DAILY LOG BOOK

MISSION NUMBER

Cruise # 2003-12

DATE: From: May 5, 2003 to: May 15, 2003

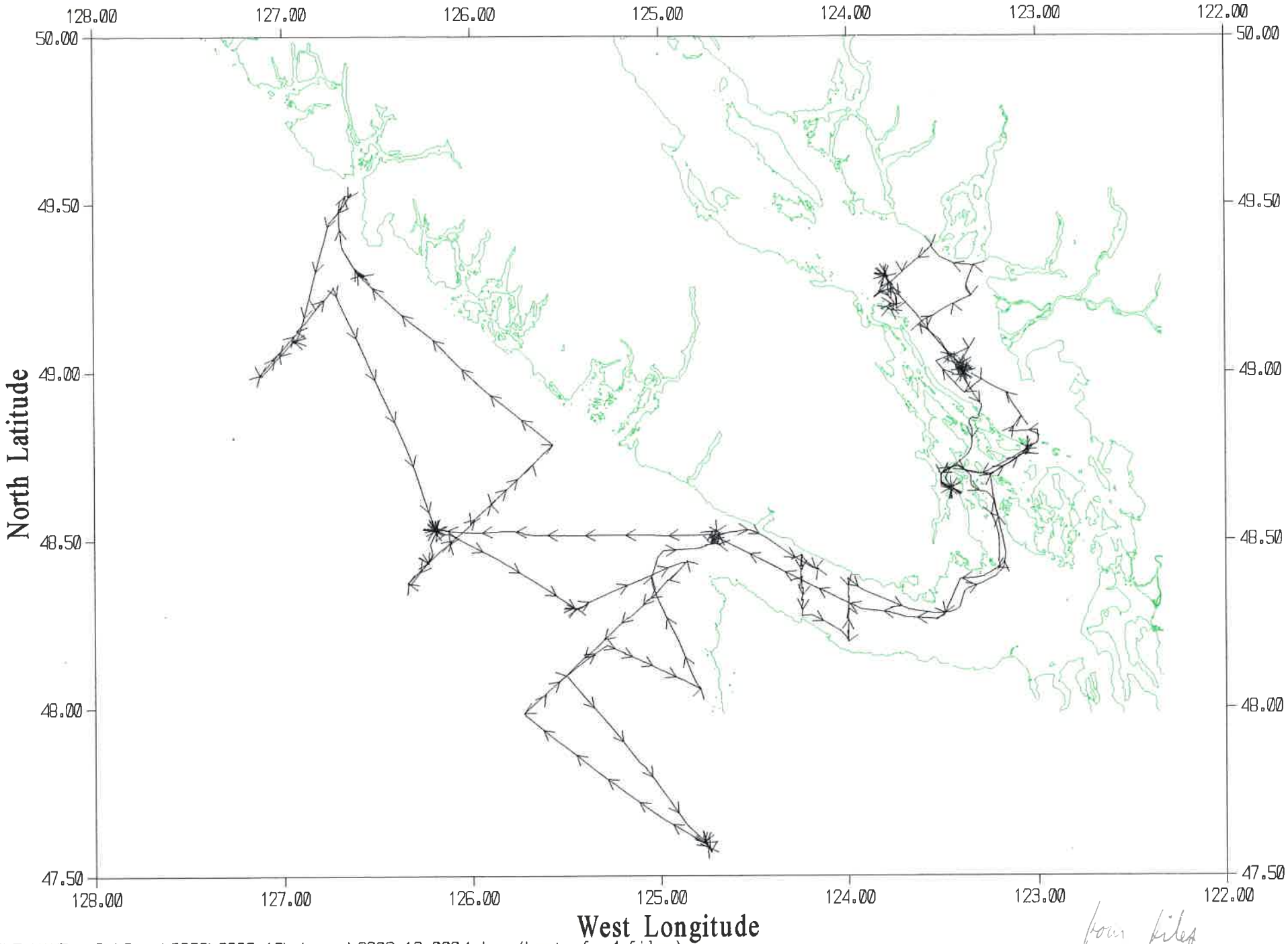
VESSEL: CCGS J. P. Tully

PROJECT: La Perouse, ECOHAB, Covariability, Georgia Str., BIO-Buoys.

INSTITUTE OF OCEAN SCIENCES
OCEAN SCIENCES AND PRODUCTIVITY DIVISION
SIDNEY, BC, CANADA

PLOTTED: 2003/05/27 13:27:45

2003-12 thermo



four files

FILE NAME: D:\Data\2003\2003-12\thermo\2003-12-0004.ios (Last of 4 files)

START TIME: UTC 2003/05/06 17:31:29 END TIME: o

Captain: Paul Frost First Officer: Gary Mcdonel
Second Officer: Shane Lovelace Third Officer: Zebe

Mission Participants / Agencies: La Perouse, ECOHAB, Covariability

Scientific Personnel: Party Chief: Tom Juhász

Name	Watch	Cabin	Name	Watch	Cabin
Dave Spear			Beverley Hall		
Jim Johnson			Tawnya Peterson		
John Love					
Lucius Perreault					
Hugh Mclean					
Luc LeGault					
Sheila Toews					
Jane Eert					
Mary Thiess					
Melanie Quenneville					

Second leg of Mission: Party Chief: _____

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: _____
Data acquisition program: _____
CTD deck unit make: _____ model: _____ serial number: _____

Primary CTD
Make: _____ model: _____ serial number: _____
Primary temperature serial number: _____
Primary conductivity serial number: _____
Secondary temperature serial number: _____
Secondary conductivity serial number: _____
Transmissometer: _____ Model: _____ s/n: _____
Fluorometer: Model _____ Cable gain: _____ s/n: _____ **P, S or NO pump?**
Oxygen sensor: _____ Model: _____ s/n: _____ **P, S or NO pump?**
PAR sensor: _____ Model: _____ s/n: _____
Other sensors: _____ s/n: _____ **P, S or NO pump?**
Other sensors: _____ s/n: _____ **P, S or NO pump?**
Other sensors: _____ s/n: _____ **P, S or NO pump?**
Other sensors: _____ s/n: _____ **P, S or NO pump?**

Secondary CTD
Make: _____ model: _____ serial number: _____
Primary temperature serial number: _____
Primary conductivity serial number: _____
Secondary temperature serial number: _____
Secondary conductivity serial number: _____
Transmissometer: _____ Model: _____ s/n: _____
Fluorometer: Model _____ Cable gain: _____ s/n: _____ **P, S or NO pump?**
Oxygen sensor: _____ Model: _____ s/n: _____ **P, S or NO pump?**
PAR sensor: _____ Model: _____ s/n: _____
Other sensors: _____ s/n: _____ **P, S or NO pump?**
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CTD calibration bottle location (height above CTD in metres): _____

Date	Time PDT	
May 5	0700	- ship arrives from SAR Patrol
	0830 -1700	- loading commences and continues through day to 1700 hrs. with intention of sailing by 1900 hrs
		- during day engineers discover damage to main engine cylinder from a seized valve that occurred during the previous cruise - at 1400 ROC calls and announces ship will not be able to sail until next morning, tentatively 1200 hrs. - loading continues - set up continues - 1200 hrs departure confirmed
May 6	0900	- final loading obstructed by jetty being closed due to repairs - arranged for jetty to be open for one hour, in fact work crew moved to another location that did not block access. They could have started here in the first place. PWGS have to be made aware of ship schedule and consequences of operating in isolation.
	1100	- final loading completed - completed CTD test cast - the usual "con" file problems then it worked
	1300	- depart.
	1400	- call for SAR to locate a drifting kayaker around Sidney Island. app. 1½-2hr spent without success until stand-down order.

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Month MAY **Year** 2003 **Ship** TULLY **Cruise ID** 2003-12

Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
6	TEST	1818	ROS	BE	001	48 39 21	123 27 14	7	5					TEST CAST @
		1818		BO		49 39 21	123 27 14							DOCK. STILL TIED UP
		1819		EN		48 39 21	123 27 14							NO SAMPLES TAKEN
7	BI 01	1346	ROS	BE	002	48 32 04	126 11 81	441	65	1-8	8			Labelled 001 in Fle
		1348		BO		48 32 10	126 11 78							
		1356		EN		48 32 03	126 11 78							
														Labelled 002 in File
7	BI 01	1611	CTD	BE	003	48 32 13	126 11 85		65	—	—			RE DO 002 AS IT
		1613		BO		48 32 12	126 11 85							DID NOT RECORD. SAVE TO
		16 15		EN		48 32 11	126 11 85							DISC TURNED OFF
7	LC10	2030	ROS		004	48 22.36	126 20.00	1234		9-27	19			Wind 12kt @ 274°
		2056				22.35	20.09		1238					Nice & close to bottom
		2133				22.31	20.30							5m gap
	LC09	2230	CTD		005	48 25.81	126° 13.60	607						
		2238							616					
			RADIOM		006	48 25.90	126 13.649	614	50			ST/JE		
		2349	BONGO		007	48° 2597	126° 13.69	602	250			ST/JE		

Cast type:
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MOR = mooring
NET = net haul
DRF = drifter

• bottle firing method:
• US = up / stop
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Transmissometer to be cleaned for each cast, do not use Ammonia products

Date	Time PDT	Additional comments
May 7	0646	- completed CTD/Rosette at B101 (near) and drew phyto samples
	0745 (app)	- completed radiometer cast(s) 2 casts ① - 23 m ② - 50 m.
		- both casts worked 2nd cast worked better.
		- the small boat launch operation is awkward and dangerous.
	0911	- repeated CTD cast on station because it turned out the data logging function was disabled, we collected data but did not save it. = 1st cast samples only 2nd cast CTD only
	0925	- on station B101-C - ranges 421, 427 staying drifting off to release
	0948	- drifting off waiting for crew to move CTD/Rosette
	0950	- range 451 sent ABCD - sighted on surface
		- recovered complete without incident - very light fouling but parsenson covered.
		- top float stable upright with CTD moved below
	1038	- on station A1-JJ for recovery - ranges 496, 496
		- moving off to release position - ranges 479, 478 we got closer?
		- moving off in different direction to be sure not to be over mooring for release
		- ranges 509, 525
	1045	- sent ACGH received positive response, * except loss of one fish tag
		- mooring A1-JJ recovered without incident (from upper most plate), #208.

* THERMOSALINOGRAPH

OFF BY 20 MINTES PER DAY CHANGED FILES ON 7/5/03 TIME UPGRADED FROM 1708 TO 1731

Date	Time PDT	
May 7	1137	- all secure + cleaned on deck and heading for LC10 (TD, Radiometer + Bongo's on LC line

message Lucius 727-3032 Melanie 477-2257 ✓
Mike 656-7273 ✓ Dario 6566845 ✓

Date	Time PDT	
May 8	0736	- on station E01-JJ for recovery - ranges 121, 123, m - move to release position
	0743	- range 282, 283 - sent BDFG - received positive response - sighted on surface
	0907	- deployed mooring E01-KK at 49°17.562' 126°35.861' in 98 m depth
	0915	- head in to Gold River for science crew exchange - called I.O.S. confirmed Ron Teichrob left to pick up people 0730 in morning.
	1235	- dispatched rubber boat with Mary Thiess, Beverley Hall, Melanie Quenneville, Tawnya Peterson + Lucius Perreault to return to I.O.S. with truck from Gold River.
		- setting up mooring E03-KK while we wait for rubber boat returns in mouth of Nootka Sound.
	1805	- launched E03-KK at 49° 05.661 126° 56.058' in 400 m depth without incident.
		- proceed to LG07 for CTD/Rosettes.

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Ocean Sciences and Productivity Division

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8	LC08	0102	BONGO		008	48° 29.49'N	126° 06.92'W	196	186			ST/MT/JF		small whale nearby.
		0124	ROS	BE	009	48° 29.44'N	126° 07.05'W	199	194	28-42	15		✓	
		0142		EN	009									
	LC08	0203	RADIOM		010	48 29.43'N	126° 7.05 W							
8	LC07		RADIOM		011	48 32.94	126 00.41							
	LC07	0337	ROS	BE	012	48 33 00	126 00 46	128		43-52	10			
		0340		BO		48 32 99	126 00 47							
		0354		EN		48 32 91	126 00 47							
8	LC06	0422	NET	BE	013	48 36 46	125 53 96	90-	80-					BONGO
	LC06	0551	ROS	BE	014	48 36 46	125 54 00	91		53-61	9			
		0553		BO		48 36 47	125 53 99		85					
		0606		EN		48 36 47	125 54 02							
8	LC05	0655	CTD	BE	015	48° 39.94'	125° 47.51	65	60					CTD ONLY
		0657		BO		39.93	47.48							
		0659		EN		39.92	47.46							
		0706	NET	BE	016	48° 39.88	125° 47.37	64	54					BONGO

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8	LC04	0759	ROS	BE	017	48° 43.38	125° 40.80	166	162	62-71	10	JC/ST/MT	no.	P
		0811		EN		48° 43.38	125° 40.71							
8	LC03	0858	CTD	BE	018	48° 46.97	125° 34.23	135	130	/		JE/ST	no.	
		0902		EN		48° 46.98	125° 34.22							
9	LG07	0230	ROS	BE	019	48° 59.39'N	127° 07.19'W	1763		72-74	3	JE/ST/[illegible]	✓	Sal cal par sensor removed
		0252		BO		48° 59.42	127° 07.27		1769			H.M		
		0314		EN		48 59 56	127 07 18							
	LG07	0330	NET		020	48 59 49	127 07 26	1770	250			N.M.		
9	LG06	0436	ROS	BE	021	49 03 55	127 01 22	962		75-93	19	H&L		3 SALS / FULL O2
		0446		BO		49 03 51	127 01 14		964					
		0524		EN		49 03 50	127 01 15							
9	LG05	0617	ROS	BE	022	49 07 36	126 55 24		274	94-105	12	H&L		
		0620		BO		49 07 37	126 55 25		260					
		0641		EN		49 07 38	126 55 26							
9	LG04	0729	ROS	BE	023	49° 11.26	126° 49.41'W	146	140	106-114	9			
				EN		49° 11.29	126° 49.39'W							
		0805	NET	BO	024	49° 11.32	126 49.38	144	136					

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9	LG03	0850	ROS	BE	025	49° 15.03'N	126° 43.70'W	123	118	115-122	8	JE/ST	no.	
		0859		EN		49° 15.06'N	126° 43.62'W							
10	LA02	0414	ROS	BE	026	48 26 22	124 51 27	309	300	123-135	13	H/L	NO	
		0417		BO		48 26 22	124 51 29							
		0438		EN		48 26 24	124 51 30							
10	LA03	0529	CTD	BE	027	48 22 83	124 57 57	113	100	—	—	H/L	NO	CTD ONLY
		0533		EN		48 22 83	124 57 56							
10	LA04	0624	ROS	BE	028	48 19 30'	125 04 05	194	190	136-145	10	H/L	✓	loop sal @ 0649
		0627		BO		48 19 32	125 04 07							
		0643		EN		48 19 33	125 04 10							
10	LA05	0728	CTD	BE	029	48° 16.05'N	125° 10.63'W	121				ST/JE	no	big fluorescence peak near surface
		0733		EN		48 16.06'N	125° 10.60'W		115					
10	LA06	0818	ROS	BE	030	48° 12.67	125° 17.14	111		146-153	8		no.	loop sal @ 0823
		0827		EN		48° 12.66	125° 16.99		105					
10	LA07	0914	CTD	BE	031	48° 09.20'N	125° 23.86'W	112						
		0918		EN		48° 09.21'N	125° 23.84'W		107					
10	LA08	1003	ROS	BE	032	48° 05.76'N	125° 30.41'W	140		154-162	9			loop sal @ 1005
		1013		EN		48° 05.78	125° 30.30		135					

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Date	Time PDT	
- May 9	0730	- on station. B101-D for deployment
		- previous night mooring design was checked and corrected - B101-C was deployed 15 m too deep.
		- surveyed bottom at proposed site. looking for 393 m.
		- a suitable spot was marked
	0848	- deployed mooring B101-D in 394-395 m depth at position 48° 31.830' 126° 11.263'
		- watched mooring submerge and nothing came to surface.
		- moved over mooring site confirmed 393-394 m depth.
		- could see mid depth buoy on sounder at app. 155-160 m depth where it should be. - the top buoy will be at app. 15-17 m depth (155-160 is the best resolution possible on bridge sounder.) (we saw it on the science sounder at app. same depth.)
		- fish tags added.
		- set up for A1
	1053	- deployed mooring A1-KK in 501 m at 48° 31.788' 126° 12.211'
		- head for ECOHAB 3
		- mooring deployment + planning meeting with captain chief + bosun on way to site - safety issues addressed and emphasized.

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11	LA10	0156	ROS	BE	033	47°59.12	125°43.34	915		163-164	2	ST		3 CALIBRATION SAMPLES
		0206		BO		47°59.13	125°43.38		905					903m + 800m
		0216		EN		47°59.08	125°43.52							Loop taken during 800 m bottle stop
11	LA09	0307	ROS	BE	034	48 02 46	125 36 80	360					NO	CAL SAL SAMPLES
		0312		BO		48 02 43	125 36 82		347	165-166	2	H/L		@ 345 & 300m
		0319		EN		48 02 40	125 36 85							
11	WS06	0506	CTD	BE	035	48 11 13	125 17 09	196		167	LOOP		NO	CTD ONLY
		0509		BO		48 11 15	125 17 08		180					LOOP (167)
		0512		EN		48 11 15	125 17 08							
11	WS05	0552	CTD	BE	036	48 09 69	125 11 14	293		168-169			NO	SAL CAL @ 277 & 200m
		0556		BO		48 09 70	125 11 11		277					
		0602		EN		48 09 68	125 11 17							
11	WS04	0643	CTD	BE	037	48 08 15	125 05 25			170			✓	CTD ONLY
		0646		BO		48 08 17	125 05 24							LOOP (170m
		0650		EN		48 08 19	125 05 25							
11	WS03	0727	CTD	BE	38	48°06.68	124°59.28	265				ST.		(computer crashed
		0731		BO		48°06.68	124°59.28		260					during shut down)
		0735		EN		48°06.69	124°59.30							

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Date	Time PDT	Additional comments
May 9	1638 to 1728	- launched mooring EH3 at position 48° 17.807' 125° 27.530' in 126 m water
		- proceed to LA2 for CTD/Rosettes on LA Line
May 10	0730	- on station EH2 for deployment. - setting up.
	1112	- ready on deck but waited until after lunch for deployment
	1242	- start deployment
	1341	- complete lowering anchor and releasing - installation finished. in 89-90 m water. at 47° 36.020' 124° 46.051'
	1410	- head for offshore end LA line to finish station left from last night.

- CTD data backed up to CDR.

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11	WS02	0811	CTD	BE	39	48 05 11	124 53 38	62				ST.		
		0812		BO		48 05 11	124 53 40		58					
		0814		EN		48 05 11	124 53.40					ST		
	WS01	0851	CTD	DE	40	48 03.48	124 47.19							
		0852		BO		48 03.48	124 47.19	34						
		0853		EN		48 03.48	124 47.19		30			ST		
	LA01	1303	CTD	BE	41	48 29 20	124 43 63	264		171		A.M.	NO	CTD ONLY
		1308		BO		48 29 22	124 43 60		261					LOOP (171)
		1312		EN		48 29 25	124 43 59							
11	JFE1	2341	CTD	BE	42	48°27.23	124°15.12	27				ST.	✓	
		2342		BO		48 27.21	124 15.09		20					
		2343		EN		48 27.20	124 15.07							
18	JFE2	0012	CTD	BE	43	48 25 29	124 15 04	135		172		H.M	NO	CTD + LOOP (172)
		0015		BO		48 25 34	124 14 94		120					
		0018		EN		48 25 37	124 14 95							
12	JFE3	0127	CTD	BE	44	48 23.26	124 14.99	182				ST.		CTD ONLY
		0130		BO		48 23.30	124 14 96		175					
		0132		EN		48 23.35	124 14.91							

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Additional comments

Date	Time PDT	
May 11	0700	- on station EH1 for deployment - surveyed bottom depth on site found 254.75 - no line adjustment required. - setting up
	1033	- start deployment flat
	1132	- released mooring = installation complete in 255 m depth at 48° 29.303' 124° 41.987'
	1200	- head for Port Renfrew Tide Gauge mooring
	1310	- small boat with Chief Off. + coxswain, Tom Juhasz, Luc Legault arrive at tide gauge shack. - key works. - wells boarded over with 2"x4" decking. - opened right most well cover - pulled up spaceday wire - no rope as expected. - Tide Gauge is missing - covered well decided not to redeploy. - called Wharfing Office - got - Mcdermit, S. - fisherman who use shack - Dickerson - P.B.S. - Jerry Chen - maintenance man. - have to find our instrument.

Date	Time PDT	
May 11	1455	- on station JF2A-CTC for recovery.
		- ranges 133, 135 m near site - close on top
		- moving to a release position. 175, 170, m drifting closer.
		140, 138, 130. m "
		106, directly over drifting off.
		115, 117, 118 drifting past
		124 → 134. "
		140 - 157. → 165
	1517	- sent ACEH. received positive response
		- almost immediately sighted on surface.
		- recovered without incident.
	1610	- head for JFE Line for CTD's

Date	Time PDT	
May 12	0755	- on station SG01 for recovery - ranges 181, 180 - right on top - move off for release
	0757	- range 379, 378 - sent ABGH - received positive response
	0758	- sighted on surface
*	0800	- T/S seawater loop shut off.
	0850	- mooring recovered and cleaned up - heavy fouling - definitely influence top instrument - top instrument fouled by pick up line - Vemco order of deployment was confirmed and correct as per deployment log
	0850	- head for I.O.S.
	1100	- arrive + tie up at I.O.S. for science crew change and equipment cross load. - Beverley Hall, Lucius Perreault, Melanie Ouenneville, Mike Dempsey join - Tom Juhasz, Jim Johnson leave ship. - Dave Spear Chief Scientist - sailing set at 1400 hrs.

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12	JFE4	0159	CTD	BE	45	48°21.25	124°14.95	225		173	1	ST.	✓	Loop
		0202		BO		48°21.30	124°14.88		222					
		0205		EN		48°21.34	124°14.81							
	JFE5	0228	CTD	BE	46	48°19.17'N	124°15.04'W	208		174	1	JE/ST/LP		salinity cal @ 203m
		0235		EN		48°19.23	124°14.83		202					
	JFE6	0256	CTD	BE	47	48°17.62	124°15.13			175				loop @ 1946
		0300		BO		48 17 63	124 15 03	170	165					
		0303		EN		48 17 66	124 14 95							
12	JFE7	0322	CTD	BE	48	48 16 39	124 14 91	100						CTD
		0323		BO		48 16 37	124 14 81		90					
		0325		EN		48 16 36	124 14 83							
12	JFD7	0447	CTD	BE	49	48 11 91	123 59 90	52						CTD
		0448		BO		48 11 78	123 59 93		45					
		0449		EN		48 11 78	123 59 94							
12	JFD6	0514	CTD	BE	50	48 13 75	123 59 91	116		176				CTD + LOOP (176)
		0516		BO		48 13 74	123 59 91		107					
		0517		EN		48 13 70	123 59 91							

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month MAY **Year** 2003 **Ship** J. P. TULLY **Cruise ID** 2003-12

Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
12	JFD5	0546	CTD	BE	51	48 15 79	123 59 97	182				HM	✓	CTD
		0548		BO		48 15 78	123 59 96		170					
		0551		EN		48 15 78	123 59 95							
12	JFD4	0619	CTD	BE	52	48 17 71	123 59 88	187		177			NO	CTD + LOOP (177)
		0621		BO		48 17 73	123 59 91		180					NOISY TRANSMIS. (?)
		0624		EN		48 17 75	123 59 90					HM		
12	JFD3	0650	CTD	BE	53	48 19.65	123 59.92	165 (170)					NO	CTD
		0654		BO		48 19.68	123 59.90		165			ST		
		0656		EN		48 19.69	123 59.88							
	JFD2	0722	CTD	BE	54	48 21.81	123 59.97	122				ST		
		0724		BO		48 21.81	123 59.97		117	178				LOOP @ 197 @ bottom of cast
		0726		EN		48 21.83	123 59.96							
	JFD1	0745	CTD	BE	55	48 23.07	124 00.05	56						
		0747		BO		48 23.08	124 00.04		52					
		0748		EN		48 23.08	124 00.03							
13	S101	0323	CTD	BE	56	48 49 23	123 08 74	117				HIL	✓	CTD ONLY
		0325		BO		48 49 23	123 08 72		105					
		0327		EN		48 49 22	123 08 71							

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179/180/181/182/183/184/185/ 186

Additional comments

2140 UTC Depart IOS leg 2 (3?)

May 13, 2003

0158 UTC - Deploy SG01-CV-0 at 48° 46.240' N
123° 02.897' W

- 186.25 m depth

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month | **Year** | **Ship** | **Cruise ID**

Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
13	S102	0353	CTD	BE	57	48 50 47	123 06 92	217		179		H&L	NO	CTD + LOOP (179)
		0355		BO		48 50 47	123 06 90		205					
		0358		EN		48 50 47	123 06 88							
13	S103	0423	CTD	BE	58	48 51 87	123 05 12	156				H&L	NO	CTD
		0426		BO		48 51 87	123 05 09		150					
		0428		EN		48 51 88	123 05 06							
13	M104	0515	CTD	BE	59	48 56 16	123 09 58	117		180		H&L	✓	CTD + LOOP (180)
		0516		BO		48 56 17	123 09 58		110					
		0518		EN		48 56 18	123 09 57							
13	D02C	0605	CTD	BE	60	48 58 53	123 17 72	179				H&L	NO	CTD
		0607		BO		48 58 53	123 17 71		170					
		0609		EN		48 58 53	123 17 69							
13	D02B	0646	CTD	BE	61	48 57.04	123 20.74	200		181		H&L	NO	CTD + LOOP (181)
		0649		BO		48 57 03	123 20 71		190					
		0652		EN		48 57 03	123 20 70							
13	D02A	0714	CTD	BE	62	48 56 19	123 22.95	164						off stn 2 cables due to traffic
		0717		BO		48° 56.20'	123 22.97		160					up & down fluorometer differat
		0719		EN		48° 56.21	123° 22.97							

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month MAY **Year** 2003 **Ship** TULLY **Cruise ID** 2003-12

Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
13	D01A	0815	CTD	BE	063	49° 01.80	123° 31.75'	220		182	1	JE/ST		loop sal #182 @ 0811
		0819		BO		49° 01.81	123° 31.74'		212					
		0821		EN		49° 01.83	123° 31.74							
	D01B	0855	CTD	BE	064	49° 02.90'N	123° 26.22'W	311		183-184	2			sal cal @ 305 m #183
		0900		BO		49° 02.90	123 26.22		305					140 m #184
		0904		EN		49° 02.91	123° 26.22							
	D01C	0935	CTD	BE	065	49° 04.12	123° 21.49	206						loop sal #185 @ 0928
		0938		BO		49° 04.10	123° 21.49		200	185	1			
		0941		EN		49° 04.10	123° 21.49							
13	B10 2	1200	ROS	BE	066	48 59 87	123 23 38	266		186-202	17	H+L		
		1203		BO		48 59 85	123 23 41							
		1224		EN		48 59 83	123 23 54							
13	40	2350	CTD	BE	067	49° 08.61	123° 36.81	145		203	1	S+J	✓	loop sal #203 @ 2342
		2352		BO		49° 08.62	123° 36.81		144					
		2353		EN		49° 08.63	123° 36.80							
14	39	0023	ROS	BE	068	49 09 83	123 32 98	374		204-205	2	H+L	NO	sal. cal @ 371 m 204
		0027		BO		49 09 83	123 32 96		370					300 m 205
		0032		EN		49 09.84	123 32.19							

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Additional comments

May 13, 2003 B102 - C recovery

0730 POT on station Ranges 274 269 265
- Move off and wait for deck crew to move rosette away & prepare for recovery

0757 - Ranges 361 361 361

- ABCF Sent

0759 - On Surface

0820 On Deck

SG02 - C Recovery

0832 - Ranges 268 264 262
- Move OFF

0839 - Ranges 401 401 402

0841 - ADCH Sent
- On Surface

1944 UTC Redeploy BJ02-D at 49° 0.397' N 123° 23.264' W in 275m water

- Conduct Irradiometer Casts While Preparing SG02-D

2200 Redeploy SG02-D at 49° 1.478' N 123° 23.859' W in 268m water

May 14, 2003

0730 PDT On Station SG03-C
- Range 400 400 400
- Move Rosett out of way and move ship off position

0748 - Range 484 483 482

0750 - ABFH Sent Positive Response - On Surface

0830 - On Deck

- Prepare Replacement mooring & download Vemcos (time consuming)

1256 PDT - Deploy SG03-CV-D at 49° 17.016' N 123° 48.026' W in 414 m of water

* there is a soft bottom?
depth hopping from 406 to 414 (should be 408 according to Chart

DAILY LOG

Ocean Sciences and Productivity Division

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Month MAY **Year** 2003 **Ship** TULLY **Cruise ID** 2003-12

Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
14	38	0112	CTD	BE	069	49 12.02	123 26.40	307		206	1	J+S		loop sal #206 @ 0105
		0117		BO		49 12.02	123 26.34		309					oops - I hit
		0121		EN		49 12.02	123 26.30							bottom (ST) - only
	37	0210	CTD	BE	070	49 13.52	123 20.70	213		207-208		J+S		mud on the chain -
		0213		BO		49 13.52	123 20.70		207	(chl only)				Rosette is OK.
		0217		EN		49 13.53	123 20.69							
14	36	0324	CTD	BE	071	49 18.97	123 19.96	148		209		H&L	✓	CTD + Loop (209)
		0326		BO		49 18.96	123 19.97		140					
		0328		EN		49 18.95	123 19.96							
14	N1 07	0441	CTD	BE	072	49 22.60	123 32.87	43				H&L	N	CTD * PUMPS OFF
		0443		EN		49 22.58	123 32.87		35					FOR ↓ ON FOR ↑
14	N1 06	0516	ROS	BE	073	49 21.36	123 35.10	162		210		H&L	N	ROS - CHL @ 5 & 20 m
		0518		BO		49 21.35	123 35.09		150					* NO DUPLICATES - SORRY
		0523		EN		49 21.33	123 35.08							
14	N1 05	0553	CTD	BE	074	49 19.65	123 38.67	261				H&L	✓	CTD
		0556		BO		49 19.65	123 38.66		260					
		0559		EN		49 19.64	123 38.64							

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14	N1 04	0632	ROS	BE	075	49 17 02	123 42 34	294		213-215	3	H&L	N	CHL(214/214) LooA(213)
		0636		BO		49 17 79	123 42 37		285					5m + 20m ~ DUPLICATE
		0642		EN		49 17 78	123 42 33							
	N103	0713	ROS	BE	076	49° 15.98'N	123° 45.95'W	412		216-217	2			sal cal @ 285 m 216
		0718		BO		49° 15.99'N	123° 45.95'W		403					120m 217
		0725		EN		49° 15.98'N	123° 45.95'W							
	N102	0748	ROS	BE	077	49° 14.67	123° 48.71'	346		218-220	3	file header says N103		loop sal # 218 @ 0750
		0753		BO		49° 14.70	123° 48.70		340					chl # 219 @ 20m
		0758		EN		49° 14.70'	123° 48.69							# 220 @ 5m
	N101	0821	CTD	BE	078	49° 13.33	123° 51.31	115						
		0823		BO		49° 13.33	123° 51.31		109					
		0825		EN		49° 13.33	123° 51.32							

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Additional comments

* Chlorophyll samples 216 - 220 were discarded. MB July 31/03.