DAILY LOG BOOK

MISSION NUMBER: 2003-33

DATE: From: Sep. 30, 2003 to: Oct. 12, 2003

VESSEL: CCGS J.P. Tully

PROJECT: La Perouse, ECOHAB, Covariability, BIO-Moorings GVRD, PATC-SARA, Effingham

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

Captain: John Anderson First Officer: Mike
Second Officer: _____ Third Officer: Elaine

Mission Participants / Agencies: OSAP/U W.

Scientific Personnel: Party Chief: Tom Juhász

Name	Watch	Cabin	Name	Watch	Cabin
John Love					
Dave Spear					
Rob Reed					
Doug Anderson					
Scott Rose					
Valerie Forsland					
Jim Johnson U/W					
Susan Geier U/W					
Mary Thiess					

Second leg of Mission: Party Chief: _____

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: FS02
Data acquisition program: Seasave Win32
CTD deck unit make: Seabird model: 11plus serial number: 0508

Primary CTD

Make: Seabird model: 911plus serial number: 0585
Primary temperature serial number: 2023 → 2095 Cast 7 and on
Primary conductivity serial number: 1763 → 1764
Secondary temperature serial number: 2710 → 2106
Secondary conductivity serial number: 2278 → 2102
Transmissometer: Wet labs Model: CSTAR s/n: 333DR
Fluorometer: Model Seapoint Cable gain: 10x s/n: 2356 **P**, **S** or **NO** pump?
Oxygen sensor: Seabird Model: 0043 s/n: 0047 **P**, **S** or **NO** pump? Cast 29 and on.
PAR sensor: Biospherical Model: QSP2001 s/n: 4565
Other sensors: Benthos Altimeter s/n: 1024 **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?
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?

CTD calibration bottle location (height above CTD in metres): _____

Date of cable termination: _____

Guide to cable terminations:

Please read and complete this form before reterminating cable. We have two standard CTD cables in use, nominal .316" and .322". This form specifically addresses these two cables, however the same considerations apply to using other cables. The specifications for non-standard cables and associated terminations are available at Tom Juhasz's office (room 1221).

Please identify nominal cable diameter: .322 **Winch:** 17026

Actual diameter measurements, two locations in triplicate at termination and approximately 5 metres back from termination.

At cable end:	at 5 metres:
1. 0.322	1. 0.322
2. 0.321	2. 0.321
3. 0.321	3. 0.322

For comparison, the outer armour measurements of new cable:
Nominal .316" should be .3155 to .3165"
Nominal .322" should be .318 to .326"
Record specifications for other cables: _____ within: _____
The tolerance of the PMI Evergrip termination is tighter and only cables within these limits should be used.
For nominal .316" cable the lowest possible diameter is .309"
For nominal .322" cable the lowest possible diameter is .321"

Describe cable:

Kinks: _____
Birdcage _____
Rust flaking off cable _____ (flaking, not just looks rusty)
Cable round or oval _____
Does cable have loose outer armour? _____ Termination was deformed after being pulled into the sheave
(Raised wires or space between wires.)
Are outer armour wires flattened? _____

Remove cable that exhibits these signs of deterioration. To be authorised by Chief Scientist of the cruise, or the winch shop (Tom Juhasz at 250-363-6598).

Megger results by conductor (should be greater than 10,000. meg ohms)

Inner armour to conductor 1 _____
Inner armour to conductor 2 _____ Megger not on board.
Inner armour to conductor 3 _____

Please identify PMI sleeve used by checking the appropriate blank:

For .316" cable, diameter of inner dimension of sleeve should be .3265" _____
part number 9004897–13, cable diameter range .309" to .320".
For .322" cable, diameter of inner dimension of sleeve should be .3400" 0.340 ✓
part number 9004897–14, cable range .321" to .333".
Sliding the sleeve onto the cable should be difficult.

Evergrip helical Rods:

The part number is 9005-9002 and covers left hand lay cables of diameter range .309" to .333".

Presence of grit on inner surface (yes / no) yes — new set used
Condition of wires (damaged ends?) _____
Are the wires rusted? _____

Comments:

The Rosette was at the surface to start a cast. When a signal was given to lower the winch man accidentally raised the instrument and pulled it into the block. Fortunately the heave compensator was deployed and absorbed the shock load
Retermination was required and app. 10-15 m cable was removed.

Date	Time PDT	
Sep. 30	0830	- commence loading. - O. Ec. offloading 0730 - 0900
	1700	- Jim Johnson + Susan Geier join ship and load.
	1815	- we depart I.O.S. - on board John Love, Dave Spear, Rob Reed, Scott Rose, Doug Anderson, Valerie Forsland, Mary Thiess, Jim Johnson, Susan Geier + Tom Juhász - not all groceries loaded so we will pick some up Wed. morning at Huron St. - Angelica reduced her program cancelling light profiler, and C14 work.
Oct. 1	0800	- tied up at Huron St. for groceries.
	0945	- groceries loaded head for JF2C - calm weather

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month Oct **Year** **Ship** **Cruise ID**

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
02	LA01	0418	BE	ROS	BE	1	48 29 272	124 43 728	263	250					
		0424	BO		BO		48 29.31	124 43.85			1 - 13	13			Diff between Send
		0438	EN		EN		48 29.37	124 44.03							Sensors →
02	LA02	0552	BE	CTD		2	48 26 124	124 51 456	312	298					
		0558	BO	CTD			48 26 124	124 51 506							
		0609	EN	CTD			48 26 086	124 51 502							
02	LA03	0702	BE	ROS		3	48 28 818	124 57 74	103		14 - 22	9			
		0705	BO				48 22.81	124 57 73							
			EN				48 22.62	124 57.76							
02	LA04	0806	BE	CTD		4	48 19 36	125 04.16	188						
		0814	BO				48 19.36	125 04.17		180					
		0819	EN				48 19.36	125 04.17							
02	LOOP1	0829		LOOP1			19 18 92	125 05.23							Loops taken sal, nut
02	LA05	0908		ROS		5	48 16.11	125 10.60	121						
		0911					48 16.12	125 10.62		110					
		0913					48 16.13	125 10.62							
02	LA06	1005		ROS		6	48 12.62	125 17.14	112						
		1010					48 12.62	125 17.10	91	105	23 - 31	9			
		1021					48 12.61	125 17.13							

Cast type:
BOT = bottle cast, no CTD
CTD = CTD without Rosette
ROS = Rosette plus CTD
USW = sea water loop
MOR = mooring
NET = net haul
DRF = drifter

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

Date	Time PDT	
Oct. 1	1338	- completed fire + boat drill - on station JF2C-CV-D for recovery - ranges 280-283 m
	1343	- sent ABEH received positive response - range 262, 241, 215
	1345	- sighted on surface - recovered without incident - checked all instruments and light, VHF pinger, Argos 7068, were all working - replaced new body band - very awkward
	1527	- redeployed as JF2C-CV-D2 in 187 m water at 48° 21.487' 124° 12.869' - proceed to mooring EH1-A for recovery
	1755	- sent B585 received / executed returned at EH1-A mooring - sent B585 " " " - sent in both FR1 + FR2
	2101	- mooring completely recovered and clean up finished
		- start CTD's on LA Line.

* Cond sensor diff. / will change sensors at earliest opportunity. Used on 2003-26; for cal salinities.

DAILY LOG

Ocean Sciences and Productivity Division

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Month Sept **Year** 2003 **Ship** Tully **Cruise ID** 2003-33

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
02	LOOP 2	2306		USW			48 09.32	125 22.98							SAL & NUT
02	LA07	2333	BE	CTD		7	48 09.17	125 23.73	115						changed sensors
		2336	BO				48 09.16	125 23.75		105			DA		see pump problem
		2338	EN				48 09.14	125 23.75							
03	LA08	0034	BE	CTD		8	48 05.76	125 30.45	141						
		0037	BO				48 05.74	125 30.46		130			DA	/	
		0040	EN				48 05.75	125 30.49							
03	LA09	0133	BE	ROS		9	48.02.34	125 36.91	352						
		0140	BO				48 02.34	125 36.93			32-45	14	DA		
		0158	EN				48 02.32	125 37.03							
03	LA10	0255	BE	ROS		10	47 59.004	125 43.445	900?		46-48				Salinity samples
		0330	BO				47 58.993	125 43.529							lower 3 bottles
			EN												
03	LB14	0513	BE	CTD		11	48 8.531	125 59.887	1160	1153	49 50				Sal samples
		0528	BO				48 8.629	125 59.944			51 52				
		0544	EN												
03	LB13	0625	BE	ROS		12	48 10.643	125 56.074			53-72				
		0638	BO				48 10.596	125 56.138	918	908					
			EN												

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Date	Time PDT	
Oct. 2	0730	- on station EH2-A for recovery. - organizing decks prior to recovery.
	0835	- set for recovery - small boat launched - sent 8E15 / received, not executed - we are using our TT300 box + ship hull transducer - repeated attempts same result - change FR1 / FR2 and repeated codes including enable code - finally on FR1 got proper responses - but by now we are not sure
	0850	- set UofW TT201 and sent release code + received all correct responses.
	0856	- mooring released small boat approaching
	≒ 1000	- all on board + cleaned. - moved to EH2SS for recovery
	1044	- on station EH2SS. - sent range using TT201 140 m range - moved off to release position
	≒ 1050	- sent release command got positive response - sighted on surface recovered without incident. - head for LA Line for CTD's.

→ To 2095
T1 2106
C0 1764
C1 2102

Sm C1 2102

Secondary salinity trace on LA07, cast 7 looks unresponsive and only agrees with 1764 at bottom. Have flushed out sensor with syringes as this looks like a pumping problem.

* changed sensors / new To, Co, T1, C1

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Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
03	LB12	0821	BE	CTD		13	48 12.92	125 51.94	509						
		0830	BO				48 12.93	125 51.93		500			DA		
		0836	EN				48 12.93	125 51.90							
03	LOOP3	0851		USW			48 13.71	125 50.68					DA		Thermosal blockage => SAL, NUT LOOP
03	LB11	0917	BE	CTD		14	48 15.19	125 47.75	205						
		0923	BO				48 15 18	125 47 73					DA		
		0927	EN				48 15 17	125 47 73							
03	LB10	1016	BE	CTD		15	48 18.55	125 41 32	153						
		1020	BO				48 18.56	125 41 291					DA		
		1023	EN				48 18.57	125 41 30							
03	LB9	1107	BE	ROS		16	48 22 01	125 34.78	150						
		1111	BO				48 22.00	125 34.78		140			DA		
		1125	EN				48 21.98	125 34.75							
04	BI01	0011	BE	ROS		17	48 31.85	126 11.27	398						
		0020	BO				48 31.85	126 11.25		397	89-106		DA		
		0039	EN				48 31.78	126 11.19							
04	LOOP4	0232		USW			48 28.72	126 35.56					DA		LOOP SAL, NUT

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Date Time PDT

thermosal blockage probably cleared about 3 hours ago ≙ 0500 UTC
Before salinity low and noisy, now seems fine

Oct. 3 -0730 on station EH3-A for recovery.
- preparing deck for mooring ops.

-0805 - sent release code + received confirmation.
-0807 - launched small boat
-0930 - all on deck - cleaning up

- head for recovery at A1, B101, Test Oceano

- arranged for rental car in Tofino for Jim, Susan and Mary
Budget car - one way Tofino airport to drop off
at Victoria airport $249.00 drop-off included.
Kaley 1-250-725-2060 #5036230822

-1329 - on station A1-KK for recovery.
- range while approaching 588m.
-1338 - stopped range 673, 673, 675
- sent ADFH - received positive response
- range 637 rising.
- sighted on surface.

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Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
04	LD11	0314	BE	CTD		18	48 28 742	126 42 958	1695	1595	107 - 111		JL/Rob		
		0337	BO				48 28753	126 43 003							
			EN												
04	LD10		BE						1479?		112 - 130				
		0524	BO	ROS		19	48 32068	12636 504							O2 + SAL CAL
		0604	EN				48 31 831	126 36 304							
04	LD09	0700	BE	CTD		20	48 35.68	126 29.97	1056						
		0719	BO				48 35 69	126 29.98		1056			DA		
		0739	EN				48 35 69	126 29. 97							
04	LOOP5	0759		USW			48 37 27	126 26. 92							
04	LD08	0831	BE	CTD		21	48 39. 16	126 23. 39	768						
		0846	BO				48 39. 16	126 23. 38		767			DA		
		0859	EN				48 39.16	126 23 .39							
04	LD07	0956	BE	ROS		22	48 42. 65	126 16. 78	520?						Removed pressure
		1004	BO				48 42.65	126 16. 79		480	131 - 146	16	DA		offset *
		1028	EN				48 42. 64	126 16. 76							

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Date	Time PDT	
Oct. 3	1456	- approaching B101-D for recovery - range 479 m
	1458	- stopped on position (1 cable off) - range 441 m
		- moving to more comfortable release position
	1504	- range 465 stopped for release
		- sent ABCD received positive response
		- sighted on surface
		- recovered without incident
		- sighted edge of an algal bloom. - right on station
		- took picture(s) of edge brown tainted water
		- took bucket sample. app. 2 l. from 0-2 m
		- took 4 small samples in addition 48° 31.830' 126 11.263
Test Mooring		- ranged on the test mooring at 8.3 cables distance ranges were 1400-1500 m bridge thought this reasonable
		- moved toward mooring + ranging app. 1300, 1200, 1140, 1030, 914, 890
		- stopped at 4 cable distance. - 894, 895, 903 as we turn. - again reasonable

* Removed -1.0 meter pressure offset in 0585CTD.CON. OFFSET = 0.0
Pressure at surface ≈ 0.6 m, should be 1.6 with rosette submersed.

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05	LD06	0102	BE	CTD		23	48 46.15	126 10.26	139						
		0105	BO				48 46.13	126 10.30		130			DA		
		0107	EN				48 46.11	126 10.30							
05	LD05	0200	BE	CTD		24	48 49.67	126 03.56	92						
		0203	BO				48 49.66	126 03.55		83			DA		
		0205	EN				48 49.67	126 03.55							
05	LD04	0304	BE	ROS		25	4853 118	125 57 080	60	62					
		0305	BO				48 53 119	125 57 096							
		0315	EN				48 53	125 57							
05	LD03	0417	BE	CTD		26	48 56 608	125 50 386							
		0419	BO				4856612	125 50 393							
		0421	EN				4856610	125 50 392							
05	LD02	0502	BE	CTD		27	4858 362	12546 980	37	42					
		0503	BO												
		0504	EN				4858 376	125 46 982							
05	LD01		BE	ROS		28					154 - 158				
			BO												
		0545	EN				490.115	125 43 765							
05	LOOP 5	0928		USW			49 10.48	126 19 23							LOOP SAL, NUT

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Date Time PDT

Recovery test mooring continues

Oct. 3 1604 - approaching test mooring position from 4 cables distance

- stopped near station for recovery.
- ranges = 560, 564, 555, 530
- 530, 486, 430, 398, 362 rising
- 319, 307, 294, 282, 228, 216, 182, 162, 152, 142, 134
- sighted on surface

1653 - set up for B101 cast for phyto plankton + chemistries.

- proceed to offshore end of LD Line

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06	LF08	0058	BE	ROS		29	48 50.02	126 50.73	1226						*Change 0585CTD.CON
		0112	BO				48 49.99	126 50.84		1220	159 - 182	24			Add OXY sensor
		0139	EN				48 50.16	126 51.09							
06	LF06	0332	BE	CTD		30	48.58.127	126 38.893	447		—	—			
		3:39	BO				48.58.139	126.39.844		440					* Changed Pylon
		3:45	EN				48.58.141	126.38.845							
06	LF04	5:21	BE	CTD		31	48 5.897	126.27.617		129					
		5:23	BO				48 5.914	126.27.635			120				
		5:25	EN				48 5.906	126.27.614							
06	LF02	0717	BE	CTD		32	49 13.30	126 16.43		49					
		0719	BO				49 13.30	126 16.44							
		0720	EN				49 13 32	126 16 42							
06	LOOP6	0822		USW			49 08 37	126 10.03							
06	EFF01	1550	BE	ROS		33	49 05.549	125 11.669	35						Torrential Downpour
		1556	EN				546	668		31		4			
06	EFF02	1623	BE	ROS		34	49 05.01	125 10.292	71						
		1632	EN	R			05.000	10.292				6			

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Date	Time PDT	
Oct. 4	0800	- laud Mary, Susan and Jim in Tofino by 733-boat - confirmed rental car prior to departure
	1331	- deployed mooring AI-LL in 502 m at 48° 31.730 126° 12.108
		- head for PATC position - just as we depart AI app. 15 min later crossed algal bloom front again.
	1502	- en route sighted 2 Humpbacks fin-slapping on surface at 48° 41.589' 126° 19.470'
	1646	- deployed PATC-2-A in 400m depth at 48° 45.381' 126° 22.123' - hardware above PATC and immediately below was silenced using plastic tubing + tape.
	1700	- depart to complete LD Line where we left off. LD6 → LD1
*	Cast 29 >	0585CTD.CON has changed to reflect Addition of OXY sensor V_0 Fluo 2356 V_2 Trans 333DR V_4 Altimeter 1024 V_6 Oxy, will be substituted for PAR when required. 0047

* Changed pylon as solenoid # 18 is damaged

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6	EFF03	1655	BE	ROS		35	49°04.243	125°9.384	121						The rain continues
		1706	EN				49°04.237	125°9.371		116	193-199	7			
6	EFF04	1729	BE	ROS		36	49 03.115	125° 8.590	63						
		1738	EN				49 03121	125° 08.593			200-204				
6	EFF05	1753	BE	ROS		37	49 02.528	125°09.157	206						Very low DO at bottom
		1814	EN				49 02.528	125°09.150		200	205-215				bottom bottle H_2S
6	EFF06	1844	BE	ROS		38	49°01.771	1250 09.167	152						Wet Keyboard replaced
		1859	EN				49°01.795	125°09.169		147	216-224	9			still raining hard
6	EFF07		BE	ROS		39				115					
		1924	Bo								225-231	7			
		1928	EN				49.01.236	129.09.420							
6	EFF08	14:57	BE	ROS		40	49.0.671	125.10.229	87		232-238	7			
		14.57	EN				49.0.649	125.10256		75					
6	EFF09	20.12	BE	ROS		41	49.0.091	125.10.861	64		239-243	5			
		20.18	EN				49.0.084	125.10.855		55					
6	EFF10	20:30	BE	ROS		42	49.59.824	125.11.221	101		244-250	7			
		20:39	EN				48.59.770	125.11.245		90					
6	EFF11	21:03	BE	ROS		43	48.59.117	125.11.060	83		251-256	6			
		21:11	EN				48.59.118	125.11.063		80					

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Transmissometer to be cleaned for each cast, do not use Ammonia products

Date	Time PDT	
Oct. 5	0733	- on station E01-KK for recovery — 2 cables away - bit far in shallow water.
		- ranges 404, 405, 401, 402
	0737	- sent BCEH received positive response
	0739	- sighted on surface
		- clean up + prep for redeployment.
	1045	- deployed E01-LL in 100 m at 49° 17.57N' 126° 35.894' — no problems — flat calm
	1054	- head for E03-KK
	1253	- on station E03-KK for recovery
		- range 397 m — we are directly over mooring
		- moving off to release
		- range 436 m
	1255	- sent ABCH received positive response
	1257	- sighted on surface — recovered without incident - very clean

- There has been note in the past that 2 instruments #3688 exist. At start of cruise one was deployed at E03 and one was on the shelf. This proved to be the case. The mix up occurred when instruments from the boneyard were rebuilt in 2000. Both instruments will be taken back and the mix up straightened out.

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

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

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
6	EFF12	2150	BE	ROS		44	48.57.999	125.10513	92	85	257-263	7			Did not draw samples
			EN				49.58-012	125.10.482							from first 2 bottles
7	LB02	0137	BE	ROS		45	48 38.97	125 02.58	58						Windy, large swell
		0139	BO				48 38 97	125 02. 59			264-271	8	DA		
		0144	EN				48 38 97	125 02.61							
7	LB03	0230	BE	CTD		46	48 37 34	125 08 80	95						
		0232	BO				48 37.33	125 05.84							Rosette 2 blocked
			EN				48 37	123							
7	LB04	0614	BE	ROS		47	48 35 726	125 8 722	100						
			BO				48 35 785	125 8 860							
			EN												
7	LB07	0811	BE	ROS		48	48 28.70	125 22. 14	157						
		0816	BO				48 28. 69	125 22. 13		145	279-291	13	DA		
		0829	EN				48 28. 68	125 22. 11							
7	JFD7	1508	BE	CTD		49	48°11.868	124° 0.046'	55						
		1513	EN				48°11.850	123°59.987'		49					
7	JFD6	1539	BE	CTD		50	48°13.813'	123°59.987'	125						
		1546					48°13.864'	123° 59.968'		121					

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Date	Time PDT	
Oct. 5	1546	- deployed mooring E03-LL in 403 m water at 49°05.670' 126°56.079'.
		- head for CTD's on LF Line
		- completed LF 8, 6, 4 and 2 see Daily Log and headed in to Effingham Inlet for CTD/Rosettes
		- deteriorating conditions gale force winds building up
Oct. 6	- 0800	- inside Effingham Inlet - pouring, pouring rain all day
		- completed EFF 1 - 12 dropped 13. did not do "A" stations
		- headed out to LB Line to complete station LB1 - LB8.
		- deminishing gale winds + seas dropping but conditions marginal at LB1 - station cancelled
		- Oxygens :- called Rick and decided with him to save Effingham oxygens for titration back at I.O.S.
		- oxy kit is still not working properly - best theory from previous cruises is that the wrong reagents were bought i.e. anhydrous / hydrated thiosulphate.

DAILY LOG

Ocean Sciences and Productivity Division

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Month October **Year** 2003 **Ship** Tully **Cruise ID** 2003-33

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
07	JF05	1609	BE	CTD		51	48°15.788	123° 59.975'	181						Wind WK10 knots
		1612	BO				814	984		176					altimeter starts reading at
		1616	EN				48°15.830	124° 0.050							70m off bottom
07	JF04	1638	BE	CTD		52	48°17.755	123°59.978'	187						Wind 7 knots
		1642	BO				753'	976'		181					
		1646	EN				48°17.756	123°59.989							
07	JF03	1707	BE	CTD		53	48°19.724'N	124°0.011 W	164						Turbid bottom layer
		1711	BO				48°19.711'	123°59.982'W		160					
		1712	EN				48°19.728'N	123°59.981'W							
07	JF02	1737	BE	CTD		54	48°21.872	123.59.982	121						Turbid Bottom
		1740	BO				892	966		116					
		1743	EN				48°21.891	123°59.960							
07	JF01	1804	BE	CTD		55	48 23.080	123°59.875	50						
		1807					48°23.075	123°59.855		49					
		1808					48°23.070	123°59.851							
08	LOOP 7	0700		USW			49 05.80	123 32.24							LOOP SAL & NUT
08	LOOP 8	2300		USW			49 17.24	123 48.28							LOOP SAL & NUT

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28 May 2003
Daily_log_book.doc

Date	Time PDT		
Oct. 6	- Station keeping	- there have been several incidents that required I bring the situation to the attention of the captain. i.e. ① the bridge not responding to instructions of wire angle leading forward under hull, ② ship set up with stern into wind, ③ problems with deployment + recovery ops. at winch (new operators, operators making mistakes)	
			- the captain agreed to discuss this with mates + bosun
			- I discussed this with our watch keepers stressing more assertive communications and generally more professionalism required
	- app. 2000	- on deployment of Rosette at station LB03 the Rosette was pulled into the over-boarding sheave from the surface.	
		- the winch operator simply moved the control in the wrong direction.	
		- fortunately the heave compensator was deployed + absorbed the force of the winch on the cable, however the termination was pulled into the sheave and bent.	
		- I decided to have Doug. A. do a retermination - app. 10-15 m of cable were also removed.	

DAILY LOG

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

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
09	NI01	0233	BE	CTD		56	49 13 38	123 51 .30							
		0236	BO				49 13 39	123 51 . 31	121	121			DA		
		0238	EN				49 13 38	123 51 33		114					
09	NI02	0316	BE												
		0322	BO	CTD		57	49 14 713	123 48 676	320	312	—		ROD/JL		
		0326	EN				4914 735	123 48 713							
09	NI03	0402	BE				49 15 983	123 45 926							
		0408	BO	CTD		58	49. 15976	123 45 934	405						
		0415	EN				972	971							
		0454	BE				49 17 821	123 42 354							
09	NI04	04:59	BO	CTD		59	816	451	290						
		05:06	EN												
09	NI05	0543	BE				49 19 630	123 38 631	250						
		05:47	BO	CTD		60	49 19 610	123 38 695							
		05:53	EN				49 19 586	123 38 777							
09	NI06	06:42	BE			61	49 21 368	123 34 880							
		06:45	BO	CTD			49 21 371	123 34 867							
		06:47	EN				49 21 372	123 34 854							

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Date Time PDT

Oct. 6 – Stern A-frame note.

- the cruise has been hampered by a continuing problem with the large A-frame
- basically it stopped to operate during 2 casts on Oct. 5 involving shuddering and on one occasion complete failure leaving the Rosette dangling in air partially deployed. Good thing it was flat calm. The engineers made electrical repairs and the problem went away.

- today the acquisition system had a minor failure i.e. the keyboard would not enter characters (some characters) and the problem proved to be rain water dripping onto it and shorting some keys.
  - a recommendation is to buy some moisture proof keyboards that are completely flexible & encapsulated. app $50.00 each at Compusmart.

DAILY LOG

Ocean Sciences and Productivity Division

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Month Oct **Year** 2003 **Ship** Tully **Cruise ID** 2003-33

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
09	NI07	0713	BE	CTD		62	49 22.60	123 32.72	53						
		0715	BO				49 22.61	123 32.73		37			DA/SR		
		0716	EN				49 22.61	123 32.73							
09	GI05	0809	BE	CTD		63	49 17.46	123 29.99	160?						
		0813	BO				49 17.45	123 30.01		166					
		0814	EN				49 17.45	123 30.00							
09	GI04	0934	BE	CTD		64	49 12.66	123 40.25	387						
		0941	BO				49 12.66	123 40.28					DA		sec salinity noisy
		0947	EN				49 12.67	123 40.26							will change cable soon
09	GI03	1042	BE			65	49 10.24	123 33.47	374						* 0565CTD.CON *
		1049	BO				49 10.23	123 33.49					DA		Changed sec. cond.
		1055	EN				49 10.25	123 33.52							cable. Swapped PAR for Altimeter
09	B102	1444	BE	ROS		66	49 0.541	123 23.184	274						Added ref. PAR.
		1450	BO				529	117'		265					
		1511	EN				49 0.431	123° 22.936'							
09	GI02	2345	BE	ROS		67	49 02.64	123 23 32	267						
		2351	BO				49 02.63	123 23 30		255	309-314	6	DA		larger spread in
10		0000	EN				49 02.62	123 23.27							cond. Possible damage
															to sec. cond.

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Date	Time PDT	
Oct. 7	-0730	-1130 completed JFD CTD Line
		-headed into I.O.S.
	1800	- arrived tied up
		- met and boarded Melanie + Mary with equipment.
		- received 2 releases from Les and 1 from Oceanetic
		- did not get ADCP's for GVRD - hoping to install additional memory which has not arrived.
		- did not get ADCP frames and floats - paint still drying, frames still need assembly.
		- agreed with Mike Dempsey + Steve Mihaly to pick these up Thurs. - Nanaimo or Chemainus
	2000	- depart I.O.S. for JIO1 mooring

DAILY LOG

Ocean Sciences and Productivity Division

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Month October **Year** 2003 **Ship** Tully **Cruise ID** 2003-33

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
							Latitude	Longitude							
10	GIO1	0119	BE	ROS		68	48 58.55	123 12.23	162						
		0123	BO				48 58.55	123 16.13		155	315-320	6	DA/SR	✓	
		0132	EN				48 58.58	123 15.97							
10	MIO7	0240	BE	CTD		69	48 58.74	123 05.91	64						
		0242	BO				48 58.74	123 05.86		55			DA	✓	
		0244	EN				48 58.73	123 05.85							
10	LOOP9	0254		USW			48 58.35	123 06.25							LOOP SAL, NUT
10	MIØ6	0312	BE	CTD		70	48 57 920	123 6 961							
		03:15	BO				.918	.965							
		03:18	EN				.916	.960							
10	MIØ5	03:54	BE			71	48 57 012	123 8 216							
		3:56	BO	CTD			013	218							
		3:58	EN				012	226							
10	MIØ4	04:30	BE			72	48 56 057	123 09 480							
		04:32	BO	CTD			056	492							
			EN												
		05:02	BE				48 55 154	123 10 781	126						
	MIØ3	05:04	BO	CTD		73	146	770							
		05:07	EN				148	789							

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Date Time PDT

Oct. 8 0743 - on station JI01-CV-D for recovery.
0745 - range 402 → 366 → 359 ← too close for release
- moving off a bit.
0748 - a little farther 399 m range
- sent BCDF received positive response
- range 425 m. as we drift off
502 m
- sighted on surface. - recovered without incident in gale force conditions
1115 - deployed JI01-CV-E in 349 m water at 49° 45.388'
124° 14.141'
NB JI01-CV-D was deployed 5 m too shallow off original position for this mooring. JI01-CV-E was relocated to a position that had the design depth of 350 m. The two locations are in fact very close.
- head for SG03
1530 - on station SG03-CV-D for recovery.
- range 515 m → 482 m
1533 - sent DEGH received positive response
- sighted on surface
- recovered without incident
- cleaned + prep. for redeployment.

DAILY LOG

Ocean Sciences and Productivity Division

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Month Oct **Year** 2003 **Ship** Tully **Cruise ID** 2003-33

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
10	MI02	0535	BE	CTD		74	48 53 788	123 12 676	130	122			SL/Rob		
		0537	BO				785	676							
		0539	EN				794	691							
10	MI01	0609	BE				48 52 363	123 14 622							
		0611	BO	CTD		75	362	617	150	150					
		0613	EN				344	615							
10	LOOP10	0800		USW			48 02 76	123 33 45							
10	VI01	0817	BE	CTD		76	49 02 95	123 35 30	120						
		0820	BO				49 02 91	123 35 28		118			DA/SR		
		0822	EN				49 02 92	123 35 28							
10	VI02	0854	BE	CTD		77	49 04 49	123 32 15	264						
		0859	BO				49 04 49	123 32 14		255			DA/SR		
		0902	EN				49 04 49	123 32 14							
10	VI03	0928	BE	CTD		78	49 06 01	123 28 99	338						
		0934	BO				49 06 01	123 28 99		336			DA/SR		
		0937	EN				49 06.03	123 28.99							
10	VI04	1023	BE	CTD		79	49 08.76	123 23.43	187						
		1027	BO				49 08.77	123 23.40		180					
		1029	EN				49 08.75	123 23.40							

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Date	Time PDT	
Oct. 8	- 1834	- deployed mooring SG03-CV-E in 417 m water at 49°17.072' 123°48.028' - NB: at this site the sounder trace is very unstable showing depths at 408-409, 416-417, 427-426 - chart datum is 408 - the sounder skips by increments of 10 m seeing alternate bottoms We have to get to the bottom of this problem i.e. by examining previous data (ha) - mixed up 1 Vemco deployment position — see mooring logs. - head for NI Line for CTD's through the night. - cancelled all oxygens except for the cast at B102 and these samples will be kept for later titration.

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Month Oct **Year** 2003 **Ship** Tully **Cruise ID** 2003-33

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position Latitude	Position Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
10	VI05	11:40	BE	CTD		80	49 11.46	123 17.82	56						
		11:41	BO				49 11.46	123 17.82		46			DA		
		11:42	EN				49 11.46	123 17.82							

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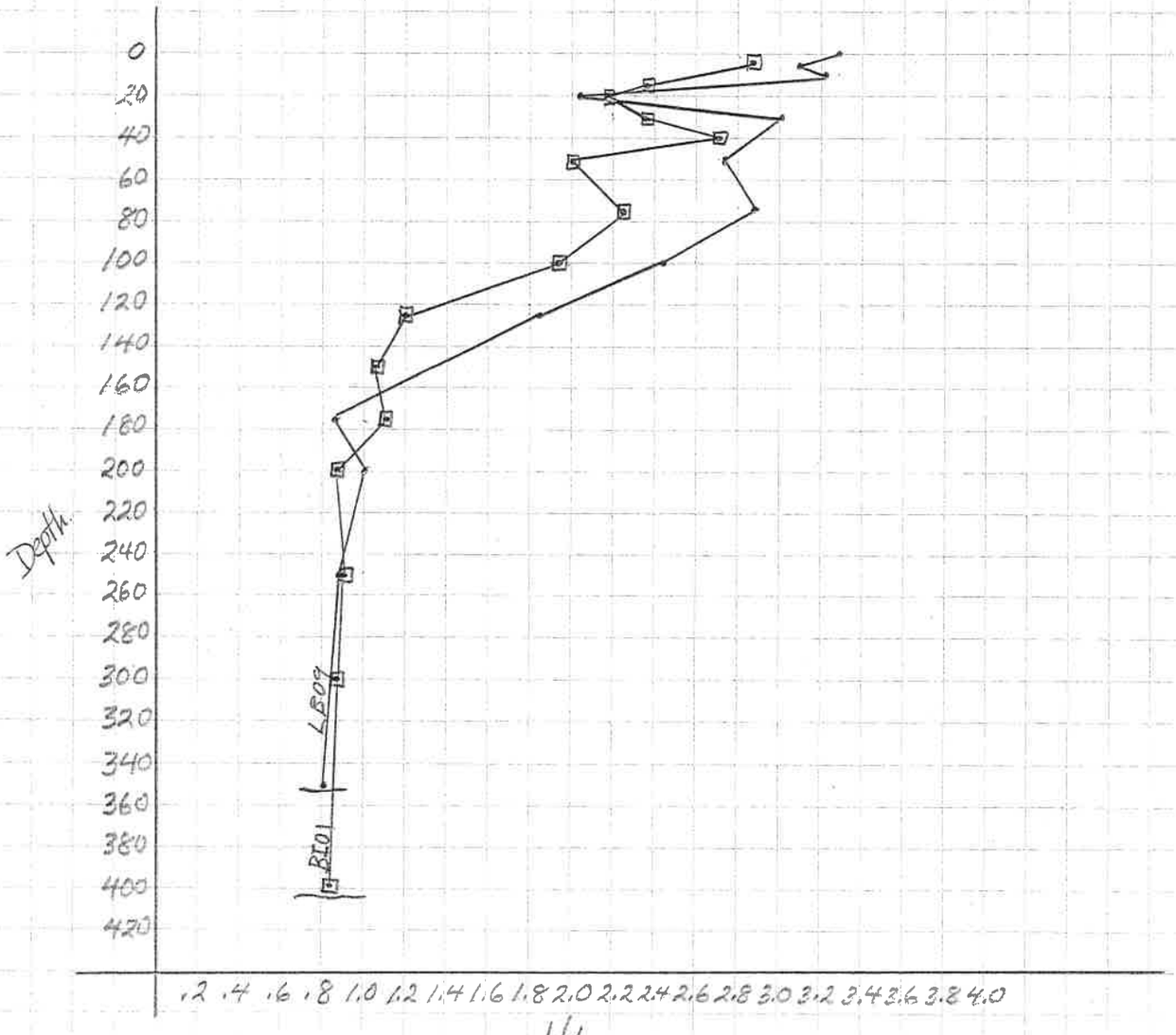
Date Time PDT

Oct. 9 - 0735 - on station B102-D for phyto-Rosette/CTD cast.
app 1½ cable from mooring
- 0905 - cast and sampling completed - move Rosette aside for mooring ops
- 0913 - on station B102-D for recovery
- range 380 - 402
0914 - sent ABCF received positive response
- sighted on surface recovered without incident
- cleaning up and setup for second recovery
1004 - on sight SG02-CV-D for recovery
- app. 1½ cable off - no response
- moving directly over mooring
- no range response - on all frequencies 8, 9, 10, all
- tried pinger receiver - heard one pinger
- no responses from the release
- drifting off
- mooring, or a portion is in place
1041 - sent BDEH - no responses.
- mooring sighted on surface
- recovered without further incident
- checked the release and indeed it does not transpond.

15 March 2002, daily_log_book

Oxygen Replicates 2003-33

Stn	Depth	Sample 1	Sample 2	Difference
LB07	146	0.581	0.484	.097
	21	2.182	2.243	.061
	5	2.886	2.853	.033
LB02	20	1.855	1.884	.029
	5	2.148	2.038	.110
LB09	140	0.583	0.548	.035
		0.583, 0.548, 0.568, 0.553 0.558		
LB13	20	2.958	3.064	.106
LA03	100	0.833	0.877	.044



Date Time PDT

Oct. 9 - preparing mooring for redeployment

app. 1215 - dispatched rubber boat to I.O.S. to pick up GORD ADCP's, frames + floats

app. 1430 - rubber boat returns - received all parts

1508 - deployed SG02-CV-E in 268 m water at position
49° 01.460' 123° 23.870'

- Sheila called to explain why oxygen system is not working and that the data can be corrected post titration and we should titrate on board.
- I double checked data results, replicates taken during the cruise, and plotted 2 casts. Replicates have differences of .1 ml/L and cast profiles are very erratic. Decided in conference with Rick to bring back oxygen samples as we had previously agreed.
(See table + graphs included in log)

- head to complete Chlor stations G101, G102, and CTD lines MI and VI

Date Time PDT

Oct. 10 - 0730 on station GVRDA for deployment - preparing on deck.

- decided not to deploy ADCP's with floatation. The sample foam pieces we had in for long term test showed water absorbtion. The intent is to take floats back for better coating + determine the extent of the water penetration.

- 1013 PDT deployed GVRDA in 102m depth (+3m tide) at
  49° 13.545' 123° 17.968'

- the airport called that they had RF interference - speculation is that it may have been our Argos - I informed the Chief O. that the Argos frequency is 401.65 MHz and asked him to confirm if this is a problem.
  - no further information.

- 1310 deployed GVRDB in 242m (+2.2m tide) at
  49° 03.573' 123° 22.340'

- head for I.O.S.
- app. 1600 arrive I.O.S clear customs and offload same evening.
- left working CTD/Rosette on board for future media event.

Notes.

- the sounder problem proved to be a) a loose video cable
  b) when tightened it work, however as boxes were moved behind the sounder the cable was moved and the display went monochrome again. It is very likely the cable is internally broken and needs replacement.

- got messages that there will be a public ceremony on Tully Oct. 17 including Jean Chretien and David Anderson
  - we will be leaving a working CTD acquisition, winch and CTD/Rosette on board for this event.