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 180

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

CRUISE PERIOD start **17/10/2002** to **27/10/2002** end
(set sail) day/ month/ year day/ month/ year (return to port)

PORT OF DEPARTURE (enter name and country) **Bremerhaven, Germany**

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

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

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

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 is the first cruise of the new 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

PRINCIPAL INVESTIGATORS: Enter the name and address of the Principal Investigators responsible for the data collected on the cruise and who may 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. **Antje Boetius, AWI, D-27515 Bremerhaven**

B. **Ellen Damm, AWI, D-27515 Bremerhaven**

C. **Samantha Joye, University of Georgia, US**

D. **Inken Suck, AWI, D-27515 Bremerhaven**

E. **Gerd Wendt, Uni Rostock, D- 18119 Rostock**

F. **Alan Judd, University of Sunderland, UK**

G. **Felix Janssen, Max Planck Institute for Marine Microbiology, D-28359 Bremen**

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 sh 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 See top of page.	APPROXIMATE POSITION LATITUDE deg	min	N/S	LONGITUDE deg	min	E/W	DATA TYPE enter code(s) from list o cover pag
G	**56**	**29.92**	**N**	**2**	**59.76**	**E**	**H21**
G	**56**	**29.58**	**N**	**2**	**59.31**	**E**	**H21**
G	**58**	**18.59**	**N**	**0**	**57.47**	**E**	**H21**

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, cores, net hauls).

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 meas 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 measurements, etc.

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

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 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'.

PI see page 2	NO see above	UNITS see above	DATA TYPE Enter code(s) from list on cover page	Identify, as appropriate, the n measured. Include any supple horizons, continuous recording should be given of the type of a
B, C	**18**	**CTD statio**	**H09 H10**	
E, F	**16**	**Echosounde**	**G72 G73**	
A, C	**12**	**mult corer**	**B16 B72**	
A, C	**4**	**Vibrocorer**	**B16 B72**	
D, A,F	**14**	**cam transe**	**G08**	
B, C	**18**	**Rosette st**	**H33 H32**	

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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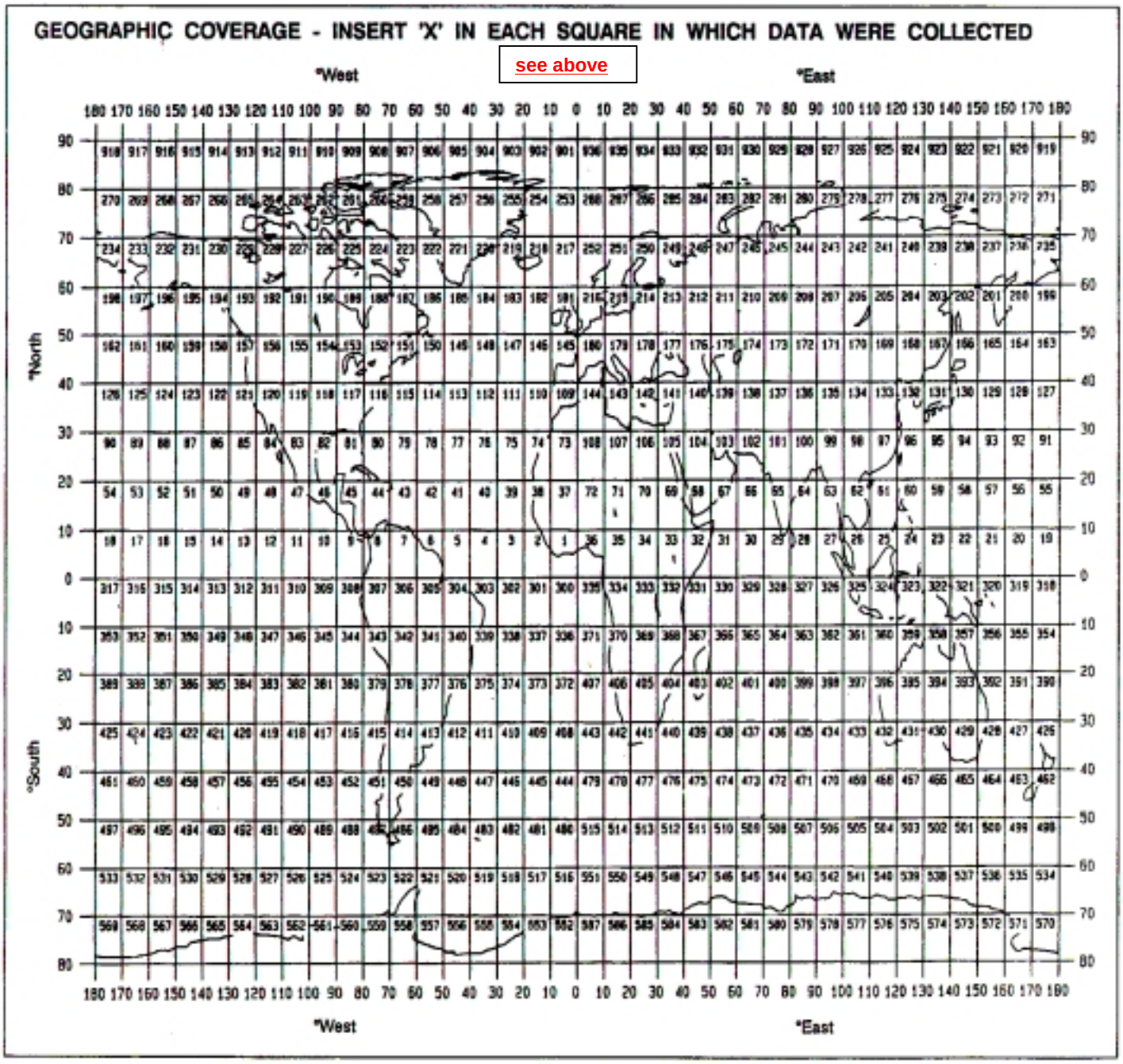

THANK YOU FOR YOUR COOPERATION

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