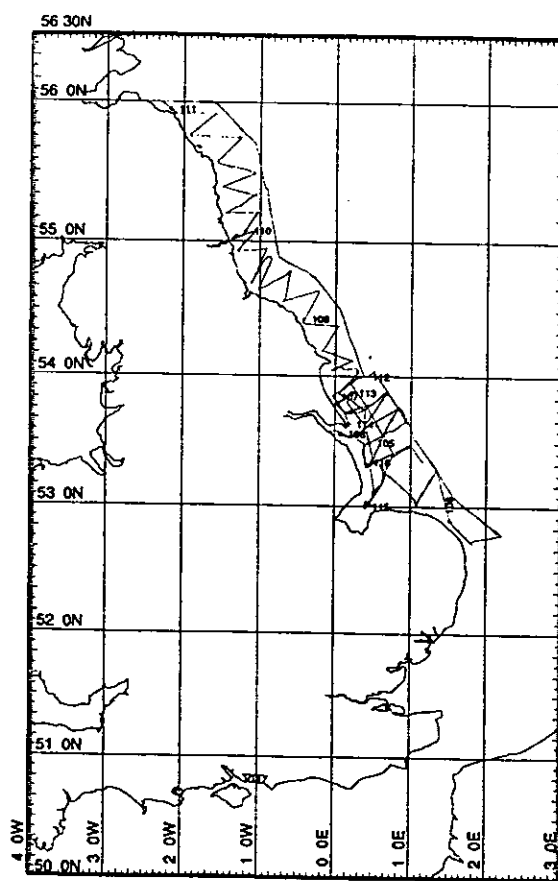


Event Log & Measurement Inventory

CH118B



MERCATOR PROJECTION

SCALE 1 TO 800000 (NATURAL SCALE AT LAT. 0)

INTERNATIONAL SPHEROID PROJECTED AT LATITUDE 0

GRID NO. 1

Challenger 118B Cruise Track

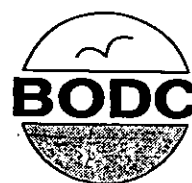


Table of Contents

Scientific Log	Page 2
Events	Page 8
CTD Casts	Page 9
Lasentec Casts	Page 13
Settling Velocity Tubes	Page 16
Day Grabs	Page 17
Non-toxic Supply Samples	Page 18
Sub-Samples from events	Page 19
Galai Particle Analyses	Page 20
Gravimetrics, Chlorophyll, Phytoplankton ...	Page 27
Trace metals, POC	Page 30
Nutrient Analysts Log	Page 34
Appendix A : Cruise Summary Report.	
Appendix B : Bridge Log	

Scientific Log

EVENT.LOG

EVENT LIST

Date	Time	Station	Latitude	Longitude	Event
14/04/95	14:05				Departed Grimsby
14/04/95	15:50		53.544	0.141	Commence Humber/Wash Grid
14/04/95	15:53	HW5	53.533	0.139	CTD 1
14/04/95	16:09	HW5	52.543	0.134	LT 1
14/04/95	16:24	HW5	53.542	0.134	SVT 1
14/04/95	16:31	HW5	53.542	0.133	SVT 2
14/04/95	19:25	HW6	53.767	0.838	CTD 2
14/04/95	19:42	HW6	53.767	0.838	LT 2
14/04/95	19:54	HW6	53.767	0.838	SVT 3
14/04/95	21:00	HW6	53.767	0.838	SVT 4
14/04/95	21:09	HW8	53.651	0.965	CTD 3
14/04/95	21:21	HW8	53.651	0.965	LT 3
15/04/95	00:15	HW7	53.474	0.418	CTD 4
15/04/95	00:37	HW7	53.486	0.358	LT 4
15/04/95	01:58	HW9	53.318	0.345	CTD 5
15/04/95	02:10	HW9	53.333	0.306	LT 5
15/04/95	04:35	HW10	53.413	0.766	CTD 6
15/04/95	04:48	HW10	53.415	0.766	LT 6
15/04/95	06:13	HW11	53.508	0.945	CTD 7
15/04/95	06:25	HW11	53.529	0.905	LT 7
15/04/95	07:38	HW10	53.417	0.767	PG 1
15/04/95	08:55	HW12	53.250	0.645	CTD 8
15/04/95	09:18	HW12	53.250	0.645	LT 8
15/04/95	09:36	HW12	53.250	0.645	SVT 5
15/04/95	11:58	HW13	53.001	0.399	CTD 9
15/04/95	12:11	HW13	53.001	0.399	LT 9
15/04/95	16:37	HW14	53.004	0.067	CTD 10
15/04/95	16:51	HW14	53.004	0.067	LT 10
15/04/95	20:15	HW15	53.325	1.270	CTD 11
15/04/95	20:32	HW15	53.353	1.231	LT 11
15/04/95	23:32	HW16	52.918	1.482	CTD 12
16/04/95		HW16	52.926	1.466	LT 12
16/04/95	02:37	HW17	52.717	1.783	CTD 13
16/04/95	03:05	HW17	52.717	1.825	LT 13
16/04/95	05:00	HW18	52.789	2.102	CTD 14
16/04/95	05:20	HW18	52.787	2.191	LT 14
16/04/95	11:11	HW15	53.299	1.345	CTD 15
16/04/95	11:25	HW15	53.299	1.345	LT 15
16/04/95	11:39	HW15	53.299	1.345	SVT 7
16/04/95	11:42	HW15	53.299	1.345	SVT 8
16/04/95	14:22	HW8	53.648	0.965	CTD 16
16/04/95	14:31	HW8	53.648	0.965	LT 16
16/04/95	14:46	HW8	53.648	0.965	SVT 9
16/04/95	16:07	HW8	53.778	0.835	CTD 17
16/04/95	16:27	HW8	53.778	0.835	LT 17
16/04/95	16:48	HW8	53.778	0.835	SVT 10
16/04/95	18:09	HW4	53.890	0.684	CTD 18
16/04/95	18:23	HW4	53.890	0.684	LT 18

EVENT.LOG

EVENT LIST

Date	Time	Station	Latitude	Longitude	Event
16/04/95	18:43	HW4	53.890	0.684	SVT 11
16/04/95	20:04	HW2	54.021	0.515	CTD 19
16/04/95	20:18	HW2	54.056	0.436	LT 19
16/04/95	20:35	HW2	54.063	0.427	SVT 12
16/04/95	23:18	HW1	53.850	0.012	CTD 20
16/04/95	23:32	HW1	53.831	0.056	LT 20
17/04/95	01:10	HW3	53.734	0.071	CTD 21
17/04/95	01:22	HW3	53.723	0.120	LT 21
17/04/95	04:02	HW4	53.921	0.607	CTD 22
17/04/95	04:17	HW4	53.921	0.607	LT 22
17/04/95					Lateral transect of Humber mouth
17/04/95	09:21	HW5	53.563	0.079	On anchor station 1
17/04/95	09:43	HW5	53.563	0.079	CTD 23
17/04/95	10:00	HW5	53.563	0.079	LT 23
17/04/95	10:14	HW5	53.563	0.079	SVT 13
17/04/95	10:45	HW5	53.563	0.079	CTD 24
17/04/95	10:55	HW5	53.563	0.079	LT 24
17/04/95	11:45	HW5	53.563	0.079	CTD 25
17/04/95	12:01	HW5	53.563	0.079	LT 25
17/04/95	12:45	HW5	53.563	0.079	CTD 26
17/04/95	12:57	HW5	53.563	0.079	LT 26
17/04/95	13:45	HW5	53.563	0.079	CTD 27
17/04/95	13:55	HW5	53.563	0.079	LT 27
17/04/95	14:45	HW5	53.563	0.079	CTD 28
17/04/95	14:56	HW5	53.563	0.079	LT 28
17/04/95	15:45	HW5	53.563	0.079	CTD 29
17/04/95	16:00	HW5	53.563	0.079	LT 29
17/04/95	16:47	HW5	53.564	0.076	CTD 30
17/04/95	17:02	HW5	53.564	0.076	LT 30
17/04/95	17:45	HW5	53.564	0.076	CTD 31
17/04/95	18:45	HW5	53.564	0.076	CTD 32
17/04/95	19:35	HW5	57.564	0.078	SVT 15
17/04/95	19:37	HW5	53.564	0.078	SVT 16
17/04/95	19:48	HW5	53.564	0.078	CTD 33
17/04/95	19:59	HW5	53.564	0.078	SVT 17
17/04/95	20:01	HW5	53.564	0.079	LT 31
17/04/95	20:44	HW5	53.550	0.079	CTD 34
17/04/95	20:55	HW5	53.564	0.078	LT 32
17/04/95	21:45	HW5	53.563	0.079	CTD 35
17/04/95	21:56	HW5	53.630	0.079	LT 33
17/04/95	22:08	HW5	53.630	0.079	SVT 18
17/04/95	22:11	HW5	53.630	0.079	SVT 19
17/04/95	22:43	HW5	53.646	0.079	CTD 36
17/04/95	22:54	HW5	53.646	0.079	LT 34
17/04/95	23:45	HW5	53.646	0.079	CTD 37
17/04/95	23:59	HW5	53.646	0.079	LT 35
18/04/95	00:45	HW5	53.646	0.079	CTD 38
18/04/95	00:55	HW5	53.646	0.079	LT 36

EVENT.LOG

EVENT LIST

Date	Time	Station	Latitude	Longitude	Event
18/04/95	01:48	HW5	53.630	0.079	CTD 39
18/04/95	01:58	HW5	53.630	0.079	LT 37
18/04/95	02:43	HW5	53.630	0.079	CTD 40
18/04/95	03:00	HW5			Completed anchor station 1
18/04/95					Lateral transect of Humber Mouth
18/04/95	07:20				Commence coastal grid
18/04/95	07:25	C1	53.750	0.077	CTD 41
18/04/95	07:37	C1	53.750	0.077	LT 38
18/04/95	07:50	C1	53.750	0.077	DG 1
18/04/95	09:40	C2	53.867	0.064	CTD 42
18/04/95	09:50	C2	53.867	0.064	LT 39
18/04/95	10:05	C2	53.867	0.064	DG 2
18/04/95	11:53	C3	53.042	0.302	CTD 43
18/04/95	12:12	C3	53.042	0.302	LT 40
18/04/95	12:20	C3	53.042	0.302	DG 3
18/04/95	14:16	C4	54.050	-0.051	CTD 44
18/04/95	14:30	C4	54.050	-0.051	LT 41
18/04/95	16:10	C5	54.123	0.231	CTD 45
18/04/95	16:25	C5	54.123	0.231	LT 42
18/04/95	18:50	C6	54.199	0.184	CTD 46
18/04/95	19:02	C6	54.196	0.182	LT 43
18/04/95	20:54	C7	54.383	0.049	CTD 47
18/04/95	21:08	C7	54.382	0.050	LT 44
18/04/95	23:15	C8	54.398	0.419	CTD 48
18/04/95	23:29	C8	54.403	0.425	LT 45
19/04/95	01:30	C9	54.643	-0.220	CTD 49
19/04/95	01:45	C9	54.646	-0.227	LT 46
19/04/95	04:00	C10	54.567	-0.695	CTD 50
19/04/95	04:10	C10	54.564	-0.688	LT 47
19/04/95	06:19	C11	54.795	-0.599	CTD 51
19/04/95	06:32	C11	54.790	-0.598	LT 48
19/04/95	08:36	C12	54.653	-1.015	CTD 52
19/04/95	09:00	C12	54.653	-1.015	DG 4
19/04/95	09:43	C12	54.653	-1.015	LT 49
19/04/95	11:08	C13	54.879	-0.850	CTD 53
19/04/95	11:22	C13	54.879	-0.850	LT 50
19/04/95	11:50	C13	54.879	-0.850	DG 5
19/04/95	13:36	C14	54.690	-1.120	CTD 54
19/04/95	13:47	C14	54.689	-1.119	LT 51
19/04/95	14:05	C14	54.690	-1.132	DG 6
19/04/95	16:04	C15	54.952	-0.912	CTD 55
19/04/95	16:21	C15	54.951	-0.907	LT 52
19/04/95	18:12	C16	54.834	-1.297	CTD 56
19/04/95	18:25	C16	54.833	-1.296	LT 53
19/04/95	18:45	C16	54.833	-1.297	DG 7
19/04/95	20:14	C17	55.085	-1.051	CTD 57
19/04/95	20:30	C17	55.085	-1.046	LT 54
19/04/95	21:00	C17	55.083	-1.052	DG 8

EVENT.LOG

EVENT LIST

Date	Time	Station	Latitude	Longitude	Event
19/04/95	22:27	C18	55.014	-1.361	CTD 58
19/04/95	22:40	C18	55.015	-1.364	DG9
19/04/95	22:57	C18	55.017	-1.366	LT 55
20/04/95	01:03	C19	55.210	-1.026	CTD 59
20/04/95	01:29	C19	55.211	-1.030	LT 56
20/04/95	03:22	C20	55.207	-1.449	CTD 60
20/04/95	03:35	C20	55.204	-1.446	LT 57
20/04/95	05:34	C21	55.341	-1.059	CTD 61
20/04/95	05:52	C21	55.335	-1.725	LT 58
20/04/95	07:58	C22	55.389	-1.492	CTD 62
20/04/95	08:08	C22	55.389	-1.492	LT 59
20/04/95	10:16	C23	55.493	-1.067	CTD 63
20/04/95	10:31	C23	55.499	-1.073	LT 60
20/04/95	12:43	C24	55.570	-1.550	CTD 64
20/04/95	12:55	C24	55.570	-1.550	LT 61
20/04/95	14:58	C25	55.752	-1.252	CTD 65
20/04/95	15:15	C25	55.752	-1.252	LT 62
20/04/95	15:35	C25	55.752	-1.252	DG 10
20/04/95	18:05	C26	55.761	-1.909	CTD 66
20/04/95	18:32	C26	55.759	-1.906	LT 63
20/04/95	18:37	C26	55.759	-1.905	DG 11
20/04/95	20:16	C27	55.918	-1.581	CTD 67
20/04/95	20:35	C27	55.918	-1.575	LT 64
20/04/95	20:58	C27	55.915	-1.564	DG 12
20/04/95	23:04	C28	55.915	-2.083	CTD 68
20/04/95	23:18	C28	55.915	-2.087	LT 65
21/04/95	00:30	C29	55.999	-2.288	CTD 69
21/04/95	00:47	C29	55.999	-2.290	LT 66
21/04/95	03:32	C30	55.998	-1.602	CTD 70
21/04/95	03:47	C30	55.995	-1.605	LT 67
21/04/95	07:06	C31	55.700	-1.050	CTD 71
21/04/95	07:16	C31	55.700	-1.050	LT 68
21/04/95	09:05	-	?	?	UOR 1 out
21/04/95	14:19	-	?	?	UOR 1 in
21/04/95	15:43	C32	55.893	-0.751	CTD 72
21/04/95	15:57	C32	55.890	-0.750	LT 69
21/04/95	18:06	C33	54.749	-0.297	CTD 73
21/04/95	18:21	C33	54.748	-0.293	LT 70
21/04/95	20:20	C34	54.523	0.043	CTD 74
21/04/95	20:32	C34	54.520	0.048	LT 71
22/04/95	00:00	C35	54.002	0.388	CTD 75
22/04/95	00:14	C35	54.002	0.389	LT 72
22/04/95	01:35	HW2A	53.954	0.193	CTD 76
22/04/95	01:54	HW2A	53.956	0.191	SVT 20
22/04/95	03:54	HW4A	53.781	0.422	CTD 77
22/04/95	04:05	HW4A	53.786	0.414	SVT 21
22/04/95	05:20	HW6A			CTD 78
22/04/95	05:34	HW6A	53.664	0.526	SVT 22

EVENT.LOG

EVENT LIST

Date	Time	Station	Latitude	Longitude	Event
22/04/95	06:37	HW8A	53.559	0.633	CTD 79
22/04/95	07:57	HW10	53.410	0.758	CTD 80
22/04/95	08:08	HW10	53.412	0.760	LT 73
22/04/95	20:04	SNT5	53.879	0.215	CTD 81
22/04/95	20:43	SNT4	53.854	0.157	CTD82
22/04/95	21:19	SNT3	53.824	0.109	CTD 83
22/04/95	21:50	SNT2A	53.805	0.067	CTD 84
22/04/95	22:20	SNT1A	53.789	0.024	CTD 85
22/04/95	23:53	SNT5	53.878	0.214	CTD.86
23/04/95	00:30	SNT4	53.853	0.159	CTD 87
23/04/95	01:05	SNT3	53.824	0.102	CTD 88
23/04/95	01:39	SNT2A	53.809	0.062	CTD 89
23/04/95	02:14	SNT1A	53.789	0.021	CTD 90
23/04/95	03:32	SNT5	53.802	0.215	CTD 91
23/04/95	04:09	SNT4	53.854	0.161	CTD 92
23/04/95	04:44	SNT3	53.826	0.109	CTD 93
23/04/95	05:11	SNT2A	53.806	0.066	CTD 94
23/04/95	05:40	SNT1A	53.787	0.027	CTD 95
23/04/95	07:01	SNT5	53.880	0.216	CTD 96
23/04/95	07:36	SNT4	53.518	0.094	CTD 97
23/04/95	08:08	SNT3	53.492	0.062	CTD 98
23/04/95	08:35	SNT2A	53.482	0.035	CTD 99
23/04/95	09:00	SNT1A	53.473	0.014	CTD 100
23/04/95	11:30	HW3A	53.636	0.182	CTD 101
23/04/95	11:45	HW3A	53.636	0.182	LT 74
23/04/95	11:57	HW3A	53.636	0.182	SVT 23
23/04/95	12:30	HW3A	53.636	0.182	CTD 102
23/04/95	12:40	HW3A	53.636	0.182	LT 75
23/04/95	12:52	HW3A	53.636	0.182	SVT 24
23/04/95	13:30	HW3A	53.636	0.182	CTD 103
23/04/95	13:40	HW3A	53.636	0.182	LT 76
23/04/95	14:30	HW3A	53.636	0.182	CTD 104
23/04/95	14:40	HW3A	53.636	0.182	LT 77
23/04/95	15:30	HW3A	53.636	0.182	CTD 105
23/04/95	15:48	HW3A	53.636	0.182	SVT 25
23/04/95	15:50	HW3A	53.636	0.182	LT 78
23/04/95	16:30	HW3A	53.636	0.182	CTD 106
23/04/95	16:40	HW3A	53.636	0.182	LT 79
23/04/95	16:53	HW3A	53.636	0.182	SVT 26
23/04/95	17:30	HW3A	53.636	0.182	CTD 107
23/04/95	17:40	HW3A	53.636	0.182	LT 80
23/04/95	18:30	HW3A	53.636	0.182	CTD 108
23/04/95	18:40	HW3A	53.636	0.182	LT 81
23/04/95	19:30	HW3A	53.636	0.182	CTD 109
23/04/95	19:44	HW3A	53.636	0.182	LT 82
23/04/95	19:52	HW3A	53.636	0.182	SVT 27
23/04/95	19:56	HW3A	53.636	0.182	SVT 28
23/04/95	20:30	HW3A	53.636	0.182	CTD 110

EVENT.LOG

EVENT LIST

Date	Time	Station	Latitude	Longitude	Event
23/04/95	20:44	HW3A	53.636	0.182	LT 83
23/04/95	21:30	HW3A	53.636	0.182	CTD 111
23/04/95	21:39	HW3A	53.636	0.182	LT 84
23/04/95	21:50	HW3A	53.636	0.182	SVT 29
23/04/95	21:55	HW3A	53.636	0.182	SVT 30
23/04/95	22:30	HW3A	53.636	0.182	CTD 112
23/04/95	22:41	HW3A	53.636	0.182	LT 85
23/04/95	23:30	HW3A	53.636	0.182	CTD 113
23/04/95	23:53	HW3A	53.636	0.182	LT 86
24/04/95	00:30	HW3A	53.636	0.182	CTD 114
24/04/95	00:53	HW3A	53.636	0.182	LT 87
24/04/95	08:??	HW9			Mooring recovered
24/04/95	??:??	HW12			Mooring recovered
24/04/95	16:??	HW12			Mooring redeployed
24/04/95	??:??	HW9			Mooring redeployed
24/04/95	21:00	HW13	53.000	0.399	CTD 115
24/04/95	21:12	HW13	53.000	0.399	LT 88
24/04/95	22:00	HW13	53.000	0.399	CTD 116
24/04/95	22:12	HW13	53.000	0.399	LT 89
24/04/95	23:00	HW13	53.000	0.399	CTD 117
24/04/95	23:12	HW13	53.000	0.399	LT 90
25/04/95	00:00	HW13	53.000	0.399	CTD 118
25/04/95	00:13	HW13	53.000	0.399	LT 91
25/04/95	01:00	HW13	53.000	0.399	CTD 119
25/04/95	01:12	HW13	53.000	0.399	LT 92
25/04/95	02:00	HW13	53.000	0.399	CTD 120
25/04/95	02:12	HW13	53.000	0.399	LT 93
25/04/95	03:00	HW13	53.000	0.399	CTD 121
25/04/95	03:12	HW13	53.000	0.399	LT 94
25/04/95	04:00	HW13	53.000	0.399	CTD 122
25/04/95	04:12	HW13	53.000	0.399	LT 95
25/04/95	05:00	HW13	53.000	0.399	CTD 123
25/04/95	05:12	HW13	53.000	0.399	LT 96
25/04/95	06:30	-	-	-	Wash ADCP transect
25/04/95	07:20	HW13	53.000	0.399	CTD 124
25/04/95	07:32	HW13	53.000	0.399	LT 97
25/04/95	08:28	HW13	53.000	0.399	CTD 125
25/04/95	08:31	HW13	53.000	0.399	LT 98
25/04/95	09:27	HW13	53.000	0.399	CTD 126
25/04/95	09:30	HW13	53.000	0.399	LT 99
25/04/95	10:23	HW13	53.000	0.399	CTD 127
25/04/95	10:26	HW13	53.000	0.399	LT 100
25/04/95	11:26	HW13	53.000	0.399	CTD 128
25/04/95	11:31	HW13	53.000	0.399	LT 101

Events

CTD Casts

Cruise	Cast Id	Start Date/Time	End Date/Time	Station	Wdepth	Comments
CH118B	CTD1	14/04/95 15:51	14/04/95 15:55	HW5	20	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD2	14/04/95 19:23	14/04/95 19:33	HW6	32	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD3	14/04/95 21:07	14/04/95 21:16	HW8	24	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD4	15/04/95 00:17	15/04/95 00:28	HW7	12	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD5	15/04/95 01:53	15/04/95 02:05	HW9	16	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD6	15/04/95 04:32	15/04/95 04:42	HW10	21	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD7	15/04/95 06:10	15/04/95 06:19	HW11	23	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD8	15/04/95 08:53	15/04/95 09:02	HW12	22	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD9	15/04/95 11:58	15/04/95 12:08	HW13	30	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD10	15/04/95 16:35	15/04/95 16:45	HW14	19	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD11	15/04/95 20:14	15/04/95 20:23	HW15	25	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD12	15/04/95 23:23	15/04/95 23:40	HW16	19	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD13	16/04/95 02:34	16/04/95 02:44	HW17	33	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD14	16/04/95 04:57	16/04/95 05:09	HW18	44	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD15	16/04/95 11:08	16/04/95 11:18	HW15	22	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD16	16/04/95 14:19	16/04/95 14:31	HW16	25	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD17	16/04/95 16:06	16/04/95 16:15	HW17	31	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD18	16/04/95 18:08	16/04/95 18:19	HW18	47	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD19	16/04/95 20:01	16/04/95 20:10	HW2	52	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD20	16/04/95 23:16	16/04/95 23:25	HW1	12	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD21	17/04/95 01:07	17/04/95 01:17	HW3	16	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD22	17/04/95 03:59	17/04/95 04:13	HW4	45	2x10l GFs, 2x2.5l GFs, 3x10l Niskin
CH118B	CTD23	17/04/95 09:30	17/04/95 09:51	HW5	12	2x2.5l GFs, 4x10l Niskin
CH118B	CTD24	17/04/95 10:45	17/04/95 10:54	HW5	11	2x2.5l GFs, 4x10l Niskin
CH118B	CTD25	17/04/95 11:45	17/04/95 11:57	HW5	9	2x2.5l GFs, 4x10l Niskin
CH118B	CTD26	17/04/95 12:45	17/04/95 12:52	HW5	9	2x2.5l GFs, 4x10l Niskin
CH118B	CTD27	17/04/95 13:45	17/04/95 13:50	HW5	10	2x2.5l GFs, 4x10l Niskin
CH118B	CTD28	17/04/95 14:45	17/04/95 14:50	HW5	11	2x2.5l GFs, 4x10l Niskin
CH118B	CTD29	17/04/95 15:45	17/04/95 15:55	HW5	12	2x2.5l GFs, 4x10l Niskin
CH118B	CTD30	17/04/95 16:45	17/04/95 16:57	HW5	14	2x2.5l GFs, 4x10l Niskin
CH118B	CTD31	17/04/95 17:45	17/04/95 17:54	HW5	15	2x2.5l GFs, 4x10l Niskin
CH118B	CTD32	17/04/95 18:45	17/04/95 18:51	HW5	16	2x2.5l GFs, 4x10l Niskin
CH118B	CTD33	17/04/95 19:45	17/04/95 19:54	HW5	15	2x2.5l GFs, 4x10l Niskin
CH118B	CTD34	17/04/95 20:44	17/04/95 20:53	HW5	10	2x2.5l GFs, 4x10l Niskin
CH118B	CTD35	17/04/95 21:42	17/04/95 21:53	HW5	13	2x2.5l GFs, 4x10l Niskin
CH118B	CTD36	17/04/95 22:43	17/04/95 22:51	HW5	11	2x2.5l GFs, 4x10l Niskin
CH118B	CTD37	17/04/95 23:45	17/04/95 23:54	HW5	10	2x2.5l GFs, 4x10l Niskin
CH118B	CTD38	18/04/95 00:45	18/04/95 00:53	HW5	8	2x2.5l GFs, 4x10l Niskin
CH118B	CTD39	18/04/95 01:48	18/04/95 01:56	HW5	9	2x2.5l GFs, 4x10l Niskin

CTD Casts

Cruise	Cast Id	Start Date/Time	End Date/Time	Station	Wdepth	Comments
CH118B	CTD40	18/04/95 02:43	18/04/95 02:55	HW5	10	2x2.5l GFs, 4x10l Niskin
CH118B	CTD41	18/04/95 07:22	18/04/95 07:33	C1	34	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD42	18/04/95 09:38	18/04/95 09:50	C2	25	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD43	18/04/95 11:53	18/04/95 12:07	C3	52	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD44	18/04/95 14:16	18/04/95 14:24	C4	18	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD45	18/04/95 16:07	18/04/95 16:20	C5	57	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD46	18/04/95 18:48	18/04/95 19:00	C6	36	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD47	18/04/95 20:51	18/04/95 21:03	C7	62	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD48	18/04/95 23:13	18/04/95 23:25	C8	42	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD49	19/04/95 01:29	19/04/95 01:42	C9	70	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD50	19/04/95 03:54	19/04/95 04:07	C10	42	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD51	19/04/95 06:15	19/04/95 06:29	C11	66	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD52	19/04/95 08:34	19/04/95 08:45	C12	32	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD53	19/04/95 11:05	19/04/95 11:17	C13	65	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD54	19/04/95 13:35	19/04/95 13:44	C14	24	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD55	19/04/95 16:01	19/04/95 16:16	C15	79	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD56	19/04/95 18:12	19/04/95 18:20	C16	33	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD57	19/04/95 20:10	19/04/95 20:25	C17	88	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD58	19/04/95 22:24	19/04/95 22:34	C18	25	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD59	20/04/95 01:01	20/04/95 01:25	C19	88	As above. Computer Failure.
CH118B	CTD60	20/04/95 03:19	20/04/95 03:32	C20	43	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD61	20/04/95 05:31	20/04/95 05:49	C21	90	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD62	20/04/95 07:58	20/04/95 08:08	C22	44	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD63	20/04/95 10:13	20/04/95 10:28	C23	99	2x2.5l GFs, 4x10l Niskin, 1x10l GF
CH118B	CTD64	20/04/95 12:40	20/04/95 12:53	C24	39	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD65	20/04/95 14:55	20/04/95 15:11	C25	70	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD66	20/04/95 18:04	20/04/95 18:14	C26	33	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD67	20/04/95 20:16	20/04/95 20:29	C27	71	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD68	20/04/95 23:01	20/04/95 23:16	C28	70	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD69	21/04/95 00:31	20/04/95 00:45	C29	57	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD70	21/04/95 03:30	20/04/95 03:45	C30	77	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD71	21/04/95 07:06	21/04/95 07:18	C31	79	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD72	21/04/95 15:40	21/04/95 15:54	C32	66	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD73	21/04/95 18:06	21/04/95 18:17	C33	67	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD74	21/04/95 20:16	21/04/95 20:28	C34	68	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD75	22/04/95 00:00	22/04/95 00:10	C35	55	2x2.5l GFs, 4x10l Niskin, 2x10l GF
CH118B	CTD76	22/04/95 01:36	22/04/95 01:49	HW2A	48	2x2.5l GFs, 3x10l Niskin
CH118B	CTD77	22/04/95 03:51	22/04/95 04:00	HW4A	33	2x2.5l GFs, 3x10l Niskin
CH118B	CTD78	22/04/95 05:20	22/04/95 05:30	HW6A	22	2x2.5l GFs, 3x10l Niskin

CTD Casts

Cruise	Cast Id	Start Date/Time	End Date/Time	Station	Wdepth	Comments
CH118B	CTD79	22/04/95 06:34	22/04/95 06:45	HW8A	22	2x2.5l GFs, 3x10l Nisken
CH118B	CTD80	22/04/95 07:57	22/04/95 08:10	HW10	21	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD81	22/04/95 20:02	22/04/95 20:14	SNT5	36	2x2.5l GFs, 3x10l Nisken, 1x 10l GF
CH118B	CTD82	22/04/95 20:41	22/04/95 20:51	SNT4	30	2x2.5l GFs, 3x10l Nisken, 1x 10l GF
CH118B	CTD83	22/04/95 21:17	22/04/95 21:26	SNT3	24	2x2.5l GFs, 3x10l Nisken, 1x 10l GF
CH118B	CTD84	22/04/95 21:50	22/04/95 21:59	SNT2	19	2x2.5l GFs, 3x10l Nisken, 1x 10l GF
CH118B	CTD85	22/04/95 22:20	22/04/95 22:30	SNT1	16	2x2.5l GFs, 3x10l Nisken
CH118B	CTD86	22/04/95 23:53	23/04/95 00:03	SNT5	36	2x2.5l GFs, 3x10l Nisken
CH118B	CTD87	23/04/95 00:30	23/04/95 00:38	SNT4	30	2x2.5l GFs, 3x10l Nisken
CH118B	CTD88	23/04/95 01:05	23/04/95 01:15	SNT3	24	2x2.5l GFs, 3x10l Nisken
CH118B	CTD89	23/04/95 01:39	23/04/95 01:50	SNT2	19	2x2.5l GFs, 3x10l Nisken
CH118B	CTD90	23/04/95 02:14	23/04/95 02:24	SNT1	15	2x2.5l GFs, 3x10l Nisken
CH118B	CTD91	23/04/95 03:32	23/04/95 03:45	SNT5	36	2x2.5l GFs, 3x10l Nisken
CH118B	CTD92	23/04/95 04:09	23/04/95 04:21	SNT4	28	2x2.5l GFs, 3x10l Nisken, 1x 10l GF
CH118B	CTD93	23/04/95 04:44	23/04/95 04:53	SNT3	23	2x2.5l GFs, 3x10l Nisken, 1x 10l GF
CH118B	CTD94	23/04/95 05:11	23/04/95 05:23	SNT2	17	2x2.5l GFs, 3x10l Nisken, 1x 10l GF
CH118B	CTD95	23/04/95 05:40	23/04/95 05:53	SNT1	14	2x2.5l GFs, 3x10l Nisken, 1x 10l GF
CH118B	CTD96	23/04/95 07:01	23/04/95 07:12	SNT5	35	2x2.5l GFs, 3x10l Nisken
CH118B	CTD97	23/04/95 07:36	23/04/95 07:46	SNT4	28	2x2.5l GFs, 3x10l Nisken
CH118B	CTD98	23/04/95 08:08	23/04/95 08:16	SNT3	22	2x2.5l GFs, 3x10l Nisken
CH118B	CTD99	23/04/95 08:35	23/04/95 08:42	SNT2	19	2x2.5l GFs, 3x10l Nisken
CH118B	CTD100	23/04/95 09:00	23/04/95 09:11	SNT1	15	2x2.5l GFs, 3x10l Nisken
CH118B	CTD101	23/04/95 11:30	23/04/95 11:39	HW3A	18	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD102	23/04/95 12:30	23/04/95 12:36	HW3A	18	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD103	23/04/95 13:30	23/04/95 13:36	HW3A	17	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD104	23/04/95 14:30	23/04/95 14:37	HW3A	17	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD105	23/04/95 15:30	23/04/95 15:37	HW3A	17	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD106	23/04/95 16:30	23/04/95 16:36	HW3A	16	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD107	23/04/95 17:30	23/04/95 17:36	HW3A	15	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD108	23/04/95 18:30	23/04/95 18:36	HW3A	15	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD109	23/04/95 19:30	23/04/95 19:38	HW3A	15	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD110	23/04/95 20:30	23/04/95 20:38	HW3A	15	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD111	23/04/95 21:30	23/04/95 21:38	HW3A	16	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD112	23/04/95 22:30	23/04/95 22:38	HW3A	17	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD113	23/04/95 23:30	23/04/95 23:38	HW3A	17	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD114	24/04/95 00:29	23/04/95 00:38	HW3A	18	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD115	24/04/95 21:00	24/04/95 21:10	HW13	30	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD116	24/04/95 22:00	24/04/95 22:10	HW13	28	2x2.5l GFs, 3x10l Nisken, 2x 10l GF
CH118B	CTD117	24/04/95 23:00	24/04/95 23:10	HW13	30	2x2.5l GFs, 3x10l Nisken, 2x 10l GF

CTD Casts

Cruise	Cast Id	Start Date/Time	End Date/Time	Station	Wdepth	Comments
CH118B	CTD118	25/04/95 00:00	25/04/95 00:11	HW13	32	2x2.5l GFs, 3x10l Niskin, 2x 10l GF
CH118B	CTD119	25/04/95 01:00	25/04/95 01:11	HW13	33	2x2.5l GFs, 3x10l Niskin, 2x 10l GF
CH118B	CTD120	25/04/95 02:00	25/04/95 02:11	HW13	34	2x2.5l GFs, 3x10l Niskin, 2x 10l GF
CH118B	CTD121	25/04/95 03:00	25/04/95 03:11	HW13	34	2x2.5l GFs, 3x10l Niskin, 2x 10l GF
CH118B	CTD122	25/04/95 04:00	25/04/95 04:11	HW13	34	2x2.5l GFs, 3x10l Niskin, 2x 10l GF
CH118B	CTD123	25/04/95 05:00	25/04/95 05:11	HW13	34	2x2.5l GFs, 3x10l Niskin, 2x 10l GF
CH118B	CTD124	25/04/95 07:22	25/04/95 07:32	HW13	34	2x2.5l GFs, 3x10l Niskin, 2x 10l GF
CH118B	CTD125	25/04/95 08:28	25/04/95 08:38	HW13	26	2x2.5l GFs, 3x10l Niskin, 2x 10l GF
CH118B	CTD126	25/04/95 09:27	25/04/95 09:37	HW13	25	2x2.5l GFs, 3x10l Niskin, 2x 10l GF
CH118B	CTD127	25/04/95 10:23	25/04/95 10:33	HW13	31	2x2.5l GFs, 3x10l Niskin, 2x 10l GF
CH118B	CTD128	25/04/95 11:26	25/04/95 11:36	HW13	26	2x2.5l GFs, 3x10l Niskin, 2x 10l GF

Lasentec In-situ Particle Sizer

Cruise	OID	Date	Start	End	Lat	Lon	Station	Wdepth	Depth	Bille
CH118B	LT1	14/04/95	16:09	16:22	52 32.57	00 08.05	HW5	21	5 & 18	
CH118B	LT2	14/04/95	19:43	19:50	53 46.15	00 50.48	HW6	33	5 & 30	
CH118B	LT3	14/04/95	21:21	21:35	53 39.29	00 57.85	HW8	21.5	5 & 21	
CH118B	LT4	15/04/95	00:38	00:49	53 28.81	00 23.64	HW7	12.5	5 & 9	
CH118B	LT5	15/04/95	02:13	02:25	53 18.55	00 24.57	HW9	15	5 & 13	
CH118B	LT6	15/04/95	04:48	05:02	53 24.89	00 45.93	HW10	21	5 & 18	
CH118B	LT7	15/04/95	06:25	06:40	53 31.76	00 54.29	HW11	23	5 & 20	
CH118B	LT8	15/04/95	09:23	09:30	53 15.10	00 38.51	HW12	22.9	5 & 20	
CH118B	LT9	15/04/95	12:12	12:32	53 00.15	00 23.91	HW13	31.5	5 & 28	
CH118B	LT10	15/04/95	16:51	17:06	53 17.28	01 20.46	HW14	19	5 & 16	
CH118B	LT11	15/04/95	20:34	20:42	53 17.28	01 20.46	HW15	24	5 & 21	
CH118B	LT12	16/04/95	00:02	00:15	52 53.69	01 31.04	HW16	21	5 & 19	90/304
CH118B	LT13	16/04/95	03:08	03:23	52 43.35	01 48.98	HW17	34	5 & 30	
CH118B	LT14	16/04/95	05:20	05:36	52.785	2.199	HW18	45	5 & 40	
CH118B	LT15	16/04/95	11:25	11:37	53 18.25	01 20.09	HW15	22	5 & 19	
CH118B	LT16	16/04/95	14:34	14:46	53.647	0.949	HW8	25	5 & 25	
CH118B	LT17	16/04/95	16:27	16:42	53.763	0.834	HW6	32	5 & 27	
CH118B	LT18	16/04/95	18:23	18:40	53.886	0.692	HW4	46	5 & 41	
CH118B	LT19	16/04/95	20:19	20:26	54 02.19	00 31.60	HW2	52.5	5 & 49	
CH118B	LT20	16/04/95	23:34	23:47	53 51.65	00 01.82	HW1	12	5 & 9	
CH118B	LT21	17/04/95	01:22	01:35	53 43.32	00 08.12	HW3	16.5	5 & 13	
CH118B	LT22	17/04/95	04:17	04:23	53 55.29	00 36.39	HW4	45	21	
CH118B	LT23	17/04/95	10:00	10:08	53 33.75	00 04.72	HW5	12	5 & 10	
CH118B	LT24	17/04/95	10:55	11:02	53 33.75	00 04.72	HW5	11	5 & 5	711/77
CH118B	LT25	17/04/95	12:01	12:09	53 33.75	00 04.72	HW5	9	5	301
CH118B	LT26	17/04/95	12:55	13:06	53 33.75	00 04.72	HW5	9	2 & 7	
CH118B	LT27	17/04/95	13:55	14:04	53 33.75	00 04.72	HW5	10	2 & 8	/340
CH118B	LT28	17/04/95	14:56	15:06	53 33.75	00 04.72	HW5	12	5 & 9	239/727
CH118B	LT29	17/04/95	16:00	16:09	53 33.75	00 04.72	HW5	14	5 & 12	
CH118B	LT30	17/04/95	17:02	17:13	53 33.75	00 04.72	HW5	16	5 & 15	
CH118B	LT31	17/04/95	20:02	20:10	53 33.75	00 04.72	HW5	15	5 & 13	
CH118B	LT32	17/04/95	20:55	21:05	53 33.75	00 04.72	HW5	14	5 & 11	
CH118B	LT33	17/04/95	21:57	22:07	53 33.75	00 04.72	HW5	13	5 & 12	
CH118B	LT34	17/04/95	22:56	22:03	53 33.75	00 04.72	HW5	11	5 & 10	
CH118B	LT35	18/04/95	00:00	00:07	53 33.75	00 04.72	HW5	10	5 & 8	
CH118B	LT36	18/04/95	00:56	01:03	53 33.75	00 04.72	HW5	9	2 & 7	480/51

Lasentec In-situ Particle Sizer

Cruise	OID	Date	Start	End	Lat	Lon	Station	Wdepth	Depth	Btfile
CH118B	LT37	18/04/95	02:00	02:07	53 33.75	00 04.72	HW5	9.1	2 & 7	
CH118B	LT38	18/04/95	07:37	07:50	53 45.01	00 24.41	C1	33	5 & 30	/121
CH118B	LT39	18/04/95	09:55	10:07	53 52.04	00 03.81	C2	24	5 & 20	
CH118B	LT40	18/04/95	12:12	12:24	53 02.52	00 18.11	C3	52	5 & 48	912/473
CH118B	LT41	18/04/95	14:30	14:37	54 02.48	00 03.21-	C4	21.5	5 & 18	
CH118B	LT42	18/04/95	16:25	16:27	54 01.13	00 02.34	C5	57	5 & 53	894/920
CH118B	LT43	18/04/95	19:02	19:14	54 11.76	00 10.98-	C6	36	5 & 53	
CH118B	LT44	18/04/95	21:08	21:24	54 22.91	00 02.98	C7	62.5	5 & 59	
CH118B	LT45	18/04/95	23:30	23:42	54 24.22	00 25.57-	C8	43	5 & 40	112/159
CH118B	LT46	19/04/95	01:46	02:07	54 38.11	00 12.56-	C9	68	5 & 65	
CH118B	LT47	19/04/95	04:12	04:25	54 56.00	00 06.83-	C10	45	5 & 40	151/214
CH118B	LT48	19/04/95	06:32	06:49	54 47.14	00 35.46-	C11	66	5 & 61	
CH118B	LT49	19/04/95	09:43	09:50	54 39.80	01 01.60-	C12	32	5 & 29	
CH118B	LT50	19/04/95	11:22	11:45	54 53.10	00 51 31-	C13	67	5 & 64	
CH118B	LT51	19/04/95	13:48	14:00	54 41.36	01 07.04-	C14	25	5 & 22	
CH118B	LT52	19/04/95	16:21	16:40	54 57.04	00 54.46-	C15	79	5 & 74	
CH118B	LT53	19/04/95	18:25	18:35	54 93.30	01 02.95-	C16	35	5 & 31	
CH118B	LT54	19/04/95	20:33	20:42	55 05.17	01 02.42-	C17	89	5 & 85	
CH118B	LT55	19/04/95	22:59	23:04	55 00.58	01 21.56-	C18	22	5 & 19	383/719
CH118B	LT56	20/04/95	01:30	01:49	55 12.68	01 17.80-	C19	89	5 & 86	27/7
CH118B	LT57	20/04/95	03:35	03:49	55.203	-1.445	C20	43	5 & 40	144/657
CH118B	LT58	20/04/95	05:52	06:08	55.322	-1.056	C21	90	5 & 85	630/888
CH118B	LT59	20/04/95	08:15	08:20	55 23.27	01 29.56-	C22	44	5 & 40	
CH118B	LT60	20/04/95	10:32	10:42	55 29.45	01 04.10-	C23	99	5 & 90	
CH118B	LT61	20/04/95	13:57	14:09	55 34.54	01 33.13	C24	39	5 & 37	
CH118B	LT62	20/04/95	15:15	15:30	55 45.14	01 15.18-	C25	70	5 & 68	38/911
CH118B	LT63	20/04/95	18:32	18:37	55.759	-1.906	C26	33	5 & 27	
CH118B	LT64	20/04/95	20:35	20:43	55 55.40	01 34.28-	C27	73	5 & 71	
CH118B	LT65	20/04/95	23:20	23:34	55 54.91	02 05.22-	C28	70	5 & 65	788/110
CH118B	LT66	21/04/95	00:50	01:08	55 59.95	02 17.36-	C29	57	5 & 54	
CH118B	LT67	21/04/95	03:47	04:07	55.995	-1.605	C30	77	5 & 70	
CH118B	LT68	21/04/95	07:20	07:28	55 41.38	01 03.34-	C31	79	5 & 77	
CH118B	LT69	21/04/95	15:57	16:15	54 53.41	00 44.99-	C32	66	5 & 63	
CH118B	LT70	21/04/95	18:21	18:35	54 44.54	00 17.48-	C33	67	5 & 64	
CH118B	LT71	21/04/95	20:33	20:41	54 31.18	00 02.57	C34	68	5 & 65	
CH118B	LT72	22/04/95	00:14	00:30	54.002	0.387	C35	55	5 & 52	

Lasentec In-situ Particle Sizer

Cruise	OID	Date	Start	End	Lat	Lon	Station	Wdepth	Depth	Btfile
CH118B	LT73	22/04/95	08:08	08:20	53 24.74	00 45.62	HW10	20	5 & 17	
CH118B	LT74	23/04/95	11:45	12:00	53.636	0.182	HW3A	18	5 & 15	
CH118B	LT75	23/04/95	12:40	12:52	53.636	0.182	HW3A	18	5 & 15	
CH118B	LT76	23/04/95	13:40	13:52	53.636	0.182	HW3A	18	5 & 15	
CH118B	LT77	23/04/95	14:40	14:52	53.636	0.182	HW3A	17	5 & 14	
CH118B	LT78	23/04/95	15:50	16:02	53.636	0.182	HW3A	17	5 & 13	
CH118B	LT79	23/04/95	16:40	16:52	53.636	0.182	HW3A	16	5 & 13	
CH118B	LT80	23/04/95	17:40	17:52	53.636	0.182	HW3A	16	5 & 13	
CH118B	LT81	23/04/95	18:40	18:52	53.636	0.182	HW3A	15	5 & 12	
CH118B	LT82	23/04/95	19:44	19:56	53.636	0.182	HW3A	15	5 & 13	
CH118B	LT83	23/04/95	20:44	20:56	53.636	0.182	HW3A	16	5 & 13	
CH118B	LT84	23/04/95	21:39	21:56	53.636	0.182	HW3A	16	5 & 13	
CH118B	LT85	23/04/95	22:42	22:55	53.636	0.182	HW3A	17	5 & 15	
CH118B	LT86	23/04/95	23:45	23:58	53.636	0.182	HW3A	18	5 & 15	
CH118B	LT87	24/04/95	00:44	00:56	53.636	0.182	HW3A	18	5 & 15	
CH118B	LT88	24/04/95	21:13	21:26	53.000	0.399	HW13	30	5 & 27	
CH118B	LT89	24/04/95	22:10	22:28	53.000	0.399	HW13	30	5 & 26	
CH118B	LT90	24/04/95	23:13	23:26	53.000	0.399	HW13	31	5 & 28	
CH118B	LT91	25/04/95	00:15	00:28	53.000	0.399	HW13	33	5 & 30	74/837
CH118B	LT92	25/04/95	01:14	01:31	53.000	0.399	HW13	34	5 & 30	
CH118B	LT93	25/04/95	02:16	02:21	53.000	0.399	HW13	34	5 & 31	
CH118B	LT94	25/04/95	03:12	03:25	53.000	0.399	HW13	34	5 & 31	
CH118B	LT95	25/04/95	04:12	04:26	53.000	0.399	HW13	34	5 & 31	
CH118B	LT96	25/04/95	05:14	05:32	53.000	0.399	HW13	34	5 & 29	
CH118B	LT97	25/04/95	07:32	07:47	53.000	0.399	HW13	36	5 & 33	
CH118B	LT98	25/04/95	08:31	08:46	53.000	0.399	HW13	29	5 & 26	
CH118B	LT99	25/04/95	09:30	09:43	53.000	0.399	HW13	26	5 & 23	
CH118B	LT100	25/04/95	10:26	10:39	53.000	0.399	HW13	33	5 & 30	
CH118B	LT101	25/04/95	11:31	11:45	53.000	0.399	HW13	26	5 & 23	

Settling Velocity Tubes*Times quoted are the outboard and inboard times*

Cruise	Sample	Date	Start	End	Station	Wdepth	Comments
CH118B	SV1	14/04/95	16:24	16:26	HW5	20	Bottom
CH118B	SV2	14/04/95	16:31	16:32	HW5	20	Surface
CH118B	SV3	14/04/95	19:54	19:56	HW6	32	Bottom
CH118B	SV4	14/04/95	20:00	20:03	HW6	32	Surface
CH118B	SV5	15/04/95	09:36	09:40	HW12	22	Bottom
CH118B	SV6	15/04/95	09:42	09:44	HW12	22	Surface
CH118B	SV7	16/04/95	11:39	11:45	HW15	22	Bottom
CH118B	SV8	16/04/95	11:46	11:47	HW15	22	Surface
CH118B	SV9	16/04/95	14:53	14:55	HW8	25	Surface
CH118B	SV10	16/04/95	16:44	16:46	HW6	31	Surface
CH118B	SV11	16/04/95	18:43	18:45	HW4	47	Surface
CH118B	SV12	16/04/95	20:35	20:39	HW2	52	Surface
CH118B	SV13	17/04/95	10:14	10:15	HW5	12	Surface, leaked on recovery
CH118B	SV14	17/04/95	13:29	13:30	HW5	10	Surface
CH118B	SV15	17/04/95	19:36	19:37	HW5	15	Surface
CH118B	SV16	17/04/95	19:38	19:39	HW5	15	Surface
CH118B	SV17	17/04/95	19:59	20:00	HW5	15	Surface
CH118B	SV18	17/04/95	22:08	22:09	HW5	13	Surface
CH118B	SV19	17/04/95	22:11	22:13	HW5	11	Surface
CH118B	SV20	22/04/95	01:54	01:57	HW2A	48	Surface
CH118B	SV21	22/04/95	04:05	04:07	HW4A	33	Surface
CH118B	SV22	22/04/95	05:34	05:39	HW6A	22	Surface
CH118B	SV23	23/04/95	11:57	12:00	HW3A	18	Bottom
CH118B	SV24	23/04/95	12:52	12:55	HW3A	18	Surface
CH118B	SV25	23/04/95	15:48	15:50	HW3A	16	Surface
CH118B	SV26	23/04/95	16:53	16:55	HW3A	15	Bottom
CH118B	SV27	23/04/95	19:52	19:54	HW3A	15	Bottom
CH118B	SV28	23/04/95	19:56	19:58	HW3A	15	Surface
CH118B	SV29	23/04/95	21:50	21:52	HW3A	16	Bottom
CH118B	SV30	23/04/95	21:55	21:58	HW3A	16	Surface

Day Grabs

Cruise	Sample	Date/time	Fixed Station	Comments
CH118B	DG1	18/04/95 07:50	C1	Grab sample/trace metals
CH118B	DG2	18/04/95 10:05	C2	No sediment
CH118B	DG3	18/04/95 12:20	C3	No sediment
CH118B	DG4	19/04/95 09:00	C12	Grab sample/trace metals
CH118B	DG5	19/04/95 11:50	C13	Grab sample/trace metals
CH118B	DG6	19/04/95 14:05	C14	Grab sample/trace metals
CH118B	DG7	19/04/95 18:45	C16	Grab sample/mixed stones/trace metals
CH118B	DG8	19/04/95 21:00	C17	Grab sample/mud/trace metals
CH118B	DG9	19/04/95 22:40	C18	Grab sample failed after 3 attempts
CH118B	DG10	20/04/95 14:55	C25	Grab sample/trace metals
CH118B	DG11	20/04/95 18:37	C26	Grab sample/fine gravels/trace metals
CH118B	DG12	20/04/95 20:14	C27	Grab sample/fine mud/trace metals

General Non-toxic Supply Samples

Cruise	Sample id	Date/Time	Fixed Station	Determinants	Comments
CH118B	PG001	15/04/95 07:38	HW10	SPM, Chlorophyll	
CH118B	PG002	22/04/95 10:00	HW9	Derby Samples	At Scallop site
CH118B	PG003	24/04/95 08:30	HW9	Derby Samples	At Scallop site
CH118B	PG004	24/04/95 10:05	HW12	Derby Samples	At Scallop site

Sub-Samples from Events

Galai Particulate Analyser

Cruise	Date/time	Station	CTD	Depth	OID	Comments
CH118B	14/04/95 15:51	HW5	CTD1	18	E1B	
CH118B	14/04/95 15:51	HW5	CTD1	5	E1T	
CH118B	14/04/95 19:25	HW6	CTD2	28	E2B	
CH118B	14/04/95 19:27	HW6	CTD2	5	E2T	
CH118B	14/04/95 21:09	HW8	CTD3	20	E3B	
CH118B	14/04/95 21:10	HW8	CTD3	5	E3T	
CH118B	15/04/95 00:20	HW7	CTD4	9	E4B	
CH118B	15/04/95 00:22	HW7	CTD4	5	E4T	
CH118B	15/04/95 02:00	HW9	CTD5	12	E5B	
CH118B	15/04/95 02:02	HW9	CTD5	5	E5T	
CH118B	15/04/95 04:32	HW10	CTD6	17	E6B	
CH118B	15/04/95 04:35	HW10	CTD6	5	E6T	
CH118B	15/04/95 06:14	HW11	CTD7	19	E7B	
CH118B	15/04/95 06:15	HW11	CTD7	5	E7T	
CH118B	15/04/95 08:55	HW12	CTD8	18	E8B	
CH118B	15/04/95 08:58	HW12	CTD8	5	E8T	
CH118B	15/04/95 11:59	HW13	CTD9	26	E9B	
CH118B	15/04/95 12:02	HW13	CTD9	5	E9T	
CH118B	15/04/95 16:39	HW14	CTD10	15.8	E10B	
CH118B	15/04/95 16:41	HW14	CTD10	5	E10T	
CH118B	15/04/95 20:15	HW15	CTD11	20	E11B	
CH118B	15/04/95 20:16	HW15	CTD11	5	E11T	
CH118B	15/04/95 23:20	HW16	CTD12	13	E12B	
CH118B	15/04/95 23:22	HW16	CTD12	5	E12T	
CH118B	16/05/95 02:38	HW17	CTD13	29	E13B	
CH118B	16/05/95 02:41	HW17	CTD13	5	E13T1	Sample split
CH118B	16/05/95 02:41	HW17	CTD13	5	E13T2	
CH118B	16/04/95 05:02	HW18	CTD14	40	E14B	
CH118B	16/04/95 05:04	HW18	CTD14	5	E14T	
CH118B	16/04/95 11:12	HW15	CTD15	18	E15B	
CH118B	16/04/95 11:14	HW15	CTD15	5	E15T	
CH118B	16/04/95 14:22	HW16	CTD16	21	E16B	
CH118B	16/04/95 14:24	HW16	CTD16	5	E16T	
CH118B	16/04/95 16:02	HW17	CTD17	25	E17B	
CH118B	16/04/95 16:04	HW17	CTD17	5	E17T	
CH118B	16/04/95 18:11	HW18	CTD18	41	E18B	
CH118B	16/04/95 18:14	HW18	CTD18	5	E18T	
CH118B	16/04/95 20:06	HW2	CTD19	49	E19B	

Galai Particulate Analyser

Cruise	Date/time	Station	CTD	Depth	OID	Comments
CH118B	16/04/95 20:09	HW2	CTD19	5	E19T	
CH118B	16/04/95 23:16	HW1	CTD20	9	E20B	
CH118B	16/04/95 23:18	HW1	CTD20	5	E20T	
CH118B	17/04/95 00:07	HW3	CTD21	12	E21B	
CH118B	17/04/95 00:08	HW3	CTD21	5	E21T	
CH118B	17/04/95 04:06	HW4	CTD22	40	E22B	
CH118B	17/04/95 04:09	HW4	CTD22	5	E22T	
CH118B	17/04/95 09:30	HW5	CTD23	9	E23B	
CH118B	17/04/95 09:31	HW5	CTD23	5	E23T	
CH118B	17/04/95 10:45	HW5	CTD24	7	E24B	
CH118B	17/04/95 10:45	HW5	CTD24	5	E24T	
CH118B	17/04/95 11:45	HW5	CTD25	6.5	E25B	
CH118B	17/04/95 11:45	HW5	CTD25	5	E25T	
CH118B	17/04/95 12:45	HW5	CTD26	5	E26T	
CH118B	17/04/95 13:45	HW5	CTD27	5	E27T	
CH118B	17/04/95 14:45	HW5	CTD28	8	E28B	
CH118B	17/04/95 14:45	HW5	CTD28	5	E28T	
CH118B	17/04/95 15:45	HW5	CTD29	11	E29B	
CH118B	17/04/95 15:45	HW5	CTD29	5	E29T	
CH118B	17/04/95 16:45	HW5	CTD30	11	E30B	
CH118B	17/04/95 16:45	HW5	CTD30	5	E30T	
CH118B	17/04/95 17:45	HW5	CTD31	11	E31B	
CH118B	17/04/95 17:45	HW5	CTD31	5	E31T	Cell empty for first 4 minutes
CH118B	17/04/95 18:45	HW5	CTD32	10	E32B	
CH118B	17/04/95 18:45	HW5	CTD32	5	E32T	
CH118B	17/04/95 19:45	HW5	CTD33	15	E33B	Condensation on cell window
CH118B	17/04/95 19:45	HW5	CTD33	5	E33T	
CH118B	17/04/95 20:45	HW5	CTD34	10	E34B	
CH118B	17/04/95 20:45	HW5	CTD34	5	E34T	Only video
CH118B	17/04/95 21:45	HW5	CTD35	10	E35B	
CH118B	17/04/95 21:45	HW5	CTD35	5	E35T	
CH118B	17/04/95 22:45	HW5	CTD36	6	E36B	
CH118B	17/04/95 22:45	HW5	CTD36	2	E36T	
CH118B	17/04/95 23:45	HW5	CTD37	5	E37B	
CH118B	17/04/95 23:45	HW5	CTD37	2	E37T	
CH118B	18/04/95 00:45	HW5	CTD38	4	E38B	
CH118B	18/04/95 00:45	HW5	CTD38	3	E38T	
CH118B	18/04/95 01:45	HW5	CTD39	5	E39B	

Galai Particulate Analyser

Cruise	Date/time	Station	CTD	Depth	OID	Comments
CH118B	18/04/95 01:45	HW5	CTD39	4	E39T	
CH118B	18/04/95 02:45	HW5	CTD40	5	E40B	
CH118B	18/04/95 02:45	HW5	CTD40	3	E40T	
CH118B	18/04/95 07:25	C1	CTD41	29	E41B	
CH118B	18/04/95 07:25	C1	CTD41	3.5	E41T	
CH118B	18/04/95 09:20	C2	CTD42	18	E42B	
CH118B	18/04/95 09:20	C2	CTD42	5	E42T	
CH118B	18/04/95 11:56	C3	CTD43	46	E43B	
CH118B	18/04/95 12:00	C3	CTD43	5	E43T	
CH118B	18/04/95 14:15	C4	CTD44	15	E44B	
CH118B	18/04/95 14:15	C4	CTD44	5	E44T	
CH118B	18/04/95 16:12	C5	CTD45	52	E45B	
CH118B	18/04/95 16:16	C5	CTD45	5	E45T	
CH118B	18/04/95 18:51	C6	CTD46	30	E46B	
CH118B	18/04/95 18:54	C6	CTD46	5	E46T	
CH118B	18/04/95 20:55	C7	CTD47	60	E47B	
CH118B	18/04/95 20:55	C7	CTD47	5	E47T	
CH118B	18/04/95 23:13	C8	CTD48	40	E48B	
CH118B	18/04/95 23:13	C8	CTD48	5	E48T	
CH118B	19/04/95 01:29	C9	CTD49	64	E49B	
CH118B	19/04/95 01:29	C9	CTD49	5	E49T	
CH118B	19/04/95 03:59	C10	CTD50	38	E50B	
CH118B	19/04/95 04:02	C10	CTD50	5	E50T	
CH118B	19/04/95 06:21	C11	CTD51	63	E51B	
CH118B	19/04/95 06:25	C11	CTD51	5	E51T	
CH118B	19/04/95 08:37	C12	CTD52	26	E52B	
CH118B	19/04/95 08:39	C12	CTD52	5	E52T	
CH118B	19/04/95 11:10	C13	CTD53	59	E53B	
CH118B	19/04/95 11:13	C13	CTD53	5	E53T	
CH118B	19/04/95 13:25	C14	CTD54	19	E54B	
CH118B	19/04/95 13:35	C14	CTD54	5	E54T	
CH118B	19/04/95 16:07	C15	CTD55	71	E55B	
CH118B	19/04/95 16:11	C15	CTD55	5	E55T	
CH118B	19/04/95 18:12	C16	CTD56	26	E56B	
CH118B	19/04/95 18:15	C16	CTD56	5	E56T	
CH118B	19/04/95 20:16	C17	CTD57	83	E57B	
CH118B	19/04/95 20:21	C17	CTD57	5	E57T	
CH118B	19/04/95 22:28	C18	CTD58	19	E58B	

Galai Particulate Analyser

Cruise	Date/time	Station	CTD	Depth	OID	Comments
CH118B	19/04/95 22:30	C18	CTD58	5	E58T	
CH118B	20/04/95 01:01	C19	CTD59	84	E59B	
CH118B	20/04/95 01:01	C19	CTD59	5	E59T	
CH118B	20/04/95 03:24	C20	CTD60	39	E60B	
CH118B	20/04/95 03:27	C20	CTD60	5	E60T	
CH118B	20/04/95 05:38	C21	CTD61	85	E61B	
CH118B	20/04/95 05:43	C21	CTD61	5	E61T	
CH118B	20/04/95 08:01	C22	CTD62	39	E62B	
CH118B	20/04/95 08:03	C22	CTD62	5	E62T	
CH118B	20/04/95 10:18	C23	CTD63	95	E63B	
CH118B	20/04/95 10:23	C23	CTD63	5	E63T	
CH118B	20/04/95 12:40	C24	CTD64	33	E64B	
CH118B	20/04/95 12:40	C24	CTD64	5	E64T	
CH118B	20/04/95 15:01	C25	CTD65	65	E65B	
CH118B	20/04/95 15:05	C25	CTD65	5	E65T	
CH118B	20/04/95 18:06	C26	CTD66	26	E66B	
CH118B	20/04/95 18:09	C26	CTD66	5	E66T	
CH118B	20/04/95 20:20	C27	CTD67	68	E67B	
CH118B	20/04/95 20:24	C27	CTD67	5	E67T	
CH118B	20/04/95 23:01	C28	CTD68	64	E68B	
CH118B	20/04/95 23:01	C28	CTD68	5	E68T	
CH118B	21/04/95 00:31	C29	CTD69	54	E69B	
CH118B	21/04/95 00:31	C29	CTD69	5	E69T	
CH118B	21/04/95 03:37	C30	CTD70	73	E70B	
CH118B	21/04/95 03:41	C30	CTD70	5	E70T	
CH118B	21/04/95 07:06	C31	CTD71	71	E71B	
CH118B	21/04/95 07:10	C31	CTD71	5	E71T	
CH118B	21/04/95 15:45	C32	CTD72	60	E72B	
CH118B	21/04/95 15:49	C32	CTD72	5	E72T	
CH118B	21/04/95 18:08	C33	CTD73	60	E73B	
CH118B	21/04/95 18:12	C33	CTD73	5	E73T	
CH118B	21/04/95 20:21	C34	CTD74	64	E74B	
CH118B	21/04/95 20:24	C34	CTD74	5	E74T	
CH118B	21/04/95 23:57	C35	CTD75	51	E75B	
CH118B	21/04/95 23:57	C35	CTD75	5	E75T	
CH118B	22/04/95 01:36	HW2A	CTD76	44	E76B	
CH118B	22/04/95 01:36	HW2A	CTD76	5	E76T	
CH118B	22/04/95 03:55	HW4A	CTD77	28	E77B	

Galai Particulate Analyser

Cruise	Date/time	Station	CTD	Depth	OID	Comments
CH118B	22/04/95 03:57	HW4A	CTD77	5	E77T	
CH118B	22/04/95 05:23	HW6A	CTD78	17	E78B	
CH118B	22/04/95 05:23	HW6A	CTD78	5	E78T	
CH118B	22/04/95 06:39	HW8A	CTD79	18	E79B	
CH118B	22/04/95 06:40	HW8A	CTD79	5	E79T	
CH118B	22/04/95 07:58	HW10	CTD80	15	E80B	
CH118B	22/04/95 08:00	HW10	CTD80	5	E80T	
CH118B	22/04/95 20:07	SNT5	CTD81	33	E81B	
CH118B	22/04/95 20:09	SNT5	CTD81	5	E81T	
CH118B	22/04/95 20:45	SNT4	CTD82	25	E82B	
CH118B	22/04/95 20:47	SNT4	CTD82	5	E82T	
CH118B	22/04/95 21:21	SNT3	CTD83	20	E83B	
CH118B	22/04/95 21:23	SNT3	CTD83	5	E83T	
CH118B	22/04/95 21:53	SNT2A	CTD84	16	E84B	
CH118B	22/04/95 21:55	SNT2A	CTD84	5	E84T	
CH118B	22/04/95 22:24	SNT1A	CTD85	13	E85B	
CH118B	22/04/95 22:26	SNT1A	CTD85	5	E85T	
CH118B	22/04/95 23:56	SNT5	CTD86	32	E86B	
CH118B	22/04/95 23:58	SNT5	CTD86	5	E86T	
CH118B	22/04/95 00:30	SNT4	CTD87	27	E87B	
CH118B	23/04/95 00:30	SNT4	CTD87	5	E87T	Sample Lost
CH118B	23/04/95 01:05	SNT3	CTD88	20	E88B	
CH118B	23/04/95 01:05	SNT3	CTD88	5	E88T	
CH118B	23/04/95 01:39	SNT2A	CTD89	16	E89B	
CH118B	23/04/95 01:42	SNT2A	CTD89	5	E89T	
CH118B	23/04/95 02:14	SNT1A	CTD90	12	E90B	
CH118B	23/04/95 02:15	SNT1A	CTD90	5	E90T	
CH118B	23/04/95 03:36	SNT5	CTD91	33	E91B	
CH118B	23/04/95 03:38	SNT5	CTD91	5	E91T	
CH118B	23/04/95 04:14	SNT4	CTD92	25	E92B	
CH118B	23/04/95 04:16	SNT4	CTD92	5	E92T	
CH118B	23/04/95 04:48	SNT3	CTD93	20	E93B	
CH118B	23/04/95 04:50	SNT3	CTD93	5	E93T	
CH118B	23/04/95 05:16	SNT2A	CTD94	13	E94B	
CH118B	23/04/95 05:18	SNT2A	CTD94	5	E94T	
CH118B	23/04/95 05:46	SNT1A	CTD95	9	E95B	
CH118B	23/04/95 05:47	SNT1A	CTD95	5	E95T	
CH118B	23/04/95 07:05	SNT5	CTD96	31	E96B	

Galai Particulate Analyser

Cruise	Date/time	Station	CTD	Depth	OID	Comments
CH118B	23/04/95 07:07	SNT5	CTD96	5	E96T	
CH118B	23/04/95 07:39	SNT4	CTD97	23	E97B	
CH118B	23/04/95 07:41	SNT4	CTD97	5	E97T	
CH118B	23/04/95 08:09	SNT3	CTD98	15	E98B	
CH118B	23/04/95 08:11	SNT3	CTD98	5	E98T	
CH118B	23/04/95 08:35	SNT2A	CTD99	14	E99B	
CH118B	23/04/95 08:37	SNT2A	CTD99	5	E99T	
CH118B	23/04/95 09:02	SNT1A	CTD100	12	E100B	
CH118B	23/04/95 09:04	SNT1A	CTD100	5	E100T	
CH118B	23/04/95 11:32	HW3A	CTD101	12	E101B	
CH118B	23/04/95 11:34	HW3A	CTD101	5	E101T	
CH118B	23/04/95 12:30	HW3A	CTD102	12	E102B	
CH118B	23/04/95 12:32	HW3A	CTD102	5	E102T	
CH118B	23/04/95 13:29	HW3A	CTD103	12	E103B	
CH118B	23/04/95 13:31	HW3A	CTD103	5	E103T	
CH118B	23/04/95 14:30	HW3A	CTD104	12	E104B	
CH118B	23/04/95 14:32	HW3A	CTD104	5	E104T	
CH118B	23/04/95 15:31	HW3A	CTD105	13	E105B	
CH118B	23/04/95 15:33	HW3A	CTD105	5	E105T	
CH118B	23/04/95 16:30	HW3A	CTD106	11	E106B	
CH118B	23/04/95 16:31	HW3A	CT106	5	E106T	
CH118B	23/04/95 17:32	HW3A	CTD107	10	E107B	
CH118B	23/04/95 17:33	HW3A	CTD107	5	E107T	
CH118B	23/04/95 18:30	HW3A	CTD108	10	E108B	
CH118B	23/04/95 18:31	HW3A	CTD108	5	E108T	
CH118B	23/04/95 19:30	HW3A	CTD109	11	E109B	
CH118B	23/04/95 19:32	HW3A	CTD109	5	E109T	
CH118B	23/04/95 20:31	HW3A	CTD110	11	E110B	
CH118B	23/04/95 20:32	HW3A	CTD110	5	E110T	
CH118B	23/04/95 21:30	HW3A	CTD111	11	E111B	
CH118B	23/04/95 21:32	HW3A	CTD111	5	E111T	
CH118B	23/04/95 22:32	HW3A	CTD112	11	E112B	
CH118B	23/04/95 22:34	HW3A	CTD112	5	E112T	
CH118B	23/04/95 23:34	HW3A	CTD113	14	E113B	
CH118B	23/04/95 23:35	HW3A	CTD113	5	E113T	
CH118B	24/04/95 00:33	HW3A	CTD114	15	E114B	
CH118B	24/04/95 00:34	HW3A	CTD114	5	E114T	
CH118B	24/04/95 21:03	HW13	CTD115	27	E115B	

Galai Particulate Analyser

Cruise	Date/time	Station	CTD	Depth	OID	Comments
CH118B	24/04/95 21:05	HW13	CTD115	5	E115T	
CH118B	24/04/95 22:00	HW13	CTD116	26	E116B	
CH118B	24/04/95 22:02	HW13	CTD116	5	E116T	
CH118B	24/04/95 23:02	HW13	CTD117	27	E117B	
CH118B	24/04/95 23:05	HW13	CTD117	5	E117T	
CH118B	25/04/95 00:00	HW13	CTD118	29	E118B	
CH118B	25/04/95 00:00	HW13	CTD118	5	E118T	
CH118B	25/04/95 01:03	HW13	CTD119	29	E119B	
CH118B	25/04/95 01:06	HW13	CTD119	5	E119T	
CH118B	25/04/95 02:06	HW13	CTD120	30	E120B	
CH118B	25/04/95 02:08	HW13	CTD120	5	E120T	
CH118B	25/04/95 03:02	HW13	CTD121	31	E121B	
CH118B	25/04/95 03:04	HW13	CTD121	5	E121T	
CH118B	25/04/95 04:04	HW13	CTD122	31	E122B	No surface sample from CTD
CH118B	25/04/95 05:04	HW13	CTD123	5	E123T	
CH118B	25/04/95 05:06	HW13	CTD123	29	E123B	
CH118B	25/04/95 07:21	HW13	CTD124	5	E124T	
CH118B	25/04/95 07:24	HW13	CTD124	28	E124B	
CH118B	25/04/95 08:21	HW13	CTD125	5	E125T	
CH118B	25/04/95 08:23	HW13	CTD125	23	E125B	
CH118B	25/04/95 09:27	HW13	CTD126	5	E126T	
CH118B	25/04/95 09:27	HW13	CTD126	21	E126B	
CH118B	25/04/95 10:16	HW13	CTD127	5	E127T	
CH118B	25/04/95 10:18	HW13	CTD127	27	E127B	
CH118B	25/04/95 11:19	HW13	CTD128	5	E128T	
CH118B	25/04/95 11:20	HW13	CTD128	21	E128B	

Gravimetrics, Chlorophyll, Phytoplankton

*or non toxic.

Cruise	Date/time	Stn	CTD*	Depth	OID	Comments
CH118B	14/04/95 15:33	HW5	CTD1	5	93	SPM, Chlorophyll
CH118B	14/04/95 15:53	HW5	CTD1	18	L1	SPM
CH118B	14/04/95 15:56	HW5	CTD1	5	L2	SPM
CH118B	14/04/95 19:33	HW6	CTD2	5	94	SPM, Chlorophyll
CH118B	14/04/95 19:26	HW6	CTD2	28	L3	SPM
CH118B	14/04/95 19:28	HW6	CTD2	5	L4	SPM
CH118B	14/04/95 21:16	HW8	CTD3	5	95	SPM, Chlorophyll
CH118B	14/04/95 21:10	HW8	CTD3	20	L5	SPM
CH118B	14/04/95 21:12	HW8	CTD3	5	L6	SPM
CH118B	15/04/95 00:28	HW7	CTD4	5	96	SPM, Chlorophyll
CH118B	15/04/95 02:05	HW9	CTD5	5	97	SPM, Chlorophyll
CH118B	15/04/95 04:42	HW10	CTD6	5	98	SPM, Chlorophyll
CH118B	15/04/95 04:36	HW10	CTD6	17	L7	SPM
CH118B	15/04/95 04:38	HW10	CTD6	5	L8	SPM
CH118B	15/04/95 06:19	HW11	CTD7	5	99	SPM, Chlorophyll, lugols, formalin
CH118B	15/04/95 06:14	HW11	CTD7	19	L9	SPM
CH118B	15/04/95 06:15	HW11	CTD7	5	L10	SPM
CH118B	15/04/95 07:38	HW10	PG001	5	100	SPM, Chlorophyll
CH118B	15/04/95 09:02	HW12	CTD8	5	101	SPM, Chlorophyll
CH118B	15/04/95 08:55	HW12	CTD8	18	L11	SPM
CH118B	15/04/95 08:57	HW12	CTD8	5	L12	SPM
CH118B	15/04/95 12:08	HW13	CTD9	5	102	SPM, Chlorophyll
CH118B	15/04/95 11:59	HW13	CTD9	26	L13	SPM
CH118B	15/04/95 12:02	HW13	CTD9	5	L14	SPM
CH118B	15/04/95 16:45	HW14	CTD10	5	103	SPM, Chlorophyll
CH118B	15/04/95 16:39	HW14	CTD10	15.8	L15	SPM
CH118B	15/04/95 16:41	HW14	CTD10	5	L16	SPM
CH118B	15/04/95 20:20	HW15	CTD11	5	104	SPM, Chlorophyll
CH118B	15/04/95 20:19	HW15	CTD11	20	L17	SPM
CH118B	15/04/95 20:20	HW15	CTD11	5	L18	SPM
CH118B	15/04/95 23:35	HW16	CTD12	5	105	SPM, Chlorophyll
CH118B	15/04/95 23:34	HW16	CTD12	13	L20	SPM
CH118B	15/04/95 23:35	HW16	CTD12	5	L19	SPM
CH118B	16/04/95 02:44	HW17	CTD13	5	106	SPM, Chlorophyll
CH118B	16/04/95 02:38	HW17	CTD13	29	L21	SPM
CH118B	16/04/95 02:41	HW17	CTD13	5	L22	SPM

Gravimetrics, Chlorophyll, Phytoplankton

*or non toxic.

Cruise	Date/time	Stn	CTD*	Depth	OID	Comments
CH118B	16/04/95 05:09	HW18	CTD14	5	107	SPM, Chlorophyll
CH118B	16/04/95 05:02	HW18	CTD14	40	L23	SPM
CH118B	16/04/95 05:04	HW18	CTD14	5	L24	SPM
CH118B	16/04/95 11:18	HW15	CTD15	5	108	SPM, Chlorophyll
CH118B	16/04/95 11:12	HW15	CTD15	18	L25	SPM
CH118B	16/04/95 11:14	HW15	CTD15	5	L26	SPM
CH118B	16/04/95 14:31	HW18	CTD16	5	109	SPM, Chlorophyll
CH118B	16/04/95 14:22	HW18	CTD16	21	L27	SPM
CH118B	16/04/95 14:22	HW18	CTD16	5	L28	SPM
CH118B	16/04/95 16:15	HW6	CTD17	5	110	SPM, Chlorophyll
CH118B	16/04/95 16:07	HW6	CTD17	25	L29	SPM
CH118B	16/04/95 16:07	HW6	CTD17	5	L30	SPM
CH118B	16/04/95 18:19	HW4	CTD18	5	111	SPM, Chlorophyll
CH118B	16/04/95 18:11	HW4	CTD18	41	L31	SPM
CH118B	16/04/95 18:14	HW4	CTD18	5	L32	SPM
CH118B	16/04/95 20:11	HW2	CTD19	5	112	SPM, Chlorophyll, lugols, formalin
CH118B	16/04/95 20:06	HW2	CTD19	49	L33	SPM
CH118B	16/04/95 20:06	HW2	CTD19	5	L34	SPM
CH118B	16/04/95 23:23	HW1	CTD20	5	113	SPM, Chlorophyll
CH118B	16/04/95 23:16	HW1	CTD20	9	L35	SPM
CH118B	16/04/95 23:16	HW1	CTD20	5	L36	SPM
CH118B	17/04/95 01:15	HW3	CTD21	5	114	SPM, Chlorophyll
CH118B	17/04/95 01:07	HW3	CTD21	12	L37	SPM
CH118B	17/04/95 01:07	HW3	CTD21	5	L38	SPM
CH118B	17/04/95 04:13	HW4	CTD22	5	115	SPM, Chlorophyll
CH118B	17/04/95 04:06	HW4	CTD22	40	L39	SPM
CH118B	17/04/95 04:09	HW4	CTD22	5	L40	SPM
CH118B	17/04/95 09:51	HW5	CTD23	5	116	SPM, Chlorophyll
CH118B	17/04/95 09:30	HW5	CTD23	9	L41	SPM
CH118B	17/04/95 09:30	HW5	CTD23	5	L42	SPM
CH118B	17/04/95 10:47	HW5	CTD24	5	117	SPM, Chlorophyll
CH118B	17/04/95 10:45	HW5	CTD24	7	L43	SPM
CH118B	17/04/95 10:45	HW5	CTD24	5	L44	SPM
CH118B	17/04/95 11:57	HW5	CTD25	4	118	SPM, Chlorophyll
CH118B	17/04/95 11:45	HW5	CTD25	6.5	L45	SPM
CH118B	17/04/95 11:45	HW5	CTD25	4	L46	SPM

Gravimetrics, Chlorophyll, Phytoplankton

*or non toxic.

Cruise	Date/time	Stn	CTD*	Depth	OID	Comments
CH118B	17/04/95 12:52	HW5	CTD26	5	119	SPM, Chlorophyll
CH118B	17/04/95 12:45	HW5	CTD26	5	L47	SPM
CH118B	17/04/95 13:50	HW5	CTD27	5	120	SPM, Chlorophyll
CH118B	17/04/95 13:45	HW5	CTD27	5	L48	SPM
CH118B	17/04/95 14:55	HW5	CTD28	5	121	SPM, Chlorophyll
CH118B	17/04/95 14:45	HW5	CTD28	8	L49	SPM
CH118B	17/04/95 14:45	HW5	CTD28	5	L50	SPM
CH118B	17/04/95 15:55	HW5	CTD29	4	122	SPM, Chlorophyll
CH118B	17/04/95 15:45	HW5	CTD29	11	L51	SPM
CH118B	17/04/95 15:45	HW5	CTD29	4	L52	SPM
CH118B	17/04/95 16:57	HW5	CTD30	4	123	SPM, Chlorophyll
CH118B	17/04/95 16:45	HW5	CTD30	11	L53	SPM
CH118B	17/04/95 16:45	HW5	CTD30	4	L54	SPM
CH118B	17/04/95 17:54	HW5	CTD31	5	124	SPM, Chlorophyll
CH118B	17/04/95 17:45	HW5	CTD31	11	L55	SPM
CH118B	17/04/95 17:45	HW5	CTD31	5	L56	SPM
CH118B	17/04/95 18:51	HW5	CTD32	5	125	SPM, Chlorophyll
CH118B	17/04/95 18:45	HW5	CTD32	10	L57	SPM
CH118B	17/04/95 18:45	HW5	CTD32	5	L58	SPM
CH118B	17/04/95 19:54	HW5	CTD33	5	126	SPM, Chlorophyll
CH118B	17/04/95 19:45	HW5	CTD33	12	L59	SPM
CH118B	17/04/95 19:45	HW5	CTD33	5	L60	SPM
CH118B	17/04/95 20:51	HW5	CTD34	5	127	SPM, Chlorophyll
CH118B	17/04/95 20:45	HW5	CTD34	10	L61	SPM
CH118B	17/04/95 20:45	HW5	CTD34	5	L62	SPM
CH118B	17/04/95 21:51	HW5	CTD35	5	128	SPM, Chlorophyll
CH118B	17/04/95 21:45	HW5	CTD35	10	L63	SPM
CH118B	17/04/95 21:45	HW5	CTD35	5	L64	SPM
CH118B	17/04/95 22:49	HW5	CTD36	2	129	SPM, Chlorophyll

Trace Metals, POC.

Cruise	Date/time	Stn	CTD	Depth	Comments
CH118B	14/04/95 15:51	HW5	CTD1	7.95	Particulate metals, also POC, SPM
CH118B	14/04/95 19:23	HW6	CTD2	5	Particulate metals
CH118B	14/04/95 21:07	HW8	CTD3	4.325	Particulate metals
CH118B	15/04/95 00:17	HW7	CTD4	4.025	Particulate metals
CH118B	15/04/95 01:53	HW9	CTD5	4.3	Particulate metals
CH118B	15/04/95 04:32	HW10	CTD6	4.55	Particulate metals
CH118B	15/04/95 06:10	HW11	CTD7	4.225	Particulate metals
CH118B	15/04/95 08:53	HW12	CTD8	4.05	Particulate metals
CH118B	15/04/95 11:58	HW13	CTD9	4.525	Particulate metals, also POC, SPM
CH118B	15/04/95 16:35	HW14	CTD10	5.525	Particulate metals
CH118B	15/04/95 20:14	HW15	CTD11	3.95	Particulate metals
CH118B	15/04/95 23:22	HW16	CTD12	4.875	Particulate metals
CH118B	16/04/95 02:34	HW17	CTD13	3.75	Particulate metals
CH118B	16/04/95 04:57	HW18	CTD14	3.775	Particulate metals
CH118B	16/04/95 11:08	HW15	CTD15	5	Particulate metals
CH118B	16/04/95 14:19	HW8	CTD16	4.95	Particulate metals
CH118B	16/04/95 16:06	HW6	CTD17	4.55	Particulate metals
CH118B	16/04/95 18:08	HW4	CTD18	4.225	Particulate metals
CH118B	16/04/95 20:01	HW2	CTD19	4.6	Particulate metals
CH118B	16/04/95 23:16	HW1	CTD20	4.4	Particulate metals
CH118B	17/04/95 01:07	HW3	CTD21	3.875	Particulate metals
CH118B	17/04/95 09:45	HW5	CTD23	4.5	Dissolved & Particulate metals, SPM
CH118B	17/04/95 10:45	HW5	CTD24	4.075	Dissolved/particulate metals, POC, SPM
CH118B	17/04/95 11:45	HW5	CTD25	4	Dissolved/particulate metals, SPM
CH118B	17/04/95 12:45	HW5	CTD26	4.725	Dissolved/particulate metals, SPM
CH118B	17/04/95 13:45	HW5	CTD27	5.625	Dissolved/particulate metals, SPM, POC
CH118B	17/04/95 14:45	HW5	CTD28	7.425	Dissolved/particulate metals, SPM
CH118B	17/04/95 15:45	HW5	CTD29	3.825	Dissolved/particulate metals, SPM
CH118B	17/04/95 16:45	HW5	CTD30	3.75	Dissolved/particulate metals, SPM, POC
CH118B	17/04/95 17:45	HW5	CTD31	4.925	Dissolved/particulate metals, SPM
CH118B	17/04/95 18:45	HW5	CTD32	4.675	Dissolved/particulate metals, SPM
CH118B	17/04/95 19:45	HW5	CTD33	4.225	Dissolved/particulate metals, SPM, POC
CH118B	17/04/95 20:45	HW5	CTD34	3.375	Dissolved/particulate metals, SPM
CH118B	17/04/95 21:45	HW5	CTD35	1.925	Dissolved/particulate metals, SPM
CH118B	17/04/95 22:45	HW5	CTD36	2.15	Dissolved/particulate metals, SPM
CH118B	17/04/95 23:45	HW5	CTD37	2.025	Dissolved/particulate metals, SPM

Trace Metals, POC.

Cruise	Date/time	Stn	CTD	Depth	Comments
CH118B	18/04/95 00:45	HW5	CTD38	3.05	Particulate metals
CH118B	18/04/95 01:45	HW5	CTD39	3.95	Particulate metals
CH118B	18/04/95 02:45	HW5	CTD40	3.725	Particulate metals
CH118B	18/04/95 07:22	C1	CTD41	3.275	Particulate metals
CH118B	18/04/95 09:38	C2	CTD42	3.125	Particulate metals
CH118B	18/04/95 11:52	C3	CTD43	4.275	Particulate metals
CH118B	18/04/95 14:13	C4	CTD44	3.4	Particulate metals
CH118B	18/04/95 16:07	C5	CTD45	4.1	Particulate metals
CH118B	18/04/95 18:48	C6	CTD46	3.9	Particulate metals
CH118B	18/04/95 20:51	C7	CTD47	2.775	Particulate metals
CH118B	18/04/95 23:13	C8	CTD48	3.3	Particulate metals
CH118B	19/04/95 01:29	C9	CTD49	6.683	Particulate metals
CH118B	19/04/95 03:54	C10	CTD50	7.025	Particulate metals
CH118B	19/04/95 06:15	C11	CTD51	3.3	Particulate metals
CH118B	19/04/95 08:34	C12	CTD52	2.575	Particulate metals
CH118B	19/04/95 11:05	C13	CTD53	4.175	Particulate metals
CH118B	19/04/95 13:35	C14	CTD54	4.3	Particulate metals, POC, SPM
CH118B	19/04/95 16:01	C15	CTD55	3.825	Particulate metals
CH118B	19/04/95 18:12	C16	CTD56	3.175	Particulate metals
CH118B	19/04/95 20:10	C17	CTD57	4.125	Particulate metals, POC, SPM
CH118B	19/04/95 22:24	C18	CTD58	3.625	Particulate metals, POC, SPM
CH118B	20/04/95 01:01	C19	CTD59	4.525	Particulate metals, POC, SPM
CH118B	20/04/95 03:19	C20	CTD60	3.35	Particulate metals
CH118B	20/04/95 05:31	C21	CTD61	4.225	Particulate metals
CH118B	20/04/95 07:58	C22	CTD62	4.6	Particulate metals
CH118B	20/04/95 10:13	C23	CTD53	4.725	Particulate metals
CH118B	20/04/95 12:40	C24	CTD64	4.15	Particulate metals
CH118B	20/04/95 14:55	C25	CTD65	4.5	Particulate metals, POC, SPM
CH118B	20/04/95 18:04	C26	CTD66	4.375	Particulate metals, POC, SPM
CH118B	20/04/95 20:14	C27	CTD67	3.575	Particulate metals, POC, SPM
CH118B	20/04/95 23:01	C28	CTD68	3.475	Particulate metals
CH118B	21/04/95 00:31	C29	CTD69	3.675	Particulate metals
CH118B	21/04/95 03:30	C30	CTD70	4.425	Particulate metals
CH118B	21/04/95 07:06	C31	CTD71	3.525	Particulate metals
CH118B	21/04/95 15:40	C32	CTD72	5.275	Particulate metals
CH118B	21/04/95 18:06	C33	CTD73	3.9	Particulate metals

Trace Metals, POC.

Cruise	Date/time	Stn	CTD	Depth	Comments
CH118B	21/04/95 20:16	C34	CTD74	4.6	Particulate metals
CH118B	21/04/95 23:57	C35	CTD75	4.15	Particulate metals
CH118B	22/04/95 07:57	HW10	CTD80	4.125	Particulate metals
CH118B	22/04/95 20:02	SNT5	CTD81	4.275	Particulate metals
CH118B	22/04/95 20:41	SNT4	CTD82	4.25	Particulate metals
CH118B	22/04/95 21:17	SNT3	CTD83	4.75	Particulate metals
CH118B	22/04/95 21:50	SNT2A	CTD84	4.75	Particulate metals
CH118B	22/04/95 22:18	SNT1A	CTD85	3.925	Particulate metals
CH118B	23/04/95 04:09	SNT4	CTD92	4.65	Particulate metals
CH118B	23/04/95 04:44	SNT3	CTD93	4.225	Particulate metals
CH118B	23/04/95 05:11	SNT2A	CTD94	4.65	Particulate metals
CH118B	23/04/95 05:40	SNT1A	CTD95	4	Particulate metals
CH118B	23/04/95 11:30	HW3A	CTD101	5.1	Dissolved & particulate metals, SPM, POC
CH118B	23/04/95 12:30	HW3A	CTD102	5.325	Particulate metals
CH118B	23/04/95 13:30	HW3A	CTD103	5.275	Particulate metals
CH118B	23/04/95 14:30	HW3A	CTD104	4.675	Dissolved & particulate metals, SPM, POC
CH118B	23/04/95 15:30	HW3A	CTD105	4.9	Dissolved & particulate metals, SPM, POC
CH118B	23/04/95 16:30	HW3A	CTD106	4.175	Dissolved & particulate metals, SPM, POC
CH118B	23/04/95 17:30	HW3A	CTD107	4.6	Particulate metals
CH118B	23/04/95 18:30	HW3A	CTD108	4.325	Dissolved & particulate metals, SPM, POC
CH118B	23/04/95 19:30	HW3A	CTD109	3.9	Dissolved & particulate metals, SPM, POC
CH118B	23/04/95 20:30	HW3A	CTD110	4.475	Particulate metals
CH118B	23/04/95 21:30	HW3A	CTD111	3.85	Dissolved & particulate metals, SPM, POC
CH118B	23/04/95 22:30	HW3A	CTD112	4.1	Particulate metals
CH118B	23/04/95 23:30	HW3A	CTD113	4.45	Dissolved & particulate metals, SPM, POC
CH118B	24/04/95 00:30	HW3A	CTD114	3.675	Dissolved & particulate metals, SPM, POC
CH118B	24/04/95 20:57	HW13	CTD115	4.25	Particulate metals
CH118B	24/04/95 21:56	HW13	CTD116	4.25	Particulate metals
CH118B	24/04/95 22:55	HW13	CTD117	4.4	Particulate metals
CH118B	25/04/95 00:00	HW13	CTD118	3.7	Particulate metals
CH118B	25/04/95 00:58	HW13	CTD119	4.25	Particulate metals
CH118B	25/04/95 02:08	HW13	CTD120	4.15	Particulate metals
CH118B	25/04/95 02:58	HW13	CTD121	4.125	Particulate metals
CH118B	25/04/95 03:57	HW13	CTD122	4.125	Particulate metals
CH118B	25/04/95 04:59	HW13	CTD123	4.45	Particulate metals
CH118B	25/04/95 07:20	HW5	SVT15	4.65	Particulate metals

Trace Metals, POC.

Cruise	Date/time	Stn	CTD	Depth	Comments
CH118B	25/04/95 08:21	HW5	SVT18	4.425	Particulate metals
CH118B	25/04/95 09:20	HW5	SVT18	4.275	Particulate metals
CH118B	25/04/95 10:20	HW5	SVT18	4.35	Particulate metals
CH118B	25/04/95 11:20	HW5	SVT18	5.125	Particulate metals

Nutrient Analyst Log

CH118B Nutrient analyst's log sheet

Operator: Allison Easton & Steve Widdicombe

Date	Time	Base	Standard Inc (µM)				Channel gain				Comments
			NO3	NO2	PO4	SIO4	NO3	NO2	PO4	SIO4	
11/10/88	09:40	MQ	2.5	0.50	2.5	2.5	0.2	0.5	0.20	0.1	Standards run
12/10/88	06:25	SW						0.5			Baseline wash
12/10/88	10:15										Pen moved
12/10/88	10:45							1			Gain change
											etc.....
14/04/95	12:20						0.1	0.05	0.05	0.05	Switch on
14/04/95	13:12										On reagents
14/04/95		MQ									Baseline
14/04/95	14:28	LNSW									PO4 noisy
14/04/95	14:48	LNSW									RI(without colour reag.)
14/04/95	15:01	MQ									+ ion exchange baseline
14/04/95	15:10	+1	10	0.25	2	10					Bubbles being pulled through 4-way splitter Noisy traces
14/04/95	15:18	+2	20	0.50	4	20					
14/04/95		+3	30	0.75	6	30					
14/04/95		+4	40	1.00	8	40					
14/04/95	15:35	MQ									
14/04/95	16:06	+3	30	0.75	6	30					
14/04/95		+4	40	1.00	8	40					
14/04/95	16:20	MQ									
14/04/95	16:29	OL									Online
14/04/95	18:59										NO2- gain
14/04/95	19:02	MQ									
14/04/95	19:11	+3	30	0.75	6	30					
14/04/95		MQ									
14/04/95	19:25	OL									Online - low levels
14/04/95	20:55	MQ									Inline filter change
14/04/95	21:05	OL									Online
14/04/95	23:30->										NO3- offscale on chart
15/04/95	03:05	MQ									Inline filter change
15/04/95	03:10	OL									Online
15/04/95	08:00	MQ									Baseline
15/04/95	08:14	SW									Wash in Brij/Dowfax
15/04/95	08:41										Reagent top-up
15/04/95	08:57	LNSW									
15/04/95	09:00	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	Calibration
15/04/95	09:10	+2	20	0.50	4	20					
15/04/95	09:20	+3	30	0.75	6	30					
15/04/95	09:27	+4	40	1.00	8	40					
15/04/95	09:35	MQ									Baseline
15/04/95	09:45	OL									Online
15/04/95	17:59	MQ									Inline filter change
15/04/95		Radio Interference on Chart Recorder									Radio Interference
15/04/95	18:53	OL									Online
16/04/95	02:14	MQ									Inline filter change
16/04/95	02:32	OL									Online
16/04/95	07:08	MQ									Baseline
16/04/95	07:21	SW									Wash in Brij/Dowfax
16/04/95	08:01										Reagent top-up
16/04/95	08:19	LNSW									
16/04/95	08:26	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	Calibration
16/04/95	08:31	+2	20	0.50	4	20					

CH118B Nutrient analyst's log sheet

Operator: Allison Easton & Steve Widdicombe

Date	Time	Base	Standard Inc (µM)				Channel gain				Comments
			NO3	NO2	PO4	SIO4	NO3	NO2	PO4	SIO4	
16/04/95	08:33	+3	30	0.75	6	30					
16/04/95	08:38	+4	40	1.00	8	40					
16/04/95	08:47	MQ									Baseline
16/04/95	09:01	OL									Online - low levels
16/04/95	17:18	MQ									Baseline
16/04/95	17:53	+4	40	1.00	8	40	0.1	0.05	0.05	0.05	Calibration check
16/04/95	17:59	MQ									Baseline
16/04/95	18:09	OL									Online
17/04/95	00:30	MQ									Inline filter change
17/04/95	00:48	OL									Online
17/04/95	10:02	MQ									Inline filter change
17/04/95	10:44	LNSW									LNS4 (New STDs in 4)
17/04/95	10:49	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	Calibration
17/04/95	10:54	+2	20	0.50	4	20					
17/04/95	10:59	+3	30	0.75	6	30					
17/04/95	11:04	+4	40	1.00	8	40					
17/04/95		MQ									
17/04/95	11:50										Bath time
17/04/95											Tube Change
18/04/95	01:45	MQ									On reagents
18/04/95	03:02	LNSW									
18/04/95	03:06	+1									
18/04/95	03:11	+2									
18/04/95	03:19	MQ									
18/04/95	03:52	LNSW									Steve's here !!!
18/04/95	03:57	+1									Prob with Si (bubbles)
18/04/95	04:18	+4									
18/04/95	04:26	+2									
18/04/95	04:35	+3									
18/04/95	04:43	MQ									
18/04/95	05:00	LNSW									
18/04/95	05:09	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	
18/04/95	05:17	+2	20	0.50	4	20					
18/04/95	05:27	+3	30	0.75	6	30					
18/04/95	05:37	+4	40	1.00	8	40					
18/04/95	05:43	MQ									
18/04/95	05:54	OL									NO3 WON'T WORK
18/04/95	12:26	MQ									Inline filter change
18/04/95	12:31	OL									Online
18/04/95	16:13	MQ									Offline
18/04/95	16:15	OL									Online
18/04/95	16:59	MQ									Ali's watch
18/04/95	17:33	+2									
18/04/95	17:46	MQ									
18/04/95	18:16	+3									
18/04/95	18:27	MQ									
18/04/95	18:45	+3									NO3 stock standard
18/04/95		MQ									
18/04/95	19:09	+1									
18/04/95	19:14	+2									
18/04/95	19:19	+3									

CH118B Nutrient analyst's log sheet

Operator: Alison Easton & Steve Widdicombe

Date	Time	Base	Standard Inc (µM)				Channel gain				Comments
			NO3	NO2	PO4	SIO4	NO3	NO2	PO4	SIO4	
18/04/95	19:24	+4									
18/04/95	19:29	MQ									
18/04/95	19:35	LNSW									
18/04/95	19:41	MQ									
18/04/95	19:50	OL									Online
19/04/95	01:46	MQ									Inline filter change
19/04/95	01:50	OL									Online
19/04/95	01:53	MQ									Baseline
19/04/95	02:07										End paper (NO2/NO3)
19/04/95	02:13										End paper (PO4/Si)
19/04/95	02:13	MQ									NO2/NO3 baseline
19/04/95	02:19	MQ									PO4/Si baseline
19/04/95	02:25	LNSW									
19/04/95	02:30	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	
19/04/95	02:35	+2	20	0.50	4	20					
19/04/95	02:40	+3	30	0.75	6	30					
19/04/95	02:45	+4	40	1.00	8	40					
19/04/95	02:52	OFF									OFF
19/04/95	02:53	MQ									Changed Cd coil filter
19/04/95	03:00	OL									Online
19/04/95	06:21	MQ									
19/04/95	06:32	OFF									OFF
19/04/95	06:34										WASH
19/04/95	07:23										IN REAGENTS
19/04/95	07:59	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	Not good std traces
19/04/95	08:05	+2	20	0.50	4	20					
19/04/95	08:10	+3	30	0.75	6	30					
19/04/95	08:12	+4	40	1.00	8	40					
19/04/95	08:18	MQ									On phone to Bek.....
19/04/95	09:25	LNSW									
19/04/95	09:30	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	NO2 won't work No bubbles
19/04/95	09:37	+2	20	0.50	4	20					
19/04/95	09:42	+3	30	0.75	6	30					
19/04/95	09:48	+4	40	1.00	8	40					
19/04/95	09:53	MQ									
19/04/95	13:06	+1									
19/04/95	13:18	MQ									
19/04/95	13:25	+4									
19/04/95	13:32	+3									
19/04/95	13:38	+2									
19/04/95	13:43	+1									
19/04/95	13:48	MQ									
19/04/95	13:53	LNSW									
19/04/95	13:58	MQ									
19/04/95	14:06	OL									Online - no NO2 or NO3
19/04/95	14:48	MQ									Baseline
19/04/95	15:15	MQ									Rezeroed!
19/04/95	15:20	LNSW									
19/04/95	15:25	MQ									
19/04/95	15:30	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	
19/04/95	15:35	+2	20	0.50	4	20					

CH118B Nutrient analyst's log sheet

Operator: Alison Easton & Steve Widdicombe

Date	Time	Base	Standard Inc (µM)				Channel gain				Comments
			NO3	NO2	PO4	SIO4	NO3	NO2	PO4	SIO4	
19/04/95	15:40	+3	30	0.75	6	30					
19/04/95	15:45	+4	40	1.00	8	40					
19/04/95	15:50	MQ									
19/04/95	15:55	OL									Online
											NO2 & NO3 dodgy
											NO2 bubbles pumping backwards
19/04/95	20:56	NO2 fixed - crushed tubing due to connector over-tightening.									
19/04/95	21:19	OL									Online
20/04/95	01:01	MQ									Station C19 baseline
20/04/95	01:06	+1									
20/04/95	01:08	MQ									
20/04/95	01:14										Rezeroed NO2
20/04/95	01:18	+2									
20/04/95	01:23	+3									
20/04/95	01:28	+4									
20/04/95	01:38	MQ									
20/04/95	01:38	LNSW									
20/04/95	01:43	MQ									Baseline
20/04/95	01:51	OL									Online
20/04/95	03:22	Off									
20/04/95	03:24	On									Changed filter in Cd coil
20/04/95	03:25	Off									
20/04/95	03:26	On									Changed back to the original filter
20/04/95	03:46	Off									
20/04/95	03:47	On									Changed filter in Cd coil
20/04/95	12:55	MQ									Inline filter change
20/04/95	12:57	MQ									Baseline
20/04/95	13:01	OL									Online
20/04/95	21:50	MQ									Inline filter change
20/04/95	22:12	OL									Online
21/04/95	00:30	Off									Offline
21/04/95	00:32										Wash
21/04/95	01:32	MQ									Baseline
21/04/95	01:45										Rezeroed NO3
21/04/95	01:50	LNSW									
21/04/95	01:55	MQ									Baseline
21/04/95	02:00	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	Calibration
21/04/95	02:05	+2	20	0.50	4	20					
21/04/95	02:10	+3	30	0.75	6	30					
21/04/95	02:15	+4	40	1.00	8	40					
21/04/95	02:20	MQ									Baseline
21/04/95	02:35	OL									Online
21/04/95	02:46	MQ									
21/04/95	02:51	OL									
21/04/95	04:59	MQ									
21/04/95	05:04	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	
21/04/95	05:09	+3	30	0.75	6	30					
21/04/95	05:14	MQ									Baseline
21/04/95	05:19	OL									
21/04/95	07:40	MQ									Baseline

CH118B Nutrient analyst's log sheet

Operator: Alison Easton & Steve Widdicombe

Date	Time	Base	Standard inc (µM)				Channel gain				Comments
			NO3	NO2	PO4	SIO4	NO3	NO2	PO4	SIO4	
21/04/95	07:59	LNSW									
21/04/95	08:04	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	Calibration Si crap PO4 crap
21/04/95	08:09	+2	20	0.50	4	20					
21/04/95	08:14	+3	30	0.75	6	30					
21/04/95	08:19	+4	40	1.00	8	40					
21/04/95	08:25	MQ									Baseline
21/04/95	08:34	OL									Online
21/04/95	09:33	MQ									Si crap
21/04/95	09:39	MQ									Zeroed silicate
21/04/95	09:41	OL									Online
21/04/95	11:20	MQ									Si in NaOH
21/04/95	12:14	OL									Online
21/04/95	12:26	MQ									Si less than MQ baseline and noisy
21/04/95	12:44	Off									
21/04/95	12:51	OL									
21/04/95	13:04	MQ									
21/04/95	13:12	OL									Baseline
21/04/95	14:43	MQ									Online
21/04/95	14:48	+2									Baseline
21/04/95	14:53	MQ									Online
21/04/95	14:58	OL									Baseline
21/04/95	16:36	MQ									Online
21/04/95	16:54	OL									Baseline
21/04/95	19:32	MQ									Online
21/04/95	19:50	OL									Baseline
21/04/95	21:01	MQ									Online
21/04/95	21:19	OL									Baseline
21/04/95	23:12	MQ									Online
21/04/95	23:37	OL									Chart roll change
22/04/95	00:49	Off									Online
22/04/95	00:52	OL									Decon thru Si channel
22/04/95	00:57	MQ									
22/04/95	01:09										Rezeroed NO3 & Si
22/04/95	01:15	OL									
22/04/95	01:52	Off									Cd column leak (NO3)
22/04/95	01:55	On									Si no good - ppt
22/04/95	03:43	MQ									
22/04/95	03:52	Off									Offline
22/04/95	04:01	MQ									Decon thru Si channel
22/04/95	04:11	MQ									Rezeroed NO3
22/04/95	04:17										Si cell seawater wash
22/04/95	04:20	MQ									Baseline
22/04/95	04:25	OL									Online
22/04/95	05:37	MQ									Baseline
22/04/95	05:53	OL									Online
22/04/95	07:53										Si line - NaOH wash, retubed, new ion exchange filter
22/04/95	08:33	MQ									
22/04/95	09:10	OL									
22/04/95	12:12	MQ									Baseline
22/04/95	12:41	LNSW									
22/04/95	12:48	MQ									Baseline

CH118B Nutrient analyst's log sheet

Operator: Allison Easton & Steve Widdicombe

Date	Time	Base	Standard Inc (µM)				Channel gain				Comments
			NO3	NO2	PO4	SIO4	NO3	NO2	PO4	SIO4	
22/04/95	12:54	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	Calibration
22/04/95	13:01	+2	20	0.50	4	20					
22/04/95	13:06	+3	30	0.75	6	30					
22/04/95	13:12	+4	40	1.00	8	40					
22/04/95	13:17	MQ									Baseline
22/04/95	13:30	Wash									Tube change
22/04/95	18:27	Reag									Reagents changed
											Wash
											Exec.decision switch off
23/04/95	10:05	MQ									
23/04/95	10:59	LNSW									
23/04/95	11:04	+1									
23/04/95	11:08	+2									
23/04/95	11:13	MQ									
23/04/95	11:55	+1									
23/04/95	12:18 ->	+1									NO3 won't work
23/04/95		MQ									
23/04/95	16:31	LNSW									
23/04/95		+1	10	0.25	2	10	0.1	0.05	0.05	0.05	New Cd coil - MQ +
23/04/95	16:48	+2	20	0.50	4	20					lots air bubbles
23/04/95	16:54	+3	30	0.75	6	30					
23/04/95	17:00	+4	40	1.00	8	40					
23/04/95	17:20	OL									Online
23/04/95	20:34	MQ									Inline filter change
23/04/95	20:44	OL									Online
24/04/95	03:40	MQ									Inline filter change
24/04/95	03:44	OL									
24/04/95	04:10	Off									P reagent/Cd filter change
24/04/95	04:13	OL									
24/04/95	08:20	MQ									Baseline
24/04/95	08:34										Rezeroed NO3 & P
24/04/95	08:37	LNSW									
24/04/95	08:43	+1	10	0.25	2	10	0.1	0.05	0.05	0.05	Calibration
24/04/95	08:46	+2	20	0.50	4	20					
24/04/95	08:52	+3	30	0.75	6	30					
24/04/95	08:58	+4	40	1.00	8	40					
24/04/95	09:01	MQ									Baseline
24/04/95	09:15										Chart Recorders Off
24/04/95	11:44										Chart Recorders On
24/04/95	11:53	OL									PO4 = -0.00
24/04/95	12:02	MQ									Baseline
24/04/95	12:14	OL									Online
24/04/95	13:48	MQ									Baseline
											Recorders off - Bad
24/04/95	20:12	MQ									weather - not going anywhere
24/04/95	20:17	OL									Online
24/04/95	20:25	MQ									Baseline PO4=-0.8ish!
24/04/95	20:37	OL									Online
24/04/95	20:44	MQ									Baseline
24/04/95	21:01	OL									Online
25/04/95	01:06	MQ									Baseline

CH118B Nutrient analyst's log sheet

Operator: Alison Easton & Steve Widdicombe

Date	Time	Base	Standard Inc (μ M)				Channel gain				Comments
			NO3	NO2	PO4	SIO4	NO3	NO2	PO4	SIO4	
25/04/95	01:09	OL									Online
	13:04	MQ									Baseline
	13:07	OL									Online
	13:55										Chart roll changed NOx
	14:00	OL									
	14:01	MQ									Baseline
	14:15										Rezeroed
	14:20	OL									Online

Appendix A : Cruise Summary Report

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: RRS Challenger Call Sign: GPIU

Type of ship: Research Ship

CRUISE NO./NAME CH118B enter the unique number, name or acronym assigned to the cruise (or cruise leg, if appropriate).

CRUISE PERIOD start (set sail) 14 04 1995 to 26 04 1995 end (return to port)

day month year day month year

PORT OF DEPARTURE (enter name and country) Grimsby, UK

PORT OF RETURN (enter name and country) Grimsby, UK

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

Name: Plymouth Marine Laboratory

Address: Prospect Place, West Hoe, Plymouth, PL1 3DH

Country: United Kingdom

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

Dr Geoff Millward, University of Plymouth

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.

- ① Biogeochemical study of two grids: The Humber Wash Grid (from Spurn - Holderness to Great Yarmouth) and the coastal grid (25 miles off the coast from Holderness to the Tweed estuary)
- ② Biogeochemical tidal cycle survey at the mouth of the Humber, in the Wash and off the Holderness coast - anchor stations or tidal transects.
- ③ Recovery and redeployment of two moorings. Main objective was to quantify the hydrodynamical transports and the processes affecting these transformations interactions and fates of particles, biogeochemically important elements and representative contaminants from land sources to the coastal zone.

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: Land Ocean Interaction Study (LOIS)

Coordinating body: Plymouth Marine Laboratory

- A. Dr G. Millward, University of Plymouth
- B. Dr R. Howland, Plymouth Marine Laboratory
- C. Dr C. Bull, University College North Wales
- D. Dr S. Jones, University College North Wales
- E. Dr R. Lawry, British Oceanographic Data Centre
- F. Dr D. Law, Plymouth Marine Laboratory

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				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.	
	LATITUDE		LONGITUDE				
	deg	min	N	deg	min	E	
B	53	15	N	0	39	E	H16, B02 Fluorometer, transmissometer rig. Initial deployment 118A @ 5 m depth (wdepth 20 m). Recovered 24/4/95 and redeployed same day for recovery 119A
B	53	21	N	0	29	E	H16, B02 Fluorometer, transmissometer rig. Initial deployment 118A @ 5 m depth (wdepth 20 m). Recovered 24/4/95 and redeployed same day for recovery 119A.

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 - its 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.
E	128	casts	H10, H16, H17, H21	Neil Brown MKII CTD with upwelling and downwelling 2π par radiance meters, fluorometer and 25 cm trans-
			BO2	missometer and dissolved oxygen sensor attached.
E	128	casts	H09	Rosette sampler attached to CTD rig.
B	409	samples	PO1	From Rosette sampler: SPM gravimetry
A	111	samples	PO2	From Rosette sampler: 111 particulate, 24 for dissolved TH
B	128	samples	BO2	From Rosette sampler: surface bottle for chlorophyll
A	22	samples	B71	From Rosette sampler: POC
B	20	samples	BO8	From Rosette sampler: Lugd/fermalin phytoplankton sample
C	254	samples	PO1	From Rosette sampler: Galax CIS-100 laser particle sizes
E	10	days	H71	Underway measurements of temperature, salinity
E	10	days	H16, BO2	Underway measurements of transmittance, fluorescence
E	12	days	MO2	Underway measurements of incident par & solar radiation
E	11	days	D71	Underway ADCP currents
E	10	days	H22, H24, H25, H26	Underway nutrient measurements $\text{NO}_2^- + \text{NO}_3^-$, NO_2^- , Si , PO_4
F	101	casts	PO1	Laurentec in-situ particulate sizes
D	30	samples	D40, PO1	Settling velocity tube for SPM
A	2	samples	D90, PO2, B71	Settling velocity tube for POC and trace metals
A	12	grabs	G02, PO2	Day grabs for trace analysis of sediments

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.



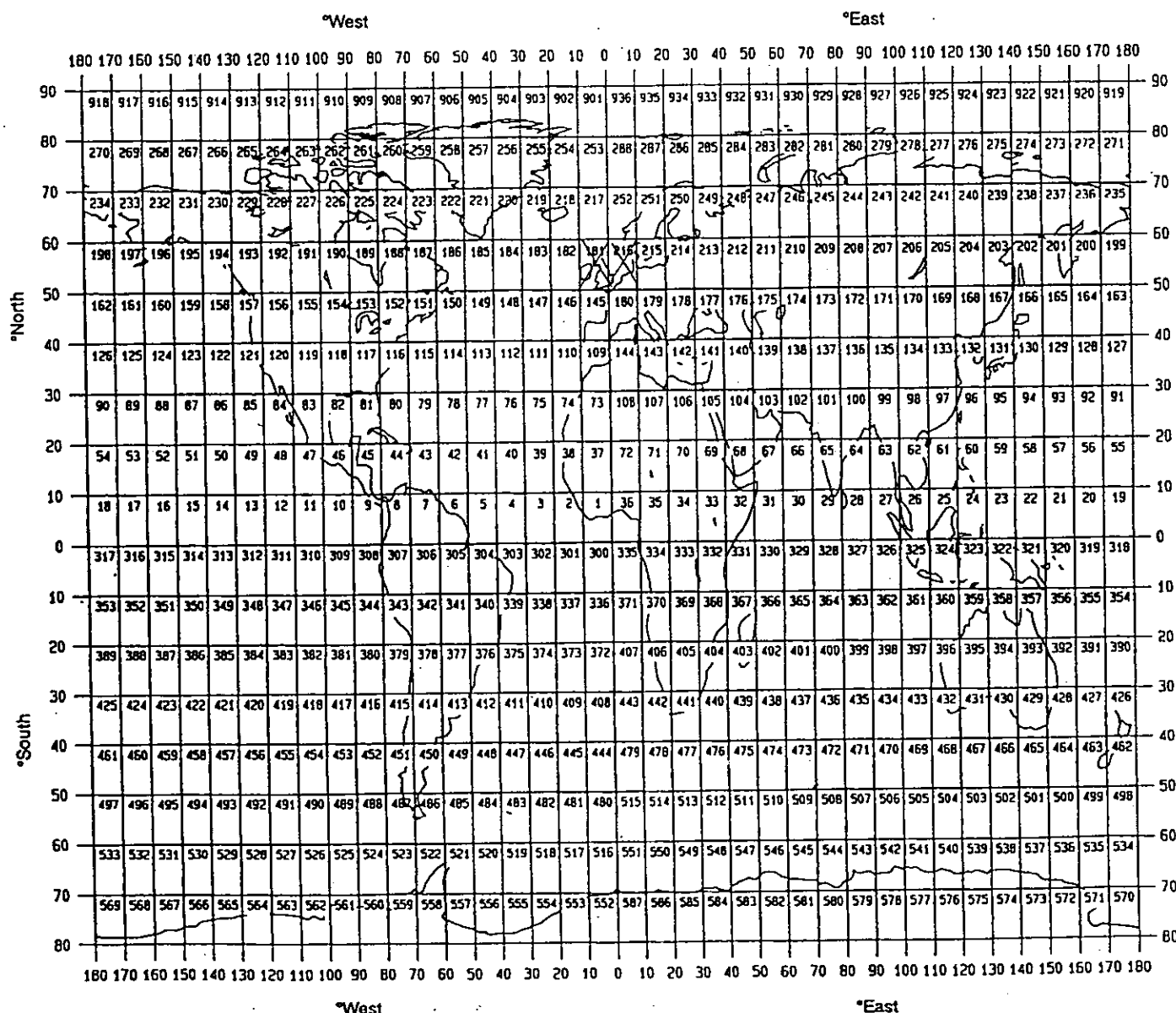
GENERAL OCEAN AREA(S): Enter the names of the oceans and/or seas in which data were collected during the cruise - please use commonly recognised names (see, for example, International Hydrographic Bureau Special Publication No. 23, 'Limits of Oceans and Seas').

North Sea

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.

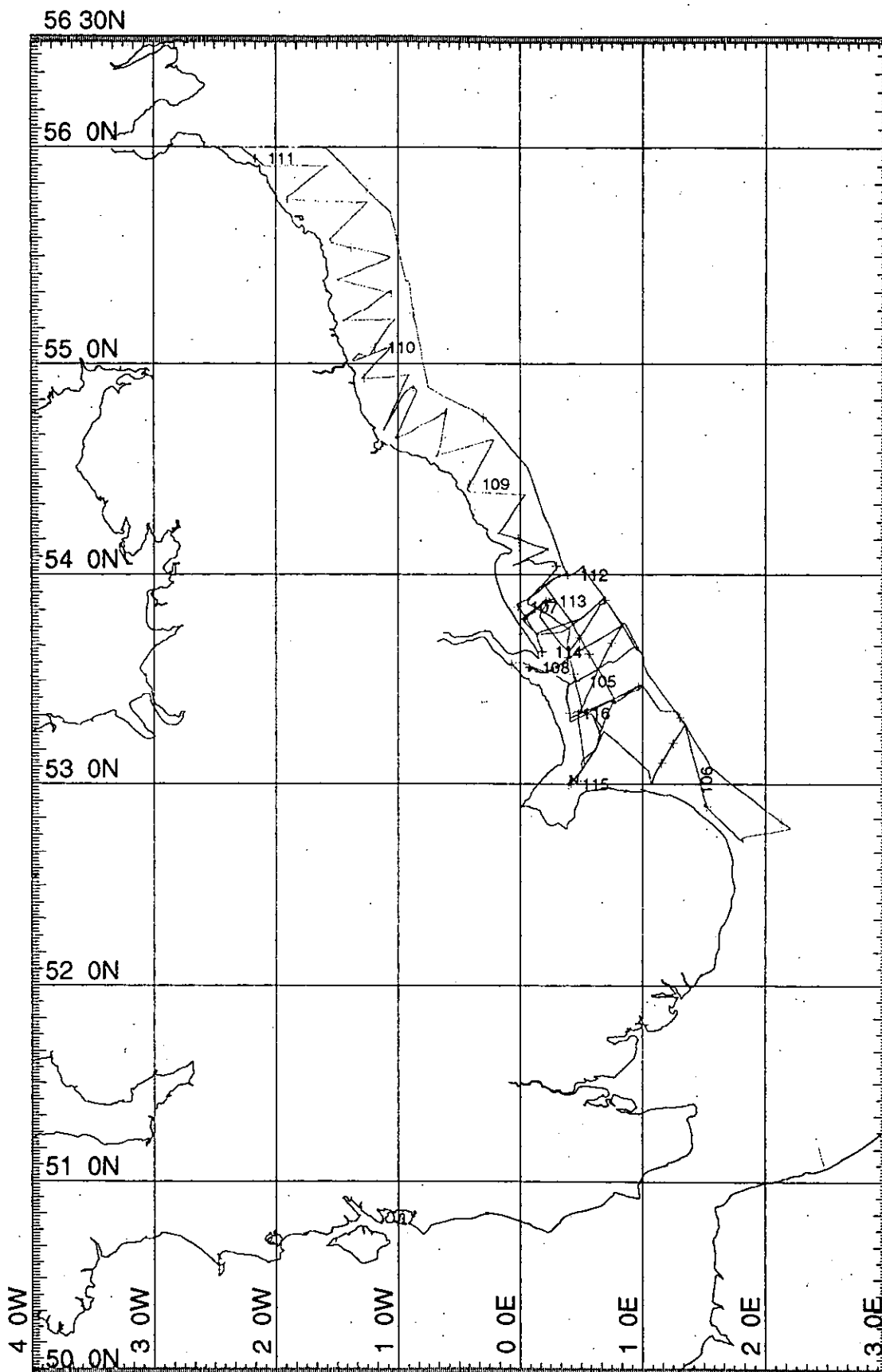
UK coastal North Sea from Great Yarmouth to Berwick-upon-Tweed

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



MERCATOR PROJECTION

GRID NO. 1

SCALE 1 TO 5500000 (NATURAL SCALE AT LAT. 0)

INTERNATIONAL SPHEROID PROJECTED AT LATITUDE 0

Challenger 118B Cruise Track

Appendix B : Bridge Log

Time
Zone

GST

Ship

Challenger

ROUGH LOG SHEET

1186 / Milwaukee / Phil.

27

EDSON PRINT F374

ne	Log	Lat	Long	motion	Station	REMARKS
		53° 32.62	0° 07.34 E	Gas.	5	CTD obs.
5 1705						CTD 1/B.
7 1708		53° 32.57	0° 07.27	—	5	Lasentec obs.
7 1710		—	—	—	5	Lasentec 1/B.
5 1716		53° 32.63	0° 07.98	—	5	Setting velocity tube obs.
7 1727		—	—	—	5	— 1/B.
7 1738		53° 32.52	0° 07.96	—	5	— obs.
7 1732		—	—	—	5	— 1/B. c° was used 10 knots.
5		53° 33.41	0° 15.47	—		Set c° 059 (7).
0.		53° 33.43	0° 15.48	—		
27		53 46.0	0 50.0	—	6	On Sta.
7		53 46.0	0 50.3	—		CTD 5/B.
33		53 46.0	0 50.3	—		CTD 1/B.
37		53 46.1	0 50.4	—		Lasentec 5/B.
51		53 46.3	0 50.6	—		Lasentec 1/B.
55		53 46.4	0 50.7	—		Setting tube 0/B.
57		53 46.5	0 50.9	—		Setting tube 1/B. Changing tube 5/B.
01		53 46.5	0 50.9	—		— 1/B. Co 145 → 8.
57		53 39.0	0 57.9	—	8.	On Sta.

ROUGH LOG SHEET

Year 1995 Time Zone 6ST.

Ship CHALLENGER.

CR 118 B / MILLWARD / PML.

29

ED

Date	Time	Log	LAT N	LONG E	METHOD	STATION	REMARKS
4/4	2208.		53° 39.0	0 57.9	CPS.	8	CTD 0/B.
	2216		53 39.2	0 57.9	—		CTD 1/B. Changing to hydro winch.
	2219		53 39.3	0 57.85	—		Laurentec 5/3.
	2238.		53 39.4	0 57.8	—		Laurentec 1/3 Co. 244°(r) → 7.
	2300.		53 38.7	0 53.5	—		
5/4	0000		53 34.5	0 40.9	—		
	0100		53 29.8	0 27.0	—		
	0115		53 29.00	0 23.97	GPS	7	HEAVE TO ON STATION CTD 0/B.
	0128						CTD 1/B.
	0138		53 28.88	0 23.66	GPS	7	LAURENTEC 0/B
	0150						LAURENTEC 1/B Set Co 190 Station°
	0217		53 25.25	0 22.61	GPS		Alt 168°(C).
	0252		53 19.25	0 24.65	GPS	9	HEAVE TO ON STATION CTD 0/B
	0306		18				CTD 1/B
	0310		53 18.69	0 24.58	GPS	9	LAURENTEC 0/B
	0323		53 18.00	0 24.6	GPS		LAURENTEC 1/B Set Co for STD 10 0640
	0357		53 19.8	0 30.4	GPS		Alt 061°(C)
	0533.		24.71	0° 45.72	—	10	How to. CTD + Laurentec deployment.
	0605		53 23.72	0° 46.12	—		All gear 1/B. Set Co 058 to Sta 11.

Year 1995 Time Zone Bst. Ship Challenger

31

E

Date	Time	Log	Lat N	Long E	Current	Station	REMARKS
5-A	0710		53° 28.00	0° 59.45E	800.	11.	Have to. Doing CTD & Lasentec.
	0740.		53° 27.00	0° 58.58E	—		All gear 1/3. Set C° 249 (5).
	0800.		53° 27.1	0° 56.1	—		
	0830.		53° 25.5	0° 47.7	—		
	0839		53° 25.0	0° 46.0	—	10.	Steam through Sta 10. Mc 20250.
	0900.		53° 21.4	0° 43.6	—		
	0933.		53° 16.6	0° 40.3	—		
	0948.		53° 15.0	0° 39.0	—		On Sta 12.
	0955.		53° 15.0	0° 38.8.	—		CTD 1/3.
	1004.		53° 15.2	0° 38.8	—		CTD 1/3.
	1017.		53° 15.1	0° 38.8	—		Lasentec 5/3.
	1034.		53° 15.4	0° 38.9	—		Lasentec 1/3.
	1036.		53° 15.4	0° 38.9	—		Selfing tubes 0/3.
	1039.		53° 15.5	0° 38.95	—		— 1/3. & 0/3.
	1042.		53° 15.5	0° 38.96	—		— 1/3. Co. 193.
	1100.		53° 13.9	0° 38.6	—		
	1122.		53° 10.9	0° 37.5	—		Scott Patch to Mc 21487.
	1130.		53° 10.0	0° 36.5	—		
	1200.		53° 06.5	0° 32.5	—		

Year 1995. Time Zone BST. Ship CHALLENGER.

ROUGH LOG SHEET

CR 1186/MILLWARD/PML

33

ED:

Date	Time	Log	LAT N	LONG E	METHOD	STATION	REMARKS
5/4	12.28	—	53 02.7	0 28.5	GPS	—	A/c 224°(C) NOPEA WLL
	1300	—	53 00.0	0 23.9	GPS	13.	Have to ON/SEASON/ DELOI CCS + LAGN/CR
	1327	—	53 00.2	0 23.9	GPS		ALL IN/BOARDS Set @ 043°(C) → NORTH W
	1355		53 03.1	0 28.9	GPS		A/c 034°(C) → SCOTT PACENT
	1455		53 10.8	0 37.4	GPS		A/c 023°(C) → NORTH DOCKING
	1540		53 14.7	0 42.5	GPS		A/c 132°(C) → BAKERLY ON/FAULS
	1710		53 03.10	1 02.93	—		A/c 171°(C)
	1738		53 00.22	1 02.92	—	14.	Have to. CTD + LAGN/CR
	1806		53 00.13	1 04.35E	—		All inboard Set C° 019°(C)
	1833		53 03.12	1 06.32E	—		A/c 032°(C)
	2000		53 12.42	1 15.42	—		
	2048		53 17.5	01 21.0	—	15.	On str.
	2055		53 17.4	01 21.0	—		CTD 1/13
	2103		53 17.3	01 21.0	—		CTD 1/Board. Fishing float close to sta.
	2116		53 17.4	01 20.7	—		CTD 1/13
	2125		53 17.5	01 20.8	—		CTD 1/13
	2131		53 17.5	01 20.7	—		Lagrange 1/13
	2147		53 17.5	01 20.7	—		Lagrange 1/13 Co. 166°(C)
	2200		53 16.5	01 21.1	—		

Year 1995 Time Zone BST

Ship CHALLENGER

ROUGH LOG SHEET

CR 118B/MILLWARD/PML

35

Date	Time	Log	LAT. N	LONG. E	METHOD	STATION	REMARKS
15/4	2230		53° 11.7	01 23.3	GPS		
	2300		53 06.5	01 25.5	—		
	2330		53 01.6	01 27.8	—		
	0003		52 56.4	01 29.9	—		
	0027		52 54.0	01 30.7	GPS	16	HEAVE TO. DEPLOY CTD + LABS (Cke)
	0116		52 54.00	01 30.3	GPS		ALL IN/BOARD SET C 134° (G) → 17.
	0200		52 50.5	01 36.3	GPS		
	0300		52 45.2	01 45.3	GPS		
	0332		52 43.4	01 48.7	GPS	17	HEAVE TO ON STATION CTD + LABS (Cke)
	0423		52 43.49	1 48.54	—		ALL I/B ~ Set C OFF (G) → 18.
	0600		52 47.24	2 11.71	—	18	HEAVE TO. DEPLOY CTD + LABS (Cke)
	0637		52 47.27	2 11.71	—		ALL I/B. Set C 307° (G) → 15.
	0800		52 53.62	1 57.59	—		
	0911		52 58.8	1 46.45	—		
	0930		53 00.16	1 48.4	—		
	1000		53 02.5	1 38.7	—		
	1030		53 05.1	1 33.2	—		A/C 330° (H)
	1100		53 09.2	1 29.3	—		
	1130		53 12.6	1 25.6	—		

Year 1995 Time Zone 6ST.

Ship CHALLENGER.

ROUGH LOG SHEET

CR. 1053/MILLWARD/PM.

37

Date	Time	Log	LAT. N	LONG. E	METHOD	STATION	REMARKS
10/4	1200		57 17.4	01 21.2	G.P.S.	15.	
	1206	<i>ff</i>	57 15.9	01 20.6	—	15	On station deploy CTD, LASER/TEE + TUBE
	1237	<i>ff</i>	57 18.4				328° off fw
	1249		53 18.6	01 19.4	GPS		ALL IN BOATS. SET C@ 330 STATION 8.
	1400		53 29.4	01 05.9	GPS		
	1421		53 32.3	01 02.2	GPS		A/C 340° C
	1500		53 37.3	01 00.0	GPS		
	1518		53 38.9	01 58.0	GPS	8	Move to CTD, LASER/TEE + TUBE O/R.
	1555		53 38.6	01 57.3	GPS		ALL IN BOATS SET C@ 330 for STN 6
	1707.		53 46.6	01 50.11	GPS.	6.	Move to. CTD, LASER/TEE + TUBE O/R.
	1748		53 46.29	01 50.29	—		ALL I/B. Set C@ 325° (1) → STN A.
	1904		53 53.40	01 41.04	—	A	Move to. CTD, LASER/TEE + TUBE deployed.
	1946.		53 53.09	01 41.77	—		ALL I/B. Set C@ 325° (5).
	2000.		53 54.40	01 40.26	—		
	2030.		53 58.40	01 35.2	—		
	2058.		54 02.00	01 31.0	—	2.	1/2 on Stn
	2104.		54 02.10	01 30.9	—		CTD O/R
	2113.		54 02.20	01 31.0	—		CTD I/R
	2116.		54 02.27	01 31.0	—		Laser/tee J/R

Year 1995. Time Zone BST.

Ship CHALLENGER

ROUGH LOG SHEET

CR. 118B / MILLWARD / PML

39

Date	Time	Log	LAT.N.	LONGE	METHOD	STATION	REMARKS
16/4	2133		54 02.6	0 31.2	GPS.		Laserte 1/B.
	2137		54 02.66	0 31.26	---		Setting tube P/B. $\neq$ 1/B. Co. 242°.
	2202		54 00.5	0 26.7	---		
	2234		53 59.3	0 18.5	---		
	2300.		53 57.4	0 13.0	---		
	2330.		53 54.4	0 07.0	---		
17/4	0000		53 52.2	0 00.14			
	0016		53 51.62	0 01.82(N)	GPS	1	MOVE TO ON STATION. DEPLOY CTD + LASER/COR
	0048		53 51.63	0 01.92(W)	GPS		ALL INBOARD. SET C ₂ 144 → STATION 3.
	0207		53 43.50	0 08.07(E)	GPS	3	MOVE TO ON STATION. DEPLOY CTD + LASER/C
	0235		53 43.18	0 08.16(E)	GPS		ALL INBOARD. SET C ₂ 084° (E) → STATION 6.
	0300		53 43.6	0 14.9 E	GPS		
	0317		53 44.0	0 20.7	GPS		Alt 056° 0' → STATION 4
	0402		53 47.8	0 30.3	GPS		
	0502.		53 53.34	0 40.86	---	4.	Move to. Deploy CTD.
	0512		53 52.91	0 41.12	---		CTD 1/B.
	0517		53 52.40	0 41.12	---		Laserte 0/B.
	0526.		53 51.95	0 41.32	---		All 1/B. Set C ₁ 213° (E) towards Spain for anchoring
	0732.		53 54.19	0 24.33	---		Alt 204° (E).

ROUGH LOG SHEET

41

Year 1995 Time Zone DST. Ship Challenger 1186/midwater/Pmk.

Date	Time	Log	LAT N	LONG E	Method	Station	REMARKS
14	0802		53 35.0	0 20.4	GPS		
	0827		53 33.1	0 14.3			Spun $\rightarrow$ Mc 264'(H)
	0841						Checkers $\rightarrow$ Mc 291'(H)
	0851						Binks $\rightarrow$ Mc 310'(H)
	0910		53 34	0 06.2			Mc 20.9' Comm Sampling run at 4.0 Kts.
	0942		53 32.660	0 03.7			Compl. run. Mc 028' for age.
	1000		53 33.8	0 04.64			Let go float etc.
	1008		53 33.79	0 04.71	Bull Sand Float 259' x 0.39 cH		1/2 brought up 3 shackles in the water.
					Hawke Lt Float. 033 1/2 x 0.9		
					N° 2c Lt Float. 185' x 1.16		
	1037						Comm. CTD & LaserTec sampler.
	1201		53 33.8	00 00.7	GPS		Pilot boat embarks / scientist.
	1600		53 33.8	00 04.6	GPS		1/2 @ $\rightarrow$ To strike the beach / 1/2
	2100		53 33.8	00 04.7	GPS/Ra		1/2 swinging & ebb
14	0355		53 33.8	00 04.7	GPS		CCS IN BOATS
	0411						Comm weighing
	0435						1/2 awash. C° used during ADOP runs.
	0655		53 30.18	0 23.46	---		At 000'(H) towards stn 1.
	0800		53 42.96	0 24.0			

Year 95 Time Zone BSC

Ship CATALAN/GAR

ROUGH LOG SHEET

MILLWARS CRUISE 118

43

Date	Time	Log	LAT(N)	LONG(E)	HEADING	SEASON	REMARKS
18-4	0820		53 45.0	0 24.4	GPS	1.	Ostr
	0825		53 44.9	0 24.4	--		CTD 0/13
	0833		53 44.8	0 24.4	--		CTD 1/13
	0837		53 44.8	0 24.4	--		Latentec 5/13
	0850		53 44.7	0 24.3	--		Latentec 1/13
	0855		53 44.7	0 24.3	--		Grab sample
	0900		53 44.7	0 24.4	--		Grab sample
	0903		53 44.7	0 24.4	--		Grab 1/13 Co. Savin → 2.
	0930		53 46.7	0 18.7	--		
	1000		53 49.4	0 11.7	--		
	1035		53 52.0	0 04.0	--	2.	Ostr
	1040		53 52.0	0 03.8	--		CTD 5/13
	1044		53 52.1	0 03.8	--		CTD 1/13
	1057		53 51.9	0 04.1	--		Latentec 5/13
	1109		53 52.1	0 03.8	--		Latentec 1/13
	1113		53 52.2	0 03.8	--		Grab sample
	1117		53 52.2	0 03.7	--		Grab sample
	1121		53 52.3	0 03.7	--		Grab 1/13 Co. 0406 → 3
	1200		53 56.7	0 10.1	--		
	1251		54 02.3	0 18.2	--	3.	Have to CTD + LATENTEC DEPLOYED

Year 95 Time Zone B87 Ship CHALLENGER Class 118 HULL # 118

ROUGH LOG SHEET

45

Date	Time	Log	LAT (N)	LONG (E)	HEADING	STATION	REMARKS
8-4	1325	—	54 03.2	0° 17.3	GRS		ALL INBOARD SET C ⁰ 26° 10' SCA 4.
	1509	—	54 02.9	0 02.9	GRS	4	HEAVE TO DEPLOY CTD + LASER/TEE
	1548	—	54 02.6	0 03.6	GRS		ALL INBOARD SET C ⁰ 065° TO SEN 5.
	1710.		54 07.42	0° 13.47	—	5 HT	HEAVE TO. DEPLOY CTD + LASER/TEE.
	1743.		54 06.62	0° 14.40	—		ALL I/B - SET C ⁰ 280° → Sta 6.
	1950		54 11.42	0° 11.20	—	6 HT.	HEAVE TO. CTD O/B.
	2000.		54 11.40	0° 10.22	—		CTD I/B. LASER/TEE O/B.
	2015		54 11.6	0 10.85	—		LASER/TEE I/B Co. 037 (r) → 7
	2100.		54 16.5	0 04.8	—		
	2135.		54 21.2	0 00.4			
	2154.		54 23.0	0 03.0 ^E	—	7	CTD S/B.
	2203.		54 22.9	0 03.0 ^E	—		CTD I/B
	2207		54 22.9	0 03.0 ^E	—		LASER/TEE S/B
	2224		54 22.82	0 03.0 ^E	—		LASER/TEE I/B Co. 273 → 8.
	2300.		54 23.1	0 05.9	—		
	2330.		54 23.4	0 14.9	—		
9/4	0000		54 23.6	0 23.7	—		
	0012.		54 23.9	0 25.0 ^N	—	8	HEAVE TO. DEPLOY CTD + LASER/TEE
	0045.		54 24.5	0 25.9 ^N	—		ALL INBOARD SET C ⁰ 028° TO SEN 9.

Year 1995. Time Zone BST.

Ship CHALLENGER

ROUGH LOG SHEET

CR 118/MILLWARD/PML

47

Date	Time	Log	LAT N.	LONG E	METHOD	STATION	REMARKS
19/4	0200	—	54 35.2	0 15.9W	GRS		
	0230	—	54 38.6	0 13.3W	GRS	9	HEAVE TO CTD + LASER/RE DEPLOYED
	0308	—	54 38.8	0 13.4W	GRS		ALL IN BOARD SET CO 2510F07 SET 10
	0400	—	54 36.3	0 28.4W	GRS		
	0458		54° 33.92	0° 41.64W	---	10	Heave to. CTD 0/B.
	0506		54° 33.82	0° 41.33W	---		CTD 1/B. Laser/tee 0/B.
	0528		54° 33.52	0° 40.47W	---		All 1/B. Set C° 011°(F).
	0717		54° 47.44	0° 35.93W	---	11	Heave to. CTD 0/B.
	0730		54° 47.53	0° 35.86W	---		CTD 1/B.
	0735		54° 47.45	0° 35.85W	---		Laser/tee 0/B.
	0750		54° 47.11	0° 35.75W	---		All 1/B. Set C° 2A1°(F).
	0834		54 43.4	0 46.2	---		
	0900		54 41.2	0 53.0	---		
	0936		54 39.2	01° 0.91	---	12	CTD 5/B.
	0945		54 39.15	01° 01.0	---		CTD 1/B. Laser/tee 5/B.
	1003		54 39.2	01° 01.3	---		Laser/tee 1/B.
	1010		54 39.2	01° 01.3	---		Grab sample.
	1014		54 39.17	01° 01.32	---		Grab sample
	1018		54 39.18	01° 01.3	---		Grab sample. Co. 0.25(F).

Year 1995 Time Zone BST.

Ship CHALLENGER

ROUGH LOG SHEET

CR. 1186 / MILLWARD / PML.

49

Date	Time	Log	LATN.	LONG. E.	METHOD	STATION	REMARKS
9/4	1100		54 43.0	0 58.1	CPS.		
	1130.		54 47.7	0 54.5	~.		
	1200.		54 52.2	0 50.8	~	13	HEAVE TO CTD LASER + GRAB.
	1258		54 53.6	0 52.4	~		ALL INBOARDS SET CO 215°
	1433		54 41.4	1 07.2		14	HEAVE TO DEPLOY CTD + LASER + GRAB.
	1513		54 41.4	1 07.2	GPS.		SET CO 0249° ALL INBOARDS
	1533		54 44.7	1 04.3	GPS.		
	1608		54 48.8	1 01.2	GPS.		
	1704		54 57.09	0 54.72	~	15.	Heave to. CTD, Laser deployment.
	1740.		54 57.09	0 54.34	~		ALL 1/B. Set C' 265°.
	1911.		54 26.02	0 17.43	~	16.	Heave to. CTD 0/B.
	1945		~	~	~		CTD 1/B. Laser 0/B.
	1945		54 55.70	0 17.61	~		Laser 1/B. Day grab 0/B.
	1948		~	~	~		Grab 1/B. All gear 1/B. Set C' 043° toward star.
	2000		54 56.7	01 16.4	~		
	2030		55 00.6	01 10.4	~		
	2100.		55 04.3	01 04.2	~		
	2114		55 05.0	01 03.0	~	17.	CTD 0/B.
	2126		55 05.1	01 02.8	~		CTD 1/B.

Year 1995 Time
Zone BST.

Ship CHALLENGER.

ROUGH LOG SHEET

CR 118/LEG 2/MILLWARD/IML.

01

EC

Date	Time BST.	Log	LATN	LONGN	METHOD	STATION	REMARKS
9/4	2132.		SS 05.1	01 02.8	G/S.	17 (cont)	Lasentec O/B.
	2151		SS 05.2	01 02.4	—		— 1/B.
	2209		SS 05.0	01 03.0	—		Grab sample Co. 2498D.
	2236		SS 03.5	01 10.0	—		
	2300		SS 01.9	01 17.12	—		
	2327		SS 00.8	01 21.8	—	18.	CTD O/B.
	2334		SS 00.85	01 21.8	—		CTD 1/B.
	2340		SS 00.87	01 21.8	—		Lasentec O/B Grab sample.
	2346		SS 00.9	01 21.86	—		Grab sample
	2350		SS 00.93	01 21.91	—		Grab sample
	2355		SS 00.95	01 21.93	—		Lasentec O/B.
0/4	0010.		SS 01.0	01 22.0	—		Lasentec O/B Co. 045 ⁰ 7.
	0100		SS 05.3	01 10.8	GRS		
	0200		SS 12.6	01 01.6	GRS	19.	Have to DEPLOY CTD + LASENTEC.
	0249		SS 12.6	01 01.8	GRS		ALL INBOARDS SET CO. 2709A.
	0400		SS 12.8	01 22.2	GRS		
	0423		SS 12.2	1° 26.93	—	20.	Have to. CTD & Lasentec deployment.
	0458		SS 12.07	1° 26.67	—		All 1/B set c° 058 ⁰ 17 towards sta 21.

ROUGH LOG SHEET

Year 1995 Time Zone *BST* Ship *RRS Caiman* *1126 / minnow / Pink*

03

Date	Time	Log	Lat	Long	Method	Station	REMARKS
01-A	0604		55° 20.25	1° 03.52	GPS	21	How to. GPS - Lasentec
	0712		55° 19.40	1° 03.16	---		All 118 - Set C. 28A(5) towards Sta 22.
	0800		55° 21.54	1° 15.25	---		
	0900		55° 23.5	1° 29.8	---	22	CTD 2/13.
	0909		55° 23.5	1° 29.8	---		CTD 1/13
	0913		55° 23.5	1° 29.9	---		Lasentec 5/13
	0929		55° 23.44	1° 30.1	---		Lasentec 1/13 Co-06871
	1000		55° 25.2	1° 22.47	---		
	1035		55° 27.5	1° 12.8	---		
	1100		55° 29.14	1° 05.5	---		
	1115		55° 29.6	1° 04.0	---	23	CTD 5/13.
	1128		55° 29.73	1° 04.0	---		CTD 1/13
	1131		55° 29.75	1° 04.0	---		Lasentec 5/13.
	1152		55° 29.95	1° 04.4	---		Lasentec 1/13 Co-28671
	1200		55° 30.3	1° 06.0	---		
	1315		55° 33.3	1° 29.0	---		R.A.F. SAR HELICOPTER TRAINING EXERCISE
	1338		55° 34.0	1° 33.0	---	24	HEAVE CO. DEPLOY CTD + LASENTEC
	1412		55° 34.8	1° 33.4	---		ALL INBOARD SET CO 0450E
	1500		55° 34.5	1° 24.8	---		

Year 95 Time Zone B.S.T. Ship COTALLERON CRUISE 118 MINNERS

ROUGH LOG SHEET

05

ED

Date	Time	Log	LAT(N)	LONG(W)	HEADING	STATION	REMARKS
4	1553	—	55 45.0	1° 15.0	CRS	25.	HEAVE TO. Deploy CTD. Laseur & day grab
	1644		55 45.17	1° 15.31	—		All 1/3. Set C° 271°(T) towards sta 26.
	1800		55 45.20	1° 15.44	—		
	1905		55 45.48	1° 15.54	—	26.	Heave to. CTD. Laseur & day grab deployment.
	1942		55 46.54	1° 15.26	—		All 1/3. Set C° 052°(T) towards sta 27.
	2000		55 47.1	1 52.5	—		
	2030		55 50.8	1 44.5	—		
	2100		55 53.8	1 37.7	—		
	2117		55 55.0	1 34.86	—	27	CTD 0/3
	2129		55 55.1	1 34.6	—		CTD 1/3.
	2134		55 55.1	1 34.6	—		Laseur 0/3
	2151		55 55.0	1 34.0	—		Laseur 1/3
	2203		55 55.0	1 33.86	—		Grab sample. Co. 270°(T)
	2230		55 54.95	1 39.5	—		
	2300		55 55.0	1 49.2	—		
	2335		55 54.9	1 57.7	—		
	0003		55 54.9	2 05.0	—	28.	CTD 0/3
	0037		55 55.0	2 05.4	GRS		ALL IN BOARD SET C° 367°(T)
	0100		55 57.1	2 10.4	GRS		

ROUGH LOG SHEET

Year 95 Time Zone B3T Ship CHALLENGER

CRUISE 118 HILLWARD

07

ED

Date	Time	Log	LAT.(N)	LONG(W)	Height	STATION	REMARKS
1-4	0130	—	56 00.0	2 17.0	GRS	29	Have to. DEPLOY CTD + LASANTEC.
	0208	—	55 59.9	2 17.6	GRS		ALL INBOARDS SET (2 090°)
	0300	—	55 59.9	2 02.6	GRS		
	0400	—	56 00.0	1 45.0	GRS		
	0434		55° 59.85	1° 30.11	— " —	30	Have to. Deploy CTD + LasanteC.
	0515		55° 59.71	1° 30.72	— " —		All 1/3. Set 135°
	0600		55° 22.06	1° 03.59	— " —		
	0804		55 41.94	01 03.64	—	31	CTD 5/13
	0816		55 41.75	01 05.55	—		CTD 1/13
	0819		55 41.64	01 03.58	—		LasanteC 5/13
	0835		55 41.56	01 03.47	—		LasanteC 1/13. CTD 168°(T)
	0904		55 37.0	01 01.5			
	0930		55 32.3	00 59.8			
	0956		55 27.9	00 58.2			Red spd 2.0 kts. for upr deployment.
	1006		55 27.23	0 57.87			U.O.R. 2/13 SPD 8 kts Red. to 7.5 kts.
	1030		55 24.2	0 56.6			
	1040		55 23.3	0 56.2			Shoorthauling U.O.R. 1/13 have to awaiting
	1050		55 23.0	0 55.8			Light Profiler deployed using crane
	1127		55 23.46	0 55.15			— 1/13.

Year 1995 Time Zone BST.

Ship CHALLENGER.

ROUGH LOG SHEET

CR 1186 / MILLWARD / PML.

09

Date	Time	Log	LAT. N.	LONG. W.	METHOD	STATION	REMARKS
11/4	1133.		55° 23.3	0 54.9	GPS.		U.O.R. Streamer/Col. 2 Kts. - Spd incr. 7.5 Kts.
	1200.		55 20.4	0 54.0	--		
	1300		55 14.3	0 52.3	GPS		
	1400		55 08.4	0 50.4	GPS		
	1500		55 02.7	0 48.4	GPS		
	1517		55 00.9	0 47.9	GPS		Comm. Reelout U.O.R.
	1519						INBOARDS. INC. F.S.A.
	1600		54 54.9	0 45.6	GPS		
	1640		53 54.6	0 43.1	--	32.	Move to on Stn.
16 45			53° 34.6	0° 45.1	--		CTD O/B. - hasentec deployment.
1715.			--	--	--		All IB - Set C° 119°(r) towards sta 33.
1900.			54° 44.91	0° 17.81	--	33.	Move to. CTD a hasentec deployment.
1940.			54° 44.73	0° 17.05	--		All IB. Set C° 139°(r).
2000			54 42.3	0 13.0	--		
2100.			54 33.2	0 00.3	--		
2119			54 31.4	0° 02.6	--	34.	CTD O/B.
2129			54 31.3	0° 02.7	--		CTD I/B.
2131			54 31.24	0 02.8	--		Lasentec O/B.
2148			54 31.0	0 03.4	--		Lasentec I/B. Co. 159°(r)

Year 1995. Time Zone BST.

Ship CHALLENGER

ROUGH LOG SHEET

CR. 118 LEG 2 / MILLWARD / PML

11

EC

Date	Time	Log	LATN	LON ^E _W	METHOD	-	STATION	REMARKS
1/4	2200.		54°30.0	0°04.2	GPS			
	2300.		54 19.0	0 10.6	--			
	2330		54 14.0	0 14.2	--			
	0000		54 08.9	0 17.5	--			
	0055		54 00.0	0 23.2	GPS		35	HEAVE TO DEPLOY ODS + LABS/KEE
	0130		54 00.1	0 23.2	GPS			ALL INBOARDS SET CO 236°C
	0236		53 57.0	0 11.7	GPS		2A	MOVE TO ON SEAGON DEPLOY ODS + TUBS
	0300		53 57.5	0 11.3	GPS			SET CO 143°C
	0400		53 51.9	0 18.5	GPS			
	0454		53 46.85	0 25.33	--		4A	Have to. CTD + Setting tube disengagement
	0511		53 47.3	0 24.67	--			All 1/B. Set C° 150°C
	0618.		53 34.55	0 31.90	--		6A.	Have to.
	0623.		53 34.04	0 31.78	--			CTD 0/B.
	0630		53 34.74	0 31.62	--			CTD 1/B.
	0635		53 34.82	0 31.55	--			Setting tube 0/B.
	0638		--	--	--			All 1/B. Set C° 150°C
	0738.		53 33.86	0 37.9	--		8A.	Have to. CTD 0/B.
	0745		53 33.00	0 38.11	--			All 1/B. Set C° 150°C
	0800		53 32.1	0 39.6				

Year 1995 Time Zone BST. Ship CHALLENGER.

ROUGH LOG SHEET

CR108 LEG 2. / MILLWARD / PMC

13

Date	Time	Log	LATN	LONGE	METHOD	STATION	REMARKS
2/4	0830.		53° 27.7	0° 43.3	GPI.		
	0852		53 24.9	0 45.8		10	CTD 173
	0904		53 24.8	0 45.7			CTD 173
	0908.		53 24.7	0 45.6			Laurentec 873
	0919.		53 24.6	0 45.5			→ 173 Co. 247°T → 9
	1000.		53 23.0	0 39.0			
	1050		53 20.0	0 26.3			Stn. 9 aborted v/L proceeding to Stn 1 Co
	1125.		53 21.0	0 30.6			A/C 347°T
	1200.		53 24.8	0 29.3			
	1309		53 33.2	0 25.9			
	1345		53 38.2	0 23.9			A/C 319°01
	1512		53 48.4	0 09.9			HEAVE TO UNTIL WX IMPROVES
	1600		53 49.5	0 10.6	BR.		
	1800.		53 51.6	0° 13.3A	---		
	2000.		53 53.23	0° 15.95	---		
	2103.		53 52.8	0 12.9	---	TRANSSEC 5	CTD 573
	2115.		53 52.7	0 12.8	---		CTD 173 Co 232°T → 4
	2142.		53 51.23	0 09.4	---	4	CTD 073
	2152		53 51.14	0 09.47	---		CTD 173 Co 225 → 8

Year 1995 Time Zone BST.

Ship CHALLENGER.

ROUGH LOG SHEET

CR 118 LEG 2 / MILLWARD / PML

15

Date	Time	Log	LAT N	LONG ^E / _W	METHOD	STATION	REMARKS
2/4	2220		53 49.45	0° 06.51 ^E	GPS	3	CTD 0/B
	2228		53 49.35	0° 06.6 ^E	—		CTD 1/B. Co. 2249m
	2253		53 48.37	0° 03.96 ^E	—	2	CTD 0/B.
	2300		53 48.20	0° 04.0 ^E	—		CTD 1/B Co. 240°m
	2322		53 47.33	0° 01.58 ^E	—	1	CTD 0/B
	2331		53 47.3	0° 01.5	—		CTD 1/B. Co. 047°m → #5.
3/4	0000		53 49.0	0° 05.2	—		
	0049		53 52.7	0° 12.8	GPS	5	TUNSONAL HEAVE TO. DEPLOY CTD.
	0104						CTD INBOARD SET CO 234 STN 4.
	0130		53 51.2	0° 09.6	GPS	4	HEAVE TO DEPLOY CTD.
	0141						CTD INBOARD SET CO 228° STN 3.
	0205		53 49.4	0° 06.1	GPS	3	HEAVE TO DEPLOY CTD.
	0215						CTD INBOARD SET CO 231° STN 2.
	0236		53 48.5	0° 03.7	GPS	2	HEAVE TO DEPLOY CTD
	0250						CTD INBOARD SET CO 220° STN 1.
	0309		53 47.3	0° 01.3	GPS	1	HEAVE TO DEPLOY CTD
	0323						CTD INBOARD SET CO 2053 STN 5.
	0400		53 50.0	0° 12.4 ^E	—	5	HEAVE TO. DEPLOY CTD.
	0403						CTD 1/B. Set CO 234m.

Year 1995 Time Zone BST Ship RRS Challenger

ROUGH LOG SHEET

1134y2/mulwood/Pm1

17

Date	Time	Log	Lat N	Long E	Method	Station	REMARKS
3-4	0512		53° 51.26	0° 09.64	GPS	4 Turnstall	How to. CTD o/B.
	0520					Transact.	CTD 1/B. Set C° 22.4°(T).
	0547		53° 47.54	0° 06.54	---	3	How to. CTD o/B.
	0554						CTD 1/B. Set C° 23.2°(T).
	0615		53° 48.36	0° 03.44	---	2	How to. CTD o/B.
	0624						CTD 1/B. Set C° 23.2°(T).
	0645		53° 47.23	0° 01.40	---	1	How to. CTD o/B.
	0655						CTD 1/B. Set C° 05.0°(T).
	0804		53° 52.78	0° 12.94	---	5	CTD 5/B.
	0813		53° 52.75	0° 13.0	---		CTD 1/B Co. 233°(T)
	0838		53° 51.14	0° 09.70	---	4	CTD o/B.
	0846		53° 51.04	0° 09.75	---		CTD 1/B. Co. 232°(T)
	0911		53° 49.41	0° 06.31	---	3	CTD 5/B. #
	0919		53° 49.4	0° 06.20	---		CTD 1/B. Co. 236°(T)
	0936		53° 48.26	0° 03.8	---	2	CTD 5/B.
	0942		53° 48.2	0° 03.72	---		CTD 1/B. Co. 235°(T)
	1002		53° 47.07	0° 01.57	---	1	CTD 5/B.
	1009		53° 47.02	0° 01.63	---		CTD 1/B. Co. 134° for age.
	1030		53° 44.7	0° 05.58	---		

Year 1995 Time Zone BST. Ship CHALLENGER

ROUGH LOG SHEET

CR 118 LEC2 / MILLWARD - PML.

19

Date	Time	Log	LATN.	LONG E	METHOD	STATION	REMARKS
3/4	1041		53 43.4	0° 08.1	GPS		A/C 162°(T)
	1112						slow approx. 1/2 age
	1114						Let go port 1/2
	1116						3 shackles port 1/2
	1122		53 38.18	0° 10.95	GPS		1/2 brought up.
	1138						Light profiler off from midship crane
	1200		53 38.18	0° 10.97	GPS		
	1600		53 38.28	0° 10.90	GPS		1/2 @ 1/2 off stern head.
	2000		53 38.24	0° 10.87	---		CTD & laser deployed throughout.
4/4	0000		53 38.20	0° 10.95	---		CTD, laser & settling tank casts throughout.
	0156						LASER IN BOARD. STATION COMPLETE
	0215		53 38.3	0° 10.9	GPS		Set C° 342°(T) for STN HW3
	0300		53 48.5	0° 07.9	GPS	HW3	Move to ON STATION. A/C 072°(T).
	0400		53 48.6	0° 19.3	GPS		
	0439		53 47.8	0° 30.3	GPS		A/C 049°(T).
	0530		53 53.3	0° 41.12	---	HW4	A/C 144°(T).
	0625		53 25.65	0° 29.60	---	HW6	A/C 207°(T) towards moving platform.
	0800		53 31.9	0° 37.3	---		
	0835		53 26.5	0° 33.4	---		

Year 1995 Time Zone BST.

Ship CHALLENGER.

ROUGH LOG SHEET

CR. 118 LEG 2. / MILLWARD - PML.

21

Date	Time	Log	LAT. N.	LONG E	METHOD	STATION	REMARKS
4/4.	0900		53 22.6	0° 30.5	GPS.		
	27		53 20.4	0° 29	GPS	T.B.B.	Buoy grappled.
	34		-1.-	-1.-	-1.-		Package + Buoy 1/B.
	0946		53 20.9	0 28.75	-1.-		At 1/B down Co. 098°D
	1022		53 20.2	0 35.4	-1.-		MC 156°(T) for mooring T.S.I.
	11 08		53 15.1	0° 39.2	-1.-	MOORING	grappled.
	14		-1.-	-1.-	-1.-	T.B.I	Package + Buoy 1/B.
	22		53 15.2	0° 39.0	-1.-		CLUMP 1/B.
	1134		53 15.15	0 39.0			All secure Co 193°(T)
	1200		53 10.6	0 37.4			MC 249°D.
	1246		53 02.9	0 28.8	-1.-		A/C 192 NORTH WELL FOR TRANSFER.
	1303		53 00.35	0 27.93	GPS		A/C 35.
	1330		53 02.51	0 24.37	GPS		A/C 090°(T)
	1351		53 02.65	0 28.13	GPS		A/C 035°(T) NORTH WELL
	1410		53 04.56	0 30.33	GPS		A/C 350°(T)
	1426		53 06.00	0 29.9	GPS		HEAVY TO.
	1540		53 06.9	0 30.2	GPS.		SUB C2 047°(T) → SCOTT PACER
	1600		53 08.3	0 32.9	GPS		
	1630.		53 11.05	0° 34.52	-1.-		A/C 015°(T).

ROUGH LOG SHEET

Year 1995 Time Zone B-5 Ship RRS Challenger.

1186/millward/Pmk.

23

Date	Time	Log	Lat N	Long E	Method	Station	REMARKS
A-4	1712.		53° 15.04	0° 39.19	GPS.	Novels.	Comm relay T01.
	21		53° 15.09	0° 39.20	---		T01 fully deployed. Set C ² towards T06 position.
	1800.		53° 19.29	0° 36.60	---		
	1845		20.23	28.90	---	Novels.	Comm relay T06.
	185A		20.98	28.93	---		Fully deployed. Set C ² 186(G).
	1920.		53° 18.10	0° 28.59	---		Alt 171(G).
	2000.		53° 11.7	0° 30.3	---		
	2032.		53° 07.3	0° 31.2	---		
	2042.		53° 05.5	0° 31.45	---		7c 214(G).
	2102		53° 02.8	0° 28.45	---		7c 223(G).
	2134		53° 59.99	0° 23.98	---		Let go port L.
	2139.		53° 00.0	0° 23.97	---		v/c brought up 3 shackles in the water.
	2200.		53° 00.0	0° 23.97	---		Comm. CTD & laser/ke casts.
							Port Main engine & steering gear shut a
							Y/L @ 1/4 T4K W484
							8 aux.
							Comm towards C ² 315(G).
							Complete transit. Alt 184(G) towards H413.
-4	0400		53° 00.00	0° 23.93	GPS.		
	0645		---	---	---		
	0717.		53° 00.39	0° 27.91	---		
	0745.		53° 02.59	0° 24.33	---		
	0800.		53° 01.3	0° 24.3	---		

Year 1995. Time Zone B3T.

Ship CHALLENGER

ROUGH LOG SHEET

CR. 118 LEC 2 / MILLWARD - PML.

25

Date	Time	Log	LATN.	LONGE	METHOD	STATION	REMARKS
25/4	0822		53 00.1	00 24.0	GPS	13.	CTD 5/3.
	29.		53 00.3	00 24.0	--		CTD 1/3
	31.		53 0.34	0° 24.0	--		Laurentec 5/3
	45		53 05.0	0 24.0	--		-- 1/3.
	0920		52 59.8	0 23.9	--		CTD 8/3
	0929		52 59.9	0 23.9	--		CTD 1/3
	0931		52 59.9	0 23.7	--		Laurentec 5/3
	0944		52 59.9	0 23.6	--		Laurentec 1/3.
	1020		52 59.7	0 23.7	--		CTD 5/3
	1027		52 59.6	0 23.6	--		CTD 1/3.
	1030		52 59.6	0 23.6	--		Laurentec 8/3.
	1043		52 59.7	0 23.6	--		CTD 5/3 1/3.
	1118		53 00.08	0 23.98	--		
	1122		53 00.1	0° 23.89	--		CTD 1/3.
	1126		53 00.09	0 23.91	--		Laurentec 5/3
	1158		53 00.11	0 23.8	--		Laurentec 1/3
	1220		52 59.8	0 23.9	--		CTD 0/3
	1230						CTD 1/3 LAURENCE 0/3
	1248		52 59.6	0 23.9	GPS		LAURENCE 1/3 SURCE 0/3.
	1308		53 00.4	0 25.0	GPS		

Year 95 Time Zone B8C

Ship CHALLENGER

ROUGH LOG SHEET

27

Date	Time	Log	LAT (LN)	LONG (E)	METHOD	STATION	REMARKS
15-4	1323	—	53 02.8	0 28.5	GPS		A/C 0340°(C) North Wall.
	1400	—	53 06.9	0 33.1	GPS		
	1435	—	53 10.9	0 37.5	GPS		A/C 023°(C) Scott Pass
	1500	—	53 14.0	0 39.7	GPS		
	1521	—	53 15.5	0 41.4	GPS	12.	A/C 132°(C) North Looking
	1600	—	53 10.4	0 51.0	GPS		
	1655		53 03.6	1 03.2	GPS		A/C 171°(C)
	1717		53 00.4	1 04.8	—	14	A/C 022°(C)
	1744		53 03.9	1 06.8	—		A/C 032°(C)
	1900		53 11.2	1 15.1	—		
	1949		53 14.3	1 20.7	—	15.	A/C 325°(C)
	2000		53 19.1	1 18.67	—		
	2012		53 20.5	1 17.70	—		1/2 hour to to scienc. Repts.
	2100		53 21.0	01 17.27	—		Full speed Co 273°(T).
	2130		53 21.4	01 09.0	—		A/C 324°(T).
	2200		53 25.5	01 03.83	—		
	2223		53 28.9	0 59.57	—	11	A/C 245°(T).
	2300		53 26.15	0 50.1	—		
	2315		53 25.0	0 46.0	—	10	A/C 247°(T)