

# CRUISE SUMMARY REPORT

**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: RV Heincke

Call Sign: DBCK

Type of ship: research vessel

CRUISE NO. / NAME Heincke 169

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

CRUISE PERIOD start 28/05/2002 to 05/06/2002 end  
(set sail) day/ month/ year day/ month/ year (return to port)

PORT OF DEPARTURE (enter name and country) Kiel, Germany

PORT OF RETURN (enter name and country) Bremerhaven, Germany

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

Name: Alfred-Wegener-Institut für Polar- und Meeresforsch

Address: Columbusstr

Country: D-27515 Bremerhaven

**CHIEF SCIENTIST(S)** enter name and laboratory of the person(s) in charge of the scientific work (chief of mission) during the cruise.

Prof. Antje Boetius, AWI

**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.

This cruise contributed to the research focus "Gashydrates in the Geo-System-Research Strategies" sponsored by the German Federal Ministry of Education and Research (project MUMM:: Methane in Gashydrate-bearing Marine Sediments –Turnover Rates and Microorganisms), and has also been carried out in preparation of a future EU-Project (METROL - METHane fluxes in ocean margin sediments: microbiological and geochemical control). The scientific work is part of the collaboration between MPI and AWI. In the framework of this project the question is addressed how methane turnover in shallow gassy sediments compares to processes above dissociating gas hydrates.

Objectives of this cruise are A) the quantification of the microbial turnover of methane in gassy sediments as well as the characterisation of the geochemical conditions for the anaerobic methane oxidation and its temporal and regional variation; B) Quantification of the flux of methane into the water column and its dispersal and consumption C) the characterisation and identification of microorganisms involved in the methane oxidation in aerobic and anaerobic sediment layers and in the water column. As part of these investigations, characteristic organic molecules are to be identified which can be used as biomarkers for the anaerobic methane oxidation.

Station work focusses on areas already intensively studied in earlier years by Hovland & Judd (1988).

**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,

Project name: MUMM/METROL

Coordinating body: BMBF/EU





**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



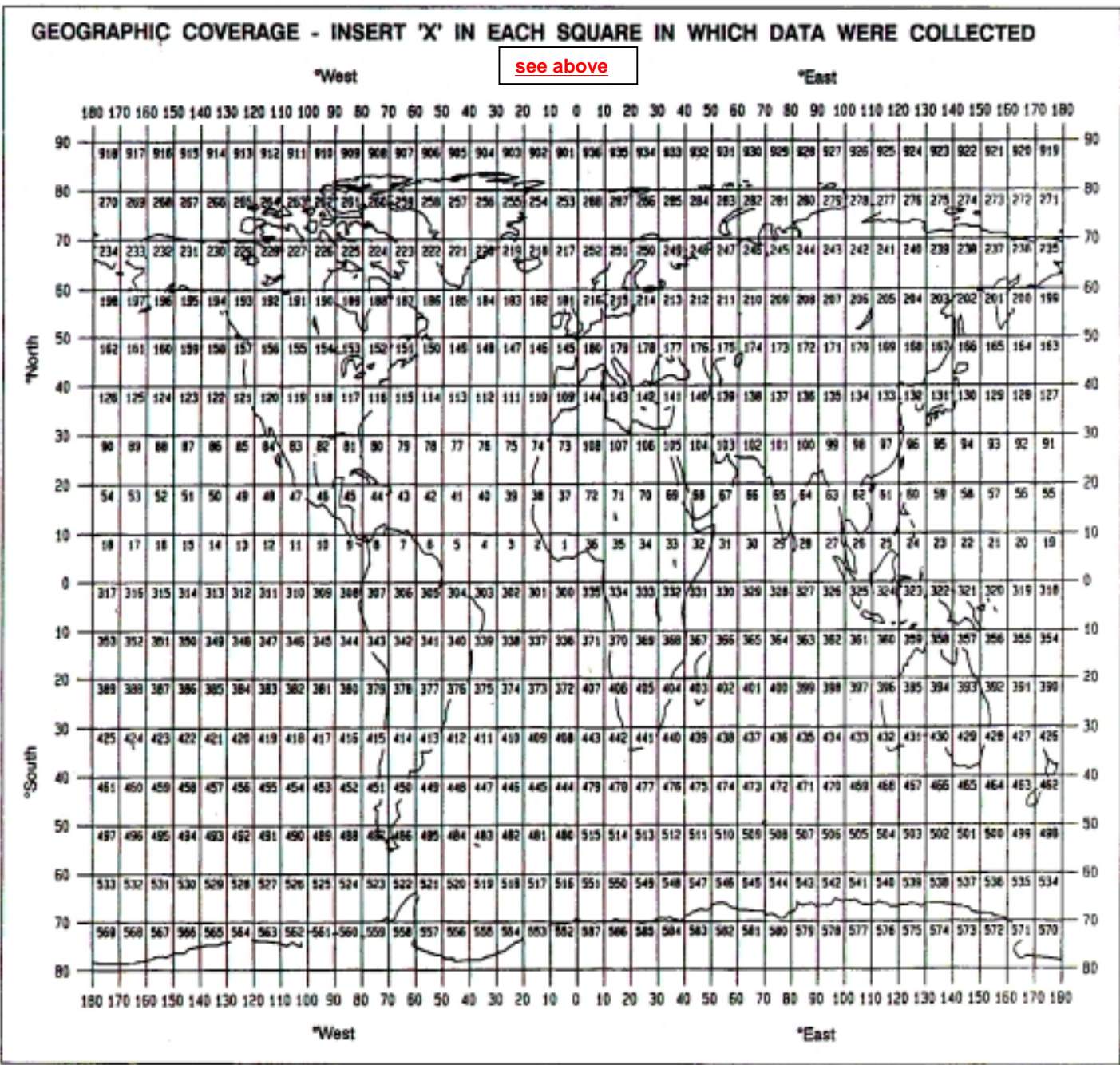
**GENERAL OCEAN AREA(S):** Enter the names of the oceans and/or seas in which data were collected during the cruise – please use commonly recognised names (see, for example, International Hydrographic Bureau Special Publication No. 23, 'Limits of Oceans and Seas').

**Northern North Sea**

**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

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**THANK YOU FOR YOUR COOPERATION**

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