NOTIFICATION OF PROPOSED RESEARCH CRUISE

PART A: GENERAL

1. NAME OF RESEARCH SHIP: **RV POLARSTERN** — CRUISE NO.: **ANT-XXVIII/1**

2. DATES OF CRUISE — From: **28.10.2011** — To: **01.12.2011**

3. OPERATING AUTHORITY:
Stiftung Alfred-Wegener-Institut für Polar-und Meeresforschung
Postfach 12 01 61
D-27515 Bremerhaven

TELEPHONE: **0049 471 4831-0**

TELEFAX: **0049 471 4831 1355**

TELEX: **238 695 polar d**

4. OWNER (if different from no. 3)

5. PARTICULARS OF SHIP:

Name:	**POLARSTERN**
Nationality:	**GERMAN**
Overall length: (in metres)	**117.91**
Maximum draught: (in metres)	**11.21**
Net tonnage:	**3532.30**
Propulsion e.g. diesel/steam:	**diesel**
Call sign:	**DBLK**
Registration port and number (if registered fishing vessel)	

6. CREW

Name of master: **Kapt. Uwe Pahl**

Number of crew: **42**

7. SCIENTIFIC PERSONNEL

Name and address of scientist in charge: **Dr. Saad El Naggar**
Alfred-Wegener-Institut
Am Alten Hafen 26
D-27568 Bremerhaven, Germany

Tel/telex/fax no.: **0049 -471-4831-1193**

No. of scientists: **30**

8. GEOGRAPHICAL **AREA** IN WHICH SHIP WILL OPERATE (with reference to latitude and longitude)
see maps attached, attachments I & II

9. BRIEF DESCRIPTION OF PURPOSE OF CRUISE
To perform basic marine research in geological, chemical, biological oceanography and atmospheric science. Trials, calibration and tests of hydro acoustic equipments (Hydrosweep, POSIDONIA)

10. DATES AND NAMES OF INTENDED PORTS OF CALL
No UK port calls planned
Las Palmas (Spain) : 09.11.2011
Cape Town (RSA): arrival 01.12.2011, departure: 03.12.2011

11. ANY SPECIAL REQUIREMENTS AT PORTS OF CALL
Las Palmas: partly exchange of scientific crew
Cape Town: change of personnel and supply

NOTIFICATION OF PROPOSED RESEARCH CRUISE

PART B: DETAILS

1. NAME OF RESEARCH SHIP: **RV POLARSTERN** — CRUISE NO.: **ANT-XXVIII/1**

2. DATES OF CRUISE — From: **28.10.2011** — To: **01.12.2011**

3. a) PURPOSE OF RESEARCH

Ocean acoustics: Sea trials and calibration of Multibeams "ATLAS Hydrosweep", tests and calibration of IXSEA Posidonia-system
Remote sensing: To make optical and biological measurements in the surface water as ground truthing for satellite observations.
Atmospheric Chemistry: to study the distribution of persistent organic pollutants (POPs)/aerosols/ halocarbonats
Atmospheric Profiling and Radiation: To perfrom continous observations of vertical profiles of temperature and humidity as well as liquid water path, cloud cover, cloud type and radiation budget, validation of satellite based atmospheric profiling, measurements of cosmic rays
Air-Sea-Interaction: To perform measurements of turbulent fluxes of momentum, sensible and latent heat and CO_2
Marine Chemistry: To measure CO_2-fluxes between ocean and atmosphere and CO_2-profiles, halocarbonat-concentrations
Biology: Localization of breeding grounds of the blue and fin in the South Atlantic, determination of seabirds and marine mammals distributions
Atmospheric Physic: Determination of cosmic ray distributions

b) GENERAL OPERATIONAL METHODS (including full description of any fish gear, trawl type, mesh size, etc.)

Record data by echosounding devices (Multibeams ATLAS Hydrosweep, Ixsea Posidonia), trials and calibration
Collection of air and aerosol samples, analysis by gas chromatographs, mass spectrometer, and equilibrator,
Optical measurements in the atmosphere, deployment of balloons with ozone and radiosondes,
Measurement of spectral solar and UV radiation,
Profiling of atmosphere with passive microwave radiometer,
Active remote sensing of atmospheric aerosol (Lidar),
Active remote sensing of cloud bottom height with standard ceilometers,
Whole sky imager for scene identification,
Pyranometer and pyrgeometer for surface radiation budget,
Infrared radiometer for skin sea surface temperature and cloud bottom temperature,
Hand-held sun-photometer for aerosol optical thickness,
Sonic-anemometer and open path gas analyser for turbulent fluxes of latent/sensible heat, and CO_2
Meteorological standard instruments for air pressure, temperature, humidity, and wind
Data Collecting Platform for meteorological observations and satellite based telemetry
MAX-DOAS (Differential Optical Absorption Spectroscopy): trace gases
FSSP (Forward Scattering Spectrometer Prohe) for particle size distributions
Acoustic Doppler Current Profiler (ADCP) for current measurements
Monitoring of seabirds and marine mammals distributions
Measurement of cosmic ray distributions

4. ATTACH CHART showing (on an appropriate scale) the geographical area of intended work, positions of intended stations, tracks of survey lines, positions of moored/seabed equipment, areas to be fished Areas of planned operations
All works planned in UK waters will take plaee on the regular transitroute to Capetown.
No Stations/Stops planned. **(see attachments I+II and IV)**

5. a) TYPES OF SAMPLES REQUIRED (e.g., geological/water/plankton/fish/radionuclide)

Seawater (including phytoplankton), air, aerosol samples, suspended matter in seawater

b) METHODS OF OBTAINING SAMPLES (e.g., dredging/coring/drilling/fishing, etc. When using fishing gear, indicate fish stocks being worked, quantity of each species required, and quantity of fish to be retained on board).

Ship's seawater supply
Air pump
Air filtration
Surface water sampling from moon pool
Underway pumping system for surface seawater
Radiance measurements with taking online measurements of a radiometer suite mounted on the ship's deck
Multibeam echosounder (ATLAS-Hydrosweep)
Under Water Navigation System (Posidonia)

6. DETAILS OF MOORED EQUIPMENT

Dates Laying	Recovery	Description	Depth	Latitude	Longitude

NONE

7. ANY HAZARDOUS MATERIALS (chemicals/explosives/gases/radioactives, etc.)
(Use separate sheet if necessary)
- see attachment III -
a) Type and trade name
b) Chemical content (and formula)
c) IMO IMDG code (reference and UN no.)
d) Quantity and method of storage on board
e) If explosives give dates of detonation **no explosives**
Method of detonation
Position of detonation
Position of detonation
Frequency of detonation
Depth of detonation
Size of explosive charge in kg.

8. DETAIL AND REFERENCE OF

a) Any relevant previous/future cruises

Previous:

POLARSTERN ANT-XXIII/10	**12.04. - 04.05.2007**
POLARSTERN ANT-XXIV/1	**26.10. - 26.11.2007**
POLARSTERN ANT-XXIV/4	**19.04. - 18.05.2008**
POLARSTERN ANT-XXV/1	**31.10. - 03.12 2008**
POLARSTERN ANT-XXV/5	**11.04. - 25.05.2009**
POLARSTERN ANT-XXVI/1	**16.10. - 25.11.2009**
POLARSTERN ANT-XXVII/1	**25.10. - 28.11.2010**

Future cruises are planned.

b) Any previously published research data relating to the proposed cruise

All cruise reports with detailed station lists are published in the series "Reports on Polar Research" by Alfred-Wegener-Institute for Polar-und Marine Research, Bremerhaven.

9. NAMES AND ADDRESSES OF SCIENTISTS OF THE COASTAL STATE(S) IN WHOSE WATERS THE PROPOSED CRUISE TAKES PLACE WITH WHOM PREVIOUS CONTACT HAS BEEN MADE

Prof. Hein de Baar, Royal NIOZ, Texel, the Netherlands
Dr. Oscar Melicio, Instituto Nacional de Desenvolvimento das Pescas
Dr. Gideon Henderson, Department of Earth Sciences, Parks Road, Oxford, UK
Dr. Catherine Jeandel, LEGOS/Obs Midi-Pyrénées, Toulouse, France
Dr. Jeronimo Lopez-Martinez, Faculty of Sciences Universidad Autónoma de Madrid, Spain

10. STATE

a) Whether visits to the ship in port by scientists of the coastal state concerned will be acceptable (Yes/No)
Yes, but no portstays planned

b) Participation of an observer from the coastal state for any part of the cruise together with the dates and the ports for embarkation and disembarkation
Possible, but not planned, except contacts with above mentioned scientists.

c) When research data from the intended cruise are likely to be made available to the coastal state and by what means
Data are available digitally within one year after the cruise. In addition, the data are published in the Reports of Polar Research by AWI and in other reports, papers and in international scientific journals.

PART C. SCIENTIFIC EQUIPMENT

Complete the following table using a separate page for each coastal state

Coastal state: **UK**

Port of call: **None**
Dates: **-**

Indicate "YES" or "NO"

				DISTANCE FROM COAST		
List scientific work by function add work if not listed below	Water column including sediment sampling of the seabed	Fisheries research within fishing limits	Research concerning the natural resources of the continental shelf or its physical characteristics	Within 3 nm	Between 3-12 nm	Between 12-200 nm
*Meteorological measurements	N	N	N	**Y**	**Y**	**Y**
*Balloon sampling	N	N	N	N	**Y**	**Y**
*Air sampling	N	N	N	**Y**	**Y**	**Y**
*Water sampling	**Y**	N	N	**Y**	**Y**	**Y**
*Whale observing	N	N	N	**Y**	**Y**	**Y**
*Waterdepth sounder	N	N	**Y**	**Y**	**Y**	**Y**
**Sediment sounder	N	N	N	N	N	N
**Watercoloumn sounder	N	N	N	N	N	N
**(ADCP) Sea current measurement	N	N	N	N	**Y**	**Y**
**Magnetometry	N	N	N	N	N	N
**Gravity	N	N	N	N	N	N
***Seabed sampling	N	N	N	N	N	N
***Fishing	N	N	N	N	N	N
***Under water TV	N	N	N	N	N	N
***Moored instruments	N	N	N	N	N	N
***Towed instruments	N	N	N	N	N	N
***Seismics	N	N	N	N	N	N

*Always measured **Optional ships equipment ***To be modified acc. to the scientific programm (own measurements)

Marcus Hirsch

(On behalf of the Principal Scientist)

Dated 05.04.2011

Stiftung Alfred-Wegener-Institut
für Polar- und Meeresforschung
in der Helmholtz-Gemeinschaft
Am Handelshafen 12
27570 Bremerhaven

NB IF ANY DETAILS ARE MATERIALLY CHANGED REGARDING DATES/AREA OF OPERATION AFTER THIS FORM HAS BEEN SUBMITTED, THE COASTAL STATE AUTHORITIES MUST BE NOTIFIED IMMEDIATELY

Attachment I

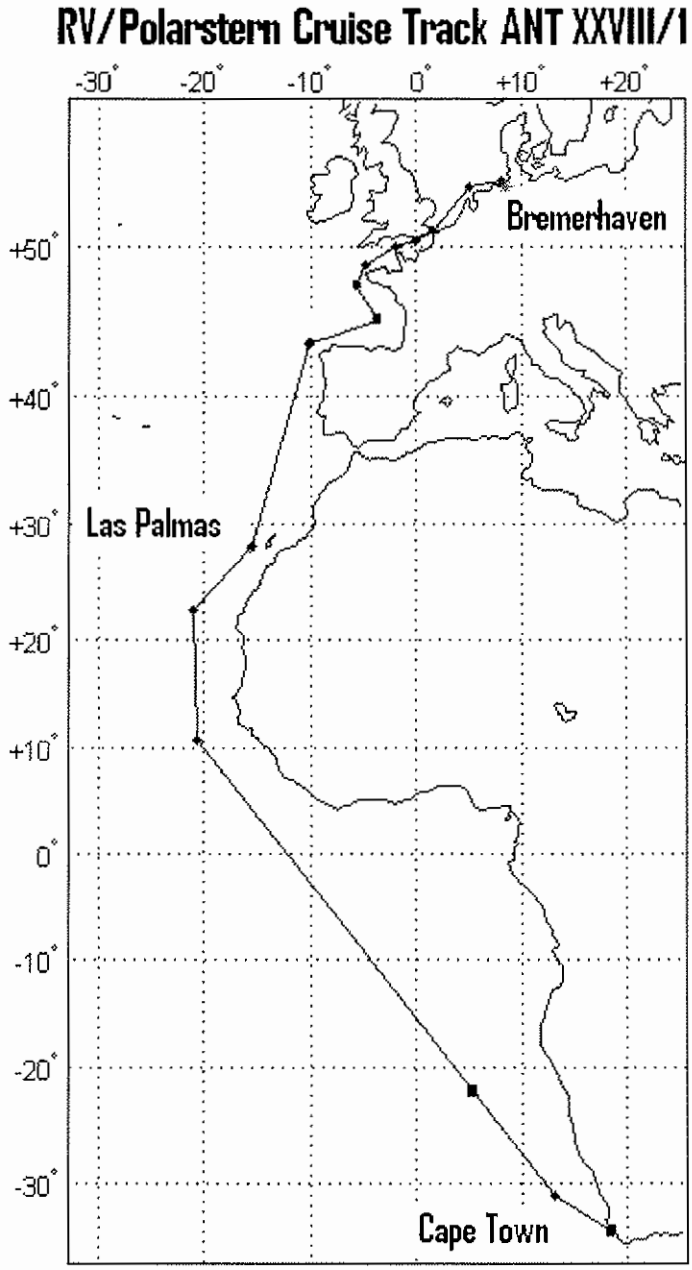

Fig. 1. Scheduled cruise track from Bremerhaven to Cape Town

Attachment II

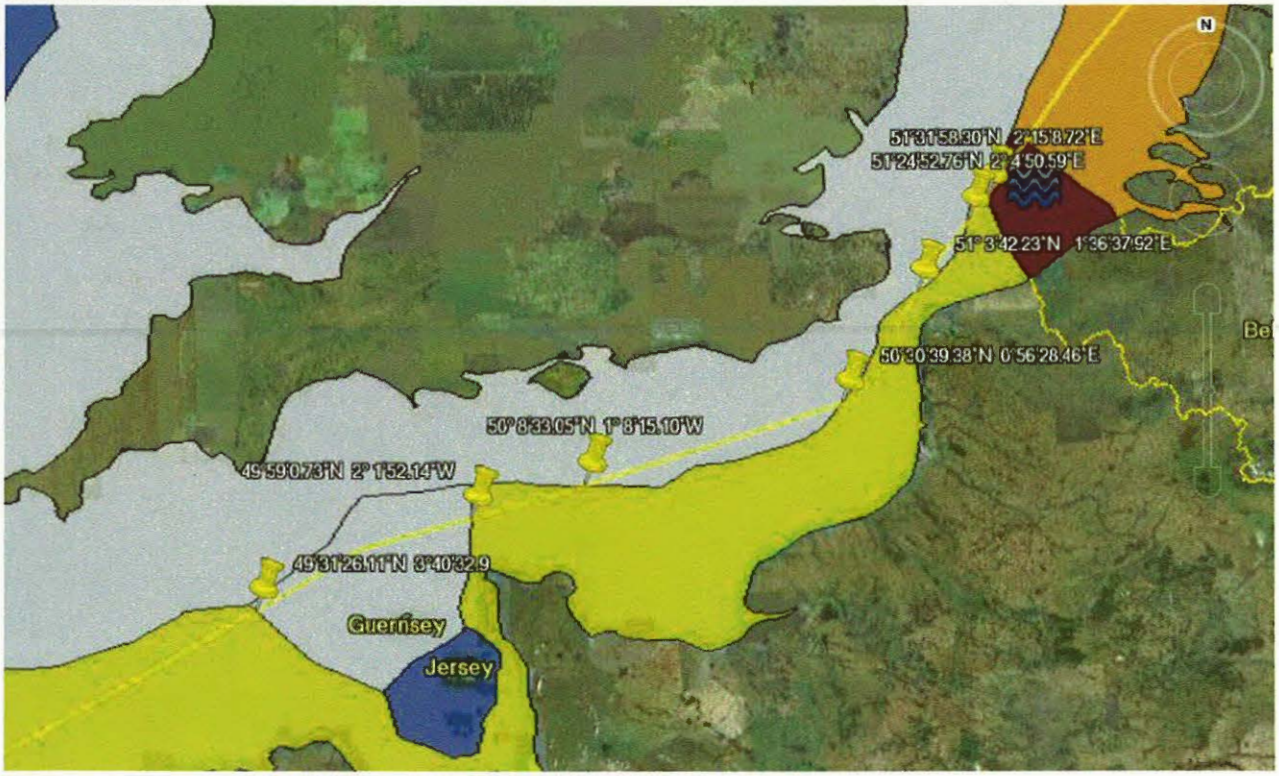

Fig. 2. First part of cruise track from Bremerhaven to Cape Town.

Attachment III

No.	Name	*IMO Class*	*UN Code*	*Amount*
1	Liquid nitrogen	2,2	1977	200 L
2	Mercury-chloride-solution	6,1	1624	100 mL
3	Magnesium-perchlorate-hydrate	5,1	1475	500 g
4	Acetone	3	1090	2 L
5	Isopropanol	3	1219	2 L
6	o-phosphoric acid	8	1805	500 mL
7	Magnesium Perchlorate	5,1	1475	500 g
8	Helium compressed	2,2	1046	4 size A cyl.
9	Nitrogen compressed	2,2	1066	2 size A cyl.
10	Air compressed	2,2	1002	3 size A cyl.
11	Air compressed	2,2	1002	2 x 34 L
12	Hydrogen compressed	2,1	1049	2 size A cyl.

Attachment IV

Station no	time	lat/lon	measurements	comments
1	31.10.2011-01.11.2011	45°30'N – 46°30'N 7°W – 4°W	CTD-rosette water cast, Hydrosweep	Location 1
2	01.11.2011-02.11.2011	45°30'N – 46°30'N 7°W – 4°W	CTD-rosette water cast Hydrosweep	Location 2
3	03.11.2011-04.11.2011	45°30'N – 46°30'N 7°W – 4°W	CTD-rosette water cast Hydrosweep	Canyon de Noirmoutier
4	08.11.2011	36°3.45'N 12°59,23'W	Posidonia Calibration + CTD-rosette water cast and velocity sound profile	Ampèr Seamount
5	25.11.2011	20° 58.90' S 05° 59.59' E	Mooring for whale observation	