

7 Listings

7.1 Leg M45/1

Date	Stat.-No.	Device	Lat. (°)	Lon. (°)	WD (m)	Rec.	Remarks
<u>Golf of Cadiz</u>							
20.05.	5901-1	MUC	36 22,80 N	007 04,29 W	575	0,27 m	
	5901-2	SL 6	36 22,80 N	007 04,28 W	574	3,26 m	
20.05.	5902-1	SL 6	36 36,67 N	007 00,88 W	494	0	Tube empty
	5902-2	SL 6	36 36,68 N	007 00,87 W	494	0,23 m	
	5902-3	MUC	36 36,67 N	007 00,87 W	494	0,22 m	
20.05.	5903-1	CTD	36 01,42 N	007 40,02 W	1095		
	5903-2	MUC	36 01,41 N	007 40,01 W	1094	0,40 m	
	5903-3	SL 12	36 01,43 N	007 40,00 W	1095	5,33 m	
20.05.	5904-1	SL 12	35 50,44 N	008 07,78 W	1996	5,18 m	
	5904-2	MUC	35 50,44 N	008 07,77 W	1997	0,20 m	
21.05.	5905-1	MUC	35 43,00 N	008 26,65 W	2436	0,16 m	Core-Top disturbed
	5905-2	SL 12	35 42,99 N	008 26,66 W	2437	3,16 m	
21.05.	5906-1	SL 12	35 32,78 N	008 53,10 W	3029	3,49 m	
	5906-2	MUC	35 32,77 N	008 53,10 W	3026	0,17 m	
21.05.	5907-1	CTD	36 20,00 N	008 09,97 W	1487		2 Pumps (450 m) 8 Pumps (700 m)
	5907-2	MUP	36 19,99 N	008 10,00 W	1487		
	5907-3	MUP	36 20,23 N	008 10,53 W	1445		
22.05.	5907-4	RO	36 20,23 N	008 10,54 W	1443		5 Pumps (1350 m) (150 m)
	5907-5	MUP	36 20,68 N	008 10,64 W	1394		
	5907-6	OPRA	36 20,00 N	008 09,98 W	1487		
<u>Canary Islands / DOMEST Area</u>							
25.05.	5908-1	MUP	29 10,51 N	015 54,29 W	3631		2 Pumps (720 m) (1074 m) Recovery of Surface Buoy Recovery of DOBS Mooring Drifting Trap 1 „out” (1049 m)
	5908-2	RO	29 10,52 N	015 54,21 W	3631		
		DOBS	29 10,11 N	015 56,01 W			
25.05.	5909-1	DT_1	29 10,38 N	015 43,89 W	3624		
	5909-2	RO	29 10,64 N	015 44,25 W	3625		
25.05.	5910-1	MUP	29 10,75 N	015 26,77 W	3608		8 Pumps (full depths)
26.05.	5910-2	RO	29 10,67 N	015 26,94 W	3609		(full depths)
	5910-3	DOP	29 10,66 N	015 26,79 W	3609		(50 m)
		DOP	29 10,68 N	015 26,78 W	3608		(50 m)
		CI 10	29 11,21 N	015 24,91 W			Recovery of CI 10
		CI 11	29 10,51 N	015 25,85 W			Deployment of CI
	5910-4	MUP	29 08,55 N	015 25,84 W	3606		8 Pumps (1500 m)
5910-5	MSD	29 08,54 N	015 25,91 W			COM test (1000 m)	
27.05.	5910-6	ParCa	29 08,61 N	015 25,94 W	3607		(full depth)
	5910-7	RO	29 09,07 N	015 25,03 W	3605		(1104 m)
	5910-8	DOP	29 09,11 N	015 24,86 W	3604		(500 m)
		DOP	29 09,19 N	015 24,71 W	3606		(800 m)
	5910-9	MSD	29 09,14 N	015 24,81 W	3605		COM test (2000 m)
	5910-10	OPRA	29 09,17 N	015 24,82 W	3605		(400 m)
	5910-11	ParCa	29 09,17 N	015 24,82 W	3604		(200 m)
	5910-12	MUP	29 09,17 N	015 24,82 W	3608		8 Pumps (220 m)

28.05.	5910-13	RO	29 09,17 N	015 25,40 W	3607	(1044 m)
	5910-14	MUP	29 09,12 N	015 25,43 W	3607	8 Pumps (200 m)
28.05.	5911-1	DT_1	29 05,46 N	015 31,41 W		Drifting Trap 1 „in“
	5911-2	DT_2	29 05,32 N	015 31,44 W		Drifting Trap 2 „out“
28.05.	5912-1	MSD	29 10,51 N	015 54,06 W	3652	COM test (2000 m)
		MSD	29 10,48 N	015 54,09 W	3645	COM test (1000 m)
	5912-2	DOP	29 10,48 N	015 54,06 W	3647	(800 m)
	5912-3	UWW	29 10,50 N	015 54,07 W		(900 m)
	5912-4	MUP	29 10,52 N	015 54,02 W	3632	8 Pumps (1100 m)
	5912-5	MUP	29 10,49 N	015 54,08 W	3632	8 Pumps (2500 m)
29.05.	5912-6	SB	29 10,43 N	015 55,19 W	3633	Re-deployment SB
	5912-7	MSD	29 10,47 N	015 54,39 W	3633	COM test (MSD-SB, MSD 2000 m)
	5912-8	UWW	29 10,47 N	015 54,42 W	3632	(200 m)
		UWW	29 10,47 N	015 54,42 W	3632	(200 m)
		UWW	29 10,48 N	015 54,39 W	3632	(200 m)
30.05.	5912-9	DOP	29 10,76 N	015 54,53 W	3633	(1500 m)
	5912-10	MUP	29 10,99 N	015 54,55 W	3631	8 Pumps (200 m)
	5913-1	MSU	29 08,78 N	015 52,49 W	3631	Short time deployment
						MSU mooring
30.05.	5914-1	DT_2	29 04,93 N	015 15,53 W	3592	Recovery of
						DT_2 mooring
	5914-2	RO	29 04,90 N	015 15,59 W	3592	(200 m)

Canary Islands / La Palma Area

31.05.	5915-1	LP-3	29 44,85 N	017 54,86 W	4322	Final recovery of
						LP-3 mooring
	5915-2	OPRA	29 44,49 N	017 53,62 W	4322	(1000 m)
	5915-3	MUP	29 44,83 N	017 54,22 W	4333	8 Pumps (1520 m)
01.06.	5915-4	DOP	29 44,85 N	017 54,24 W	4332	(2500 m)
	5915-5	MUP	29 45,27 N	017 54,55 W	4335	(400 m)
	5915-6	RO	29 45,32 N	017 54,54 W	4335	(1503 m)
	5915-7	MUP	29 45,77 N	017 54,82 W	4340	(980 m)

Canary Islands / DOMEST Area

02.06.	5916-1	UWW	29 10,79 N	015 56,46 W	3634	(200 m)
	5916-2	SB/DOBS	29 09,99 N	015 51,66 W		Satellite tests
		SB/MSU	29 08,67 N	015 52,37 W		SB-DOBS-MSU
	5916-3	MUP	29 09,56 N	015 51,93 W	3631	8 Pumps (3020 m)
	5916-4	ParCa	29 09,59 N	015 51,96 W	3629	(full depth)
03.06.	5916-5	DOP	29 09,60 N	015 51,93 W	3630	(2500 m)
03.06.	5917-1	MSU	29 08,27 N	015 52,15 W		Recovery MSU mooring
	5917-2	DOBS	29 10,94 N	015 55,85 W	3634	Deployment of DOBS
	5917-3	COM	29 10,43 N	015 55,86 W	3634	COM test (DOBS)

North Atlantic (Sound Source Moorings)

06.06.		IO1	35 27,98 N	010 11,42 W	4021	Recovery of Portuguese
						IO1 mooring failed, top
						buoyancy collapsed
	5918-1	DOP	35 28,06 N	010 11,28 W	4014	(2000 m)
		COM	35 28,51 N	010 11,56 W		Pos. check for IO1
07.06.		IO2	36 09,07 N	011 10,59 W	4786	Recovery of Portuguese
						IO2 mooring

Legend:

SL6	Gravity Corer (6 m Core tube)
SL12	Gravity Corer (12 m Core tube)
CTD	Conductivity, Temperature, Density Measurement
MUC	Multi Corer
MUP	Multi- and Single Pumps for Chemical Component pumping
RO	Rosette Water sampler (12 Bottles)
OPRA	Optic Refractometer
SB	Surface Buoy (2.4 m DOMEST Buoy)
MSD	Multi Sensor Device (Sensor packagee, Sediment trap, CTD, 3D ACM)
MSU	Moored Sensor Unit (Mooring with MSD inside)
DOP	Deep Ocean Profiler /Profiling YoYo vehicle)
DOBS	Deep Ocean Bottom Station
UWU	Underwater Winch
ParCa	Particle Camera
CI	Canary Island mooring
LP	La Palma mooring
IO	Inter Ocean mooring (Portuguese Sound source mooring)
COM	Communication tests via Satellite and Acoustic Communication)

List of Device Handling during the Cruise

<i>Device</i>	<i>Tasks on M45/1</i>
MUC	6
SL	7
RO	8
CTD	2
MUP	15
ParCa	4
OPRA	3
DOP	9
UWW	5
MSD	4

7.2 Leg M45/2

7.2.1 CTD Inventory

7.2.1a: Key parameters of CTD soundings

Status: 4 July 1999

Sta. No.	Prof. No.	Date 1999		Time (Z)		Latitude North	Longitude West	Depth* (m)	P _{max} ⁺ (dbar)
		day	month	h	min				
330	1	13	6	13	8	45.9673	12.5008	4431	4510
330	2	13	6	17	41	45.9683	12.5003	4417	4504
331	3	14	6	23	15	50.5259	15.5629	4279	4328
331	4	15	6	3	12	50.5266	15.5657	4279	4330
332	5	15	6	11	0	50.4191	16.7501	4753	4844
333	6	15	6	21	27	50.7361	18.6683	4727	4816
334	7	16	6	8	7	51.0481	20.5552	4302	4368
334	8	16	6	13	3	51.0464	20.5551	4302	4364
335	9	16	6	23	59	51.4025	22.6487	3190	3232
337	10	17	6	9	51	51.5330	23.7659	3544	3572
338	11	17	6	17	11	51.5355	24.9995	3854	3892
339	12	18	6	1	9	51.5002	26.2751	3749	3854
342	13	18	6	20	57	51.5329	27.3388	3379	3364
342	14	19	6	0	19	51.5342	27.3440	3380	3364
343	15	19	6	9	32	51.5238	28.4774	2767	2786
345	16	19	6	17	31	51.8337	29.5176	2367	2324
346	17	20	6	2	7	51.9080	31.3996	2711	2672
347	18	20	6	10	28	51.9703	33.1231	3585	3542
348	19	20	6	19	37	51.8035	34.9980	3816	3794
349	20	21	6	0	22	52.1004	34.9992	3335	3342
350	21	21	6	4	42	52.3504	34.9993	3854	3878
351	22	21	6	8	32	52.4998	34.9996	2682	2690
352	23	21	6	12	4	52.6524	35.0018	3403	3422
353	24	21	6	14	39	52.6942	35.0015	3678	3704
354	25	21	6	18	30	52.7501	34.9970	3184	3176
355	26	21	6	22	0	52.8692	35.0017	3348	3346
356	27	22	6	1	40	53.0011	35.0048	2504	2566
357	28	22	6	12	23	54.2871	32.9487	2730	2716
358	29	22	6	17	16	54.0001	32.2670	2926	2922
359	30	22	6	21	45	53.8357	31.7262	2857	2850
360	31	23	6	2	48	53.5478	31.0415	3173	3172
362	32	23	6	9	6	53.2310	30.2873	3085	3082
364	33	23	6	16	41	52.7877	29.9671	3368	3376
364	34	23	6	19	31	52.7844	29.9564	3371	3378
365	35	23	6	23	18	52.6160	29.8625	3617	3632
366	36	24	6	3	11	52.4415	29.8371	3813	3834
369	37	24	6	16	3	52.0635	29.6926	3723	3744
370	38	24	6	23	14	52.4944	28.4754	3754	3794
371	39	25	6	6	56	52.6416	27.0064	3773	3796
373	40	27	6	5	29	57.9182	18.5617	874	852
374	41	27	6	8	33	58.0841	19.0037	1021	1000
375	42	27	6	12	5	58.2663	19.5002	1600	1584
376	43	27	6	16	0	58.4650	20.1629	2520	2522
377	44	27	6	20	30	58.6538	20.6072	2906	2910
378	45	28	6	2	13	58.8656	21.2495	2910	2912
379	46	28	6	6	48	59.0831	21.8489	2880	2882
380	47	28	6	13	4	59.4089	22.8439	2508	2504
381	48	28	6	18	24	59.7420	23.8143	2368	2358
383	49	29	6	7	39	60.0721	24.7324	2284	2272
385	50	29	6	14	8	60.3772	25.6526	2141	2126
386	51	29	6	17	58	60.5704	26.2354	1937	1912
387	52	29	6	21	32	60.7666	26.8510	1545	1526
388	53	30	6	11	14	62.5660	23.7303	1304	1280
389	54	30	6	15	20	62.1200	23.2614	1503	1482
390	55	30	6	19	23	61.6673	22.7827	1797	1780
391	56	30	6	23	57	61.2026	22.3132	1840	1818
392	57	1	7	4	22	60.7372	21.8303	2343	2334
393	58	1	7	9	3	60.2730	21.3845	2682	2680
394	59	1	7	14	6	59.7921	20.9164	2821	2826
395	60	1	7	18	51	59.5247	21.6436	2838	2838
396	61	2	7	1	26	58.8830	22.9609	2802	2804
397	62	2	7	8	54	58.2159	24.4325	2812	2810
398	63	2	7	15	45	57.4012	24.8844	2792	2784
399	64	2	7	22	42	56.7658	25.9988	2822	2812
400	65	5	7	17	59	51.0010	42.9989	4278	4324

* PARASOUND display at the beginning of CTD stations, i.e. nominal depth correction

⁺ Pressure maximum recorded by the CTD probe without pressure

7.2.1b Rosette Data

Sta	C	Date 1999		Time UTC		Latitude	Longitude	Depth	Instr.	
		day	month	h	min	North	West	(m)		
330	1	13	6	13	8	45.9673	12.5008	4431	NB3	test station,blanks for F
330	2	13	6	17	41	45.9683	12.5003	4417	NB3	test station,CO,O,N,S
331	3	14	6	23	15	50.5259	15.5629	4279	NB3	Th,S,ladcp
331	4	15	6	3	12	50.5266	15.5657	4279	NB3	F,O,N,S,He,H3,ladcp
332	5	15	6	11	0	50.4191	16.7501	4753	NB3	F,CO,O,N,S,He,H3,ladcp
333	6	15	6	21	27	50.7361	18.6683	4727	NB3	F,CO,O,N,S,He,H3,ladcp
334	7	16	6	8	7	51.0481	20.5552	4302	NB3	F,O,N,S,ladcp
334	8	16	6	13	3	51.0464	20.5551	4302	NB3	F,CO,O,N,S,He,H3,ladcp
335	9	16	6	23	59	51.4025	22.6487	3190	NB3	F,CO,O,N,S,He,H3,ladcp
336		17	6	8	30	51.5322	23.7667		V393	recover mooring T
337	10	17	6	9	51	51.5330	23.7659	3544	NB3	F,O,N,S,He,H3,ladcp
338	11	17	6	17	11	51.5355	24.9995	3854	NB3	F,CO,O,N,S,He,H3,ladcp
338		17	6	20	10	51.5343	24.9957	3856	AP	#54
339	12	18	6	1	9	51.5002	26.2751	3749	NB3	F,O,N,S
340		18	6	11	1	51.5333	27.3405		V391	recover mooring A
341		18	6	15	45	51.5400	26.2772		V392	recover morring R
342	13	18	6	20	57	51.5329	27.3388	3379	NB3	S,Th,ladcp
342	14	19	6	0	19	51.5342	27.3440	3380	NB3	F,CO,O,N,S,He,H3
343	15	19	6	9	32	51.5238	28.4774	2767	NB3	F,CO,O,N,S,He,H3,ladcp
344		19	6	13	00	51.5300	28.5080		V390	recover mooring M
345	16	19	6	17	31	51.8337	29.5176	2367	NB3/DR	park:#491,#492,#493
345		19	6	19	20	51.8343	29.5172	2367	RF	#490
345		19	6	19	25	51.8343	29.5172	2367	AP	#52
346	17	20	6	2	7	51.9080	31.3996	2711	NB3	F,CO,O,N,S,He,H3,ladcp
347	18	20	6	10	28	51.9703	33.1231	3585	NB3	F,CO,O,N,S,ladcp
348		20	6	19	10	51.8048	34.9462	3746	AP	#53
348	19	20	6	19	37	51.8035	34.9980	3816	NB3	F,CO,O,N,S,He,H3,ladcp
349	20	21	6	0	22	52.1004	34.9992	3335	NB3	F,O,N,S,ladcp
350	21	21	6	4	42	52.3504	34.9993	3854	NB3	F,O,N,S,He,H3,Th,ladcp
351	22	21	6	8	32	52.4998	34.9996	2682	NB3	F,O,N,S,He,H3,ladcp
352	23	21	6	12	4	52.6524	35.0018	3403	NB3	ladcp
353	24	21	6	14	39	52.6942	35.0015	3678	NB3	F,O,N,S,He,H3,ladcp
354	25	21	6	18	30	52.7501	34.9970	3184	NB3	ladcp
355	26	21	6	22	0	52.8692	35.0017	3348	NB3	F,O,N,S,He,H3,ladcp
356	27	22	6	1	40	53.0011	35.0048	2504	NB3	F,O,N,S,ladcp
357	28	22	6	12	23	54.2871	32.9487	2730	NB3	F,O,N,S,ladcp
358	29	22	6	17	16	54.0001	32.2670	2926	NB3	F,CO,O,N,S,ladcp
359	30	22	6	21	45	53.8357	31.7262	2857	NB3	F,O,N,S,ladcp
360	31	23	6	2	48	53.5478	31.0415	3173	NB3	F,CO,O,N,S,ladcp
361		23	6	8	16	53.2550	30.2842		V398	set mooring C
362	32	23	6	9	6	53.2310	30.2873	3085	NB3	F,CO,O,N,S,ladcp
363		23	6	14	36	52.8030	29.9633		V397	set mooring G
364	33	23	6	16	41	52.7877	29.9671	3368	NB3	Th,ladcp
364	34	23	6	19	31	52.7844	29.9564	3371	NB3	F,O,N,S
365	35	23	6	23	18	52.6160	29.8625	3617	NB3	F,CO,O,N,S,ladcp
366	36	24	6	3	11	52.4415	29.8371	3813	NB3	F,O,N,S,ladcp
367		24	6	8	11	52.4400	29.8367		V396	set mooring F
368		24	6	13	24	52.0642	29.6667		V395	set mooring Z
369	37	24	6	16	3	52.0635	29.6926	3723	NB3	F,CO,O,N,S,ladcp
370	38	24	6	23	14	52.4944	28.4754	3754	NB3	F,CO,O,N,S,ladcp

7.2.1b continued

Sta	C	Date 1999		Time UTC		Latitude North	Longitude West	Depth (m)	Instr.	
		day	month	h	min					
371	39	25	6	6	56	52.6416	27.0064	3773	NB3	F,CO,O,N,S TTO 121
371		25	6	10	6	52.6337	27.0235	3769	RF	#486
372		26	6	14	45	56.0393	21.6840		RF	rec.over #416 from M39/2
373	40	27	6	5	29	57.9182	18.5617	874	NB3	
374	41	27	6	8	33	58.0841	19.0037	1021	NB3	F,CO,O,N,S,He,H3
375	42	27	6	12	5	58.2663	19.5002	1600	NB3	ladcp
376	43	27	6	16	0	58.4650	20.1629	2520	NB3	F,CO,O,N,S,ladcp
377		27	6	29	28	58.6543	20.6082	2905	RF	#487
377	44	27	6	20	30	58.6538	20.6072	2906	NB3	F,O,N,S,He,H3,Th,ladcp
378		28	6	1	50	58.8572	21.2222	2907	RF	#488
378	45	28	6	2	13	58.8656	21.2495	2910	NB3	ladcp
379	46	28	6	6	48	59.0831	21.8489	2880	NB3	F,CO,O,N,S,He,H3,ladcp
379		28	6	9	12	59.0778	21.8363	2881	RF	#489
380	47	28	6	13	4	59.4089	22.8439	2508	NB3	F,O,N,S,ladcp
381	48	28	6	18	24	59.7420	23.8143	2368	NB3	F,CO,O,N,S,He,H3,ladcp
382		29	6	6	49	60.0717	24.7250		V384	recover mooring IM1(SoSo)
383	49	29	6	7	39	60.0721	24.7324	2284	NB3	F,O,N,S,He,H3,Th,ladcp
384		29	6	10	2	60.0733	24.7192		V384	set mooring IM1(SoSo)
385	50	29	6	14	8	60.3772	25.6526	2141	NB3	F,CO,O,N,S,He,H3,ladcp
386	51	29	6	17	58	60.5704	26.2354	1937	NB3	F,O,N,S,He,H3,ladcp
387	52	29	6	21	32	60.7666	26.8510	1545	NB3	F,CO,O,N,S,He,H3,ladcp
388	53	30	6	11	14	62.5660	23.7303	1304	NB3	F,CO,O,N,S,ladcp
389	54	30	6	15	20	62.1200	23.2614	1503	NB3	F,O,N,S,He,H3,ladcp
390	55	30	6	19	23	61.6673	22.7827	1797	NB3	F,CO,O,N,S,ladcp
391	56	30	6	23	57	61.2026	22.3132	1840	NB3	F,O,N,S,He,H3,ladcp
392	57	1	7	4	22	60.7372	21.8303	2343	NB3	F,CO,O,N,S,ladcp
393	58	1	7	9	3	60.2730	21.3845	2682	NB3	F,O,N,S,He,H3,Th,ladcp
394	59	1	7	14	6	59.7921	20.9164	2821	NB3	F,CO,O,N,S,ladcp
395	60	1	7	18	51	59.5247	21.6436	2838	NB3	ladcp
396	61	2	7	1	26	58.8830	22.9609	2802	NB3	F,O,N,S,ladcp
397	62	2	7	8	54	58.2159	24.4325	2812	NB3	F,S,ladcp
398	63	2	7	15	45	57.4012	24.8844	2792	NB3	F,CO,O,N,S,ladcp
399	64	2	7	22	42	56.7658	25.9988	2822	NB3	F,O,N,S,ladcp
400	65	5	7	17	59	51.0010	42.9989	4278	NB3	F,CO,O,N,S,ladcp TTO 214

List of abbreviations:

Sta : Station No.
C : CTD cast No. or profile number
Instr : Type of instrumentation or mooring or float
NB3: Neil Brown CTD, IFMK code NB3 with 22x10 l bottle rosette
RF: RAFOS float
DR: Dual Release RAFOS float
AP: APEX float
SoSo : Sound Source
TTO : Transient tracers in the ocean

Additional sensors on and samples taken from CTD/rosette:

F CFC
CO carbon dioxide
O oxygen
N nutrients
Th thorium
He helium
H3 tritium
S salt
ladcp lowered acoustic Doppler profiler (RD Instruments, WorkHorse)

PARASOUND displays at the beginning of stations, i.e. nominal depths

7.2.2 Mooring Activities

Ship	Sta No.	Int. No.	IfM No.	Date	Latitude North	Longitude West	Depth (m)	Instr. Type	Remarks incl. nominal instr.depth
<u>Current Meter Moorings</u>									
Pos 242	385	T	V393	06 Aug. ↓ 1998	51°31.93'	023°46.00'	3550	CB ACM 8 ACM 8 ACM 8	? ARGOS 2267 ? No.12004@1650m No.10076@2550m No.11617@2850m
M45/2	336	T	V393	17 June↑ 1999				ACM 8 ACM 8 ACM 8 ACM 8	No.9820 @3050m No.9727 @3250m No.11618@3500m
Pos 242	388	R	V392 -01	07 Aug. ↓ 1998	51°32.40'	026°16.63'	3940	CB ACM 8 ACM 8 ACM 8	? ARGOS 5507 ? No.10077@2640m No.9816 @2940m No.9313 @3240m
M45/2	341	R	V392	18 June↑ 1999				ACM 8 ACM 8 ACM 8	No.9312 @3640m No.11621@3890m
Pos 242	389	A	V391 -01	07 Aug. ↓ 1998	51°32.00'	027°20.43'	3340	CB ACM 8 ACM 8 ACM 8	? ARGOS 5510 ? No.10075@1680m No.9732 @2580m No.10663@2780m
M45/2	340	A	V391	18 June↑ 1999				ACM 8 ACM 8	No.9345 @3080m No.9831 @3290m
Pos 242	392	M	V390 -01	08 Aug. ↓ 1998	51°31.80'	028°30.48'	3180	CB ACM 8 ACM 8 ACM 8	? No.9322 @1880m No.9730 @2780m No.9344 @2980m
M45/2	344	M	V390	19 June↑ 1999				ACM 8	No.9731 @3130m
M45/2	361	C	V398	23 June↓ 1999	53°15.30'	030°17.05'	3098	CB ACM 8 ACM 8	ARGOS 15172 No.12005@330m a.b. No. 9832 @ 50m a.b.
M45/2	363	G	V397	23 June↓ 1999	52°48.18'	029°57.80'	3371	CB ACM 8 ACM 8 ACM 8 ACM 8 ACM 8	ARGOS 7848 No.9726 @ 1786m No.2317 @2586m No.10660 @700m a.b. No.11576 @400m a.b. No.10500 @200m a.b. No.10502 @ 50m a.b.
M45/2	367	F	V396	24 June↓ 1999	52°26.40'	029°50.20'	381	CB ACM 8 ACM 8 ACM 8 ACM 8	ARGOS 9244 No.10658 @1676m No.11441 @800m a.b. No.10659 @450m a.b. No.9812 @200m a.b. No.12051 @ 50m a.b.
M45/2	368	Z	V395	24 June↓ 1999	52°03.85'	029°40.00'	3721	CB ACM 8 ACM 8 ACM 8 ACM 8	ARGOS 3535 No.10078 @1695m No.131 @615m a.b. No.9834 @311m a.b. No.9821 @ 50m a.b.
<u>Sound Source Mooring</u>									
M39/2	219	IM1	V384 -01	21 May↓ 1997	60°04.30'	024°43.50'	2283		ARGOS 2263 ? SoSo24, transmission: @01:00Z
M45/2	382	IM1	V384	29 June↑ 1999				ACM 8 ACM 8	No 4562 @1330m No.4562 flooded SoSo. time base checked on board
M45/2	384	IM1	V384	29 June↓ 1999	60°04.40'	024°43.15'	2285		ARGOS 667 SoSo24, transmission @1:00Z

Abbreviations

ACM 5	Aanderaa current meter RCM 5	no sign	Operational during recovery
ACM 8	Aanderaa current meter RCM 8	?	Non-operational during recovery
SoSo	Sound Source	↓	deployment
CB	Short Wave Transmitter	↑	recovery
ARGOS	Watch Dog	a.b.	above bottom

NB: *All activities during M45/2 in bold charcters*

7.2.3 List of RAFOS Float Launches and Recoveries

M45/2

Status: June 30, 1999

Sta. No.	IfM No.	Date 1999	Time Z	Latitude North	Longitude West	ARGOS (Dec)	Mission (month)	S/N	Remarks
<u>Dual Release RAFOS float launches ↓</u>									
at intermediate depth (1500 m)									
345	490(#)	19/06/99	19:25	51°50.06'	029°31.03'	5465	0 + 20	RF57	Single Release
345	491(#)	19/06/99	18:21	51°50.07'	029°31.08'	5473	2 + 18	RF58	(Float
345	492(#)	19/06/99	18:25	51°50.10'	029°31.11'	5474	4 + 20	RF59	Park
345	493(#)	19/06/99	18:30	51°50.08'	029°31.16'	5475	6 + 18	RF60	South)
<u>RAFOS float launches ↓</u>									
at greater depth (2600 m)									
371	486 (#)	25/06/99	10:06	52°38.02'	027°01.41'	4374	15	RF53	@TTO121
377	487(#)	27/06/99	20:28	58°39.26'	020°36.49'	4378	24	RF54	(Maury
378	488(#)	28/06/99	01:50	58°51.43'	021°13.33'	5461	24	RF55	Chan-
379	489(#)	28/06/99	09:12	59°04.67'	021°50.18'	5464	20	RF56	nel)
<u>RAFOS float recovery ↑</u>									
372	416 (F)	26/06/99↓	14:45	56°02.36'	027°41.04'	12610	6 + 18		ex Park South
261*		03/06/97↑	12:31	51°50.20'	029°31.40'				cruise M39/2
<u>APEX float (S/PALACE) launches↓</u>									
338	§	17/06/99	20:10	51°32.06'	024°59.74'	15604	< 60	#54	
345	§	19/06/99	19:25	51°50.06'	029°31.03'	15599	< 60	#52	Float Park South
348	§	20/06/99	19:10	51°48.29'	034°56.77'	15601	< 60	#53	

Abbreviations

- (#) Sea Scan DLD II
 (F) WOCE version with FORTH downloading, compressed data format
 ↓ launch
 ↑ recovery
 § on request of Bundesamt für Seeschifffahrt und Hydrographie, Hamburg

7.3 Leg M45/3

7.3.1 Moorings deployed and recovered during METEOR M45/3

1999 moorings				
mooring	deployment date	latitude	longitude	type
K101	07.28.1999	43 04.00'N	48 52.50'W	current meter
K102	07.28.1999	42 57.00'N	48 23.70'W	current meter
K103	07.29.1999	42 46.80'N	47 45.20'W	current meter
K104	07.30.1999	42 31.10'N	46 47.50'W	current meter
K27	07.15.1999	53 35.30'N	49 42.00'W	current meter
K28	07.14.1999	53 18.90'N	50 26.40'W	current meter
K29	07.14.1999	53 05.15'N	50 59.90'W	current meter
K30	07.23.1999	56 49.70'N	53 59.20'W	moored CTD
K31	07.24.1999	56 33.60'N	52 39.50'W	Tomography/Convection
K32	07.20.1999	55 27.20'N	53 43.30'W	Tomography/Convection Tomography
K33	07.23.1999	57 08.00'N	55 18.07'W	
mooring	recovery date	latitude	longitude	type
K7	07.14.1999	52 51.1'N	51 35.8'W	current meter
K8	07.13.1999	52 57.5'N	51 18.0'W	current meter
K19	07.13.1999	53 08.5'N	50 52.0'W	current meter
K10	07.13.1999	53 22.8'N	50 15.6'W	current meter
K16	07.15.1999	53 41.5'N	49 26.0'W	current meter
K18	08.05.1999	46 27.1'N	43 25.1'W	current meter
K20	07.21.1999	56 58.8'N	54 34.8'W	moored CTD
K21	07.18.1999	56 33.6'N	52 39.5'W	Tomography/Convection
K22	07.19.1999	55 27.2'N	53 43.3'W	Tomography/Convection Tomography
K23	07.22.1999	57 24.8'N	56 34.25'W	Tomography
K24	07.17.1999	57 40.3'N	51 28.44'W	

7.3.2 CTD inventory

Meteor M45/3		CTD/LADCP Stations					Page 1	
Profile	Station	Date	Time	Latitude	Longitude	Water Depth	Profile Depth	Comment
1	401	1999/07/12	10:20	50° 56.90' N	51° 58.08' W	219	205	
2	402	1999/07/12	23:07	52° 51.16' N	51° 35.74' W	1256	1242	K7
3	403	1999/07/13	02:15	52° 48.02' N	51° 44.91' W	541	533	
4	404	1999/07/13	04:41	52° 56.50' N	51° 16.06' W	2203	2276	K8
5	407	1999/07/13	23:49	53° 7.40' N	50° 51.93' W	2925	2918	K19
6	408	1999/07/14	04:53	52° 54.10' N	51° 26.32' W	1911	1915	
7	409	1999/07/14	07:44	53° 2.30' N	51° 4.00' W	2581	2587	K29
8	411	1999/07/14	14:54	53° 12.61' N	50° 40.07' W	3147	3144	
9	412	1999/07/14	21:26	53° 18.01' N	50° 27.46' W	3258	3238	K28
10	413	1999/07/15	00:50	53° 22.75' N	50° 15.54' W	3369	3344	K10
11	414	1999/07/15	04:21	53° 28.90' N	49° 58.70' W	3564	3540	
12	415	1999/07/15	07:49	53° 35.20' N	49° 42.50' W	3626	3606	K27
13	416	1999/07/15	14:52	53° 41.72' N	49° 25.94' W	3715	3685	K16
14	418	1999/07/15	22:18	53° 50.05' N	49° 0.12' W	3773	3754	
15	419	1999/07/16	04:36	54° 28.00' N	49° 25.00' W	3660	3636	
16	420	1999/07/16	10:26	55° 5.98' N	49° 50.00' W	3555	3530	
17	421	1999/07/16	16:26	55° 45.22' N	50° 14.85' W	3632	3611	
18	422	1999/07/16	22:19	56° 23.05' N	50° 40.05' W	3632	3614	
19	423	1999/07/17	04:30	57° 1.00' N	51° 4.00' W	3589	3570	
20	424	1999/07/17	12:30	57° 40.85' N	51° 28.66' W	3491	3476	K24
21	425	1999/07/17	18:57	57° 18.05' N	51° 52.07' W	3550	3527	
22	426	1999/07/17	23:30	56° 56.08' N	52° 15.98' W	3512	3492	
23	427	1999/07/18	05:02	56° 32.37' N	52° 38.18' W	3495	3452	K21, Pegasus 1
24	428	1999/07/18	16:08	56° 24.10' N	52° 48.70' W	3503	3486	
25	429	1999/07/18	19:41	56° 14.65' N	52° 57.77' W	3444	3412	
26	430	1999/07/18	23:10	56° 5.10' N	53° 7.09' W	3298	3281	
27	431	1999/07/19	02:30	55° 55.70' N	53° 16.30' W	3197	3169	
28	432	1999/07/19	05:45	55° 46.20' N	53° 25.70' W	3067	3047	
29	433	1999/07/19	19:15	55° 27.22' N	53° 43.43' W	2775	2726	K22, K32, Pegasus 2
30	434	1999/07/19	23:07	55° 36.68' N	53° 34.57' W	2908	2891	
31	435	1999/07/20	03:51	55° 13.90' N	53° 58.20' W	1980	1938	
32	436	1999/07/20	07:24	55° 0.77' N	54° 12.56' W	502	450	
33	437	1999/07/20	10:33	55° 7.29' N	54° 5.10' W	1065	1041	
34	438	1999/07/20	13:03	55° 20.53' N	53° 50.97' W	2489	2471	
35	439	1999/07/21	01:30	55° 59.97' N	54° 20.05' W	3143	3127	

CTD inventory continued

Meteor M45/3		CTD/LADCP Stations					Page 2	
Profile	Station	Date	Time	Latitude	Longitude	Water Depth	Profile Depth	Comment
36	440	1999/07/21	06:57	56° 27.00' N	55° 8.00' W	2976	2957	
37	441	1999/07/21	10:41	56° 42.94' N	54° 51.09' W	3114	3098	
38	442	1999/07/21	16:56	56° 58.70' N	54° 36.42' W	3220	3202	K20
39	443	1999/07/21	22:56	57° 0.01' N	55° 56.06' W	2849	2827	
40	444	1999/07/22	04:16	57° 24.48' N	56° 36.35' W	2761	2654	K23, Pegasus 3
41	445	1999/07/22	22:40	57° 7.94' N	55° 17.58' W	3072	3062	K33, Pegasus 4
42	445	1999/07/23	03:05	57° 8.00' N	55° 17.49' W	3085	1903	Pegasus 5
43	446	1999/07/23	21:22	56° 50.50' N	53° 57.90' W	3341	3322	K30
44	447	1999/07/24	08:43	56° 33.60' N	52° 39.50' W	3491	3474	K31, Pegasus 6
45	448	1999/07/27	15:07	43° 15.33' N	49° 22.09' W	529	524	
46	449	1999/07/27	16:49	43° 11.70' N	49° 9.30' W	1017	994	
47	450	1999/07/27	19:42	43° 8.42' N	48° 59.44' W	1560	1554	
48	451	1999/07/28	00:19	43° 4.80' N	48° 51.94' W	2033	1992	K101-1
49	452	1999/07/28	03:37	43° 2.20' N	48° 42.65' W	2392	2377	
50	454	1999/07/28	19:41	42° 57.39' N	48° 24.97' W	2958	2936	K102-1
51	455	1999/07/28	23:45	42° 59.70' N	48° 33.32' W	2680	2648	
52	456	1999/07/29	03:22	42° 53.60' N	48° 11.60' W	3294	3271	
53	457	1999/07/29	06:59	42° 50.40' N	47° 58.50' W	3531	3511	
54	458	1999/07/29	16:00	42° 47.25' N	47° 46.82' W	3643	3638	K103-1
55	458	1999/07/29	19:51	42° 42.63' N	47° 30.99' W	3762	3736	
56	460	1999/07/29	23:42	42° 38.37' N	47° 15.40' W	4098	4067	
57	461	1999/07/30	07:32	42° 33.19' N	46° 57.96' W	4091	4052	
58	462	1999/07/30	13:43	42° 28.62' N	46° 42.85' W	4386	4371	K104-1
59	464	1999/07/30	21:51	42° 23.02' N	46° 21.90' W	4643	4622	
60	465	1999/07/31	02:32	42° 16.90' N	46° 0.10' W	4703	4682	
61	466	1999/07/31	07:59	42° 8.01' N	45° 29.98' W	4767	4744	
62	467	1999/07/31	13:28	42° 0.01' N	44° 59.92' W	4846	4828	
63	468	1999/07/31	18:49	42° 7.98' N	44° 29.92' W	4894	4875	
64	469	1999/08/01	00:12	42° 17.01' N	43° 59.99' W	4910	4889	
65	470	1999/08/01	05:42	42° 24.83' N	43° 29.67' W	4878	4855	
66	471	1999/08/01	11:05	42° 33.90' N	43° 0.03' W	4887	4852	
67	472	1999/08/01	16:33	42° 42.89' N	42° 29.91' W	4761	4800	
68	473	1999/08/01	21:48	42° 52.06' N	41° 59.91' W	4819	4799	
69	474	1999/08/02	03:15	43° 1.02' N	41° 30.08' W	4888	4823	
70	475	1999/08/02	08:28	43° 10.01' N	40° 59.98' W	4829	4809	

CTD inventory continued

Meteor M45/3		CTD/LADCP Stations					Page 3	
Profile	Station	Date	Time	Latitude	Longitude	Water Depth	Profile Depth	Comment
71	476	1999/08/02	14:48	43° 33.00' N	41° 0.03' W	4804	4782	
72	477	1999/08/02	20:08	43° 56.02' N	40° 59.93' W	4789	4769	
73	478	1999/08/03	01:37	44° 19.01' N	40° 59.94' W	4782	4761	
74	479	1999/08/03	07:38	44° 44.99' N	41° 0.02' W	3414	3394	
75	480	1999/08/03	13:09	45° 11.98' N	41° 20.03' W	4776	4763	
76	481	1999/08/03	18:42	45° 27.96' N	41° 42.94' W	4684	4666	
77	482	1999/08/04	02:16	45° 43.92' N	42° 5.95' W	4682	4660	
78	483	1999/08/04	07:30	45° 55.00' N	42° 26.00' W	4656	4630	
79	484	1999/08/04	14:52	46° 4.98' N	42° 44.02' W	4606	4588	
80	485	1999/08/04	19:42	46° 13.04' N	42° 58.99' W	4366	4340	
81	486	1999/08/05	00:12	46° 20.01' N	43° 12.81' W	4206	4191	
82	487	1999/08/05	04:03	46° 24.93' N	43° 21.05' W	4038	4026	
83	488	1999/08/05	07:49	46° 29.94' N	43° 30.06' W	3893	3897	
84	490	1999/08/05	14:41	46° 33.20' N	43° 36.45' W	3539	3594	
85	491	1999/08/05	18:26	46° 36.59' N	43° 42.38' W	3146	3128	
86	492	1999/08/05	21:14	46° 39.97' N	43° 49.01' W	2555	2533	
87	493	1999/08/05	23:59	46° 43.23' N	43° 55.24' W	1088	1082	
88	494	1999/08/06	11:11	48° 30.00' N	44° 59.88' W	789	779	
89	495	1999/08/06	13:24	48° 35.51' N	44° 46.02' W	1086	1070	
90	496	1999/08/06	15:15	48° 39.73' N	44° 34.19' W	1434	1426	
91	497	1999/08/06	17:15	48° 44.00' N	44° 22.50' W	1678	1664	
92	498	1999/08/06	19:22	48° 48.50' N	44° 10.68' W	1971	1953	
93	499	1999/08/06	21:17	48° 51.03' N	44° 4.16' W	2184	2170	
94	500	1999/08/06	23:37	48° 53.58' N	43° 57.65' W	2660	2664	
95	501	1999/08/07	02:12	48° 56.05' N	43° 51.07' W	3020	3020	
96	502	1999/08/07	05:30	48° 59.15' N	43° 43.18' W	3272	3253	
97	503	1999/08/07	08:24	49° 2.09' N	43° 35.02' W	3583	3648	
98	504	1999/08/07	11:54	49° 6.04' N	43° 24.33' W	3840	3822	
99	505	1999/08/07	16:03	49° 11.00' N	43° 10.60' W	3942	3932	
100	506	1999/08/07	19:47	49° 17.01' N	42° 54.98' W	4087	4074	
101	507	1999/08/07	23:33	49° 23.06' N	42° 39.10' W	4209	4199	
102	508	1999/08/08	03:20	49° 29.00' N	42° 23.00' W	4300	4284	
103	509	1999/08/08	07:18	49° 36.07' N	42° 4.37' W	4394	4371	
104	510	1999/08/08	11:22	49° 42.42' N	41° 46.42' W	4388	4364	

CTD 1-44 WH LADCP-2

CTD 44-104 NB LADCP

7.3.3 Moored Time Series Obtained During M45/3

53°N - Array				
Instrument	Serial	Variables	Depth	Remarks
K7 52 51.100 N 051 35.800 W 1250 m				
Start : 1997/07/14 22:31 End : 1999/07/12 22:00				
ADCP	460	u,v,w,t	344	
RCM-8	9933	u,v,t,p	704	
RCM-8	9350	u,v,t	1050	
K8 52 57.490 N 051 18.000 W 2230 m				
Start : 1997/07/15 13:30 End : 1999/07/13 07:54				
ADCP	270	u,v,w,t	324	
RCM-8	9932	u,v,t,p	685	
RCM-8	9934	u,v,t,p	1081	
MicroCAT	55	t,c	1083	bad 'c' Nov/Dec 1998
MicroCAT	53	t,c	1481	
RCM-8	10779	u,v,t,p	1827	
RCM-8	9964	u,v,t	2132	no 'u,v' 1999/05/26 to end
K19 53 08.500 N 050 52.000 W 2870 m				
Start : 1998/07/17 14:09 End : 1999/07/13 11:42				
ADCP	393	u,v,w,t	350	
MicroCAT	331	t,c	706	start 1998/10/13-12:01
RCM-5	7658	u,v,t	1104	
MicroCAT	381	t,c	1502	
RCM-8	6122	u,v,t,p	1503	
ACM	1375	u,v,t	2416	
MicroCAT	382	t,c	2417	
ACM	13557	u,v,t	2827	
K10 53 22.800 N 050 15.600 W 3356 m				
Start : 1997/07/13 23:30 End : 1999/07/13 16:30				
RCM-8	9346	u,v,t,p	200	
SeaCAT	1532	t,c	1100	
RCM-8	9930	u,v,t	1500	
RCM-8	10776	u,v,t	1900	
RCM-8	10810	u,v,t	2500	
RCM-8	10815	u,v,t	3000	
RCM-8	10816	u,v,t	3250	
SeaCAT	1533	t,c	3250	
K16 53 41.500 N 049 26.000 W 3704 m				
Start : 1997/07/13 13:04 End : 1999/07/15 12:49				
RCM-8	11267	u,v,t,p	1500	
RCM-8	10813	u,v,t	2550	
RCM-8	9929	u,v,t	3050	
RCM-8	11299	u,v,t	3550	

7.3.3 continued

Convection Moorings				
Instrument	Serial	Variables	Depth	Remarks
K20	56	58.800 N	054 34.800 W	3230 m
Start : 1998/08/03 13:08		End : 1999/07/21 15:03		
M-T	1	t,p	53	
ADCP	584	u,v,w,t	67	
M-CTD	-	t,c,p	77	
RCM-8	9801	u,v,t	3121	
K21	56	33.600 N	052 39.500 W	3490 m
Start : 1998/08/06 20:50		End : 1999/07/18 10:22		
M-T	4	t,p	69	
MicroCAT	52	t,c	73	start 1998/08/07-00:00
TOMO	-		136	
ADCP	215	u,v,w,t	200	
MicroCAT	278	t,c	303	
RCM-8	11265	u,v,t,p	561	
MicroCAT	393	t,c	818	
SeaCAT	939	t,c	1074	
SeaCAT	940	t,c	1481	
RCM-8	11266	u,v,t,p	1482	
SeaCAT	941	t,c	2296	't,c' offset Sep.98-Apr.99
ACM	1376	u,v,t	2601	1.Oct - End only 't'
K22	55	27.200 N	053 43.300 W	2775 m
Start : 1998/08/01 20:33		End : 1999/07/19 11:42		
ARGONAUT	66	u,v,t,p	73	data to 1999/04/19
TOMO	-		131	
SeaCAT	2271	t,c	348	
SeaCAT	1307	t,c	1517	
RCM-8	11298	u,v,t,p	1518	
RCM-8	10818	u,v,t,p	1916	
RCM-8	9792	u,v,t	2565	
SeaCAT	2272	t,c	2751	
ACM	1353	u,v,t	2752	
K23	57	24.810 N	056 34.250 W	2770 m
Start : 1998/08/04 00:23		End : 1999/07/22 11:05		
M-T	5	t,p	65	
HLF5	-		136	
ADCP	591	u,v,w,t	209	
SeaCAT	1531	t,c	1329	
RCM-8	9349	u,v,t	1328	
Flemish Cap				
K18	46	27.050 N	043 25.100 W	4000 m
Start : 1998/07/26 13:22		End : 1999/08/05 11:25		
M-T	3	t,p	1450	
ACM	1374	u,v,t	1507	
MicroCAT	54	t,c	1508	
RCM-5	6121	—	2502	drowned
ACM	1378	u,v,t	3196	
MicroCAT	56	t,c	3953	start 1998/08/01
ACM	1377	u,v,t	3954	

7.3.4 Marine Chemistry Measurements During M45/3

Station / Profil	C _T	pH	13C	14C	A _T	nutrients
401 / 01	-	-	-	-	-	11
402 / 02	16/1	16/1	15	-	-	21
403 / 03	12/1	12/1	11	-	-	11
404 / 04	16/1	16/1	15	-	-	17
407 / 05	23/2	23/2	21	-	-	22
408 / 06	-	-	-	-	-	-
409 / 07	21/2	21/2	19	-	-	22
411 / 08	-	-	-	-	-	20
412 / 09	-	-	-	-	-	16
413 / 10	16/-	17/1	16	-	-	16
414 / 11	-	-	-	-	-	19
415 / 12	-	-	-	-	-	18
416 / 13	23/2	23/2	21	-	-	22
418 / 14	24/2	24/2	22	-	-	22
419 / 15	-	-	-	-	-	18
420 / 16	24/2	24/2	-	-	-	22
421 / 17	-	-	-	-	-	18
422 / 18	23/2	24/3	21	-	-	21
423 / 19	-	-	-	-	-	20
424 / 20	24/2	24/2	22	22	-	22
425 / 21	-	-	-	-	-	14
426 / 22	-	-	-	-	-	17
427 / 23	21/2	21/2	19	-	-	20
428 / 24	-	-	-	-	-	22
429 / 25	-	-	-	-	-	6
430 / 26	-	-	-	-	-	18
431 / 27	24/2	24/2	-	-	-	22
432 / 28	-	-	-	-	-	8
433 / 29	22/2	22/2	20	-	-	19
434 / 30	-	-	-	-	-	17
435 / 31	18/2	18/2	-	-	-	16
436 / 32	11/2	11/2	-	-	-	8
437 / 33	-	-	-	-	-	10
438 / 34	-	-	-	-	-	15
439 / 35	-	-	-	-	-	-
440 / 36	-	-	-	-	-	-
441 / 37	-	-	-	-	-	-
442 / 38	-	-	-	-	-	-
443 / 39	-	-	-	-	-	-
444 / 40	19/2	19/2	-	-	-	17
445 / 41	22/2	22/2	-	-	-	20
445 / 42	3/-	3/-	-	-	-	3
446 / 43	24/2	24/2	-	-	-	22
447 / 44	-	-	-	-	-	-
448 / 45	12/2	12/2	-	-	-	10
449 / 46	14/2	14/2	-	-	-	12
450 / 47	-	-	-	-	-	13
451 / 48	20/2	20/2	-	-	-	18
452 / 49	22/2	22/2	-	-	-	20
454 / 50	24/2	24/2	-	-	-	22
455 / 51	-	-	-	-	-	-
456 / 52	-	-	-	-	-	20
457 / 53	-	-	-	-	-	20
458 / 54	22/2	22/2	-	-	-	20

Marine chemistry measurements during M45/3 continued

Station / Profil	C _T	pH	13C	14C	A _T	nutrients
459 / 55	-	-	-	-	-	7
460 / 56	-	-	-	-	-	20
461 / 57	22/2	22/2	20	-	-	20
462 / 58	-	24/2	-	-	-	22
464 / 59	-	-	-	-	-	19
465 / 60	24/2	24/2	22	-	-	22
466 / 61	-	-	-	-	-	19
467 / 62	-	11/1	-	-	-	19
468 / 63	23/1	24/2	-	-	-	22
469 / 64	-	-	-	-	-	22
470 / 65	-	-	-	-	-	18
471 / 66	24/2	24/2	22	-	22	21
472 / 67	-	-	-	-	-	18
473 / 68	-	12/1	-	-	-	22
474 / 69	-	-	-	-	-	19
475 / 70	24/2	24/2	22	-	-	22
476 / 71	-	-	-	-	-	17
477 / 72	-	12/1	-	-	-	18
478 / 73	24/2	24/2	22	-	-	22
479 / 74	-	-	-	-	-	18
480 / 75	12/1	11/1	-	-	-	22
481 / 76	24/2	24/2	-	-	-	22
482 / 77	-	-	-	-	-	15
483 / 78	-	-	-	-	-	15
484 / 79	-	13/1	-	-	-	12
485 / 80	24/2	24/2	22	-	-	22
486 / 81	-	-	-	-	-	12
487 / 82	-	-	-	-	-	11
488 / 83	-	-	-	-	-	17
490 / 84	24/2	24/2	22	22	22	22
491 / 85	-	-	-	-	-	14
492 / 86	19/2	19/2	-	-	17	17
493 / 87	12/-	13/1	-	-	-	12
Underway	38	38	-	-	38	38
total:	794	869	152	22	99	638

7.4

Leg M45/4

7.4.1

CTD-Inventory

EXP- CODE	Section Name	Stat. No.	Cast No.	Cast Type	Date mddy	Time UTC	Code	Position Latitude	Longitude	Code	Bottom depth	Meter Wheel	Max Press.	Bottom Dist.	Comments
06ME45/4	VEINS	511	01	ROS/CTD	081499	1138	BE	51 54.77 N	49 22.91 W	GPS	3033				
06ME45/4	VEINS	511	01	ROS/CTD	081499	1208	BO	51 54.55 N	49 23.06 W	GPS	3001	1490	1500		Test Station
06ME45/4	VEINS	511	01	ROS/CTD	081499	1249	EN	51 54.24 N	49 23.30 W	GPS	2999				
06ME45/4	VEINS-6	512	01	ROS/CTD	081799	0053	BE	59 59.61 N	42 30.30 W	GPS	191				
06ME45/4	VEINS-6	512	01	ROS/CTD	081799	0102	BO	59 59.61 N	42 30.47 W	GPS	193	177	180	8	
06ME45/4	VEINS-6	512	01	ROS/CTD	081799	0113	EN	59 59.65 N	42 30.56 W	GPS	192				
06ME45/4	VEINS-6	513	01	ROS/CTD	081799	0235	BE	59 58.77 N	42 10.73 W	GPS	563				
06ME45/4	VEINS-6	513	01	ROS/CTD	081799	0252	BO	59 58.68 N	42 10.96 W	GPS	510	486	494	8	
06ME45/4	VEINS-6	513	01	ROS/CTD	081799	0311	EN	59 58.56 N	42 11.06 W	GPS	492				
06ME45/4	VEINS-6	514	01	ROS/CTD	081799	0424	BE	59 55.73 N	41 51.15 W	GPS	1825				
06ME45/4	VEINS-6	514	01	ROS/CTD	081799	0459	BO	59 55.76 N	41 51.56 W	GPS	1823	1801	1818	8	
06ME45/4	VEINS-6	514	01	ROS/CTD	081799	0555	EN	59 55.77 N	41 51.97 W	GPS	1822				
06ME45/4	VEINS-6	515	01	ROS/CTD	081799	0711	BE	59 54.00 N	41 30.78 W	GPS	1903				
06ME45/4	VEINS-6	515	01	ROS/CTD	081799	0749	BO	59 54.00 N	41 30.78 W	GPS	1903	1868	1890	11	
06ME45/4	VEINS-6	515	01	ROS/CTD	081799	0834	EN	59 54.02 N	41 30.75 W	GPS	1904				
06ME45/4	VEINS-6	516	01	ROS/CTD	081799	0947	BE	59 52.07 N	41 12.21 W	GPS	2037				
06ME45/4	VEINS-6	516	01	ROS/CTD	081799	1024	BO	59 52.21 N	41 12.16 W	GPS	2037	1972	2033	4	
06ME45/4	VEINS-6	516	01	ROS/CTD	081799	1123	EN	59 52.28 N	41 11.78 W	GPS	2041				
06ME45/4	VEINS-6	517	01	ROS/CTD	081799	1255	BE	59 48.96 N	40 45.74 W	GPS	2600				
06ME45/4	VEINS-6	517	01	ROS/CTD	081799	1343	BO	59 48.92 N	40 45.71 W	GPS	2601	2581	2610	7	
06ME45/4	VEINS-6	517	01	ROS/CTD	081799	1449	EN	59 48.97 N	40 45.49 W	GPS	2596				
06ME45/4	VEINS-6	518	01	ROS/CTD	081799	1634	BE	59 46.00 N	40 12.81 W	GPS	2644				
06ME45/4	VEINS-6	518	01	ROS/CTD	081799	1722	BO	59 46.08 N	40 12.92 W	GPS	2644	2628	2641	15	
06ME45/4	VEINS-6	518	01	ROS/CTD	081799	1849	EN	59 46.14 N	40 13.11 W	GPS	2643				
06ME45/4	VEINS-6	519	01	ROS/CTD	081799	2124	BE	59 41.07 N	39 23.91 W	GPS	2854				
06ME45/4	VEINS-6	519	01	ROS/CTD	081799	2214	BO	59 41.24 N	39 23.42 W	GPS	2856	2816	2842	25	
06ME45/4	VEINS-6	519	01	ROS/CTD	081799	2345	EN	59 41.40 N	39 23.11 W	GPS	2856				
06ME45/4	VEINS-6	520	01	ROS/CTD	081899	0204	BE	59 36.05 N	38 35.85 W	GPS	3013				
06ME45/4	VEINS-6	520	01	ROS/CTD	081899	0305	BO	59 36.04 N	38 35.55 W	GPS	3012	3004	3033	10	
06ME45/4	VEINS-6	520	01	ROS/CTD	081899	0426	EN	59 36.13 N	38 35.33 W	GPS	3013				
06ME45/4	VEINS-6	521	01	ROS/CTD	081899	0721	BE	59 31.03 N	37 37.23 W	GPS	3128				
06ME45/4	VEINS-6	521	01	ROS/CTD	081899	0817	BO	59 31.16 N	37 36.41 W	GPS	3127	3087	3119	30	
06ME45/4	VEINS-6	521	01	ROS/CTD	081899	0943	EN	59 31.34 N	37 35.29 W	GPS	3128				
06ME45/4	VEINS-3	522	01	MOR	081999	0729	EN	63 06.5 N	35 32.3 W	GPS					Recovery of mooring G2
06ME45/4	VEINS-3	523	01	MOR	081999	0940	EN	63 17.0 N	35 52.2 W	GPS					Recovery of mooring UK2
06ME45/4	VEINS-3	524	01	MOR	081999	1132	EN	63 21.8 N	36 04.9 W	GPS					Recovery of mooring G1 (P1)

CTD-Inventory continued

EXPO- CODE	Section Name	Stat. No.	Cast No.	Cast Type	Date mmddyy	Time UTC	Code	Position Latitude	Longitude	Code	Bottom depth	Meter Wheel	Max Press.	Bottom Dist.	Comments
06ME45/4	VEINS-3	525	01	MOR	081999	1410	EN	63 21.0 N	36 04.1 W	GPS					Recovery of mooring G1/IES (failed)
06ME45/4	VEINS-3	526	01	MOR	081999	1600	EN	63 28.7 N	36 18.7 W	GPS					Recovery of mooring UK1
06ME45/4	VEINS-3	527	01	MOR	081999	1800	EN	63 28.4 N	36 18.9 W	GPS					Recovery of mooring UK1/IES
06ME45/4	VEINS-3	528	01	MOR	081999	1912	EN	63 33.0 N	36 30.4 W	GPS					Recovery of mooring F2
06ME45/4	VEINS-3	529	01	MOR	081999	2048	EN	63 37.4 N	36 47.8 W	GPS					Recovery of mooring F1(g)
06ME45/4	VEINS-3	530	01	ROS/CTD	081999	2137	BE	63 42.49 N	36 45.36 W	GPS	1548				
06ME45/4	VEINS-3	530	01	ROS/CTD	081999	2206	BO	63 42.19 N	36 46.27 W	GPS	1650	1632	1629	8	
06ME45/4	VEINS-3	530	01	ROS/CTD	081999	2259	EN	63 41.68 N	36 48.48 W	GPS	1629				
06ME45/4	VEINS-3	531	01	ROS/CTD	082099	0009	BE	63 49.81 N	36 58.17 W	GPS	357				
06ME45/4	VEINS-3	531	01	ROS/CTD	082099	0020	BO	63 49.79 N	36 58.16 W	GPS	357				
06ME45/4	VEINS-3	531	01	ROS/CTD	082099	0029	EN	63 49.77 N	36 58.19 W	GPS	360	342	346	8	
06ME45/4	VEINS-3	532	01	ROS/CTD	082099	0316	BE	63 27.91 N	36 17.91 W	GPS	2011				
06ME45/4	VEINS-3	532	01	ROS/CTD	082099	0354	BO	63 27.91 N	36 17.97 W	GPS	2013	2003	2004	7	
06ME45/4	VEINS-3	532	01	ROS/CTD	082099	0453	EN	63 27.88 N	36 18.06 W	GPS	2012				
06ME45/4	VEINS-3	533	01	ROS/CTD	082099	0622	BE	63 17.98 N	35 56.91 W	GPS	2312				
06ME45/4	VEINS-3	533	01	ROS/CTD	082099	0705	BO	63 18.00 N	35 56.91 W	GPS	2312	2306	2306	8	
06ME45/4	VEINS-3	533	01	ROS/CTD	082099	0812	EN	63 18.02 N	35 56.94 W	GPS	2312				
06ME45/4	VEINS-3	534	01	ROS/CTD	082099	1027	BE	63 02.16 N	35 27.74 W	GPS	2655				
06ME45/4	VEINS-3	534	01	ROS/CTD	082099	1114	BO	63 02.18 N	35 27.14 W	GPS	2654	2639	2655	12	
06ME45/4	VEINS-3	534	01	ROS/CTD	082099	1225	EN	63 02.25 N	35 26.75 W	GPS	2654				
06ME45/4	VEINS-3	535	01	ROS/CTD	082099	1512	BE	62 46.10 N	34 57.36 W	GPS	2777				
06ME45/4	VEINS-3	535	01	ROS/CTD	082099	1603	BO	62 45.96 N	34 57.31 W	GPS	2778	2728	2766	20	
06ME45/4	VEINS-3	535	01	ROS/CTD	082099	1719	EN	62 45.92 N	34 57.14 W	GPS	2775				
06ME45/4	VEINS-3	536	01	ROS/CTD	082099	1954	BE	62 30.22 N	34 27.94 W	GPS	2839				
06ME45/4	VEINS-3	536	01	ROS/CTD	082099	2045	BO	62 30.26 N	34 27.71 W	GPS	2841	2804	2844	20	
06ME45/4	VEINS-3	536	01	ROS/CTD	082099	2159	EN	62 30.25 N	34 27.45 W	GPS	2841				
06ME45/4	VEINS-4	537	01	ROS/CTD	082199	0526	BE	61 40.64 N	36 26.82 W	GPS	2768				
06ME45/4	VEINS-4	537	01	ROS/CTD	082199	0616	BO	61 40.50 N	36 26.83 W	GPS	2766	2721	2758	25	
06ME45/4	VEINS-4	537	01	ROS/CTD	082199	0728	EN	61 40.35 N	36 26.68 W	GPS	2767				
06ME45/4	VEINS-4	538	01	ROS/CTD	082199	0906	BE	61 48.94 N	36 53.60 W	GPS	2687				
06ME45/4	VEINS-4	538	01	ROS/CTD	082199	0959	BO	61 48.97 N	36 53.76 W	GPS	2686	2652	2687	10	
06ME45/4	VEINS-4	538	01	ROS/CTD	082199	1110	EN	61 48.65 N	36 53.09 W	GPS	2690				
06ME45/4	VEINS-4	539	01	ROS/CTD	082199	1310	BE	62 01.31 N	37 27.99 W	GPS	2567				
06ME45/4	VEINS-4	539	01	ROS/CTD	082199	1357	BO	62 01.30 N	37 28.01 W	GPS	2563	2527	2554	12	
06ME45/4	VEINS-4	539	01	ROS/CTD	082199	1508	EN	62 01.22 N	37 27.90 W	GPS	2564				

CTD-Inventory continued

EXP- CODE	Section Name	Stat. No.	Cast No.	Cast Type	Date mmddyy	Time UTC	Position Code Latitude Longitude	Code	Bottom depth	Meter Wheel	Max Press.	Bottom Dist.	Comments
06ME45/4	VEINS-4	540	01	ROS/CTD	082199	1709	BE 62 12.00 N 38 02.98 W	GPS	2491				
06ME45/4	VEINS-4	540	01	ROS/CTD	082199	1758	BO 62 11.97 N 38 03.02 W	GPS	2491	2457	2486	20	
06ME45/4	VEINS-4	540	01	ROS/CTD	082199	1908	EN 62 11.99 N 38 03.04 W	GPS	2489				
06ME45/4	VEINS-4	541	01	ROS/CTD	082199	2110	BE 62 24.22 N 38 38.48 W	GPS	2271				
06ME45/4	VEINS-4	541	01	ROS/CTD	082199	2154	BO 62 23.98 N 38 38.13 W	GPS	2285	2257	2267	10	
06ME45/4	VEINS-4	541	01	ROS/CTD	082199	2301	EN 62 23.58 N 38 36.81 W	GPS	2283				
06ME45/4	VEINS-4	541	02	ROS/CTD	082199	2318	BE 62 23.44 N 38 36.46 W	GPS	2283				
06ME45/4	VEINS-4	541	02	ROS/CTD	082199	2359	BO 62 23.24 N 38 35.77 W	GPS	2281	2257	2280	8	
06ME45/4	VEINS-4	541	02	ROS/CTD	082299	0054	EN 62 23.23 N 38 35.88 W	GPS	2281				
06ME45/4	VEINS-4	542	01	ROS/CTD	082299	0300	BE 62 35.22 N 39 13.36 W	GPS	2027				
06ME45/4	VEINS-4	542	01	ROS/CTD	082299	0336	BO 62 35.23 N 39 13.30 W	GPS	2027	2000	2020	7	
06ME45/4	VEINS-4	542	01	ROS/CTD	082299	0436	EN 62 35.19 N 39 13.34 W	GPS	2025				
06ME45/4	VEINS-4	543	01	ROS/CTD	082299	0632	BE 62 46.68 N 39 49.23 W	GPS	1938				
06ME45/4	VEINS-4	543	01	ROS/CTD	082299	0700	BO 62 46.59 N 39 49.39 W	GPS	1939	1911	1931	9	
06ME45/4	VEINS-4	543	01	ROS/CTD	082299	0803	EN 62 46.45 N 39 49.58 W	GPS	1944				
06ME45/4	VEINS-4	544	01	ROS/CTD	082299	0911	BE 62 51.29 N 40 07.29 W	GPS	1664	1635	1650	4	
06ME45/4	VEINS-4	544	01	ROS/CTD	082299	0940	BO 62 51.09 N 40 07.73 W	GPS	1657				
06ME45/4	VEINS-4	544	01	ROS/CTD	082299	1024	EN 62 50.78 N 40 07.93 W	GPS	1666				
06ME45/4	VEINS-4	545	01	ROS/CTD	082299	1131	BE 62 57.33 N 40 21.94 W	GPS	265				
06ME45/4	VEINS-4	545	01	ROS/CTD	082299	1137	BO 62 57.32 N 40 21.95 W	GPS	269	253	258	7	
06ME45/4	VEINS-4	545	01	ROS/CTD	082299	1143	EN 62 57.27 N 40 21.92 W	GPS	265				
06ME45/4	VEINS-3	546	01	MOR	082299	2208	EN 63 32.17 N 36 27.94 W	GPS					Deployment of mooring F2/ADCP
06ME45/4	VEINS-3	547	01	MOR	082299	2332	EN 63 28.58 N 36 17.31 W	GPS					Deployment of mooring UK1/IRS-99
06ME45/4	VEINS-3	548	01	MOR	082399	0732	EN 63 06.94 N 35 31.94 W	GPS					Deployment of mooring G2-99
06ME45/4	VEINS-3	549	01	MOR	082399	0944	EN 63 16.91 N 35 53.02 W	GPS					Deployment of mooring UK2-99
06ME45/4	VEINS-3	550	01	MOR	082399	1122	EN 63 21.82 N 36 04.25 W	GPS					Deployment of mooring G1 (F1) -99
06ME45/4	VEINS-3	551	01	MOR	082399	1303	EN 63 28.82 N 36 18.26 W	GPS					Deployment of mooring UK1-99
06ME45/4	VEINS-3	552	01	MOR	082399	1430	EN 63 33.38 N 36 30.22 W	GPS					Deployment of mooring F2-99
06ME45/4	VEINS-3	553	01	MOR	082399	1625	EN 63 38.30 N 36 48.00 W	GPS					Deployment of mooring F1 (G) -99
06ME45/4	VEINS-2	554	01	ROS/CTD	082499	0106	BE 63 46.95 N 33 06.03 W	GPS	2680	2662	2685	6	
06ME45/4	VEINS-2	554	01	ROS/CTD	082499	0156	BO 63 47.01 N 33 06.11 W	GPS	2677				
06ME45/4	VEINS-2	554	01	ROS/CTD	082499	0306	EN 63 47.03 N 33 06.07 W	GPS	2677				

CTD-Inventory continued

EXPO- CODE	Section Name	Stat. No.	Cast No.	Cast Type	Date mmddyy	Time UTC	Code	Position Latitude	Longitude	Code	Bottom depth	Meter Wheel	Max Press.	Bottom Dist.	Comments
06ME45/4	VEINS-2	555	01	ROS/CTD	082499	0419	BE	63 57.04 N	33 18.22 W	GPS	2492				
06ME45/4	VEINS-2	555	01	ROS/CTD	082499	0504	BO	63 56.98 N	33 18.23 W	GPS	2493	2461	2493	10	
06ME45/4	VEINS-2	555	01	ROS/CTD	082499	0608	EN	63 57.00 N	33 18.23 W	GPS	2491				
06ME45/4	VEINS-2	556	01	ROS/CTD	082499	0729	BE	64 09.73 N	33 26.23 W	GPS	2232				
06ME45/4	VEINS-2	556	01	ROS/CTD	082499	0809	BO	64 09.68 N	33 26.29 W	GPS	2231	2220	2227	8	
06ME45/4	VEINS-2	556	01	ROS/CTD	082499	0906	EN	64 09.53 N	33 26.27 W	GPS	2234				
06ME45/4	VEINS-2	557	01	ROS/CTD	082499	1023	BE	64 19.65 N	33 39.83 W	GPS	1941				
06ME45/4	VEINS-2	557	01	ROS/CTD	082499	1057	BO	64 19.62 N	33 40.27 W	GPS	1942	1911	1904		
06ME45/4	VEINS-2	557	01	ROS/CTD	082499	1146	EN	64 19.48 N	33 40.84 W	GPS	1943				
06ME45/4	VEINS-2	558	01	ROS/CTD	082499	1510	BE	64 30.52 N	33 50.85 W	GPS	1615				
06ME45/4	VEINS-2	558	01	ROS/CTD	082499	1539	BO	64 30.54 N	33 50.81 W	GPS	1615	1599	1610	5	
06ME45/4	VEINS-2	558	01	ROS/CTD	082499	1630	EN	64 30.53 N	33 50.76 W	GPS	1617				
06ME45/4	VEINS-2	559	01	ROS/CTD	082499	1826	BE	64 48.80 N	34 08.69 W	GPS	1031				
06ME45/4	VEINS-2	559	01	ROS/CTD	082499	1847	BO	64 48.73 N	34 08.42 W	GPS	1033	1013	1018	9	
06ME45/4	VEINS-2	559	01	ROS/CTD	082499	1925	EN	64 48.54 N	34 07.87 W	GPS	1039				
06ME45/4	VEINS-2	560	01	ROS/CTD	082499	2116	BE	65 04.90 N	34 28.11 W	GPS	311				
06ME45/4	VEINS-2	560	01	ROS/CTD	082499	2123	BO	65 04.89 N	34 28.10 W	GPS	308	291	297	9	
06ME45/4	VEINS-2	560	01	ROS/CTD	082499	2131	EN	65 04.83 N	34 28.07 W	GPS	310				
06ME45/4	VEINS-1	561	01	ROS/CTD	082599	0513	BE	65 31.19 N	31 16.21 W	GPS	360				
06ME45/4	VEINS-1	561	01	ROS/CTD	082599	0525	BO	65 31.14 N	31 16.52 W	GPS	368	361	357	7	
06ME45/4	VEINS-1	561	01	ROS/CTD	082599	0534	EN	65 31.07 N	31 16.88 W	GPS	371				
06ME45/4	VEINS-1	562	01	ROS/CTD	082599	0720	BE	65 16.12 N	31 00.38 W	GPS	1203				
06ME45/4	VEINS-1	562	01	ROS/CTD	082599	0745	BO	65 16.13 N	31 00.20 W	GPS	1201	1174	1187	10	
06ME45/4	VEINS-1	562	01	ROS/CTD	082599	0823	EN	65 16.01 N	31 00.06 W	GPS	1211				
06ME45/4	VEINS-1	563	01	ROS/CTD	082599	0926	BE	65 08.24 N	30 51.26 W	GPS	1585				
06ME45/4	VEINS-1	563	01	ROS/CTD	082599	0954	BO	65 08.11 N	30 51.33 W	GPS	1591	1563	1581	7	
06ME45/4	VEINS-1	563	01	ROS/CTD	082599	1039	EN	65 07.97 N	30 51.61 W	GPS	1595				
06ME45/4	VEINS-1	564	01	ROS/CTD	082599	1137	BE	65 00.29 N	30 42.57 W	GPS	1888				
06ME45/4	VEINS-1	564	01	ROS/CTD	082599	1210	BO	65 00.24 N	30 42.71 W	GPS	1890	1863	1889	5	
06ME45/4	VEINS-1	564	01	ROS/CTD	082599	1304	EN	65 00.21 N	30 42.91 W	GPS	1890				
06ME45/4	VEINS-1	565	01	ROS/CTD	082599	1408	BE	64 52.70 N	30 33.38 W	GPS	2081				
06ME45/4	VEINS-1	565	01	ROS/CTD	082599	1445	BO	64 52.73 N	30 33.45 W	GPS	2082	2059	2081	4	
06ME45/4	VEINS-1	565	01	ROS/CTD	082599	1542	EN	64 52.70 N	30 33.38 W	GPS	2082				
06ME45/4	VEINS-1	566	01	ROS/CTD	082599	1637	BE	64 45.31 N	30 25.28 W	GPS	2233				
06ME45/4	VEINS-1	566	01	ROS/CTD	082599	1719	BO	64 45.26 N	30 24.91 W	GPS	2238	2207	2235	8	
06ME45/4	VEINS-1	566	01	ROS/CTD	082599	1822	EN	64 45.20 N	30 24.57 W	GPS	2229				

CTD-Inventory continued

EXPO- CODE	Section Name	Stat. No.	Cast No.	Cast Type	Date mmdyy	Time UTC	Code	Position Latitude	Longitude	Code	Bottom depth	Meter Wheel	Max Press.	Bottom Dist.	Comments
06ME45/4	VEINS-1	567	01	ROS/CTD	082599	2001	BE	64 45.26 N	29 45.44 W	GPS	2157				
06ME45/4	VEINS-1	567	01	ROS/CTD	082599	2038	BO	64 45.30 N	29 45.25 W	GPS	2131	2107	2134	7	
06ME45/4	VEINS-1	567	01	ROS/CTD	082599	2134	EN	64 45.38 N	29 45.16 W	GPS	2116				
06ME45/4	VEINS-1	568	01	ROS/CTD	082599	2330	BE	64 45.14 N	29 05.16 W	GPS	1070				
06ME45/4	VEINS-1	568	01	ROS/CTD	082599	2351	BO	64 45.20 N	29 05.04 W	GPS	1070				
06ME45/4	VEINS-1	568	01	ROS/CTD	082699	0031	EN	64 45.20 N	29 04.99 W	GPS	1070	1053	1064	4	
06ME45/4	VEINS-1	569	01	ROS/CTD	082699	0217	BE	64 45.14 N	28 24.80 W	GPS	1166				
06ME45/4	VEINS-1	569	01	ROS/CTD	082699	0245	BO	64 45.17 N	28 24.69 W	GPS	1165	1153	1164	2	
06ME45/4	VEINS-1	569	01	ROS/CTD	082699	0323	EN	64 45.14 N	28 24.76 W	GPS	1166				
06ME45/4	VEINS-1	570	01	ROS/CTD	082699	0501	BE	64 45.03 N	27 50.10 W	GPS	896				
06ME45/4	VEINS-1	570	01	ROS/CTD	082699	0521	BO	64 45.09 N	27 50.01 W	GPS	891	873	883	9	
06ME45/4	VEINS-1	570	01	ROS/CTD	082699	0552	EN	64 45.12 N	27 49.91 W	GPS	888				
06ME45/4	VEINS-1	571	01	ROS/CTD	082699	0731	BE	64 45.01 N	27 14.59 W	GPS	494				
06ME45/4	VEINS-1	571	01	ROS/CTD	082699	0744	BO	64 45.00 N	27 14.55 W	GPS	494	477	483	9	
06ME45/4	VEINS-1	571	01	ROS/CTD	082699	0755	EN	64 45.08 N	27 14.56 W	GPS	494				

7.5 Leg M45/5

GeoB # TUE #	Ships #	Date 1999	Device	Time seafloor/ max. wire - length [UTC+2h]	Latitude [N]	Longi- tude [W]	Water depth [m]	Sample Depth [m]	Remarks
METEOR 45/5 a									
6001-1	572	03.10.	MUC	04:27	58°09.4'	09°48.3'	461		core recovery: 35 cm; only 3 small tubes filled
6001-2		03.10.	MUC	5:22	58°09.4'	09°48.2'	460		core recovery: 42 cm
6001-3		03.10.	SL 18	6:29	58°09.4'	09°48.3'	466		core bent, core recovery: 3.84 m
6002-1	573	03.10.	SL 12	10:32	58°04.8'	09°37.2'	430		core recovery: 1050 m
6002-2		03.10.	MUC	11:08	58°04.8'	09°37.35'	431		core recovery 43 cm
6003-1	574	03.10.	MUC	14:22	57°58.3'	09°23.2'	308		core recovery 36 cm
6003-2		03.10.	SL 12	15 :10	57°58.3'	09°23.2'	312		core recovery 10.09 m
6004-1	575	05.10.	MUC	6:16	54° 08.4'	02°20.0'	64		core recovery 25 cm
6004-2		05.10.	SL-12	7:13	54° 08.4'	02°20.0'	55		core bent, no core recovery
6004-3		05.10.	SL-6	8:02	54° 08.3'	02°19.8'	56		core bent, core recovery 2.15 m
Tü576-1	576	09.10.	MN 1392	22:13	43°22.2'	22°29.3'	3029		max. rope length 100 m
Tü576- 2		09.10.	MN 1393	22:47	43°22.3'	22°29.4'	3026		max. rope length 700 m
Tü576- 3		09.10.	MN1393a	23:24	43°22.3'	22°29.3'	3026		max. rope length 100 m
Tü576-4		10.10.	MUC 608	00:43	43°22.4'	22°29.2'	3024		core recovery : 8 cm, 4 tubes filled
Tü576-5		10.10.	KL 86	03:32	43°22.3'	22°29.3'	3028		core recovery : 7.83 m
Tü577-1	577	11.10.	MN 1394	22:01	36°33.1'	25°56.8'	2423		max. rope length 100 m
Tü577-2		11.10.	MN 1395	22:34	36°33.1'	25°56.8'	2422		max. rope length 700 m
Tü577-3		12.10.	MN 1396	00:09	36°33.2'	25°56.9'	2417		max. rope length 100 m
Tü577-4		12.10.	MUC 609	01:15	36°33.2'	25°56.9'	2417		no core recovery :
Tü577-5		12.10.	GKG	03:25	36°33.2'	25°57.0'	2416		recovery : disturbed sample
Tü577-6		12.10.	KL 87	05:29	36°33.2'	25°56.9'	2418		core recovery : 3.62 m
Tü578-1	578	12.10.	MN 1397	19:06	34°46.8'	27°39.8'	2075		max. rope length 100 m
Tü578-2		12.10.	MN 1398	19:41	34°46.7'	27°39.8'	2070		max. rope length 700 m
Tü578-3		12.10.	MN 1399	20:18	34°46.8'	27°39.8'	2075		max. rope length 100 m
Tü578-4		12.10.	MUC 610	21:23	34°46.8'	27°39.8'	2060		core recovery : 8 cm, 1 tube filled
Tü578-5		12.10.	KL 88	23:53	34°46.8'	27°39.7'	2060		core bent, core recovery : 8.10 m
Tü579-1	579	13.10.	MN 1400	11:49	32°46.5'	27°59.4'	3003		max. rope length 100 m
Tü579-2		13.10.	MN 1401	12:22	32°46.5'	27°59.4'	3004		max. rope length 700 m
Tü579-3		13.10.	MN 1402	13:02	32°46.4'	27°59.4'	3004		max. rope length 100 m
Tü579-4		13.10.	MUC 611	15:06	32°46.5'	27°59.4'	3008		core recovery : 7 cm, 2 tubes filled
Tü579-5		13.10.	KL 89	17:40	32°46.5'	27°59.4'	3004		core recovery : 2.55 m
Tü580-1	580	14.10.	MUC 612	02:27	31°36.7'	28°00.9'	3143		core recovery : 7 cm, 1 tube filled
Tü580-2		14.10.	KL 90	04:54	31°36.6'	28°00.9'	3143		core recovery : 5.02 m
Tü580-3		14.10.	MN 1403	07:09	31°36.7'	28°01.0'	3144		max. rope length 100 m
Tü580-4		14.10.	MN 1404	07:44	31°36.7'	28°01.3'	3147		max. rope length 700 m
6005-1	581	18.10.	Muc/CTD	06:10	30°52.8'	10°53.8'	1781		core recovery 32 cm
6005-2			SL12	07:48	30°52.8'	10°53.9'	1782		core recovery 10.67 m
6006-1	582	18.10.	SL12	11:06	30°52.1'	10°37.7'	1275		core recovery 9.08 m
6006-2			Muc/CTD	12:09	30°52.1'	10°37.8'	1282		core recovery 14 cm
6007-1	583	18.10.	Muc/CTD	14:53	30°51.1'	10°16.0'	899		core recovery 25 cm
6007-2			SL12	15:50	30°51.0'	10°16.1'	900		core recovery 11.05 m
6008-1	584	18.10.	SL 6	17:28	30°50.7'	10°05.9'	355		core recovery 5.42 m
6008-2			Muc/CTD	17:59	30°50.7'	10°05.9'	355		core recovery 33 cm
6009-1	585	18.10.	Muc/CTD	19:49	30°40.9'	10°16.5'	579		core recovery 24 cm
6009-2			SL12	20:39	30°40.9'	10°16.6'	579		core recovery 2.53 m
6010-1	586	19.10.	Muc/CTD	05:15	30°15.0'	10°05.0'	406		core recovery 15 cm
6010-2			SL12	06:13	30°15.0'	10°05.0'	404		core bent, core recovery 1.57 m
6011-1	587	19.10.	SL 6	08:04	30°19.4'	10°17.2'	983		core recovery 4.77 m
6011-2			Muc/CTD	08:54	30°18.9'	10°17.3'	993		core recovery 13 cm
METEOR 45/5 b									
6012-1	589	22.10.	KWS	12:38	28°33.5'	15°25.3'	3549	1000	test, water for drifting traps
6012-2			Go-Flo	15:20	28°34.5'	15°25.4'	3560		test 2000m

7.5 continued

METEOR 45/5 b continued									
6013-1	590	22.10.	KWS	21:06	29°10.3'	15°30.0'	3614	bottom,3000 2500,2000 1800,1500 1300,1200 1100,1000 800,600,400 300,200,150 125,100,75 50,25,10	POC, $\delta^{15}\text{N}_{\text{nitrate}}$, nutrients, Yellow substance, chla, O ₂ , pH, alkalinity, salinity
6013-2			Profiler	23:58	29°10.3'	15°29.9'	3615		200 m test
6013-3		23.10.	NOAA	00:38	29°10.2'	15°30.0'	3614		drifter deployed
6014-1	591	23.10.	SB	07:45	29°10.0'	15°56.0'	3620		recovery
6015-1	592	23.10.	DOBS	11:52	29°10.5'	15°55.5'	3635		recovery
6016-1	593	23.10.	KWS	13:43	29°10.9'	15°55.8'	3634	200,150,125 100,75,50 25,10	chla
6016-2			drifting trap	14:43	29°10.5'	15°55.5'	3635	200	I-1 deployed
6016-3			drifting trap	15:57	29°11.0'	15°55.9'	3632	200,300,500	III-1 deployed
6016-4			Go-Flo	16:34	29°11.4'	15°56.3'	3636	50,25	Water for dilution experiment
6017-1	594	23.10.	ADCP	17:21	29°12.0'	15°56.5'	3620		test at 500, 200, 20, and 200 m
6018-1	595	24.10.	pumps	00:05	29°12.3'	15°56.0'	3635	8 pumps, 500-20	trace elements
6018-2			Go-Flo/ Membran pump	02:12	29°12.5'	15°56.0'	3634	100,75,50,25 0	Water for ^{14}C -incubation, chla
6018-3			pumps	03:25	29°12.5'	15°56.0'	3635	8 pumps, 500-20	POC
6019-1	596	24.10.	^{14}C drifter	07:00	29°10.9'	15°56.2'	3632	100,75,50,25 0	drifter deployed
6020-1	597	24.10.	Profiler	08:42	29°11.3'	15°56.8'	3634		500 m test
6020-2			MODEM	12:37	29°11.4'	15°56.7'	3634		test at 235, 1000, and 246 m
6021-1	598	24.10.	MN	17:57	29°11.3'	15°55.5'	3633	500-300 300-200 200-100 100-50 50-0	particulate matter, <1mm and >1mm water samples for $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$
6022-1	599	24.10.	^{14}C drifter	20:06	29°09.1'	15°56.0'	3629	100,75,50,25 0	recovery
6022-2			Profiler	22:00	29°09.1'	15°56.0'	3629		test at 1600 m
6023-1	600	25.10.	pumps	03:15	29°09.0'	15°56.6'	3633	8 pumps, 2000-700	trace elements
6024-1	601	25.10.	MODEM	07:28	29°08.9'	15°56.6'	3633		test at 200 and 200 m
6024-2			KWS Sea-Bird	11:39	29°08.9'	15°56.5'	3634	500 400,250,150 100,75,50,25 10	water for drifting traps $\delta^{15}\text{N}_{\text{suspended}}$, Chla
6024-3		25.10.	ADCP MODEM	14:57	29°09.3'	15°56.2'	3635		test at 200 and 2000 m
6025-1	602	25.10.	Go-Flo	22:00	29°02.6'	15°59.6'	3632	700	trace elements
6025-2		26.10.	Profiler	01:05	29°02.8'	16°00.3'	3625		test at 2000 m
6026-1	603	26.10.	KWS OPRA	05:18	29°03.0'	16°00.6'	3625	200,150,125, 100,75,50,25 10	Chla, 500 m CTD
6026-2		26.10.	drifting trap	06:36	29°59.7'	16°00.2'		200	I-1 recovered
6027-1	604	26.10.	drifting trap	07:37	29°02.3'	16°00.4'		500,300,200	III-1 recovered
6028-1	605	26.10.	drifting trap	09:45	29°10.2'	15°56.6'	3633	500,300,200	III-2 deployed
6028-2		26.10.	drifting trap	10:06	29°10.2'	15°56.9'	3632	200	I-2 deployed
6028-3		26.10.	KWS Sea-Bird	10:50	29°09.8'	15°56.0'	3633	200,150,125, 100,75,50,25 10	Chla, 500 m CTD

7.5 continued

METEOR 45/5 b continued

6029-1	606	26.10.	DOBS	16:06	29°09.9'	15°55.8'	3632		mooring deployed
6029-2		26.10.	KWS	17:50	29°09.7'	15°55.9'	3632	50,25	water for dilution experiment Dil2
			Sea-Bird						
6029-3		26.10.	Go-Flo	19:42	29°10.1'	15°56.5'	3632	2000	trace elements
6029-4		26.10.	Profiler	22:46	29°10.1'	15°56.6'	3630		3300 m test
6030-1	607	27.10.	KWS	05:00	29°05.4'	15°59.0'	3618	100,75,50,25 10	Chla, water for ¹⁴ C-incubation, water for oxygen-incubation, 200 m CTD
6030-2		27.10.	¹⁴ C drifter	07:18	29°06.5'	15°59.2'	3622	100,75,50,25 0	deployed
6031-1	608	27.10.	SB	08:48	29°10.2'	15°56.2'			deployed
6031-2		27.10.	MODEM	09:24	29°10.4'	15°56.1'	3631		start of diverse MODEM and SYSTEM tests
6032-1	609	27.10.	KWS	17:29	29°04.9'	15°59.0'	3618	500 200,150,125, 100,75,50,25 10	water for traps Chla
6032-2		27.10.	¹⁴ C drifter	18:45	29°04.7'	15°58.4'		100,75,50,25 0	recovered
6033-1	610	27.10.	drifting trap	19:49	29°04.0'	15°57.8'		200	I-2 recovered
6033-2		27.10.	drifting trap	20:50	29°05.2'	15°57.9'		500,300,200	III-2 recovered
6034-1	611	28.10.	sediment trap	09:10	28°44.3'	13°18.3'	1203		recovery of EBC3-4
			current meter						
6034-2		28.10.	sediment trap	12:33	28°44.1'	13°18.4'	1200		EBC3-5 deployed
6034-3		28.10.	pumps	13:32	28°44.5'	13°19.0'	1267	8 pumps, 400-20	trace elements
6034-4		28.10.	KWS	15:51	28°44.4'	13°19.0'	1277	1264,1200 1100,1000 900,800,700 600,500,400 300,200,150 125,100,75 50,25,10	POC, $\delta^{15}\text{N}_{\text{nitrate}}$, O ₂ , nutrients, Yellow substance, pH, alkalinity, Chla
6034-5		28.10.	pumps	17:45	28°44.2'	13°19.4'		8 pumps, 715-25	trace elements, POC
6035-1	612	29.10.	drifting trap	13:56	31°00.5'	10°45.0'	1244	500,300,200	III-3 deployed
6035-2		29.10.	KWS	14:40	31°00.0'	10°45.0'	1246	1232,1200 1100,1000 800,600,400 300,200,150 125,100,75 50,25,10	POC, $\delta^{15}\text{N}_{\text{nitrate}}$, O ₂ , nutrients, Yellow substance, Chla
6035-3		29.10.	MN	16:28	31°00.0'	10°44.6'	1240	500-300 300-200 200-100 100-50 50-0	particulate matter, <1mm and >1mm, failed water samples for $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$
6036-1	613	29.10.	KWS	18:55	31°00.2'	10°23.3'	494	474,400,300 200,150,125 100,75,50 25,10	POC, $\delta^{15}\text{N}_{\text{nitrate}}$, O ₂ , nutrients, Yellow substance, Chla
6037-1	614	29.10.	drifting trap	21:03	31°11.8'	10°27.8'	510	200	I-3 deployed
6037-2		29.10.	pumps	21:55	31°11.8'	10°28.0'	514	8 pumps, 300-15	POC
6037-3		30.10.	pumps	01:45	31°11.8'	10°27.8'	512	8 pumps, 300-15	trace elements
6037-4		30.10.	MN	04:06	31°11.9'	10°27.8'	512	400-300 300-200 200-100 100-50 50-0	particulate matter, <1mm and >1mm water samples for $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$

7.5 continued

METEOR 45/5 b continued									
6037-5		30.10.	KWS	05:17	31°11.9'	10°27.8'	509	491,400,300 200,150,100 75,50,25,10	POC, $\delta^{15}\text{N}_{\text{nitrate}}$, O_2 , nutrients, Yellow substance, Chla, water for ^{14}C -incubation and oxygen-incubation
6037-6		30.10.	^{14}C drifter	07:00	31°13.9'	10°28.7'	520	100,75,50,25 10	drifter deployed
6038-1	615	30.10.	KWS	08:52	31°11.9'	10°10.1'	185	172,150,125 100,75,50,25 10	POC, $\delta^{15}\text{N}_{\text{nitrate}}$, nutrients, Chla
6038-2		30.10.	MN	09:25	31°11.8'	10°11.2'	198	150-100 100-75 75-50 50-25 25-0	particulate matter, <1mm and >1mm water samples for $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$
6039-1	616	30.10.	MN	13:01	31°04.8'	10°43.5'	990	500-300 300-200 200-100 100-50 50-0	particulate matter, <1mm and >1mm water samples for $\delta^{18}\text{O}$ and $\delta^{13}\text{C}$
6039-2		30.10.	KWS	13:56	31°04.8'	10°43.4'	1000	500,400,300 200,150,125 100,75,50,25 10	nutrients, Chla
6039-3		30.10.	drifting trap	14:51	31°05.3'	10°43.5'	1006	500,300,200	III-3 recovered
6040-1	617	30.10.	Go-Flo	17:30	31°15.4'	10°28.2'	517	350	trace elements
6040-2		30.10.	KWS	17:58	31°15.4'	10°28.3'	517	200,150,100 75,50,25,10	Chla, nutrients, pH, alkalinity water for dilution experiment Dil3
6040-3		30.10.	^{14}C drifter	18:45	31°15.8'	10°28.5'		100,75,50,25 10	drifter recovered
6040-4		30.10.	drifting trap	19:25	31°15.8'	10°28.1'	525	200	I-3 recovered
6041-1	618	31.10.	KWS	02:22	30°47.5'	11°31.5'	2851	2865,2800 2500,2250 2000,1800 1500,1300 1150,1000 800,600,400 300,200,100 75,50,25,10	POC, O_2 , nutrients, Yellow substance, Chla, pH, alkalinity, salinity
6042-1	619	31.10.	KWS	09:36	30°21.2'	12°33.9'	1787	1805, 1800 1500,1300 1150,1000 800,600,400 300,200,150 125,100,75 50,25,10	POC, O_2 , nutrients, Yellow substance, Chla, pH, alkalinity, salinity
6043-1	620	31.10.	pumps	16:20	29°55.1'	13°55.3'	2957	8 pumps, 700-15	trace elements
6043-2		31.10.	KWS	19:00	29°55.1'	13°55.3'	2959	2982,2800 2500,2250 200,1800 1500,1300 1150,1000 800,600,500 400,300,200 100,75,50,25 10	POC, O_2 , nutrients, Yellow substance, Chla, pH, alkalinity, salinity
6043-3		31.10.	pumps	21:40	29°55.4'	13°34.8'	2954	8 pumps, 700-15	POC
6043-4		01.11.	Go-Flo	00:10	29°54.9'	13°35.4'	2960	700	trace elements

7.5 continued

METEOR 45/5 b continued									
6044-1	621	01.11.	KWS	06:29	29°30.8'	14°37.0'	3476	3514,3000 2800,2500 2250,2000 1800,1500 1300,1150 1000,800 600,400,300 200,100,75 50,25,10	POC, O ₂ , nutrients, Yellow substance, Chla, pH, alkalinity, salinity
6045-1	622	01.11.	SB	19:17	29°10.3'	15°56.3'			service
6045-2		01.11.	MSD	22:08	29°09.8'	15°56.5'	3633		1000 m test
6046-1	623	02.11.	KWS	03:09	29°10.0'	15°30.0'	3614	3659,3000 2800,2500 2250,2000 1800,1500 1300,1200 1100,1000 800,600,500 400,300,10	POC, O ₂ , nutrients, Yellow substance, pH, alkalinity, salinity
6046-2		02.11.	KWS	06:25	29°10.0'	15°30.0'	3615		200 m CTD
6046-3		02.11.	KWS	03:09	29°10.0'	15°30.0'	3614	200,150,125 100,75,50 25,10	POC, O ₂ , nutrients, Yellow substance, Chla, pH, alkalinity, salinity
6047-1	624	02.11.	sediment trap, current meter	08:33	29°10.3'	15°26.2'	3609		CI11 recovered
6047-2		02.11.	OPRA	12:14	29°11.2'	15°28.7'	3612		500 m test
6047-3		02.11.	NOAA	13:23	29°11.5'	15°28.9'	3612		drifter deployed

Abbreviation	Device
ADCP	Acoustic Doppler Current Profiler
DOBS	Deep Ocean Bottom Profiler
GKG	Box corer
GO-FIO	Rosette of University of Bremen, Marine Chemistry
KL	Piston core
KWS	Rosette with CTD (conductivity, temperature, density) of IfM Kiel
MN	Multiple closing net
MODEM	acoustic modem
MUC	Multi corer
NOAA	National Oceanographic and Atmospheric Agency
OPRA	Optical Refractometer
SB	Surface bouy
SL	Gravity corer

7.6 List of Abbreviations

AAIW	Antarctic Intermediate Water
ADCP	Acoustic Doppler Current Profiler
CANIGO	Canary Islands Gibraltar Observations
CCD	Calcite Compensation Depth
CFC	Chlorofluorocarbons
CGFZ	Charlie Gibbs Fracture Zone
CRM	Certified Reference Material
CTD	Conductivity, Temperature, Depth (Pressure)
DCM	Deep Chlorophyll Maximum
DIC	Dissolved Carbon Dioxide
DOBS	Deep Ocean Bottom Station (DOMEST)
DOMEST	Datenübertragung im Ozean und Meßtechnik zur hochauflösenden Erfassung des Stofftransportes in der Tiefsee
DOP	Deep Ocean Profiler (DOMEST)
DSOW	Denmark Strait Overflow Water
DWBC	Deep Western Boundary Current
EBC	Eastern Boundary Current
ECD	Electron Capture Detector
ESTOC	European Station of Time Series, Canary Islands
FFT	Fast Fourier Transformation
GFZW	Gibbs Fracture Zone Water
GKG	Großkastengreifer (Box Corer)
IMW	Intermediate Mediterranean Water
ISOW	Iceland Scotland Overflow Water
JGOFS	Joint Global Ocean Flux Study
KL	Kastenlot (Piston Corer)
LADCP	Lowered Acoustic Doppler Current Profiler
LDW	Lower Deep Water
LSW	Labrador Sea Water
MART	Mid-Atlantic Ridge Transport
MSD	Multi Sensor Device (DOMEST)
MSU	Moored Sensor Unit
MLD	Mixed Layer Depth
MN	Multinet
MUC	Multicorer
MOW	Mediterranean Overflow Water
MW	Mediterranean Water
NAC	North Atlantic Current
NACW	North Atlantic Central Water
NADW	North Atlantic Deep Water
NAO	North Atlantic Oscillation
NEBROC	Netherlands Bremen Oceanography
NOAA	National Oceanic and Atmospheric Administration

7.6 continued

SBU	Surface Buoy Unit (DOMEST)
SPM	Suspended Particulate Matter
SPMW	Subpolar Mode Water
SSP	Sub Surface Platform
SST	Sea Surface Temperature
SW	Surface Water
VEINS	Variability of Exchanges in the Northern Seas
WOCE	World Ocean Circulation Experiment

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