NOTIFICATION OF PROPOSED RESEARCH CRUISE

PART A: GENERAL

1. NAME OF RESEARCH SHIP: **RV HEINCKE** — CRUISE NO.: **HE 242**

2. DATES OF CRUISE — From: **October 19, 2005** — To: **November 14, 2005**

3. OPERATING AUTHORITY:
Alfred Wegener Institute for Polar and Marine Resaerch
P.O.-Box 12 01 61
D-27515 Bremerhaven

TELEPHONE: **+49 471 4831-0**

TELEFAX: **+49 471 4831 1355**

TELEX: **238 695 polar d**

4. OWNER (if different from no. 3)

5. PARTICULARS OF SHIP:

Name:	**HEINCKE**
Nationality:	**German**
Overall length: (in metres)	**55,20**
Maximum draught: (in metres)	**4,16**
Net tonnage:	**396**
Propulsion e.g. diesel/steam:	**diesel electric**
Call sign:	**DBCK**
Registration port and number (if registered fishing vessel)	**Helgoland**

6. CREW
Name of master: **Henning Papenhagen**

Number of crew: **12**

07. Scientific personnel:

Name and address of scientist in charge	Dr. L. Reinhardt (Leg2) Dr. Sönke Neben (Leg1) Federal Institute for Geosciences and Natural Resources (BGR), Stilleweg 2, 30655 Hannover, Germany
Tel./Fax/Telex No.	+49-511-643-2786/3663/-
No. of scientists	**max. 23**

08. Geographical area in which ship will operate (with reference in latitude and longitude):

Nr.	Lat	Lon	remarks	7	53.4700000	3.0166667	13
1	55.7650000	3.3702778	E8	8	53.5850000	2.9883333	14
2	55.8350000	3.4000000	D	9	53.6683333	2.9566667	15
3	55.9192778	3.3500000	S7	10	53.9633333	2.8666667	16
4	56.0866667	3.2500000		11	54.3800000	2.7633333	17
5	55.0000000	1.0000000		12	54.6216667	2.8983333	18
6	54.0000000	1.0000000		13	55.7650000	3.3702778	19/E8

09. Brief description of purpose of cruise:

Purpose Leg1: high-resolution multi-channel seismic survey in the Southern North Sea with focus on the shallow subsurface (Tertiary delta deposits and Pleistocene valleys).
Purpose Leg2: geological seabed sampling at selected sites by vibration corer, multicorer, piston corer, and box corer to collect material for age dating, sediment properties, gas content, and microbial communities at gas seeps.

10. Dates and names of intended ports of call

Hamburg	22nd Oct., 2005 (start)
Esbjerg	only if weather conditions are unfavourable
Cuxhaven	2nd-3rd Nov., 2005 preferred harbour for change of equipment (leg1 /leg2)
Bremerhaven	15. 11. 2005 (ending)

11. Any special logistic requirements at ports of call n o t r e l e v a n t

DETAIL

Part B

1. **Name of Research ship MARIA S. MERIAN Cruise No. MSM 01/1**

2. **Dates of cruise from: Hamburg 22nd Oct., 2005 to: Bremerhaven 15th Nov., 2005**

3. **Purpose of research and general operational methods**
   Main objective of this operation is the survey of the shallow subsurface of the Southern North Sea by means of high resolution multi-channel seismic complemented by high resolution methods like Boomer, Sparker, and sediment echosounder to identify Quaternary valleys and Tertiary prograding delta deposits. We intend to connect existing seismic profiles of the British sector to the German sector. Seabed sampling is intended to collect material for age dating of sediments, geophysical sediment properties, gas content, and microbial communities at gas seeps.

4. **Attached charts showing (on an appropriate scale) the geographical area of intended work, positions of intended stations, tracks of survey lines, positions of moored/seabed equipment.**

   See attached map (Figure 1). Details of tracks of survey lines will be discussed with BGS (Dan Evans, Edinburgh) to connect existing surveys to the German sector. Sampling locations will be determined from sediment echosounder lines obtained during cruise.

5. **Types of samples required, e. g. Geological/Water/Plankton/Fish/Radioactivity/Isotope**

   hydroacoustic data, geological, microbiological, water

   and methods by which samples will be obtained (including dredging/coring/drilling)

   hydroacoustic measuring (multichannel seismic, sediment echosounders)

   coring: vibration coring (6 m max. penetration), piston coring (10 m max. penetration), box coring (0,6 m max. penetration), and multicoring (0,5 m max. penetration)

   rosette water multisampler

6. **Details of moored equipment: n o n e**

Dates Laying	Recovery	Description	Latitude	Longitude

7. **Explosives** **no explosives**
   - (a) **Type and Trade name**
   - (b) **Chemical content**
   - (c) **Dept. of Trade class and stowage**
   - (d) **Size**
   - (e) **Depth of detonation**
   - (f) **Frequency of detonation**
   - (g) **Position in latitude and longitude**
   - (h) **Dates of detonation**

8. **Detail and reference of**

   (a) Any relevant previous/future cruises

   EU Southern North Sea Project 1989-1992 (FS GAUSS 1987 + 1990)
   BGR cruises with MV AURELIA BGR03-AUR (2003), BGR04-AUR (2004, Leg 1+2)

   (b) Any previous published research data relating to the proposed cruise (Attach separate sheet if necessary)

Cameron, T.D.J., Bulat, J. and Mesdag, C.S. 1993. High resolution seismic profile through a Late Cenozoic delta complex in the southern North Sea. Marine and Petroleum Geology, 10: 591-599.

Cameron, T.D.J., Stoker, M.S. and Long, D. 1987. The history of Quaternary sedimentation in the UK-Sector of the North Sea Basin. J. Geol. Soc., London, 144: 53-58.

Cameron, T.D.J., van Doorn, D., Laban, C. and Streif, H. 1993. Geology of the Southern North Sea Basin. In: Coastlines of the Southern North Sea (Eds R. Hoellen and H.J. Verhagen), pp. 14-26. American Society of Civil Engineers, New York.

Huuse, M. and Lykke-Andersen, H. 2000, Overdeepend Quaternary valleys in the eastern Dansih North Sea: morphology and origin. Quaternary Science Reviews, 19: 1233-1253.

Huuse, M., Lykke-Andersen, H. and Michelsen, O. 2001, Cenozoic evolution of the eastern Dansih North Sea. Marine Geology, 177: 243-269.

Kudrass, H.-R. and shipboard-scientific-party 2003. Fahrtbericht/Cruise Report: Nordsee, BGR03-AUR, MV AURELIA (16. 09. - 09. 10. 2003), BGR, Hannover.

Kudrass, H.-R., Wiedicke-Hombach, M. and shipboard-scientific-party 2004. Fahrtbericht/Cruise Report: Nordsee, BGR04-AUR, MV AURELIA, Leg2 (09. 09. - 02. 10. 2004), BGR, Hannover.

Neben, S. and shipboard-scientific-party 2004. Fahrtbericht/Cruise Report: Nordsee, BGR04-AUR, MV AURELIA, Leg1 (30. 05. - 19. 06. 2004), BGR, Hannover.

9. **Names and addresses of scientists of the coastal state in whose waters the proposed cruise takes place with whom previous contact has been made**

Dan Evans
British Geological Survey, Murchison House,
West Mains Road, Edinburgh EH9 3LA, UK.

Mads Huuse,
3D Lab School of Earth, Cardiff University
Park place, Cardiff CF10 3YE, Wales, UK.

10. **State:**

a.) **Whether visits to the ship in port be scientists of the coastal state concerned will be acceptable:** yes

b.) **Whether it will be acceptable to carry on board an observer from the coastal state for any part of the cruise and dates and ports of embarkation/disembarkation:**
yes, after discussion - possible embarkation ports are Hamburg (start of cruise), Heligoland, Esbjerg (if weather conditions are unfavourable), or Cuxhaven (change leg 1/leg 2).

c.) **When research data from intended cruise is likely to be made available to the coastal state and if so by what means:**
Cruise report three months after finishing the research cruise. Digital data sets of seismic lines. Scientific publication within the following three years.

COASTAL STATE: **United Kingdom**

SCIENTIFIC EQUIPMENT

11. **Complete the following table - SEPARATE COPY FOR EACH COASTAL STATE (INDICATE 'YES' OR 'NO')**

			DISTANCE FROM COAST			
List of all major marine scientific equipment it is proposed to use and indicate waters in which it will be deployed	**Fisheries Research within Fishing limits**	**Research concerning Continental Shelf out to Coastal State's Margin**	**Within 3 NM**	**Between 3 - 12 NM**	**Between 12 - 50 NM**	**Between 50 - 200 NM**
a) Vessel mounted systems: Hydroacoustic mapping/measuring (incl. ADCP, Parasound, multibeam)	No	Yes	No	No	Yes	Yes
Permanent surface water sampling / pumping (incl. Thermosalinograph)	No	No	No	No	Yes	Yes
b) mobile acoustic equipment: multichannel seismic sidescan-sonar Boomer/Sparker	No	Yes	No	No	Yes	Yes
c) mobile coring equipment incl. vibration, piston, box, multicorer	No	Yes	No	No	Yes	Yes