

ANT-XXII/3

**2 January 2005 - 6 April 2005
Cape Town - Punta Arenas**

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**Koordinator / Coordinator:
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POLARSTERN EXPEDITION ANT XXII/3

Eberhard Fahrbach AWI Bremerhaven

On 22 January 2005 at 13:00 h local time POLARSTERN left Cape Town to the Antarctic cruise ANTXXII/3 with 57 cruise participants from 30 institutes in 10 countries on board. First we steamed to the west up to 34°11'S 14°33'E. At this location the first Provor-Float was deployed and POLARSTERN turned to the southwest. From now on up to 53°00.3'S 00°02.1'E the course followed to the bottom track of the Jason satellite. With 80 Expendable Bathythermographs (XBT) which were launched every two hours, the water temperature was measured in the upper 700 m of the water column. The thermosalinograph measured temperature and salinity quasi continuously with sensors in the bow thruster tunnel (5 m) and the boxkeel (11m). An Acoustic Doppler Current Profiler (ADCP) recorded the ocean currents in the upper few hundred meters below the ship. Along its track the Jason satellite observes with its altimeter the sea level elevation. Along the track line 9 Provor floats (vertically profiling floats) were deployed in the context of the GOODHOPE project. A drifting buoy was launched in the framework of the French CARIOCA Programme. Two inverted echosounders with bottom pressure sensors (PIES) were recovered and 3 deployed. The activities within the deep-sea biology programme ANDEEP III commenced on 25 January at 41°08'S 09°55'E and a water depth of 4725 m in the Cape Basin with the deployment of a sediment profile imaging camera (SPI), 3 box corers (GKG), 3 multicorers (MUC), the epibenthic sledge (EBS) and the Agassiz trawl (AGT). A second station was done to the southwest of the Meteor Rise with the same sequence of instruments on 28 January at 47°40.0'S 04°15'E in 4560 m water depth. The bathymetry programme had to be significantly reduced due to the restrictions from the Federal Environmental Agency. On the way towards Antarctica and back, north of 60°S a small part of the German bathymetry programme could be done. However, south of 60°S only the Russian Programme could be realised.

At 53°S POLARSTERN reached the Greenwich Meridian. From now on the course was due south and the main programme in physical oceanography WECCON (WEddell Sea Convection CONTROL) started with measurements with the CTD sonde (conductivity, temperature, depth) and recovery and deployment of moorings. On the Greenwich Meridian transect 43 CTD-profiles were measured in a distance of 30 nm. The station distance was reduced when the bottom topography varied considerably. Together with the CTD profiles, water samples were taken to measure the concentrations of dissolved nutrients, oxygen, CFCs, Barium and CO₂. An essential part of the physical oceanography programme consisted in the recovery and deployment of moorings. On the transect 8 moorings were recovered and 9 deployed. One mooring was lost. The POSIDONIA system of POLARSTERN proved to be highly efficient and allowed a precise monitoring of the recovery and deployment process. This improves the safety in respect to the recovery and the quality of data. The moorings contain instruments to measure currents, temperature and conductivity, sound sources to navigate floats and upward looking sonars (ULS) to measure ice draft. On the transect 22 APEX- (Profiling Autonomous Lagrangian Circulation Explorers) and NEMO (Navigating European Marine Observer) floats were deployed. To assess the fresh water input by icebergs, 5 bergs were equipped with satellite transmitters which were deployed with the helicopters.

On 9 February at 67°S the scientific work on the Greenwich Meridian had to be interrupted and POLARSTERN steamed off towards NEUMAYER station. On 25 January the German polar plane POLAR4 has had such a hard landing at the British ROTHERA station on its flight back to Germany that it was not able to continue the flight. Therefore the cruise plan of POLARSTERN had to be modified in a way to include a detour to ROTHERA without losses too serious for the scientific programme. The first step in this direction was to delay the supply of NEUMAYER

station by some days to advance farther to the south on the transect before steaming to NEUMAYER. This resulted in significant gain of time since the shortened way to and from the station counted twice. Additionally the recovery of a mooring east of Maud Rise was postponed. On 10 February on the way to NEUMAYER station an Amphipod trap was deployed at 69°30'S 5°23'W and a haul with the Agassiz trawl was carried out.

On 11 February POLARSTERN arrived in Atka Bight in the bright sun after some sea smoke had dissolved. Fast we found an appropriate landing-place at the ice shelf ramp. Little later the South African vessel AGULHAS landed in close vicinity and loaded material and trucks from the South African station SANAE which is 227 km away. The team from the NEUMAYER station, consisting of summer guests and overwinterers, arrived soon with trucks and goods to start the loading operations. About 150 cubic metres of fuel were filled into the tank containers from the station. A snow mill, sledges and 16 containers, altogether 120 tons were loaded on board. One cruise participant from SANAP left POLARSTERN to overwinter at SANAE. During the loading activities those of us who had free time were able to visit the NEUMAYER station. The bright weather allowed many of the visitors to walk at least one way to the station covering a distance of 8 km.

The helicopters were highly demanded to transport persons and goods. In particular they supported the work at an annex of the station near to the ice shelf front from where a hydrophone shall transmit the noises of the ocean directly to Bremerhaven. The first step which is reached at present was the installation of an automated station with a direct data link. If it proves to work successfully even under harsh winter conditions, a hole will be drilled through the ice shelf and the hydrophone will be lowered into the ocean below.

In the early evening, the loading and pumping operations were successfully finished and crew and scientists from POLARSTERN could enjoy the sunny evening with a little party on the ice. The people from the NEUMAYER station and some crew members from the AGULHAS were our guests. We had to pick them up and to bring them back with our helicopter, since AGULHAS left the ramp after achieving its loading operations and spent the night in open water. Further guests were a group of Finnish scientists and the crew of the DC3 plane from ALCI which brought them from the Finnish station to NEUMAYER. Together with the remaining German members of the summer campaign and former overwinterers, they flew in the night from 12 to 13 February to the Russian NOVOLAZAREVSKAYA station and from there to Cape Town and back home.

On 12 February we planned to pump additional fuel from the AGULHAS to the POLARSTERN. The evening before everything looked easy, but during the night the wind carried an ice field against the ramp so that it was not possible any more to lay there next to each other as during the day before. We searched with POLARSTERN for an appropriate alternative location deeper in the bight and thought that we had found one. But when AGULHAS came to the place, it appeared that there as well, there was too much ice. A further attempt, supported by a reconnaissance flight with the helicopter, started on the eastern shore of the bight where AGULHAS had found an appropriate spot. Here both ships should lay stable in parallel with the bows against the ice front and the wind. However, when POLARSTERN approached, a significant lump of ice broke from the shelf ice front, giving evidence of its instability. Finally it was decided to transfer the fuel in open water. POLARSTERN went in front, AGULHAS followed. Both ships steamed slowly when first ropes were transferred to fix them at a stable distance and then the fuel pipe was lined up between them. Pumping occurred until late in the evening when 170 tons of fuel had been received on POLARSTERN. When all the gear was back on board, both ships blew their horns for farewell and POLARSTERN left to the northeast back to our transect on the Greenwich Meridian. On the way the Amphipod trap was recovered successfully which had been deployed on our way to NEUMAYER Station.

The work on the Greenwich Meridian section was continued on 14 February at 67°30'S with another ANDEEP station which lasted until 16 February. With CTD stations, deployment of floats and replacement of moorings the section was continued to the south. The last station on the Greenwich Meridian transect was done at 69°15'S on 18 February in sight of the Fimbul Ice Shelf. At 69°01'S we met for the first time a significant ice field.

After having finished the first phase on the Greenwich Meridian POLARSTERN steamed to the west in the direction of Atka Bight. At 70°32'S 09°02'W two fish traps and an Amphipod trap were to be recovered which had to be left behind a year ago due to the ice conditions. In spite of good conditions only one fish trap could be recovered. The state of the recovered trap suggests that the other two might have been lost due to corrosion. The attempt to recover a mooring with a sediment trap at 70°57'S 10°33'W at 19 February failed as well. It is possible that it was destroyed by the frequent icebergs in the area.

The second phase of physical oceanography and deep-sea biology stations occurred between Kapp Norvegia and Joinville Island at the northern tip of the Antarctic Peninsula. It began on 20 February at 71° 18'S 13°57'W. The focus of the deep-sea biology programme ANDEEP III was with 9 stations on that transect. Four of these stations were located on the continental slope off Kapp Norvegia in 1040, 2170, 3090 and 4410 m depth. The Kapp Norvegia transect was finished on 24 February. The physical oceanography work continued with 54 CTD stations in approximately 30 nm distance and the deployment of 3 further moorings and 18 floats. At 68°04'S 20°28'W in 4933 m, 66°37'S 27°10'W in 4892 m, 65°34'S 36°31'W in 4802 m and 65°00'S 43°02'W in 4701 m depth further ANDEEP stations were sampled. On 11 March we reached for the first time at 64°30'S 45°15'W an extended ice field which at times slowed down the ship's speed significantly. The ice tongue reached from the southern Weddell Sea along the continental slope up to the Powell Basin. Even though the ice concentration decreased significantly towards the shelf, it was still higher as than displayed by the satellite images. At 63°41'S 50°44'W another ANDEEP station was carried out on 14 March. The westernmost point on the transect across the Weddell Sea was reached on 16 March at 63°04'S 54°37'W and 440 m water depth.

The comparatively light ice condition and the calm weather allowed to achieve the work in the Weddell Sea so fast that there was still enough time left to realize the work in the Powell Basin included in the plan as an option. There was time for a CTD section from 63°04'S 54°37'W to 61°39'S 46°33'W and three ANDEEP stations, in 3405, 200? and 100? m depth at the eastern side of the basin. This part of the cruise as well could be done in favourable weather conditions. Up to 62°02'S 48°45'W the northward extension of the ice tongue from the southern Weddell Sea had to be crossed without remarkable delay. On 21 March the work in Powell Basin was terminated and POLARSTERN steamed toward Bransfield Strait and King George Island. During part of the way, we had to go against westerly winds of force 8 and the corresponding waves.

The wind calmed down until we reached Maxwell Bay on 22 March at noontime. The Argentine JUBANY station, to which the German DALLMANN laboratory is connected, is located at the shore of the adjacent Potter Cove. In spite of being earlier than originally planned, the preparations were sufficiently advanced that we were able to use the good weather and start immediately with the helicopter flights to bring material from the station to POLARSTERN. Additionally, material was brought from the Uruguayan station ARTIGAS and the Russian BELLINGSHAUSEN station to POLARSTERN. Finally scientists who had spent the summer at the DALLMANN Laboratory were taken to BELLINGSHAUSEN, where they had to wait for their flights home. Two further cruise participants, an Argentine observer and an AWI logistic specialist, came on board POLARSTERN to join us for the rest of the cruise.

During the time of the transport operations, scientists and crew members from POLARSTERN had the occasion to get on shore to enjoy the Argentine hospitality, and some of us were able to visit other stations. Everywhere we were received in a very friendly manner. We invited the crews of the JUBANY and the ARTIGAS stations to a visit of POLARSTERN which enforced our friendly relations. During the night and a phase of bad weather, we began a further ANDEEP station in Bransfield Strait. It was finalized after the end of the supply operations.

In the night to 24 March we left for the British ROTHERA station. In the morning we passed by Deception Island which remained hidden in the fog. The acoustic group used the long steaming routes to tow their streamer in order to record the noises of marine mammals. The weather conditions on the way to ROTHERA were not very promising and we expected a longer waiting period. On the afternoon of 25 March we reached Marguerite Bay and lay off Rothera Point. Surprisingly, the weather had improved. During the day a group of British cruise participants were flown ahead to ROTHERA to bring there living mussels from JUBANY. The first meeting with our British partners occurred in the evening when we invited the captain of the RSS ERNEST SHACKLETON, which lay at the Biscoe wharf, and the ROTHERA base commander to a visit on board POLARSTERN. A friendly relationship was quickly established and the operations of the coming day could be planned in all detail until the helicopter had to bring back our guests at nightfall. Finally, on 26 March the long expected day for which we had to reschedule our entire cruise was there and we had to load the German plane POLAR4 to be carried back to Punta Arenas. Because near the Biscoe wharf the water depth is not sufficient that POLARSTERN could approach close enough, this was not a straight forward task. The loading had to occur with the help of the SHACKLETON.

Once again, we were spoiled by the weather. No wind and sunshine were optimal conditions not only for the loading but also for the visiting programme. The SHACKLETON loaded the wing and the fuselage of the plane at the wharf and displaced to POLARSTERN which was waiting at a distance of 0.85 nm. Both ships went alongside and within 22 minutes the parts of the plane were picked up by POLARSTERN's 15-ton crane and set on the helideck. During this operation the cruise participants and the free crew members had started the visit to the station and the adjacent magnificent landscape and enjoyed the British hospitality. During the afternoon, we received the crew members of the SHACKLETON and the ROTHERA station on board and could spend a pleasant afternoon together in the friendly and relaxed mood. At 19.00 h we left ROTHERA with a further participant on board, a technician from the DLR who came in to participate at the loading. We steamed well protected against uncomfortable weather conditions through Gerlache Strait towards the last scientific stations during this cruise. On the way we celebrated the polar baptism and spent Easter in front of a well-known picturesque landscape almost completely hidden by snow showers and clouds

From 29 to 31 March two further ANDEEP stations could be done at 63°19'S 64°37'W in 2080 m and at 62°31'S 64°39'W in 3802 m depth off Anvers Island. The stations were located west of Drake Passage and the Hero Fracture Zone in the Pacific. The last part of the scientific programme was a CTD section with 26 stations across the eastern Drake Passage along the Shackleton Fracture Zone from 60°53'S 53°50'W to 55°04'S 65°04'W, which ended on 4 April.

During the complete cruise hydroacoustic measurements and infra red observations were done to develop a system which allows to detect marine mammals. By this system it is expected to fulfil in future the requirements of the Federal Environmental Agency to apply in future hydroacoustic methods again from POLARSTERN.

The scientific programme was accompanied by a public relation component which included an expedition painter who documented the mood of each day by an oil painting. The pro-

gress of the cruise was regularly displayed on the AWI eXpeditions site file/ext/www-bhv/Polar/Polarstern/ANT-XXII-3/ExpeditionSummary, the CeDAMar site www.cedamar.org and the Senckenberg web site.

On 6 April 2005 POLARSTERN called at 08:00 h local time to port in Punta Arenas.

The international ANDEEP III project (*ANtartic benthic DEEP-sea biodiversity: colonization history and recent community patterns*) aims to investigate the deep-water biology of the Scotia and Weddell seas from POLARSTERN. The ANDEEP programme was established to provide baseline data on the Southern Ocean deep-water ecosystem.

Its main objectives are

- to investigate the influence of seafloor habitat diversity on biodiversity and
- to determine if the Weddell/Scotia Seas are a source for deep-water benthos in other oceans.

Sampling was undertaken on ANDEEP I & II during 2002 and will be completed during ANDEEP III.

The deeper waters of the Scotia and Weddell seas are some of the least explored parts of the world's oceans and we know almost nothing about the bottom dwelling animals that inhabit them. First results from ANDEEP I/II have shed some light on the composition and possible evolutionary pathways of the Southern Ocean deep-sea fauna. ANDEEP III will deepen our knowledge gained so far with a somewhat larger geographical scope, spanning not only the Weddell Sea Abyssal Plain and adjacent areas of the Southern Ocean but also the Cape Basin.

ANDEEP is one of the two German pioneering field programmes of CeDAMar (Census of the Biodiversity of Abyssal Marine Life), a ten-year project dedicated to the investigation of benthic communities in abyssal plains in the Atlantic from pole to pole. CeDAMar in turn belongs to the global project CoML (Census of Marine Life) which was launched in 2000 and is planned to run until 2010. Scientists from more than 70 countries are participating so far, sampling with standardised methods and creating a global database that is designed to provide a benchmark for future research efforts. With taxonomic descriptions of deep-sea species being a major component, CeDAMar is promoting the revival of taxonomy and systematics as important disciplines in biology. ANDEEP will help to provide answers to two basic questions raised by CeDAMar:

- How species rich is the deep sea, and how much of the total world species live in the ocean? How large is the area a deep-sea species inhabits?
- What factors drive speciation processes in homogeneous environments where ecological factors are uniform over wide distances and therefore have little influence?

Specific objectives of ANDEEP are:

- To conduct the first comprehensive survey of megafaunal, macrofaunal and meiofaunal deep-water communities in the Scotia and Weddell seas and to investigate their similarity at the taxonomic (morphological) and genetic (molecular) levels to the fauna of Atlantic basins and the Antarctic shelf.

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- To describe the variety of seafloor habitats in tectonically active and inactive regions and to determine the influence of 'habitat diversity' on species and genetic diversity over a variety of spatial scales.
 - To determine the importance of life history strategies and larval biology in influencing species distributional patterns and geographical ranges.
 - To investigate the evolutionary processes having resulted in the present biodiversity and distributional/zoogeographical patterns in the Southern Ocean deep sea.
 - To investigate the colonisation and exchange processes of the deep-sea fauna, in particular the role of tectonic structures (for example ridges or seamounts).
 - To assess the importance of the Antarctic as a region where shallow-water species may enter the deep sea by conducting experimental studies on the pressure and temperature tolerances of shallow and deep-water invertebrate larvae.

The physical oceanography WECCON (Weddell Sea convection control) programme intends to investigate the role of the Weddell Sea in the global climate system. The Antarctic ocean contributes through atmosphere-ice-ocean interaction processes to the variability of the climate system. The ice cover has a strong control on the albedo and on the ocean-atmosphere heat exchange. At the same time the advective heat supply from the ocean controls the ice cover. Atmosphere-ice-ocean interactions lead to water mass conversion which occurs in the open ocean and on the shelves. Whereas the shelf processes affect a reservoir limited through the shallow water depth and the cross frontal transports at the shelf edges, open ocean processes can affect deeper layers directly if the stability of the water column is weak. A major contribution of the global deep and bottom water formation occurs in the Weddell Sea. It is controlled by the transport of source waters into the Weddell Sea, processes within the Weddell Sea, and the transport of modified water out of the Weddell Sea.

In the Weddell Sea, Circumpolar Deep Water enters from the north and circulates in intermediate layers within the large scale cyclonic gyre. By upwelling and entrainment heat and salt is transported from that water mass into the surface layers. The vertical transport of heat and salt counteracts to the heat loss and the fresh water gain at the sea surface. The delicate balance controls the stability of the water column. The vertical transports can be significantly affected by vertical flow and enhanced mixing in the vicinity of topographical features like Maud Rise. Even relatively small scale topographical structures have a significant effect on the water flow and mixing due to the generally weak stratification in polar oceans.

Under conditions of a relatively stable water column, shallow open ocean convection represents a preconditioning for the shelf processes through heat extraction and salt redistribution of the source waters which are involved in frontal processes over the continental slope. In the case of relatively unstable conditions, open ocean convection can reach deeper layers and contribute directly to the deep water formation. Unstable conditions enhance the heat transport from the ocean towards the surface to an extent that large areas of the winter sea ice are melted and an open ocean polynya is formed which then allows large heat losses of the ocean increasing the water mass conversion.

Recent observations indicate that the water mass properties of the Warm Deep Water are subject to significant variations. After an initial warming and salinity increase observed until 1996 a cooling followed during the last years which kept on accord to our observations. The variations are most likely due to changes in the inflow from the circumpolar water belt, in combination with changes in the ice-ocean-atmosphere interaction in the Weddell Sea induced by changes in the atmospheric forcing conditions. The time variability of the Antarctic

Circumpolar Wave, the Southern Annular Mode, or the Antarctic Dipole might affect the Weddell Sea and generate the observed variations. Whereas the properties of the Weddell Sea Deep Water remained essentially constant, the Weddell Sea Bottom Water was subject to significant changes as well. The warming observed since the late 80s still continues. Since the Warm Deep Water is the source water of bottom water, the variations of the two water masses seem to be related through the formation process.

The deployment of floats occurs in the framework of the international ARGO programme which contributes to the *Global Ocean Observing System (GOOS)*. Aim of the ARGO programme is to maintain ca. 3000 profiling floats (measuring pressure, temperature and salinity) in the global ocean. In the context of this project 40 floats (10 GOODHOPE, 9 MERSEA and 21 German ARGO) were deployed mainly in areas where up to now no float data exist. The 30 floats owned by AWI (MERSEA/ German ARGO) are all equipped with a sea ice detection algorithm to inhibit them to surface in ice fields where the float might be destroyed. Until 28 March, 84 vertical temperature and salinity profiles were transmitted which are in good agreement with adjacent CTD measurements.

WECCON aims to investigate processes which occur in the Weddell Sea in cooperation with the Bjerknes Centre for Climate Research in Bergen, Norway in the framework of iAnZone, a programme associated to SCOR (Scientific Committee of Oceanographic Research). The cruise occurs in the context of the MARCOPOLI programme of the Hermann von Helmholtz Association of German Research Centres (HGF) as part of work packages MAR1 and POL2. It is a contribution to the *Climate Variability and Predictability (CLIVAR)* and the *Climate and Cryosphere (CliC)* projects of the *World Climate Research Programme (WCRP)*. The ULS are a contribution to the *Antarctic Sea Ice Thickness Project (AnSITP)*. The studies of convection in the Weddell Sea and the influence of variations of the inflow from the Antarctic Circumpolar Current on the conditions in the Weddell Sea occur in the framework of the German CLIVAR/marine-2 programme supported by the German Federal Ministry of Education and Research (BMBF).

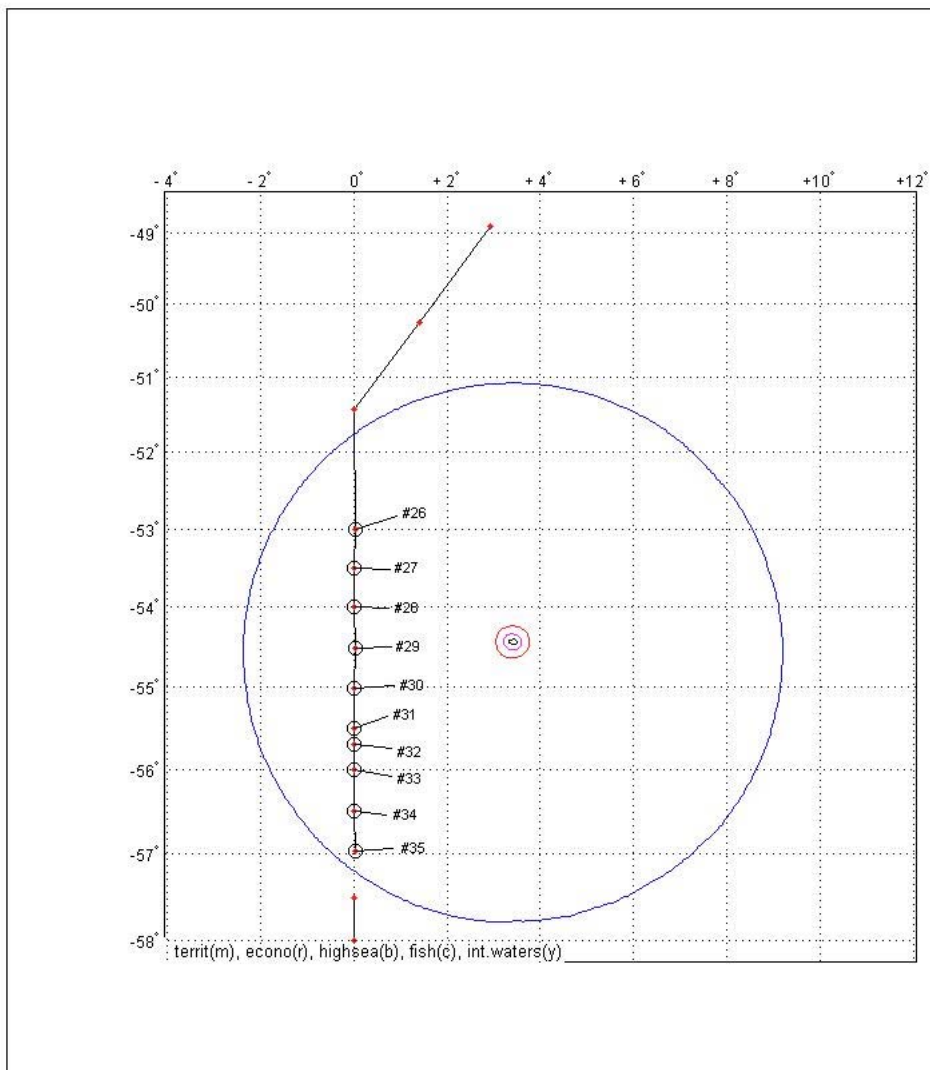


Fig. 2: Stations located during ANT-XXII/3 in the vicinity of Bouvet Island. The circle indicates a distance of 200 nm.

APPENDIX

A.1 PARTICIPATING INSTITUTIONS

A.2 CRUISE PARTICIPANTS

A.3 SHIP'S CREW

A.4 STATION LIST

A.1 PARTICIPATING INSTITUTIONS

AWI	Alfred-Wegener-Institut für Polar- und Meeresforschung in der Helmholtz-Gemeinschaft Postfach 120161 27515 Bremerhaven Germany
BAS	British Antarctic Survey High Cross, Madingley Road Cambridge, CB3 0ET UK
DFZ	Department Fisiologia y Zoologia Fac. Biología Avda. Reina Mercedes, 6 41012 Sevilla Spain
DLR	DLR Oberpfaffenhofen Münchener Str. 20 82234 Weßling Germany
DME	Department of Marine Ecology Institute of Biological Sciences University of Aarhus Finlandsgade 14 8200 Aarhus Denmark
DWD	Deutscher Wetterdienst Geschäftsfeld Seeschifffahrt Bernhard-Nocht-Str. 76 20359 Hamburg Germany
ENSR	Marine & Coastal Center 89 Water street Woods Hole, MA 02543 USA
FIELAX	FIELAX Gesellschaft für wissenschaftliche Datenverarbeitung mbH Schifferstraße 10-14 27568 Bremerhaven Germany
FIS	Forschungsinstitut Senckenberg Abt. DZMB Südstrand 44 26382 Wilhelmshaven Germany

FSN	Forschungsinstitut Senckenberg und Naturmuseum Sektion Marine Evertebraten I Senckenberganlage 25 60325 Frankfurt am Main Germany
GEOKHI	Vernadsky Institute of Geochemistry and Analytical Chemistry Russian Academy of Sciences 19, Kosygin Street Moscow 119991 Russia
GFI	Geophysical Institute University of Bergen Allegaten 55 5007 Bergen Norway
HeliTransair	HeliTransair GmbH Am Flugplatz 63329 Egelsbach Germany
IFM-GEOMAR	Leibniz-Institut für Meereswissenschaften Düsternbrooker Weg 20 24105 Kiel Germany
IMB	Institute of Marine Biology FEB of RAS Palcheoskogo St. 17 Vladivostok – 41 690041 Russia
IRSN	Royal Belgian Institute of Natural Sciences Rue Vautier, 29 1000 Bruxelles Belgium
IUP	Institut für Umweltphysik Universität Bemen Otto-Hahn-Allee, NW1 D-28334 Bremen, Germany
NIOZ	Koninklijk Nederlands Instituut vor Onderzoek der Zee Department for Marine Chemistry and Geology P.O. Box 59 1790 AB Den Burg The Netherlands

OPTIMARE	Optimare Sensorsysteme AG Am Luneort 15a 27572 Bremerhaven Germany
RUB	Lehrstuhl für spezielle Zoologie Ruhr-Universität Bochum Geb. ND 05/780, Universitätsstr. 150 44780 Bochum Germany
SAMS	Scottish Association for Marine Science Dunstaffnage Marine Lab. Dunbeg, Oban Argyll, PA37 IQA UK
SANAP	Department of Environmental Affairs and Tourism Directorate: Antarctica and Islands 44 Hertzog Boulevard Southern Life Building, 4 th floor Foreshore, 8001 South Africa
SIHN	Departamento Oceanografía Servicio de Hidrografía Naval. Argentina
SES	School of Earth Sciences University of Leeds Leeds, LS2 9JT UK
SOC	Southampton Oceanography Centre European Way Southampton, SO14 3ZH UK
UG	Marine Biology University of Gent Krijgslaan 281/S8 9000 Gent Belgium
ULB	Université Libre de Bruxelles Laboratoire de Biologie Marine CP 160/15 50 av. F. D. Roosevelt 1050 Bruxelles Belgium

UO	Institute of Biological Sciences University of Oslo PB 1064 Blindern 0316 Oslo Norway
VIMS	School of Marine Science Virginia Institute of Marine Science College of William & Mary Gloucester Point, Virginia 23062-1346 USA
ZIM	Zoologisches Museum Hamburg Universität Hamburg Martin-Luther-King-Platz 3 20146 Hamburg Germany
ZSM	Zoologische Staatssammlung München Münchhausenstr. 21 81247 München Germany

A.2 CRUISE PARTICIPANTS

Name	Institut/ Institute
Adaro, Martin Pablo Cesar	SIHN since <i>Jubany</i> station
Banda, Gracious	SANAP until <i>Neumayer Station</i>
Boebel, Olaf	AWI
Bohn, Jens	ZSM
Brandt, Angelika	ZIM
Brökeland, Wiebke	ZIM
Carpenter, Lawrence W.	VIMS
Cedhagen, Thomas	DME
Choudhury, Madhumita	ZIM
Cornelius, Nils	SOC
Danis, Bruno	IRSN
Darelius, Elin	GFI
De Broyer, Claude	IRSN
De Mesel, Ilse	UG
Doner, Stacy A.	ENSR
Ellingsen, Kari Elsa	UO
Fahrbach, Eberhard	AWI
Gauger, Steffen	FIELAX
Gebauer, Manfred	DWD
Gooday, Andrew John	SOC
Heinlein, Harald	HeliTransair
Henche, Annika	FIS
Heterier, Vincent	ULB
Hilbig, Brigitte	RUB
Hoppema, Mario	AWI
Howe, John Alexander	SAMS
Ingels, Jeroen	UG
Janussen, Dorte	FSN
Kindermann, Lars	AWI
Klatt, Olaf	AWI
Kleffel, Guido	AWI since <i>Dallmann Laboratory</i>
Klinck, Holger	AWI
Kourentsova, Natalia	GEOKHI
Lahrman, Uwe	HeliTransair
Linse, Katrin	BAS
Lopez Gonzales, Pablo José	DFZ

Name	Institut/ Institute
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Malyutina, Marina	IMB
Middag, Rob	NIOZ
Monsees, Matthias	OPTIMARE
Narayanaswamy, Bhavani	SAMS
Nunes Brandao, Simone	ZIM
Nunez Riboni, Ismael	AWI
Planer, Michael	IUP
Raupach, Michael	RUB
Rießbeck, Gerhard	Künstler
Rohardt, Gerd	AWI
Rohr, Harald	OPTIMARE
Rose, Armin	FIS
Schwabe, Enrico	ZSM
Sonnabend, Hartmut	DWD
Stimac, Mihael	HeliTransair
Thoma, Inger	IfM-GEOMAR
Thomson, Michael R.	SES
Timmermann, Ralph	AWI
Wang, Qiang	AWI
Weerlee, van, Evaline	NIOZ
Wegener, Gisela	ZIM
Winter, Stefan	HeliTransair
Witte, Hannelore	AWI
Wolf, Alexander	DLR since <i>Rothera Station</i>

A.3 SHIP'S CREW

Besatzungsliste Reise ANT XXII/3
Name of Ship : POLARSTERN
Nationality : GERMAN
Cape Town - Punta Arenas

No.	Name	Rank	
01.	Schwarze, Stefan	Master	German
02.	Grundmann, Uwe	1.Offc.	German
03.	Farysch, Bernd	Ch. Eng.	German
04.	Thomas, Rainer	1.Offc./L.	German
05.	Bratz, Herbert	3.Offc.	German
06.	Wunderlich, Thomas	3.Offc.	German
07.	Kapieske, Uwe	Doctor	German
08.	Hecht, Andreas	R.Offc.	German
09.	Erreth Monostori, Gyula	2.Eng.	German
10.	Minzlaff, Hans-Ulrich	2.Eng.	German
11.	Ziemann, Olaf	2.Eng.	German
12.	Kahrs, Thomas	Electron	German
13.	Muhle, Helmut	Electron.	German
14.	Nasis, Ilias	Electron.	German
15.	Scholz, Manfred	Elec.Tech	German
16.	Verhoeven, Roger	Electron.	German
17.	Loidl, Reiner	Boatsw.	German
18.	Reise, Lutz	Carpenter	German
19.	Bäcker, Andreas	A.B.	German
20.	Guse, Hartmut	A.B.	German
21.	Hagemann, Manfred	A.B.	German
22.	Hartwig-Labahn, Andreas	A.B.	German
23.	Schmidt, Uwe	A.B.	German
24.	Vehlow, Ringo	A.B.	German
25.	Winkler, Michael	A.B.	German
26.	Preußner, Jörg	Storek.	German
27.	Elsner, Klaus	Mot-man	German
28.	Grafe, Jens	Mot-man	German
29.	Hartmann,Ernst-Uwe	Mot-man	German
30.	Ipsen, Michael	Mot-man	German
31.	Voy, Bernd	Mot-man	German
32.	Silinski, Frank	Cook	German
33.	Möller, Wolfgang	Cooksmate	German

34.	Völske, Thomas	Cooksmate	German
35.	Jürgens, Monika	1.Stwdess	German
36.	Wöckener, Martina	Stwdss/KS	German
37.	Czyborra, Bärbel	2.Stwdess	German
38.	Gaude, Hans-Jürgen	2.Steward	German
39.	Hu, Guo Yong	2.Steward	China
40.	Huang, Wu-Mei	2.Steward	Taiwan
41.	Silinski, Carmen	2.Stwdess	German
42.	Sun, Yong Sheng	Laundrym.	China
43.	Niehusen, Arne	Trainee	German
44.	Scholl, Christoph	Trainee	German

A.4 STATION LIST

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
12-1	23.01.05	04:45	34°10.58' S	14°33.07' E	4424.6	PFLOAT	deployed
13-1	23.01.05	16:10	35°57.63' S	13°28.41' E	4846.0	PFLOAT	deployed
14-1	24.01.05	05:25	38°0.14' S	12°9.42' E	5142.0	PFLOAT	deployed
15-1	24.01.05	19:05	40°1.48' S	10°45.48' E	4740.0	PFLOAT	deployed
16-1	25.01.05	02:15	41°8.05' S	9°56.44' E	4731.0	CTD/RO	start cast
	25.01.05	03:47	41°7.96' S	9°55.36' E	4712.0		at depth
	25.01.05	05:00	41°7.91' S	9°54.73' E	4690.0		end cast
16-2	25.01.05	05:45	41°8.12' S	9°56.59' E	4732.0	SPI	start cast
	25.01.05	07:10	41°8.12' S	9°56.50' E	4730.0		at depth
	25.01.05	09:01	41°8.44' S	9°56.81' E	4732.0		end cast
16-3	25.01.05	09:25	41°8.00' S	9°56.67' E	4730.0	GKG	start cast
	25.01.05	10:53	41°7.87' S	9°56.66' E	4732.0		at depth
	25.01.05	12:20	41°7.46' S	9°56.35' E	4723.0		end cast
16-4	25.01.05	12:21	41°7.46' S	9°56.33' E	4723.0	SON	start cast
16-5	25.01.05	12:53	41°8.00' S	9°56.69' E	4730.0	GKG	start cast
	25.01.05	14:20	41°7.51' S	9°56.30' E	4723.0		at depth
	25.01.05	15:44	41°7.11' S	9°55.94' E	4712.0		end cast
16-6	25.01.05	16:15	41°7.95' S	9°56.59' E	4732.0	MUC	start cast
	25.01.05	17:45	41°7.61' S	9°56.05' E	4719.0		at depth
	25.01.05	19:09	41°7.25' S	9°54.96' E	4695.0		end cast
16-7	25.01.05	19:45	41°7.99' S	9°56.49' E	4728.0	GKG	start cast
	25.01.05	21:16	41°7.75' S	9°56.06' E	4723.0		at depth
	25.01.05	22:48	41°7.71' S	9°56.33' E	4726.0		end cast
16-8	25.01.05	23:10	41°7.70' S	9°56.34' E	4729.0	MUC	start cast
	26.01.05	00:34	41°7.82' S	9°56.11' E	4726.0		at depth
	26.01.05	02:02	41°7.93' S	9°55.95' E	4722.0		end cast
16-9	26.01.05	02:25	41°8.04' S	9°56.75' E	4737.0	SPI	start cast
	26.01.05	03:59	41°7.70' S	9°55.98' E	4724.0		at depth
	26.01.05	05:51	41°7.17' S	9°55.50' E	4707.0		end cast
16-10	26.01.05	06:37	41°7.77' S	9°56.43' E	4725.0	EBS	start cast
	26.01.05	09:35	41°7.06' S	9°54.88' E	4687.0		start trawling
	26.01.05	09:45	41°6.99' S	9°54.75' E	4669.0		stop trawling
	26.01.05	12:20	41°7.00' S	9°54.75' E	4671.0		end cast
16-11	26.01.05	13:20	41°7.87' S	10°1.96' E	4796.0	AGT	start cast
	26.01.05	15:00	41°7.66' S	9°56.26' E	4727.0		AGT at depth
	26.01.05	15:33	41°7.46' S	9°55.11' E	4699.0		start trawling
	26.01.05	15:43	41°7.42' S	9°54.92' E	4730.0		stop trawling
	26.01.05	18:44	41°6.99' S	9°54.13' E	4619.0		end cast
16-12	26.01.05	19:20	41°8.04' S	9°56.63' E	4733.0	PIES	start deployment
	26.01.05	20:45	41°8.15' S	9°56.54' E	4700.8	PIES	end deployment
	26.01.05	20:47	41°8.21' S	9°56.60' E	4700.3	AFLOAT	deployed
17-65	27.01.05	01:42	41°52.27' S	9°22.82' E	4663.0	PFLOAT	deployed
18-1	27.01.05	14:27	43°50.43' S	7°47.44' E	4486.0	COD	deployed
18-2	27.01.05	14:37	43°50.77' S	7°47.01' E	4485.0	PFLOAT	deployed
19-1	27.01.05	18:28	44°27.21' S	7°15.90' E	4472.0	PIES	released
	27.01.05	20:15	44°39.85' S	7°5.53' E	4619.0	PIES	recovered
19-2	27.01.05	20:37	44°39.84' S	7°4.93' E	4616.0	PIES	start deployment
	27.01.05	21:52	44°39.79' S	7°5.32' E	4585.9	PIES	end deployment
20-1	28.01.05	05:30	45°49.90' S	6°2.30' E	4580.0	PFLOAT	deployed
21-1	28.01.05	18:07	47°39.93' S	4°15.11' E	4557.0	CTD/RO	start cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	28.01.05	19:38	47°39.84' S	4°15.68' E	4565.0		at depth
	28.01.05	21:14	47°39.92' S	4°16.02' E	4734.0		end cast
21-2	28.01.05	21:42	47°39.91' S	4°15.20' E	4560.0	SPI	start cast
	28.01.05	23:05	47°39.83' S	4°15.11' E	4558.0		at depth
	29.01.05	01:00	47°40.06' S	4°15.02' E	4558.0		end cast
21-3	29.01.05	01:19	47°39.89' S	4°15.23' E	4564.0	GKG	start cast
	29.01.05	02:41	47°40.05' S	4°14.84' E	4551.0		at depth
	29.01.05	04:04	47°40.30' S	4°14.12' E	4539.0		end cast
21-4	29.01.05	04:30	47°39.95' S	4°15.22' E	4563.0	MUC	start cast
	29.01.05	05:56	47°40.00' S	4°15.13' E	4559.0		at depth
	29.01.05	07:18	47°39.91' S	4°15.14' E	4562.0		end cast
21-5	29.01.05	08:22	47°39.42' S	4°15.49' E	4564.0	GKG	start cast
	29.01.05	09:44	47°39.37' S	4°15.65' E	4566.0		at depth
	29.01.05	11:04	47°39.27' S	4°15.74' E	4576.0		end cast
21-6	29.01.05	11:15	47°39.30' S	4°15.79' E	4569.0	MUC	start cast
	29.01.05	12:41	47°39.36' S	4°15.66' E	4564.0		at depth
	29.01.05	14:07	47°39.47' S	4°16.07' E	4583.0		end cast
21-7	29.01.05	14:29	47°40.53' S	4°16.27' E	4575.0	EBS	start cast
	29.01.05	17:18	47°38.73' S	4°15.20' E	4555.0		start trawling
	29.01.05	17:28	47°38.59' S	4°15.07' E	4552.0		stop trawling
	29.01.05	19:53	47°38.07' S	4°14.93' E	4539.0		end cast
21-8	29.01.05	20:50	47°43.02' S	4°17.62' E	4535.0	AGT	start cast
	29.01.05	22:51	47°39.19' S	4°16.50' E	4578.0		start trawling
	29.01.05	23:01	47°39.03' S	4°16.51' E	4579.0		stop trawling
	30.01.05	01:57	47°38.19' S	4°19.39' E	4581.0		end cast
21-9	30.01.05	02:29	47°39.36' S	4°15.70' E	4568.0	PIES	start deployment
21-9	30.01.05	03:07	47°39.19' S	4°16.10' E	4540.4	PIES	end deployment
22-1	30.01.05	11:35	48°55.27' S	2°55.81' E	4079.0	PFLOAT	deployed
23-1	30.01.05	18:43	49°58.84' S	1°44.56' E	3775.0	PIES	released
	30.01.05	20:50	50°14.50' S	1°26.14' E	3897.0		recovered
24-1	31.01.05	05:01	51°25.25' S	0°0.14' E	2723.0	NFLOAT	deployed
25-1	31.01.05	13:46	53°0.33' S	0°2.11' E	2521.4	MOR	search
25-2	31.01.05	17:00	53°0.49' S	0°1.81' E	2539.0	CTD/RO	start cast
	31.01.05	17:51	53°0.10' S	0°1.99' E	2540.0		at depth
	31.01.05	18:45	52°59.77' S	0°1.87' E	2559.0		end cast
25-3	31.01.05	18:53	52°59.71' S	0°1.70' E	2568.0	PFLOAT	deployed
26-1	31.01.05	22:32	53°30.06' S	0°0.32' E	2690.0	CTD/RO	start cast
	31.01.05	23:27	53°29.99' S	0°0.40' E	2688.0		at depth
	01.02.05	00:24	53°29.99' S	0°0.55' E	2687.0		end cast
27-1	01.02.05	04:16	53°59.83' S	0°0.35' E	2483.0	CTD/RO	start cast
	01.02.05	05:06	53°59.96' S	0°0.23' E	2487.0		at depth
	01.02.05	05:55	54°0.08' S	0°0.28' W	2427.8		end cast
27-2	01.02.05	06:02	54°0.08' S	0°0.43' W	2430.9	NFLOAT	deployed
28-1	01.02.05	09:44	54°30.77' S	0°2.20' E	1767.0	MOR	released
	01.02.05	13:06	54°30.69' S	0°3.71' E	1779.0		recovered
28-2	01.02.05	13:35	54°30.72' S	0°1.93' E	1764.0	CTD/RO	start cast
	01.02.05	14:12	54°30.87' S	0°1.96' E	1763.0		at depth
	01.02.05	14:51	54°31.03' S	0°1.81' E	1725.0		end cast
28-3	01.02.05	14:57	54°31.08' S	0°1.92' E	1712.0	MOR	start deployment
	01.02.05	16:41	54°30.79' S	0°1.29' E	1730.0		end deployment
29-1	01.02.05	21:23	55°0.13' S	0°0.77' E	1722.0	CTD/RO	start cast
	01.02.05	22:03	55°0.08' S	0°1.29' E	1728.0		at depth
	01.02.05	22:41	55°0.26' S	0°1.29' E	1729.0		end cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
29-2	01.02.05	22:47	55°0.28' S	0°1.06' E	1759.0	PFLOAT	deployed
30-1	02.02.05	06:48	55°30.07' S	0°0.41' E	3775.0	CTD/RO	start cast
	02.02.05	08:01	55°30.30' S	0°0.48' E	3791.0		at depth
	02.02.05	09:10	55°30.60' S	0°0.92' E	3900.0		end cast
31-1	02.02.05	10:12	55°34.11' S	0°0.36' E	3659.0	CTD/RO	start cast
	02.02.05	11:15	55°34.35' S	0°0.97' E	3396.0		at depth
	02.02.05	12:03	55°34.34' S	0°1.57' E	3337.0		end cast
32-1	02.02.05	13:30	55°31.85' S	0°3.96' E	3646.0	MOR	start deployment
	02.02.05	15:37	55°32.03' S	0°0.52' W	3873.0		end deployment
33-1	02.02.05	20:55	56°0.13' S	0°0.00' W	3852.0	CTD/RO	start cast
	02.02.05	22:08	56°0.24' S	0°0.20' E	3771.0		at depth
	02.02.05	23:14	56°0.42' S	0°0.57' E	3663.0		end cast
34-1	03.02.05	03:03	56°29.82' S	0°0.14' E	4097.0	CTD/RO	start cast
	03.02.05	04:19	56°29.80' S	0°0.22' E	4083.0		at depth
	03.02.05	05:30	56°29.84' S	0°0.43' E	4052.0		end cast
35-1	03.02.05	09:00	56°57.60' S	0°0.98' E	3778.0	MOR	released
	03.02.05	10:43	56°57.88' S	0°0.43' E	3811.0	MOR	recovered
35-2	03.02.05	11:08	56°57.69' S	0°1.63' E	3775.0	CTD/RO	start cast
	03.02.05	12:21	56°57.85' S	0°2.41' E	3773.0		at depth
	03.02.05	13:27	56°57.77' S	0°2.92' E	3778.0		end cast
35-3	03.02.05	14:10	56°57.68' S	0°5.51' E	3813.0	MOR	start deployment
	03.02.05	16:04	56°57.62' S	0°0.67' E	3791.0		end deployment
35-4	03.02.05	16:52	56°57.84' S	0°1.61' E	3776.0	STR	start cast
	03.02.05	20:04	57°27.45' S	0°0.07' E	3704.0		end cast
36-1	03.02.05	20:29	57°29.95' S	0°0.26' W	3989.0	CTD/RO	start cast
	03.02.05	21:45	57°30.07' S	0°0.69' W	3976.0		at depth
	03.02.05	22:53	57°30.44' S	0°0.55' W	3975.0		end cast
37-1	04.02.05	02:05	57°59.69' S	0°0.02' W	4562.0	CTD/RO	start cast
	04.02.05	03:30	57°59.76' S	0°0.23' E	4554.0		at depth
	04.02.05	04:45	57°59.62' S	0°0.39' E	4546.0		end cast
38-1	04.02.05	08:08	58°29.89' S	0°0.47' W	4291.0	CTD/RO	start cast
	04.02.05	09:29	58°29.87' S	0°0.40' W	4275.0		at depth
	04.02.05	10:41	58°30.11' S	0°0.62' W	4389.0		end cast
39-1	04.02.05	14:12	59°4.33' S	0°4.56' E	4699.0	MOR	released
	04.02.05	18:39	59°3.96' S	0°4.57' E	4695.0		recovered
39-3	04.02.05	20:15	59°5.86' S	0°7.00' E	4689.0	CTD/RO	start cast
	04.02.05	21:47	59°5.35' S	0°7.75' E	4709.0		at depth
	04.02.05	23:07	59°5.00' S	0°7.47' E	4696.0		end cast
40-1	05.02.05	01:58	59°30.01' S	0°0.49' W	4681.0	CTD/RO	start cast
	05.02.05	03:24	59°30.47' S	0°0.24' W	4690.0		at depth
	05.02.05	04:44	59°30.42' S	0°0.07' W	4686.0		end cast
41-1	05.02.05	08:10	60°0.01' S	0°0.37' W	5379.0	CTD/RO	start cast
	05.02.05	09:52	59°59.87' S	0°0.10' E	5386.0		at depth
	05.02.05	11:25	59°59.92' S	0°0.69' E	5400.0		end cast
41-2	05.02.05	11:39	60°1.09' S	0°0.45' W	5381.0	STR	start cast
	05.02.05	14:20	60°28.44' S	0°0.02' W	5397.0		end cast
42-1	05.02.05	14:43	60°29.95' S	0°0.04' W	5395.0	CTD/RO	start cast
	05.02.05	16:22	60°30.18' S	0°0.16' E	5395.0		at depth
	05.02.05	17:43	60°30.09' S	0°0.38' W	5394.0		end cast
43-1	05.02.05	21:03	60°59.94' S	0°0.25' E	5423.0	CTD/RO	start cast
	05.02.05	22:48	60°59.88' S	0°0.63' W	5421.0		at depth
	06.02.05	00:16	61°0.01' S	0°1.18' W	5415.0		end cast
44-1	06.02.05	03:23	61°29.92' S	0°0.03' W	5415.0	CTD/RO	start cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	06.02.05	05:04	61°29.78' S	0°0.35' W	5420.0		at depth
	06.02.05	06:28	61°29.66' S	0°0.68' W	5421.0		end cast
45-1	06.02.05	09:40	61°59.86' S	0°0.19' E	5389.0	CTD/RO	start cast
	06.02.05	11:22	61°59.98' S	0°0.39' E	5391.0		at depth
	06.02.05	12:43	61°59.82' S	0°0.14' W	5391.0		end cast
45-2	06.02.05	12:51	62°0.48' S	0°0.08' W	5392.0	STR	start cast
	06.02.05	15:36	62°28.56' S	0°0.44' W	5371.0		end cast
46-1	06.02.05	15:50	62°29.84' S	0°0.52' W	5368.0	CTD/RO	start cast
	06.02.05	17:29	62°30.14' S	0°0.13' W	5367.0		at depth
	06.02.05	18:51	62°30.06' S	0°0.42' E	5370.0		end cast
47-1	06.02.05	22:07	63°0.05' S	0°0.22' E	5332.0	CTD/RO	start cast
	06.02.05	23:50	62°59.68' S	0°0.23' E	5332.0		at depth
	07.02.05	01:15	62°59.47' S	0°0.28' E	5330.0		end cast
48-1	07.02.05	04:29	63°29.74' S	0°0.09' W	5268.0	CTD/RO	start cast
	07.02.05	06:06	63°29.55' S	0°0.20' E	5266.0		at depth
	07.02.05	07:28	63°29.35' S	0°0.39' E	5265.0		end cast
49-1	07.02.05	10:37	63°57.23' S	0°0.46' W	5198.8	MOR	released
	07.02.05	12:48	63°57.27' S	0°0.40' E	5198.3		recovered
49-2	07.02.05	14:02	63°57.28' S	0°6.23' W	5195.6	MOR	start deployment
	07.02.05	15:57	63°57.27' S	0°0.36' E	5199.4		end deployment
49-3	07.02.05	17:24	63°55.28' S	0°0.22' W	5201.3	CTD/RO	start cast
	07.02.05	19:02	63°55.15' S	0°0.08' W	5202.5		at depth
	07.02.05	20:22	63°55.04' S	0°0.41' W	5201.9		end cast
50-1	07.02.05	23:42	64°29.88' S	0°0.06' W	4650.3	CTD/RO	start cast
	08.02.05	01:11	64°29.86' S	0°0.47' E	4660.5		at depth
	08.02.05	02:27	64°29.92' S	0°0.62' E	4660.7		end cast
51-1	08.02.05	05:33	64°59.79' S	0°0.11' W	3722.6	CTD/RO	start cast
	08.02.05	06:44	64°59.48' S	0°0.40' E	3710.8		at depth
	08.02.05	07:47	64°59.54' S	0°0.64' E	3709.0		end cast
51-2	08.02.05	07:51	64°59.69' S	0°1.05' E	3706.2	NFLOAT	deployed
52-1	08.02.05	11:03	65°35.06' S	0°0.45' W	3831.0	CTD/RO	start cast
	08.02.05	12:14	65°34.93' S	0°0.24' E	3819.0		at depth
	08.02.05	13:24	65°34.86' S	0°0.47' E	3786.3		end cast
52-2	08.02.05	13:59	65°39.14' S	0°1.33' E	3704.0	STR	start cast
	08.02.05	15:33	65°57.47' S	0°9.06' E	3548.0		end cast
53-1	08.02.05	16:14	66°0.26' S	0°10.15' E	3487.6	MOR	released
	08.02.05	17:48	65°59.86' S	0°9.95' E	3528.0		recovered
53-2	08.02.05	19:17	65°59.20' S	0°7.59' E	3643.0	MOR	start deployment
	08.02.05	20:34	66°0.75' S	0°11.50' E	3489.0		end deployment
53-3	08.02.05	21:31	65°59.18' S	0°7.74' E	3616.3	CTD/RO	start cast
	08.02.05	22:42	65°59.25' S	0°7.85' E	3635.0		at depth
	08.02.05	23:43	65°59.26' S	0°7.84' E	3637.0		end cast
54-1	09.02.05	01:33	66°15.42' S	0°0.31' W	3758.0	CTD/RO	start cast
	09.02.05	02:46	66°15.50' S	0°0.19' W	3770.0		at depth
	09.02.05	03:53	66°15.40' S	0°0.53' W	3748.0		end cast
55-1	09.02.05	05:25	66°28.70' S	0°1.97' W	4523.0	CTD/RO	start cast
	09.02.05	06:51	66°28.50' S	0°1.98' W	4529.0		at depth
	09.02.05	08:01	66°28.51' S	0°2.04' W	4530.0		end cast
55-2	09.02.05	08:40	66°30.51' S	0°1.99' W	4548.3	MOR	released
	09.02.05	10:46	66°30.25' S	0°1.29' W	4570.0		recovered
55-3	09.02.05	12:42	66°30.69' S	0°1.78' W	4573.0	MOR	start deployment
	09.02.05	15:49	66°30.66' S	0°1.91' W	4576.0		end deployment
56-1	09.02.05	19:41	66°59.88' S	0°0.26' W	4729.0	CTD/RO	start cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	09.02.05	21:12	67°0.06' S	0°0.19' W	4730.0		at depth
	09.02.05	22:24	67°0.26' S	0°0.06' E	4728.0		end cast
57-1	10.02.05	15:10	69°29.92' S	5°23.67' W	1827.0	ATC	deployed
57-2	10.02.05	18:03	69°23.00' S	5°15.05' W	1810.0	AGT	start cast
	10.02.05	18:59	69°24.50' S	5°19.37' W	1819.0		start trawling
	10.02.05	19:09	69°24.62' S	5°19.68' W	1822.0		stop trawling
	10.02.05	20:22	69°24.67' S	5°19.72' W	1823.0		end cast
58-1	13.02.05	06:41	69°29.82' S	5°23.62' W	1829.0	ATC	released
	13.02.05	09:18	69°29.66' S	5°23.32' W	1808.2		recovered
58-2	13.02.05	10:03	69°24.01' S	5°9.30' W	1871.0	STR	start cast
	13.02.05	10:32	69°21.09' S	5°0.39' W	2065.0		end cast
58-3	13.02.05	13:30	69°5.85' S	4°16.20' W	2901.0	STR	start cast
	13.02.05	18:40	68°26.60' S	2°29.33' W	4221.0		end cast
58-4	13.02.05	19:07	68°25.39' S	2°26.29' W	4237.0	STR	start cast
	14.02.05	01:09	67°34.02' S	0°10.61' W	4660.0		end cast
59-1	14.02.05	01:52	67°29.99' S	0°0.10' E	4625.3	ATC	deployed
59-2	14.02.05	02:16	67°30.00' S	0°0.12' W	4625.0	CTD/RO	start cast
	14.02.05	03:45	67°29.91' S	0°0.20' W	4650.0		at depth
	14.02.05	05:00	67°30.22' S	0°0.25' W	4650.0		end cast
59-3	14.02.05	05:37	67°31.03' S	6°0.00' E	4651.0	SPI	start cast
	14.02.05	07:11	67°31.03' S	0°0.14' E	4649.0		at depth
	14.02.05	09:09	67°31.07' S	0°0.17' E	4653.0		end cast
59-4	14.02.05	09:23	67°31.08' S	0°0.25' E	4650.0	MUC	start cast
	14.02.05	10:49	67°30.99' S	0°0.16' E	4652.0		at depth
	14.02.05	12:16	67°31.00' S	0°0.10' E	4649.0		end cast
59-5	14.02.05	12:29	67°31.00' S	0°0.11' E	4650.0	EBS	start cast
	14.02.05	14:35	67°29.74' S	0°1.93' W	4655.0		start trawling
	14.02.05	14:45	67°29.61' S	0°2.19' W	4655.0		stop trawling
	14.02.05	17:30	67°29.85' S	0°3.39' W	4658.0		end cast
59-6	14.02.05	18:08	67°31.07' S	0°0.04' E	4648.0	GKG	start cast
	14.02.05	19:29	67°31.10' S	0°0.11' E	4648.0		at depth
	14.02.05	20:55	67°31.01' S	0°0.23' E	4652.0		end cast
59-7	14.02.05	21:04	67°31.01' S	0°0.22' E	4649.0	MUC	start cast
	14.02.05	22:26	67°31.05' S	0°0.27' E	4654.0		at depth
	14.02.05	23:52	67°30.98' S	0°0.12' E	4649.0		end cast
59-8	15.02.05	00:13	67°31.07' S	0°1.31' E	4649.0	CTD/RO	start cast
	15.02.05	01:09	67°31.06' S	0°0.81' E	4648.0		at depth
	15.02.05	01:50	67°31.05' S	0°0.33' E	4651.0		end cast
59-9	15.02.05	02:43	67°31.03' S	0°0.33' E	4651.0	MUC	start cast
	15.02.05	04:09	67°30.99' S	0°0.02' W	4649.0		at depth
	15.02.05	05:33	67°31.02' S	0°0.21' W	4649.0		end cast
59-10	15.02.05	12:16	67°32.65' S	0°9.65' W	4663.0	AGT	start cast
	15.02.05	14:30	67°30.37' S	0°3.74' E	4648.0		start trawling
	15.02.05	14:50	67°30.27' S	0°4.34' E	4648.0		stop trawling
	15.02.05	17:47	67°30.67' S	0°4.97' E	4649.0		end cast
59-11	15.02.05	19:34	67°31.13' S	0°0.21' W	4650.0	MUC	start cast
	15.02.05	21:01	67°30.96' S	0°0.02' W	4653.0		at depth
	15.02.05	22:27	67°31.02' S	0°0.14' E	4652.0		end cast
59-12	15.02.05	22:49	67°31.01' S	0°0.16' E	4650.0	GKG	start cast
	16.02.05	00:11	67°31.03' S	0°0.11' E	4648.0		at depth
	16.02.05	01:39	67°31.01' S	0°0.02' E	4651.0		end cast
59-13	16.02.05	01:53	67°30.98' S	0°0.00' W	4650.0	MUC	start cast
	16.02.05	03:17	67°30.91' S	0°0.02' W	4652.0		at depth

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	16.02.05	04:41	67°30.80' S	0°0.32' W	4649.0		end cast
59-14	16.02.05	05:17	67°30.89' S	0°0.36' W	4652.0	GKG	start cast
	16.02.05	06:41	67°31.01' S	0°0.00' W	4650.0		at depth
	16.02.05	08:07	67°31.04' S	0°0.27' W	4651.0		end cast
59-15	16.02.05	08:41	67°30.05' S	0°0.04' E	4624.9	ATC	released
	16.02.05	11:14	67°30.08' S	0°0.20' E	4651.0		recovered
60-1	16.02.05	14:39	67°59.98' S	0°0.06' E	4533.0	CTD/RO	start cast
	16.02.05	16:02	68°0.25' S	0°0.22' W	4531.0		at depth
	16.02.05	17:12	67°59.91' S	0°0.18' W	4535.0		end cast
61-1	16.02.05	20:51	68°30.07' S	0°0.68' W	4293.0	CTD/RO	start cast
	16.02.05	22:13	68°30.24' S	0°0.81' W	4291.0		at depth
	16.02.05	23:24	68°30.26' S	0°0.79' W	4289.0		end cast
62-1	17.02.05	01:03	68°44.99' S	0°3.20' W	3503.0	CTD/RO	start cast
	17.02.05	02:10	68°45.12' S	0°3.36' W	3490.0		at depth
	17.02.05	03:15	68°45.11' S	0°3.31' W	3486.0		end cast
63-1	17.02.05	04:51	68°57.92' S	0°0.22' E	3419.0	CTD/RO	start cast
	17.02.05	05:56	68°57.80' S	0°0.31' E	3418.0		at depth
	17.02.05	06:53	68°57.78' S	0°0.67' E	3407.0		end cast
63-2	17.02.05	08:00	68°59.97' S	0°1.18' W	3379.5	MOR	released
	17.02.05	09:54	68°59.28' S	0°2.43' W	3394.5		recovered
63-3	17.02.05	10:44	68°59.72' S	0°0.37' W	3408.3	MOR	start deployment
	17.02.05	12:43	68°59.75' S	0°0.11' W	3413.8		end deployment
64-1	17.02.05	15:16	69°20.59' S	0°4.41' W	2202.6	MOR	released
	17.02.05	18:09	69°22.92' S	0°12.36' W	1935.3		recovered
64-2	17.02.05	19:50	69°23.65' S	0°4.23' W	1967.9	MOR	start deployment
	17.02.05	21:06	69°23.60' S	0°4.33' W	1969.7		end deployment
65-1	18.02.05	01:00	69°34.77' S	0°8.14' W	1718.5	CTD/RO	start cast
	18.02.05	01:33	69°34.59' S	0°7.92' W	1735.0		at depth
	18.02.05	02:11	69°34.63' S	0°7.92' W	1731.4		end cast
66-1	18.02.05	03:48	69°29.54' S	0°9.57' E	1777.0	CTD/RO	start cast
	18.02.05	04:23	69°29.26' S	0°9.29' E	1800.2		at depth
	18.02.05	05:05	69°29.13' S	0°9.56' E	1815.9		end cast
67-1	18.02.05	05:50	69°24.99' S	0°0.02' W	1938.9	CTD/RO	start cast
	18.02.05	06:27	69°24.94' S	0°0.09' E	1945.3		at depth
	18.02.05	07:07	69°24.91' S	0°0.00' E	1939.7		end cast
68-1	18.02.05	07:56	69°20.00' S	0°0.01' E	2356.0	CTD/RO	start cast
	18.02.05	08:44	69°20.01' S	0°0.10' E	2355.8		at depth
	18.02.05	09:28	69°19.99' S	0°0.04' E	2357.4		end cast
69-1	18.02.05	10:24	69°15.00' S	0°0.00' E	2584.0	CTD/RO	start cast
	18.02.05	11:16	69°14.90' S	0°0.00' E	2546.0		at depth
	18.02.05	12:00	69°14.96' S	0°0.08' E	2584.1		end cast
69-2	18.02.05	12:10	69°15.19' S	0°0.89' W	2558.3	STR	start cast
	19.02.05	02:16	70°14.77' S	8°24.56' W	1600.5		end cast
70-1	19.02.05	06:08	70°31.88' S	9°1.49' W	436.9	TRAPF	released
	19.02.05	06:37	70°31.81' S	9°1.40' W	435.6		recovered
71-1	19.02.05	06:45	70°31.80' S	9°1.64' W	438.4	TRAPF	searching
72-1	19.02.05	07:01	70°31.84' S	9°2.18' W	438.1	TRAPF	searching
72-2	19.02.05	07:03	70°31.86' S	9°2.24' W	437.3	TRAPF	searching
72-3	19.02.05	07:05	70°31.90' S	9°2.30' W	438.4	TRAPF	searching
73-1	19.02.05	16:20	70°56.72' S	10°32.50' W	317.2	MOR	searching
74-1	20.02.05	08:10	71°18.26' S	13°57.51' W	1050.0	CTD/RO	start cast
	20.02.05	08:34	71°18.23' S	13°57.67' W	1059.0		at depth
	20.02.05	08:50	71°18.27' S	13°57.72' W	1051.0		end cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
74-2	20.02.05	09:15	71°17.88' S	13°54.55' W	969.2	ATC	deployed
	20.02.05	09:34	71°18.08' S	13°56.42' W	1017.4		at depth
74-3	20.02.05	10:11	71°18.35' S	13°58.09' W	1051.0	SPI	start cast
	20.02.05	11:00	71°18.28' S	13°57.73' W	1051.0		at depth
	20.02.05	12:21	71°18.29' S	13°57.83' W	1049.0		end cast
74-4	20.02.05	12:31	71°18.31' S	13°57.70' W	1041.0	MUC	start cast
	20.02.05	12:56	71°18.25' S	13°57.82' W	1060.0		at depth
	20.02.05	13:19	71°18.27' S	13°57.63' W	1049.0		end cast
74-5	20.02.05	14:11	71°18.05' S	13°56.23' W	1037.0	MUC	start cast
	20.02.05	14:34	71°18.11' S	13°56.33' W	1035.0		at depth
	20.02.05	14:56	71°18.14' S	13°56.21' W	1022.0		end cast
74-6	20.02.05	15:32	71°18.42' S	13°58.29' W	1053.0	EBS	start cast
	20.02.05	15:50	71°18.42' S	13°58.22' W	1048.0		at depth
	20.02.05	15:58	71°18.35' S	13°57.71' W	1030.0		start trawling
	20.02.05	16:08	71°18.28' S	13°57.31' W	1040.0		stop trawling
	20.02.05	16:39	71°18.46' S	13°58.40' W	1053.0		end cast
74-7	20.02.05	17:09	71°18.89' S	14°0.62' W	1173.0	AGT	start cast
	20.02.05	17:40	71°18.48' S	13°58.55' W	1055.0		start trawling
	20.02.05	17:50	71°18.40' S	13°58.14' W	1047.0		stop trawling
	20.02.05	18:31	71°18.44' S	13°58.10' W	1036.0		end cast
74-8	20.02.05	18:53	71°18.04' S	13°54.77' W	973.7	ATC	released
	20.02.05	19:35	71°18.44' S	13°55.96' W	953.5		recovered
75-1	20.02.05	21:10	71°28.78' S	13°31.25' W	242.8	CTD/RO	start cast
	20.02.05	21:21	71°28.77' S	13°31.64' W	241.2		at depth
	20.02.05	21:32	71°28.75' S	13°31.80' W	242.6		end cast
76-1	20.02.05	22:46	71°20.03' S	13°45.29' W	308.5	CTD/RO	start cast
	20.02.05	22:58	71°20.07' S	13°45.28' W	311.4		at depth
	20.02.05	23:12	71°20.05' S	13°45.39' W	308.2		end cast
77-1	20.02.05	23:47	71°17.04' S	13°50.21' W	948.5	CTD/RO	start cast
	21.02.05	00:08	71°17.01' S	13°50.26' W	962.7		at depth
	21.02.05	00:36	71°17.14' S	13°50.67' W	944.8		end cast
78-1	21.02.05	01:49	71°9.52' S	14°1.18' W	2188.0	ATC	deployed
	21.02.05	02:40	71°9.91' S	14°4.80' W	2194.0		at depth
78-2	21.02.05	02:57	71°9.51' S	14°0.03' W	2168.0	CTD/RO	start cast
	21.02.05	03:42	71°9.47' S	14°0.12' W	2167.0		at depth
	21.02.05	04:25	71°9.46' S	14°0.03' W	2166.0		end cast
78-3	21.02.05	04:35	71°9.48' S	14°0.03' W	2165.0	MUC	start cast
	21.02.05	05:20	71°9.46' S	13°59.97' W	2163.0		at depth
	21.02.05	06:02	71°9.44' S	14°0.05' W	2166.0		end cast
78-4	21.02.05	06:28	71°9.46' S	14°0.00' W	2166.0	GKG	start cast
	21.02.05	07:08	71°9.49' S	13°59.92' W	2164.0		at depth
	21.02.05	07:51	71°9.44' S	13°59.85' W	2163.0		end cast
78-5	21.02.05	08:02	71°9.45' S	13°59.95' W	2169.0	MUC	start cast
	21.02.05	08:48	71°9.38' S	13°59.94' W	2163.0		at depth
	21.02.05	09:29	71°9.44' S	14°0.08' W	2165.0		end cast
78-6	21.02.05	09:48	71°9.46' S	14°0.12' W	2166.0	GKG	start cast
	21.02.05	10:28	71°9.45' S	14°0.32' W	2168.0		at depth
	21.02.05	11:09	71°9.41' S	14°0.30' W	2167.0		end cast
78-7	21.02.05	11:21	71°9.45' S	14°0.05' W	2165.0	MUC	start cast
	21.02.05	12:06	71°9.45' S	14°0.06' W	2165.0		at depth
	21.02.05	12:48	71°9.48' S	14°0.17' W	2168.0		end cast
78-8	21.02.05	13:13	71°9.46' S	14°0.01' W	2164.0	MUC	start cast
	21.02.05	13:55	71°9.48' S	14°0.12' W	2167.0		at depth

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	21.02.05	14:35	71°9.47' S	14°0.15' W	2167.0		end cast
78-9	21.02.05	14:47	71°9.60' S	14°0.05' W	2174.0	SPI	start cast
	21.02.05	15:54	71°9.55' S	14°0.16' W	2172.0		at depth
	21.02.05	17:17	71°9.39' S	13°59.78' W	2161.0		end cast
78-10	21.02.05	17:37	71°9.56' S	14°1.06' W	2186.0	EBS	start cast
	21.02.05	18:35	71°9.39' S	13°59.30' W	2156.0		start trawling
	21.02.05	18:45	71°9.36' S	13°58.81' W	2147.0		stop trawling
78-11	21.02.05	19:23	71°9.37' S	13°58.91' W	2151.0	ATC	released
78-10	21.02.05	19:48	71°9.33' S	13°58.61' W	2147.0	EBS	end cast
78-11	21.02.05	20:35	71°9.60' S	14°2.47' W	2190.0	ATC	recovered
78-12	21.02.05	20:58	71°10.31' S	14°5.66' W	2214.0	AGT	start cast
	21.02.05	21:59	71°9.39' S	13°59.33' W	2157.0		start trawling
	21.02.05	22:09	71°9.35' S	13°58.81' W	2147.0		stop trawling
	21.02.05	23:36	71°9.33' S	13°58.28' W	2143.0		end cast
78-13	21.02.05	23:42	71°9.15' S	13°58.10' W	2145.0	AFLOAT	deployed
79-1	22.02.05	01:44	70°52.56' S	14°23.79' W	2294.0	CTD/RO	start cast
	22.02.05	02:28	70°52.55' S	14°23.89' W	2295.0		at depth
	22.02.05	03:10	70°52.57' S	14°23.84' W	2296.0		end cast
80-1	22.02.05	04:45	70°41.01' S	14°40.11' W	2899.0	ATC	deployed
	22.02.05	05:45	70°40.78' S	14°41.24' W	2928.0		at depth
80-2	22.02.05	06:24	70°39.42' S	14°43.50' W	3090.0	CTD/RO	start cast
	22.02.05	07:23	70°39.45' S	14°43.64' W	3085.0		at depth
	22.02.05	08:19	70°39.42' S	14°43.43' W	3078.0		end cast
80-3	22.02.05	08:22	70°39.42' S	14°43.42' W	3078.0	SPI	start cast
	22.02.05	09:27	70°39.41' S	14°43.54' W	3083.0		at depth
	22.02.05	11:00	70°39.41' S	14°43.47' W	3085.0		end cast
80-4	22.02.05	11:12	70°39.42' S	14°43.50' W	3084.0	MUC	start cast
	22.02.05	12:15	70°39.32' S	14°43.51' W	3093.0		at depth
	22.02.05	13:11	70°39.43' S	14°43.60' W	3092.0		end cast
80-5	22.02.05	13:24	70°39.40' S	14°43.44' W	3088.0	GKG	start cast
	22.02.05	14:20	70°39.40' S	14°43.47' W	3086.0		at depth
	22.02.05	15:19	70°39.30' S	14°43.62' W	3099.0		end cast
80-6	22.02.05	15:54	70°37.09' S	14°42.22' W	3566.0	AGT	start cast
	22.02.05	17:18	70°40.23' S	14°43.78' W	3006.0		start trawling
	22.02.05	17:29	70°40.42' S	14°43.83' W	2978.0		stop trawling
	22.02.05	19:35	70°40.82' S	14°44.24' W	2940.0		end cast
80-7	22.02.05	20:24	70°39.41' S	14°43.43' W	3081.0	MUC	start cast
	22.02.05	21:23	70°39.40' S	14°43.50' W	3088.0		at depth
	22.02.05	22:22	70°39.36' S	14°43.44' W	3090.0		end cast
80-8	22.02.05	22:45	70°39.40' S	14°43.43' W	3084.0	GKG	start cast
	22.02.05	23:44	70°39.40' S	14°43.46' W	3092.0		at depth
	23.02.05	00:37	70°39.45' S	14°43.65' W	3084.0		end cast
80-9	23.02.05	01:06	70°38.42' S	14°42.61' W	3138.0	EBS	start cast
	23.02.05	02:27	70°39.07' S	14°43.36' W	3103.0		start trawling
	23.02.05	02:37	70°39.22' S	14°43.39' W	3102.0		stop trawling
80-10	23.02.05	03:31	70°39.20' S	14°43.42' W	3102.0	ATC	released
80-9	23.02.05	04:10	70°39.24' S	14°43.59' W	3103.0	EBS	end cast
80-10	23.02.05	04:54	70°41.02' S	14°41.82' W	2908.0	ATC	recovered
81-1	23.02.05	06:27	70°30.01' S	14°30.89' W	4497.0	ATC	deployed
81-2	23.02.05	07:02	70°31.50' S	14°34.92' W	4415.0	CTD/RO	start cast
81-1	23.02.05	07:52	70°31.63' S	14°35.00' W	4412.0	ATC	at depth
81-2	23.02.05	08:24	70°31.50' S	14°35.08' W	4413.0	CTD/RO	at depth
	23.02.05	09:30					end cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
81-3	23.02.05	09:45	70°31.51' S	14°34.77' W	4409.0	SPI	start cast
	23.02.05	11:09	70°31.50' S	14°34.97' W	4411.0		at depth
	23.02.05	13:07	70°31.48' S	14°34.86' W	4410.0		end cast
81-4	23.02.05	13:17	70°31.50' S	14°34.90' W	4412.0	MUC	start cast
	23.02.05	14:39	70°31.49' S	14°34.95' W	4407.0		at depth
	23.02.05	16:01	70°31.49' S	14°34.95' W	4412.0		end cast
81-5	23.02.05	16:14	70°31.59' S	14°34.87' W	4409.0	GKG	start cast
	23.02.05	17:35	70°31.59' S	14°35.05' W	4411.0		at depth
	23.02.05	19:01	70°31.65' S	14°35.10' W	4412.0		end cast
81-6	23.02.05	19:14	70°31.49' S	14°35.31' W	4414.0	MUC	start cast
	23.02.05	20:39	70°31.53' S	14°35.07' W	4413.0		at depth
	23.02.05	22:00	70°31.55' S	14°34.94' W	4411.0		end cast
81-7	23.02.05	22:20	70°31.52' S	14°34.75' W	4409.0	GKG	start cast
	23.02.05	23:41	70°31.49' S	14°34.89' W	4408.0		at depth
	24.02.05	01:01	70°31.55' S	14°34.83' W	4410.0		end cast
81-8	24.02.05	01:20	70°30.85' S	14°34.98' W	4427.0	EBS	start cast
	24.02.05	03:20	70°32.02' S	14°35.05' W	4392.0		start trawling
	24.02.05	03:30	70°32.19' S	14°35.13' W	4385.0		stop trawling
	24.02.05	05:44	70°32.77' S	14°35.15' W	4391.0		end cast
81-9	24.02.05	06:42	70°27.90' S	14°35.77' W	4526.0	AGT	start cast
	24.02.05	08:38	70°32.94' S	14°34.40' W	4390.0		start trawling
	24.02.05	08:48	70°33.15' S	14°34.10' W	4392.0		stop trawling
81-10	24.02.05	11:00	70°33.72' S	14°30.00' W	4449.0	ATC	released
81-9	24.02.05	11:32	70°33.83' S	14°28.62' W	4283.0	AGT	end cast
81-10	24.02.05	13:59	70°30.25' S	14°31.80' W	4448.0	ATC	recovered
82-1	24.02.05	15:29	70°28.09' S	15°6.02' W	4651.0	CTD/RO	start cast
	24.02.05	16:55	70°28.20' S	15°6.23' W	4652.0		at depth
	24.02.05	18:00	70°28.33' S	15°5.97' W	4652.0		end cast
82-3	24.02.05	18:12	70°28.00' S	15°7.21' W	4654.0	STR	start cast
	24.02.05	21:08	70°2.38' S	15°56.74' W	4752.0		end cast
83-1	24.02.05	21:21	70°1.92' S	15°57.75' W	4753.0	CTD/RO	start cast
	24.02.05	22:53	70°1.91' S	15°57.78' W	4754.0		at depth
	25.02.05	00:04	70°1.99' S	15°57.77' W	4754.0		end cast
84-1	25.02.05	03:25	69°35.80' S	16°48.81' W	4731.0	CTD/RO	start cast
	25.02.05	04:55	69°35.85' S	16°48.61' W	4733.0		at depth
	25.02.05	06:06	69°35.90' S	16°48.84' W	4731.0		end cast
84-2	25.02.05	06:09	69°35.94' S	16°48.90' W	4734.0	NFLOAT	deployed
85-1	25.02.05	09:28	69°9.73' S	17°38.48' W	4786.0	CTD/RO	start cast
	25.02.05	10:58	69°9.64' S	17°38.35' W	4782.0		at depth
	25.02.05	12:08	69°9.72' S	17°38.23' W	4781.0		end cast
85-2	25.02.05	12:48	69°4.55' S	17°47.97' W	4789.0	STR	start cast
	25.02.05	15:19	68°45.57' S	18°23.30' W	4801.0		end cast
86-1	25.02.05	16:13	68°43.57' S	18°27.23' W	4813.0	CTD/RO	start cast
	25.02.05	17:42	68°43.58' S	18°28.10' W	4814.0		at depth
	25.02.05	18:53	68°43.51' S	18°28.14' W	4813.0		end cast
87-1	25.02.05	22:18	68°16.06' S	19°17.17' W	4883.0	CTD/RO	start cast
	25.02.05	23:51	68°16.11' S	19°17.33' W	4885.0		at depth
	26.02.05	01:05	68°16.17' S	19°17.46' W	4885.0		end cast
88-1	26.02.05	04:22	68°1.68' S	20°27.75' W	4935.0	ATC	deployed
88-2	26.02.05	05:17	68°3.65' S	20°27.77' W	4932.0	CTD/RO	start cast
88-1	26.02.05	05:58	68°3.70' S	20°27.68' W	4934.0	ATC	at depth
88-2	26.02.05	06:49	68°3.54' S	20°27.95' W	4933.0	CTD/RO	at depth
	26.02.05	08:08	68°3.60' S	20°27.97' W	4933.0		end cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
88-3	26.02.05	08:14	68°3.59' S	20°27.87' W	4934.0	SPI	start cast
	26.02.05	10:04	68°3.61' S	20°27.78' W	4932.0		at depth
	26.02.05	11:57	68°3.64' S	20°27.76' W	4932.0		end cast
88-4	26.02.05	12:08	68°3.68' S	20°27.88' W	4933.0	MUC	start cast
	26.02.05	13:47	68°3.64' S	20°27.84' W	4932.0		at depth
	26.02.05	15:15	68°3.63' S	20°27.78' W	4933.0		end cast
88-5	26.02.05	15:30	68°3.62' S	20°27.87' W	4932.0	GKG	start cast
	26.02.05	17:01	68°3.68' S	20°27.75' W	4933.0		at depth
	26.02.05	18:32	68°3.73' S	20°27.78' W	4930.0		end cast
88-6	26.02.05	18:42	68°3.71' S	20°27.76' W	4932.0	MUC	start cast
	26.02.05	20:16	68°3.68' S	20°27.68' W	4933.0		at depth
	26.02.05	21:44	68°3.62' S	20°27.87' W	4934.0		end cast
88-7	26.02.05	22:02	68°3.60' S	20°27.89' W	4932.0	GKG	start cast
	26.02.05	23:32	68°3.61' S	20°27.99' W	4934.0		at depth
	27.02.05	01:04	68°3.49' S	20°27.85' W	4931.0		end cast
88-8	27.02.05	01:32	68°3.87' S	20°31.81' W	4929.0	EBS	start cast
	27.02.05	03:48	68°3.66' S	20°27.90' W	4929.0		start trawling
	27.02.05	03:58	68°3.61' S	20°27.52' W	4931.0		stop trawling
	27.02.05	06:33	68°3.58' S	20°27.36' W	4931.0		end cast
88-9	27.02.05	07:00	68°3.70' S	20°27.70' W	4932.0	MUC	start cast
	27.02.05	08:32	68°3.70' S	20°28.05' W	4931.0		at depth
	27.02.05	10:05	68°3.64' S	20°27.72' W	4935.0		end cast
88-11	27.02.05	10:58	68°3.54' S	20°38.33' W	4933.0	AGT	start cast
	27.02.05	13:13	68°3.58' S	20°24.58' W	4930.0		start trawling
	27.02.05	13:23	68°3.57' S	20°24.22' W	4931.0		stop trawling
	27.02.05	16:49	68°3.66' S	20°24.41' W	4929.0		end cast
88-12	27.02.05	17:24	68°3.59' S	20°28.04' W	4931.0	MUC	start cast
	27.02.05	18:58	68°3.63' S	20°27.93' W	4929.0		at depth
88-13	27.02.05	19:32	68°3.68' S	20°27.83' W	4932.0	ATC	released
88-12	27.02.05	20:15	68°3.64' S	20°27.65' W	4933.0	MUC	end cast
88-13	27.02.05	21:28	68°2.00' S	20°28.28' W	4971.0	ATC	recovered
88-14	27.02.05	21:36	68°2.00' S	20°28.42' W	4933.0	AFLOAT	deployed
88-15	27.02.05	21:54	68°0.78' S	20°31.39' W	4937.0	STR	start cast
	28.02.05	00:31	67°48.30' S	21°32.24' W	4939.0		end cast
89-1	28.02.05	00:55	67°47.10' S	21°37.64' W	4940.0	CTD/RO	start cast
	28.02.05	02:27	67°47.10' S	21°37.41' W	4937.0		at depth
	28.02.05	03:48	67°47.20' S	21°37.77' W	4938.0		end cast
90-1	28.02.05	07:01	67°32.75' S	22°46.90' W	4921.0	CTD/RO	start cast
	28.02.05	08:33	67°32.68' S	22°46.82' W	4890.8		at depth
	28.02.05	09:50	67°32.73' S	22°46.81' W	4890.4		end cast
90-2	28.02.05	09:55	67°32.74' S	22°46.62' W	4890.9	NFLOAT	deployed
91-1	28.02.05	13:07	67°18.24' S	23°55.17' W	4861.6	CTD/RO	start cast
	28.02.05	14:39	67°18.22' S	23°55.10' W	4862.0		at depth
	28.02.05	15:52	67°18.26' S	23°55.03' W	4863.9		end cast
91-2	28.02.05	16:15	67°17.65' S	24°0.03' W	4858.0	STR	start cast
	28.02.05	18:50	67°4.59' S	24°58.97' W	4848.2		end cast
92-1	28.02.05	19:07	67°3.76' S	25°2.96' W	4847.3	CTD/RO	start cast
	28.02.05	20:43	67°3.79' S	25°2.92' W	4692.0		at depth
	28.02.05	21:58	67°3.76' S	25°2.95' W	4846.4		end cast
93-1	01.03.05	01:11	66°49.34' S	26°9.98' W	4847.6	CTD/RO	start cast
	01.03.05	02:45	66°49.37' S	26°9.85' W	4845.7		at depth
	01.03.05	04:03	66°49.29' S	26°9.71' W	4826.1		end cast
94-1	01.03.05	07:18	66°34.80' S	27°7.47' W	4866.2	ATC	deployed

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
94-2	01.03.05	08:27	66°35.59' S	27°11.60' W	4863.0	MOR	start deployment
94-1	01.03.05	09:00	66°36.28' S	27°9.46' W	4863.0	ATC	at depth
94-2	01.03.05	10:07	66°37.19' S	27°5.79' W	4862.2	MOR	end deployment
94-3	01.03.05	10:58	66°37.40' S	27°9.84' W	4864.2	CTD/RO	start cast
	01.03.05	12:30	66°37.33' S	27°9.78' W	4861.5		at depth
	01.03.05	13:46	66°37.39' S	27°9.80' W	4862.7		end cast
94-4	01.03.05	14:42	66°37.48' S	27°9.48' W	4860.8	SPI	start cast
	01.03.05	16:13	66°37.41' S	27°9.92' W	0.0		at depth
	01.03.05	18:29	66°37.43' S	27°9.88' W	4896.0		end cast
94-5	01.03.05	18:44	66°37.42' S	27°9.73' W	4894.0	MUC	start cast
	01.03.05	20:13	66°37.43' S	27°9.77' W	4894.0		at depth
	01.03.05	21:46	66°37.40' S	27°9.92' W	4862.1		end cast
94-6	01.03.05	22:05	66°37.41' S	27°9.96' W	4891.0	GKG	start cast
	01.03.05	23:31	66°37.40' S	27°9.75' W	4895.0		at depth
	02.03.05	01:04	66°37.37' S	27°9.84' W	4897.0		end cast
94-7	02.03.05	01:24	66°37.37' S	27°9.93' W	4891.0	MUC	start cast
	02.03.05	02:56	66°37.37' S	27°9.78' W	4892.0		at depth
	02.03.05	04:33	66°37.41' S	27°9.93' W	4889.0		end cast
94-8	02.03.05	04:47	66°37.43' S	27°9.84' W	4890.0	GKG	start cast
	02.03.05	06:14	66°37.42' S	27°9.97' W	4887.0		at depth
	02.03.05	07:40	66°37.38' S	27°9.85' W	4893.0		end cast
94-9	02.03.05	07:50	66°37.37' S	27°9.98' W	4893.0	MUC	start cast
	02.03.05	09:22	66°37.47' S	27°9.82' W	4893.0		at depth
	02.03.05	10:53	66°37.46' S	27°9.82' W	4892.0		end cast
94-11	02.03.05	11:43	66°36.08' S	27°18.02' W	4893.0	AGT	start cast
	02.03.05	13:57	66°38.05' S	27°5.90' W	4893.0		start trawling
	02.03.05	14:08	66°38.10' S	27°5.46' W	4894.0		stop trawling
	02.03.05	17:25	66°38.61' S	27°3.33' W	4891.0		end cast
94-12	02.03.05	18:09	66°35.00' S	27°7.20' W	4894.0	ATC	released
	02.03.05	21:04	66°34.94' S	27°7.84' W	4895.0		recovered
94-13	02.03.05	21:33	66°37.39' S	27°9.89' W	4892.0	GKG	start cast
	02.03.05	23:09	66°37.42' S	27°9.79' W	4894.0		at depth
	03.03.05	01:03	66°37.52' S	27°9.75' W	4893.0		end cast
94-14	03.03.05	01:50	66°39.32' S	27°9.08' W	4890.0	EBS	start cast
	03.03.05	04:04	66°37.48' S	27°9.83' W	4892.0		start trawling
	03.03.05	04:14	66°37.37' S	27°9.99' W	4891.0		stop trawling
	03.03.05	06:49	66°36.68' S	27°10.09' W	4895.0		end cast
95-1	03.03.05	11:00	66°29.16' S	28°20.14' W	4872.0	CTD/RO	start cast
	03.03.05	12:30	66°29.14' S	28°20.20' W	4871.0		at depth
	03.03.05	13:42	66°29.18' S	28°20.43' W	4873.0		end cast
95-2	03.03.05	13:48	66°29.08' S	28°20.75' W	4872.0	STR	start cast
	03.03.05	17:20	66°21.81' S	29°28.82' W	4844.0		end cast
96-1	03.03.05	17:40	66°21.45' S	29°32.54' W	4846.0	CTD/RO	start cast
	03.03.05	19:10	66°21.49' S	29°32.84' W	4847.0		at depth
	03.03.05	20:21	66°21.41' S	29°32.75' W	4844.0		end cast
97-1	04.03.05	00:26	66°12.72' S	30°46.86' W	4840.0	CTD/RO	start cast
	04.03.05	01:57	66°12.78' S	30°46.77' W	4844.0		at depth
	04.03.05	03:16	66°12.86' S	30°46.78' W	4843.0		end cast
98-1	04.03.05	07:02	66°5.98' S	31°56.24' W	4820.0	CTD/RO	start cast
	04.03.05	08:33	66°6.00' S	31°56.43' W	4820.0		at depth
	04.03.05	09:46	66°6.01' S	31°56.45' W	4818.0		end cast
99-1	04.03.05	13:04	65°58.34' S	33°7.65' W	4821.0	CTD/RO	start cast
	04.03.05	14:43	65°58.28' S	33°7.61' W	4825.0		at depth

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	04.03.05	15:57	65°58.33' S	33°7.55' W	4825.0		end cast
99-3	04.03.05	16:09	65°58.54' S	33°8.43' W	4828.0	STR	start cast
	04.03.05	19:49	65°51.19' S	34°13.52' W	4822.0		end cast
100-1	04.03.05	20:12	65°50.60' S	34°18.56' W	4819.0	CTD/RO	start cast
	04.03.05	21:42	65°50.59' S	34°18.74' W	4827.0		at depth
	04.03.05	22:57	65°50.59' S	34°18.74' W	4824.0		end cast
101-1	05.03.05	02:43	65°42.94' S	35°29.06' W	4805.0	CTD/RO	start cast
	05.03.05	04:13	65°42.92' S	35°29.25' W	4803.0		at depth
	05.03.05	05:29	65°42.89' S	35°29.51' W	4803.0		end cast
102-1	05.03.05	08:21	65°36.31' S	36°29.91' W	4808.0	ATC	deployed
102-2	05.03.05	08:54	65°34.34' S	36°31.10' W	4804.0	CTD/RO	start cast
	05.03.05	10:24	65°34.36' S	36°31.16' W	4802.0		at depth
102-1	05.03.05	10:30	65°34.34' S	36°31.15' W	4800.0	ATC	at depth
102-2	05.03.05	11:36	65°34.42' S	36°31.26' W	4802.0	CTD/RO	end cast
102-3	05.03.05	12:08	65°35.51' S	36°26.22' W	4799.0	MOR	start deployment
	05.03.05	13:46					end deployment
102-4	05.03.05	14:30	65°38.43' S	36°30.04' W	4796.0	MOR	surfaced
	05.03.05	16:18	65°37.48' S	36°29.96' W	4800.0		recovered
102-5	05.03.05	16:46	65°35.18' S	36°26.61' W	4800.0	MOR	start deployment
	05.03.05	18:31	65°37.72' S	36°22.94' W	4799.0		end deployment
102-6	05.03.05	20:01	65°34.36' S	36°31.02' W	4801.0	SPI	start cast
	05.03.05	21:24	65°34.36' S	36°31.08' W	4802.0		at depth
	05.03.05	23:26	65°34.45' S	36°31.17' W	4800.0		end cast
102-7	05.03.05	23:44	65°34.42' S	36°31.12' W	4802.0	MUC	start cast
	06.03.05	01:13	65°34.39' S	36°31.21' W	4804.0		at depth
	06.03.05	02:42	65°34.35' S	36°31.29' W	4802.0		end cast
102-8	06.03.05	03:03	65°34.42' S	36°31.02' W	4803.0	GKG	start cast
	06.03.05	04:31	65°34.37' S	36°30.93' W	4803.0		at depth
	06.03.05	05:56	65°34.44' S	36°30.84' W	4799.0		end cast
102-9	06.03.05	06:06	65°34.44' S	36°30.86' W	4801.0	MUC	start cast
	06.03.05	07:33	65°34.40' S	36°31.07' W	4804.0		at depth
	06.03.05	09:02	65°34.35' S	36°31.16' W	4802.0		end cast
102-10	06.03.05	09:23	65°34.39' S	36°31.10' W	4802.0	GKG	start cast
	06.03.05	10:52	65°34.34' S	36°31.22' W	4801.0		at depth
	06.03.05	12:18	65°34.41' S	36°31.16' W	4801.0		end cast
102-11	06.03.05	13:07	65°31.29' S	36°36.40' W	4795.0	AGT	start cast
	06.03.05	15:20	65°35.40' S	36°29.00' W	4794.0		start trawling
	06.03.05	15:30	65°35.51' S	36°28.83' W	4797.0		stop trawling
102-12	06.03.05	18:20	65°36.38' S	36°27.48' W	4802.0	ATC	released
102-11	06.03.05	18:41	65°36.42' S	36°27.38' W	4801.0	AGT	end cast
102-12	06.03.05	20:24	65°36.00' S	36°29.89' W	4797.0	ATC	recovered
102-13	06.03.05	20:56	65°33.16' S	36°33.32' W	4822.0	EBS	start cast
	06.03.05	23:06	65°34.32' S	36°31.32' W	4805.0		start trawling
	06.03.05	23:16	65°34.40' S	36°31.07' W	4803.0		stop trawling
	07.03.05	11:18	65°35.43' S	36°33.04' W	4799.0		end cast
102-15	07.03.05	11:44	65°34.80' S	36°41.72' W	4797.0	STR	start cast
	07.03.05	13:51	65°28.25' S	37°33.10' W	4768.0		end cast
103-1	07.03.05	14:12	65°27.42' S	37°39.19' W	4768.0	CTD/RO	start cast
	07.03.05	15:40	65°27.53' S	37°39.34' W	4764.0		at depth
	07.03.05	16:53	65°27.59' S	37°39.14' W	4770.0		end cast
103-2	07.03.05	17:14	65°26.92' S	37°43.28' W	4766.0	STR	start cast
	07.03.05	19:49	65°19.21' S	38°43.55' W	4800.0		end cast
104-1	07.03.05	20:08	65°18.66' S	38°47.67' W	4801.0	CTD/RO	start cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	07.03.05	21:38	65°18.63' S	38°47.90' W	4803.0		at depth
	07.03.05	23:00	65°18.63' S	38°48.00' W	4795.0		end cast
105-1	08.03.05	01:56	65°9.87' S	39°56.43' W	4809.0	CTD/RO	start cast
	08.03.05	03:28	65°9.88' S	39°56.26' W	4806.0		at depth
	08.03.05	04:45	65°9.91' S	39°56.53' W	4809.0		end cast
105-2	08.03.05	04:51	65°10.02' S	39°56.70' W	4809.0	AFLOAT	deployed
106-1	08.03.05	08:04	65°1.03' S	41°4.57' W	4760.0	CTD/RO	start cast
	08.03.05	09:34	65°0.94' S	41°4.51' W	4782.0		at depth
	08.03.05	10:47	65°0.80' S	41°3.74' W	4783.0		end cast
106-2	08.03.05	11:16	65°0.48' S	41°8.14' W	4783.0	STR	start cast
	08.03.05	13:50					end cast
107-1	08.03.05	14:19	64°52.54' S	42°11.47' W	4737.0	CTD/RO	start cast
	08.03.05	15:46	64°52.49' S	42°10.70' W	4734.0		at depth
	08.03.05	17:00	64°52.19' S	42°10.57' W	4736.0		end cast
108-1	08.03.05	21:09	64°43.19' S	43°18.89' W	4693.0	CTD/RO	start cast
	08.03.05	22:36	64°43.22' S	43°18.92' W	4695.0		at depth
	08.03.05	23:55	64°43.26' S	43°18.96' W	4695.0		end cast
108-2	08.03.05	23:58	64°43.36' S	43°18.83' W	4694.0	NFLOAT	deployed
109-1	09.03.05	03:17	64°34.56' S	44°25.91' W	4608.0	CTD/RO	start cast
	09.03.05	04:43	64°34.57' S	44°25.85' W	4608.0		at depth
	09.03.05	05:54	64°34.65' S	44°26.20' W	4605.0		end cast
110-1	09.03.05	14:17	64°56.35' S	43°8.02' W	4695.0	ATC	start cast
110-2	09.03.05	14:30	64°56.92' S	43°6.96' W	4700.0	AGT	start cast
	09.03.05	16:35	65°0.79' S	43°0.41' W	4701.0		start trawling
	09.03.05	16:45	65°0.85' S	43°0.25' W	4704.0		stop trawling
	09.03.05	19:44	65°2.00' S	42°58.33' W	4695.0		end cast
110-3	09.03.05	20:34	64°59.96' S	43°2.04' W	4699.0	SPI	start cast
	09.03.05	21:48	64°59.96' S	43°1.99' W	4701.0		at depth
	09.03.05	23:50	64°59.99' S	43°1.96' W	4702.0		end cast
110-4	10.03.05	00:11	64°59.99' S	43°1.94' W	4703.0	MUC	start cast
	10.03.05	01:42	64°59.95' S	43°1.97' W	4700.0		at depth
	10.03.05	03:08	64°60.00' S	43°1.87' W	4700.0		end cast
110-5	10.03.05	03:33	65°0.05' S	43°2.15' W	4700.0	GKG	start cast
	10.03.05	05:00	65°0.00' S	43°2.01' W	4702.0		at depth
	10.03.05	06:28	65°0.06' S	43°1.88' W	4701.0		end cast
110-6	10.03.05	06:38	65°0.04' S	43°1.90' W	4702.0	MUC	start cast
	10.03.05	08:11	64°59.98' S	43°2.00' W	4700.0		at depth
	10.03.05	09:38	65°0.01' S	43°2.01' W	4700.0		end cast
110-7	10.03.05	09:49	65°0.00' S	43°2.00' W	4701.0	GKG	start cast
	10.03.05	11:15	65°0.01' S	43°1.99' W	4700.0		at depth
	10.03.05	12:38	64°59.98' S	43°2.05' W	4697.0		end cast
110-8	10.03.05	13:05	64°58.95' S	43°1.97' W	4701.0	EBS	start cast
	10.03.05	15:20	65°0.52' S	43°2.09' W	4698.0		start trawling
	10.03.05	15:30	65°0.68' S	43°2.16' W	4696.0		stop trawling
	10.03.05	17:52	65°1.44' S	43°2.09' W	4695.0		end cast
110-9	10.03.05	18:49	64°56.43' S	43°8.11' W	4693.0	ATC	released
	10.03.05	20:58	64°56.45' S	43°7.64' W	4699.0		end cast
110-10	10.03.05	21:45	65°0.02' S	43°2.16' W	4703.0	GKG	start cast
	10.03.05	23:14	65°0.02' S	43°1.97' W	4704.0		at depth
	11.03.05	00:39	65°0.07' S	43°1.95' W	4700.0		end cast
110-11	11.03.05	00:56	65°0.05' S	43°2.04' W	4701.0	CTD/RO	start cast
	11.03.05	02:27	65°0.02' S	43°2.01' W	4700.0		at depth
	11.03.05	03:25	65°0.02' S	43°1.94' W	4701.0		end cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
110-12	11.03.05	03:38	64°59.52' S	43°1.82' W	4703.0	STR	start cast
	11.03.05	10:25	64°25.73' S	45°32.60' W	4486.0		end cast
111-1	11.03.05	10:42	64°25.72' S	45°32.77' W	4486.0	CTD/RO	start cast
	11.03.05	12:08	64°25.67' S	45°32.81' W	4483.0		at depth
	11.03.05	13:22	64°25.46' S	45°32.88' W	4491.0		end cast
112-1	11.03.05	15:02	64°21.38' S	46°4.60' W	4480.0	CTD/RO	start cast
	11.03.05	16:27	64°21.32' S	46°3.80' W	4479.0		at depth
	11.03.05	17:32	64°21.22' S	46°3.21' W	4475.0		end cast
112-2	11.03.05	17:39	64°21.53' S	46°3.97' W	4477.0	STR	start cast
	11.03.05	19:03	64°17.58' S	46°33.90' W	4434.0		end cast
113-1	11.03.05	19:33	64°17.21' S	46°39.08' W	4419.0	CTD/RO	start cast
	11.03.05	21:01	64°16.99' S	46°38.73' W	4420.0		at depth
	11.03.05	22:11	64°16.52' S	46°37.96' W	4419.0		end cast
114-1	12.03.05	00:15	64°12.52' S	47°11.43' W	4292.0	CTD/RO	start cast
	12.03.05	01:37	64°11.84' S	47°10.71' W	4294.0		at depth
	12.03.05	02:44	64°11.44' S	47°10.65' W	4294.0		end cast
115-1	12.03.05	05:07	64°7.83' S	47°45.24' W	4188.0	CTD/RO	start cast
	12.03.05	06:26	64°8.25' S	47°45.10' W	4187.0		at depth
	12.03.05	07:35	64°8.65' S	47°44.40' W	4190.0		end cast
116-1	12.03.05	10:17	64°4.54' S	48°17.23' W	3999.0	CTD/RO	start cast
	12.03.05	11:32	64°3.86' S	48°16.63' W	4013.0		at depth
	12.03.05	12:35	64°3.32' S	48°16.58' W	4021.0		end cast
117-1	12.03.05	23:34	63°58.51' S	48°50.68' W	3744.0	CTD/RO	start cast
	13.03.05	00:49	63°57.52' S	48°49.39' W	3733.0		at depth
	13.03.05	01:51	63°56.80' S	48°48.87' W	3711.0		end cast
118-1	13.03.05	06:23	63°53.23' S	49°26.40' W	3389.0	CTD/RO	start cast
	13.03.05	07:28	63°53.18' S	49°25.46' W	3385.0		at depth
	13.03.05	08:24	63°53.05' S	49°24.27' W	3381.0		end cast
119-1	13.03.05	12:12	63°45.72' S	49°52.83' W	2957.0	CTD/RO	start cast
	13.03.05	13:09	63°44.90' S	49°52.88' W	2943.0		at depth
	13.03.05	13:58	63°44.33' S	49°53.01' W	2927.0		end cast
120-1	13.03.05	17:19	63°47.01' S	50°18.07' W	2716.0	CTD/RO	start cast
	13.03.05	18:13	63°46.89' S	50°17.59' W	2718.0		at depth
	13.03.05	19:11	63°46.59' S	50°16.76' W	2726.0		end cast
121-1	13.03.05	21:32	63°45.67' S	50°53.19' W	2534.0	CTD/RO	start cast
	13.03.05	22:24	63°44.93' S	50°52.58' W	2539.0		at depth
	13.03.05	23:18	63°44.03' S	50°52.39' W	2545.0		end cast
121-2	13.03.05	23:35	63°44.68' S	50°50.75' W	2555.0	MOR	start deployment
	14.03.05	02:47	63°42.20' S	50°52.22' W	2544.0		end deployment
121-3	14.03.05	04:24	63°41.62' S	50°45.45' W	2597.0	SPI	start cast
	14.03.05	05:13	63°41.64' S	50°44.92' W	2602.0		at depth
	14.03.05	07:04	63°41.12' S	50°44.47' W	2606.0		end cast
121-4	14.03.05	07:18	63°41.04' S	50°44.51' W	2606.0	MUC	start cast
	14.03.05	08:08	63°40.99' S	50°44.29' W	2609.0		at depth
	14.03.05	09:00	63°41.09' S	50°44.31' W	2611.0		end cast
121-5	14.03.05	09:28	63°41.07' S	50°44.23' W	2610.0	GKG	start cast
	14.03.05	10:19	63°40.50' S	50°44.37' W	2611.0		at depth
	14.03.05	11:08	63°39.94' S	50°44.52' W	2610.0		end cast
121-6	14.03.05	11:22	63°39.74' S	50°44.48' W	2612.0	MUC	start cast
	14.03.05	12:17	63°39.01' S	50°44.23' W	2618.0		at depth
	14.03.05	13:11	63°38.31' S	50°43.59' W	2627.0		end cast
121-7	14.03.05	14:07	63°37.43' S	50°45.11' W	2603.0	AGT	start cast
	14.03.05	15:15	63°34.92' S	50°41.97' W	2616.0		start trawling

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	14.03.05	15:25	63°34.65' S	50°41.68' W	2617.0		stop trawling
	14.03.05	17:03	63°33.85' S	50°41.12' W	2614.0		end cast
121-8	14.03.05	20:22	63°42.25' S	50°52.25' W	2545.0	MOR	location
121-9	14.03.05	22:00	63°41.94' S	50°43.14' W	2621.0	GKG	start cast
	14.03.05	22:50	63°41.74' S	50°42.99' W	2621.0		at depth
	14.03.05	23:48	63°41.46' S	50°42.79' W	2624.0		end cast
121-10	15.03.05	01:24	63°38.62' S	50°37.67' W	2665.0	EBS	start cast
	15.03.05	02:34	63°37.73' S	50°38.09' W	2663.0		start trawling
	15.03.05	02:44	63°37.55' S	50°38.37' W	2659.0		stop trawling
	15.03.05	04:06	63°36.93' S	50°37.78' W	2658.0		end cast
121-11	15.03.05	04:44	63°36.52' S	50°37.18' W	2658.0	GKG	start cast
	15.03.05	05:32	63°36.19' S	50°37.15' W	2657.0		at depth
	15.03.05	06:28	63°36.02' S	50°37.26' W	2654.0		end cast
122-1	15.03.05	13:02	63°36.79' S	51°24.22' W	2179.0	CTD/RO	start cast
	15.03.05	13:45	63°36.52' S	51°24.03' W	2169.0		at depth
	15.03.05	14:27	63°36.23' S	51°24.00' W	2161.0		end cast
122-2	15.03.05	15:37	63°32.10' S	51°36.39' W	1866.0	STR	start cast
	15.03.05	16:27	63°28.17' S	51°50.68' W	1231.0		end cast
123-1	15.03.05	16:55	63°29.67' S	51°48.14' W	1329.0	CTD/RO	start cast
	15.03.05	17:25	63°29.47' S	51°48.11' W	1327.0		at depth
	15.03.05	18:01	63°29.43' S	51°48.60' W	1314.0		end cast
123-2	15.03.05	18:07	63°29.44' S	51°48.65' W	1311.0	NFLOAT	start cast
124-1	15.03.05	19:53	63°27.94' S	52°18.38' W	741.3	CTD/RO	start cast
	15.03.05	20:11	63°28.04' S	52°18.39' W	743.5		at depth
	15.03.05	20:32	63°28.13' S	52°18.37' W	746.3		end cast
125-1	15.03.05	22:24	63°22.75' S	52°49.32' W	468.1	CTD/RO	start cast
	15.03.05	22:38	63°22.75' S	52°49.69' W	467.0		at depth
	15.03.05	22:53	63°22.81' S	52°50.02' W	468.4		end cast
126-1	16.03.05	00:49	63°17.73' S	53°17.01' W	430.1	CTD/RO	start cast
	16.03.05	01:02	63°17.69' S	53°17.09' W	429.5		at depth
	16.03.05	01:16	63°17.65' S	53°17.18' W	429.8		end cast
127-1	16.03.05	04:25	63°13.69' S	53°41.27' W	334.8	CTD/RO	start cast
	16.03.05	04:36	63°13.71' S	53°41.15' W	338.3		at depth
	16.03.05	04:53	63°13.74' S	53°40.92' W	343.3		end cast
128-1	16.03.05	07:22	63°8.67' S	54°9.04' W	263.2	CTD/RO	start cast
	16.03.05	07:30	63°8.72' S	54°9.05' W	260.9		at depth
	16.03.05	07:40	63°8.76' S	54°9.01' W	261.8		end cast
129-1	16.03.05	09:26	63°3.92' S	54°37.14' W	457.4	CTD/RO	start cast
	16.03.05	09:37	63°3.79' S	54°37.34' W	440.3		at depth
	16.03.05	09:53	63°3.73' S	54°37.54' W	420.9		end cast
130-1	16.03.05	11:33	62°58.12' S	54°5.66' W	319.0	CTD/RO	start cast
	16.03.05	11:44	62°58.09' S	54°5.54' W	318.3		at depth
	16.03.05	11:55	62°58.09' S	54°5.44' W	317.8		end cast
131-1	16.03.05	13:33	62°52.65' S	53°34.36' W	379.8	CTD/RO	start cast
	16.03.05	13:43	62°52.48' S	53°34.14' W	371.4		at depth
	16.03.05	14:00	62°52.33' S	53°33.71' W	355.8		end cast
132-1	16.03.05	14:57	62°50.27' S	53°19.56' W	583.4	CTD/RO	start cast
	16.03.05	15:13	62°50.15' S	53°19.49' W	592.4		at depth
	16.03.05	15:32	62°50.19' S	53°19.60' W	588.5		end cast
133-1	16.03.05	16:54	62°47.54' S	53°3.86' W	1368.0	CTD/RO	start cast
	16.03.05	17:22	62°47.48' S	53°3.75' W	1383.0		at depth
	16.03.05	17:52	62°47.40' S	53°3.82' W	1391.0		end cast
133-2	16.03.05	18:35	62°46.95' S	53°1.72' W	1549.0	EBS	start cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	16.03.05	19:17	62°46.49' S	53°3.50' W	1584.0		start trawling
	16.03.05	19:27	62°46.38' S	53°3.98' W	1579.0		stop trawling
	16.03.05	20:13	62°46.23' S	53°4.54' W	1561.0		end cast
134-1	16.03.05	21:21	62°45.36' S	52°48.61' W	2514.0	CTD/RO	start cast
	16.03.05	22:10	62°45.30' S	52°49.02' W	2467.0		at depth
	16.03.05	22:53	62°45.41' S	52°49.17' W	2446.0		end cast
135-1	17.03.05	00:00	62°42.37' S	52°34.52' W	2839.0	CTD/RO	start cast
	17.03.05	00:54	62°42.51' S	52°34.56' W	2823.0		at depth
	17.03.05	01:44	62°42.67' S	52°34.45' W	2808.0		end cast
136-1	17.03.05	02:45	62°39.94' S	52°17.94' W	3042.0	CTD/RO	start cast
	17.03.05	03:43	62°40.05' S	52°17.84' W	3040.0		at depth
	17.03.05	04:39	62°40.07' S	52°17.35' W	3043.0		end cast
137-1	17.03.05	05:39	62°37.36' S	52°2.38' W	3122.0	CTD/RO	start cast
	17.03.05	06:39	62°37.77' S	52°2.03' W	3128.0		at depth
	17.03.05	07:31	62°38.12' S	52°1.48' W	3134.0		end cast
138-1	17.03.05	09:26	62°32.20' S	51°32.33' W	3284.0	CTD/RO	start cast
	17.03.05	10:29	62°32.34' S	51°32.81' W	3283.0		at depth
	17.03.05	11:25	62°32.50' S	51°32.90' W	3282.0		end cast
139-1	17.03.05	13:15	62°27.46' S	51°3.01' W	3373.0	CTD/RO	start cast
	17.03.05	14:20	62°27.48' S	51°2.62' W	3373.0		at depth
	17.03.05	15:27	62°27.49' S	51°2.65' W	3374.0		end cast
140-1	17.03.05	17:40	62°21.58' S	50°31.11' W	3408.0	CTD/RO	start cast
	17.03.05	18:45	62°21.36' S	50°30.10' W	3413.0		at depth
	17.03.05	19:37	62°21.31' S	50°29.65' W	3416.0		end cast
141-1	17.03.05	21:30	62°16.00' S	50°0.76' W	3448.0	CTD/RO	start cast
	17.03.05	22:37	62°15.43' S	50°0.04' W	3437.0		at depth
	17.03.05	23:36	62°15.11' S	49°59.67' W	3438.0		end cast
142-1	18.03.05	01:13	62°12.40' S	49°31.67' W	3411.0	ATC	deployed
142-2	18.03.05	01:39	62°10.93' S	49°32.10' W	3409.0	CTD/RO	start cast
	18.03.05	02:46	62°11.00' S	49°31.80' W	3407.0		at depth
	18.03.05	03:45	62°11.16' S	49°30.89' W	3409.0		end cast
142-3	18.03.05	03:56	62°11.18' S	49°30.61' W	3407.0	SPI	start cast
	18.03.05	05:02	62°11.28' S	49°29.80' W	3405.0		at depth
	18.03.05	06:58	62°11.85' S	49°28.99' W	3407.0		end cast
142-4	18.03.05	07:13	62°11.84' S	49°29.02' W	3407.0	MUC	start cast
	18.03.05	08:18	62°12.02' S	49°27.67' W	3408.0		at depth
	18.03.05	09:26	62°12.11' S	49°26.33' W	3403.0		end cast
142-5	18.03.05	09:46	62°11.65' S	49°27.68' W	3406.0	EBS	start cast
	18.03.05	11:18	62°11.21' S	49°29.40' W	3408.0		start trawling
	18.03.05	11:28	62°11.24' S	49°29.68' W	3405.0		stop trawling
	18.03.05	13:13	62°11.41' S	49°29.87' W	3405.0		end cast
142-6	18.03.05	13:47	62°12.49' S	49°25.17' W	3403.0	AGT	start cast
	18.03.05	15:21	62°9.93' S	49°30.47' W	3403.0		start trawling
	18.03.05	15:31	62°9.80' S	49°30.59' W	3404.0		stop trawling
	18.03.05	17:44	62°9.84' S	49°30.88' W	3406.0		end cast
142-7	18.03.05	18:30	62°11.08' S	49°29.68' W	3406.0	GKG	start cast
	18.03.05	19:31	62°11.61' S	49°29.45' W	3406.0		at depth
	18.03.05	20:37	62°12.12' S	49°28.14' W	3408.0		end cast
142-8	18.03.05	20:43	62°12.18' S	49°28.18' W	3407.0	ATC	released
	18.03.05	22:49	62°12.36' S	49°30.20' W	3413.0		recovered
142-9	18.03.05	23:17	62°11.09' S	49°29.49' W	3408.0	MUC	start cast
	19.03.05	00:20	62°10.67' S	49°28.87' W	3407.0		at depth
	19.03.05	01:30	62°10.36' S	49°28.45' W	3403.0		end cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
142-10	19.03.05	01:47	62°10.27' S	49°28.28' W	3407.0	GKG	start cast
	19.03.05	02:47	62°10.36' S	49°28.43' W	3405.0		at depth
	19.03.05	03:53	62°10.51' S	49°27.86' W	3408.0		end cast
143-1	19.03.05	05:54	62°5.48' S	49°1.09' W	3395.0	CTD/RO	start cast
	19.03.05	07:00	62°5.75' S	49°0.57' W	3394.0		at depth
	19.03.05	07:56	62°6.05' S	49°0.26' W	3394.0		end cast
144-1	19.03.05	09:54	62°0.39' S	48°30.44' W	3339.0	CTD/RO	start cast
	19.03.05	10:59	62°0.21' S	48°30.45' W	3337.0		at depth
	19.03.05	11:50	62°0.14' S	48°30.53' W	3338.0		end cast
145-1	19.03.05	13:32	61°55.15' S	48°1.95' W	3251.0	CTD/RO	start cast
	19.03.05	14:35	61°55.18' S	48°1.96' W	3250.0		at depth
	19.03.05	15:33	61°55.22' S	48°2.05' W	3249.0		end cast
146-1	19.03.05	17:21	61°49.76' S	47°31.29' W	2528.0	CTD/RO	start cast
	19.03.05	18:09	61°49.76' S	47°30.84' W	2480.0		at depth
	19.03.05	18:51	61°49.52' S	47°30.76' W	2432.0		end cast
147-1	19.03.05	19:43	61°47.21' S	47°16.92' W	1402.0	CTD/RO	start cast
	19.03.05	20:11	61°47.12' S	47°16.64' W	1427.0		at depth
	19.03.05	20:40	61°47.02' S	47°16.45' W	1426.0		at depth
148-1	19.03.05	21:53	61°44.63' S	47°2.15' W	1284.0	ATC	deployed
148-2	19.03.05	22:15	61°44.36' S	47°1.04' W	1202.0	CTD/RO	start cast
	19.03.05	22:41	61°44.40' S	47°1.01' W	1199.0		at depth
	19.03.05	23:03	61°44.27' S	47°1.23' W	1215.0		end cast
149-1	20.03.05	00:40	61°39.45' S	46°32.81' W	464.1	CTD/RO	start cast
	20.03.05	00:54	61°39.51' S	46°32.73' W	466.0		at depth
	20.03.05	01:06	61°39.49' S	46°32.75' W	465.5		end cast
150-1	20.03.05	04:05	61°48.61' S	47°28.38' W	2018.0	SPI	start cast
	20.03.05	04:47	61°48.57' S	47°28.14' W	1982.0		at depth
	20.03.05	06:19	61°48.59' S	47°27.88' W	1967.0		end cast
150-2	20.03.05	06:31	61°48.61' S	47°27.70' W	1956.0	MUC	start cast
	20.03.05	07:10	61°48.59' S	47°27.45' W	1953.0		at depth
	20.03.05	07:51	61°48.56' S	47°27.45' W	1941.0		end cast
150-3	20.03.05	08:05	61°48.58' S	47°27.49' W	1943.0	GKG	start cast
	20.03.05	08:41	61°48.63' S	47°27.67' W	1956.0		at depth
	20.03.05	09:20	61°48.67' S	47°28.25' W	2030.0		end cast
150-4	20.03.05	09:27	61°48.60' S	47°28.34' W	2015.0	MUC	start cast
	20.03.05	10:10	61°48.46' S	47°28.69' W	2017.0		at depth
	20.03.05	10:50	61°48.63' S	47°28.59' W	2048.0		end cast
150-5	20.03.05	11:04	61°48.61' S	47°28.64' W	2045.0	GKG	start cast
	20.03.05	11:46	61°49.08' S	47°28.20' W	2151.0		at depth
	20.03.05	12:27	61°48.96' S	47°28.34' W	2150.0		end cast
150-6	20.03.05	12:50	61°49.20' S	47°27.50' W	1982.0	EBS	start cast
	20.03.05	13:43	61°48.70' S	47°28.04' W	1996.0		start trawling
	20.03.05	13:53	61°48.57' S	47°28.19' W	1993.0		stop trawling
	20.03.05	14:56	61°48.52' S	47°28.38' W	1999.0		end cast
150-7	20.03.05	15:25	61°50.01' S	47°26.53' W	1938.0	AGT	start cast
	20.03.05	16:21	61°48.32' S	47°28.45' W	1970.0		start trawling
	20.03.05	16:31	61°48.20' S	47°28.64' W	1954.0		stop trawling
	20.03.05	17:57	61°48.28' S	47°29.27' W	2022.0		end cast
150-8	20.03.05	18:37	61°48.60' S	47°27.37' W	1940.0	MUC	start cast
	20.03.05	19:14	61°48.56' S	47°27.48' W	1942.0		at depth
	20.03.05	19:55	61°48.49' S	47°27.85' W	1963.0		end cast
151-1	20.03.05	21:25	61°46.21' S	47°6.40' W	1188.0	AGT	start cast
	20.03.05	21:57	61°45.46' S	47°7.57' W	1181.0		start trawling

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	20.03.05	22:07	61°45.34' S	47°7.78' W	1188.0		stop trawling
	20.03.05	22:53	61°45.37' S	47°7.78' W	1188.0		end cast
151-2	20.03.05	23:17	61°45.56' S	47°7.41' W	1179.0	SPI	start cast
	20.03.05	23:40	61°45.58' S	47°7.48' W	1180.0		at depth
	21.03.05	01:00	61°45.64' S	47°7.99' W	1186.0		end cast
151-3	21.03.05	01:14	61°45.58' S	47°7.10' W	1175.0	MUC	start cast
	21.03.05	01:42	61°45.50' S	47°7.50' W	1180.0		at depth
	21.03.05	02:07	61°45.62' S	47°7.51' W	1180.0		end cast
151-4	21.03.05	02:21	61°45.47' S	47°7.67' W	1183.0	GKG	start cast
	21.03.05	02:45	61°45.50' S	47°7.57' W	1181.0		at depth
	21.03.05	03:09	61°45.57' S	47°7.52' W	1180.0		end cast
151-5	21.03.05	03:20	61°45.56' S	47°7.55' W	1180.0	MUC	start cast
	21.03.05	03:44	61°45.55' S	47°7.52' W	1180.0		at depth
	21.03.05	04:08	61°45.55' S	47°7.38' W	1179.0		end cast
151-6	21.03.05	04:27	61°45.56' S	47°7.49' W	1180.0	GKG	start cast
	21.03.05	04:52	61°45.55' S	47°7.56' W	1180.0		at depth
	21.03.05	05:16	61°45.59' S	47°7.40' W	1180.0		end cast
151-7	21.03.05	05:32	61°45.67' S	47°7.18' W	1179.0	EBS	start cast
	21.03.05	06:04	61°45.52' S	47°7.68' W	1182.0		start trawling
	21.03.05	06:14	61°45.42' S	47°8.04' W	1185.0		stop trawling
	21.03.05	06:51	61°45.32' S	47°8.14' W	1187.0		end cast
151-8	21.03.05	07:14	61°45.71' S	47°7.34' W	1181.0	MUC	start cast
	21.03.05	07:37	61°45.67' S	47°7.23' W	1179.0		at depth
	21.03.05	08:02	61°45.56' S	47°7.27' W	1180.0		end cast
151-9	21.03.05	09:37	61°44.74' S	47°2.12' W	1269.0	ATC	recovered
151-10	21.03.05	10:19	61°45.68' S	47°7.92' W	1183.0	STR	start cast
	22.03.05	14:31	62°17.29' S	58°40.92' W	437.7		end cast
152-1	23.03.05	00:46	62°20.06' S	57°54.11' W	1996.0	SPI	start cast
	23.03.05	01:25	62°20.00' S	57°53.98' W	1996.0		at depth
	23.03.05	02:56	62°19.98' S	57°54.01' W	1999.0		end cast
152-2	23.03.05	03:10	62°20.01' S	57°53.99' W	1998.0	MUC	start cast
	23.03.05	03:48	62°19.95' S	57°54.00' W	1996.0		at depth
	23.03.05	04:28	62°19.87' S	57°53.99' W	1998.0		end cast
152-3	23.03.05	04:46	62°20.10' S	57°54.24' W	1998.0	GKG	start cast
	23.03.05	05:25	62°19.98' S	57°54.02' W	1995.0		at depth
	23.03.05	06:06	62°19.88' S	57°53.81' W	1997.0		end cast
152-4	23.03.05	06:17	62°20.16' S	57°54.33' W	1997.0	MUC	start cast
	23.03.05	06:58	62°19.98' S	57°54.00' W	2000.0		at depth
	23.03.05	07:39	62°19.92' S	57°54.05' W	1998.0		end cast
152-5	23.03.05	07:59	62°19.98' S	57°53.88' W	1996.0	GKG	start cast
	23.03.05	08:40	62°19.94' S	57°53.88' W	1996.0		at depth
	23.03.05	09:17	62°19.91' S	57°53.74' W	1997.0		end cast
152-6	23.03.05	09:43	62°20.81' S	57°52.88' W	2001.0	EBS	start cast
	23.03.05	10:41	62°20.11' S	57°53.59' W	1996.0		start trawling
	23.03.05	10:51	62°19.96' S	57°53.78' W	1999.0		stop trawling
	23.03.05	11:54	62°19.80' S	57°53.44' W	1998.0		end cast
152-7	23.03.05	22:27	62°20.89' S	57°50.50' W	2006.0	AGT	start cast
	23.03.05	23:23	62°19.95' S	57°53.73' W	1998.0		start trawling
	23.03.05	23:33	62°19.87' S	57°54.09' W	1998.0		stop trawling
	24.03.05	00:54	62°19.85' S	57°53.87' W	1997.0		end cast
152-8	24.03.05	01:11	62°19.90' S	57°53.72' W	1995.0	CTD/RO	start cast
	24.03.05	01:49	62°19.85' S	57°53.80' W	1997.0		at depth
	24.03.05	02:35	62°19.71' S	57°53.88' W	1997.0		end cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
152-9	24.03.05	03:07	62°22.45' S	58°4.20' W	1984.0	STR	start cast
	24.03.05	09:50	62°59.62' S	60°29.45' W	66.3		end cast
152-10	24.03.05	12:16	63°9.65' S	60°53.52' W	794.4	STR	start cast
	25.03.05	17:35	67°41.16' S	68°11.43' W	547.2		end cast
152-11	26.03.05	23:49	67°47.92' S	68°38.07' W	250.0	STR	start cast
	27.03.05	16:00	65°18.35' S	65°56.99' W	391.0		end cast
152-12	27.03.05	18:38	65°13.12' S	65°40.25' W	513.0	STR	start cast
	28.03.05	00:19	64°51.42' S	63°13.56' W	281.9		end cast
152-13	28.03.05	15:46	64°31.72' S	62°28.61' W	604.1	STR	start cast
	29.03.05	02:55	63°18.09' S	64°36.48' W	2158.0		end cast
153-1	29.03.05	03:00	63°18.17' S	64°36.57' W	2160.0	ATC	deployed
153-2	29.03.05	03:55	63°19.36' S	64°36.88' W	2087.0	SPI	start cast
	29.03.05	04:40	63°19.38' S	64°36.80' W	2079.0		at depth
	29.03.05	06:10	63°19.37' S	64°36.55' W	2068.0		end cast
153-3	29.03.05	06:36	63°19.34' S	64°36.96' W	2088.0	MUC	start cast
	29.03.05	07:16	63°19.41' S	64°36.77' W	2077.0		at depth
	29.03.05	07:57	63°19.34' S	64°36.78' W	2083.0		end cast
153-4	29.03.05	08:14	63°19.33' S	64°36.87' W	2087.0	GKG	start cast
	29.03.05	08:52	63°19.35' S	64°36.79' W	2079.0		at depth
	29.03.05	09:37	63°19.36' S	64°36.99' W	2092.0		end cast
153-5	29.03.05	09:43	63°19.37' S	64°36.98' W	2090.0	MUC	start cast
	29.03.05	10:22	63°19.41' S	64°36.82' W	2079.0		at depth
	29.03.05	11:04	63°19.39' S	64°37.04' W	2089.0		end cast
153-6	29.03.05	11:16	63°19.43' S	64°36.97' W	2080.0	GKG	start cast
	29.03.05	11:56	63°19.41' S	64°36.85' W	2081.0		at depth
	29.03.05	12:37	63°19.57' S	64°36.87' W	2063.0		end cast
153-7	29.03.05	12:57	63°19.86' S	64°36.37' W	2006.0	EBS	start cast
	29.03.05	13:51	63°19.31' S	64°36.94' W	2092.0		start trawling
	29.03.05	14:01	63°19.15' S	64°37.18' W	2118.0		stop trawling
	29.03.05	15:08	63°19.35' S	64°37.89' W	2102.0		end cast
153-8	29.03.05	15:50	63°21.16' S	64°36.43' W	1766.0	AGT	start cast
	29.03.05	16:48	63°19.21' S	64°37.07' W	2108.0		start trawling
	29.03.05	16:58	63°19.10' S	64°37.13' W	2124.0		stop trawling
153-9	29.03.05	18:40	63°19.03' S	64°37.21' W	2132.0	ATC	recovered
153-10	29.03.05	19:00	63°19.03' S	64°37.21' W	2130.0	STR	start cast
	29.03.05	23:57	62°35.44' S	64°36.76' W	3780.0		end cast
154-1	30.03.05	00:19	62°32.95' S	64°37.66' W	3741.0	ATC	deployed
154-2	30.03.05	00:47	62°31.35' S	64°39.84' W	3801.0	SPI	start cast
	30.03.05	01:54	62°31.50' S	64°39.52' W	3802.0		at depth
	30.03.05	03:47	62°31.49' S	64°39.72' W	3802.0		end cast
154-3	30.03.05	04:08	62°31.47' S	64°39.68' W	3802.0	MUC	start cast
	30.03.05	05:18	62°31.52' S	64°39.64' W	3801.0		at depth
	30.03.05	06:29	62°31.46' S	64°39.54' W	3801.0		end cast
154-4	30.03.05	06:47	62°31.53' S	64°39.69' W	3800.0	GKG	start cast
	30.03.05	07:54	62°31.46' S	64°39.42' W	3802.0		at depth
	30.03.05	09:07	62°31.51' S	64°39.78' W	3799.0		end cast
154-5	30.03.05	09:14	62°31.50' S	64°39.80' W	3797.0	MUC	start cast
	30.03.05	10:22	62°31.55' S	64°39.47' W	3801.0		at depth
	30.03.05	11:35	62°31.49' S	64°39.52' W	3801.0		end cast
154-6	30.03.05	11:48	62°31.51' S	64°39.51' W	3800.0	GKG	start cast
	30.03.05	12:55	62°31.50' S	64°39.54' W	3802.0		at depth
	30.03.05	14:06	62°31.53' S	64°39.72' W	3803.0		end cast
154-7	30.03.05	14:56	62°32.84' S	64°32.19' W	3922.0	AGT	start cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	30.03.05	16:39	62°31.37' S	64°40.20' W	3798.0		start trawling
	30.03.05	16:49	62°31.33' S	64°40.52' W	3799.0		stop trawling
	30.03.05	19:17	62°31.40' S	64°42.05' W	3807.0		end cast
154-8	30.03.05	20:31	62°33.46' S	64°37.57' W	3744.0	ATC	recovered
154-9	30.03.05	20:50	62°32.63' S	64°39.47' W	3774.0	EBS	start cast
	30.03.05	22:30	62°31.47' S	64°39.45' W	3804.0		start trawling
	30.03.05	22:40	62°31.36' S	64°39.25' W	3808.0		stop trawling
	31.03.05	00:33	62°31.80' S	64°38.47' W	3812.0		end cast
154-10	31.03.05	01:03	62°30.89' S	64°33.62' W	3914.0	STR	start cast
	31.03.05	23:30	60°54.84' S	53°54.57' W	904.7		end cast
155-1	31.03.05	23:55	60°53.23' S	53°50.45' W	830.8	CTD/RO	start cast
	01.04.05	00:13	60°53.30' S	53°50.36' W	831.2		at depth
	01.04.05	00:33	60°53.38' S	53°50.25' W	832.4		end cast
156-1	01.04.05	01:23	60°45.21' S	53°50.81' W	1636.0	CTD/RO	start cast
	01.04.05	01:53	60°45.42' S	53°51.07' W	1412.0		at depth
	01.04.05	02:20	60°45.61' S	53°51.03' W	1338.0		end cast
157-1	01.04.05	03:12	60°37.16' S	53°50.69' W	2806.0	CTD/RO	start cast
	01.04.05	04:07	60°37.28' S	53°50.50' W	2803.0		at depth
	01.04.05	04:52	60°37.19' S	53°49.84' W	2791.0		end cast
158-1	01.04.05	07:38	60°21.46' S	54°33.59' W	3288.0	CTD/RO	start cast
	01.04.05	08:40	60°21.36' S	54°33.10' W	3287.0		at depth
	01.04.05	09:33	60°21.37' S	54°33.12' W	3288.0		end cast
159-1	01.04.05	12:10	60°5.95' S	55°15.74' W	3524.0	CTD/RO	start cast
	01.04.05	13:17	60°5.90' S	55°16.18' W	3524.0		at depth
	01.04.05	14:14	60°5.85' S	55°16.34' W	3522.0		end cast
160-1	01.04.05	16:50	59°49.50' S	55°58.95' W	3585.0	CTD/RO	start cast
	01.04.05	17:58	59°49.72' S	55°59.54' W	3583.0		at depth
	01.04.05	18:56	59°50.11' S	56°0.89' W	3590.0		end cast
161-1	01.04.05	21:35	59°32.84' S	56°41.05' W	3579.0	CTD/RO	start cast
	01.04.05	22:42	59°33.04' S	56°41.34' W	3579.0		at depth
	01.04.05	23:40	59°33.36' S	56°41.60' W	3579.0		end cast
162-1	02.04.05	02:35	59°15.35' S	57°25.50' W	3621.0	CTD/RO	start cast
	02.04.05	03:43	59°15.19' S	57°25.64' W	3622.0		at depth
	02.04.05	04:45	59°15.35' S	57°25.53' W	3620.0		end cast
163-1	02.04.05	08:13	58°57.49' S	58°5.94' W	3785.0	CTD/RO	start cast
	02.04.05	09:25	58°57.38' S	58°5.72' W	3780.0		at depth
	02.04.05	10:27	58°57.32' S	58°5.90' W	3782.0		end cast
164-1	02.04.05	13:25	58°37.96' S	58°47.68' W	3915.0	CTD/RO	start cast
	02.04.05	14:38	58°38.29' S	58°47.40' W	3920.0		at depth
	02.04.05	15:40	58°38.23' S	58°47.46' W	3922.0		end cast
165-1	02.04.05	18:43	58°19.78' S	59°31.06' W	3266.0	CTD/RO	start cast
	02.04.05	19:42	58°19.86' S	59°30.66' W	3080.0		at depth
	02.04.05	20:32	58°19.82' S	59°30.61' W	3078.0		end cast
166-1	02.04.05	23:43	57°59.52' S	60°13.39' W	4507.0	CTD/RO	start cast
	03.04.05	01:09	57°59.63' S	60°13.30' W	4495.0		at depth
	03.04.05	02:17	57°59.59' S	60°13.68' W	4501.0		end cast
167-1	03.04.05	05:14	57°39.12' S	60°56.07' W	3435.0	CTD/RO	start cast
	03.04.05	06:19	57°38.88' S	60°56.13' W	3385.0		at depth
	03.04.05	07:18	57°38.82' S	60°56.38' W	3368.0		end cast
168-1	03.04.05	10:16	57°18.24' S	61°39.47' W	3793.0	CTD/RO	start cast
	03.04.05	11:28	57°18.16' S	61°39.39' W	3794.0		at depth
	03.04.05	12:28	57°18.18' S	61°39.53' W	3795.0		end cast
169-1	03.04.05	15:22	56°56.19' S	62°21.36' W	4112.0	CTD/RO	start cast

Station	Date	Time	Latitude	Longitude	Depth	Gear	Remark
	03.04.05	16:42	56°55.87' S	62°21.05' W	4100.0		at depth
	03.04.05	17:46	56°55.64' S	62°21.56' W	4104.0		end cast
170-1	03.04.05	20:40	56°33.31' S	63°4.32' W	4044.0	CTD/RO	start cast
	03.04.05	21:54	56°33.08' S	63°5.17' W	4045.0		at depth
	03.04.05	22:56	56°32.91' S	63°5.81' W	4044.0		end cast
171-1	04.04.05	01:38	56°9.68' S	63°45.96' W	4155.0	CTD/RO	start cast
	04.04.05	02:57	56°9.62' S	63°46.17' W	4163.0		at depth
	04.04.05	04:05	56°9.57' S	63°45.87' W	4162.0		end cast
172-1	04.04.05	07:09	55°45.10' S	64°29.50' W	3778.0	CTD/RO	start cast
	04.04.05	08:22	55°44.74' S	64°29.20' W	3795.0		at depth
	04.04.05	09:23	55°44.74' S	64°28.93' W	3796.0		end cast
173-1	04.04.05	10:43	55°36.73' N	64°43.87' E	3684.0	CTD/RO	start cast
	04.04.05	11:51	55°36.50' S	64°43.52' W	3699.0		at depth
	04.04.05	12:51	55°36.52' S	64°43.22' W	3706.0		end cast
174-1	04.04.05	15:33	55°28.13' S	64°57.50' W	2568.0	CTD/RO	at depth
	04.04.05	16:14	55°27.76' S	64°56.79' W	2560.0		start cast
	04.04.05	16:15	55°27.74' S	64°56.74' W	2556.0		end cast
175-1	04.04.05	17:26	55°20.51' S	65°11.44' W	1615.0	CTD/RO	start cast
	04.04.05	18:00	55°20.29' S	65°11.14' W	1618.0		at depth
	04.04.05	18:15	55°20.14' S	65°10.90' W	1626.0		end cast