

R.V. FRANKLIN

NATIONAL FACILITY OCEANOGRAPHIC RESEARCH VESSEL

RESEARCH CRUISE SUMMARY

R.V. 'FRANKLIN'

FR01/88 ('PACLARK II')

Depart Cairns 1150 Friday January 8, 1988
Arrive Cairns 1300 Thursday January 28, 1988

Principal Investigators:

Dr. R.A. Binns - CSIRO Division of Exploration Geoscience
Professor S.D. Scott - University of Toronto

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R.V. FRANKLIN IS OWNED AND OPERATED BY CSIRO

CRUISE SUMMARY
R.V. 'FRANKLIN'
FR 01/88 ('PACLARK II')

Itinerary

Depart Cairns 1150 Friday January 8, 1988
Arrive Cairns 1300 Thursday January 28, 1988

Scientific Program

Search for submarine hydrothermal vents, western Woodlark Basin

Principal Investigators

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Cruise Objectives Achieved

As on PACLARK I (FR2/86, April 1986), no definitely active hydrothermal vents were dredged or photographed, but more evidence has now accumulated to indicate their presence, especially in the far western sector of Western Woodlark Basin (WWB). Further samples of hydrothermal deposit were dredged from an apparently recently-expired vent system on Franklin Seamount.

An extensive program of dredging (24), bottom photography and video (22), coring (7), CTD-hydrocasts (7), and further echo-sounding/magnetometer traverses were accomplished during the 16 days on station. Goodenough Bay was visited for two days during this period: the data collected confirm the presence of a sedimented graben that represents a further extension of the Woodlark spreading system into the PNG continent, but no evidence for volcanism or hydrothermal activity was found. In the main area of operations (WWB) PACLARK II has provided a wealth of geological data and samples from the westwards-propagating rift system. In particular, abundant andesites accompanied by soda-rhyolite were collected near Dobu Seamount, which has now been confirmed as part of an extensive submarine volcanic ridge, apparently hydrothermally-active and related to rift propagation.

Further details are given in the attached PACLARK II cruise report. In February 1988 the PACLARK III cruise, devoted mainly to Seabeam mapping and seismic traverses, was successfully conducted on HMAS 'Cook'. Laboratory research on material from the two 1988 cruises will continue into 1989. A proposal for further work with RV 'Franklin' in 1990 will be submitted (PACLARK IV), as a lead-up to two expected future developments - namely, manned submersible dives and possible ODP drill holes.

Cruise Narrative and Results

After 2 days transitting the Coral Sea and passing through Jomard Entrance, operations were conducted on a 24 hour basis as set out in the detailed cruise report. Initial activities in the far western sector of WWB were interrupted by the diversion to Goodenough Bay while awaiting replacement parts for the MiniRanger navigation system. Operations in the eastern sector of WWB were conducted during the final 2 days on station, before returning through Jomard Entrance and across the Coral Sea to Cairns.

Three brief landings ashore (Normanby and Sanaroa Islands) were made to rectify MiniRanger problems. Approximately one day total was lost due to mechanical and electrical breakdowns or to bad weather (Cyclone Aggie).

See PACLARK III Cruise Report for detailed results and station locations.

During the return voyage from Jomard Entrance to Bougainville Reef, systematic XPT casts were undetaken for Derek Burridge, AIMS.

Scientific Personnel

Ray Binns	CSIRO Exploration Geoscience	(Co-Chief Sci. - Land)
Mirek Benes	University of Toronto	
Dick Chase	University of British Columbia	
Ian Clark	University of British Columbia	
Dave Cousens	CSIRO Exploration Geoscience	
Dave Edwards	CSIRO Oceanography	(Cruise Manager)
Eric Finlayson	PNG Geological Survey	
Lasark Joseph	PNG Geological Survey	
Steve Scott	University of Toronto	(Co-Chief Sci. - Sea)
Malcolm Wallace	University of Tasmania	
Graeme Wheller	University of Tasmania	
Dave Whitford	CSIRO Exploration Geoscience	
(John Ringis)	UNDP-CCOP, Bangkok joined briefly)	

General

Once again 'Franklin' proved her suitability for marine geoscientific work. Most of her facilities and equipment were used, and this time the main winch did not fail. Most problems encountered were rectified promptly (see Cruise Report).

Laboratories were adapted to our needs in the same manner as for PACLARK I, with the exception that dirtier sample handling and preparation, and maintenance of the video system and battery charging were performed in the container laboratory on the afterdeck.

It is a pleasure to acknowledge the cooperation and interest of the Master, Officers and crew. They contributed greatly to the success of PACLARK II.

R. A. Binns

R.A. Binns
Co-Chief Scientist

D.W. Edwards
Cruise Manager

TABLE 1
PACLARK II OPERATIONS, JANUARY 1988, WOODLARK BASIN AND
GOODENOUGH BAY

Positions given here are based on re-examination of all relevant data and may vary from those listed in the Cruise Report. Local times (GMT+10) used throughout.

Abbreviations

- GPS - Global positioning satellite, 3 or 4 sats
- MR - MiniRanger, 2 or 3 stations responding
- SF - Transit Satfix
- S - Satnav close to Satfix
- S-DR - Satnav dead reckoning
- LR - Radar range and bearing on 1 or 2 land points
- LRA - Radar adjusted to consistency with Satfix, GPS, or MR.
- EST - Estimate, based on DR, bathymetry, etc.

OPN	DATE	TIME	LAT	LONG.	NAV	DEPTH	REMARKS	LOCATION	CHART	LOG
ES/16	10 Jan	1430	9°55.50	151°25.17	GPS		Start	Pierson Basin South Valley	(R5)	1/13-14
		1605	9°53.16	151°11.56	GPS		Finish			
ES/17A	10	1620	9°53.05	151°12.11	GPS		Start	South Valley	R5	1/14
		1706	9°47.02	151°11.99	GPS		Finish			
ES/17B	10	1722	9°46.82	151°13.99	GPS		Start	South Valley	R5	1/15
		1814	9°53.00	151°14.03	GPS		Finish			
ES/17C	10	1830	9°52.96	151°16.13	GPS		Start	End of South Valley	R5	1/15-16
		1910	9°47.11	151°16.09	GPS		Finish			
ES-M/17D	10	1928	9°46.90	151°18.11	GPS		Start	West extension of Pierson Basin	R5	1/16-19
		1948	9°48.97	151°17.86	GPS		End GPS			
		2023	9°53.0	151°17.8	LR		Finish			
ES/18A	10	2023	9°53.0	151°17.8	LR		Start	Edge of Pierson Basin, Moresby Rise, SE Basin	(R5)	1/19-20
		2250	9°57'	151°43'	LR		Finish			
ES/18B	11	0445	9°55'	151°42'	LR		Start	SE Basin - Franklin and back to S. Valley	-	1/27-30
		0551	9°53'	151°49'	LR		Turn back			
		1015	9°47.4	151°10.7	LR		Finish			
ES/19A	11	1015	9°50.0	151°10.0	LR		Start	Axial rise of S. Valley	-	1/30
		1027	9°49.0	151°10.6	LR		Finish			
D-14	11	1445	9°49.18	151°10.62	GPS	1530	On bottom	Axial rise of S. Valley	QR/5	1/34-35
		1503	9°49.42	151°10.39	GPS	1500	First bites			
		1515	9°49.61	151°10.17	GPS	1482	Off bottom			
D-15	11	1927	9°51.17	151°09.92	GPS	1460	On bottom	South wall of of South Valley	QR/5	1/40-41
		1936	9°51.19	151°09.81	GPS	1450	First bite			
		1944	9°51.36	151°09.87	GPS	1430	Last GPS			
		1948	9°51.5	151°09.9	Est	1400	Last bites?			
		2017	9°51.8	151°11.1	LR	1375	Off bottom?			
ES/19B	12	1054	9°52.92	151°11.35	GPS		Start	South Valley	QR/5	1/47
		1135	9°46.83	151°09.75	GPS		Finish			
CV-4A	12	1923	9°47.08	151°10.07	GPS		In water	South Valley	-	1/56-57
		1940	9°46.91	151°09.66	GPS		Last GPS			
		2006	9°46.9	151°09.8	LR		First photos			
		2120	9°46.6	151°08.6	LR		Last photos			
D-16	12	2305	9°48.2	151°03.9	LR	1516	On bottom	Floor of South Valley	Q5	1/59
		2321	9°48.8	151°03.6	LR	1540	First bites			
		2332	9°49.0	151°03.6	LR	1540	Main bite			
		2338	9°49.0	151°03.6	LR	1550	Off bottom			
D-17	13	0216	9°50.4	151°04.8	LR	1350	On bottom	South wall of South Valley	Q5	1/60
		0228	9°50.9	151°04.7	EST	1200	First movement			
		0245	9°51.5	151°04.6	LR	1180	Off bottom			
D-18	13	0440	9°49.0	151°08.0	LR	1550	On bottom	Floor of South Valley	Q5	1/63-64
		0452	9°48.0	151°08.0	EST	1560	First movement			
		0502	9°47.0	151°08.0	EST	1580	Last movement			
		0605	9°47.2	151°06.0	LR	1520	Off bottom?			
D-19	13	0710	9°46.6	151°05.8	LR	1482	On bottom?	North wall of South Valley		1/66-67
		0716	9°46.5	151°05.7	LR	1320	First moves			
		0813	9°45.5	151°03.8	LR	1060	Main bite			
		0820	9°45.4	151°03.6	EST	1050	Off bottom			
D-20	13	0950	9°47.6	151°01.8	LR	1345	On bottom	Dobu Ridge	Q5	1/68
		1040	9°47.1	151°00.8	LR	1220	Anchored, lost			
CV-5	13	1830	9°43.21	151°13.40	GPS		First photos	North Valley	R4	1/72-74
		1936	9°42.38	151°12.74	GPS		Last GPS			
		2030	9°42.0	151°11.4	LR		-			
		2206	9°40.0	151°10.6	LR		Last photos			
D-21	14	0012	9°40.8	151°09.8	S	2270	On bottom	NW wall of North Valley	Q4, Q3	1/79
		0030	9°40.6	151°09.6	S-DR	2254	First bites			
		0150	9°39.9	151°08.6	S-DR	1600	-			
		0150	9°39.6	151°07.0	LR		-			
		0200	9°39.8	151°08.5	S-DR	1540	Off bottom			
ES/20A	14	0400	9°44'	151°11'	DR		Start	Circuit of Normanby Is to Goodenough Bay	-	1/80-85
		0800	10°15'	151°12'	LR		Venterat Cp.			
		0927	10°09'	151°55'	LR		Goschen St.			
ES/21X	14	1010	10°10.6	151°50.0	LR		Start	Goodenough Graben	-	1/85-86
		1135	10°02.09	150°49.73	GPS		Finish			

OPN	DATE	TIME	LAT	LONG.	NAV	DEPTH	REMARKS	LOCATION	CHART	LOG
ES-M/21A	14 Jan	1137	10°02.21	150°49.78	GPS		Start	Goodenough Graben	Q6/7, Q7/8	1/86
		1235	10°10.83	150°49.84	GPS		Finish			
ES-M/21B	14	1250	10°11.05	150°47.55	GPS		Start	"	Q6/7 Q7/8	
		1350	10°00.81	150°47.39	GPS		Finish			
ES-M/21C	14	1410	9°58.52	150°44.91	GPS		Start	"	Q6/7, Q7/8	1/87-88
		1525	10°10.63	150°44.78	GPS		Finish			
ES-M/21D	14	1540	10°10.91	150°42.49	GPS		Start	"	Q5/6, Q6/7 Q7/8	1/88-89
		1710	9°55.58	150°42.54	GPS		Finish			
ES-M/21E	14	1730	9°53.62	150°39.66	GPS		Start	"	Q5/6, Q6/7, Q7/8	1/89-90
		1927	10°11.22	150°40.31	GPS		Finish			
CV-6	14	2123	10°01.4	150°44.5	LR		First photos	North wall Goodenough Graben	Q6/7, Q7/8	1/93-96
		0135	10°05.5	150°45.0	LR		Off bottom			
H-12	15	0405	10°07.5	150°43.5	LR	1385	Start	Goodenough Graben	Q7/8	1/97-101
		0540	10°06.6	150°44.5	LR	1349	First bottle			
		0615	10°06.2	150°44.4	LR	625	Last bottle, end			
D-22	15	0811	10°08.7	150°44.0	LR	ca.1300	On bottom	South wall, Goodenough Graben	Q7/8	1/103
		0820	10°08.75	150°43.9	EST	ca.1150	First bites			
		0828	10°08.8	150°43.9	LR	ca.1100	Off bottom?			
ES-M/22A	15	1245	10°04.88	150°22.61	GPS		Start	West Goodenough Bay	LM6/7, LM5/6	1/105
		1345	9°54.82	150°22.30	GPS		Finish			
ES-M/22B	15	1400	9°54.60	150°20.15	GPS		Start	"	LM5/6, LM6/71/105-107	
		1500	10°04.83	150°19.88	GPS		Finish			
ES-M/22C	15	1515	10°04.76	150°17.55	GPS		Start	"	LM6/7	1/107
		1610	9°56.64	150°17.49	GPS		Finish			
CV-7	15	1718	9°58.99	150°18.20	GPS		First photos	Fault zone, West Goodenough Bay	LM6/7	1/109-112
		1927	9°59.65	150°20.40	GPS		Last GPS			
		2000	10°00.0	150°20.7	LR		First radar			
		2122	10°00.0	150°22.8	LR		Last photos			
H-13	15	2346	9°58.5	150°20.0	LR	1350	Start	West Goodenough Bay	LM6/7	1/114
		0030	9°58.8	150°20.4	LR		Change course			
		0110	9°59.3	150°20.7		1320	Finish			
PC-1	16	0329	10°02.6	150°20.4	LR	1335	Triggered	West Goodenough Bay	LM6/7	1/115
PC-2	16	0655	10°06.8	150°44.2	LR	1385	Triggered	Goodenough Graben	Q7/8	1/117
ES/20B	16	0726	10°06.8	150°44.2	LR		Start	Circuit of Normanby Is.		1/118-119
		1330	9°54.15	151°11.52	GPS		Finish			
ES/20C	16	1525	9°53.89	151°11.60	GPS		Start	South Valley, Cook Valley	S4x	1/119-120
		1730	9°40.40	151°26.15	GPS		Finish			
CV-8	16	1849	9°40.30	151°24.60	GPS		First photos	Rise NorthS4x of Cook Valley		1/121-123
		1924	9°39.96	151°23.73	GPS		Last GPS			
		2005	9°40.10	151°23.07	MR		Course change			
		2225	9°39.45	151°24.90	MR		Last photos			
D-23	17	0135	9°39.69	151°25.31	MR	2110	On bottom	Ridge north of	S4x	1/126
		0205	9°39.98	151°25.24	MR	1960	Bites			
		0218	9°40.06	151°25.23	MR	1910	Off bottom			
CV-9	17	0621	9°42.51	151°24.87	MR		First photos	Cook Valley	S4x	1/130-133
		0703	9°42.93	151°25.32	MR		Lost MR, A/c			
		0819	9°42.66	151°26.63	MR		MR back			
		1000	9°43.11	151°27.30	MR		Last photos			
ES/23X	17	1102	9°43.42	151°27.47	GPS		Start	Cook Valley, Sanoroa Rise	R4, Q4	1/134-135
		1335	9°43.29	150°59.42	GPS		Finish			
ES-M/23A	17	1343	9°42.89	150°58.88	GPS		Start	Dobu Ridge, South Valley	P4, P5	1/135-136
		1454	9°50.48	150°58.97	GPS		Finish			
ES-M/23B	17	1507	9°50.02	150°58.08	GPS		Start	West end, South Valley	P4, P5	1/136-139
		1619	9°42.73	150°57.87	GPS		Finish			
ES-M/23C	17	1646	9°43.77	150°57.05	GPS		Start	West end, South Valley	P4,5	1/139
		1745	9°49.34	150°56.89	GPS		Finish			
D-24	17	1907	9°47.25	150°59.16	MR/GPS	870	On bottom	Dobu Ridge (south flank)	P5	1/140-141
		1914	9°47.16	150°59.23	MR	740	First bites			
		1920	9°47.11	150°59.25	MR	760	Off bottom			

OPN	DATE	TIME	LAT	LONG.	NAV	DEPTH	REMARKS	LOCATION	CHART	LOG
CV-10	17 Jan	2200	9°46.93	151°00.10	MR		First photos	Dobu Ridge	Q5	1/143-144
	18	0154	9°47.57	151°03.36	MR		Last photos			
D-25	18	0350	9°45.36	150°59.06	MR	962	On bottom?	"Little Dobu Ridge"		P51/146-1
		0407	9°45.44	150°59.40	MR	900	First bites			
		0435	9°45.56	150°59.73	MR	(940)	Anchored			
		0449	9°45.57	150°59.78	MR	(930)	Off bottom			
CV-11	18	0802	9°46.58	151°00.12	MR		First photos	North flank,	Q4	1/150-152
		1200	9°46.73	151°02.94	GPS		Last photos	Dobu Ridge		
ES/23Y	18	1240	9°46.50	151°03.57	GPS		Start	Dobu Ridge	P5	2/5
		1347	9°47.35	150°56.06	MR		Finish			
ES-M/23D	18	1347	9°47.35	150°56.06	MR		Start	Off Dobu	P4, P5	2/5
		1415	9°44.43	150°55.76	MR		Finish	Island		
ES-M/23E	18	1434	9°44.48	150°55.04	GPS		Start	Off Dobu	P4	2/6
		1503	9°46.68	150°54.86	GPS		Finish	Island		
ES/23F	18	1510	9°46.58	150°54.56	GPS		Start	Off Dobu	P4	2/6
		1540	9°45.16	150°54.61	GPS		Finish	Island		
D-26	18	1857	9°46.57	150°57.00	GPS	880	On bottom	West	P4	2/10-11
		1907	9°46.48	150°57.10	GPS	850	First bites	Dobu Ridge		
		1912	9°46.46	150°57.10	GPS	860	Anchored			
		1948	9°46.77	150°56.88	MR	(800)	shlp when off bottom			
CV-12	18	2246	9°47.88	151°03.35	MR		First photos	Dobu Ridge foot	Q5	2/13-15
	19	0030	9°48.16	151°04.34	MR		Southernmost pt.	and South		
		0242	9°47.98	151°06.10	MR		Last photos	Valley		
D-27	19	0441	9°44.98	150°59.90	MR	860	On bottom	"Third Dobu	P4	2/16-17
		0447	9°44.86	150°59.88		840	Crest	Ridge"		
		0455	9°44.72	150°59.84	MR	(850)	First bites			
		0509	9°44.62	150°59.79	MR	(870)	Off bottom			
D-28	19	0658	9°44.22	150°59.56	MR	734	On bottom	North wall of		2/19-20
		0715	9°44.03	150°59.49	MR	705	First bites, anchored	South Valley		
		0812	9°44.29	150°59.24	MR	(790)	Freed			
		0820	9°44.27	150°59.26	MR	(770)	Off bottom			
ES/24	19	1010	9°43.38	151°01.06	MR		Start	South	Q4, Q5	2/21-22
		1111	9°52.30	151°01.05	GPS		Finish	Valley		
CV-13	19	1306	9°46.52	150°56.88	GPS		First photos	West end Little	P4(2)	2/23-26
		1637	9°45.49	150°59.52	GPS		Slope changed	Dobu Ridge		
		1710	-	-	-		Camera off			
		1713	9°45.25	151°00.08	GPS		Off bottom			
H-14	19	1836	9°48.23	150°56.81	GPS	943	In water	Western	P5	2/27-31
		2008	9°47.25	150°57.65	MR	950	First bottle (22mab)	end,		
		2148	9°46.56	150°58.24	MR	912	Last bottle (512 mab)	South Valley		
CV-14	19	2327	9°44.07	150°57.70	MR		First photos	North wall	P4(2),Q4	2/32-35
	20	0025	9°44.34	150°58.53	MR		Change course	of South		
		0100	9°43.96	150°58.78	MR		Change course	Valley		
		0325	9°43.98	151°01.06	MR		Last photos			
D-29	20	0535	9°48.08	151°04.97	MR	1510	On bottom	Rise on N floor	Q5	2/36-37
		0550	9°47.92	151°05.13	MR	1498	First bites	of South		
		0553	9°47.87	151°05.16	MR	1505	Off bottom	Valley		
D-30	20	0825	9°47.99	151°05.03	MR	1498	On bottom	Rise on	Q5	2/39
		0846	9°47.75	151°05.29	MR	(1505)	First bites	N floor of		
		0858	9°47.64	151°05.30	MR	(1500)	Off bottom	South Valley		
CV-15	20	1126	9°44.80	150°57.56	GPS		First photos	Third Dobu	P4(2),Q4	2/40-42
		1330	9°44.57	150°58.78	GPS		Change course	Ridge		
		1524	9°44.63	150°00.27	GPS		Last photos			
H-15	20	1643	9°46.54	150°58.22	GPS	915	Start	NE from	P4(2)	2/43-46
		1843	9°44.69	150°59.29	GPS	870	First bottle (16mab)	Dobu Smt.		
		1910	9°44.32	150°59.58	MR	748	Last bottle (354 mab)			
		1944	9°43.81	150°59.97	MR	722	Finish			
CV-16	20	2125	9°47.00	150°59.49	MR		First photos	South flank	Q5	2/48-49
		2225	9°47.44	151°00.02	MR		Change course	of Dobu Ridge		
		2259	9°47.46	151°00.41	MR		Anchored			
	21	0117	9°47.88	151°01.94	MR		Last photos			
PC-3	21	0309	9°48.41	150°59.60	MR	1185	Triggered	South Valley, S of Dobu Smt	-	2/50

OPN	DATE	TIME	LAT	LONG.	NAV	DEPTH	REMARKS	LOCATION	CHART	LOG
D-31	21 Jan	0620 0720 0736 0800	9°48.58 9°48.96 9°48.82 9°48.62	151°04.80 151°04.92 151°04.90 151°05.13	MR MR MR MR	1472 1497 1470 1534	On bottom(?), bites Anchored Moving Off bottom	Rise near north edge of South Valley floor	Q5	2/53-
CV-17	21	1142 1200 1405	9°46.60 9°46.79 9°46.82	150°57.44 150°57.60 150°59.40	GPS GPS GPS		First photos Change course Last photos	Dobu Ridge, West of Dobu Seamount	P4(2)	2/57-
ES/25X	21	1430 1540	9°46.98 9°41.06	150°59.38 151°09.92	GPS GPS		Start Finish	Dobu Pinnacle Sanorao Rise, North Valley	Q4	2/59
ES/25A	21	1541 1552	9°40.99 9°39.83	151°10.00 151°10.02	GPS GPS		Start Finish	North Valley	Q4	2/60
ES/25B		1557 1621	9°39.75 9°41.37	151°09.64 151°09.55	GPS GPS		Start Finish	North Valley	Q4	2/60-
ES/25C	21	1630 1644	9°41.37 9°39.93	151°10.17 151°10.16	GPS GPS		Start Finish	North Valley	Q4	2/61
D-32	21	1749 1813 1817	9°41.10 9°40.85 9°40.81	151°09.52 151°09.86 151°09.84	GPS GPS GPS	2270 2235 2245	On bottom (Ship)-First bites Off bottom	North Valley	Q4	2/62
CV-18	21 22	2100 0102	9°40.40 9°40.53	151°08.39 151°10.47	MR MR		First photos Last photos	North Valley	Q4	2/66-
CV-19	22	0305 0312 0440 0712	9°37.81 9°37.86 9°37.99 9°38.32	151°15.49 151°15.53 151°16.59 151°17.77	MR MR MR MR		On bottom First photos Break of slope, change course, Last photos	Northwest Basin	R3	2/68-
H-16	22	0927 1017 1100	9°46.85 9°46.76 9°46.83	151°25.57 151°24.60 151°23.98	MR MR MR	2650 2520 2350	Start Bottom Finish	Lonely Basin	S4x	2/72
H-17	22	1155 1300 1340	9°50.20 9°49.14 9°48.46	151°21.78 151°20.43 151°19.50	GPS GPS GPS	2160 1910 1681	Start Bottom Finish	Pierson Basin	S5	2/72-
CV-20	22	1613 1859 2013	9°48.04 9°48.64 9°48.83	151°06.79 151°08.78 151°09.23	GPS GPS MR		First photos Last GPS Last photos	South Valley	QR/5	2/75-
H-18	22	2119 2140	9°49.5 -	151°11.0 -	MR -	1540	In water Aborted	East end, South Valley	QR/5	2/79
S-12	23	0224	9°49.55	151°11.85	MR	1582	On bottom	South Valley	R5	2/82
S13	23	0508	9°45.3	150°59.2	EST	965	On bottom	Basin N of Dobu Ridge		2/85
CV-21	23	0844 1230	9°46.90 9°47.91	151°00.61 151°03.95	MR GPS		First photos Last photos	Eastern Dobu Ridge to South Valley	Q4, Q5	2/87-
CV-22	23	1435 1605 1807 1835	9°46.41 9°46.69 9°46.53 9°46.40	150°56.89 150°57.98 150°59.53 150°59.74	GPS GPS GPS GPS		First photos Alter course Crest (416m) Last photos	Dobu Ridge and Pinnacle	P4(3)	2/91-
H-19	23	1926 2010	9°46.85 9°46.58	150°59.93 150°59.96	MR MR	630 700	In water Aborted	Dobu Seamount	P4(3)	2/95-
PC-4	23	2030	9°47.2	151°06.06	LR	1530	Triggered	South Valley	-	2/99
S-14		0316	9°47.1	150°58.8	EST	930	On bottom	Foot of Dobu Ridge		2/100
D-33	24	0430	9°46.7	150°58.8	EST	870	Touched bottom	Dobu Ridge	-	2/102
D-34	24	0619 0632 0647	9°46.71 9°46.71 9°46.71	150°58.54 150°58.58 150°58.58	EST EST EST	865 (749) (820)	On bottom Anchored (ship) Off bottom	West Dobu Ridge	-	2/104-
ES/26X	24	0703 1004 1049	9°46.7 9°46.84 9°46.80	150°58.9 151°33.39 151°41.27	EST GPS GPS		Start First GPS End	Transit Dobu to East Basin	-	2/106
ES/26A	24	1059 1109	9°47.10 9°48.44	151°41.43 151°41.47	GPS GPS		Start Finish	East Basin	U5	2/106
ES/26B	24	1122 1137	9°48.34 9°46.40	151°41.01 151°40.98	GPS GPS		Start Finish	East Basin	U5	2/106-

OPN	DATE	TIME	LAT	LONG.	NAV	DEPTH	REMARKS	LOCATION	CHART	LOG
D-35	24 Jan	1354	9°47.44	151°41.29	GPS	3150	On bottom	East Basin axial graben	U5	2/109-110
		1413	9°47.47	151°41.61	GPS	3170	First bites			
		1419	9°47.44	151°41.62	GPS	3170	Anchored?			
		1439	9°47.23	151°41.26	GPS	(3160)	Off bottom			
ES/26Y	24	1530	9°47.92	151°41.21	GPS		Start	East Basin to Franklin Smt	U5, UV6	2/110-112
		1630	9°52.42	151°49.87	GPS		Finish			
CV-23	24	1640	9°52.48	151°50.08	GPS		In water	Franklin Seamount	UV6 UV6	2/112
		1741	9°53.52	151°49.31	GPS		Aborted			
D-36	24	2249	9°53.8	151°51.1	LRA	2550	On bottom	Graben NE of Franklin Smt	UV6	2/116
		2310	-	-		(2500)	First bites			
		2316	9°53.9	151°51.0	LRA	(2430)	Off bottom			
H-20	25	0258	-	-	-	2470	In water	Franklin Seamount	UV6	2/117-118
		0303	9°54.50	151°51.15	SF	2470	Satfix			
		0355	9°54.72	151°50.39	SF	2190	Satfix			
		0446	9°54.61	151°49.17	SF	2370	Satfix			
		0545	9°54.28	151°48.61	DR	2530	End			
CV-24	25	1359	9°53.97	151°49.11	GPS		First photos	Franklin Seamount	UV6	2/122
		1401	9°54.01	151°49.10	GPS		Last photos			
CV-25	25	1633	9°53.83	151°48.70	GPS		First photos	Franklin Seamount	UV6	2/126-127
		1700	9°53.75	151°48.93	GPS		Alter course			
		1845	9°54.35	151°49.71	GPS		Last GPS			
		1905	9°54.45	151°50.01	SF		Satfix			
		2038	9°54.8	151°51.1	DR		Last photos			
D-37	25	2334	9°54.1	151°49.6	EST	2300	On bottom	Franklin Seamount	UV6 overlay	2/129-130
		0006	9°54.1	151°49.5	EST	2205	Main bites			
		0017?	9°54.1	151°49.6	EST	2220	Off bottom			

FIGURES

Fig. 1

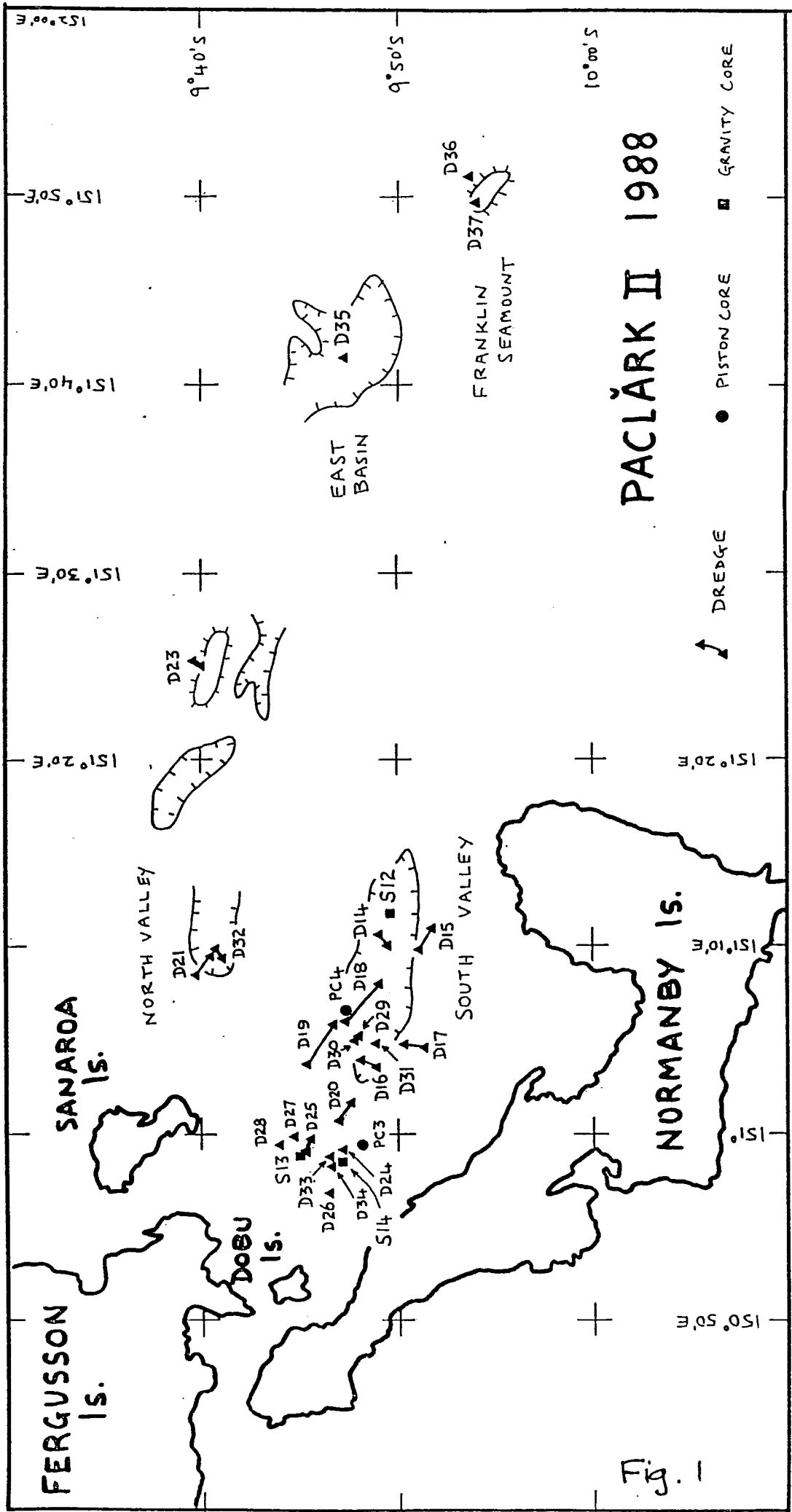
Location of dredge and corer operations, PACLARK II, in relation to salient bathymetric features of Western Woodlark Basin.

Fig. 2

Location of camera video tows and CTD-hydrocasts, PACLARK II, in relation to salient bathymetric features of Western Woodlark Basin.

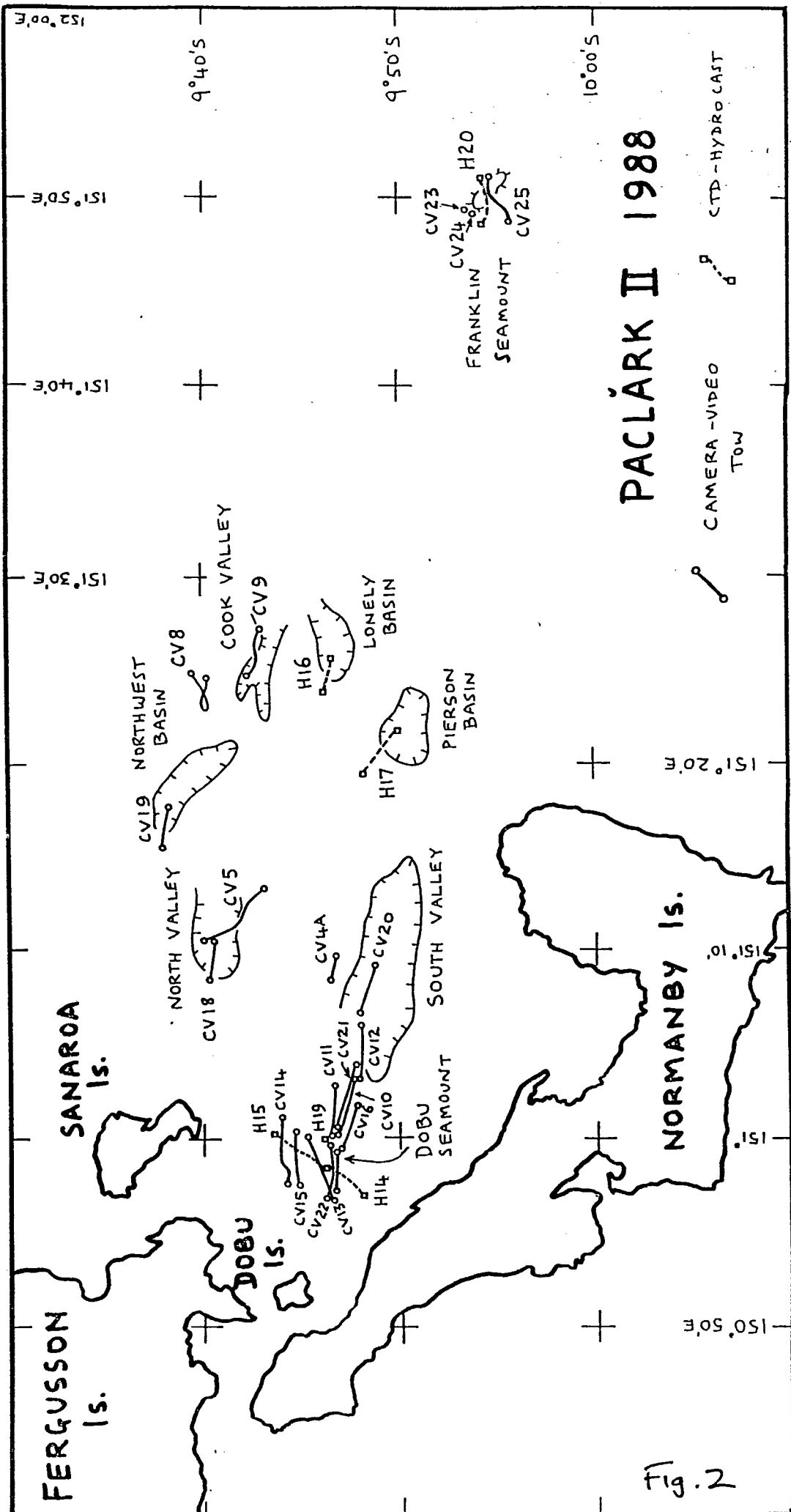
Fig. 3

PACLARK II operations in Goodenough Bay.



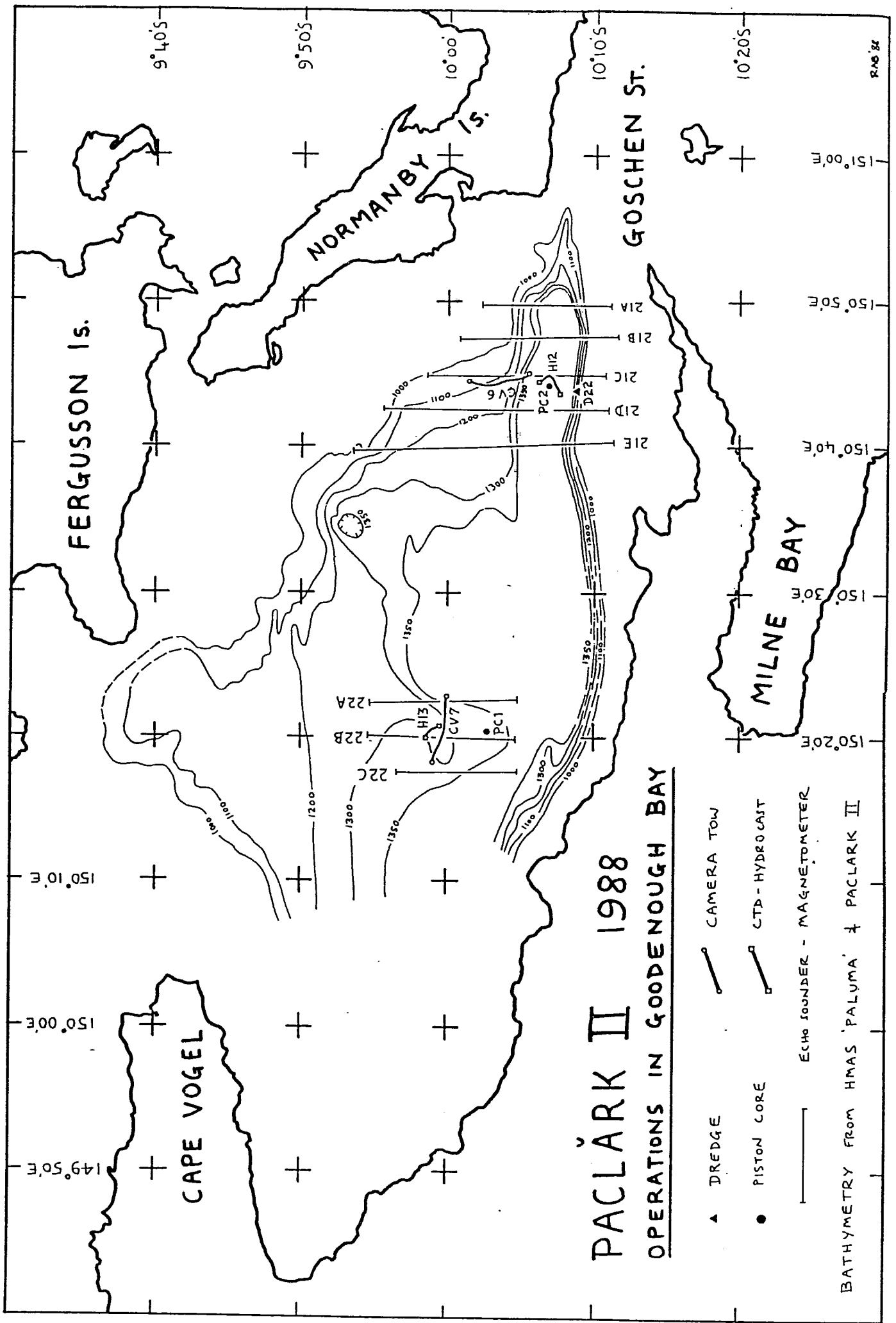
PAČLĀRK II 1988

Fig. 1



PAULÁRK II 1988

Fig. 2



**PACLARK II 1988
OPERATIONS IN GOODENOUGH BAY**

- ▲ DREDGE
 - PISTON CORE
 - ECHO SOUNDING - MAGNETOMETER
 - CAMERA TOW
 - CTD - HYDROCAST
- BATHYMETRY FROM HMAS 'PALUMA' & PACLARK II

Fig. 3