CRUISE PLAN

R.V. 'FRANKLIN'

FR 9/86

ORIGINAL

DJM/NP

September 1986

CRUISE PLAN
R.V. 'FRANKLIN'
FR 9/86

ITINERARY

Depart Hobart:	1100 hrs	Tuesday 4 November 1986
Arrive Hobart:	0600 hrs	Friday 21 November 1986
Depart Hobart:	1200 hrs	Friday 21 November 1986
Arrive Georgetown: (for Launceston)	2000 hrs	Saturday 22 November 1986

SCIENTIFIC PROGRAM

1. Investigate horizontal and vertical distributions of copper complexing capacity on both sides of the convergence.

2. Collect water samples for As and I determinations.

3. Collect samples for trace metal analysis using clean techniques.

4. Investigate biological productivity of near surface waters and carbon assimilation pathways using ^{14}C.

5. Collect samples of particulate matter for the analysis of lipids, pigments and total CHN.

6. Collect samples for the analysis of dissolved organic carbon and use hydrophobic adsorbents (XAD-2, C18 SEP-PAK, styragel SEP-PAK) to obtain subsamples for analysing by GC-MS, FT-IR and HPLC-AF.

7. Test pH sensor on CTD unit 1 and obtain vertical profiles of pH.

8. Test the deployment of Variosens III on the CTD unit - probably with an underwater power supply and submersible data logger. Use the Variosens to obtain information on the horizontal and vertical distribution of phytoplankton and total suspended matter.

9. Test system for continuous monitoring of surface pH, fluorescence and temperature.

10. Collect samples for the analysis of total bacteria and particle size distribution.

11. Collect zooplankton samples for characterization.

12. Collect phytoplankton and samples for microscopic analysis.

PRINCIPAL INVESTIGATORS

Dr Denis Mackey
Dr Eric Lindstrom
Dr John Volkman
Dr Ed. Butler
Dr Peter Nichols

CSIRO Division of Oceanography
GPO Box 1538
HOBART TASMANIA 7000
Tel: (002) 206 280

Dr Dave Thomas
Department of Botany
University of Tasmania
GPO Box 252
HOBART TASMANIA 7000

CRUISE TRACK

Steam directly to 55°S, 155°E and then south along 155°E to about 200 km south of the Antarctic Convergence. The ship will then steam north along 155°E collecting samples at dawn and at 0.5° intervals. The sampling routine will depend strongly on weather conditions.

O.R.V. EQUIPMENT REQUIRED

1. CTD unit 1 with pH sensor fitted
2. Clean container
3. Biological container
4. Clean cabinet
5. Turner fluorometer (output to be logged continuously)
6. Variosens III fitted to CTD unit
7. Precision depth recorder
8. G.P.S. navigation
9. Freezer
10. Milli-Q and RO4 water supply
11. Scintillation counter
12. Autoanalyser/Salinometer/dissolved oxygen
13. Ship's refrigerator for storage of seawater samples
14. XBTs
15. Thermosalinograph
16. Acoustic doppler current profiler
17. CTD unit 2

EQUIPMENT PROVIDED BY USERS

1. pH meter fitted in to Turner fluorometer line (output to be logged continuously)
2. Teflon coated niskin bottles
3. Pressure system for clean sampling.
4. Seastar samplers (including elution apparatus)
5. Underwater power supply and SDL for use with Variosens III
6. Microscope
7. Liquid nitrogen dewars
8. Iatroscan
9. Benchtop centrifuge

PERSONNEL

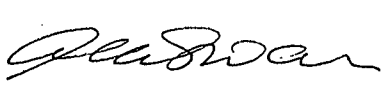
CSIRO

Denis Mackey - (Chief Scientist)
Eric Lindstrom
John Volkman
Peter Nichols
Edward Butler
Harry Higgins
David Everitt
Gary Critchley
Ron Plaschke - (ORV hydrology)
Eric Madsen - (ORV electronics)
Bob Beattie - (ORV computing)

University of Tasmania

Dave Thomas

This Cruise Plan is in accordance with the directions of the National Facility Steering Committee for the oceanographic research vessel RV 'FRANKLIN'.



A.D. McEwan
CSIRO Division of Oceanography

D.H. Green
National Facility Steering Committee