CRUISE SUMMARY REPORT

FOR COLLATIMG CENTRE USE

Centre: DOD Ref. No.:

Is data exchange restricted ☐ Yes ☐ In part ☐ No

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 Alkor **Call Sign: DBND**

Type of ship: research vessel

CRUISE NO. / NAME Alkor 267

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

CRUISE PERIOD start **24/09/2005** (set sail) day/ month/ year to **03/10/2005** day/ month/ year end (return to port)

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

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

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

Name: Max Planck Institute for Marine Microbiology

Address: Celsiusstr 1

Country: D-28359 Bremen

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, MPI/IUB/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 BMBF Geotechnology project MUMM and the EU Project EXOCET (Extreme ecosystem studies in the deep ocean: Technological Developments) as well as to the objectives of the virtual institute "MarTech" of the Helmholtz foundation.
EXOCET and MarTech are projects of the collaboration between MPI, AWI and the University Bremen.
In the framework of the previous EU Project METROL in the North Sea the question was addressed how methane turnover is controlled in shallow gassy sediments. Objectives of Exocet and MarTech are testing of underwater technology, including payloads of two platforms, the ROV Cherokee and the underwater benthic crawler MOVE. Tasks included
A) The quantification of the microbial turnover of methane in gassy sediments as well as the characterisation of the geochemical conditions
B) Collection of gas and sediment from natural gas seeps using ROV pushcores and gas collectors.
C) Measuring in situ oxygen consumption with chamber incubations, profiling and 2D optode set up using the MOVE crawler
D) test of WLAN connection between ship and buoy connected to MOVE
E) identification of microorganisms responsible for methane turnover
Station work focused on areas already intensively studied in earlier years by Hovland & Judd (1988). Geographical information came from Statoil.

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: MUMM, EXOCET, MARTECH

Coordinating body: EU, BMBF, Helmholtz

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 further information 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. **Antje Boetius, MPI, D-28359 Bremen**

B. **Christoph Waldmann, MARUM University of Bremen, D-28359 Bremen**

C. **Michael Schlüter. AWI, D27515 Bremen**

D. .....

E. .....

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						DATA TYPE	DESCRIPTION
	LATITUDE			LONGITUDE				Identify, as appropriate, the nature of the instrumentation the parameters (to b
See top of page.	deg	min	N/S	deg	min	E/W	enter code(s) from list on cover page.	measured, the number of instruments and their depths, whether deployed and/ recovered, dates of deployments and/or recovery, and any identifiers given to t site.
								Please continue on separate sheet if necessa

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 cruis whether they be measurements (e.g. temperature, salinity values) or samples (e.g. 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 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.

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	DESCRIPTION Identify, as appropriate, the nature of the data and of the instrumentation/sampling gear and list the paramete measured. Include any supplementary information that may be appropriate, e. g. vertical or horizontal profile depth horizons, continuous recording or discrete samples, etc. For samples taken for later analysis on shore, indication should be given of the type of analysis planned, i.e. the purpose for which the samples were taken.
C	**2**	**CH4 sensor**	**H33 H32**	
A	**6**	**Echosounde**	**G72 G73**	
A	**2**	**mult corer**	**B16 B72**	**0**
A, B	**5**	**MOVE**	**G08 B16**	
A, C	**2**	**ROV transe**	**G08 B16**	
				Please continue on separate sheet if necessa

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').

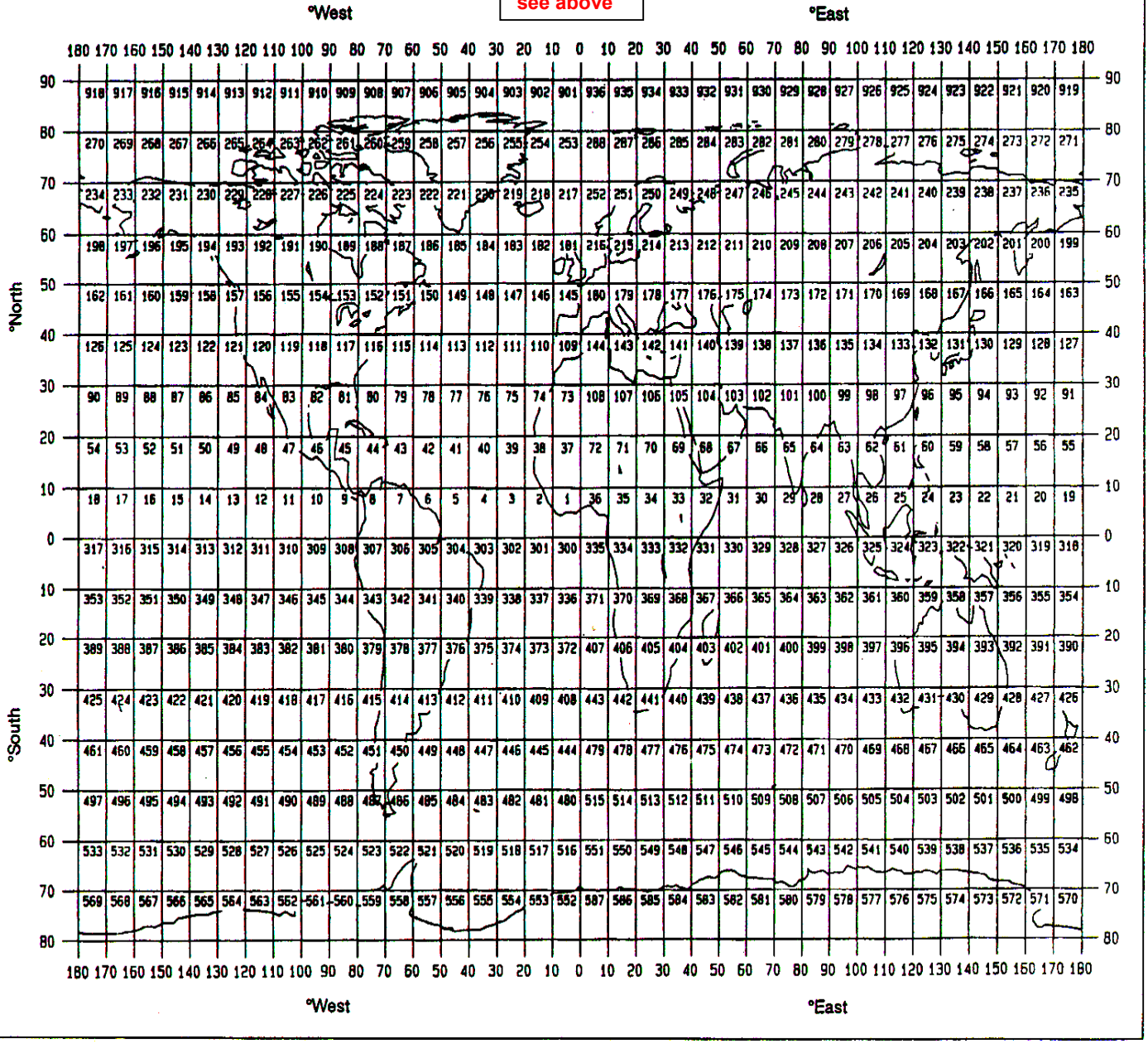
Northern North Sea

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

216, 252

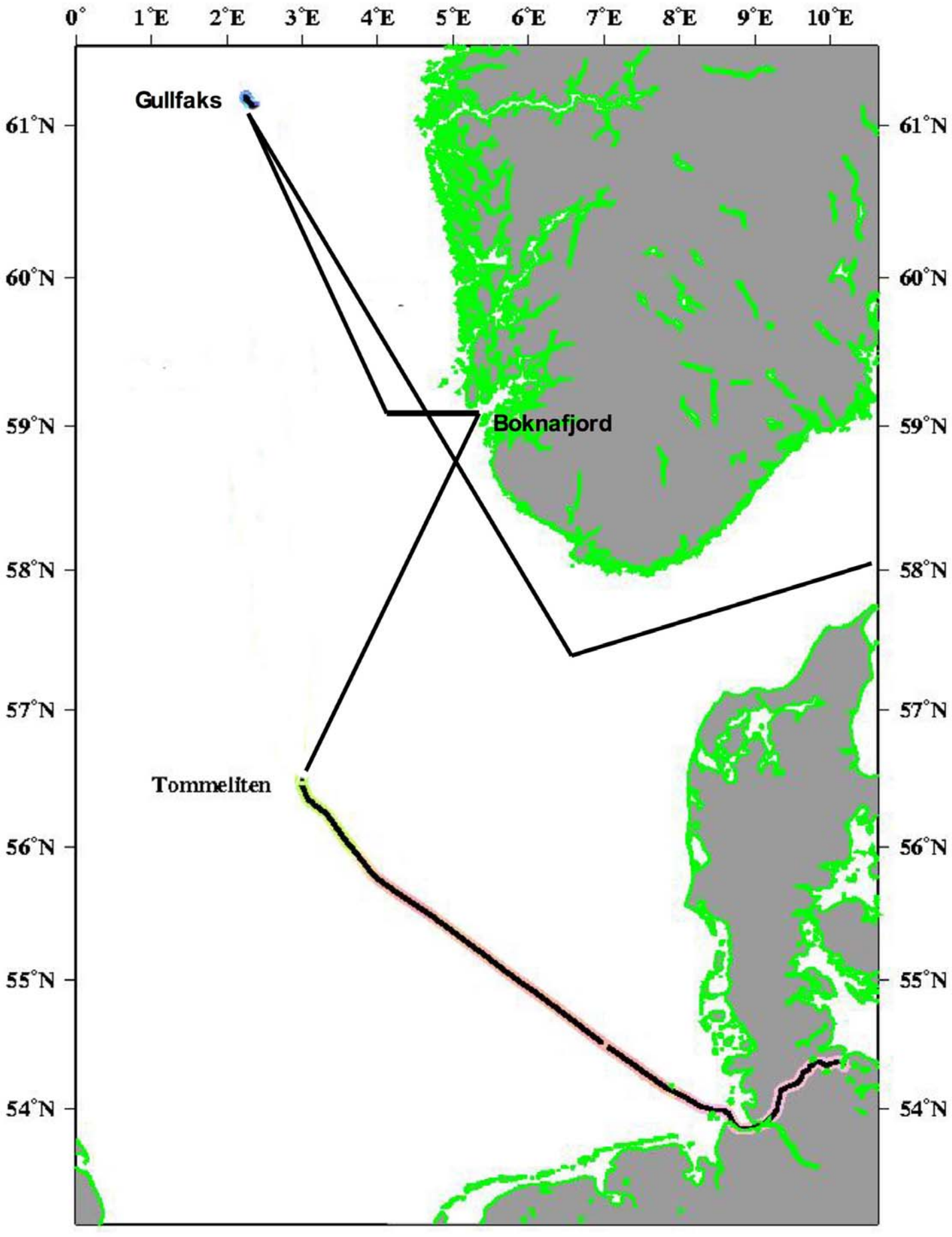
GEOGRAPHIC COVERAGE - INSERT 'X' IN EACH SQUARE IN WHICH DATA WERE COLLECTED

see above



THANK YOU FOR YOUR COOPERATION

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



Cruise track Alkor 267

Date	Station	Area	Gear	UTC Start	Start Latitude	Longitude	End time	End Latitude	Longitude	depth
25-sep-05	1273-1	Tommeliten	ES	20:20	56° 30,00	3° 10,00	20:49	56° 29,82	2° 85,00	75m
25-sep-05	1273-2	Tommeliten	ES	21:01	56° 30,00	3° 05,00	21:10	56° 29,82	2° 80,00	75m
25-sep-05	1273-3	Tommeliten	ES	21:20	56° 30,00	3° 00,00	21:35	56° 29,82	2° 75,00	75m
25-sep-05	1273-4	Tommeliten	ES	21:38	56° 30,00	2° 55,00	21:49	56° 29,82	2° 70,00	75m
25-sep-05	1274	Tommeliten	ROV	22:22	56° 30,02	2° 59,49	3:59	56° 29,84	2 59,82	75m
26-sep-05	1275/1276	Tommeliten	MOVE	5:25	56° 29,96	2° 59,83	10:35	56° 30,16	3° 00,16	75m
26-sep-05	1277	Tommeliten	CH4-Sensor	12:43	56° 29,78	2° 59,81	14:18	56° 29,98	2° 59,87	75m
26-sep-05	1278	Tommeliten	TV-MUC	16:25	56° 29,94	2° 59,88	16:40	56° 29,92	2° 59,88	75m
26-sep-05	1279	Tommeliten	TV-MUC	17:05	56° 29,93	2° 59,74	17:19	56° 29,92	2° 59,86	75m
28-sep-05	1280	Skudenes fjord	ES	17:35	59° 00,37	5° 41,94	18:28	59° 00,97	5° 42,66	85m
28-sep-05	1281	Skudenes fjord	ROV	18:40	59° 09,27	5° 43,20	21:05	59° 9,33	5° 43,29	85m
28-sep-05	1282	Skudenes fjord	MOVE	6:52	59° 01,11	5° 43,78	11:13	59° 1,20	5° 43,74	85m
28-sep-05	1283	Skudenes fjord	MOVE	13:32	59° 01,31	5° 43,77	17:42	59° 1,33	5° 43,56	85m
28-sep-05	1284	Skudenes fjord	MOVE	19:36	59° 03,69	5° 49,40	20:40	59° 3,69	5° 49,14	85m
28-sep-05	1285	Skudenes fjord	MOVE	22:09	59° 0,89	5° 44,44	0:12	59° 00,86	5° 44,44	35m
30-sep-05	1286	Gullfaks	ES	4:35	61° 10,47	2° 14,57	5:05	61° 10,42	2° 14,50	145m