

FRANKLIN

National Facility
Oceanographic Research Vessel

**WATER CHEMISTRY AND SEDIMENT MINERALOGY OFF THE GBR
RV FRANKLIN**

CRUISE FR 01/97

Sail: Cairns, QLD 1000 hours Thursday, Jan. 9, 1997
Dock: Sydney, NSW 1000 hours Thursday, Jan. 23, 1997

CHIEF INVESTIGATOR

Dr. Bradley N. Opdyke

The Australian National University

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RV FRANKLIN
RESEARCH PLAN
CRUISE FR 01/97

Itinerary:

Sail: Cairns, QLD 1000 hours Thursday, Jan. 9, 1997
Dock: Sydney, NSW 1000 hours Thursday, Jan 23, 1997

Principal Investigator:

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Scientific Objectives:

- 1) Search for geochemical signals for shallow water sediment dissolution off the GBR
- 2) Gravity Core for Paleoceanographic Research and sediment response to changing saturation state of the sea water.

Sampling Methods:

We hope to collect:

- Approximately 40 Gravity cores (GC)
- Approximately 35 CTD profiles
- Approximately 12 Grab samples
- Grab samples will be taken where gravity coring is not successful

The area of operation includes the Queensland Plateau, GBR from Cairns to Capricorn -Bunker region and Lord Howe Rise to just south of Lord Howe Island.

Cruise Track and Time Estimates:

The following Table outlines the intended cruise plan. Variations may be necessary due to new findings or unforeseen difficulties.

DATE	DEPARTURE TIME	SITE	TRANSIT TIME (hrs)	CO-ORDS	DEPTH	SITE ACTIVITY
9-1-97	1000	Cairns				
9-1	1500	1	4	16.22 S 146.00 E	200	CTD, GC
9-1	1800	2	1	16.10 S 146.00 E	1000	CTD, GC

DATE	DEPARTURE TIME	SITE	TRANSIT TIME (hrs)	CO-ORDS	DEPTH	SITE ACTIVITY
10-1	1200	3	18	15.00 S 149.00 E	1500	GC, CTD,
10-1	1930	4	4.5	15.50 149.50	1000	GC, CTD
11-1	0030	5	4	15.8 150.00	<1000	Grab (GC)
11-1 CTD	0330	6	1	16.00 150.00	<1000	Grab(GC),
11-1 CTD	0600	7	1.5	16.22 150.20	<1000	Grab(GC),
11-1 CTD	1200	8	4	16.90 150.20	<1000	Grab(GC),
11-1 CTD	1700	9	5	17.43 150.00	<1000	Grab (GC),
11-1	2200	10	2	17.43 150.34	<1000	Grab (GC),
12-1 CTD	0200	11	2	17.43 150.70	<1000	Grab (GC),
12-1 CTD	0700	12	3	17.43 151.16	<1000	Grab (GC),
12-1 CTD	0900	13	1	17.43 151.40	<1000	Grab(GC),
12-1 CTD	1600	14	3	17.16 151.8	<1000	Grab(GC), Zodiac to Cay for sediment
12-1 CTD,	1900	15	1.5	17.00 151.8	<1000	Grab (GC),
13-1	0100	16	4	17.00 152.5	1300	GC, CTD
13-1	1200	17	9	18.45 152.26	2000	GC, CTD
13-1	1730	18	3.5	19.0 152.00	800	GC, CTD
14-1	0130	19	6	20.00 152.00	500	GC, CTD
14-1	0930	20	6	21.00 152.00	100	GC, CTD
14-1	1630	21	5	21.00 153.00	400	GC, CTD

DATE	DEPARTURE TIME	SITE	TRANSIT CO-ORDS TIME (hrs)	DEPTH	SITE ACTIVITY
14-1	2330	22	5 21.70 153.59	200	GC, CTD
15-1 (GC),CTD	1000	23	10 22.50 152.00	100	Grab
15-1	1700	24	5 23.00 152.90	400	GC, CTD
15-1	2300	25	5 23.66 153.6	1000	GC
16-1	0400	26	3 24.00 154.00	2000	GC, CTD
16-1	0800	27	1 24.11 154.1	3000	GC, CTD
17-1	1600	28	30 24.00 160.00	2000	GC, CTD
18-1	0000	29	6 25.00 160.00	2000	GC, CTD
18-1	0800	30	6 26.00 160.00	2000	GC, CTD
18-1	1600	31	6 27.00 160.00	2000	GC, CTD
18-1	2300	32	6 28.00 160.00	2000	GC
19-1	0600	33	6 29.00 160.00	2000	GC, CTD
19-1	1400	34	6 30.00 160.00	2000	GC, CTD
19-1	2200	35	6 31.00 160.00	2000	GC, CTD
20-1	0400	36	6 31.50 159.00	1500	GC, CTD
20-1	1200	37	4 32.00 159.50	2000	GC, CTD
20-1	2000	38	6 33.00 160.00	2000	GC, CTD

Approximately 40 hour transit to Sydney

The plan has approximately a day of uncommitted time to allow for weather, etc.

ORV EQUIPMENT REQUIRED

All standard systems, including deck laboratory, CTD/XBT and water analysis equipment (salinity and temperature), profiling, winch cables on both the stern and

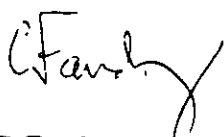
starboard winches are requested. The on-board Smith-MacIntyre grab and Doppler systems are also requested.

PERSONNEL

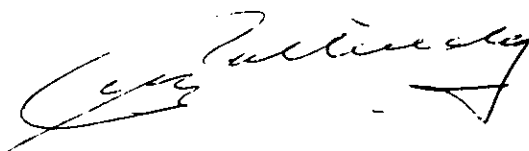
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This cruise plan is in accordance with the directions of the National Facility Steering committee for the oceanographic research vessel *Franklin*.



C B Fandry
CSIRO Division of Oceanography



G W Paltridge
National Facility Steering
Committee

Oct 1996