Report of VALDIVIA cruise 161/2

## A. Cruise narrative

Ship: Valdivia

Cruise number: 161, leg 2

Expocode 06AZ161_2

Cruise dates: start on 19 August 1996 in St. John's (Canada),
end on 5 September 1996 in Bremerhaven (Germany).

Chief scientist: Manfred Bersch,
Institute of Oceanography
University of Hamburg
Troplowitzstr. 7
22529 Hamburg, Germany.

Scientific objective: hydrographic repeat of WOCE section A1E/AR7E.

Cruise track: St. John's - Cape Farvel - Irminger Sea - Reykjanes Ridge at 59 N - Iceland Basin - Southwestern slope of Rockall Plateau - Porcupine Bank - English Channel - Bremerhaven

Total number of stations: 56, with CTD/rosette.

Cruise participants:

| **name** | **institute** | **responsibility** |
|---|---|---|
| Manfred Bersch | IfM | chief scientist |
| Joerg Feldt | IfM | CTD |
| Michael Fick | IfM | CTD |
| Chris Goodman | UEA | oxygen isotopes |
| Kai Logemann | IfM | CTD |
| Klaus Schulze | IfM | CTD |
| Norbert Verch | IfM | salinometer |
| Rainer Weigle | IfM | CTD |
| Sofie Woelk | IfM | CTD |

IfM: Institut fuer Meereskunde der Universitaet Hamburg
Troplowitzstr. 7
22529 Hamburg, Germany
UEA: School of Environmental Sciences
University of East Anglia
Norwich, NR4 7TJ
United Kingdom

Notes: - Stations No. 3 to 56 were located along WOCE section A1E/AR7E.

## B. Measurement techniques

CTD: Seabird 911 plus. Continuous profiles of pressure, temperature, conductivity, and oxygen down to about 25 m above the sea bottom. The sample frequency was 24 Hz. Downcast velocities were between 0.5 and 1.0 m/s. The sensors are regularly calibrated in the laboratory.

ROS: Seabird rosette. At each CTD station water samples from up to 12 different depths were taken during the upcast for the determination of salinity and concentrations of oxygen isotopes. Altimeter: The CTD/rosette was equipped with an altimeter, measuring the distance to the sea bottom.

Mechanical thermometers: Gohla reversing thermometers. Fixed to selected water bottles of the rosette for the determination of temperature and pressure at different depths.

Analysis of water samples:

salinity: Guildline Autosal salinometer, using standard seawater.

oxygen isotopes: the water samples were stored for later analysis.

ADCP: RDI 153 kHz Acoustic Doppler Current Profiler, recording continuously the water velocity relative to the ship in the upper 500 m. A sampling interval of 6 minutes and a depth interval of 16 m were chosen. Data from the GPS navigation and the ship's gyro were stored together with the ADCP data to obtain the absolute water velocity.

Navigation: Global Positioning System (GPS). Bottom depth: ELAC echo-sounder.

Notes: - 3 CTD/rosette casts were run for test and calibration purposes.