CRUISE NUMBER 96-08

DAILY LOG Book #1.

INSTITUTE OF OCEAN SCIENCES

OCEAN PHYSICS

DATE Apr. 9 - 25, 1996

VESSEL J. P. Tully

PROJECT JGOFS / La Perouse / CRD
Effingham Inlet / ADCP Time Series.

IP address new computers

199.175.11.156
157

Rosette has transmissometer #1920

oxygen standardization

Blank	.003	V_2	.732	.723
	.004		.725	.724
	.004		.722	

1734 PDT Apr. 10, 1996

- on station. OII-V for recovery
- flat calm - low swell.
- daylight a problem expect light until app. 2000
- checked position on station
- no reply to transpond command
- sent ABD to Enable instrument.
- transpond 2550 2517 2549 2525 2546 good ranges
- decide to release. 2538 539 m away.

1742 - 2503 m range
- sent ABCD - positive response
- " " - positive response.
- we are drifting away range 2526

1746 - sighted on surface app 500 m stbd. aft quarter.

1813 - all on surface — moving to recover.

2110 -all on board after a tangle at the lowest sediment trap.

-returned to mooring OI site to confirm we have not also turned this release on.

2200 - back on station sent transpond signal only 5 times with no reply. - we had not activated the other release.

2210 - CTD at 'O'-II

Apr. 11

0800 PDT - on station OI-V for recovery. - moving directly over mooring

0814 - on station sent transpond - no response.
- sent ABF for Enable instrument. - instrument responds
- transponding 2504 2506 360 m distant. drifting away

0820 - 2520 m range 424 m

- sent AFGH - positive response - double ping on hook away.
- sent AFGH - positive response again.

0823 - sighted on surface.

0853 - all on surface.

0907 Trouble manoeuvering for pick up - ship sitting over trap & floats - pushed away with bow thruster (noosh - may have caused tangle of floats & sed trap)

0975 Surface ORE & CM on board

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DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
11	Site 0	ROS	0513	BE	1	49 07 96	127 44 04	GPS	2500	200				
11		ROS	0520	BO	1/2	48 08 03	127 43 92	GPS		200		20.		
11		ROS	0537	EN	2	49 08 15	127 43 55	GPS		200				
11	Site 0	ROS	0822	BE	3	49 07.65	127 44.03	GPS	2500	500				
11		ROS	0830	BO	3/4	49 07.67	127 43.89	GPS		500		9		
11		ROS	0842	EN	4	49 07.70	127 43.80	GPS		500				Bottle #4 bottom gap did not close. Sample lost
12		ROS	0046	BE	5	49 07.71	127 44.26			300				
12		ROS	0053	BO	5/6	49 07.80	127 44.26					21		
12		ROS	0112	EN	6	49 07.46	127 44.06							
12		ROS	1336	BE	7	49 06.76	127 43.45		2507					
			1342	BO	7/8	49 06.81	127 43.53			202		2		
			1354	EN	8	49 06.97	127 43.54							
12		ROS	1354	BE	9	4906,97	127 4354							
12			1358	BO	9	49 07.00	127 43.53			208		2		
12		ROS	1406	EN	9	4907.07	12743.56							
13			0235	BE	10	49 08.51	127 45.55							down cast
13			0304	BO	10									
13	Site "0"		0304	BE	11					2004	1,2	2		2000m samples

CAST TYPE - BOT - bottle cast; CTD - ctd; MOR - mooring; ROS - rosette; NET - net haul; DRF - drifter; USW - sea water loop

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11 Apr / 96

0927 ORE @ 199m + CM out of water but can see tangle between glass floats & Sed trap in water

0936 Trap coming on board (upside down ~2 min due to tangle)
Appears to have worked ok

Trap samples - floc particles mixed throughout tubes but now settling. Cannot see any air at top.

0945 CM @ 314 on board

1000 tied off on kevlar & starting to reel in. Wind & seas quite nasty Now blowing ~ 30-35 knots

1115 Bottom floats & Acoustic release on board ~30knots SSE

1502 - Putting weight in water for drifting trap / Wind 149° 22 knots

1505 49 08.51 127 44.705 GPS
1510 Attaching 200m trap(s)
1556 Attaching subsurface floats
1616 Drifting trap ~100m astern 49° 09.16 N 127° 44.462 W

1745 5-cond cast for water at '0' for large vol filtering Cast 5 -> 6

Depths 300 40 30 20 10

0630 12 Apr Cast ~~to~~ 200m at '0' for water but Rosette pointer not turned to take bottles 22, 23.
Second cast for 1, 2 (Seq # 9)

12 April Deploy trap moorings @ 'O'

0800h - Repairing for deployment of OI-W sediment trap mooring

1120h - ready to go but break for lunch

~1210h - start deployment

1238h - spooling out Kevlar. All hardware in water except bottom end.

1312h - Towing onto spot - weights (wheels) still on deck

1353h - Anchor wheels in water Pos'n 49 07.064 } Sci. GPS
Depth 2503 m (corrected depth) 127 44.086 }

49° 07.061' } Bridge
127° 44.102' } GPS
(14170.3 29402.5 TD's)

1410h Top float submerged.

49° 06.870 } Bridge GPS.
127° 45.060 }
(14166.5 29402.1 TD's)

Deploy O-II-W

1752 Top float & CM going into ~~water~~ 49 07.466 } 1753 lab GPS
127 47.966 } by CTD deck unit

1804 Top sed trap (200m) in water

1810 Floats & CM at 514m in water

1844 1900 m trap & floats & CM in water

1857 Acoustic Rel in ~~water~~

1858 PDT Released Train wheels 2501 m 49 08.210 P
127 44.586

Bridge GPS 1858
Launch 49° 08.197'
127° 44.527'

Submerged 1917
49° 08.371'
127° 45.302'

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13	Site O	ROS	0308	EN	11									
13		ROS	0308	BE	12	49 08.50	127 45.57				3 to 22.	20		depths 1900 & 500
13		ROS	0344	EN	12	49 08.33	127 45.62							O_2 1181 & 1184
13	LBP1	CTD	20:02	BE	13	50 04.86	127 59.21		46	40m				CTD only down
13	LBP1		20:06	EN	14	50 04.84	127 53.17							upcast
13	LBP2	ROS	2028	BE	15	50 04.10	127 54.13		95					bottom @ 20:30
13	LBP2	ROS	20:31	BO	16	50 04.15	127 54.07			85		7		upcast end at 20:36
13	LBP3	CTD	21:07	BE	17	50 03.30	127 55.23		162	150				Down cast
11	11	CTD	21:12	EN	17	50 03.37	127 55.27			148				
13	LBP3	CTD	2112	BO	18	50 03.37	12755.25		820	810				upcast
13	LBP3	CTD	2152	EN	18	50 01.48	127 57.95							
13	LBP4	ROS	2153	BE	19	50 01.49	12757.96							down & up
13	11	ROS	2210	BO	19	50 01.72	12757.77			800		16		O_2 1194 & 1209
13	11	ROS	2256	EN	19	50 00.91	12756.96							
13	LBP5	CTD	2336	BE	20	50 00.15	128 02.067		1283	1				
			2358	BO	20/21	50 00.13	12759.98			1280				
14	LBP5	CTD	0015	EN	21	50 00.21	127 59.94							

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2008 CTD to 2000m bottles @ 1900, 1500, 1000, 500, 2000

12/2119 PDT Barge tow to 200m at '0' 49 08.468 2145 onboard
127 45.407

Then to Brooks P.

Apr. 13,

0810 - on station BPI-V for recovery. - manouvering

0827 - right on station ranging 165 163 160 ranges = 132 distance.
131 117 - drifting over mooring
192 208 227 m = 208 m distance

0832 - sent ABDH received positive response

0833 - on surface 50 03.746 127 53.854 - Bridge GPS

0841 - grapple onto line

1154 - launched mooring BPI-W in 105m corrected at 50° 03.654
127° 53.583

1300h - Started LBP line at LBP1.

2130 - Seawater Sampling shutdown (air or plugged)

LBP line aborted ~2030h 13Apr due to high winds/seas after LBP6

13/14 Overnight slowly steamed to LJ1

14Apr.

0845 PDT LJ1 Rosette

0949 LJ2 Rosette

1100 LJ3 CTD

Aborted sampling - going to anchor at Esperanza Inlet

15April 0630h PDT Left anchorage in Nuchatlitz Inlet

0830h Start LJ4 Rosette skn.

1430h Light profile just before LJ8.

1619 Sited Drifting traps just before LJ9 ~5° to Port ~2 nm ahead.

1626 Drifting traps posn 49 15.70 N 127 47.82 W

1647 LJ9

Standardized oxygen chemicals

V_6 = .001 .002 = .003
.003 .003 =

V_2 = .719 = .718
.717 .718
.718

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14	LBP6	ROS	0113	BE	22	49 56.204	128 05.589		785	770				
14		↓	0128	BO	22	4956.27	128 5.32			~840				23 null cast
14	LBP6	↓	0128	BE	23									delete this file
			0128	EN	23									
			0129	BO	24	4956.26	128 05.29			858		16		upcast O2 1210 to 1225
14	LBP6		0158	EN	24	49 56.40	128 05.23							
14	LJ01	ROS	1547	BE	25	49 44.45	127 02.45		60					
14	LJ01	ROS	1550	BO	25/26	49 44.46	127 02.53			63		6		O_2 1241 – 1246
14	LJ1	ROS	1558	EN	26	49 44.44	127 02.40							
14	LJ02	ROS	1649	BE	27	49 42.72	127 05.18		82					
14	LJ02	ROS	1654	BO	27/28	49 42.80	127 05.10					6		O_2 1247 – 1252
14	LJ2	ROS	1701	EN	28	49 42.83	127 05.24			75				upcast
14	LJ3	CTD	1758	BE	29	49 39 21	127 11 32							
14	LJ3		1800	BO	29/30	49 39 26	127 11 35							
14	LJ3	CTD↑	1804	EN	30	49 39 24	127 11 20							CTD ONLY UPCAST
15	LJ04	ROS	1527	BE	31	49 35 56	127 16 73							
15	LJ04	ROS	1530	BO	31/32	49 35 64	127 16 63					9		flasks 1179 – 1188
15	LJ04	ROS	1541	EN	32	49 35629	127 16286							

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15	LJ05	ROS	1634	BE	33	49 31 650	127 22 575	GPS	1001	995				Down Cast
15	LJ05	~~CTD~~	1705	EN	34	49 31 73	127 22 15	GPS						End of upcast
15	LJ06	ROS	1800	BE	35	49 27 97	127 28 62		1040		loop #1.			
15	LJ06	ROS	1816	BO	35/36	49 28 09	127 28 17			1016		19		
15	LJ06	ROS	1850	EN	36	49 28 09	127 27 66							End of upcast
15	LJ07	ROS	1953	BE	37	49 24 01	127 34 66	GPS	1898	1814	—			ctd only
15	LJ07	CTD	2016	BE	38	49 23.99	127 34.81	GPS	"	"	—			upcast
15	LJ08	ROS	2143	BE	39	49 19.98	127 41.03	GPS	1754	1795				Downcast
15	LJ08	ROS	2204	BO	39/40	49 19.83	127 40.97	GPS				21		
15	LJ08	ROS	2238	EN	40	49 19.67	127 40.98	GPS		1795				end of upcast
15	LJ09	ROS	2343	BE	41	49 16.124	127 47.146	GPS	2483	2000				
16		ROS	0015	BO	41/42	49 16.12	127 46.89					21		1241 - 1268
16	LJ09	ROS	0101	EN	42	49 16.25	127 46.79							
16	LJ10	ROS	0248	BE	43	49 11.251	127 54.626		2557	2000				
16	LJ10	ROS	0318	BO	43/44	49 11 16	127 54 29					21		#2004 & 2040
16	LJ10	ROS	0402	EN	44	49 10 98	127 53 71							
16	LI10	ROS	0543	BE	45	49 02394	127 55573							
16	LI10	ROS	0614	BO	45/46	49 02435	127 55 35					21		

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15-16 April Weather worsening all night

Completed LJ10 & LO10 just before 16/0400 PDT

Hove to until 0630 but winds 40-50 knots so continued to hove to.

-continue hove to until the power watch returns (12-4)

16 Apr 1325 PDT LH9 [illegible]

[illegible] picked up during upset

1614 Hove to near LH9 until after dinner, then have a look at LH8.

17 April PDT

0630 site drifting traps
0730 released messenger
0900 on deck

Rosette to 300m - winds up to 35-40 knots

✓ Net haul to 200m - 1120 on board. Back to LH8

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16	LI10	ROS	0700	EN	46	49 02.209	127 54.991	GPS	2500	2000				
16	LH10	ROS	0845	BE	47	49 04.6	127 36.47	GPS	2381	2000		—		Begin Downcast
16	LH10	ROS	0908	EN	47	49 04.44	127 36.36	GPS	"	2000		\		End of downcast
16	LH10	ROS	0908	BE	48	49 04.45	127 36.35	GPS	2376	2000		21		Begin upcast
16	LH10	ROS	0950	EN	48	49 04.40	127 36.43	GPS		2000				end upcast
16	LH09	ROS	2025	BE	49	49 05.46	127 28.73	GPS	2950	2000				Begin downcast
16	LH09	ROS	2109	BO	49/50	49 05.25	127 28.82					21		End downcast
16	LH09	ROS	2150	EN	50	49 05.26	127 28.68							Bottle 15 is bad sample
17	DRIFTEN	ROS	1703	BE	51	49 19.175	127 51.317	GPS	2453	300				
17	"	"	1709	BO	51/52	49 19.20	127 51.20					14		
17	"	"	1721		52	49 19.29	127 51.04							
19	LH08	ROS	2122	BE	53	4909.39	127 22.92	GPS	1910	300				Top 300 m only down & upcast (Okay, Okay)
19	LH08	"	2130	BO	53	4909.39	127 23.03			300		13		end of upcast
19	LH08		2145	EN	53	4909.29	127 23.18							
19	LH06	ROS	2319	BE	54	4917.73	127 10.41		455					
19	LH06	ROS	2324	BO	54/55	4917.70	127 10.43			300		13		
19	LH06	ROS	2342	EN	55	49 17.80	127 10.47							

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Apr. 18

0800 - on station E01-V for recovery.
- range 449 m 462 m - too far and drifting away too fast
- moving up against drift such that we will drift over station.

0816 - up drift of mooring range 188m 180 m 161 m 148 m, 98 m.

- ~~253 m 257 m~~ 138 183 m = 160 m distance

0824 - sent ABCF - received positive response
- " " " "

0827 - sighted on surface.

0900 - on board + heading in for Gold River + crew change.

1345 - launch boat taking Ken, Rod, Angelica, Linda and Dave ashore.

1415 - picked up George, Dave Elina Sarah, Edmund.
- depart for anchorage. Mooyah Bay.

- at anchorage over night prepare mooring for deployment morning 19 0800hrs.

- weather forecast for storm force winds building overnight and through Apr. 19.

Apr. 19.

PST

-0700 - depart anchorage for EO1
- winds 35 ~40 knots marginal for work
- slow progress to station.

-1015 - on station complete final mooring preps.

-1045 - launched mooring at 49° 17.152' 126° 35.618' in 100m corrected depth. EO1-W.
- proceed to LH08 and LH06 in marginal conditions, 35-45 knot winds in hopes of completing Rosette to 300m for biological samples

- during transit, conditions improved considerably winds + sea subside leaving a ~2-3 m swell + workable conditions.

April 20

0830 Oxygen dispensers filled.

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20	LG08	CTD	0238	BE	56	48 55 36	127 13 27	GPS	2064					
20	LG08	CTD	0304	BO	56/57	48 55 43	127 13 27			2065				
20	LG08	CTD	0329	EN	57	48 55 49	127 13 23							
20	LG07	CTD	0418	BE	58	48 59 486	127 07 215		1763					
20	LG07	CTD	0442	BO	58/59	48 59 670	127 07 269							
20	LG07	CTD	0506	EN	59	48 59 81	127 07 18							
20	LG06	CTD	0558	BE	60	49 03 518	127 01 267		962	920				
20	LG06	CTD	0614	BO	60/61	49 03 606	127 01 076							
20	LG06	CTD	0629	EN	61	49 03 681	127 01 008							
20	LG05	CTD	0711	BE	62	49 07 532	126°55.166		258	~~250~~			GC	
20	LG05	CTD	07:19	BO	62/63	49:07653	126 55 114			250			GC	
20	LG05	CTD	07:27	EN	63	49 07.1	126 55 117			5fc			GC	
20	LG04	CTD	08:12	BE	64	49 11.309	126 49 627		140	135				
20	LG04	CTD	8:15	BO	64/65	49:11.336	126:49604							
20	LG04	CDT	8:17	EN	65	49: 11.328	126: 49.581							
20	LG03	CTD	09:05	BE	66	49: 14.935	126: 43.642		112	112				
20	LG03	CTD	09:12	BO	66	49: 14.98	126: ~~43~~.608						GC	did not start separat
20	LG03	CTD	09:11	EN	66	49: 14 984	126:43 609							up cast.

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20	LG 02	CTD	09:53	BE	67	49:18.707	126:38.041	GPS	105	(97) 92			GC	
20	LG 02	CTD	9:55	BO	67/68	49: [illegible].739	126: 38.073						GC	
20	LG 02	CTD	9:57	EN	68	49: 18.742	126: 38.071						GC	
20	LG 01	CTD	10:21	BE	69	49:20.463	126: 34.937		55				GC	
20	LG 01	CTD	10:24	BO	69/70	49: 20.456	126: 34.959		52				GC	
20	LG 01	CTD	10:26	EN	70	49:20.464	126 34.950						GC	
20	LD 01	ROS	1516	BE	71	49 00 07	125 43 81							
20	LD 01	ROS	1518	BO	71/72	49 00 10	125 43 81					4		
20	LD 01	ROS	1522	EN	72	49 00 14	125 43 81							
20	LDØ2	ROS	16:00	BE	73	48 58 46	125 47 13							
20	LDØ2	ROS	1602	BO	73/74	48 58 50	125 47 13		42	39		5		
20	LDØ2	ROS	1607	EN	74	48 58 59	125 47 15							
20	LDØ3		1704	BE	75	48 56 689	125 50 29							
20	LDØ3		1706	BO	75/76	48 56 72	125 50 29		45					
20	LDØ3		1709	EN	76	48 56 810	125 50 315							
20	LDØ4	ROS	17:54	BE	77	48 53 19	125 57 16							
20	LDØ4	ROS	17.56	BO	77/78	48 53 24	125 57 21		62	58m				
20	LDØ4	ROS	18:01	EN	78	48 53 29	125 57 26							

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20	LD05	CTD	19:14	UTC	79	48 : 49.62	126 : 03.45	GPS	91				CC	CTD only
20	LD05		19:18		79/80	48 49.62	126 03 46						GC	
20	LD05	"	1920	EN	80	48:49.60	126:03.45						GC	
20	LD06	ROS	2016	BE	81	48 : 46 164	126 ; 10.157		137				GC	O_2 only
20	LD06	"	2020	BO	81/82	48 46 164	126 : 10.183			132		8	GC	
20	LD06	"	2028	EN	82	48 46.14	126 : 10.25						GC	
20	LD07		2117	BE	83	48 42.64	126 : 16.709		428 520				GC	
20	LD07		2127	BO	83/84	48 42.6	126 ; 16.8						GC	
20	LD07		2132	EN	84	48 42.58	126 ; 16.77						GC	
20	LD08	ROS	2248	BE	85	48 : 39.105	126 : 23.48		779					760 compensator on
20	"	"	2301	BO	85/86	48 ; 39.09	126 23.32			768		17		
20	"	"	2326	EN	86	4839.19	126 23.33							
21	LD09		0011	BE	87	48 35.72	126 30.02		1051	1067				
21	"		0032	BO	87/88	48 : 35.53	126 29.658							
21	"		0047	EN	88	48 35.60	126 29.53							
	LD10		0142	BE	89	48 32.10	126 36.48							Rosette covered in
			0201	BO	89/90	48 32.06	126 36.38			1482		20		jelly fish goop.
			0238	EN	90	48 31.92	126 36.20							

CAST TYPE - BOT - bottle cast; CTD - ctd; MOR - mooring; ROS - rosette; NET - net haul; DRF - drifter; USW - sea water loop

TIME CODE - BE - beginning time of cast; BO - bottom time of cast; EN - end of cast; DE - deployment time; MR - messenger release; RE - recover mooring

POSITION CODE - RAD - RADAR; GPS - GLOBAL; LOR - LORAN

Thermometers on LD 10

Therm #1 #647 4.011

Therm 679 4.357

Bottle #4 CTD TEMP 4.001 RATIO 0.75381 SAL 34.3319

LC11 calibration bottle Salinity 34.2944

	Temperature	CTD	4.031
THERM # 679	Temperature	Bottle	4.350

DAILY LOG

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21	LD11	ROS	0329	BE	91	48 28 775	126 42 937	GPS	1587					Transmissometer Trace -
21	LD11		0357	BO	91/92	48 28 878	126 42 881	GPS		1585				bad. Jelly fish or eggs
21	LD11		0418	EN	92	48 28 845	126 42 948	GPS						long red string thing
21	LC12			BE	93	48 15 012	126 40 021	GPS	2524	2003				
21	LC12		0643	BO	93/94	48 14 777	126 39 553	GPS						BONGO HERE!
21	LC12		07:07	EN	94	48 14 688	126 39203	GPS						
21	LC11	ROS	0844	BE	95	48 18.938	126 26.500	GPS	1424				SA	Niskin 4 O2, Nut cal sal/temp
21	LC11	ROS	0903	BO	95/96	48 18.986	126 26.368	GPS	1420			20		
21	LC11	ROS	0933	EN	96	48 19.102	126 26.372	GPS						
21	LC10		10:37	BE	97	48 22 436	126 20 149	GPS	1245					
21	LC10		1053	BO	97/98	48 22 490	126 20 105	GPS		1235				
21	LC10		1119	EN	98	4822.71	126 20 08	GPS						
21	LC09	ROS	1213	BE	99	48 26.05	126 13.66		597					
21			1224		99/100	4826.19	126 13.59			593.		16		
21	LC09	ROS	1324		100	4826.57	126 12.57							Bongo to 250
	A2													Bongo only

CAST TYPE - BOT - bottle cast; CTD - ctd; MOR - mooring; ROS - rosette; NET - net haul; DRF - dritter; USW - sea water loop

TIME CODE - BE - beginning time of cast; BO - bottom time of cast; EN - end of cast; DE - deployment time; MR - messenger release; RE - recover mooring

POSITION CODE - RAD - RADAR; GPS - GLOBAL; LOR - LORAN

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DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
21	LC08	ROS	1524	BE	101	48 29 49	126 06 92	GPS	192	183				
21	LC08	ROS	1530	BO	101/102	48 29 49	126 06 82	GPS				11		#2012 & 2035
21	LC08	ROS	1545	EN	102	48 29 465	126 06 409	GPS						
21	A1-B	CTD	17:15	BE	103	48 32 06	126 07 22	GPS						
21	A1-B	CTD	17:19	BO	103/104	48 32059	126 07 098	GPS						
21	A1-B	CTD	1723	EN	104	48 32 085	126 07 067	GPS						
21	A1-C	CTD	1758	BE	105	48 29 322	126 11 738	GPS	365					
21	A1-C	CTD	1803	BO	105/106	48 29 266	126 11 655	GPS						
21	A1-C	CTD	1808	EN	106	48 29 281	126 11 565	GPS						
21	A1-A	CTD	1843	BE	107	48 32 147	126 16 360	GPS	707	400				Computer crash restart Erase file 107 rewrite file
21	A1-A	CTD	1850	BO	107/108	48 32 104	126 16 477	GPS						
21	A1-A	CTD	18:55	EN	108	48 32101	126 16 387	GPS						
21	A1-B	CTD	1939	BE	109	48 31.940	126 07 389	GPS						
21	A1-B	CTD	1942	BO	109/110	48 31946	126 07 310	GPS						
21	A1-B	CTD	1944	EN	110	4831.972	126 07.352	GPS						
21	A1-C	CTD	20:14	BE	111	48 29 268	126 11 725	GPS	368	360				
21	A1-C	CTD	20:20	BO	111/112	48 29 279	126 11.690	GPS						
21	A1-C	CTD	2024	EN	112	48 29.278	126 11.690	GPS						

CAST TYPE - BOT - bottle cast; CTD - ctd; MOR - mooring; ROS - rosette; NET - net haul; DRF - drifter; USW - sea water loop

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POSITION CODE - RAD - RADAR; GPS - GLOBAL; LOR - LORAN

Apr. 21

1015 PDT

- started ADCP time series around mooring station A1
- 15 - 20 winds good conditions but expected to deteriorate within 24 hours.
- we give the time series a try anyway this is the best conditions we have had during the 2 Leg.
- we are completing a circuit around the triangle in 2 - 2½ hours - see detailed notes taken by George Chase re: this experiment.

Apr. 22

1043 PDT.

- end ADCP time series
- conditions have deteriorated to strong gale / storm force winds 40-45 gusting higher.
- we attempt to continue work along LC-Line LC7 in bound but are forced to stop due to weather.
- we head in for Effingham Inlet to complete Rosette casts.

2000 PDT

- arrive in Effingham Inlet and complete stations #03, #05, #10 and prepare for mooring recovery + redeployment at A1 on Tue.
- storm force winds predicted to build up again by Tue afternoon. as another Low moves into coast.
- we hope to get out in the morning to deal with mooring does not look encouraging.

2340

- completed Effingham stations and head out for A1

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DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
	A1-A	CTD	2056	BE	113	48 32 051	126 16 299	GPS	670	400				
	A1-A	CTD	2103	BO	113/114	48 32 062	126 16.266							
	A1-A	CTD	2109	EN	114	48 32 012	126 16.346							
	A1-B	CTD	2154	BE	115	48 31 970	126 07 461		186	180				
	A1-B	"	2157	BO	115/116	48 31 947	126 07 375							
	A1-B	"	2159	EN	116	48 31 948	126 07336							
	A1-C	"	2230	BE	117	48 29 235	126 11.759							
	A1-C	"	2235	BO	117/118	48 29 225	126 11 689		365	360				
	A1-C	"	2238	EN	118	48 29 253	126 11 638							
	A1-A	"	2312	BE	119	48 31.83	126 16.39							
	A1-A	"	2317	BO	119/120	48 31.89	126 16.31			400				
21	A1-A	"	2323	EN	120	48 31.90	126 16.20							
22	A1-B	"	0003	BE	121	48 31 99	12C 07 42							
"	A1-B	"	00:07	BO	121/122	48 30 00	126 07 38							
"	A1-B	"	00:32	EN	122	48 30 05	12C 10 65							Check end Time & think the file was left open between stations JL
"	A1-C	"	00:42	BE	123	48 29 356	12C 11 638		355	350				
"	A1-C	"	00:49	BO	123/124	48	126							
"	A1-C	"	0054	EN	124	48 27.39	126 11.79							

CAST TYPE - BOT - bottle cast; CTD - ctd; MOR - mooring; ROS - rosette; NET - net haul; DRF - drifter; USW - sea water loop

TIME CODE - BE - beginning time of cast; BO - bottom time of cast; EN - end of cast; DE - deployment time; MR - messenger release; RE - recover mooring

POSITION CODE - RAD - RADAR; GPS - GLOBAL; LOR - LORAN

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22	A1-A	CTD	01:23	BE	125	48 31 94	126 16 55	GPS	721	400				
	A1-A	"	01:29	BO	125/126	48 32 05	126 16 45							
	A1-A	"	01:32	EN	126	48 32 05	126 16 40							
	A1-B	CTD	02:19	BE	127	48 31 99	126 07 40		184	177				
	A1-B	"	0223	BO	127/128	48 32 00	126 07 35							
	A1-B	"	02:25	EN	128	48 32 03	126 07 29							
	A1-C	CTD	0303	BE	129	48 29 204	126 11 731		367					
	A1-C	"	0309	BO	129/130	48 29 236	126 11 585							
	A1-C	"	0314	EN	130	48 29 23	126 11 59							
	A1-A	CTD	0348	BE	131	48 31 912	126 16 404							
	A1-A	"	0356	BO	131/132	48 31 883	126 16 293							
	A1-A	"	0400	EN	132	48 31 826	126 16 275							
	A1-B	CTD	0450	BE	133	48 32 017	126 07 496		184					
	A1-B	"	0453	BO	133/134	48 31 918	126 07 341							
	A1-B	"	0458	EN	134	48 32 00	126 07 311							
	A1-C	CTD	0539	BE	135	48 29 388	126 11 628		360					
	A1-C	"	0546	BO	135/136	48 29 376	126 11 397							
22	A1-C	"	0551	EN	136	48 29 376	126 11 311							

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DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
21	A1-A	CTD	0628	BE	137	48 31 964	126 16 513	GPS						
22	A1-A	CTD	0636	BO	137/138	48 31 945	126 16 313	GPS						
22	A1-A	CTD	0642	EN	138	48 31 981	126 16 088	GPS						
22	A1-B	CTD	0736	BE	139	48 32 020	126 07 232	"						
22	A1-B	CTD	0740	BO	139/140	48 32 001	126 07 083	"						
22	A1-B	CTD	0743	EN	140	48 31 978	126 07 050	"						
22	A1-C	CTD	0821	BE	141	48 29.285	126 11 742	"	367	360				1½ kt S/E current to the NE
22	A1-C	CTD	0827	BO	141/142	48 29365	126 11 632	"						
22	A1-C	CTD	0831	EN	142	48 29336	126 1163	"						
22	A1-A	CTD	0903	BE	143	48 31 942	126 16 472	"						26 kt @ 328 wind
22	A1-A	CTD	0912	BO	143/144	48 31 920	126 16.382	"						
22	A1-A	CTD	0918	EN	144	48 31916	126 16 276	"						
22	A1-B	CTD	1008	BE	145	48 31.946	126 07 323	"						25 kts.
22	A1-B	CTD	1009	BO	145/146	48 31 981	126 07 303	"						
22	A1-B	CTD	1011	EN	146	48 31 976	126 07 301	"						
22	A1-C	CTD	10:45	BE	147	48 29 299	126 11.700	"	369	360				20kt @ 016T
22	A1-C	CTD	10:50	BO	147/148	48 29.277	126 11.664	"						
22	A1-C	CTD	10 53	EN	148	48 29 286	126 11.667	"						

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DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
22	A1-A	CTD	11:26	BE	149	48 31 96	126 16 53	GPS	723	400				
22	A1-A	"	11:33	BO	149/150	48 31 94	126 16 35	"						
22	A1-A	"	11:39	EN	150	48 31 94	126 16 27	"						
22	A1-B	"	12:26	BE	151	48 32 00	126 07 49	"	187	182				
22	A1-B	"	12:30	BO	151/152	48 31 98	126 07 43	"						
22	A1-B	"	12:33	EN	152	48 32 02	126 07 49	"						
22	A1-C	"	13:06	BE	153	48 29 29	126 11 96	"	372	372				
22	A1-C	"	13:12	BO	153/154	48 29 28	126 11 73	"						
22	A1-C	"	13:17	EN	154	48 29 30	126 11 61	"						
22	A1-A	"	13:50	BE	155	48 32 02	126 16 68	"	720	400				
22	A1-A	"	13:52	BO	155/156	48 32 01	126 16 66	"						
22	A1-A	"	14:01	EN	156	48 32 02	126 16 62	"						
22	A1-B	"	14:54	BE	157	48 32 06	126 31 96	"	183	179				
22	A1-B	"	14:57	BO	157/158	48 31 96	126 7 38	"						
22	A1-B	"	15:00	EN	158	48 31 94	126 7 30	"						
22	A1-C	"	15:38	BE	159	48 29 250	126 11 654	"	364					40 kt @ 015°T.
22	A1-C	"	15:44	BO	159/160	48 29 185	126 11 617	"						
22	A1-C	"	1549	EN	160	48 29 103	126 11 529	"						

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EFF05 ROSETTE CAST # 167/168

TEMP THERM # T647 = 8.715
" " # T679 = 8.702

Apr. 23.

0610 - on station A1-W in 20 knot winds for recovery
- moving directly over station. 585 m, 580 m = 334 m distance.
- the 9 kHz LCD in the triple ranger is not functioning.

0635 - moving off to release position.

0645 - approaching mooring again.
- sent ABEG ✓ received positive response faintly
- sent ABEG again " " " stronger with double ping

0650 - sighted on surface.

0745 - all onboard - washed down.
- prepare A1-W for redeployment.

1037 - deployed mooring A1-W in 486-500 m water (see notes)
at 48° 31.953 126° 12.180'.
- depart to resume work along LC-Line at LC07 working in bound as long as weather

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22	A1-A	CTD	1624	BE	161	48 31 91	126 16 52	GPS	700	400				
22	A1-A	CTD	1631	BO	161/162	48 31 863	126 16 497	GPS						
22	A1-A	CTD	1636	EN	162	48 31 822	126 16 498	GPS						
22	A1-B	CTD	1737	BE	163	48 32 039	126 07 383	GPS	183					
22	A1-B	CTD	1741	BO	163/164	48 32 035	126 07 359	GPS						
22	A1-B	CTD	1743	EN	164	48 32 051	126 07 338	GPS						
22		CTD		BE										
22		CTD		BO		END OF ADCP TIME SERIES								
22		CTD		EN										
23	EFF03	ROS	0316	BE	165	49 04.24	125 09.41		120					
23	EFF03	ROS	0320	BO	165/166	49 04.25	125 09.40			119.		13		hit bottom O2 only
23	EFF03	ROS	0331	EN	166	49 04.27	125 09.36							
23	EFF05	ROS	0416	BE	167	49 02 46	125 09 15							
23	EFF05	ROS	0420	BO	167/168	49 02 42	125 09 15					17		
23	EFF05	ROS	0439	EN	168	49 02 47	125 09 17							
23	EFF05	CTD	0523	BE	169	4902.51	125 09.16		203					
23	EFF05	CTD	0527	BO	169/170	4902.54	125 09.20			195				
23	EFF05	CTD	0530	EN	170									

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Apr. 23

- completed work along LC-Line LC07-LC01 in deteriorating conditions as storm force winds developed.
- Rosettes were stopped at LC04 and CTD's only were continued until line was completed in less than marginal conditions
- went into Barkley Sound and anchored in Mayne Bay while front passes
- intend to do LB Line Apr. 24.

Apr. 24

0630 - cold start engines + lifted anchor - depart for LB01 to start work outbound on this line
- wind down but large swell 3-4 m - expecting another low.

1040 - on station LB01

- completed LB Line during the day with CTD's only - the swell was too big for Rosette work.

2100 - LB15 complete and we have to return to Victoria for the CRD Proj. work 0800 hrs. Thurs. morning.

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23	EFF10	ROS	0621	BE	171	48 59.83	125 11.22	GPS						
23	EFF10	ROS	0625	BO	171/172	48 59.85	125 11.22	"		92		12.		oxygen only
23	EFF10	ROS	0633	EN	172	48 59 85	125 11.19	"						
23	LC07	ROS	18:46	BE	173	48 32 94	126 0 40	"						
23	LC07	ROS	18:51	BO	173/174	48 32 95	126 0 32	"						
23	LC07	ROS	19:01	EN	174	48 32 92	126 0 29	"				10		O_2 & nut.
23	LC06		1945	BE	175	48	125	"						
23	LC06		1952	BO	175/176	48 54050	125 54043	"						
23	LC06		1954	EN	176	48 32799	125 54065	"						
23	LC05	ROS	2104	BE	177	48 39976	125 47356	"	65					
23	LC05	ROS	2105	BO	177/178	48 39937	125 47425	"				6		
23	LC05	ROS	2115	EN	178	48 39 940	125 47497	"						
23	LC04	ROS	2210	BE	179	48 43 421	125 40946	"	167.					
23	LC04	ROS	2214	BO	179/180	48 43.37	125 41.03	"		164		10		O_2 & nut.
23	LC04	ROS	2223	EN	180	48 43 525	125 41 081	"						
23	LC03		23:18	BE	181	48 46 72	125 34 45	"	140	130				
23	LC03		23:20	BO	181/182	48 46 70	125 34 50	"						
23	LC03		23:23	EN	182	48 46 64	125 34 55	"						

CAST TYPE - BOT - bottle cast; CTD - ctd; MOR - mooring; ROS - rosette; NET - net haul; DRF - drifter; USW - sea water loop

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DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
	LC02	CTD	0024		183	48 48.77	125 31.27							
	LC02		0027		183/184	4848.71	125 31.32			99				
24	LC02	CTD	0029		184	48 48 673	125 31 409							
	LC01	CTD	0108	BE	185	4850.36	125 28.07							
	LC01	CTD	0110	EN	185	4850.36	125 28.13			90				upcast not logged
24	LB01	CTD	1748	BE	186	48 40 327	124 59 514							upcast not logged
	LB01	CTD	1751	EN	186	48 40 320	124 59 570							
24	LB02	CTD	1813	BE	187	48 38 99	125 02 51							
24	LB02	CTD	1815	BO	187/188	48 39 01	125 02 57		56	50				
24	LB02	CTD	1816	EN	188	48 38 986	125 02 620							
24	LB03	CTD	1840	BE	189	48 37 37	125 05 67							
24	LB03	CTD	1842	BO	189/190	48 42 47	125 05 76		97	87				
24	LB03	CTD	1844	EN	190	48 37 38	125 05 76							
24	LB04	CTD	1908	BE	191	48 35 694	125 08 976							
24	LB04	CTD	1912	BO	191/192	48 35 71	125 09 05							
24	LB04	CTD	1913	EN	192	48 35 71	125 09 11							

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TIME CODE - BE - beginning time of cast; BO - bottom time of cast; EN - end of cast; DE - deployment time; MR - messenger release; RE - recover mooring

POSITION CODE - RAD - RADAR; GPS - GLOBAL; LOR - LORAN

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR	MONTH	SHIP	CRUISE	PAGE	OF
1996	April [04]	Tully	9608		

DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
24	LB05	CTD	1936	BE	193	48 3401	125 1206	GPS						
24	LB05	CTD	1938	BO	193/194	49 33 99	125 12 12							
24	LB05	CTD	1940	EN	194	48 33 99	125 12 15							
24	LB06	CTD	2006	BE	195	48 3218	125 15 60		118					
24	LB06	CTD	2008	BO	195/196	48 32 17	125 1571							
24	LB06	CTD	2009	EN	196	48 32 17	125 0958							
24	LB07	"	2057	BE	197	48 2872	125 2206		160					
24	LB07	"	2103	BO	198/198	48 2862	125 2219							
24	LB07	"	2106	EN	198	48 2865	125 2218							
24	LB08	"	2151	BE	199	48 25 29	125 2865		145					
24	LB08	"	2153	BO	199/200	48 25 29	125 2872							
24	LB08	"	2155	EN	200	48 25 30	125 2875							
24	LB9	"	2239	BE	201	48 2202	125 34 76		152					
24	LB9	"	2242	BO	201/202	48 21 89	125 34 83							
24	LB9	"	2244	EN	202	48 21 97	1 25 34 81							
24	LB10	"	23:31	BE	203	48 18 53	125 41 48		151	140				
24	LB10	"	23:33	BO	203/204	48 18 48	125 41 49							
24	LB10	"	2335	EN	204	48 18 45	125 41 53							

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DAILY LOG — OCEAN PHYSICS — INSTITUTE OF OCEAN SCIENCES

YEAR 1996 | MONTH April [04] | SHIP Tully | CRUISE 9608 | PAGE OF

DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
25	LB 11	CTD	0018	BE	205	48 15.14	125 42.76	GPS	203	200				
25	LB 11	CTD	0021	BO	205/206	48 15 14	125 42 79							
25	LB 11	CTD	0024	EN	206	48 15 10	125 42 81							
25	LB 12	CTD	0051	BE	207	48 12 89	125 51 92		510	503				
25	LB 12	CTD	0057	BO	207/208	48 12 83	125 52 03							
25	LB 12	CTD	0103	EN	208	48 12 84	125 52 01							
25	LB 13	CTD	0132	BE	209	48 10 48	125 56 21		911	929				
25	LB 13	CTD	0143	BO	209/210	48 10 42	125 56 42							
25	LB 13	CTD	0153	EN	210	48 10 38	125 56 58							
25	LB 14	CTD	0217	BE	211	48 08 50	126 00 01		1182	1196				
25	LB 14	CTD	0230	BO	211/212	48 08 38	126 00 28							
25	LB 14	CTD	0243	EN	212	48 08 37	126 00 41							
25	LB15	CTD	0327	BE	213	48 04 222	126 08 578							
25	LB15	CTD	0348	BO	213/214	48 04 162	126 09 140							
25	LB15	CTD	0405	EN	214	48 04 20	126 09.67							
25	CRD5	CTD	1604		215				64					
					215/216									
					216									

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Apr. 25.

PDT

0750 - on station CRD1 and transponding - no response
- sent CDF XPND ON
- range 102, 103 m 105 m 116 m 124 m
- 137 m range
- 142 m = 128 m
- 153 m = 140 m.

0800 - sent BEFG - got positive response
" " - " " "

0802 - sighted on surface

0815 - all on board + heading for CRD5 for recovery.

0815 - on station CRD5 and ranging but can not get ranges only audio - the fifth display on triple range is malfunctioning.

0818 - sent ACGH got positive response
- " " " " "

0820 - sighted on surface.

0820 - 1052 - completed CRD CTD's and prepared CRD1 + CRD5 mooorings for deployment

1059 - deployed CRD1-J in 63 m water at 48° 23.911 123° 24.145

1219 - deployed CRD5-J in 59 m water at 48° 23.782 123° 20.830

1230 - headed for I.O.S.

1550 - arrive back at I.O.S.

1320 Standardized oxygen chemicals

$V_2 =$ .719 .719
.716
.717
.717

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR 1996 | MONTH 04 April | SHIP | CRUISE 9608 | PAGE OF

DAY (UTC)	STATION ID	CAST TYPE	TIME (UTC)	TIME CODE	STD/HYDRO CONSEC #	LATITUDE	LONGITUDE	POSITION CODE	BOTTOM DEPTH (m)	MAX SAMPLING DEPTH (m)	CONSEC SAMPLE #	# OF BOTTLES	INIT	COMMENTS
	CRD6	CTD	1615		217 (down cast)	48 23 63	123 20 57	GPS	78	77.				
	CRD7	CTD	1627		218	4823.85	12326.85			45				bottom
	CRD8		1636		219	48 23.59	123 21.18			69				bottom
	CRD1		1656		220	48 23.97	12324.20		63	59				bottom
	CRD2		1708		221	48 24.06	123 23.49		67	64.				bottom
	CRD3		1719		222	4823.33	12324.13		70	67				bottom
	CRD4		1733		223	48 24.19	123 24.88		60	59				bottom

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