	ARCHIVE	4 degC	BR
KB22-237-03	C	1	34.5	Sampled	DNA (0-2), Forams (0-10)	AW / BR
KB22-237-03	D	1	32.5	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-03	E	2	38.5	ARCHIVE	4 degC	BR
KB22-237-03	F	2	34.2	ARCHIVE	FROZEN	AW
KB22-237-03	G	2	37	ARCHIVE DNA	4 degC	AW
KB22-237-03	H	2	37.5	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-04	A	1	51	ARCHIVE	4 degC	BR
KB22-237-04	B	1	57	ARCHIVE	4 degC	BR
KB22-237-04	C	1	57	ARCHIVE DNA	4 degC	AW
KB22-237-04	D	1	46.5	Sampled	DNA (0-2), Forams (0-10)	AW / BR
KB22-237-04	E	2	53	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-04	F	2	54	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-04	G	2	56	ARCHIVE	FROZEN	AW
KB22-237-05	A	1	38.5	ARCHIVE	4 degC	BR
KB22-237-05	B	1	27	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-05	C	1	33.5	Sampled	DNA (0-2), Forams (0-10)	AW / BR
KB22-237-05	D	2	38.5	ARCHIVE DNA	4 degC	AW / BR
KB22-237-05	E	2	40	Do not use - urchin discovered		
KB22-237-05	F	2	31	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-06	A	1	46	ARCHIVE	4 degC	BR
KB22-237-06	B	1	39.5	ARCHIVE	4 degC	BR
KB22-237-06	C	1	46.5	ARCHIVE DNA	4 degC	AW
KB22-237-06	D	1	40	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-06	E	2	45.5	ARCHIVE	FROZEN	AW
KB22-237-06	F	2	46.5	Sampled	DNA (0-2), Forams (0-10)	AW / BR
KB22-237-06	G	2	42	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-06	H	2	47	ARCHIVE	4 degC	BR
KB22-237-07	A	1	41	ARCHIVE	4 degC	BR
KB22-237-07	B	1	46	ARCHIVE	4 degC	BR
KB22-237-07	C	1	45.5	ARCHIVE DNA	4 degC	AW
KB22-237-07	D	1	45	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-07	E	2	44	Sampled	DNA (0-2), Forams (0-10)	AW / BR
KB22-237-07	F	2	46	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-07	G	2	?	Do not use - urchin discovered		
KB22-237-07	H	2	42	ARCHIVE	4 degC	BR
KB22-237-08	A	1	47.5	ARCHIVE	FROZEN	AW
KB22-237-08	B	1	49	Sampled	DNA (0-2), Forams (0-10)	AW / BR
KB22-237-08	C	1	47	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-08	D	1	44	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-09	A	1	17	ARCHIVE	4 degC	BR

KB22-237-09	B	1	23.5	Sampled	DNA (0-2), Forams (0-10)	AW / BR
KB22-237-09	C	1	21	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-09	D	1	44	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-10	A	1	49	ARCHIVE	4 degC	BR
KB22-237-10	B	1	45	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-10	C	1	46	ARCHIVE DNA	4 degC	AW
KB22-237-10	D	1	46	Sampled	DNA (0-2), Forams (0-10)	AW / BR
KB22-237-10	E	2	39	ARCHIVE	4 degC	BR
KB22-237-10	F	2	41	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-11	A	1	59	ARCHIVE	4 degC	BR
KB22-237-11	B	1	58	ARCHIVE	4 degC	BR
KB22-237-11	C	1	57	ARCHIVE DNA	4 degC	AW
KB22-237-11	D	1	59	Sampled	DNA (0-2), Forams (0-10)	AW / BR
KB22-237-11	E	2	na	Sampled	DNA (0-2), Other (0-2)	AW / BR
KB22-237-11	F	2	na	Sampled	DNA (0-2), Other (0-2)	AW / BR

Station	GC	Length (cm)	Storage
KB22-237-01		215	4 degC
KB22-237-02		500	4 degC
KB22-237-03		213	4 degC
KB22-237-04	1	286	4 degC
	2	150	4 degC
KB22-237-05		150	4 degC
KB22-237-06		286	4 degC
KB22-237-07		362	4 degC
KB22-237-10		428	4 degC
KB22-237-11		450	4 degC

Cruise	Station	Core	Cast	Tube	Top Depth (cm)	Bottom Depth (cm)	Sample Type	Sampling date	Sampling location	Sampled by	Sample storage (location, °C)	PROJECT	Notes
KB22-237	01	MC	2	E	NA	NA	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	01	MC	2	E	0	1	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	01	MC	2	E	1	2	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	01	MC	2	E	0	1	Other	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	01	MC	2	E	1	2	Other	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	01	MC	2	F	NA	NA	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	01	MC	2	F	0	1	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	01	MC	2	F	1	2	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	01	MC	2	F	0	1	Other	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	01	MC	2	F	1	2	Other	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	01	MC	1	D	NA	NA	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	01	MC	1	D	0	1	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	01	MC	1	D	1	2	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	01	MC	1	D	0	1	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	01	MC	1	D	1	2	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	01	MC	1	D	2	3	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	01	MC	1	D	3	4	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	01	MC	1	D	4	5	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	01	MC	1	D	5	6	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	01	MC	1	D	6	7	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	01	MC	1	D	7	8	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	01	MC	1	D	8	9	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	01	MC	1	D	9	10	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	02	MC	2	D	NA	NA	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	02	MC	2	D	0	1	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	02	MC	2	D	1	2	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	02	MC	2	D	0	1	Other	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	02	MC	2	D	1	2	Other	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	02	MC	2	E	NA	NA	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	02	MC	2	E	0	1	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	02	MC	2	E	1	2	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	02	MC	2	E	0	1	Other	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	02	MC	2	E	1	2	Other	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	02	MC	1	F	NA	NA	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer

KB22-237	02	MC	1	F	0	1	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	02	MC	1	F	1	2	DNA	02/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	02	MC	1	F	0	1	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	02	MC	1	F	1	2	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	02	MC	1	F	2	3	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	02	MC	1	F	3	4	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	02	MC	1	F	4	5	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	02	MC	1	F	5	6	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	02	MC	1	F	6	7	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	02	MC	1	F	7	8	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	02	MC	1	F	8	9	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	02	MC	1	F	9	10	Foram	02/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	03	MC	1	D	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	03	MC	1	D	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	03	MC	1	D	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	03	MC	1	D	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	03	MC	1	D	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	03	MC	2	H	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	03	MC	2	H	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	03	MC	2	H	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	03	MC	2	H	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	03	MC	2	H	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	03	MC	1	C	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	03	MC	1	C	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	03	MC	1	C	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	03	MC	1	C	0	1	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	03	MC	1	C	1	2	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	03	MC	1	C	2	3	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	03	MC	1	C	3	4	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	03	MC	1	C	4	5	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	03	MC	1	C	5	6	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	03	MC	1	C	6	7	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	03	MC	1	C	7	8	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	03	MC	1	C	8	9	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	03	MC	1	C	9	10	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	04	MC	2	E	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	04	MC	2	E	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	

KB22-237	04	MC	2	E	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	04	MC	2	E	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	04	MC	2	E	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	04	MC	2	F	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	04	MC	2	F	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	04	MC	2	F	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	04	MC	2	F	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	04	MC	2	F	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	04	MC	1	D	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	04	MC	1	D	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	04	MC	1	D	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	04	MC	1	D	0	1	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	04	MC	1	D	1	2	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	04	MC	1	D	2	3	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	04	MC	1	D	3	4	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	04	MC	1	D	4	5	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	04	MC	1	D	5	6	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	04	MC	1	D	6	7	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	04	MC	1	D	7	8	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	04	MC	1	D	8	9	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	04	MC	1	D	9	10	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	05	MC	2	C	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	05	MC	2	C	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	05	MC	2	C	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	05	MC	2	C	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	05	MC	2	C	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	05	MC	2	F	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	05	MC	2	F	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	05	MC	2	F	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	05	MC	2	F	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	05	MC	2	F	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	05	MC	1	B	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	05	MC	1	B	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	05	MC	1	B	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	05	MC	1	B	0	1	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	05	MC	1	B	1	2	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	05	MC	1	B	2	3	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained

KB22-237	05	MC	1	B	3	4	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	05	MC	1	B	4	5	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	05	MC	1	B	5	6	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	05	MC	1	B	6	7	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	05	MC	1	B	7	8	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	05	MC	1	B	8	9	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	05	MC	1	B	9	10	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	06	MC	1	D	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	06	MC	1	D	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	06	MC	1	D	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	06	MC	1	D	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	06	MC	1	D	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	06	MC	2	G	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	06	MC	2	G	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	06	MC	2	G	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	06	MC	2	G	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	06	MC	2	G	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	06	MC	2	F	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	06	MC	2	F	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	06	MC	2	F	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	06	MC	2	F	0	1	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	06	MC	2	F	1	2	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	06	MC	2	F	2	3	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	06	MC	2	F	3	4	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	06	MC	2	F	4	5	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	06	MC	2	F	5	6	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	06	MC	2	F	6	7	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	06	MC	2	F	7	8	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	06	MC	2	F	8	9	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	06	MC	2	F	9	10	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	07	MC	1	D	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	07	MC	1	D	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	07	MC	1	D	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	07	MC	1	D	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	07	MC	1	D	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	07	MC	2	F	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	07	MC	2	F	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	

KB22-237	07	MC	2	F	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	07	MC	2	F	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	07	MC	2	F	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	07	MC	2	E	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	07	MC	2	E	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	07	MC	2	E	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	07	MC	2	E	0	1	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	07	MC	2	E	1	2	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	07	MC	2	E	2	3	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	07	MC	2	E	3	4	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	07	MC	2	E	4	5	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	07	MC	2	E	5	6	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	07	MC	2	E	6	7	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	07	MC	2	E	7	8	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	07	MC	2	E	8	9	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	07	MC	2	E	9	10	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	08	MC	1	C	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	08	MC	1	C	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	08	MC	1	C	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	08	MC	1	C	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	08	MC	1	C	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	08	MC	1	D	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	08	MC	1	D	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	08	MC	1	D	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	08	MC	1	D	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	08	MC	1	D	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	08	MC	1	B	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	08	MC	1	B	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	08	MC	1	B	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	08	MC	1	B	0	1	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	08	MC	1	B	1	2	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	08	MC	1	B	2	3	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	08	MC	1	B	3	4	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	08	MC	1	B	4	5	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	08	MC	1	B	5	6	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	08	MC	1	B	6	7	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	08	MC	1	B	7	8	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained

KB22-237	08	MC	1	B	8	9	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	08	MC	1	B	9	10	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	09	MC	1	C	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	09	MC	1	C	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	09	MC	1	C	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	09	MC	1	C	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	09	MC	1	C	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	09	MC	1	D	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	09	MC	1	D	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	09	MC	1	D	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	09	MC	1	D	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	09	MC	1	D	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	09	MC	1	B	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	09	MC	1	B	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	09	MC	1	B	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	09	MC	1	B	0	1	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	09	MC	1	B	1	2	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	09	MC	1	B	2	3	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	09	MC	1	B	3	4	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	09	MC	1	B	4	5	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	09	MC	1	B	5	6	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	09	MC	1	B	6	7	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	09	MC	1	B	7	8	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	09	MC	1	B	8	9	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	09	MC	1	B	9	10	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	10	MC	1	B	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	10	MC	1	B	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	10	MC	1	B	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	10	MC	1	B	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	10	MC	1	B	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	10	MC	2	F	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	10	MC	2	F	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	10	MC	2	F	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	10	MC	2	F	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	10	MC	2	F	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	10	MC	2	D	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	10	MC	2	D	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	

KB22-237	10	MC	2	D	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	10	MC	2	D	0	1	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	10	MC	2	D	1	2	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	10	MC	2	D	2	3	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	10	MC	2	D	3	4	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	10	MC	2	D	4	5	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	10	MC	2	D	5	6	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	10	MC	2	D	6	7	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	10	MC	2	D	7	8	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	10	MC	2	D	8	9	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	10	MC	2	D	9	10	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	11	MC	2	E	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	11	MC	2	E	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	11	MC	2	E	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	11	MC	2	E	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	11	MC	2	E	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	11	MC	2	F	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	11	MC	2	F	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	11	MC	2	F	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	11	MC	2	F	0	1	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	11	MC	2	F	1	2	Other	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	11	MC	1	D	NA	NA	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	Fluffy Layer
KB22-237	11	MC	1	D	0	1	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	11	MC	1	D	1	2	DNA	03/02/2022	Wet lab	AW	-20degC	CLIFORD	
KB22-237	11	MC	1	D	0	1	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	11	MC	1	D	1	2	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	11	MC	1	D	2	3	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	11	MC	1	D	3	4	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	11	MC	1	D	4	5	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	11	MC	1	D	5	6	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	11	MC	1	D	6	7	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	11	MC	1	D	7	8	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	11	MC	1	D	8	9	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained
KB22-237	11	MC	1	D	9	10	Foram	03/02/2022	Wet lab	IPA	Room	FJORD	Rose bengal stained

Cruise	Station	Core	Cast	Section	Top Depth (cm)	Bottom Depth (cm)	Sample Type	Sampling date	Sampling time *CET	Sampling location	Sampled by	Sample storage (location, °C)	Notes
KB22-237	XX	GC	1	1-5	xx	xx	aDNA / Foram	xx/xx/xxxx	xx:xx:xx	xx Lab	NN	Freezer X, -20C Fridge, 4°C	Example; * please note if time is UTC or CET
KB22-237	01	GC		1	bottom	/	C14	05/02/2022	09:02:00	Deck	IPA/DIB		
KB22-237	01	GC		CC	/	/	C14	02/02/2022	21:15	Deck	SDS/MF	Fridge 4°C	Large shell
KB22-237	02	GC		1	bottom	/	C14						
KB22-237	02	GC		2	bottom	/	C14						
KB22-237	02	GC		3	bottom	/	C14						
KB22-237	02	GC		CC	/	/	C14	03/02/2022	00:45:00	Deck	MF/DIB		
KB22-237	03	GC		1	bottom	/	C14						
KB22-237	03	GC		CC	/	/	C14	04/02/2022		Deck	MF/DIB		
KB22-237	04	GC1		1	bottom	/	C14						
KB22-237	04	GC1		CC	/	/	C14	03/02/2022	15:30:00	Deck	MF/DIB		
KB22-237	04	GC2		CC	/	/	C14						
KB22-237	05	GC		CC		/	C14	03/02/2022		Deck	MF/DIB		
KB22-237	06	GC		1		/	C14						
KB22-237	06	GC		CC		/	C14	04/02/2022	10:00:00	Deck	MF/DIB		Very solid. Light grey sediment
KB22-237	07	GC		1	bottom	/	C14	04/02/2022		Deck	SDS/MF		
KB22-237	07	GC		CC		/	C14	04/02/2022	14:10:00	Deck	MF/DIB		Very solid. Light grey sediment
KB22-237	07	GC		CC		/	C14	04/02/2022	14:10:00	Deck	MF/DIB		Very large sample (entire corecatcher)
KB22-237	10	GC		1	bottom	/	C14	05/02/2022	13:00:00	Deck	MF/DIB		

KB22-237	10	GC		2		/	C14	05/02/2022	13:00:00	Deck	MF/DIB		
KB22-237	10	GC		CC		/	C14	04/02/2022	20:30	Deck	MF/DIB		
KB22-237	11	GC		1	bottom			05/02/2022	12:00	Deck	MF/DIB		
KB22-237	11	GC		2	bottom			05/02/2022	12:00	Deck	MF/DIB		
KB22-237	11	GC		GC	/	/	C14	05/02/2022	12:00	Deck	MF/DIB		



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CTD water sampling + filtering	
CRUISE	KB22-237
STATION	01
CTD (IMR)	118
TIME (UTC) and D	16:50:03 02/02/2022
LONGITUDE (N)	60.721575
LATITUDE (E)	5.06092
WATER DEPTH (m)	278.2

RESEARCHER(S)
Agnes Weiner

PRIOR to filtering: RINSED pipes with 1L distilled water

Water depth (m)	Date	Time (hh:mm)	Researcher	Water collected (L)	Filter label	Water filtered (L)	Time filtering (mm:ss)	Notes
CON	02/02/2022		AW	/	KB22-237_01 control	1L		CONTROL = 1L MilliQ water
surface	02/02/2022		AW	15L	KB22-237_01_surface_F1	4.200		
surface	02/02/2022		AW		KB22-237_01_surface_F2	3.000		
mid	02/02/2022		AW	15L	KB22-237_01_mid_F1	1.200		
mid	02/02/2022		AW		KB22-237_01_mid_F2	3.800		
bottom	02/02/2022		AW	15L	KB22-237_01_bottom_F1	1.500		
bottom	02/02/2022		AW		KB22-237_01_bottom_F2	1.400		
bottom	02/02/2022		AW		KB22-237_01_bottom_F3	3.000		
	Depth (m)							
surface =	5.3							
mid =	44.9							
bottom =	272.8							

Multicorer Logs		
CRUISE	KB22-237	
STATION	01	
MULTICORE	Multicore 1 (IMR)	Multicore 2 (IMR)
TIME and DATE	18:37:04 02/02/2022	19:13:19 02/02/2022
LONGITUDE (N)	60.721544	60.721504
LATITUDE (E)	5.061011	5.061143
WATER DEPTH (m)	278.21	278.32



FJO2RD

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RESEARCHER(S)
IPA, MF, AW, DIB

Note: we used the 4 tube MC, with 60cm long tubes

Cores	Sediment description	Core length (cm)	Notes (deployment, purpose/archive/sampled)
A	See tube D	40.5	Deployment 1; ARCHIVE BR
B	See tube D	41.5	Deployment 1; ARCHIVE BR
C	See tube D	38	Deployment 1; ARCHIVE DNA
D	Dark grey to olive clay, oxidised surface, soupy surface which becomes consolidated clay at 10 cm. Foram: Pelosina variabilis on top.	37	Deployment 1; Sampled for DNA (0-1, 1-2 cm) and forams (0-10 cm)
E	See tube D	38.5	Deployment 2; Sampled for DNA (0-1, 1-2 cm) and Other (0-2 cm)
F	See tube D	39	Deployment 2; Sampled for DNA (0-1, 1-2 cm)

Multicorer Logs		
CRUISE	KB22-237	
STATION	02	
MULTICORE	Multicore 3 (IMR)	Multicore 4 (IMR)
TIME and DATE	21:30:57 02/02/2022	22:41:19 02/02/2022
LONGITUDE (N)	60.687398	60.687332
LATITUDE (E)	5.165636	5.1658
WATER DEPTH (m)	443.69	443.82



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RESEARCHER(S)
IPA, MF, AW, DIB

Note: we used the 4 tube MC, with 60cm long tubes

Cores	Sediment description	Core length (cm)	Notes (deployment, purpose/archive/sampled)
A		50	Deployment 1; ARCHIVE BR
B		45	Deployment 1; ARCHIVE BR
C		47	Deployment 2; ARCHIVE DNA
D	Dark grey clay, uniform soft sediment at the top, foram and shell fragments at the top	45	Deployment 1; Sampled for DNA and Other (0-1, 1-2 cm)
E	Grey at first 5 cm of the bottom, then black, uniform very soft sediment at the top; forams at the top	41.5	Deployment 2; Sampled for DNA and Other (0-1, 1-2 cm)
F	Light grey on top, change to brown at ca. 2-3 cm. Homogenous dark brown further down. Very soft, fluffy top, core disturbance at 7 cm, worm tube and burrows at 5 cm, shell fragments at 3 cm depth.	48	Deployment 2; Sampled for DNA (0-1, 1-2 cm), Forams (0-10 cm)

Multicorer Logs		
CRUISE	KB22-237	
STATION	03	
MULTICORE	Multicore 5 (IMR)	Multicore 6 (IMR)
TIME and DATE	09:33:24 02/02/2022	10:01:23 02/02/2022
LONGITUDE (N)	60.780308	60.780312
LATITUDE (E)	5.243661	5.243668
WATER DEPTH (m)	190.28	190.41



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RESEARCHER(S)
IPA, MF, AKP, DIB

Note: we used the 4 tube MC, with 60cm long tubes

Cores	Sediment description	Core length (cm)	Notes (deployment, purpose/archive/sampled)
A		35.5	Deployment 1; ARCHIVE BR
B			Deployment 1
C	Dark olive gray silty clay, oxidised surface, below 3 cm silty sediment which contains sand grains and forams; at 17cm change to more lighter gray silty clay(?). Note: difficult to push out core.	34.5	Deployment 1; Sampled for DNA (0-1, 1-2 cm); Sampled for foraminifers (every cm, 0-10 cm)
D	Olive grey brownish silty clay down to 19 cm. From 19 cm greyish silty clay, oxidised surface.	32.5	Deployment 1; Sampled for DNA and Other (0-1, 1-2 cm); Bottom water collected for TE and isotopes
E		38.5	Deployment 2; ARCHIVE BR
F		34.2	Deployment 2; ARCHIVE FROZEN



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Multicorer Logs		
CRUISE	KB22-237	
STATION	04	
MULTICORE	Multicore 5 (IMR)	Multicore 6 (IMR)
TIME and DATE	13:16:22 02/02/2022	13:35:43 02/02/2022
LONGITUDE (N)	60.897506	60.897438
LATITUDE (E)	5.495839	5.49599
WATER DEPTH (m)	109.74	109.47

RESEARCHER(S)
IPA, MF, AKP, DIB

Note: we used the 4 tube MC, with 60cm long tubes; One heave with full weight, went in to deep. Heave reported here were without lead.

Cores	Sediment description	Core length (cm)	Notes (deployment, purpose/archive/sampled)
A	Dark grey clay, fluffy surface, greyish colour ca 10-15 cm from bottom down. In the lower 10-15 cm, forams were encountered: S. fusiformis, N. turgida, N. iridea, B skagerr., E. vitrea	51	Deployment 1; ARCHIVE BR
B		57	Deployment 1; ARCHIVE BR
C		57	Deployment 1; ARCHIVE DNA
D	Fluffy semiliquid dark brown guttja clay, smelly; worm tube at 34 cm, shells at 4-5 cm, 6-7 cm, 7-8 cm, 9-10 cm. Bottom 8 cm of tube has darker colour. Forams found: S. fusiformis (a lot), B. aculeata, P. mediterraneensis, N. iridea, Nonionella so. T1? [invasive], Globocassidulina.	46.5	Deployment 1; Sampled for DNA (0-1, 1-2 cm); Sampled for foraminifers (every cm, 0-10 cm)
E	Fluffy semiliquid dark brown guttja clay, smelly	53	Deployment 2; Sampled for DNA (0-1, 1-2 cm) and Other (0-1, 1-2 cm)
F		54	Deployment 2; Sampled for DNA (0-1, 1-2 cm) and Other (0-1, 1-2 cm)



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Multicorer Logs		
CRUISE	KB22-237	
STATION	05	
MULTICORE	Multicore 9 (IMR)	Multicore 10 (IMR)
TIME and DATE	17:02:15 02/02/2022	17:33:14 02/02/2022
LONGITUDE (N)	60.870983	60.870979
LATITUDE (E)	5.555725	5.55572
WATER DEPTH (m)	180.15	180.06

RESEARCHER(S)
IPA, MF, AKP, DIB

Note: we used the 4 tube MC, with 60cm long tubes

Cores	Sediment description	Core length (cm)	Notes (deployment, purpose/archive/sampled)
A		38.5	Deployment 1; ARCHIVE BR
B		27	Deployment 1; Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm) and BW
C		33.5	Deployment 1; Sampled for DNA (0-1, 1-2 cm) and Forams (0-10 cm)
D	Brown-grey oxidised mud and silt at the surface, worms and worm tubes	38.5	Deployment 2; ARCHIVE BR
E		40	Deployment 2; ARCHIVE DNA
F	Light brownish silty mud, oxidised surface, worms	31	Deployment 2; Sampled for DNA (0-1, 1-2 cm) and Other (0-1, 1-2 cm)

Multicorer Logs		
CRUISE	KB22-237	
STATION	06	
MULTICORE	Multicore 11 (IMR)	Multicore 12 (IMR)
TIME and DATE	07:28:38 02/02/2022	08:18:32 02/02/2022
LONGITUDE (N)	60.823871	60.823832
LATITUDE (E)	5.343777	5.343722
WATER DEPTH (m)	299.66	299.95



FJO2RD



CLIFORD



RESEARCHER(S)
IPA, MF, AKP, DIB

Note: we used the 4 tube MC, with 60cm long tubes

Cores	Sediment description	Core length (cm)	Notes (deployment, purpose/archive/sampled)
A		46	Deployment 1; ARCHIVE BR
B		39.5	Deployment 1; ARCHIVE TEMP / may be discarded
C		46.5	Deployment 1; ARCHIVE DNA
D	Olive-grey clay, worm tubes, giant agglutinated foraminifers <i>Astrorhiza arenaria</i>	40	Deployment 1; Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm) and BW
E		45.5	Deployment 2; ARCHIVE FROZEN
F	Olive-grey clay, worm tubes, giant agglutinated foraminifers. Nice clay, concentrated forams after wash: <i>B. marginata</i> , <i>H. bathica</i> , <i>C. laevigata</i> , <i>Saccamina</i> sp., <i>Rhabdammina</i> sp. Also one large agglutinated foraminifer (desintegrates at washing) - <i>Astrorhiza arenaria</i>	46.5	Deployment 2; Sampled for DNA (0-1, 1-2 cm) and Forams (0-10 cm).



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Multicorer Logs		
CRUISE	KB22-237	
STATION	07	
MULTICORE	Multicore 13 (IMR)	Multicore 14 (IMR)
TIME and DATE	11:26:55 04/02/2022	11:52:23 04/02/2022
LONGITUDE (N)	60.872479	60.872539
LATITUDE (E)	5.376652	5.376718
WATER DEPTH (m)	462.55	462.21

RESEARCHER(S)
IPA, MF, AKP, DIB

Note: we used the 4 tube MC, with 60cm long tubes

Cores	Sediment description	Core length (cm)	Notes (deployment, purpose/archive/sampled)
A		41	Deployment 1; ARCHIVE BR
B		46	Deployment 1; ARCHIVE BR
C	Dark brown oxidised clay at surface; dark brown clay with foram and shell fragments down to 10 cm; dark grey homogenous clay below	45.5	Deployment 1; ARCHIVE DNA
D	Dark brown clay, oxidised surface with brittle stars. From 4 cm down, brown clay with shell fragments and forams. From 17cm, dark grey clay.	45	Deployment 1; Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm)
E	Dark brown silty clay, oxidised surface. From 4 cm more greyish clay with shell fragments (very eroded mollusc) and forams (Hyalinea, Uvigerina, Cibicides Brizallina). At 6 cm, tree branch.	44	Deployment 2; Sampled for DNA (0-1, 1-2 cm) and Forams (0-10 cm) and BW. Loads of broken (transported, redposited?) forams, shell fragments (macrofauna). Foram species intact: Uvigerina sp., B. skgerrakensis, H. bathica, C. laevigata, C. lobatulus, B. marginata
F	Dark brown clay, oxidised surface, a big chunk of sea weed on top, brittle stars. Probably organic rich sediments (0-4 cm). At 4 cm, dark brown clay with shell fragments down to 15 cm. Below dark grey homogenous clay. Foram rich clay 0-1 cm: B. marginata, B. skagerrakensis, H. gracilis, S. fusiformis, N. turgida, M. barleeaanum, T. conica, H. hirudinea, L. goesi, Uvigerina sp.	46	Deployment 2; Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm).

Multicorer Logs	
CRUISE	KB22-237
STATION	08
MULTICORE	Multicore 15 (IMR)
TIME and DATE	14:24:51 04/02/2022
LONGITUDE (N)	60.877031
LATITUDE (E)	5.442506
WATER DEPTH (m)	417.81



FJO2RD

CLIFORD



RESEARCHER(S)
IPA, MF, DIB

Note: we used the 4 tube MC, with 60cm long tubes

Cores	Sediment description	Core length (cm)	Notes (deployment, purpose/archive/sampled)
A		47.5	ARCHIVE FROZEN
B	Liquid brown surface, worm tubes; 0-4 cm: light brown oxidised clay; 4-36 cm: dark grey (mottled) clay; 36-49 cm: light grey clay	49	Sampled for DNA (0-1, 1-2 cm) and Forams (0-10 cm)
C	0-4 cm: brown C-rich layer, 4-32 cm: dark grey clay; from 32 cm: light grey clay	47	Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm)
D	Liquid brown silty(?) clay, oxidised surface, worm tubes. FORAMS: 0-1 cm: Decent amount of forams, incl. <i>E. scaber</i> , <i>Globulimina</i> sp., <i>Ammolagena clavata</i> , <i>B. skaggerakensis</i> . Also lots of quartz and black mineral particles.	44	Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm).

Multicorer Logs	
CRUISE	KB22-237
STATION	09
MULTICORE	Multicore 16 (IMR)
TIME and DATE	15:37:23 04/02/2022
LONGITUDE (N)	60.803231
LATITUDE (E)	5.317741
WATER DEPTH (m)	141.42



FJO2RD

CLIFORD



RESEARCHER(S)
IPA, MF, DIB

Note: we used the 4 tube MC, with 60cm long tubes

Cores	Sediment description	Core length (cm)	Notes (deployment, purpose/archive/sampled)
A	sand	17	ARCHIVE
B	Sandy sediment on top, light brown, worm tubes; worm burrows at 2-3 cm	23.5	Sampled for DNA (0-1, 1-2 cm) and Forams (0-10 cm)
C	Sandy sediment, worm tubes	21	Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm)
D	Very sandy sample, but also lots of forams. FORAMS 0-1 cm: <i>L. goesi</i> , <i>T. angulosa</i> , <i>C. laevigata</i> , <i>M. barleeanum</i> , <i>H. bathica</i> , <i>B. marginata</i> , <i>B. skagerrakensis</i> , <i>C. lobatulus</i> , etc...	44	Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm).

Multicorer Logs		
CRUISE	KB22-237	
STATION	10	
MULTICORE	Multicore 17 (IMR)	Multicore 18 (IMR)
TIME and DATE	17:46:27 04/02/2022	18:27:15 04/02/2022
LONGITUDE (N)	60.789993	60.789984
LATITUDE (E)	5.128974	5.128996
WATER DEPTH (m)	578.53	578.65



FJO2RD

CLIFORD



RESEARCHER(S)
IPA, MF, DIB

Note: we used the 4 tube MC, with 60cm long tubes

Cores	Sediment description	Core length (cm)	Notes (deployment, purpose/archive/sampled)
A		49	Deployment 1; ARCHIVE BR
B	light brown, gay clay, oxidised surface, worm tubes. 32-45 cm, colour changes to light grey	45	Deployment 1; Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm)
C		46	Deployment 1; ARCHIVE DNA
D	light brown, gay clay, nice oxidised surface 0-0.5 cm; 0.5 to 30 cm olive-grey clay, worms and worm burrows at 6-7 cm; 30-46 cm light grey clay. Nice foram rich clay. Benthics: <i>B. marginata</i> , <i>B. skagerrakensis</i> , <i>M. barleeanum</i> , <i>L. goesi</i> , <i>H. balthica</i> , <i>C. laevigata</i> , <i>Pullenia bulliodes</i> , <i>Sphaeroidina bulloides</i> , <i>E. medius</i> , <i>Uvigerina</i> sp., <i>Globobulimina</i> sp., <i>Cassidulinoides bradyi</i> . Planktonics: <i>N. pachyderma dextral</i> .	46	Deployment 1; Sampled for DNA (0-1, 1-2 cm) and Forams (0-10 cm).
E		39	Deployment 2; ARCHIVE BR
F		41	Deployment 2; Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm) and bottom water



FJO2RD

CLIFORD



Multicorer Logs		
CRUISE	KB22-237	
STATION	11	
MULTICORE	Multicore 19 (IMR)	Multicore 20 (IMR)
TIME and DATE	09:49:15 05/02/2022	11:01:34 05/02/2022
LONGITUDE (N)	60.624959	60.624797
LATITUDE (E)	5.041557	5.041552
WATER DEPTH (m)	365.92	366.5

RESEARCHER(S)
IPA, MF, DIB

Note: we used the 4 tube MC, with 60cm long tubes

Cores	Sediment description	Core length (cm)	Notes (deployment, purpose/archive/sampled)
A		59	Deployment 1; ARCHIVE BR
B		58	Deployment 1; ARCHIVE BR
C		57	Deployment 1; ARCHIVE DNA
D	Fine clay, olive brown-grey colour, oxidised layer at 0-6 cm with worm tubes and large agglutinated foram Rhabdammina; 6-43 cm: dark grey clay; 43 cm, light grey clay. FORAMS: C. laev., H. baltica, B. skagerrakensis, Globobulimina, E. medius, B. marg., Cuneata arctica	59	Deployment 1; Sampled for DNA (0-1, 1-2 cm) and Forams (0-10 cm).
E	Olive grey brown oxidised surface, very fine clay, worm tubes and arge agglutinated foram Rhabdammina		Deployment 2; Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm)
F			Deployment 2; Sampled for DNA (0-1, 1-2 cm), Other (0-1, 1-2 cm)



Gravity Core Log	
CRUISE	KB22-237
STATION	01
GRAVITY CORE	GC
START TIME + DATE (UTC)	19:53:22 02/02/2022
LONGITUDE (N)	60.72143
LATITUDE (E)	5.061313
WATER DEPTH (m)	278.82

RESEARCHER(S)
MF, SDS
All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))

Section from top	Length (cm)	Top section depth (cm)	Bottom section depth (cm)	Lithology at section top/bottom	Notes / Samples taken
1	65	0	65	bottom: gret green soft mud	Lithology at the bottom. Sample was taken from bottom with cleaned (klorin) metal spoon
2	150	65	215	green-grey mud	Lithology at the bottom
CC				Green-grey clay, with shell fragments	
					All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))



Gravity Core Log			
CRUISE	KB22-237		
STATION	02		
GRAVITY CORE	GC		Geologi2
START TIME + DATE (UTC)	23:05:45	02/02/2022	
LONGITUDE (N)	60.687301		
LATITUDE (E)	5.165903		
WATER DEPTH (m)	443.91		

RESEARCHER(S)
MF, SDS
All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))

Section from top	Length (cm)	Top section depth (cm)	Bottom section depth (cm)	Lithology at section top/bottom	Notes / Samples taken
1	50	0	50		Sampled at bottom of section for C14 was taken with cleaned (klorin) metal spoon
2	150	50	200		Sampled at bottom of section for C14
3	150	200	350	Soft anoxic mud	Sampled at bottom of section for C14
4 +CC	150	350	500	Green grey mud with shell fragments	Soft anoxic mud; CC was sampled for C14 dating. All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))

Gravity Core Log			
CRUISE	KB22-237		
STATION	03		
GRAVITY CORE	GC		Geologi3
START TIME + DATE (UTC)	16:11:23	04/02/2022	
LONGITUDE (N)	60.780333		
LATITUDE (E)	5.243662		
WATER DEPTH (m)	189.57		



RESEARCHER(S)
MF, SDS
All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))

Section from top	Length (cm)	Top section depth (cm)	Bottom section depth (cm)	Lithology at section top/bottom	Notes / Samples taken
1	83	0	83		Sampled at bottom of section for C14 was taken with cleaned (klorin) metal spoon
2	130	83	213		
CC					Sampled CC for C14 dating

Gravity Core Log	
CRUISE	KB22-237
STATION	04
GRAVITY CORE	GC1
START TIME + DATE (UTC)	14:09:39 03/02/2022
LONGITUDE (N)	60.89736
LATITUDE (E)	5.495963
WATER DEPTH (m)	109.1



RESEARCHER(S)
MF, SDS
All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))

Section from top	Length (cm)	Top section depth (cm)	Bottom section depth (cm)	Lithology at section top/bottom	Notes / Samples taken
1	136	0	136		Sampled at bottom of section for C14 was taken with cleaned (klorin) metal spoon
2	150	136	286		
CC				Super fine grained mud with loads of mica and forams.	Sampled CC for C14 dating and inspected for forams: mica covers forams, so the foram abundance is rather high; Species: mostly <i>S. fusiformis</i> , <i>E. exigua</i> , <i>B. skagerrakensis</i> , <i>C. laevigata</i> , <i>N. iridea</i> , <i>N. labradorica</i> , <i>H. batlica</i>



Gravity Core Log	
CRUISE	KB22-237
STATION	04
GRAVITY CORE	GC2 Geologi4-2
START TIME + DATE (UTC)	15:19:13 03/02/2022
LONGITUDE (N)	60.897716
LATITUDE (E)	5.495796
WATER DEPTH (m)	108.95

RESEARCHER(S)
MF, SDS
All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))

Section from top	Length (cm)	Top section depth (cm)	Bottom section depth (cm)	Lithology at section top/bottom	Notes / Samples taken
1	150	0	150		



Gravity Core Log			
CRUISE	KB22-237		
STATION	05		
GRAVITY CORE	GC		Geologi5
START TIME + DATE (UTC)	17:53:43	03/02/2022	
LONGITUDE (N)	60.870978		
LATITUDE (E)	5.555714		
WATER DEPTH (m)	179.95		

RESEARCHER(S)
MF, DIB
All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))

Section from top	Length (cm)	Top section depth (cm)	Bottom section depth (cm)	Lithology at section top/bottom	Notes / Samples taken
1	150	0	150		Sampled at bottom of section for C14 was taken with cleaned (klorin) metal spoon
CC				Dark brown mud	Sampled CC for C14 dating and inspected for forams. Lots of mica and quartz, and forams. Foram species: B. marginata, B. skagerrakensis, N. turgida, C. lobulatus, S. fusiformis, B. aculeata, H. batlica

Gravity Core Log	
CRUISE	KB22-237
STATION	06
GRAVITY CORE	GC
START TIME + DATE (UTC)	08:37:38
LONGITUDE (N)	60.823751
LATITUDE (E)	5.343579
WATER DEPTH (m)	299.93



RESEARCHER(S)
MF, SDS
All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))

Section from top	Length (cm)	Top section depth (cm)	Bottom section depth (cm)	Lithology at section top/bottom	Notes / Samples taken
1	136	0	136		Sampled at bottom of section for C14 was taken with cleaned (klorin) metal spoon
2	150	136	286		
CC				light grey, very solid, sticky sediment	Foram inspection: sticky md, difficult to wash. Suer rich in forams (very big). Most important species: C. lobulatus, T. tricarinata, S. fusiformis, N. iridea

Gravity Core Log	
CRUISE	KB22-237
STATION	07
GRAVITY CORE	GC
START TIME + DATE (UTC)	12:31:03 04/02/2022
LONGITUDE (N)	60.872544
LATITUDE (E)	5.376759
WATER DEPTH (m)	462.15



RESEARCHER(S)
MF, SDS
All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))

Section from top	Length (cm)	Top section depth (cm)	Bottom section depth (cm)	Lithology at section top/bottom	Notes / Samples taken
1	62	0	62		Sampled at bottom of section for C14 was taken with cleaned (klorin) metal spoon
2	150	62	212		
3	150	212	362	Very solid, sticky and stiff clay	Foram inspection: loads of <i>Uvigerina</i> sp., <i>Oridorsalis</i> sp.
cc					



Gravity Core Log	
CRUISE	KB22-237
STATION	10
GRAVITY CORE	GC
START TIME + DATE (UTC)	19:00:19 04/02/2022
LONGITUDE (N)	60.789948
LATITUDE (E)	5.128802
WATER DEPTH (m)	578.21

RESEARCHER(S)
IPA, SDS
All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))

Section from top	Length (cm)	Top section depth (cm)	Bottom section depth (cm)	Lithology at section top/bottom	Notes / Samples taken
1	128	0	128		Sampled at bottom of section for C14 was taken with cleaned (klorin) metal spoon
2	150	62	278	Top: greenish grey mud	Sampled at bottom of section for C14
3	150	212	428	Top: Greenish grey mud, with large rocks at the section 2/3 boundary	Foram inspection: loads of Uvigerina sp., Oridorsalis sp.
cc				lots of pebbles and gravel, postglacial clay	Pyrite filled Globulimina sp., H. balthica, Q. sminula, Oridorsalis. Rdgular: M. barleeaanum, Uvigerina sp., N. labradorica > warmer water forams suggest deglaciation)

Gravity Core Log	
CRUISE	KB22-237
STATION	11
GRAVITY CORE	GC
START TIME + DATE (UTC)	11:45:29 04/02/2022
LONGITUDE (N)	60.62459
LATITUDE (E)	5.043905
WATER DEPTH (m)	366.61



RESEARCHER(S)
IPA, SDS
All sections were cut following the DNA protocol (i.e. cleaning core liner and fish wire with bleach (klorin))

Section from top	Length (cm)	Top section depth (cm)	Bottom section depth (cm)	Lithology at section top/bottom	Notes / Samples taken
1	150	0	150	Bottom #1: sticky light grey clay	
2	150	150	300	Bottom #2: sticky light grey clay	
3	150	300	450		
cc				Light grey clay, shell fragments?	