CRUISE SUMMARY REPORT

FOR COLLATING CENTRE USE

Centre: .... Ref. No: ....

Is data exchange restricted? ☐ Yes ☐ In part ☐ No

SHIP enter the full name and international radio call sign of the ship from which the data were collected, and indicate the type of ship, for example, research ship; ship of opportunity, naval survey vessel; etc.

Name: POSEIDON Call Sign: DBKV

Type of ship: research ship

CRUISE NO./NAME 233 a — enter the unique number, name or acronym assigned to the cruise (or cruise leg, if appropriate).

CRUISE PERIOD start (set sail) 5 9 1997 (day month year) to 21 9 1997 (day month year) end (return to port)

PORT OF DEPARTURE (enter name and country) Lisbon, Portugal

PORT OF RETURN (enter name and country) Las Palmas de GC., Spain

RESPONSIBLE LABORATORY enter name and address of the laboratory responsible for coordinating the scientific planning of the cruise.

Name: Institut für Meereskunde

Address: Düsternbrooker Weg 20

24105 Kiel Country: Germany

CHIEF SCIENTIST(S) enter name and laboratory of the person(s) in charge of the scientific work (chief of mission) during the cruise.

Dr. Michaela Knoll

Institut für Meereskunde, Kiel

OBJECTIVES AND BRIEF NARRATIVE OF CRUISE enter sufficient information about the purpose and nature of the cruise so as to provide the context in which the reported data were collected.

This was the second of a total of four cruises during different seasons to determine the variability of the physical environment in the eastern Canary Basin. CTD/LADCP-sections including biological and chemical sampling is carried out between the African shelf, Madeira, La Palma and back to the African shelf to obtain a closed hydrographic box for budget calculations.

PROJECT (IF APPLICABLE) If the cruise is designated as part of a larger scale cooperative project (or expedition or programme), then enter the name of the project, and of the organisation responsible for coordinating the project.

Project name: CANIGO

Coordinating body: ....

Verteiler: [illegible], ISMARE, T. Mitchel (? JOFS)

DOD (Kent)

PRINCIPAL INVESTIGATORS: Enter the name and address of the Principal investigators responsible for the data collected on the cruise, and who may be contacted for further information about the data. (The letter assigned below against each Principal investigator is used on pages 2 and 3, under the column heading 'PI', to identify the data sets for which he/she is responsible)

A. Dr. Michaela Knoll, IfM, Kiel

B. Dr. Marimar Villagarcia, ICCM, Gran Canaria

C. Dr. Jörg Bollmann, ETH Zürich

D. Dr. Isabel Amorim, University Lisbon

E. Jörg Reppin, IfM, Kiel

F.

MOORINGS, BOTTOM MOUNTED GEAR AND DRIFTING SYSTEMS

This section should be used for reporting moorings, bottom mounted gear and drifting systems (both surface and deep) deployed and/or recovered during the cruise. Separate entries should be made for each location (only deployment positions need be given for drifting systems). This section may also be used to report data collected at fixed locations which are returned to routinely in order to construct 'long time series'.

PI	APPROXIMATE POSITION		DATA TYPE	DESCRIPTION
see top of page.	LATITUDE deg min N/S	LONGITUDE deg min E/W	enter code(s) from list on cover page.	Identify, as appropriate, the nature of the instrumentation, the parameters (to be) measured, the number of instruments and their depths, whether deployed and/or recovered, dates of deployment and/or recovery, and any identifiers given to the site.
D	36 9N	11 11W	D90	Sound Source for RAFOS floats
D	35 28 N	10 12 W	D90	" " " " "

Please continue on separate sheet if necessary.

SUMMARY OF MEASUREMENTS AND SAMPLES TAKEN

Except for the data already described on page 2 under 'Moorings, Bottom Mounted Gear and Drifting Systems', this section should include a summary of all data collected on the cruise, whether they be measurements (e.g. temperature, salinity values) or samples (e.g. cores, net hauls).

Separate entries should be made for each distinct and coherent set of measurements or samples. Different modes of data collection (e.g. vertical profiles as opposed to underway measurements) should be clearly distinguished, as should measurement/sampling techniques that imply distinctly different accuracies or spatial/temporal resolutions. Thus, for example, separate entries would be created for i) BT drops, ii) water bottle stations, iii) CTD casts, iv) towed CTD, v) towed undulating CTD profiler, vi) surface water intake measurements, etc.

Each data set entry should start on a new line - it's description may extend over several lines if necessary.

NO, UNITS : for each data set, enter the estimated amount of data collected expressed in terms of the number of: 'stations'; 'miles' of track; 'days' of recording; 'cores' taken; net 'hauls'; balloon 'ascents'; or whatever unit is most appropriate to the data. The amount should be entered under 'NO' and the counting unit should be identified in plain text under 'UNITS'.

PI	NO	UNITS	DATA TYPE	DESCRIPTION
see page 2	see above	see above	enter code(s) from list on cover page.	Identify, as appropriate, the nature of the data and of the instrumentation/sampling gear and list the parameters measured. Include any supplementary information that may be appropriate, e.g. vertical or horizontal profiles, depth horizons, continuous recording or discrete samples, etc. For samples taken for later analysis on shore, an indication should be given of the type of analysis planned, i.e. the purpose for which the samples were taken.
A	70	station	#10	CTD profiles
E	70	station	D71	Lowered ADCP
A	1000	miles	#71	thermosalinograph
E	1000	miles	D71	vessel mounted ADCP
A	70	station	#21	Oxygen sensor on CTD
B	70	station	#21	water samples from up to 21 depth levels
B	"	"	#22	"
B	"	"	#24	"
B	"	"	#25	"
B	"	"	#26	"
B	"	"	B02	"

Please continue on separate sheet if necessary.

TRACK CHART: You are strongly encouraged to submit, with the completed report, an annotated track chart illustrating the route followed and the points where measurements were taken.	Insert a tick (✓) in this box if a track chart is supplied. ☑

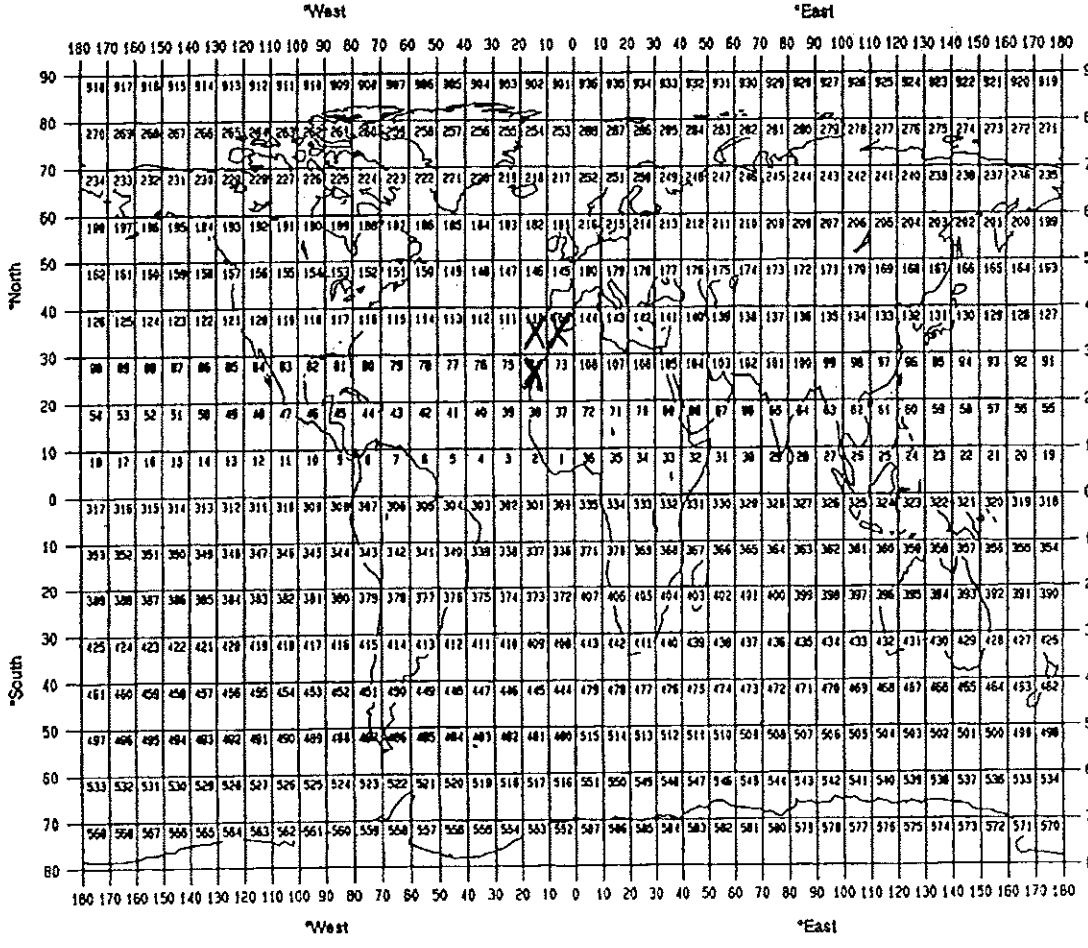
GENERAL OCEAN AREA(S): Enter the names of the oceans and/or seas in which data were collected during the cruise - please use commonly recognised names (see, for example, International Hydrographic Bureau Special Publication No. 23, 'Limits of Oceans and Seas').

Eastern North Atlantic

SPECIFIC AREAS: If the cruise activities were concentrated in a specific area(s) of an ocean or sea, then enter a description of the area(s). Such descriptions may include references to local geographic areas, to sea floor features, or to geographic coordinates.

eastern Canary Basin
Madeira - Canary Islands - African shelf

GEOGRAPHIC COVERAGE - INSERT 'X' IN EACH SQUARE IN WHICH DATA WERE COLLECTED



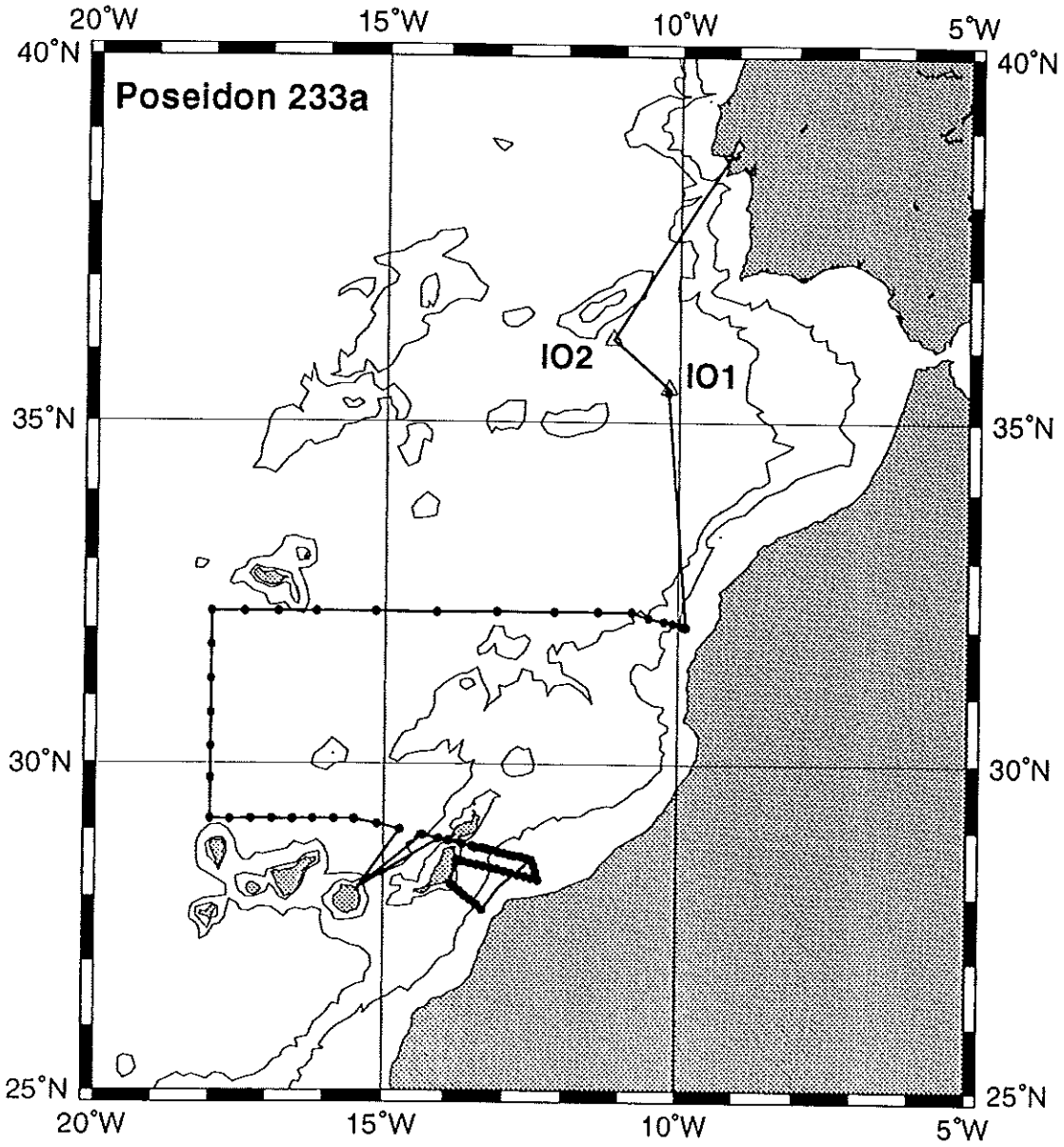
THANK YOU FOR YOUR COOPERATION

Please send your completed report without delay to the collating centre indicated on the cover page

7. Appendix

Appendix A. maps with cruise tracks

Fig. A1 cruise track P233 a



Appendix C. Station Lists

Table C1 Station List P233 a

instruments: CTD, lowered ADCP, fluorometer (fl), multi net, plankton net (diatoms/coccolithophorids)
*station: stations not carried out during METEOR cruise 37 in January 1997.

Date	Time (UTC) start	end	Station	Profile	Position φ (N)	λ (W)	Uncorr. water depth (m)	Instruments
06.09.97	05:33	07:55	559		36° 09.01'	11° 10.67'	4780	IO2 mooring
06.09.97	15:12	16:46	560		35° 28.50'	10° 11.59'	4000	IO1 mooring
06.09.97	17:54	20:08	561	1	35° 25.07'	10° 12.13'	4106	CTD/LADCP/fl (3000 m)
	20:15	20:45			35° 25.96'	10° 11.81'	4093	plankton net coc. (100 m)
07.09.97	16:04	16:29	562	2	32° 02.08'	9° 52.11'	113	CTD/LADCP/fl
	17:08	17:57	563	3	32° 02.14'	9° 54.20'	446	CTD/LADCP/fl
	18:20	19:00			32° 02.10'	9° 54.50'	511	plankton net coc. (100 m)
	19:20	20:34	564	4	32° 02.67'	9° 55.54'	1022	CTD/LADCP/fl
	21:31	22:43	565	5	32° 05.04'	10° 05.86'	1251	CTD/LADCP/fl
	23:45	01:46	566	6	32° 06.96'	10° 15.00'	2043	CTD/LADCP/fl
08.09.97	03:30	06:06	567	7	32° 10.01'	10° 31.82'	3004	CTD/LADCP/fl
	07:43	11:22	568	8	32° 15.00'	10° 49.98'	3228	CTD/LADCP
	13:42	16:22	569	9	32° 15.00'	11° 24.83'	3330	CTD/LADCP
	20:20	23:49	570	10	32° 15.13'	12° 09.92'	3379	CTD/LADCP
09.09.97	04:15	08:18	571	11	32° 15.09'	13° 09:84'	3999	CTD
	12:32	16:33	572	12	32° 14.93'	14° 09.88'	4330	CTD
	20:56	00:16	573	13	32° 15.10'	15° 09.80'	4364	CTD/LADCP
10.09.97	05:26	08:59	574	14	32° 15.06'	16° 09.88'	4299	CTD/LADCP
	12:29	15:24	575	15	32° 15.08'	16° 49.87'	3564	CTD/LADCP
	18:26	21:41	576	16	32° 15.08'	17° 24.87'	4215	CTD/LADCP
11.09.97	00:37	03:51	577	17	32° 14.98'	17° 59.89'	4421	CTD/LADCP
	07:00	10:33	578	18	31° 45.12'	18° 00.20'	4550	CTD/LADCP
	13:42	17:28	579	19	31° 15.09'	17° 59.96'	4572	CTD/LADCP
	20:31	23:58	580	20	30° 45.09'	18° 00.13'	4538	CTD/LADCP
12.09.97	3:34	07:03	581	21	30° 15.12'	18° 00.01'	4488	CTD/LADCP
	10:00	11:08	582		29° 47.00'	18° 00.00'	4370	multi net (500 m)
	11:45	11:55			29° 46.00'	17° 59.90'	4363	plankton net dia. (100 m)
	12:23	14:11		22	29° 47.01'	18° 00.03'	4367	CTD/fl (500 m)
	15:15	18:25		23	29° 46.84'	17° 59.95'	4368	CTD/LADCP
	22:04	01:53	583	24	29° 10.07'	18° 00.10'	3768	CTD/LADCP
13.09.97	04:00	06:50	584	25	29° 10.00'	17° 39.07'	3745	CTD/LADCP
	06:50	07:05			29° 09.80'	17° 39.40'	3740	plankton net dia. (100 m)
	09:01	11:43	585	26	29° 10.08'	17° 17.01'	3914	CTD/LADCP
	13:52	17:18	586	27	29° 10.06'	16° 55.03'	3835	CTD/LADCP
	19:05	22:04	587	28	29° 09.91'	16° 34.05'	3703	CTD/LADCP
	22:07	22:55			29° 10.40'	16° 32.80'	3704	multi net (500 m)
	23:03	23:14			29° 10.40'	16° 32.90'	3705	plankton net dia. (100 m)
	23:19	00:01		29	29° 10.45'	16° 32.97'	3705	CTD/fl (500 m)

Table C1 Station List P233 a (continue)

Date	Time (UTC) start	end	Sta-tion	Pro-file	Position φ (N)	λ (W)	Uncorr. water depth (m)	Instruments
14.09.97	01:51	05:09	588	30	29° 10.09'	16° 12.05'	3655	CTD/LADCP
	07:04	10:04	589	31	29° 10.14'	15° 50.53'	3624	CTD/LADCP
	11:47	14:32	590	32	29° 10.22'	15° 30.03'	3609	CTD/LADCP
	14:55	15:55			29° 10.00'	15° 30.00'	3608	multi net (500 m)
	15:55	16:09			29° 10.00'	15° 30.00'	3608	plankton net dia. (100 m)
	16:09	17:00		33	29° 09.80'	15° 29.67'	3607	CTD/fl (500 m)
	18:58	21:54	591	34	29° 05.68'	15° 06.82'	3576	CTD/LADCP
	23:50	02:22	592	35	29° 01.07'	14° 44.01'	3513	CTD/LADCP
15.09.97	02:30	02:41			29° 00.40'	14° 43.40'	3505	plankton net dia. (100 m)
17.09.97	02:14	05:03	593	36	28° 55.99'	14° 22.00'	2966	CTD/LADCP/fl
	06:30	08:22	594	37	28° 52.61'	14° 06.16'	2090	CTD/LADCP/fl
	09:15	10:33	595	38	28° 50.96'	13° 56.21'	1067	CTD/LADCP/fl
	10:37	11:40			28° 50.80'	13° 58.00'	977	multi net (500 m)
	11:40	11:52			28° 50.80'	13° 58.00'	977	plankton net dia. (100 m)
	13:16	14:06	596	39	28° 47.97'	13° 42.53'	871	CTD/LADCP/fl
	15:19	16:33	597	40	28° 46.03'	13° 33.11'	1213	CTD/LADCP/fl
	16:39	16:49			28° 45.60'	13° 33.20'	1212	plankton net dia. (100 m)
	17:47	19:06	*598	41	28° 44.78'	13° 29.25'	1276	CTD/LADCP/fl
	19:59	21:16	599	42	28° 44.13'	13° 22.22'	1308	CTD/LADCP/fl
	22:00	23:11	*600	43	28° 43.01'	13° 17.12'	995	CTD/LADCP/fl
	23:43	00:40			28° 43.10'	13° 17.10'	993	multi net (500 m)
18.09.97	00:43	01:00			28° 44.00'	13° 17.10'	1175	plankton net dia. (100 m)
	01:50	02:40	601		28° 42.20'	13° 11.90'	1055	multi net (500 m)
	02:58	04:11		44	28° 41.97'	13° 12.14'	1055	CTD/LADCP/fl
	04:14	04:25			28° 42.20'	13° 11.10'	1038	plankton net dia. (100 m)
	05:22	06:18	602	45	28° 40.29'	13° 06.10'	798	CTD/LADCP/fl
	07:10	07:58	603	46	28° 39.52'	13° 00.51'	591	CTD/LADCP/fl
	08:57	09:31	604	47	28° 38.04'	12° 54.55'	358	CTD/fl
	10:19	10:50	605	48	28° 36.99'	12° 49.17'	248	CTD/fl
	10:55	11:07			28° 37.00'	12° 49.20'	248	plankton net dia. (100 m)
	12:06	12:35	606	49	28° 36.53'	12° 43.46'	174	CTD/fl
	13:28	13:51	*607	50	28° 35.02'	12° 37.06'	102	CTD/fl
	14:35	14:59	608	51	28° 33.53'	12° 31.99'	98	CTD/fl
	15:00	15:10			28° 33.50'	12° 32.00'	98	plankton net dia. (100 m)
	16:00	16:24	*609	52	28° 28.04'	12° 29.47'	97	CTD/fl
	17:18	17:34	*610	53	28° 22.10'	12° 27.58'	59	CTD/fl
	18:33	18:46	*611	54	28° 15.55'	12° 25.05'	48	CTD/fl
	19:36	20:48	*612	55	28° 16.98'	12° 31.90'	53	CTD/fl
	20:37	20:48	*613	56	28° 18.55'	12° 38.83'	70	CTD/fl
	21:43	21:51	*614	57	28° 19.99'	12° 45.88'	86	CTD/fl
	22:49	23:10	*615	58	28° 21.46'	12° 52.83'	98	CTD/fl

Table C1 Station List P233 a (continue)

Date	Time (UTC) start	end	Station	Profile	Position φ (N)	λ (W)	Uncorr. water depth (m)	Instruments
19.09.97	00:10	00:30	*616	59	28° 23.03'	12° 59.99'	121	CTD/fl
	01:51	02:53	*617	60	28° 24.78'	13° 06.87'	773	CTD/LADCP/fl
	04:01	05:14	*618	61	28° 26.03'	13° 13.97'	980	CTD/LADCP/fl
	06:22	07:35	*619	62	28° 27.53'	13° 20.80'	1116	CTD/LADCP/fl
	08:38	09:52	*620	63	28° 29.06'	13° 27.98'	1271	CTD/LADCP/fl
	10:54	12:11	*621	64	28° 30.48'	13° 34.91'	1248	CTD/LADCP/fl
	13:11	14:20	*622	65	28° 32.02'	13° 41.98'	1049	CTD/LADCP/fl
	15:08	15:35	*623	66	28° 33.59'	13° 48.01'	342	CTD/fl
	17:48	17:59	*624	67	28° 12.05'	13° 53.71'	51	CTD/fl
	18:44	19:53	*625	68	28° 09.05'	13° 50.15'	726	CTD/LADCP/fl
	20:27	21:52	*626	69	28° 05.14'	13° 45.03'	1560	CTD/LADCP/fl
	22:44	00:07	*627	70	28° 01.14'	13° 40.01'	1413	CTD/LADCP/fl
20.09.97	01:10	02:34	*628	71	27° 57.07'	13° 33.98'	1219	CTD/LADCP/fl
	03:37	04:36	*629	72	27° 53.03'	13° 27.99'	813	CTD/LADCP/fl
	05:45	06:20	*630	73	27° 48.06'	13° 22.13'	95	CTD/fl

CRUISE SUMMARY REPORT

FOR COLLATING CENTRE USE

Centre: Ref. No:

Is data exchange restricted? ☐ Yes ☐ In part ☐ No

SHIP enter the full name and international radio call sign of the ship from which the data were collected, and indicate the type of ship, for example, research ship; ship of opportunity; naval survey vessel; etc.

Name: Poseidon Call Sign: DBKV

Type of ship: research vessel

CRUISE NO./NAME 233/6 - d enter the unique number, name or acronym assigned to the cruise (or cruise leg, if appropriate).

CRUISE PERIOD start (set sail) 23.09.1997 (day month year) to 10.10.1997 (day month year) end (return to port)

PORT OF DEPARTURE (enter name and country) Las Palmas, Gran Canaria, Spain

PORT OF RETURN (enter name and country) Portimão, Portugal

RESPONSIBLE LABORATORY enter name and address of the laboratory responsible for coordinating the scientific planning of the cruise.

Name: [illegible] Kiel

Address: [illegible] Weg 20

24105 Kiel

Germany Country: Germany

CHIEF SCIENTIST(S) enter name and laboratory of the person(s) in charge of the scientific work (chief of mission) during the cruise.

Thomas J. Müller, Inst. Meereshd., Kiel

OBJECTIVES AND BRIEF NARRATIVE OF CRUISE enter sufficient information about the purpose and nature of the cruise so as to provide the context in which the reported data were collected.

Basic research in physical oceanography, chemical oceanography and particle fluxes within the frame of the time series station ESTOC and the European MAST III programme CANIGO
key words: current meter and sediment trap moorings; CTD/rosette samples for trace metals, ~~FCKW's~~, CFC's, ^3He, Tr, DOC; vessel mounted ADCP
all north of the Canary Islands and east of Lanzarote

PROJECT (IF APPLICABLE) If the cruise is designated as part of a larger scale cooperative project (or expedition or programme), then enter the name of the project, and of the organisation responsible for coordinating the project.

Project name: ESTOC, CANIGO

Coordinating body: IfM Kiel

PRINCIPAL INVESTIGATORS: Enter the name and address of the Principal Investigators responsible for the data collected on the cruise, and who may be contacted for further information about the data. (The letter assigned below against each Principal Investigator is used on pages 2 and 3, under the column heading 'PI', to identify the data sets for which he/she is responsible)

A. Dr. Thomas J. Müller, IFM Kiel
B. Dr. Susanne Neuer, Geow. Univ Bremen
C. Prof Dr W Balzer, Mar. Chemistry, Univ. Bremen
D. Prof Dr. W. Roether, Tracer Oceanogr. Univ. Bremen
E. MSci Federico Lopez-Laatzen, IEO, Sta Cruz T/T
F. Dr. Alonso Hernandez-Guerra, Univ. Las Palmas

MOORINGS, BOTTOM MOUNTED GEAR AND DRIFTING SYSTEMS

This section should be used for reporting moorings, bottom mounted gear and drifting systems (both surface and deep) deployed and/or recovered during the cruise. Separate entries should be made for each location (only deployment positions need be given for drifting systems). This section may also be used to report data collected at fixed locations which are returned to routinely in order to construct 'long time series'.

PI (see top of page.)	APPROXIMATE POSITION LATITUDE deg min N/S	LONGITUDE deg min E/W	DATA TYPE (enter code(s) from list on cover page.)	DESCRIPTION (Identify, as appropriate, the nature of the instrumentation, the parameters (to be) measured, the number of instruments and their depths, whether deployed and/or recovered, dates of deployment and/or recovery, and any identifiers given to the site.)
				see also Tab. B1 of cruise report
B	29 46 N	01 7 57 W	D01, B73	LP-1 recovered
B	29 46 N	01 7 56 W	D01, B73	LP-2 deployed
B	29 11 N	01 5 27 W	D01, B73	C1-7 recovered
B	29 11 N	01 5 27 W	D01, B73	C1-8 deployed
A	29 09 N	01 5 40 W	D01	ESTOC/367-3 : recovered
A	29 10 N	01 5 40 W	D01	ESTOC/367-4 : set
F	28 40 W	01 2 57 W	D01	EBC1-1 lost
A	28 43 N	01 3 09 W	D01, B73	EBC2/378-1 r
A	28 42 N	01 3 10 W	D01, B73	EBC2/378-2 s
A	28 45 N	01 3 18 W	D01, B73	EBC3/377-1 r
A	28 47 N	01 3 28 W	D01, B73	EBC3/377-2 s
E	28 46 N	01 3 28 W	D01	EBC4-1 r
E	28 47 N	01 3 28 W	D01	EBC4-2 s
E	28 48 N	01 3 38 W	D01	EBC5-1 r
E	28 48 N	01 3 38 W	D01	EBC5-2 s
B	29 14 N	01 5 25 W	B73	drifting 4 days
B	29 14 N	01 5 25 W	B73	drifting 4 days
B	29 15 N	01 5 24 W	B73	drifting 4 days
B	29 15 N	01 5 24 W	B73	drifting 4 days

Please continue on separate sheet if necessary.

§ Dr A. Spitzy, Mar. Chem., Univ. Hamburg

SUMMARY OF MEASUREMENTS AND SAMPLES TAKEN

Except for the data already described on page 2 under 'Moorings, Bottom Mounted Gear and Drifting Systems', this section should include a summary of all data collected on the cruise, whether they be measurements (e.g. temperature, salinity values) or samples (e.g. cores, net hauls).

Separate entries should be made for each distinct and coherent set of measurements or samples. Different modes of data collection (e.g. vertical profiles as opposed to underway measurements) should be clearly distinguished, as should measurement/sampling techniques that imply distinctly different accuracies or spatial/temporal resolutions. Thus, for example, separate entries would be created for i) BT drops, ii) water bottle stations, iii) CTD casts, iv) towed CTD, v) towed undulating CTD profiler, vi) surface water intake measurements, etc.

Each data set entry should start on a new line - it's description may extend over several lines if necessary.

NO, UNITS : for each data set, enter the estimated amount of data collected expressed in terms of the number of: 'stations'; 'miles' of track; 'days' of recording; 'cores' taken; net 'hauls'; balloon 'ascents'; or whatever unit is most appropriate to the data. The amount should be entered under 'NO' and the counting unit should be identified in plain text under 'UNITS'.

PI	NO	UNITS	DATA TYPE	DESCRIPTION
see page 2	see above	see above	enter code(s) from list on cover page.	Identify, as appropriate, the nature of the data and of the instrumentation/sampling gear and list the parameters measured. Include any supplementary information that may be appropriate, e.g. vertical or horizontal profiles, depth horizons, continuous recording or discrete samples, etc. For samples taken for later analysis on shore, an indication should be given of the type of analysis planned, i.e. the purpose for which the samples were taken.
A/B	20	casts	H10 B01	partially shallow only to sample for plankton
E	2	net	B08, B09	plankton net, 30 m
A	3	net		plankton net, 30 m
A	1	cast	H10	rosette sampler with CTD
4			H30	trace metals
D			H30	CFC's
~~8~~			~~DOC~~	
8			B06	DOC

ESTOC

Please continue on separate sheet if necessary.

TRACK CHART: You are strongly encouraged to submit, with the completed report, an annotated track chart illustrating the route followed and the points where measurements were taken.	Insert a tick (✓) in this box if a track chart is supplied. ☑

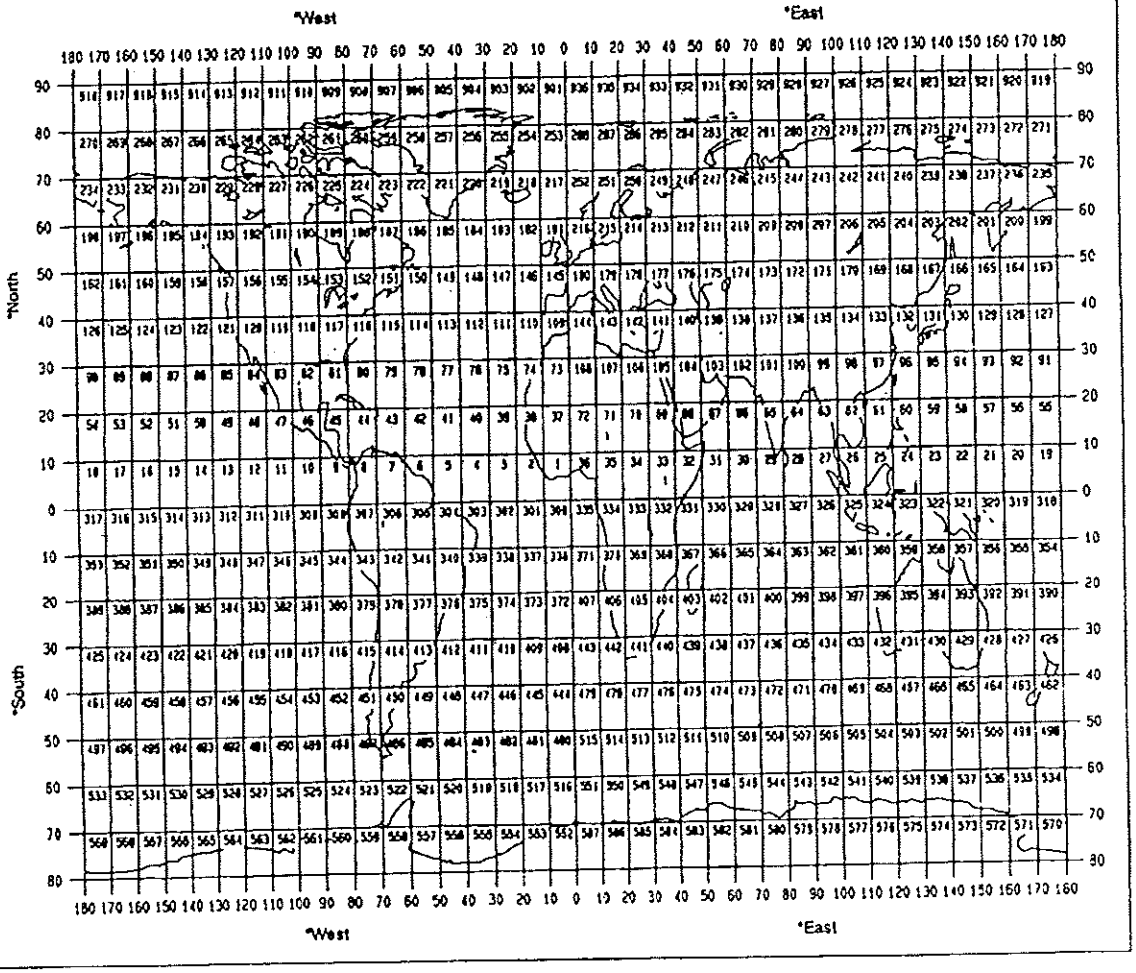
GENERAL OCEAN AREA(S): Enter the names of the oceans and/or seas in which data were collected during the cruise - please use commonly recognised names (see, for example, International Hydrographic Bureau Special Publication No. 23, 'Limits of Oceans and Seas').

North East Atlantic (north & east of Canary Islands)

SPECIFIC AREAS: If the cruise activities were concentrated in a specific area(s) of an ocean or sea, then enter a description of the area(s). Such descriptions may include references to local geographic areas, to sea floor features, or to geographic coordinates.

74, 110, 109

GEOGRAPHIC COVERAGE - INSERT 'X' IN EACH SQUARE IN WHICH DATA WERE COLLECTED



THANK YOU FOR YOUR COOPERATION

Please send your completed report without delay to the collating centre indicated on the cover page

Fig. A2 cruise track P233 b-d

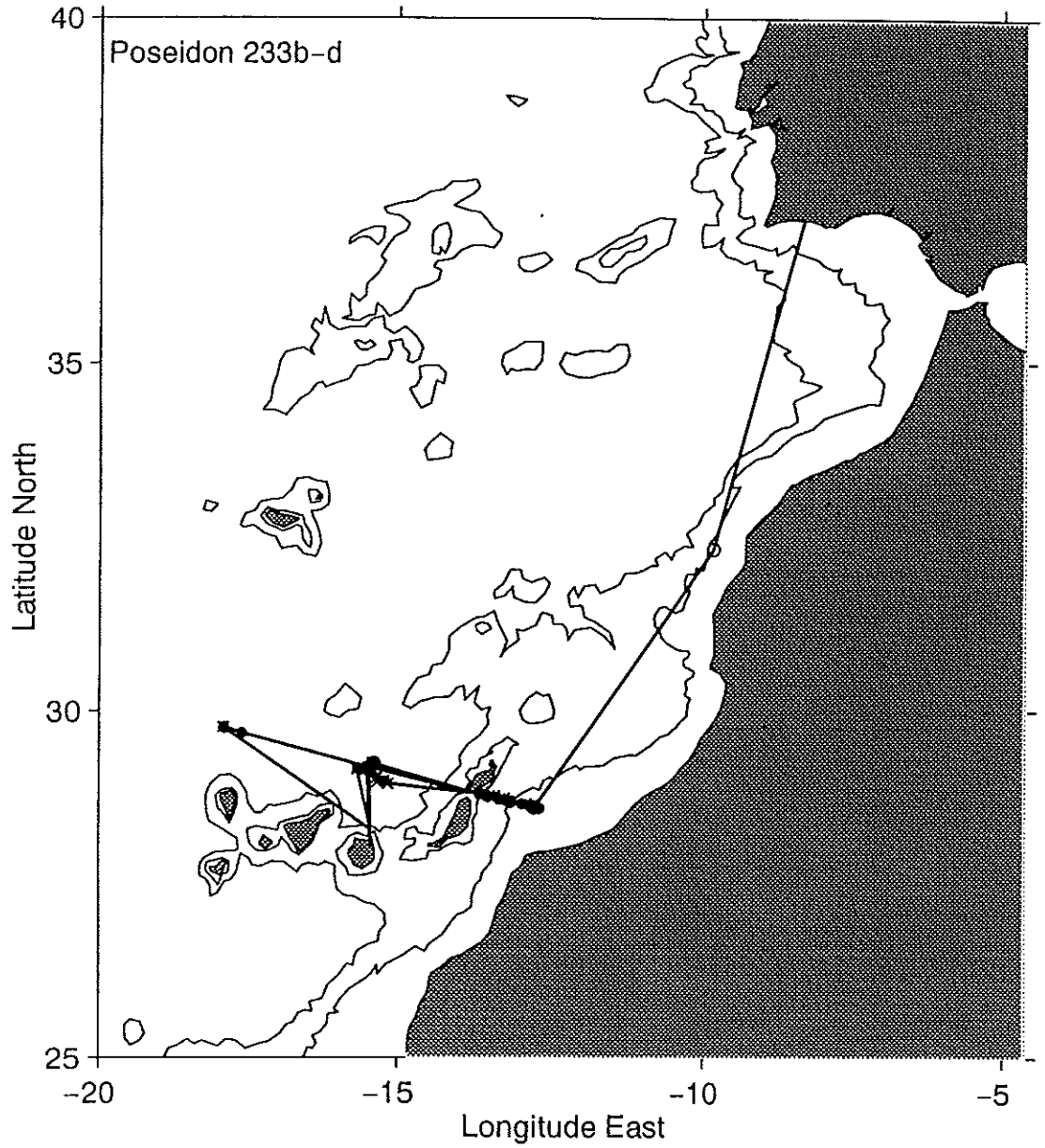


Table C2 Station List P233 b-d

Date	Time (UTC) start	end	Station	Profile	Position φ (N)	λ (W)	Uncorr. water depth (m)	Instruments
23.09.97	16:00							sail Las Palmas start P233b
24.09.97	02:58	06:30	632	74	29°44.8'	017°55.4	4325	CTD/rosette; samples for J. Scholten (GPI, Univ. Kiel)
	07:04	11:20	633		29°45.7'	017°57.3'	4331	recover mooring LP-1
	13:07	16:28	634		29°45.7'	017°55.8'	4330	set mooring LP-2
	16:53	17:19	635	75	29°45.9'	017°56.4'	4333	CTD/rosette,;150 m; plankton samples
	19:02	19:34	636	76	29°40.7'	017°37.6'	4232	CTD/rosette; 500 m plankton samples
25.09.97	07:02	12:33	637		29°11.0'	015°27.0'	3610	recover mooring CI-7
	15:00		638		29°14.9'	015°24.9'	3610	set drifting traps, 500m;
		16:30			29°14.2'	015°24.8'		set drifting traps, 200m;
	16:46	17:10		77	29°14.1'	015°24.6'		CTD/rosette, 200 m, plankton samples
	18:20	21:30	639	78	29°10.0'	015°30.0'	3610	CTD/rosette; sampling nutrients and salinity
26.09.97	07:05	10:41	640		29°11.2'	015°27.3'	3610	set mooring CI-8
	16:00							port of Las Palmas; end P233b
28.09.97	08:00							sailLas Palmas; start P233c
	14:50	17:00	641		29°09.0'	015°40.0'	3610	recover mooring 367-3
	18:06	18:30	642	79	29°10.0'	015°40.0'	3610	CTD/rosette, 200 m plankton samples
	19:26	22:02	643	80	29°10.0'	015°40.0'	3610	CTD/rosette near to the bottom
29.09.97	07:28	17:24	644		29°10.1'	015°40.2'	3610	set mooring 367-4
	19:40	20:05	645		29°02.2'	015°20.1'	3594	recover drifting traps.
30.09.97	07:00	07:18	646		29°14.9'	015°24.0'	3599	set drifting traps, 200 m;
	07:25	08:48			29°14.8'	015°24.2'	3589	set drifting traps, 500 m;
	07:58	08:50	647	81	29°14.9'	015°23.3'	3598	CTD/rosette, 200 m; plankton samples;
	09:01	09:25	648		29°14.4'	015°23.1'	3598	plankton net IEO
	18:11	18:50	649	82	28°48.1'	013°41.9'	911	CTD
	19:50	20:35	650	83	28°46.0'	013°34.0'	1184	CTD
01.10.97	07:00	08:12	651		28°42.4'	013°09.3'	996	recover mooring EBC2/378-1
	09:30	12:10	652		28°39.9'	012°56.8'	493	try to recover mooring EBC1; search; acoustic release positioned lying at bottom; not recovered

Table C2 Station List P233 b-d (continue)

Date	Time (UTC) start	end	Station	Profile	Position φ (N)	λ (W)	Uncorr. water depth (m)	Instruments
01.10.97	13:31	15:31	653		28°42.2'	013°09.8'	998	set mooring EBC2/378-2
	15:57	16:15	654	84	28°40.9'	013°11.9'	1036	CTD
	18:01	18:30	655	85	28°40.0'	013°01.0'	638	CTD
	19:32	19:32	656	86	28°38.6'	012°54.0'	360	CTD
	20:37	20:54	657	87	28°37.2'	012°49.0'	248	CTD
	21:33	21:46	658	88	28°36.1'	012°44.0'	163	CTD
02.10.97	07:02	08:20	659		28°44.5'	013°18.0'	1195	recover mooring EBC3/377-1
	09:37	10:42	660		28°46.4'	013°28.0'	1280	recover mooring EBC4-1
	12:09	12:40	661		28°48.4'	013°38.8'	1044	recover mooring EBC5-1
	14:18	15:27	662		28°44.3'	013°17.9'	1180	set mooring EBC3/377-2
	16:22	17:08	663	89	28°41.9'	013°12.1'	1051	CTD
	17:55	18:52	664	90	28°42.9'	013°16.8'	1048	CTD/rosette near EBC3; nutrient samples in AAIW core
	20:19	21:14	665	91	28°43.8'	013°22.8'	1308	CTD
03.10.97	08:00	09:02	666		28°46.5'	013°27.6'	1280	set mooring EBC4-2
	11:09	12:30	667		28°48.6'	013°38.4'	1030	set mooring EBC5-2
04.10.97	07:21	07:32	668		28°57.4'	015°09.0'	3581	recover drifting traps, 200 m
	08:10	08:31	669		28°59.5'	015°12.5'	3584	recover drifting traps, 500 m
	08:40	09:05	670	92	28°59.4'	015°12.2'	3584	CTD/rosette, 200 m; plankton samples
	12:41	15:38	671	93	29°10.0'	015°29.9'	3608	CTD/rosette, ESTOC Oct 1997 station; plankton net, 200m, IEO
05.10.97	08:00							port of Las Palmas; end of P233c
06.10.97	17:00							sail Las Palmas
07.10.97	23:38	00:43	672		29°10.0'	015°29.9'	3607	ESTOC position: flushing rosette bottles; 2000 m;
	00:43	03:20		94	29°10.2'	015°29.8'	3607	CTD/rosette near to the bottom; tracer samples; in-situ pumps, 1000 m;
	03:54	07:23			29°10.5'	015°28.7'	3607	trace metal samples;
	07:25	08:22			29°10.2'	015°21.4'	3607	trace metal special rosette, 1000 m; plankton net, 30 m, ETHZ
08.10.97	22:42	23:00	673		28°37.0'	012°49.0'	248	plankton net, 30 m, ETHZ
09.10.97	03:06	03:23	674		32°20.0'	009°50.0'	592	plankton net, 30 m, ETHZ
10.10.97	09:00							port of Portimao

Table B1 Moorings

Index:

r: mooring recovered s: mooring set f: failed to recovered

ADCP: Acoustic Doppler Current Profiler ACM: Aanderaa current meters
ICM: Influx current meters (AWI type) ISP: in-situ pumps for trace metal samples
ST: particle flux trap SoSo: sound sources, transmission times are UTC

ID	Date 1997	set/ rec.	Latitude N Longitude W	Depth m	Instrumentation
P233a					
IO1	06.09.	s	35°28.5' 10°11.6'	4027	SoSo34 in 1127 m, transmitting 01:00, 09:00, 17:00
IO2	06.09.	s	36°09.0' 11°10.7'	4812	SoSo35 in 1112 m, transmitting 01:32, 09:32, 17:32
P233b					
LP-1	24.09.	r	29°45.7' 17°57.3'	4327	ACM in 859, 1551, 3798 m; ICM in 1029 m ST in 1109, 3778 m
LP-2	24.09.	s	29°45.7' 17°55.8'	4348	ACM in 517, 1190, 2991 m; ICM in 717 m; ST in 692, 2966 m
ESTOC/CI-7	25.09.	r	29°11.0' 15°27.0'	3610	ACM in 3070 m; ICM in 770, 1030 m; ST in 750, 1010, 3050 m; ISP in 870, 890 m
ESTOC/CI-8	26.09.	s	29°11.2' 15°27.3'	3610	ACM in 3070 m; ICM in 770 m, 1030m; ST in 750, 1010, 3050 m; ISP in 870 m
P233c					
ESTOC/367-3	28.09.	r	29°09.0' 15°40.0'	3610	ADCP in 190 m; ACM in 270, 500, 800, 1200, 2000, 3550 m
ESTOC/367-4	29.09.	s	29°10.1' 15°40.2'	3610	ADCP in 190 m; ACM in 270, 500, 800, 1200, 2000, 3550 m
EBC2/378-1	01.10.	r	28°42.5' 13°09.3'	996	ACM in 160, 300, 500, 720, 950 m; ST in 700 m
EBC1-1	01.10.	f	28°39.9' 12°56.8'	493	mooring with 3 ACM lost
EBC2/378-2	01.10.	s	28°42.2' 13°09.8'	998	ACM in 160, 300, 500, 720, 950 m; ST in 700 m
EBC3/377-1	02.10.	r	28°44.5' 13°18.0'	1157	ACM in 160, 300, 500, 870, 1230 m; ICM in 720 m; ST in 700 m
EBC4-1	02.10.	r	28°46.4' 13°28.0'	1287	ACM in 150, 300, 500, 800, 1230 m
EBC5-1	02.10.	r	28°48.4 13°38.8'	1044	ACM in 150, 300, 520, 950 m
EBC3/377-2	02.10.	s	28°44.3' 13°17.9'	1180	ACM in 160, 300, 500, 870, 1230 m; ICM in 720 m; ST in 700 m
EBC4-2	03.10.	s	28°46.5' 13°27.6'	1270	ACM in 150, 300, 520, 800, 1230 m
EBC5-2	03.10.	s	28°48.6' 13°38.4'	1030	ACM in 150, 300, 520, 950 m