

FRANKLIN

National Facility
Oceanographic Research Vessel

**Cool-Water Carbonate Sedimentation,
Bonney and Lacedpede Shelves and
Eastern Great Australian Bight**

RESEARCH PLAN

CRUISE FR 03/98

Sail Hobart, Tas.:	0700 Hrs Thurs. 19th March, 1998
Sail Portland, Vic.:	1100 Hrs Sat. 21st March, 1998
Dock Adelaide, SA:	0900 Hrs Tues. 7th April, 1998

Chief Scientist

Dr Yvonne Bone
Dept. of Geology & Geophysics, University of Adelaide, South Australia, 5005

Co-Chief Investigators

Dr Noel P. James
Dept. of Geological Sciences, Queens University, Kingston, Ontario K7L 3N6, Canada
Dr Lindsay B. Collins, Dept. of Applied Geology, Curtin University, Perth, WA

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FRANKLIN is owned and operated by CSIRO

CRUISE PLAN
R. V. FRANKLIN
FR 03/98

Itinerary

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Chief Investigator

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Scientific Program

The specific objectives of this research cruise are to:-

- (1) close the only gap in a survey of the temperate-environment continental shelf, break and slope, from Portland to Ningaloo
- (2) characterise the Holocene sedimentary facies
- (3) analyse the sea-floor waters, in terms of temperature, salinity, oxygen and nutrient levels, pH and transmissivity, and on shore, composition and stable isotopes
- (4) document the nature of the morphology of the shelf, and shelf margin
- (5) ascertain controls governing the distribution of warmer-water large foraminifers, corals, coralline algae and other warm-water biota in the eastern GAB
- (6) document the systematics of the bryozoans, molluscs, foraminifera, sponges, ostracods, crustaceans and deep-water corals present

- (7) document the distribution, food-source and other parameters governing the distribution of the king Crab, *Carcinus gigas*
- (8) collect biota for screening for active metabolites
- (9) ascertain current parameters across the shelf and down the slope margin

The seismic work proposed earlier has had to be abandoned due to the unavailability of the necessary equipment. The time allocated to this facet can now be re-directed to a more rigorous coverage of bottom and water sampling, especially in view of the goals of the individual researchers.

ORV Equipment required

All standard systems, including deck laboratory, ADCP continuously whilst underway, XBT, CTD with light and Fluorometer and water analysis equipment (e.g. nutrient level, salinity, temperature, Dissolved Oxygen etc.), depth sounder, Navigation systems, Thermosalinograph, winch cable on both frames.

Personnel

Yvonne Bone	(University of Adelaide - Chief Scientist)
Noel James	(Queens University, Canada - 2IC, sediments)
Lindsay Collins	(Curtin University - sediments)
Liz Campbell	(University of Adelaide - sea-floor morphology)
Rolf Schmidt	(University of Adelaide - bryozoans)
Kurt Kyser	(Queens University, Canada - geochemist)
Paul Gammon	(Queens University, Canada - forams)
Kirsty Brown	(University of Adelaide - biota, oceanography)
Andrew Levings	(Deakin University - crustaceans)
Ron Plaschke	(CSIRO - Hydrogeochemist)
Dave Vaudrey	(CSIRO - Cruise Manager)
Eric Marsden	(CSIRO - Electronics)

Cruise Track & Time Estimates

PORTLAND/GREAT AUSTRALIAN BIGHT

2,628	nautical miles Precision Depth Profiling (Site A to Site BA)
~480	nautical miles (Site BA to Adelaide)
100	Bottom Sediment Samples
100	CTD Profiles
70	Water Samples
50	Camera Stations

The following cruise plan is a framework within which we intend to operate. The plan will inevitably be modified on the basis of on-site discoveries and weather conditions. The proposed cruise track is attached.

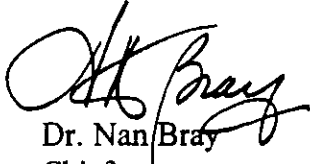
Although the cruise is sailing from Hobart, the scientific crew will board at Portland.

CSIRO RV FRANKLIN CRUISE 03/98 - STATIONS SCHEDULE												
Shelf	Site	Lat. (S)	Long. (E)	Depth (m)	Dist. to site (nm)	Date	Arrival time	Line sed.	Sampling H ₂ O	cam.	extras	
	Port	38°21'	141°36'			21.3.98	11.00.					
Bonney	A	38°24'	141°43'	~30	10	"	12.00.					
	B	38°49'	141°44'	200+	25	"	15.15	1	1	1		
	C	38°26'	141°26'	~30	27	"	18.45	1	1	1		
	D	38°44'	141°19'	200+	10	"	20.45	1	1			
	E	38°11'	141°08'	30+	34	22.3.98	2.45	3	3	3		
	F	38°34'	140°48'	1000	27	"	6.15	1	1			
	G	38°07'	140°46'	~30	21	"	10.15	2	2	1		
	H	38°15'	140°2'	200+	21	"	13.15	1	1	1		
	J	37°45'	140°09'	~30	33	"	17.15	1	1	1		
	K	37°54'	139°49'	200+	22	"	20.15	1	1	1		
	L	37°26'	139°52'	~30	30	23.3.98	0.00.	1	1			
	M	37°34'	139°13'	200+	34	"	6.00.	3	3	1		
	N	37°04'	139°39'	~30	38	"	11.30.	2	2			
	Lacepede	O	37°18'	138°43'	200+	50	"	18.00.	2	2	1	
P		36°17'	139°24'	~30	87	24.3.98	3.00.	1	1			
Q		35°40'	138°50'	30+	37	"	9.30.	3	3			
R		37°00'	137°35'	200+	105	"	21.00.	1	1	1		
S		35°53'	137°55'	~30	70	25.3.98	4.30.	1	1	1		
T		36°05'	137°03'	~30	30	"	9.00.	2	1	1		
U		36°40'	136°48'	~30	22	"	11.00.	2	1	1		
W		36°25'	136°03'	200+	37	"	15.30.	1	1	1		
Lincoln	X	36.07	135°52'	200+	43	"	20.30.	1	1			
	Y	36°03'	135°39'	~80	21	"	23.30.	1	1			
	Z	35°42'	135°34'	200+	12	26.3.98	1.30.	1	1			
	AA	35°24'	134°41'	~80	22	"	4.30.	1	1			
	AB	33°48'	134°58'	200+	48	"	13.00.	4	3			
	AC	35°04'	133°53'	~30	101	27.3.98	1.00.	2	2			
	AD	33°40'	133°55'	200+	97	"	14.00.	4	2	1		
	AE	33°27'	134°44'	~75	84	"	22.30.	1	1	1		
	AF	33°16'	134°20'	~30	46	28.3.98	3.30.	1	1	1		
	AG	34°32'	132°45'	~30	27	"	8.00.	2	2	1		
	AH	32°34'	134°00'	200+	116	"	23.30.	5	2	3		
	AJ	32°43'	133°25'	~20	136	29.3.98	13.00.	1	1			
	GA. Bight	AK	32°18'	133°40'	~30	30	"	16.30.	1	1	1	
		AL	32°12'	133°36'	~30	26	"	20.00.	1	1		
AM		32°24'	133°10'	~30	8	"	21.30.	1	1			
AN		34°07'	132°19'	~30	24	30.3.98	2.30.	3	2	1		
AO		32°09'	132°34'	200+	112	"	16.30.	4	1	1		
AP		33°51'	131°17'	~30	123	31.3.98	3.30.	2	1	1		
AQ		31°44'	131°11'	200+	121	"	20.30.	6	1	1		
AR		31°46'	131°45'	~30	121	1.4.98	8.30.	1	1	1		
AS		32°32'	131°12'	~80	56	"	15.30.	2	1	1		
AT		31°20'	131°10'	~30	63	"	22.00.	1	1	1		
AU		31°50'	130°52'	~30	24	2.4.98	6.00.	6	3	2		
AW		33°30'	130°52'	200+	117	"	17.30.	1	1	1		
AX		33°30'	130°28'	200+	13	3.4.98	1.30.	7	3	7		
AY		31°50'	130°28'	~30	117	"	13.30.	1	1	1		
AZ	31°50'	129°30'	~30	47	"	21.00.	7	3	7			
	BA	33°16'	129°30'	200+	103	4.4.98	8.30.	1	1	1		
TOTAL					2628			100	70	49		

Equipment supplied by Users

Underwater Camera in Frame (X2)
Benthic Sledges (X2)
Beam Trawl
Bleys Dredges (Pipe)
Binocular Microscopes

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



AUSTRALIA, SC

1:3 500 000 (2)

HEIGHTS IN METERS

MERCATOR PROJECTION

Produced under the Superintendence of the Hydrographer, Admiralty, London. Contains latest information in the Hydrographic Survey.

Magnetic Variation Curves

The Magnetic Variation is shown in degrees W, as appropriate, at certain positions or change is expressed in minutes with the brackets, immediately following the variation.

DOUBTFUL DATA. Reported but unconfirmed. Indicated by an encircling dotted line.

CAUTION - NAVIGATION
Only principal lights and radio navigational aids shown.

AUSTRALIAN FISHING ZONES

The outer limit of the Australian Fishing Zone is shown in this chart. The outer limit of the Australian Fishing Zone is subject to adjustment as necessary with the terms of fisheries delimitation agreements arrived at between Australia and other countries.

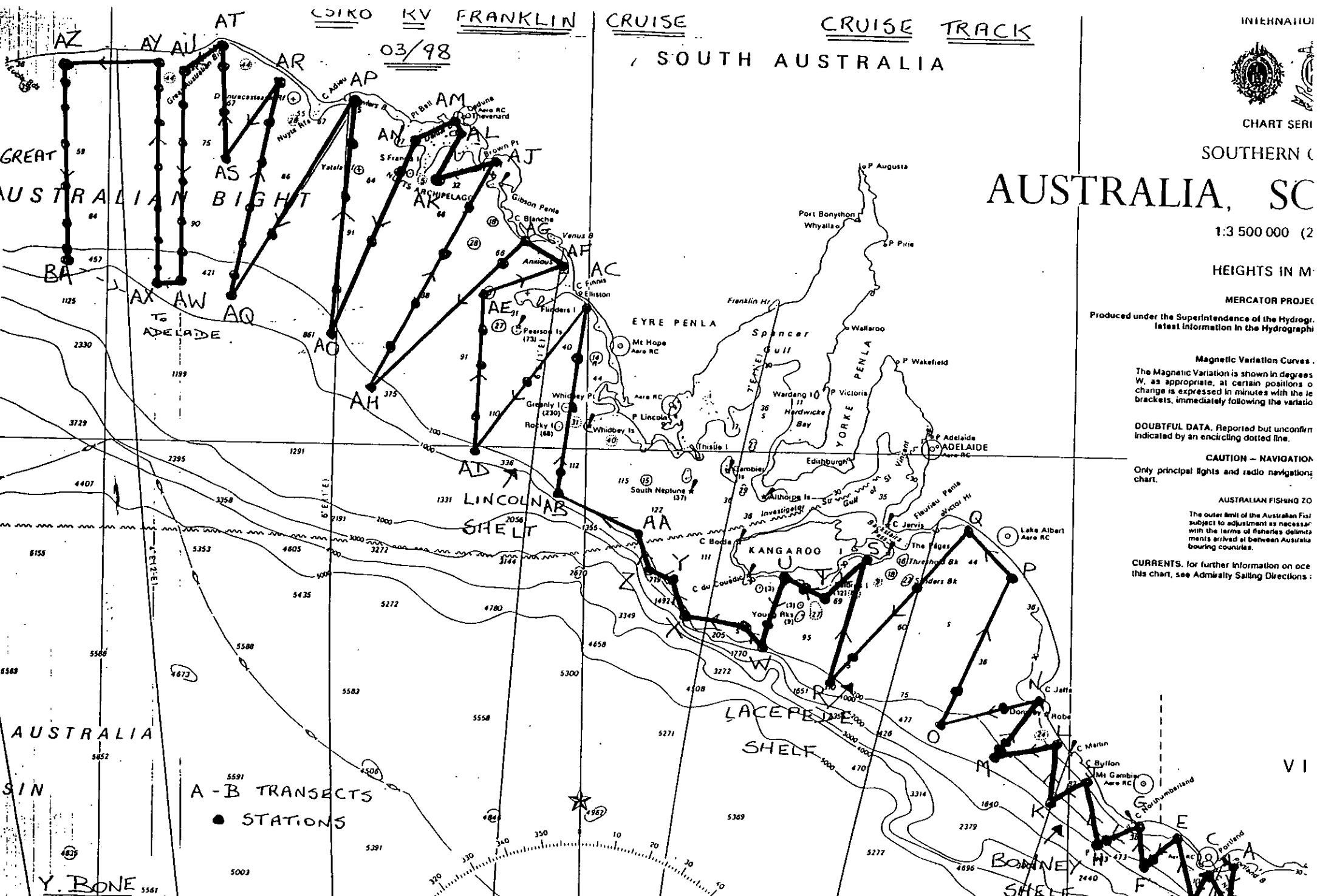
CURRENTS. For further information on ocean currents, see Admiralty Sailing Directions.

CRUISE TRACK

SOUTH AUSTRALIA

CSIRO KV FRANKLIN CRUISE

03/98



A-B TRANSECTS
● STATIONS

Y. BONE
CHIEF SCIENTIST

