FRANKLIN

National Facility
Oceanographic Research Vessel

A Geophysical Survey on the Continental Shelf and Abyssal Plain off Eyre Peninsula, S.A.

CRUISE PLAN
R/V FRANKLIN
FR 06/98

Depart Adelaide 1000 25 May 1998
Arrive Portland 1000 29 May 1998

Principal Investigators

Dr Antony White
School of Earth Sciences
Flinders University

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Itinerary

Depart Adelaide 1000 Monday 25 May 1998
Arrive Portland 1000 Friday 29 May 1998

Title

A Geophysical Survey on the Continental Shelf and Abyssal Plainoff Eyre Peninsula, S.A.

Principal Investigators

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Scientific Objectives

To investigate the marine extension of the Eyre Peninsula conductivity anomaly, a major geological feature in the earth's crust south of Eyre Peninsula by making magnetotelluric observations on the sea floor. Up to 16 self-contained instrument packages will be deployed and left to record for 2 months and will be recovered on FR 06/98.

In addition an array of electrodes will be towed behind the research vessel to measure the electric self-potentials (SP) which may be related to mineralisation or tectonic structures in the sea floor. Two areas are of interest; one to the south of Eyre Peninsula where a number of major tectonic features cross the continental shelf, and the other in Spencer Gulf to examine large magnetic anomalies related to offshore mineralisation.

Cruise Objectives

The 17 ocean floor MT instrument packages (OBEM's) were deployed in an array south of Eyre Peninsula extending into deep water at the bottom of the continental shelf. The OBEM's are free fall, self contained recording packages which will be acoustically recalled on the recovery cruise FR 06/98. The sole objective is to recover all these instruments from the sea bed.

Cruise Track

An approximate cruise track is shown in the attached diagram.

ORV Equipment

The cruise projects will require:

- Underway GPS, sounder, ADCP logging
- One hull transducer to be available for acoustic transmission/reception (9-15 KHz).
- Portable container on back deck for use as lab space.
- Deckspace for storage of up to 16 OBEM's prior to deployment.
- Towing winch/drum on back deck.

User Equipment

The following equipment will be brought on board:

- Approx 17 Ocean bottom magnetometer/electrometers (OBEM's) will be recovered from the seabed during the cruise.
- Acoustic deck unit/transducers.

Time Estimates

Approx	
1000 May 25 - 0200 May 26	Steam Pt Adelaide - Start of recovery site (180 n.m.)
0200 May 26 - 0400 May 28	Shiptrack plan (300 - 400nm) plus 17 sites 0.5 - 1hour each
1400 May 28 - 1000 May 29	Steam to Portland

Personnel List

Dr Antony White	Flinders University, Chief Scientist
Dr Graham Heinson	Flinders University
Dr F E M (Ted) Lilley	RSES, ANU
Ms Debbie Clarke	Flinders University, Student
Ms Paula Hahesy	Flinders University student
Mr Adrian Costar	Flinders University student
	Flinders University student
	Flinders University student
Mr Adrian Hitchman	RSES, ANU
Dr Saturo Yamaguchi	Kobe University
Mr Lindsay Pender	CSIRO ORV, Cruise Manager
Mr Erik Madsen	CSIRO ORV

This cruise plan is in accordance with the directions of the National Facility Steering Committee for the oceanographic research vessel Franklin.

Dr. Nan Bray
Chief
CSIRO Division of Marine Research

January 1998