

CRN

9407

DAILY LOG

INSTITUTE OF OCEAN SCIENCES
OCEAN PHYSICS

DATE

Mar 28 - Apr. 8, 94

VESSEL

CSS J.P. Tully

PROJECT

La Perouse / JGOFS / CRD

Captain: John Anderson

First Officer: _____

Second Officer: _____

Third Officer: _____

Cruise Participants/Agencies: O. Physics, O. Env., UBC.

Scientific Personnel: Party Chief: Tom Juhász

day A

Name	Watch	Cabin	Name	Watch	Cabin
Marie Robert	12-4	H	Hugh MacLean	day	D
Reg Bigham	8-12	G	Kevin Paul	4-8	B
John Love	12-4	#5			
Bernard Minkley	4-8	E			
Bruce Johnson	day	C			
Doug Yelland	8-12	F			

Second leg of cruise: Party Chief: _____

Rod Forbes day C
(Bruce departs)

Third leg of cruise: Party Chief: _____

Data logging system: Unit number: #1

Program version: 1.29

CTD deck unit make: Guildline

model: 87107 serial no.: 58610

Computer make: _____

model: _____ serial no.: _____

Monitor make: _____

model: _____ serial no.: _____

Printer make: _____

model: _____ serial no.: _____

1st CTD make: Guildline

model: 8715 serial no.: 58483

Temperature sensor

model: _____ serial no.: _____

coefficients: slope: _____

offset: _____

Conductivity sensor

model: _____ serial no.: _____

coefficients: slope: _____

offset: _____

Pressure sensor range: 3000 dB psi

serial no.: _____

coefficients: FSP: 0 dB

offset: _____

Transmissometer

model: 2500

serial no.: #78

coefficients: slope: _____

offset: _____

Comments: _____

2nd CTD make: Guildline model: 8715 serial no.: 53501
 Temperature sensor model: serial no.:
 coefficients: slope: offset:
 Conductivity sensor model: serial no.:
 coefficients: slope: offset:
 Pressure sensor range: 2000 psi serial no.:
 coefficients: FSP: 0 dB offset:
 Transmissometer model: serial no.:
 coefficients: slope: serial no.:

WINCHES:

CTD	make: <u>Swan</u>	model: <u>329</u>	serial no.: <u>1482</u>
counter	make: <u>Reulis</u>	model:	serial no.:
HYDRO	make: <u>Swan</u>	model: <u>310</u>	serial no.: <u>1082</u>
counter	make: <u>Reulis</u>	model:	serial no.:
Spooling	make: <u>Swan</u>	model: <u>475</u>	serial no.: <u>1550</u>
Drag	make: <u>Swan</u>	model: <u>331</u>	serial no.: <u>1231</u>
Rosette Other	make: <u>Swan</u>	model: <u>329</u>	serial no.: <u>1233</u>
CTD Work	make: <u>Swan</u>	model: <u>410</u>	serial no.: <u>1433</u>
Salinometer	make: <u>Swan</u>	model: <u>320</u>	serial no.: <u>1207</u>

SAIL System:

Program version: Time zone: UTC
 Sampling interval: 120 sec.
 CTF module no.: serial no.:
 Remote temperature model: serial no.:
 Flow sensor model: serial no.:
 Other sensors: (special for this cruise)
 Name: fluoro module I.D.: serial no.:
 Name: air pressure module I.D.: 31 serial no.:

Comments:

ADCP Setup:

Program version: number of depth bins:
 Time zone: UTC bin length (2^x): 2
 Sampling interval: 120 sec. pulse length: 4
 Blank beyond transmit: 4 pings per ensemble: 1
 Pulse cycle time:
 Percent pings good threshold:

Comments:

Cruise 9407

Date Time (PST)

Mar. 28 1600 - depart I.O.S.
- SAIL system on
- ADCP on

Sh D11A 4D file has wrong station ID.
and calibration coefficients.

Oxygen Hydros at D12 and D14 were sampled
without recording sample temperature.

March 29

0041

CTD is on board
We have to wait for other ships
before leaving the station (D13A).

Offset of ~ 2.4 mb in pressure.
 $\Rightarrow P = 2.4$ when CTD is on deck.

CTD Calibration Data Summary

#14	LC10	P2099	1216.4	Bottle sal =
		T577	3.038 = 3.064	CTD @ 1213 = 3.058
		T679	3.061 = 3.066	.740708 34440
25	LC12	P2099	1960.1 db.	Bottle sal.
		T577	1.949 = 1.975	
		T679	1.970 = 1.974	
35	LD09	P2099	1043.9	Bottle sal. =
		T577	3.326 = 3.352	
		T679	3.339 = 3.344	
38	LD11	P2099	1568.9	Bottle sal. =
		T577	2.327 = 2.353	CTD @ 1567 = 2.352
		T679	2.348 = 2.352	
46	LBP7	P2099 =	1999.8	Bottle sal. =
		T577	1.898 = 1.924	
		T679	1.918 = 1.922	
48	LBP8	P2099	554.4	Bottle sal. =
		T577	7.543 = 7.569	
		T679	7.925 = 7.931	
61	LJ09	P2099	overranged.	Bottle sal.
		T577 =	1.776 = 1.802	
		T679 =	1.795 = 1.799	
63	LJ08	P2099 =	1673.4	Bottle salinity
		T577	2.218 = 2.244	
		T679	2.238 = 2.242	
67	LB13	P2099 =	809.6	Bottle salinity
		T577	3.838 = 3.864	
		T679	3.858 = 3.863	

Note for cast #2 & 3 Transmissometer turned off
ie Not logging. only noticed after cast started

Mar 29 - 1331 on station mooring E01-R

- no signals
- checked transducer through + connected
- checked ram deployed - not deployed
- 582, 579, ranges app 4 cables off

1348 - moving closer

- on station again
- range 155, 155, 247
- drifting off to release position
- 250 m distance = 229 m

1355 - 270 m sent ABCD - good response
- coming up

1356 - on surface.

1423 - start search for E01-Q

- on station
- no ranges
- no pinger

1445 - NW station

- no ranges
- sent release no response
- no pinger

1500 - fire + boat drill

1515 - N stn

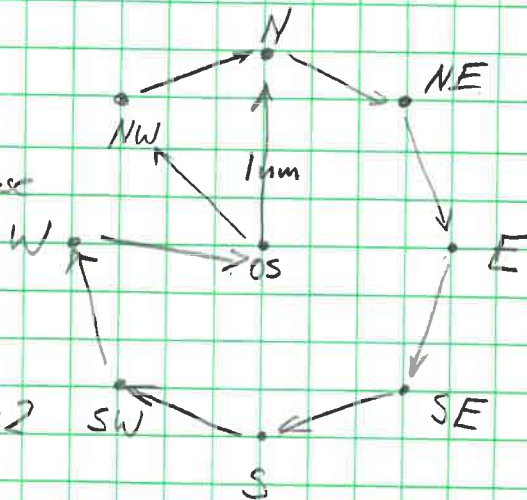
- no ranges
- no response to release x2
- no pinger

1526 - NE stn.

- no ranges
- no pinger
- sent release no response x2

1535 - E stn.

- no ranges no response to release x2
- no pinger



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YEAR	94	MONTH	Mar	TIME_ZONE	UTC	SHIP	J.P. Tully	CRUISE	9407	PAGE	OF				
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/ LONGITUDE	STD CONSEC. #	STD TIME	HYDRO CONSEC. #	MESSENGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	LOOP SALINITY #	NOTES		
Mar 29	D11A	167	0500	48°14.01	1	0506						1		Files shows station name as DOCK	
			0516	123°30.22											
	D12A	172	0616	48°15.5	2	0622	2	0704	1003			2		Pressure reads 2.1 on deck Transmissometer off	
				123°45.06					1025						
	D13A	190	0820	48°17.567	3	0826	/	/	/		/			CTD to 181 m Same for pressure	
			0840	123°59.914											
29	D14A	192	1011	48°22.004	4	1016	4	1041	1025		oops!			CTD to 180 m Hydro cast to 175 m	
			1050	124°14.857					1039						
29	D15A	235	1209	48°22.73	5	1211	/	/	/			3			
				124°17.73											
30	LG01		0300	49°20.39	6	0303	6	0355	1003			4			
			0322	126°35.13					1010						
30	LG02	100	0341	49°19.27	7	0347	7	0401	1014		/				
				126°37.35					1026						
30	LG03	122	0446	49°15.10	8	0450	/	/	/			5			
			0500	126°43.72											
30	LG04	146	0536	49°11.22	9	0540	9	0616	1027		/				
			0610	126°49.43					1040						
30	LG05	281	0705	49°07.38	10	0708	/	/	/			6			
			0720	126°55.44											
30	LG06	947	0805	49°03.659	11	0807	11	0904	1043		/			CTD to 970 m Hydro to 900 m	
			0933	127°01.232					1069						
30	LG07	1765	1014	48°59.431	12	1021	/	/	/		/			CTD to 1752 m 1120: CTD on deck	
			1122	127°07.212											

Mar. 29, 94

- 1543 on station SE
 - no response on ranges
 - sent release - no response x 2
 - no pinger
- 1602 on station S
 - no response to ranges
 - no response to release x 2
 - no pinger
- 1610 - on station SW
 - no ranges
 - sent release x 2
 - no pinger signals.
- 1636 - on station OS
 - no ranges
 - no response to release x 2
 - no pinger
- 1657 - search ends
 - preparing mooring for launch at position of E01-R
- 1826 - Launched mooring E01-S
 - at $49^{\circ}16.939$ $126^{\circ}35.634$
 - in 101 m corrected depth
- 1830 - proceed to L61 for CTD's + hydro's

MAR 30,

0220.

Station L607: Supposed to use the calibration bottle, but we don't find the messenger, so we just do CTD

JC & MR

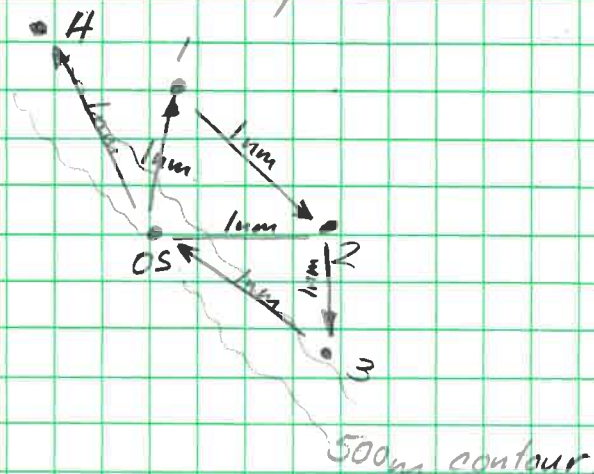
LG07

Lots of S in the first 125 m for
Temp & Cond

0322: Sail to E03-R

0800

- on station mooring E03-R
- no response to ranges
- no pinger 2 cables off
- moved back on str + declutched
- no ranges
- no pinger
- initiated search into shallower water as indicated by data from returned instruments.



- on station #1
- no ranges
- sent release x 2 no response
- no pinger

0858

- on station #2
- no ranges
- no response to release x 2
- no pinger

0918

- on station #3
- no response to ranges
- sent release x 2 no response
- no pinger

Mar. 30 cont'd.

- 0938
 - on station mooring site OS
 - no response to ranges
 - sent release x 2 no response.
 - no pinger signal.
- 1007
 - on station 4
 - no responses to ranges.
 - sent release x 2 no response
 - no pinger.
- 1010
 - search completed
 - heading for mooring A1.
- 1130
 - received request from H. Freeland to explore possibility for hook up to I.O.S. BBS for wave buoy data during the Coastal Safari. I asked Bruce to carry out this task and record instructions.
- Notes:
 - the WOCE 329 winch is working very well. spooling perfectly even for deep casts.
 - the grating deck in the chains is an improvement but we are still too close to the sheave and the chains deck is too high + it is still dangerous because it is a solid deck.
 - the controls on the capstan have been changed but they are not dead-man controls i.e. if placed on they remain on unattended.

Mar. (29) 94 cont'd Should be 30 JL

- Notes cont'd.

- the InterOcean deck units are a mess, i.e.
- noise from triple ranger
- faulty headsets

- the pinger receiver also needs attention
- the gain control is loose
- connectors are cracked.
- head set is poor
- no directional control

-1457

- on station AI-R

-1502

- sent Enable code. CDF.

- range 565 m. = 263 m distance.

554 m.

583 m.

= 299 m.

555 m

552 m

573 m.

599 m

595 m

= 322 m

-1526

- sent BFGH got positive response for release

-1527

- on surface

- recovery + servicing in progress

- Rod calls to request crew change on Apr. 1/1300

-1901

- launched mooring AI-S in 501 m
corrected depth at $48^{\circ} 32.084$
 $126^{\circ} 12.360$

- proceed to LC 10 + LC line for
CTD's + Hydro's

Notes: - attempts by Bruce to access 10S BBS were not successful

- I.O.S. Electronics will make this connection prior to the Coastal Safari.

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YEAR	MONTH	TIME ZONE	SHIP	CRUISE	PAGE	OF							
94	Mar	UTC	TULLY	9407									
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/ LONGITUDE	STD CONSEC. #	STD TIME	HYDRO CONSEC. #	MESSENGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	LOOP SALINITY #	NOTES
31	LC10	1246	0420	48 22 40 126 20.10	13	0431					8		Calib bottle on wire
31	LC10			48 22 42 126 20.63	14	0501					9		Calib file mess 0457 125m 0501
31	LC09	600	0605	48 26.05 126 13.60	15	0611	15	0713	1003 1032		/		Bongo #15 (cons #1)
31	LC08	200	0852	48 29.46 126 07.40	16	0902	16	0952	1033 1054		10		Bongo #16 (cons #2) CTD to 201 Note upcast Hydro cast to 200 m.
31	LC07	130	1101	48 32.95 126 00.50	17	1104	17	1121	1056 1065		11		CTD to 124.43 m Hydro cast to 125m, 120'
31	LC06	95	1214	48 36.40 125 54.08	18	1220							CTD &
31	LC06		1244	48 36.30 125 54.37	18	1235							Bongo 680m
31	LC05	65	1322	48 40.00 125 47.31	19	1325							CTD & 63.
31	LC05		1345	48 39.92 125 47.48	19	1333							50m Bongo
31	LC01	97	2233	48 50.454 125 27.903	20	2236	20	2252	1003 1016		12		CTD to 89.10m Hydrocast to 90m
31	LC02	112	2316	48 48.781 125 31.122	21	2319	21	2336	1020 1029		13		CTD to 105.15 m Hydro to 100m
31	LC03	140	0016	48 46.91 125 34.28	22	0007					/		

MAR 30 1994 PST

2100

-LC10 Calibration bottle

P20995

1216.4

CTD 34.439

3.058

1211.0



T 577

3.038

=

1.00018665

.0208963

3.064

T 679

3.061

=

3.066

March 31st, 0056

Do a CTD cast first.

Then bongo Serial # 2

then Bottle cast

CTD: wrong at surface. ~64 ppt

There is an upcast on the CTD, SAME CONS. #.

Cons # 16.

→ Do NOT delete the upcast.

0115: CTD on deck

- 0800 - on station RW1-R

- sent CDG Enable code x 2

- no ranges

- sent CDGH sent CDG x 2

- very noisy - asked to declutch

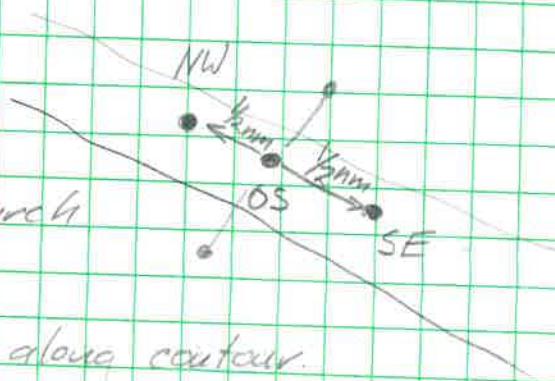
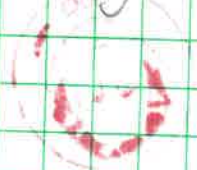
- sent CDGH sent CDG

- hearing a faint pinger signal - very uncharacteristic
is high pitch

- frequency seems right.

- turned off all sounders on ship.

- 1001 11. 12. 1981
- sent CDGH sent CDG
 - no ranges



- 0837 - moved into search pattern

- 0850
 - $\frac{1}{2}$ nm to NW along contour.
 - declutched
 - sent CDGH sent CDG
 - no response to ranges
 - sent CDG
 - no response to ranges
 - pinger - same signal was heard but fainter.
 - moving to SE sta along contour.

- 0912
 - $\frac{1}{2}$ nm to SE along contour
 - declutched.
 - sent CDG
 - no response to ranges
 - sent CDG again
 - heard pinger signal. strong then fainter as we drift
 - changed to over-side T-xducer and received a transpond response
 - moving back on top of SE station

- 0930
 - back on station
 - no ranges
 - sent CDG
 - received sporadic ranges
 - 495, 498 likely good ranges
 - 385 range + audio
 - 473

- moved to position between central station and SE station

- 0957 - position $\frac{1}{4}$ nm to SE. on station
- 246 m range
- 230 m range
- 228 m
- 1000 - sent release BEFG + got positive response.
- 1001 - sighted on surface.

31/3/94

changed 125 m Niskin bottle. Oxygen data shows bottle leaked.

- 1045 - recovered Waves buoy
- notes on recovery:
 - the 4 point bridle for lifting used to have a connecting loop leading into a pick-up line + float - this was missing
 - bungie was broken
 - bungie safety line (plaited dacron) was chaffed in 2 places
 - during recovery the braided composite rope above wire rope broke under tension resulting in wire rope, chain + anchor being left on bottom
- 1230 - depart for LCO1 to complete line

13:30 New batteries in Pinger

(Old batteries down to 1.45 volts.)

Serviced 'O' rings ect

LC12 CTD cal bottle an nut open. 5 line

Apr. 1, 99
LC12 STD calibration bottle.

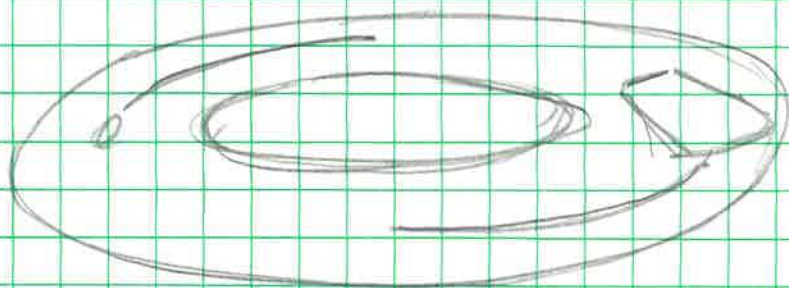
CTD# 25

P2099 = 1960.1 db.

577 = 1.949 679 = 1.970

leave LC line, heading for Tofino

- 1215 - arrive at point to launch boat for crew transfer in Tofino.
- set up experiment to test "man-overboard" VHF beacons
- both SeaMate + Peanut taped to kizbee ring and activated.



- the boat has app. 4-5 miles to travel away from ship - units will be put in water periodically enroute, and monitored using ship's DF + handheld from the bridge.

<u>Time</u>	<u>Distance</u>	<u>AVM</u>		<u>Ship DF</u>	
		<u>.550</u>	<u>.234</u>	<u>.550</u>	<u>.234</u>
1230	@ Tully.	rec'd	rec'd	rec'd	not able to rec.
		- good direction over 120° - direction 90° out.			
1245	1nm	rec'd	rec'd	[lost both]	
		- gain 1/2. (faint) - gain 3/4 still good direct.			
1255	2nm	rec'd	rec'd	[lost both]	
		- gain #5 faint gain direction good resolution from 120° → app < 90°			
1305	3nm	rec'd	lost	[lost both]	
		- gain near max. direction still good down to 30°			
1310	4nm	lost	lost.		

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[illegible]

Apr. 1 cont'd

-1400

- Rod Forbes joins ship
- we depart for LD01 + CTD's + hydros on LD Line

CTD #26 str LD01 CTD header has wrong station.

April 2nd

Cast # 35, str LD09, Calibration bottle.
@ ~1050 m

P: 1043.9

CTD

1044

T577: 3.326 °C = 3.352

3.319

34.389

T679: 3.339 °C 3.344

TRANSMISSOMETER # 78 FAILED AT 400M

LD11 cal bottle @ 1576 db CTD # 38.

P: 1568.9

1567 db

T577: 2.327 2.353

2.352

34.516

T679: 2.348 2.352

REMOVED TRANSMISSOMETER FOR LD10
CAST NO TRANSMISSOMETER LD11 CAST

REPLACED TRANS

NEW UNIT # 598 Fitted to CTD
Changed Coefficient

Note No manual for new transmissometer
so we used the measured Air value as the
calibrated Air value. is 4.650 volts
Zero offset was measured at 0.001 volts.

New trans and coefficients entered for
Consec # 39
Sune

Apr. 2 cont'd.

- 1510
 - on station BPI-R
 - range 256, 262 m 211
 - 290 m = 272 m distance
 - 356 m
 - 373 = 359 m
 - moving closer
 - range 225 = 201 m
 - " 282
- 1522 - sent ACGH
- 1523 - on surface.
- 1645 - all on board + cleaned
- 1700 - proceed to LBP1 for CTD's + hydro's

OK PIMS

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2	LD05	92	0234	48°49.73 126°03.49	30	0230	\						
2	LD06			48°46.17 126°10.30	31	0314	31	0330			31		0330
2	LD07	412	0411	48°42.65 126°16.49	32	0415	/						
2	LD08	766	0510 0620	48°39.21 126°23.21	33	0511	~>	0557	1040 1067		19		
2	LD09	1088	0719	48°35.80 126°29.48	34								Transmiss went bad @ ~400m (#78)
2	LD09		0807	48°35.90 126°29.50	35	0750		0745					Calib file no transmissometer -
2	LD10	1490	0850 1112	48°32.16 126°36.84	36	0852	36	1036	1068 1106		20		CTD to 1458.00 Hydro cast to 1400
2	LD11	1624	1200	48°28.75 126°42.81	37	1154	/						mess 0419 0427
2	LD11			48°29.03 126°42.87	38	1227					21	✓	cal file CTD @ 1567 db.
3	LBP1	50	0117 0136	50°04.71 127°52.59	39		39	0131			22		CTD to bottom 01:31
3	LBP2	101	0148	50°03.88 127°54.07	40	0150	40	0203			23		0203
3	LBP3	174	0221		41		\						CTD @ 175.

Calibration bottle depth Messenger + Time Probe.

M=0 + T= 6 min	depth	2000		
+ T= 8 min	depth	1997		Con #46
+ T= 9 min		1998	⇐ START FILE	⇒
M=0 + T= 11 min	depth	1999	Temp 1.924	Ratio 0.72769
12 min	depth	1998	1.924	Ratio 0.72769
13 min	depth	1998	1.928	0.72769
14 min		1998	1.927	0.72779

Stopped the CIB at M+T=15 MIN

$$P = 1999.8$$

$$T577 = 1.898 = 1.924^{\circ} \text{ corrected}$$

$$T679 = 1.918 = 1.922$$

Cast #46. Calibration cast.

Cast #48 Calibration cast 555 m

	Depth	Probe T.	Ratio
M=0 + T2	558	4.651	0.75984
M=0 + T3	559	4.649	0.75982
M=0 + T4	559	4.653	0.75979

$$P = 554.4 \quad \Leftarrow \text{Looks good.}$$

$$T577 = 7.543 = 7.569 \quad \text{Do not know what happened!}$$

$$T679 = 7.925 = 7.931 \quad \text{to these readings}$$

Pressure is OK all thermometers
were in hold mode on recovery

Can only suggest the two temperatures were in continuous
mode and were sampling all the way to the surface.
But I was sure I cycled them to sample. SL

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	4	UTC	Tully	9407									
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3	LBP4	1014		50°01.41 127°58.71	42	0253	42	0350			24		CTD to 1113. 03:50
3	LBP5	1300	0505	49°59.96 128°00.07	43	0509	/				/		
3	LBP6	825	0630 0750	49°56.11 128°05.48	44		44	0728					CTD to 921m (in a hole?)
3	LBP7	2187	0827	49°52.320 128°11.286	45	0835	/				/		CTD to 2000.17
3	LBP7	2165	0934	49°52.399 128°11.510	46	0859	/				25	✓	Calibration R/C at CTD very stable at depth no change in depth CTD to 2007.67
3	LBP8	2101	1015	49°48.890 128°16.820	47	1018	/						
3	LBP8	2097	1122	49°48.87 128°17.30	48	1107	/				26	✓	Calib. R/C @ ~555m
3	Site of "J"				O.E. 49						/		<u>O.E.F. Rosette</u>
3	Site of J_R	1840		50°07.616 128°41.994	50	2053					/		O.P. CTD to 1830.00 hit the bottom.
3	G	575		49°39.00 127°39.04	O.E. 51						/		<u>O.E.F. Rosette</u>
4	LJO1	60	0905 0935	49°44.53 127°02.62	52	0916	52	0930	1144 1148		27		CTD to 55.35m. Hydro to 50m
4	LJO2	83	0958 1021	49°42.678 127°05.451	53	1001	53	1012	1149 1154		28		CTD to 80.63, hit Hydro to 75. bottom

Apr. 3 cont'd.

- 0800
 - on station J-R mooring
 - confirmed with pinger that mooring is in place - good strong signal
 - range 2440 threshold @ 2
2411 = 1604 m distance too much
 - range @ threshold 1 = 69 } too little
485
 - range @ threshold 3 = 113 3957 } too much
= 1000
= 3772
= 5941
 - go to threshold 2 2665 m 2596
2315 m 2105
3644 m
 - range on threshold 2 2003 m
2459
2071 m
- 0847 - send release code B538
- 0852 - sighted on surface.
- 0914 - glass balls surfaced.
- 1110 - all recovered + cleaned up

Note

- R/E pinger still working - strong signal
- Toyocom PIT working " "
- top protective grate on Tracer 15 #14 was broken on or near recovery and a live 50 lb egg 1.25 m long was lodged in trap funnel

OK PIMS

1325: Cast 50, CTD to THE BOTTOM

The CTD hit the bottom. There was a 30 m difference between the reading of the CTD and the sounder.

1350 CTD on board. Next hydro cast for UBC. Go back on station first.

- completed U.B.C hydrocast 500-bottom
- completed 250 m Bougo
- completed 1 x 30 L hydro to 300 m for trap filter water.

1600 - depart for G-R-2 for water sampling work app. 5 hr run.

April 4th,

MARIE DID IT! (don't let her near any electronics!!)

0335: GPS system has been killed. Have data but doesn't talk to the computer.

CTD in water:	1137	49° 35.527	127° 16.994
Bottom @ 148.73	1140	49° 35.556	127° 17.039
On board @:	1142	49° 35.588	127° 17.038

GPS system fixed right after the cast.

04/12

RDI computer reset to see if it can now get position data.

Apr. 4 cont'd

- Note
 - our acquisition system computers are very dirty with dust.
 - are these on service contract? (HP)
 - (Joe L.)
 - if not we should clean them
 - if yes they should
- 0930 - on station GR-2 for recovery
- 0933 - sent EFG to enable
 - 602 m 604 m = 247 m distance
 - 637 m
 - 662 m = 366 m
- 0937 - sent ABCF - no response
- sent again - positive response
- 0939 - sighted on surface.
- 1055 - all on board + cleaned up
- preparing new mooring for redeployment.

1615 John cleaned conductivity cell of CTD, grease removed from cell.

- 1607 PST - launched mooring G-S
 - at $49^{\circ}39.072$ and $127^{\circ}38.384$
 - in 546 m corrected depth.
 - viewed mooring submerge.
- 1620 - head off to mooring O-R for possible recovery.

April
PST

5th,

0050

CTD cast: the transmissometer is
NOT on the CTD.
Cast 60, Station 4509

Cast 61, Calib file

P = 2222
2210
2201

T 1.798
1.800
1.802

R = .72778 0926
0.72769 0929
.72764 0931

Device I/O error in VIEW mode on the
way up.

MARIE DID IT AGAIN!
NO SMOKE

P = over range (ok, i did it!)
T577 = 1.776 = 1.802
T679 = 1.795 = 1.799

cast #63

Calibration bottle LS 08 D

Messenger down at 11:14 UTC

Start of new file 11:22 UTC

Depth	Temp	Ratio
M + 5 MIN 1689	2.230	0.72954
M + 7 MIN 1684	2.230	0.73009
M + 9 MIN 1677	2.240	0.73019
M + 10 MIN 1674	2.255	0.73044
M + 11 MIN 1671	2.255	0.73049

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

OCEAN PHYSICS															INSTITUTE OF OCEAN SCIENCES	
YEAR	94	MONTH	4	TIME ZONE	UTC		SHIP			CRUISE			94 07	PAGE	OF	
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/ LONGITUDE	STD CONSEC #	STD TIME	HYDRO CONSEC #	MESSENGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	LOOP SALINITY #	NOTES			
4	LJ03	125	1053 49°39.146 1104 127°11.159	54	1055	/	/	/	/	/	/	/	CTD to 115.57			
4	LJ04	158	1135 49°35.527 1144 127°16.944	55	1137	/	/	/	/	/	/	/	CTD to 148.73 no GPS			
4	LJ05	1063	1222 44°31.73 1357 127°22.59	56	1231	56	1328		1003		29		CTD to 1056 13:28			
4	LJ06	1046	1432 49°27.86 12728.52	57	1441	57	1537				30		CTD to 1061 15:37			
5	"O"	2500	0315 49°08.03 OE 127°44.96	58									<u>OE ROSETTE</u>			
5	O	2500	0404 49°08.28 127°45.28	59							31		CTD to 2475m			
5	LJ09	2485	0838 49°16.017 127°47.183	60	0843	/	0916	/			32		CTD to 2220m			
5	LJ09		49°15.343 1000 127°45.891	61	0926	/	/	/			33	39	Calibration cast @ 2224			
5	LJ08	1730	1038 49°20.209 127°41.092	62	1042						34		CTD to 1750			
5	LJ08		49°20.644 127°41.491	63	1122	/	1113				35		Calib. R/C @ -1678 Meas. calib. 1113			
5	LJ08	1709	49°20.09 127°40.80			62	1237		1003				Hydro to 1500 m			

CAST 63 CONT'D

P = 1673.4

T577 = 2.218 = 2.244

T679 = 2.238 = 2.242

CTD at 1672 = 2.253 7303973 34.523

- 0800
 - on station. O-R for recovery
 - listened for pinger
 - faint signal
 - asked to declutch
 - listened again + heard pinger - strong signal

- range 3105 m threshold @ 2
3873 m
3684

- 0817 - send release code B534 Rec'd + Executed

- 0821 - sighted 3 balls on surface

- 0901 - glass ball sighted on surface } ascent rate 58 m/min

- 1030

- all onboard + cleaned
- heading for S-R for recovery

- 1240

- on station moving S-R for recovery
- listened for pinger + got good signal

- ranging threshold @ 2

- 2667 m

2682 m @ 3

2685

2680

= 953 m distance

- moving closer 2642 2614 = 729 m dist.

Apr. 5 cont'd

- 1256
 - app 1 1/2 cable off
 - sent release 6980 2627 range.
 - sent release again 2490 range

- 1258
 - sighted surface
 - could not see glass balls rise due to gale (near-gale) conditions

- 1530
 - mooring all onboard.
 - condition deteriorating to gale force 35 knots
 - move back to station for JGOFS water sampling
 - Rosette cancelled
 - Bougo cancelled
 - mooring deployment put off until Apr. 6

NB: sediment trap top baffle - screens are breaking out

- traps from 0 & 5 both broken at 0 during last sampling period & at 5 during last 3 sampling periods.

- some theories

- breaking on deployment - unlikely
- breaking on recovery
 - ie. by water drag on ascent
 - ie. by wave action

(but what about 5 with pieces in 3 caps?)

- by large predators - as we saw at J. ? maybe (ie halibut caught in trap.) ??

- called Ken to see if we can redeploy without baffles ?
decision pending

Apr 5 cont'd.

CTD # 64. Transmissometer removed.

Wind 30 knots, gusting to 40.

Bottle cast using 8L Niskin bottles

mess 02:15 4847.78 127 59.18

mess 19:27 4846.95 127 58.95 for
2500m bottle cast

250 m Bongo

Cast # 65: Station F-R:

LOTS of spikes in CTD data.

0134: CTD on board. Go back near station

~ 0145: Do a deep bottle cast: 500 m to 2000m.

UTC 1019: Messenger sent. 48°59.340
127°15.631
2032.4 m

Start up 10:32 UTC

3100 UTC (0300 PST): last "deep" bottle
on deck. Start sampling.

Deep cast complete at 11:03 UTC 94/04/06

1115 (0315 PST): start shallow bottle cast

1127 (0327 PST) Messenger sent

Bottles in 1144 (0344 PST) Move back to
station for Bongo. to 250 m.

250 m net haul @ 0414

485963 1271567

Apr. 6 cont'd.

PS1

- 0800
 - on station F-R
 - listened for pinger
 - ranging @ threshold
- 3-5m sea + swell.
- near gale force
- receive strong signal
- 2102 m
- 2105 m = 556 m distance

- 0807
 - sent release B532
 - sent again
 - ranging after release
- sent range 2131
- 2179
- 2005
- 2109
- 2206
- 1367

- 0840
 - glass balls sighted on surface.
 - ascent rate = $\frac{2030 \text{ m}}{33 \text{ min}}$
= 61.5 m/min
= app. 1 m/sec.

- 1035
 - all on board secured
 - heading for S mooring site for deployment
 - conditions improving - wind dropping to 20
 - sea + swell still high.

- 1330
 - on station S-R.
 - corrected depth 2505 m.

- 1605
 - launched mooring S-S at
48° 47.079' 127° 59.018'
in 2505 m corrected depth

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR **94** MONTH **4** TIME ZONE **UTC** SHIP **Tully** CRUISE **9407** PAGE **OF**

DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/LONGITUDE	STD CONSEC #	STD TIME	HYDRO CONSEC #	MESSENGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	LOOP SALINITY #	NOTES
5	S-R	2507		48°47.20 127°59.14	64	0016					36.		CTD to 2536.
6	S-R	2507		48°47.18 127°58.60									Bongo to 250m
6	F-R	2025	0833	48°59.832 127°15.721	65	0837					37,		CTD to 2043.90
7	LB13	936	2032	48°10.299 125°56.103	66	2042	2103				38.		CTD to 950.48
7	LB13			48°09.911 125°56.081	67	2106					39.		Calib. R6 ~ 800m
7	LB12	505	2149	48°12.806 125°51.786	68	2154	68 2224		1003 1029		40		CTD to 502.2 m Hydro to 400m
7	LB11	204	2302	48°15.240 125°47.798	69	2305	/	/	/		/		CTD to 207.9
7	LB10	152	2345	48°18.536 125°41.156	70	2347	/	/	/		/		CTD to 150.45
8	LB09	148	0034	48°22.06 125°33.96	71	0036	71 0052		1031 1046				452µm PCT
8	LB08	135		48°25.29 125°28.53	72	0131	72 0144		1047 1060		41		544µm PCT
8	LB07	157		48°28.62 125°22.04	73	0228							
8	LB06	115	0311	48°32.20 125°15.41	74	0314	74 0327		1062 1072		42		0327

Apr. 6, cont'd.

1957

- 1635 - moving to mooring site O-R for deployment.
- 2101 - launched mooring O-S at $49^{\circ}07.422$, $127^{\circ}44.096$ in 2502 m corrected depth.
- could not see mooring submerge due to dark. - tried with search lights without success.
- 2125 - heading for mooring JF3-R
- 11-12 hr. run. - watches and oceanographic work is suspended.

Apr. 7,

- 0814 - on station JF3-R for recovery.
- did not receive signal app 2 cables off.
- moving immediately on top + declutching.
- 670 668 ranges while moving
680 669
- on site declutched
- strong pinger signal from 2 pingers
$$\begin{array}{rcl} 270 \text{ m} & 269 \text{ m} & \text{ranges} \\ & 266 \text{ m} & \\ & & = 154 \text{ distance.} \end{array}$$
- 0833 - sent ABFH release command. - no response
- range 268, 266
- range 267 - not releasing
- sent ABFH x2 more. same result
- sent CDFG and then ABFH
- range 267 m - not releasing

Apr. 1 cont'd.

Used portable Transducer and Transmitter 3785026

Using ABFH code cleared at 0845 940407

Receiver SN 3556021 - not working

Command Unit - 5382044

- Xmit function not working

-0930 - all on board + heading for LB-13 to
do LB Line inbound

Cast 67, Station LB13 (2106 UTC)
13:06 PST

D	T	C	T
816	3.862	.75029	M+4
816	3.867	.75038	M+5

P = 809.6
T 577 = 3.838
T 679 = 3.858

April 07 2249 UTC greased all connections on
CTD noticed some data error light flashes on
last cast.
Will check again on LB 11. SC

-1618 - call Service Argos to check on
our deployed drifting
7067, 7359, 3735, 7068, 7362
- there have not been any transmissions
from the above witness buoys since
the last 12 hours
" everything we deployed is still in place

Apr. 8

- 0800
 - on station CRD1-E mooring.
 - manoeuvring
- 0820
 - on station again declutched.
 - heard 2 strong pinger signals.
 - no receiving ranges after multiple attempts
 - no communication with release - have drifted off.
 - moving closer to site for release
- 0850
 - on station
 - no XPD response thru - hull XD'R
 - 3x range.
 - #044 Command
 - no XPD response thru - hull XD'R
 - no 3x range.
 - Receiver 032
 - command unit 044
 - no XPD response thru - dunking XD'R
 - command 026
 - receiver 021
- 0853
 - sent ADEF
 - no response on ^{receiver} ~~command~~ unit 021
 - could send out on Command 026
 - can not receive on Receiver 021
 - could not send out on Command 044
 - could receive on 032 receiver
 - 3x ranger ???
 - got response on other (032) receiver.
 - sighted on surface.
 - servicing + prep. for redeployment.
- 1029
 - launched CRD1-F at
 - 49° 23.903' 123° 24.119' in
 - 64.5 m water not corrected for tide

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8	LB05	103	0404 48 34.00 125 12.02	75	2009								
8	LB04	113	0436 48 35.66 125 08.82	76	0442	76	0456		1079 1092				
8	LB03	95	0527 48 37.37 125 05.65	77	0529								
8	LB02	58	0556 48 38.93 125 02.35	78	0558	78	0607		1097 1103				Device VO error upcast (view) in module COLLECT
8	LB01	35	0626 48 40.50 0640 124 59.58	79	0630	79	0637		1108 1105				
8	CRD3	68	1836 48 23.402 1844 123 29.153	80	1840								CTD to 64m
8	CRD4	60	1855 48 24.24 1859 123 24.92	81	1856								CTD to 60m
8	CRD1	71	1909 48 23.97 1912 123 23.84	82	1910								CTD to 72m -file labelled CRD4
8	CRD2	67	1917 48 24.11 1920 123 23.50	83	1918								CTD to 68m
GO HOME													