

FRANKLIN

National Facility
Oceanographic Research Vessel

HOLOCENE BIOGENIC SEDIMENTATION, NORTHERN ROTTNEST
SHELF, WESTERN AUSTRALIA

RV FRANKLIN
CRUISE FR 01/96

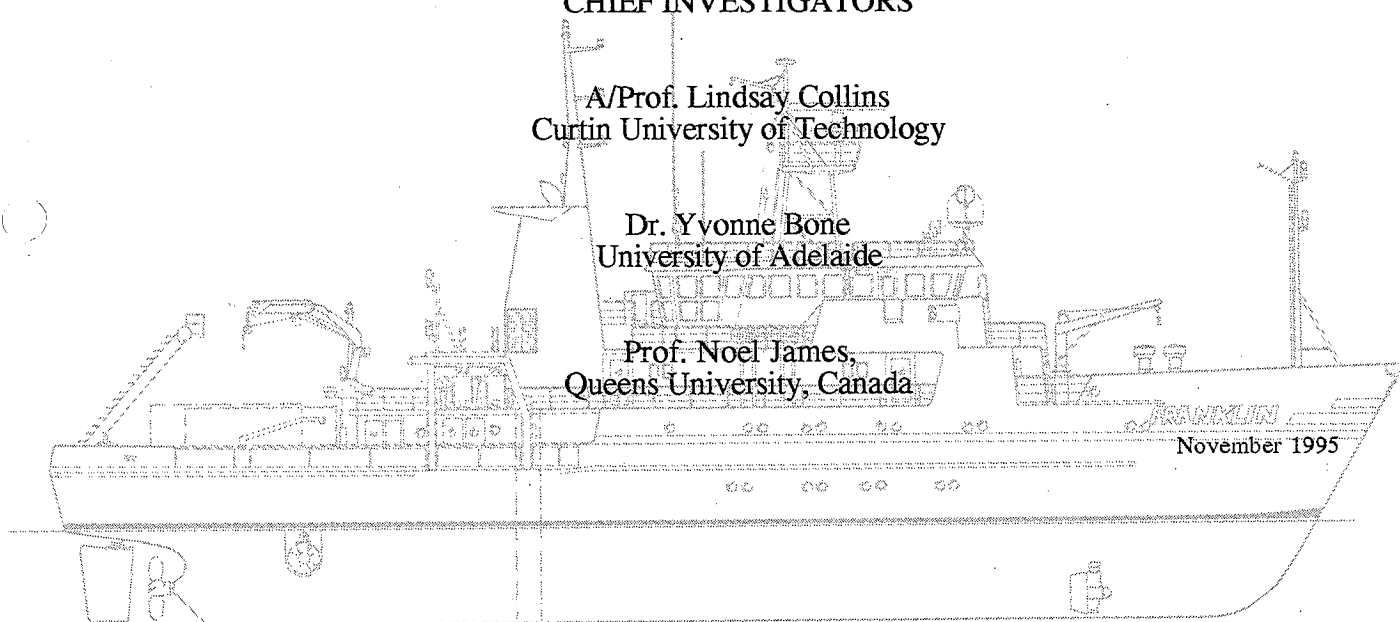
Sail: Fremantle, WA 1000 hours Thursday, January 11, 1996
Dock: Fremantle, WA 1000 hours Monday, January 29, 1996

CHIEF INVESTIGATORS

A/Prof. Lindsay Collins
Curtin University of Technology

Dr. Yvonne Bone
University of Adelaide

Prof. Noel James,
Queens University, Canada



For further information contact:

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FRANKLIN is owned and operated by CSIRO

RV FRANKLIN
RESEARCH PLAN
CRUISE FR01/96

Itinerary:

Sail: Fremantle, WA 1000 hours Thursday, January 11, 1996
Dock: Fremantle, WA 1000 hours Monday, January 29, 1996

Principal Investigators:

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University of Adelaide
South Australia

Prof. Noel James
Department of Geological Sciences
Queens University
Kingston, Ontario, Canada

Scientific Objectives:

The specific objectives of this research project are to:-

- (1) characterise the Holocene sedimentary facies
- (2) document the nature of the shelf margin
- (3) determine the seismic structure of the shelf and margin
- (4) document the distribution of the sediment-forming and related biota, particularly bryozoans, coralline algae, molluscs, forams, and corals
- (5) ascertain the chemical characteristics of the waters on the shelf and margin
- (6) collect biota for screening for active metabolites
- (7) determine roughness characteristics and bedform distribution on the shelf.

Sampling Methods:

The program anticipates the following data will be collected:-

- 1350 nautical miles of Precision Depth Profiling
- 115 bottom sediment samples, and ca. 30 beam trawl samples
- ~100 CTD Profiles, with surface and bottom water samples
- 33 Camera Stations
- 15 Gravity cores
- 9 Seismic Profiles

The area of operation is the continental shelf and slope between Fremantle and Shark Bay.

Cruise Track and Time Estimates:

The following Table is a framework within which we intend to operate. Variations may be necessary to accommodate new findings or other circumstances. The proposed cruise track (attached) is plotted on Charts Aus 416 and 417.

DATE	TIME	SITE	DIST	CO-ORDS	ACTIVITY EN ROUTE
Th 11/1/96	1000hrs	Fremantle Dep			
Th 11/1/96	1430hrs	A	45N.M.	31 43 115 00	SEISMIC LINE S0
Fri 12/1	0330hrs	B	28N.M.	31 27 115 26	6 SAMPLES 6 CTD, 2 CAMERA
Fri 12/1	1130hrs	C	31N.M.	31 14 114 54	3 SAMPLES, 3 CTD, CORES C1(600M) C2(400M)
Fri 12/1	2100hrs	D	24N.M.	31 01 115 15	5 SAMPLES 5 CTD 1 CAMERA
Sat 13/1	0630hrs	E	24N.M.	30 56 114 48	3 SAMPLES 3 CDT
Sat 13/1	2330hrs	F	20N.M.	30 43 115 04	5 SAMPLES 5 CTD 2 CAM SEIS.S1
Sun 14/1	1200hrs	G	33N.M.	30 21 114 36	3 SAMPLES 3 CTD CORES G1(400m) G2(500M) G3(600M)
Sun 14/1	1800hrs	H	20N.M.	30 11 114 56	3 SAMPLES 3 CTD
Mon 15/1	0300hrs	I	29N.M.	29 57 114 25	3 SAMPLES 3 CTD 3 CAMERA
Mon 15/1	1100hrs	J	25N.M.	29 44 114 50	5 SAMPLES 5 CTD
Mon 15/1	1800hrs	K	32N.M.	29 20 114 28	3 SAMPLES 3 CTD
Mon 15/1	2100hrs	L	10N.M.	29 02 114 39	2 SAMPLES 2 CTD
Tues 16/1	2300hrs	M	38N.M.	29 23 114 02	6 SAMPLES 6 CTD 3 CAM. CORES M1(300M) M2(600M) SEIS LINE S2,S3
Wed 17/1	0100hrs	N	27N.M.	29 00 114 36	2 SAMPLES 2 CTD
Wed 17/1	0600hrs	O	5N.M.	28 59 113 51	2 SAMPLES 2 CTD 2 CAMERA
Wed 17/1	1600hrs	P	6N.M.	28 53 113 57	2 SAMPLES 2 CTD 2 CAMERA
Wed 17/1	2300hrs	Q	5 N.M.	28 55 113 43	2 SAMPLES 2 CTD CORE Q1(600M) SEIS.PROFILE S4
Thu 18/1	0400hrs	R	9N.M.	28 49 113 47	2 SAMPLES 2 CTD 1 CAMERA

Thu18/1	0800hrs	S	3N.M.	28 48 114 30	2 SAMPLES 2CTD 1 CAMERA
Thu18/1	1100hrs	T	6N.M.	28 42 113 37	2 SAMPLES 2 CTD
Thu18/1	1400hrs	U	4N.M.	28 44 113 33	2 SAMPLES 2 CTD
Thu18/1	2100hrs	V	7N.M.	28 38 113 28	2 SAMPLES 2 CTD CORES V1(500M) V2(600)
Th18/1	2400hrs	W	22N.M.	28 32 113 52	3 SAMPLES 3 CTD
Fri19/1	0400hrs	X	14 N.M.	28 22 114 03	2 SAMPLES 2 CTD
Fri19/1	1200hrs	Y	33N.M.	27 50 114 03	2 SAMPLES 2 CTD 2 CAMERA
Sat20/1	0500hrs	Z	50N.M.	28 15 113 15	6 SAMPLES 6 CTD SEIS.PROFILE S5
Sat20/1	1900hrs	AA	47N.M.	27 41 112 56	4SAMPLES 4CTD CORES AA1(400M) AA2(500M)
Sun21/1	1500hrs	BB	58N.M.	27 11 113 51	10 SAMPLES 10 CTD 3 CAM
Mon22/2	2200hrs	CC	67N.M.	26 53 112 40	9 SAMPLES 9 CTD 3 CAM CORES CC1(400M) CC2(500M) CC3(600M) SEIS.LINE S6
Tue23/1	1100hrs	DD	43N.M.	26 30 113 20	7 SAMPLES 7 CTD 2 CAMERA
Tue23/1	1800HRS	EE	27N.M.	26 08 113 05	3 SAMPLES 3 CTD 1 CAMERA
Wed24/1	0600hrs	FF	43.NM.	26 11 112 17	6 SAMPLES 6 CTD 2 CAMERA
Wed24/1	1300hrs	GG	43N.M.	25 40 112 13	3 SAMPLES 3 CTD CORE GG1(500M)
Thu25/1	0800hrs	HH	36N.M.	25 36 112 52	6 SAMPLES 6 CTD 3 CAMERA SEIS.LINE S7
Sat27/1	0000hrs	STEAMING	400N.M.		HH toFREMANTLE SEIS.PROFILE S8
Mon29/1	1000hrs	ARRIVE FREM			34hr Weather Downtime allowance

The program may require adjustment depending on (e.g.) the success rate with coring, in which case infill sampling of the more northerly part of the grid may be considered.

NOTE: The sidescan program depends on equipment availability, and the program would be carried out in association with seismic traverses. If the equipment is unavailable, minor changes to the cruise plan and personnel will be necessary.

ORV EQUIPMENT REQUIRED

A copy of equipment previously requested is attached. All standard systems, including deck laboratory, CTD/XBT and water analysis equipment (salinity and temperature), bottom profiling, winch cables on both stern and starboard winches are requested. The on-board Gravity Corer will be utilised. Springers in winch cables will be needed for camera and seismic equipment deployment.

PERSONNEL

Lindsay Collins	Curtin University - Chief Scientist
Yvonne Bone	University of Adelaide - 2IC
Noel James	Queens University
Pamela Hallock Muller	University of South Florida
Geof O'Brien	AGSO(Seismic)
Michael Jamieson	Curtin (sedimentology)
Jeff Strachan	Curtin (Sedimentology)
Tim Conroy	University of Adelaide (bryozoans)
Ken MacNamara	W.A. Museum (biota)
Wayne Arcus	Curtin/Fugro (Sidescan)
Bob Beattie	CSIRO ORV - Cruise Manager
Phil Adams	CSIRO ORV

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



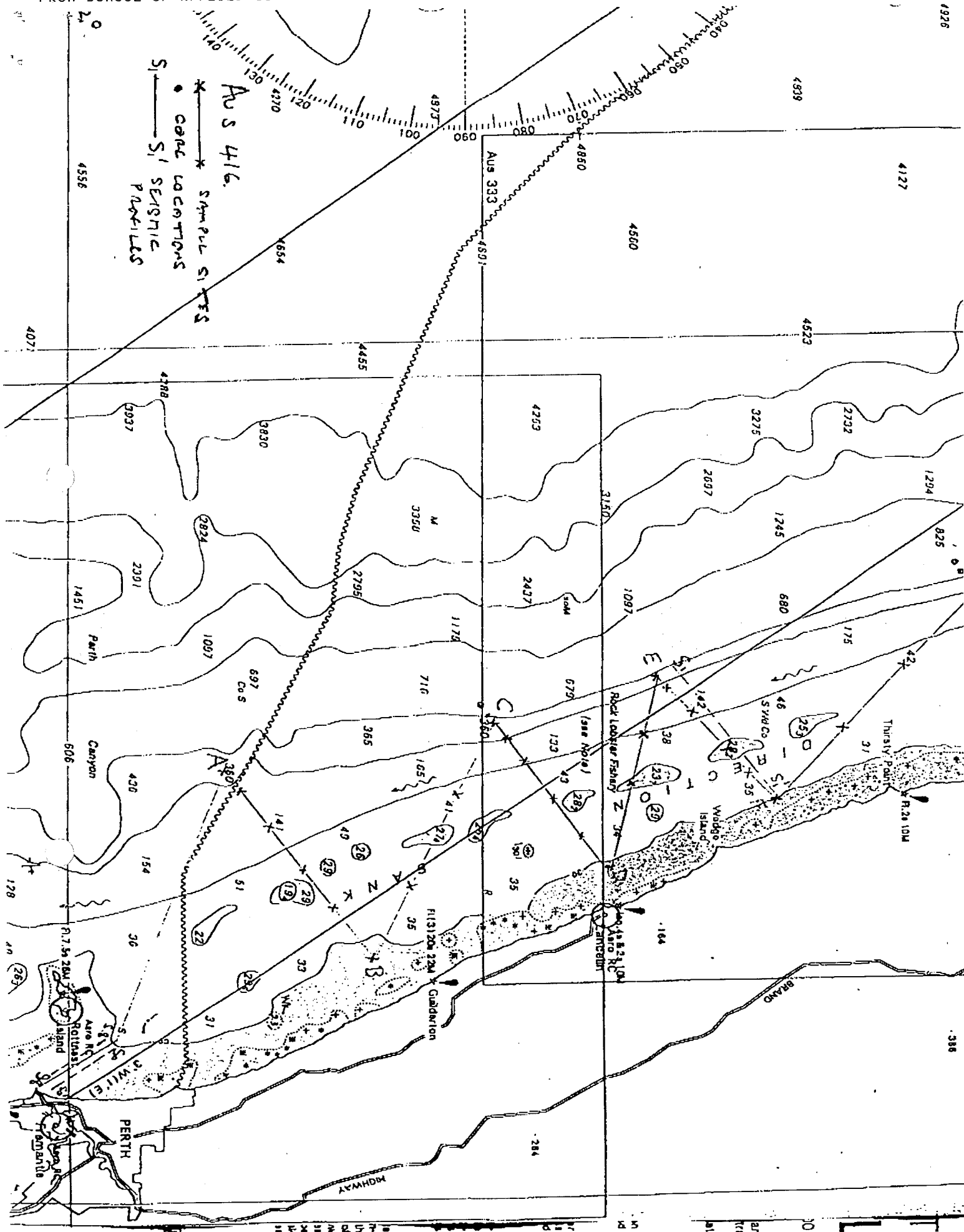
C B Fandry
CSIRO Division of Oceanography



G W Paltridge
National Facility Steering Committee

November 1995

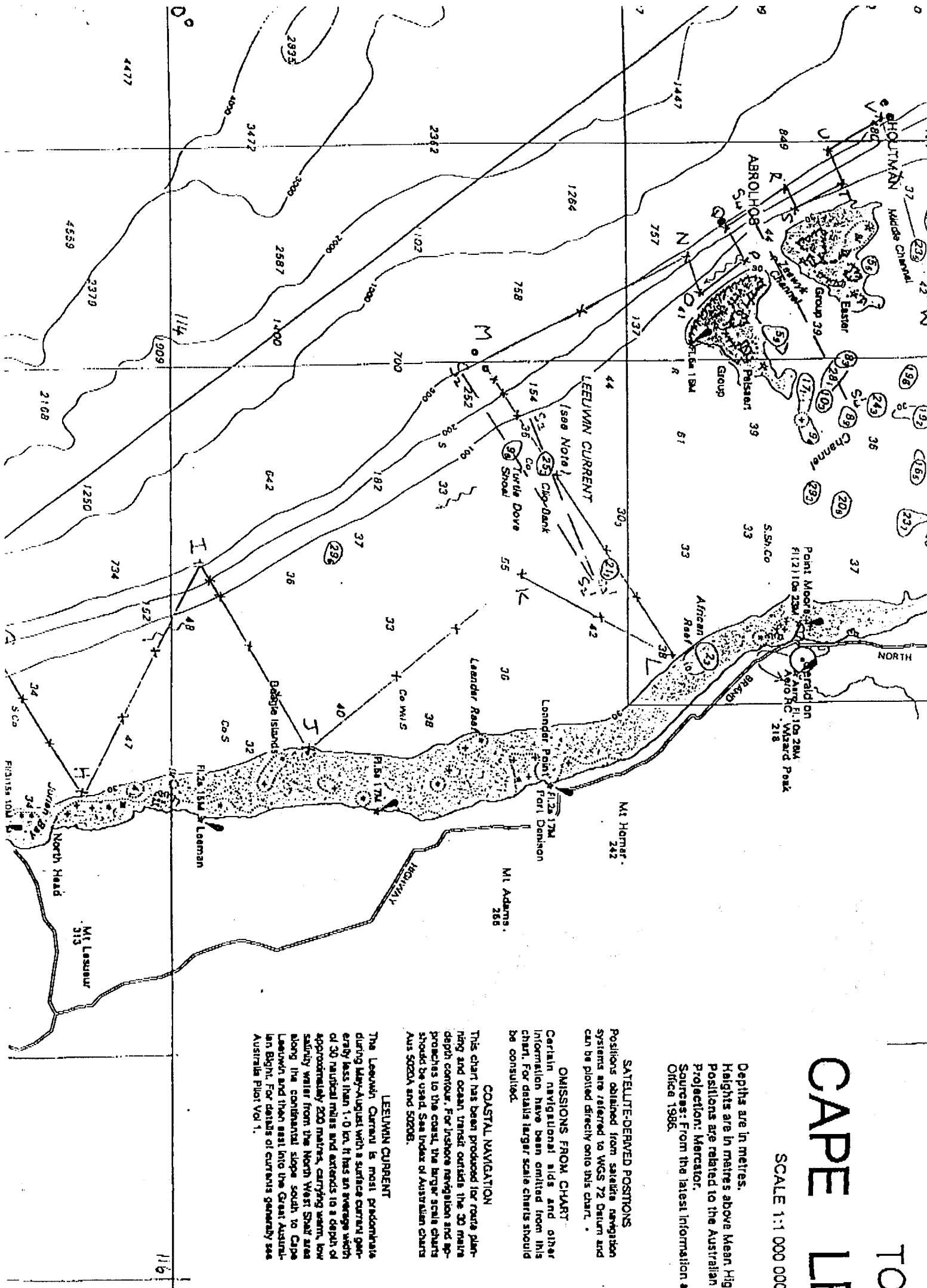
Aus 416.
 * SAMPLE SITES
 ● CORE LOCATIONS
 ——— S1 SEISMIC
 PARALLLS



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SCALE 1:1 000 000

Depths are in metres.
 Heights are in metres above Mean High
 Positions are related to the Australian
 Projection: Mercator.
 Sources: From the latest Information in
 Office 1986.

SATELLITE-DERIVED POSITIONS

Positions obtained from satellite navigation systems are referred to WGS 72 Datum and can be plotted directly onto this chart.

OMISSIONS FROM CHART

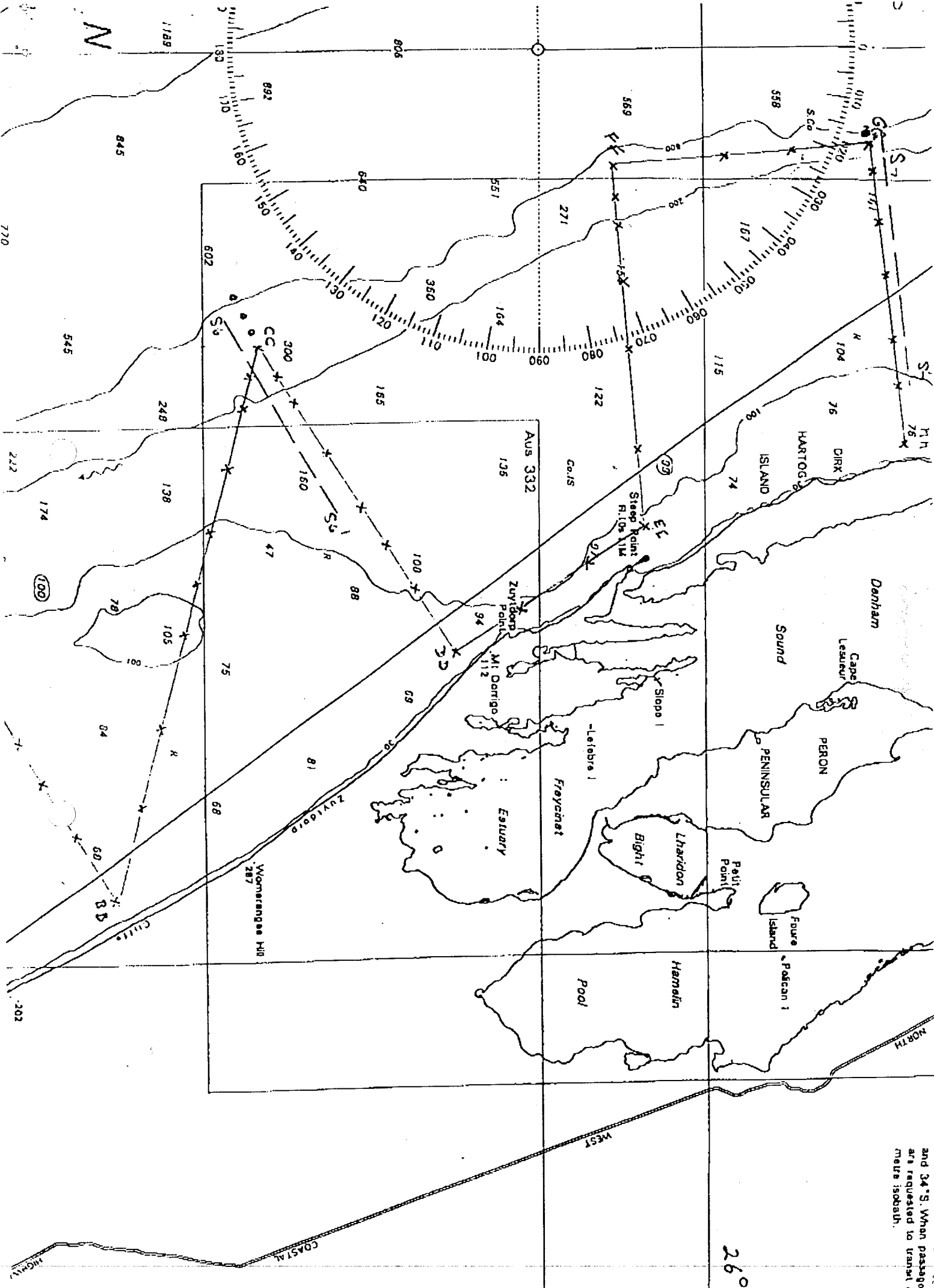
Certain navigational aids and other information have been omitted from this chart. For details larger scale charts should be consulted.

COASTAL NAVIGATION

This chart has been produced for route planning and ocean transit outside the 30 metre depth contour. For inshore navigation and approaches to the coast, the larger scale charts should be used. See Index of Australian Charts AUS 5020A and 5020B.

LEEWIN CURRENT

The Leeuwin Current is most predominant during May-August with a surface current generally less than 1.0 kn. It has an average width of 30 nautical miles and extends to a depth of approximately 200 metres, carrying warm, low salinity water from the North West Shelf area along the continental slope south to Cape Leeuwin and then east into the Great Australian Bight. For details of currents generally see Australia Pilot Vol 1.



and 34° S. When passage
are requested to transit
Mare Isobath.

26°

NORTH

WEST

COASTAL

