

CRUISE SUMMARY REPORT

FOR COLLATING CENTRE USE

Centre: DOD Ref. No.:

Is data exchange Yes In part No
restricted

SHIP enter the full name and international radio call sign of the ship from which the data were collected, and indicate the type of ship, for example, research ship; ship of opportunity, naval survey vessel; etc.

Name: DISCOVERYCall Sign: GLNEType of ship: RRSCRUISE NO. / NAME D311

enter the unique number, name
or acronym assigned to the cruise
(or cruise leg, if appropriate).

CRUISE PERIOD start 09/09/2006 to 05/10/2006 end
(set sail) day/ month/ year day/ month/ year (return to port)

PORT OF DEPARTURE (enter name and country) Reykjavik / IcelandPORT OF RETURN (enter name and country) Reykjavik / Iceland

RESPONSIBLE LABORATORY enter name and address of the laboratory responsible for coordinating the scientific planning of the cruise

Name: Universität Hamburg, ZMAW, Institut für MeereskundeAddress: Bundesstr. 53, 20146 HamburgCountry: Germany

CHIEF SCIENTIST(S) 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 about the purpose and nature of the cruise so as to provide the context in 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 apparently 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 question the water mass characteristics in the East Greenland Current and in the Iceland Sea will be examined by CTD observations and water sampling involving CFCs, H3, He3, O2, O18. In addition attempts to recover moorings with ROV have been 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 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 will be complemented by turbulence measurements using a freefalling CTD and current meter probe.

PROJECT (IF APPLICABLE) if the cruise is designated as part of a larger scale cooperative project (or expedition), then enter the name of the project, and of organisation responsible for co-ordinating the project.

Project name: ASOF

Coordinating body:

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



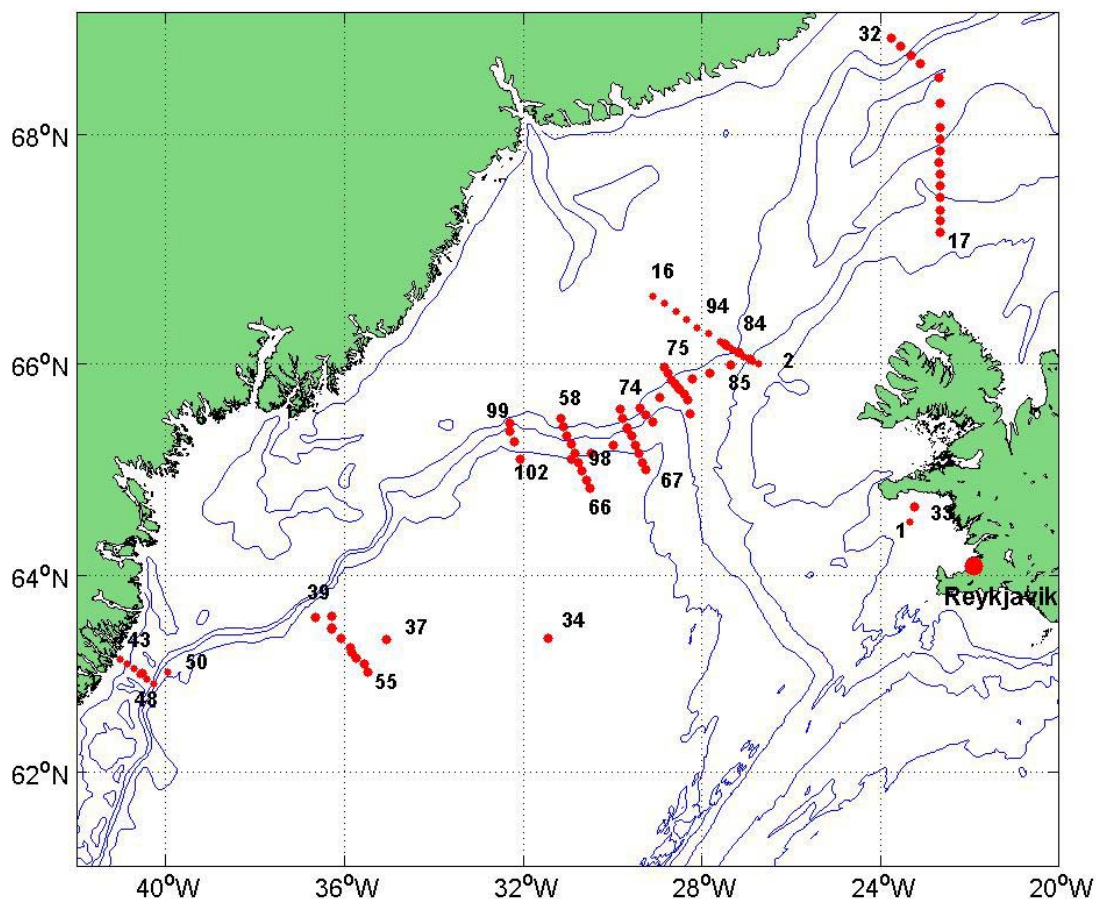
GENERAL OCEAN AREA(S): Enter the names of the oceans and/or seas in which data were collected during the cruise – please use commonly recognised names (see, for example, International Hydrographic Bureau Special Publication No. 23, 'Limits of Oceans and Seas').

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.

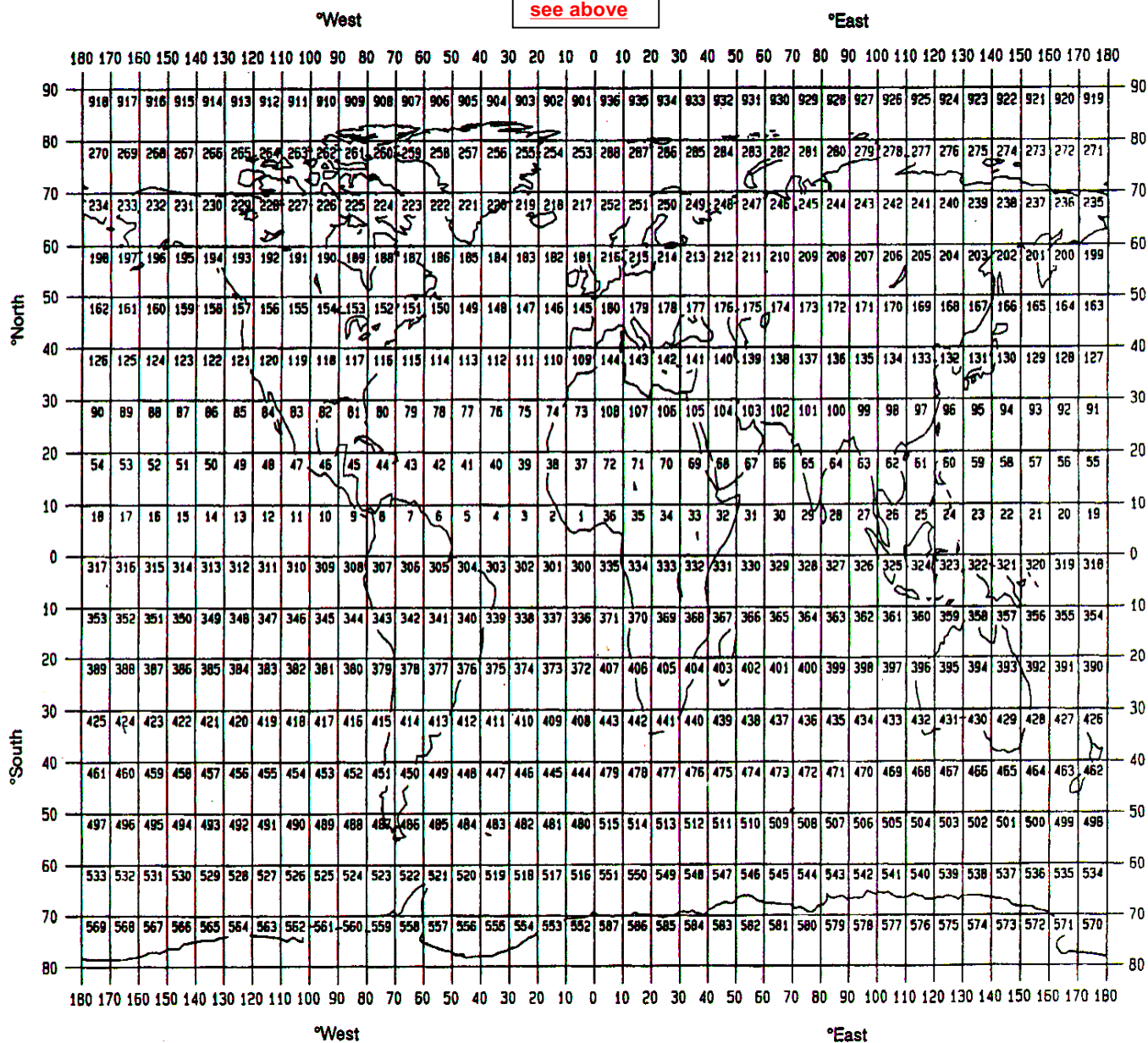
Please insert here the number of each square in which data were collected from the below given chart

221,220,219



GEOGRAPHIC COVERAGE - INSERT 'X' IN EACH SQUARE IN WHICH DATA WERE COLLECTED

see above



THANK YOU FOR YOUR COOPERATION

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