Application for Consent to conduct
Marine Scientific Research

Date: 20. Nov. 2014

1. General Information

1.1 Cruise name and/or number: ALKOR No. AL436

1.2 Sponsoring Institution(s):	
Name:	GEOMAR Helmholtz Centre for Ocean Research Kiel
Address:	Wischhofstr. 1-3, 24148 Kiel Germany
Name of Director:	Prof. Dr. Peter Herzig

1.3 Scientist in charge of the Project:	
Name:	Dr. Olaf Pfannkuche
Country:	Germany
Affiliation:	GEOMAR Helmholtz Centre for Ocean Research Kiel
Address:	Wischhofstr. 1-3, 24148 Kiel, Germany
Telephone:	+49 -431 600 2113
Fax:	+49 -431 600 2928
Email:	opfannkuche@geomar.de
Website (for CV and photo):	www.geomar.de

1.4 Entity(ies)/Participant(s) from coastal State involved in the planning of the project:	
Name:	--------
Affiliation:	
Address:	
Telephone:	
Fax:	
Email:	
Website (for CV and photo):	

2. Description of Project

2.1 Nature and objectives of the project:
Cruise ALKOR 436 is dedicated to the testing of a new flexible monitoring tool for environmental parameters such as off shore gas concentrations which is constructed and build in the framework of the German nationally funded project “FlexMoT”. For the testing of the first prototype a strong sea floor source of methane is required. The well site 22/4b in the British EEZ is such a place with a permanent gas flow from the sea floor to the atmosphere. The well site 22/4b has been intensively studied by our institution during previous research cruises with the German RV ALKOR (Cruise No.: 66, 259, 290, 374, 387). During cruise AL 436 some short surveys with CTD/ water sampler and deployments of the FlexMoT observation system and a small lander for control measurements are planned. No permanent deployments of instruments are intended. The water column and seafloor in the vicinity of the outcropping gas flare will be monitored with single beam echo-sounder and TV-cameras mounted to a towed frame, respectively. Water samples will be obtained from Rosette water sampler profiles for methane measurements (headspace analysis). A small bottom lander will be deployed for the residence time of the vessel to measure currents and methane at the sediment water interface. The new environmental observation instrument (a bottom frame) will be deployed

and the integrated water column module which profiles the water column measuring methane and CTD is tested. Some surficial sediment samples will be taken with a small multicorer

2.2 If designated as part of a larger scale project, then provide the name of the project and the Organisation responsible for coordinating the project:
"FlexMoT" sponsored by German National Ministry of Economics

2.3 Relevant previous or future research projects:
Cruises ALKOR No. 66, 259, 290, 374 and 387 lead by IFM-GEOMAR (since 2012 GEOMAR) were conducted at the UK 22/4b well site.

2.4 Previous publications relating to the project:
Rehder, G., R.S. Keir, E. Suess, T. Pohlmann (1998). The multiple sources and patterns of methane in North Sea waters. Aquatic Geochem., 4, 403-429.

CSRs & Reports of cruises ALKOR No.:66, 259, 290, 374 and 387

3. Geographical Areas

3.1 Indicate geographical areas in which the project is to be conducted (with reference in Latitude and longitude in decimal degrees, including coordinates of cruise/track/way points/sampling stations). Please provide coordinates in a separate excel spreadsheet.

North Sea, limits:
57.663N / 01.413E; 57.763N / 01.920E; 58.035N/ 01.920E; 58.035N / 01.413E.

Our activities in the EEZ of the UK will be restricted to the vicinity of the abandoned well location 22/4b (Position: 57.916N /01.633E).
Work permission is requested within a radius of at least 5 nautical miles around the mean position. Further details are presented on the attached map.

Track ways and sampling points depend on local wind and current direction which determine the direction of the gas plume

3.2 Attach chart(s) at an appropriate scale (1 page, high-resolution) showing the geographical Areas of the intended work and, as far as practicable, the location and depth of sampling Stations, the tracks of survey lines, and the locations of installations and equipment.
Chart attached.

4. Methods and means to be used

4.1 Particulars of vessel:	
Name:	**ALKOR**
Type/Class:	RV
Nationality (Flag State):	German
Identification Number (IMO/Lloyds No.):	8905880
Owner:	Ministerium für Wissenschaft und Wirtschaft des Landes Schleswig-Holstein vertreten durch das GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel Wischhofstraße 1-3

	24148 Kiel
Operator:	GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel Wischhofstraße 1-3 24148 Kiel
Overall length (meters):	54,60 m
Maximum draught:	03,95m
Displacement/Gross Tonnage:	1000 BRZ
Propulsion:	Diesel Electric
Cruising & maximum speed:	10 kn, 12,5 kn
Call sign:	DBND
INMARSAT number and method and capability of communication (including emergency frequencies):	**Telephone:** 00870764549982 Telefax: 00870764549984 Mobile GSM: 0049 1714104627
Name of Master:	Jan Lass
Number of Crew:	11
Number of Scientists on board:	12

4.2 Particulars of Aircraft:	
Name:	
Make/Model:	
Nationality (flag State):	
Website for diagram & Specifications:	
Owner:	
Operator:	
Overall Length (meters):	
Propulsion:	
Cruising & Maximum speed:	
Registration No.:	
Call Sign:	
Method and capability of communication (including emergency frequencies):	
Name of Pilot:	
Number of crew:	
Number of scientists on board:	
Details of sensor packages:	
Other relevant information:	

4.3 Particulars of Autonomous Underwater Vehicle (AUV):	
Name:	
Manufacturer and make/model:	
Nationality (Flag State):	
Website for diagram & Specifications:	
Owner:	
Operator:	
Overall length (meters):	
Displacement/Gross tonnage:	
Cruising & Maximum speed:	
Range/Endurance:	
Method and capability of communication (including emergency frequencies):	
Details of sensor packages:	
Other relevant information:	

4.4 other craft in the project, including its use:

4.5 Particulars of methods and full description of scientific instruments to be used(for fishing gear specify type and dimension)			
Types of samples and Measurements:	Methods to be used:	Instruments to be used:	To be carried out within 12nm (yes or no):
Water	Water bottles	CTD/Rosette water sampler	no
Sediment	Surficial sediment coring (30cm)	Multiple corer	no
Gas measurements	Head space analysis, sensors	Rosette water sampler Lander integrated sensors	no
Conductivity, temperature, pressure	sensors	CTD/ Rosette water sampler Lander integrated sensors	no
Current direction and velocity	ADCP	Lander integrated instrument	no
Pictures & Videos	Cameras	Towed Frame	no

4.6 Indicate nature and quantity of substances to be released into the marine environment:
No substances are released into the water

4.7 Indicate whether drilling will be carried out. If yes, please specify:
no

4.8 Indicate whether explosives will be used. If yes, please specify type and trade name, Chemical content, depth of trade class and stowage, size, depth of detonation, frequency of Detonation, and position in latitude and longitude:
none

5. Installations and Equipment

Details of installations and equipment (including dates of laying, servicing, method and Anticipated timeframe for recover, as far as possible exact locations and depth, and Measurements):
The FlexMoT test frame is deployed several times to the sea floor. A small lander with CTD and ADCP is deployed for 3 days. Deployment positions depend on the gas plume behaviour. No long term deployments of instruments are planned.

6. Dates

6.1 Expected dates of first entry into and final departure from the research area by the research vessel and/or other platforms:
First entry: 04-05-14 Final departure: 08-05-14
6.2 Indicate if multiple entries are expected:
----

7. Port Calls

7.1 Dates and Names of intended ports of call:
No port of call in the UK

7.2 Any special logistical requirements at ports of call:

7.3 Name/Address/Telephone of shipping agent (if available):
------

8. Participation of the representative of the coastal State

8.1 Modalities of the participation of the representative of the coastal State in the research Project:
The participation of an representative of the coastal state is possible

8.2 Proposed dates and ports for embarkation/disembarkation:
(a) 01-05-2014 Kiel, Germany (b) 09-05-2014 Kiel, Germany

9. Access to Data, Samples and Research Results

9.1 Expected dates of submission to coastal State of preliminary report, which should include The expected dates of submission of the data and research results:
CSR three month after the cruise

9.2 Anticipated dates of submission to the coastal State of the final report:
CSR three month after the cruise

9.3 Proposed means for access by coastal State to data (including format) and samples:
SeaDataNet: (http://seadata.bsh.de/csr/retrieve/sdn2_index.html).

9.4 Proposed means to provide coastal State with assessment of data, samples and Research results:
PANGAEA Open Access library: http://www.pangaea.de/

9.5 Proposed means to provide assistance in assessment or interpretation of data, samples And research results:
Contact chief scientist (e-mail)

9.6 Proposed means of making results internationally available:
Scientific literature and presentations on international symposia

10. Other permits Submitted

10.1 Indicate other types of coastal state permits anticipated for this research (received or Pending):
none

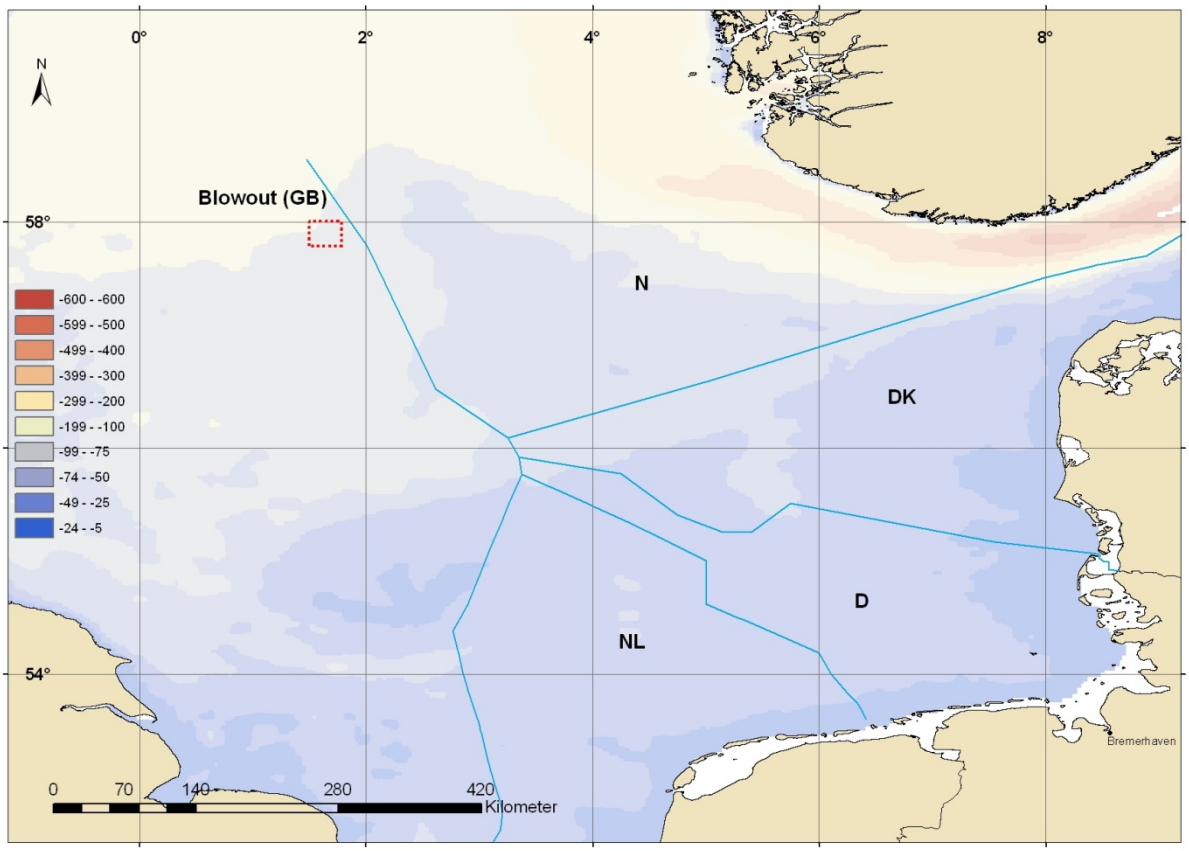
11. List of Supporting Documentation

11.1 List of attachments, such as additional forms required by the coastal State, etc.:
Station map

Signature: ppa

GEOMAR
Helmholtz-Zentrum
für Ozeanforschung Kiel
Forschungsschiffe
Wischhofstraße 1-3
24148 Kiel

Contact information of the focal point:
Name: Dr. Klas Lackschewitz
Country: Germany
Affiliation: GEOMAR Helmholtz-Zentrum für Ozeanforschung Kiel
Address: Wischhofstraße 1-3, D-24148 KIEL, Germany
Telephone: +49 (0)431- 600 – 2132/ 1542
Fax: +49 (0)431- 600 – 2680
Email: klackschewitz@geomar.de



INTENDED WORKING AREA DURING CRUISE ALKOR 436: Requested working area in the EEZ of the UK is the abandoned well site 22/4b.

Coordinates of the well site 22/4b (central position): 57.916N / 01,633 E

Coordinates of requested working area (Blowout):
57.663N / 01.413E;
57.763N / 01.920E;
58.035N/ 01.920E;
58.035N / 01.413E.