	Page 1								
	FOR COLLATIMG CENTRE USE								
CRUISE SUMMARY REPORT	Centre: DOD Ref. No.:								
	Is data exchange  restricted Yes In part No								
<b>SHIP</b> enter the full name and international radio call sign of the ship from which the data were c example, research ship; ship of opportunity, naval survey vessel; etc.	ollected, and indicate the type of ship, for								
Name: DISCOVERY	Call Sign: <u>GLNE</u>								
Type of ship: <u>RRS</u>									
CRUISE NO. / NAME D311	enter the unique number, name or acronym assigned to the cruise (or cruise leg, if appropriate).								
CRUISE PERIOD start <u>09/09/2006</u> to <u>05/10/2006</u> end (set sail) day/ month/ year day/ month/ year (return to port)									
PORT OF DEPARTURE (enter name and country) Reykjavik / Iceland									
PORT OF RETURN (enter name and country) Reykjavik / Iceland									
<b>RESPONSIBLE LABORATORY</b> enter name and address of the laboratory responsible for coodinating the scientific planning of the cruise									
Name: Universität Hamburg. ZMAW. Institut für Meereskunde									
Address: Bundesstr. 53, 20146 Hamburg									
Country: <u>Germany</u>									
<b>CHIEF SCIENTIST(S)</b> enter name and laboratory of the person(s) in charge of the scientific work (chief of mission) during the cruise.									
Prof. Dr. D. Quadfasel, Universität Hamburg, Institut für Meereskunde, Bundesstr.53, D-20146 Hamburg									
OBJECTIVES AND BRIEF NARRATIVE OF CRUISE enter sufficient information as to provide the context in	about the purpose and nature of the cruise so which the report data were collected.								
The objective of the Discovery cruise D311 was to study different aspects of the Denmark Strait overflow. The first part of the cruise was concentrated to examine the water masses at the sill and the upstream conditions in the East Greenland Current and in the Iceland Sea. Two pathways of overflow water have been discovered north of Denmark Strait. One flows along the Greenland continental slope and involves waters from the Arctic Ocean, Fram Strait and the Greenland Sea. The other runs on the northwestern Iceland shelf and apparantly carries the densest overflow water. The origin of this water mass is not yet determined. Does it derive from the Iceland Sea or does it come from farther north? To resolve this guestion the water mass characteristics in the East Greenland Current and in the Iceland Sea will be examined by CTD observations and weater sampling involving CFCs, H3, He3, O2, O18. In addition attempts to recover moorings with ROV have be made. The first leg ended in Reykjavik, where exchange of scientific personnel took place. After the exchange Discovery continued to the Greenland slope, where the VEINS and ASOF CTD sections were be taken and the mooring array at Angmassalik recovered and redeployed. The purpose of these sections south of the sill in Denmark Strait is to study the evolution, strength and variability of the overflow plume – how the different water masses from north of the sill mix on their way to the south and how much and by what mechanisms ambient water is entrained into the overflow plume. To study these processes the CTD observations and the water sampling were be complemented by turbulence measurements using a freefalling CTD and current meter probe.									
<b>PROJECT</b> (IF APPLICABLE) if the cruise is designated as part of a larger scale cooperate of the project, and of organisation responsible for co-ordinating the project.	tive project (or expedition), then enter the name								
Project name: <u>ASOF</u>									
Coordinating body:									

**PRINCIPAL INVESTIGATORS:** Enter the name and address of the Principal Investigators responsible for the data collected on the cruise and who may be contacted for furtherinformation about the data. (The letter assigned below against each Principal Investigator is used on pages 2 and 3, under the column heading 'PI', to identify the data sets for which he/she is responsible)

- A. Prof. Dr. D. Quadfasel, Universität Hamburg, Institut für Meereskunde, Bundesstr.53, D-20146 Hamburg
- B. Dr. S.R. Dye, CEFAS, Lowestoft Lab., Pakefield Road, Lowestoft, Suffolk, NR33OHT, UK
- C. Dr. Bob Newton, Lamont Dohrety Earth Observatory, Geochemistry 63, PO Box 1000, Palisades, NY 10964-8000
- D. Dr. P. Winsor, Woods Hole Oceanographic Institution, Clark 349A, MS#21, Woods Hole, Ma.02543
- E. Prof. Dr. J.P. Henriet, Renard Centre of Marine Geology, Department of Geology and Soil Science, Gent

University, Krijgslaan 281 s.8, B-9000 Gent, Belgium

F. .....

## MOORINGS, BOTTOM MOUNTED GEAR AND DRIFTING SYSTEMS

This section should be used for reporting moorings, bottom mounted gear and drifting systems (both surface and deep) deployed and/or recovered during the cruise. Separate entries should be made for each location (only deployment positions need be given for drifting systems). This section may also be used to report data collected at fixed locations which are returned to routinely in order to construct 'long time series'.

PI	APPROXIMATE POSITION				ΓΙΟΝ		DATA TYPE	DESCRIPTION Identify, as appropriate, the nature of the instrumentation the parameters (to be)
See top of page.	L	ATITUDE	≡ N/S	L( deg	DNGITUE min	DE E/W	enter code(s) from list on cover page.	measured, the number of instruments and their depths, whether deployed and/or recovered, dates of deployments and/or recovery, and any identifiers given to the site.
E	64	40	N	23	14	w	G08	ROV - Test
В	63	17	N	35	52	w	D01	UK2-05 recovery 22.09.2006
в	63	22	N	35	04	w	D01	G1-05 recovery 22.09.2006
В	63	29	N	36	18	w	D01	UK1-05 recovery 22.09.2006
в	63	35	N	36	39	w	D01	F12-05 recovery 22.09.2206
В	63	01	N	40	32	w	D71	ADCP recovery 23.09.2006
Α	63	00	N	40	33	w	D90	TUBE-28 deployed 23.09.2006
В	63	01	N	40	31	w	D71	ADCP deployed 25.09.2006
В	63	35	N	36	40	w	D01	F12 deployed 26.09.2006
В	63	29	N	36	18	w	D01	UK1 deployed 26.09.2006
В	63	22	N	36	04	w	D01	G1 deployed 26.09.2006
В	63	17	N	35	53	w	D01	UK2 deployed 26.09.2006
D	63	01	N	39	39	w	D90	Glider deployed 25.09.2006
								Please continue on separate sheet if necessary

#### SUMMARY OF MEASUREMENTS AND SAMPLES TAKEN

Except for the data already described on page 2 under 'Moorings, Bottom Mounted Gear and Drifting Systems', this section should include a summary of all data collected on the cruise, whether they be measurements (e.g. temperature, salinity values) or samples (e.g. cores, net hauls).

NO, UNITS : for each data set, enter the estimated amount of data collected expressed in terms of the number of 'stations'; miles' of track; 'days' of

Separate entries should be made for each distinct and coherent set of measurements or samples. Different modes of data collection (e.g. vertical profiles as opposed to underway measurements) should be clearly distinguished, as should measurements/sampling techniques that imply distinctly different accuracy's or spatial/temporal resolutions. Thus, for example, separate entries would be created for i) BT drops, ii) water bottle stations, iii) CTD casts, iv) towed CTD, v) towed undulating CTD profiler, vi) surface water intake measurements, etc.

Each data set entry should start on a new line - it's description may extend over several lines if necessary.

recording; 'cores' taken; net 'hauls'; balloon 'ascents'; or whatever unit is most appropriate to the data. The amount should be entered under 'NO' and the counting unit should be identified in plain text under 'UNITS'. DESCRIPTION ΡI NO UNITS DATA Identify, as appropriate, the nature of the data and of the instrumentation/sampling gear and list the parameters TYPF measured. Include any supplementary information that may be appropriate, e. g. vertical or horizontal profiles, depth horizons, continuous recording or discrete samples, etc. For samples taken for later analysis on shore, an indication see see see above Enter page 2 above should be given of the type of analysis planned, i.e. the purpose for which the samples were taken. code(s) from list on cover page Α 88 Stations H10 SEABIRD CTD+ROSETTE 88 Stations H09 different numbers of salinity- and oxygen (H21) - samples for calibration Α С 37 Stations H90 CFC, He, Tritium, O18 50 Stations D71 LADCP - on CTD+ROSETTE Α H10 Microstructure - CTD (SEABIRD) D 9 Stations Α 25 Days D71 **RDI - Ship ADCP** H71 Α 25 Days SEABIRD - Thermosalinograph M06 Α 25 Days Routine standard measurements Please continue on separate sheet if necessary

#### TRACK CHART: You are strongly encouraged to submit, with the completed report, an annotated track chart illustrating the route followed and the points where measurements were taken.

Insert a tick( ✓ ) in this box if a track chart is supplied

**GENERAL OCEAN AREA(S):** Enter the names of the oceans and/or seas in which data were collected during the cruise – please use commonly recognised names (see, for example, International Hydrographic Bureau Special Publication No. 23, 'Limits of Oceans and Seas').

# North Atlantic Ocean, Denmark Strait

**SPECIFIC AREAS:** If the cruise activities were concentrated in a specific area(s) of an ocean or sea, then enter a description of the area(s). Such descriptions may include references to local geographic areas, to sea floor features, or to geographic coordinates. **Please insert here the number of each square in which data were collected from the below given chart** 

# 221,220,219





## THANK YOU FOR YOUR COOPERATION

Please send your completed report without delay to the collating centre indicated on the cover page