

CRN

9110

DAILY LOG

INSTITUTE OF OCEAN SCIENCES
OCEAN PHYSICS

DATE

May 27 - Jun. 7

VESSEL

Parizeau

PROJECT

La Perouse / MASS / CRD

Captain: Paul Frost
Second Officer: Pat

First Officer: Brian P.
Third Officer: Don

Cruise Participants/Agencies: O. Physics, O. Ecology
Pacific Biological Sta.

Scientific Personnel: Party Chief: Tom Lukasz All A
name watch cabin name watch cabin

Bernard Minkley	4-8	B			
Darren Tuele	12-4	C			
Graeme Quinn	8-12	C			
Reg Bigham	8-12 x 1/2	D			
Anton Phillips (PBS)	Dark Hours	E			
Gilbert Larocque	12-4	F			

~~second leg of cruise:~~ Party Chief:

Michel Cote	4-8	F			
John Love	8-12 x 1/2	G			

third leg of cruise: Party Chief:

n/a					

DATA LOGGING SYSTEM: Unit number: #1 program ver. 1.1
CTD deck unit make: Guildline model: 87107 serial no.: 58610
Computer make: HP Vectra QS20 model: serial no.: 2945A07169
monitor make: NEC model: 2A serial no.:
printer make: Roland DG model: 1212A serial no.:

1st CTD make: Guildline model: 8715 serial no.: 53501
temperature sensor model: serial no.: 53237
coefficients: slope: 1.0001 offset: 0.0
conductivity sensor model: serial no.: 52474
coefficients: slope: 1.0004 offset: -0.0005
pressure sensor range: 3200 psi serial no.: n/a
coefficients: FSP: 2000 dB offset: 0.0
transmissometer model: serial no.: 197
coefficients: slope: -2.0886 offset: 104.398

Comments: _____

Royal Roads Probe borrowed as spare.

2nd CTD make: _____ model: _____ serial no.: _____
temperature sensor model: _____ serial no.: _____
coefficients: slope: _____ offset: _____
conductivity sensor model: _____ serial no.: _____
coefficients: slope: _____ offset: _____
pressure sensor range: _____ psi serial no.: _____
coefficients: FSP: _____ dB offset: _____
transmissometer model: _____ serial no.: _____
coefficients: slope: _____ offset: _____
Comments: _____

WINCHES:

CTD	make: <u>Swann</u>	model: <u>310</u>	serial no.: <u>1082</u>
counter	make: <u>Reulis</u>	model: <u>8750</u>	serial no.: _____
HYDRO	make: <u>Swann</u>	model: <u>305</u>	serial no.: <u>1084</u>
counter	make: <u>Reulis</u>	model: <u>8750</u>	serial no.: _____
Spooling	make: _____	model: _____	serial no.: _____
Drag	make: <u>Swann</u>	model: <u>331</u>	serial no.: <u>1231</u>
other	make: <u>Swann</u>	model: <u>320</u>	serial no.: <u>1207</u>

Salinometer make: n/a model: _____ serial no.: _____

SAIL System:

program version: C-Sail time zone: GMT
sampling interval: 120 sec.
CTF module no.: 814 serial no.: 104
remote temperature model: Yes serial no.: _____
flow sensor model: Yes serial no.: _____
Other sensors: (special for this cruise)
name: _____ module I.D.: _____ serial no.: _____
name: _____ module I.D.: _____ serial no.: _____
Comments: _____

ADCP Setup:

Program version: _____ number of depth bins: _____
time zone: GMT bin length (2^x): _____
sampling interval: 120 sec. pulse length: _____
blank beyond transmit: _____ pings per ensemble: _____
pulse cycle time: _____
percent pings good threshold: _____
Comments: _____

Depart I.O.S. 0830 May 28, 91

- checking all systems.

1225 - O.S. CRD1-A.

- Endeavour working in area towing sidescan sonar over bottom mounted for next 2 wks.

- after discussions with Endeavour scientist and R. Thomson at I.O.S. decided to move whole mooring/CTD station pattern to east app. 1/2 mile. ie. same latitudes the following longitudes:

CRD1	123 24.20	57 m
CRD2	123 23.50	62
CRD3	123 24.20	63
CRD4	123 24.85	55

1255 - O.S. new CRD1

- completed CTD 2000 GMT. to bottom.

Mooring

Top float	37"	# 75	
Pinger		# 787	
Reel 17		# 10320	Time in water 12:10
Mid float	30"	# 820	
Reel 7		# 10321	Time in water 12:16
Pinger		# 7219	
Release		# 461	
Release code		# H3541	
		Anchor 300	12:18

45 23 508
123 24 145

NB - at CRD2 an error in consecutive numbers was noticed, and a data file was erased in the process of discovering the problem. All files were erased and the casts were repeated at CRD2 and CRD1. The first CTD #001 is at CRD2

02

at

D 14 A

175 m HYDRO

0 2024

10 2025

20 2027

30 2026

50 2028

75 2032

100 2033

125 3034

150 2036

175 2035

Bernard bottle order
may be in error
who put them out?

CTD Calibration

Cast	Stn	g. Temp	CTD	bottle salinity	T depth	
29	LB15	2.54	2.660	2.514	34.539 1540	19 34.470 1486
30	LB15	10.21	10.238	10.216	31.892 20	20 31.876 27
33	LC11	2.56	2.614	2.553	34.535 1538	21 34.521 1542
34	LC11	9.66	9.627	9.614	32.061 220	22, 32.049 25
36	LC10	3.06	3.065	3.054	34.476 1222	23 34.464 1244
37	LC10	9.62	9.614	9.597	32.070 20.7	24 32.062 19
48	LD11	2.37	2.526	2.493	34.537 1601	25 34.525 1596
49	LD11	9.41	9.387	9.381	32.141 18	26 32.130 21
66	LG08	1.97	1.981	1.969	34.603 1980	27 — 1952
67	LG08	10.27	10.267	10.252	32.090 21	28 32.075 18
75	LJ08	2.25	2.266	2.249	34.561 1690	50 34.546 1678
76	LJ08	10.19	10.209	10.205	32.014 16	51 32.002 23
84	LBP7	1.92	1.925	1.910	34.609 2011	52 34.248 1986

D12A hyche #6 for oxygen

0	10	20	30	50	75	100	125	150
2014	15	17	18	19	20	21	22	23
min	0600		<15°			0800	UTC	

DAILY LOG

OCEAN PHYSICS

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OCEAN PHYSICS														INSTITUTE OF OCEAN SCIENCES						
YEAR	91	MONTH	May	TIME ZONE		SHIP		Parizeau		CRUISE		91-10		PAGE 1 OF 12						
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							
May 28	CRD1	57	1956	48 23.95	001	2000	/	-	consecutive numbers wrong	-	computer problems.	-	all files erased and casts repeated							
				123 24.20																
"	CRD2	60	2030	48 24.15	002	2032														
				123 23.56																
"	CRD2	64	2030	48 24.15	001	2044	/	/		9.456										
			2055	123 23.56																
"	CRD3	64	2104	48 23.38	002	2108											30.844			Flat calm Sunny
			2111	123 24.43						9.042										
"	CRD4	55	2123	48 24.23	003	2128	/	/		31.048				✓						
			2133	123 24.97												9.979				
"																30.842				✓
"	CRD1	57	2139	48 23.90	004	2146	/	/		9.447				✓						
			2152	123 24.32												30.874				
																9.770				computer time wrong
28	D11A	164	2313	48 14.02	5	2316				30.640										
			2324	123 30.13						9.527				CTD 6 168						
29	D12A	170		48 15.19	6	0038	6	0100	2014	9.527										
			0108	123 46.15					2023	30.979										
29	D13A	185	0215	48 17.89	7	0217				9.528				CTD 6 187.						
			0223	123 59.96						31.168										
29	D14A	187	0330	48 22.132	8	0333	8	0358	2024	9.452				CTD to 115 m off bottom.						
				124 14.82					2035	31.091										
29	D15A	225	0516	48 26.329	9	0517				9.635				GPS POSITION						
			0531	124 30.243						31.139										
29	LAP1	265	0630	48 29.556	10	0634	10	0701	2037	9.541				GPS POSITION.						
				124 44.765					2048	31.038				Wave < 20°						

- consecutive numbers wrong
 - computer problems.
 - all files erased and casts repeated

LAØ1

HYDRO

10

0	2037
10	2038
20	2039
30	2040
50	2041
75	2042
100	2043
125	2044
150	2045
175	2046
200	2047
250	2048

flock #

LAØ4

HYDRO

#12

0	2049
10	2050
20	2051
30	2052
50	2053
75	2054
100	2055
125	2056
150	2057
175	2058
190	2059

LAØ6

#13

0	2060
10	61
20	62
30	63
50	64
75	65
100	2066

$$V_1 = -0.0008$$

$$V_2 = .3533$$

$$\begin{array}{r} .0363 \\ .0343 \\ \hline .0020 \end{array}$$

$$\begin{array}{r} .0341 \\ .0349 \\ \hline -.0008 \end{array}$$

$$\begin{array}{r} .0336 \\ .0345 \\ \hline -.0009 \end{array}$$

LA $\phi 8$

HYDRO

#14

ϕ	2067
1 ϕ	68
2 ϕ	69
3 ϕ	70
5 ϕ	71
75	72
100	73
125	74

LA 10

HYDRO #16

0	1082
10	1083
20	84
30	85
50	86
75	87
100	88
125	89
150	90
175	92
200	95
250	96
300	97
400	99
500	2000
600	01
800	02
900	04

DAILY LOG

OCEAN PHYSICS

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OCEAN PHYSICS														INSTITUTE OF OCEAN SCIENCES	
YEAR	1991	MONTH	MAY	TIME ZONE	UTC	SHIP	PARIZEAU	CRUISE	9110	PAGE 2 OF 12					
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
MAY															
29	LA02	310	0802 482623 0815 1245129	11	0803					8.592 32.483					GPS - CTD 310m
29	LA04	190	0928 4819.11 1025 1250403	12	0939	12	1015			2049 10.209 2059 31.915					GPS - CTD 196m Hydro - 190m Surf. T 10.329
29	LA06	116	1131 4812.36 1155 12516.98	13	1135	13	1149			2060 9.881 2066 31.406	1.				
29	LA08	137	1302 4805.60 1335 12530.30	14	1305	14	1324			2067 10.856 2074 31.446					Raining
29	LA09	305	1406 4802.16 1418 12536.64	15	1408					10.523 31.588	2.				hit bottom
29	LA10	922	1457 4758916 1640 12543.221	16	1458	16	1607	18	1082 10.492 2004 31.594		3.				cloudy, wind 22 knts gusts to 30
29	C3	110	2110 4823688 2130 12520.378	/	/	/	/	/	/	/	/	/	/	/	Plankton Net Haul to 110m
29	C2	110	2245 4825.44 2300 12507.41	/	/	/	/	/	/	/	/	/	/	/	Plankton Net Haul
30	C1	148	0002 4828.93 12515.30												Plankton Net Haul Cancelled
30	C1-M Mooring		0205												Mooring Deployment
30	C1		0219 4829.410 12514.322												Repeat aborted plankton Net Haul at C1.
	LB01	26	0430 4840.40 0435 12459.48	17	0431					9.827 30.997					

LBØ2

HYDRO

18

0	1003	4796		
10	1004	4739		
20	1005	4747		
30	1008	4180	Messenger	2209 PDT
50	1009	2611		

LBØ4

HYDRO

#20

Messenger 2323 PDT

0	1010	4381
10	1011	4529
20	1014	4231
30	1016	3597
50	1017	3065
75	1018	1868
100	1020	1613

Alarm is triggered early in cast and continues on throughout the whole cast.

A double alarm sounds at approx 30 m on up trace.

LB06HYDRO

#22

0	1 0 2 2	5938
10	1 0 2 5	5823
20	1 0 2 6	4500
30	1 0 2 7	3054
50	1 0 2 8	2339
75	1 0 2 9	1802
100	1 0 3 0	1441
125	1 0 3 1	1373

LB08

#23

0	1 0 3 2	5957
10	1 0 3 3	5679
20	1 0 3 4	3967
30	1 0 3 5	3327
50	1 0 3 6	2671
75	1 0 3 8	1915
100	1 0 3 9	1655
125	1 0 4 0	1229

LB10

CTD Temp locked up on repeat. Temp sensor would not change when warmed. Switched power off to deck unit.

CTD EDIT program / CTD SHELL does not work. Gives
~~file~~ creation error.
C:\TEMP\CTDEDIT.XXX

YEAR		MONTH		TIME ZONE		SHIP		CRUISE		PAGE		OF	
1991		MAY		UTC		Parizeau		9110		3		12	
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30	LB02	52	0453 48 39 134 125 02 316	18	0456	18	0509		1003 9.486 1009 31.064		4		Corrected computer clock
30	LB03	90	0535 48 37.515 0544 125 05.486	19	0537	/	/	/		9.274 31.270			ALARM AT 17.5m
30	LB04	105	0605 48 35 790 0638 125 08 563	20	0604	20	0623		1010 8.936 1020 31.844				ALARM A 15m
30	LB05	100	0654 48 34 14 0706 125 11 85	21	0659	/	/	/		9.230 32.183			GPS - alarm @ 50m → 30m CTD - 98m CTD - 109m A Hydro - 110m 0°
30	LB06	112	0727 48 32 28 0800 125 15 31	22	0728	22	0754		1022 9.542 1031 32.197				CTD - winch wire jam at end of cast. HYDRO - 125m A CTD temp locked up on upcast.
30	LB08	130	0918 48 25 06 0952 125 27 53	23	0918	23	0943		1032 9.729 1040 31.662				CTD locked up on upcast again. touched bottom
30	LB10	152	1059 48 18.46 1110 125 41.46	24	1102	/	/	/		9.876 31.625	5		CTD @ 1140.
30	LB11	206	1157 48 15.15 1235 125 47.53	25	1200	25	1222		1042 10.191 1052 31.757				CTD calibration cast (file for CTD bottle on wire)
30	LB12	493	1306 48 12.82 1401 125 51.59	26	1308	26	1344		1054 10.168 1069 31.798		6		
30	LB14	1160	1456 48 08.41 1636 125 59.74	27	1502	27	1605		1082 10.236 2005 31.806		7		
30	LB15	1510	1725 48 04 262 126 08 433	28	1729	/	/	/		10.248 31.889		kkxx	
"	LB15	1510	/	"	29	1755	1757	19 34.470	/	/			

LB 11HYDRO

#25

0	1042	5655
10	1043	5534
20	1044	5624
30	1045	4570
50	1046	3892
75	1047	3159
100	1048	2538
125	1049	2217
150	1050	1896
175	1051	1741
200	1052	1552

LB 12HYDRO

#26

0	1054	5769
10	1055	5755
20	1056	5731
30	1057	5236
50	1058	4126
75	1060	3398
100	1061	2835
125	1062	2574
150	1063	2172
175	1064	2040
200	1065	1975
250	1066	1504
300	1067	1062
400	1068	0769
480	1069	0581

LB 14 .

HYDRO

#27.

0	1082	5527
10	1083	5554
20	1084	5593
30	1085	5411
50	1086	4680
75	1087	3598
100	1088	3268
125	1089	2706
150	1090	2458
175	1092	2869
200	1095	2486
250	1096	1875
300	1097	1421
400	1099	0883
500	2000	0561
600	2001	0325
800	2002	0232
1000	2004	0271
1100	2005	0310

09:05 P.D.T.

Temperature Calibration

Salinity Sample

# 6554		5957		T451		mainly compo				
Aux	main	Aux	main	Digital main		Probe R	Probe T		Depth	FILE
9.6	15.87	11.7	2.73	<u>2.54</u>	2.660	73475	2.514	19	1540	29.CTD
						34.539				
10.4	10.45	11.7	10.24	<u>10.21</u>	10.238	31.892	10.216		20m	30.CTD
						RATIO 82102		20		

New suppression card in CTD Also new Mux IC's
Calibration check at Station LC 11

Depth 1538 metre.

# 6554	5957	T451	Probe R	Probe T	Salinity Sample	Depth	File
AUX MAIN	AUX MAIN	DIGI MAIN					
8.5 16.35	9.9 2.72	2.614	34.535	2.553	21	1538	33.CTD
8.7 16.35	10.5 2.71 <u>2.56</u>						
9.9 9.89	11.2 9.69 <u>9.66</u>	9.627	32.061	9.614	22	20m	
CTD Cal. LC 10	Depth to	m	CTD	3.054	1222 m		
# 6554	# 5957	T451		34.476			
AUX MAIN	AUX MAIN						
8.6 14.20	10.5 3.21 <u>3.06</u>	3.065					
9.9 9.80	0/5 9.63 <u>9.62</u>	9.614		9.597	20.7 m		
				32.070			

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YEAR		91		MONTH		May		TIME ZONE		UTC		SHIP		CRUISE		91-10		PAGE		4 OF 12									
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/°C		SALINITY		LOOP SALINITY #		NOTES	
30		LB15		1510				48 04.262 126 08.433		30		1829		30		20												Depth 20m CTD calibration cast (file for CTD bottle on wire)	
30		LC12		2550		2103		48 14 86 126 39 72		31		2105		31		2218 2308		2006		16.004								CTD-2000/Hyd - A 2 casts 0-250, 300-2550 Depth 2550 16T 2375 as logged	
31		AI-L				Recovered		0218 GMT.																					
31		LC11		1550		0528		48 18.737 126 26.680		32		0530								10.097						kx		GPS POSITION	
31		LC11		1550						33		0557		0551		21				21.097								New file for Calib sample	
31		LC11		20		0631		48 18 651 126 27 027		34		0630		34		22												8M 30 sec messenger travel time Surface calibration file @ 20m	
31		LC10		1240		0730		48 22 31 126 19 86		35		0740		35		23				10.016		8		kx				CTD - 1240m / CTD Cal. 1240m mess 802	
31		LC10		1240				48 22.07 126 20.10		36		0809		36		23												CTD Cal. 20m CTD Cal. File 8min travel time 4min. File	
31		LC10		20				48 21 85 126 20 39		37		0843		37		24												Surf. Cal. file @ 20m	
31		A3				0930		48 24 60 126 15 42																				Vertical Net Haul 900m	
31		LC09		610		1003		48 25 87 1125 26 13 60		38		1004		38		1058				1003		16.377		9				CTD 611m Hydro 600m	
31		LC08		195		1158		48 29.36 1242 126 06.76		39		1200		39		1219				1027		31.914		10		*		plankton haul 150m. HYDRO - 175m	

Hydro 31

LC 12

2218Z

30/05/91

0	Cast 1.	2006	6634		
10		2007	6316		
20		2008	6274		
30		2009	6205		
50		2010	5219		
75		2012	4075		
100		2013	3992		
125		2014	2791		
150		2015	2443		
175		2017	2247		
200		2018	2093		
250		2019	1765		
300	Cast 2.	2020	1528	1708 PDT	2308 UTC
400		2021	1052	1630 up.	
500		2022	0634	1705 in	
600		2023	0411		
800		2024	0241		
1000		2025	0286		
1200		2026	0403		
1400		2027	0540		
1600		2028	0809		
1800		2032	1132		
2000		2033	1384		
2200		2034	1546		
2550		2035	1563	48 15.34	1708
bottom 2560				126 3914	

Cast #2 depths short by 4. m.

On station Mooring AI-L 1918 PDT May 30, 91

new deck - ranges 1980 m 6547 m 3360 m
unit. 1783 m

- switched to old unit not familiar with new.

old deck - range using old unit 627 m 64/m signal strong
unit - 1 cable off station

- moved to 2 cable distance to avoid releasing under ship.

- ranges 841 m 850 m

- release 1937 PDT

- sighted 1938 on surface

LC 09

#38

163

0	1003
10	04
20	05
30	08
50	09
75	10
100	11
125	14
150	16
175	17
200	18
250	20
300	22
400	25
500	26
600	1027

O₂ Done

LC #8

HYDRO

#39.

0

1028

Plankton haul to 150 m

10

29

20

30

48 29.23

12:39

30

31

126 06.94

50

32

75

33

100

34

O₂ Done

125

35

150

36

175

1038

LC #7

HYDRO

#40

0

1042

10

43

20

44

30

45

50

46

75

47

100

48

115

1049

300 m Wiskin had hole in tubing
Samples from 9110 & 9108 possibly
contaminated.

May 31 - 1991 P.D. Time

0827 - LC05 to 63 m. loop S⁹⁰ #12. Calm, cloudy.

- 0850 - Bongo vertical haul to 110 m (depth 117)
- Crab larvae on surface, sample collected using bucket. Stn B5

0937 Checked RDI. System displaying, but not logging as D drive full. Data now being sent to E: drive (Removable unit). Navigation information not being displayed on screen. I do not know if navigation data is being logged.

DAILY LOG

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[illegible]

LCO4

HYDRO

0	1050
10	51
20	52
30	54
50	55
75	56
100	57
125	58
150	60
160	61

Uners. 0955 hrs. P.d.t. 0 wire L
felt all Trip -

chains in basket. Top 1339 A1
1343 E03

LCO2

HYDRO

mars: 1958 L0°

0	1062
10	1063
20	1064
30	1065
50	1066
75	1067
100	1068

LCOI

HYDRO

gross 2093 lbs $\angle 0^\circ$

0	1069
10	1072
20	1079
30	1080
50	1082
75	1083
100	1084

Launched mooring A1-M1
1912 PST ~ May 31, 91

48°31.845 126°12.130 GPS.
in 500 m water corrected depth

LD11

0603Z

91/06/01

CTD CALIBRATION

FILE # 48.CTD

CTD DEPTH 1601 M

CTD (TEMP 2.490) (RATIO 0.73495) (SAL 34.536)

6554

5957

T451

AUX MAIN

AUX MAIN

DIGITAL

SAL#

8.3

16.8

9.3

2.52

2.526

25

LD11

CTD CALIBRATION

FILE 49.CTD @ X 20 M

6554

5957

T451

+ SAL 13.368

9.5 9.60

10.0 9.42

9.387

26

9.5 9.60

10.0 9.40

9.387

YEAR	1991	MONTH	June	TIME ZONE	UTC	SHIP	Panizcar	CRUISE	9110	PAGE	6 OF 12		
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/ LONGITUDE	STD CONSEC #	STD TIME	HYDRO #	MESSENGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	LOOP SALINITY #	NOTES
Jun 1	AI-M	500	Launched	mooring	AI-M	1912 PST. May 21, 91							
						0312 GMT							
JUN 2	LD 11	1610	0520	48 28 603	47	0526			25	9.652		18	
				126 42 820						32.115			
1	LD 11	1610	05:55	48 28 686	48	0554			25				cal bottle 1601 m
				126 42 934	49	0629			26				cal bottle 158 m
1	LD 10	1485	0720	48 32 08	50	0726	50	0855	1083	10.099		19	CTD - 1467 m
			1040	126 36 34					2008	32.134			Hydro 1470 (Dredge)
1	LD 09	1095	1016	48 35 50	51	1021				9.910		20	CTD - 1075.6 m
			1100	126 29 76						32.130			plankton tow 10 min
1	LD 09			48 36.57									
			1114	126 29.55									
1	LD 07	507	1219	48 42.78	52	1221				10.030		21	CTD to 537
			1240	126 16.46						31.926			
1	LD 06	132	1315	48 46.21	53	1316	53	1333	2009	10.540		22	CTD to 136
			1339	126 09.92					2018	31.624			Hydro to 125
1	LD 04	57	1453	48 53.34	54	1456	54	1406	1042	9.932		23	CTD to 56, Hydro to 50
			1523	125 56.74					1046	31.654			Bongo haul to 50
			1601	48 56.42						10.806			CTD to 45 m.
1	LD 03	47	1607	125 50.206	55	1603				31.606		24	sunny, wind NW @ 12
			1630	48 58.340					1047	10.693			CTD to 42 m.
1	LD 02	42	1700	125 46.972	56	1632	56	1653	1051	31.588		25	Bongo haul, Bottle 50 m
			1718	48 59.963					1052	11.217			CTD to 35.9 m.
1	LD 01	35.9		125 43.932	57	1720	57	1729	1056	31.584		26	bottle to 30 m

LD 10

H YDR 0. #50

mess: 0855 $\angle 0^\circ$

0
10
20
30
50
75
100
125
150
175
200
250
300
400
500
600
800
1000
1200
1400
1470

1083
84
85
86
87
88
89
90
92
95
96
97
99
2000
01
02
04
05
06
07
08

LD 06

H YDR 0 #53

0
10
20
30
50
75
100
125

2009
10
12
13
14
15
17
2018

June 1 91

O₂

LD04

0	1042	5910	
10	1043	5759	
20	1044	4623	- Sea weed inside?
30	1045	3348	
50	1046	3149	

LD07

0	1047	6732
10	1048	6696
20	1049	4921
30	1050	3559
50	1051	3252

LD01

0	1052	6334
10	1054	6306
20	1055	3874
30	1056	3661

LD04 - O₂

Hydro #54.

0 - 1042

10 - 1043

20 - 1044

30 - 1045

50 - 1046

Mess @ 0806 P.d.t.

wire L-O
felt all trip -

O₂ Done

LD02

HYDRO #56.

0

10

20

30

50

1047

48

49

50

51

Mess 0953 P.d.t.
wire L-O
felt all trip

O₂ Done

LD01

Hydro #57

0

10

20

30

1052

1054

1055

1056

Mess @ 1029 P.d.t.
wire L-O
felt all trip

O₂ Done

Jan 1 1435 PDT
2135 GMT

On station EO1-L

- range 254 m 241 m 931 m 500 m
332 m
268 m 275 m 476 m 176 m

- release 2140 GMT sighted on surface

out of water 1352 PST
54 1345 PST
7908 13.55

Three glass floats tangled on recovery.
43156 looks like they were that way
43249 through whole deployment.
43239

min	db.	T	S.d.
10:30	1980	1968	34.606
11:00	1981	1964	34.602
11:30	1982	1966	34.603

CTO #66.

depth	unpro	probed
1981	8.6 19.62	9.3 2.12
	8.5 19.62	9.5 2.13

no salinity, stopwork again.

	6554	5957
20.8	10.253	32.091
21.2	10.255	32.092

#67

10.267	18.5 10.62	18.4 10.42
	18.5 10.62	18.4 10.43

DAILY LOG

OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR 1991

MONTH June

TIME ZONE UTC

SHIP Parizeau

CRUISE 9110

PAGE 7 OF 12

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
1	E01-L	Recover mooring 1340 PST (2240 GMT)											
2	LG01	57	0159 4920.24 0218 12634.92	58	0202	58	0212		1042 10.632 1047 31.521		27		CTD to 64 hydro to 60m
2	LG02	98	0234 4918.38 0256 12638.13	59	0237	59	0250		1048 10.762 1055 31.641		28		CTD to 98 hydro to 93m
2	LG03	120	0331 4914.926 0345 12643.92	60	0332	/	/	/	1044 10.442 31.895				CTD stop 2m off bottom
2	LG04	140	0413 4911.30 12649.40	61	0415	61	0438		1056 10.130 1064 32.169		29		CTD to 134m hydro to 125m
2	LG05	255	0518 4907.338 12655.165	62	0520	/	/	/	10264 32.035		30		Net haul on Canning station
2	LG06	945	0622 4903.530 0810 12701.076	63	0630	63	0722		1065 10.205 1095 31.788		31		CTD - 945m Net haul Hydro - 930m (No Mud!)
2	LG07	1710	0850 4859.34 1000 12706.90	64	0850	/	/	/	10044 31.861		32		CTD - 1763m Net Haul net tow
2	LG08		1045 4854 12711	65		/	/	/			33		
2	LG08	2080	1105 4855.30 12713.00	65	1112	65	1137		1076 10.206 2653 32.082		33	KKX	CTD to 2008.
2	LG08		485501 12713.62	66	1145			27					calibration sample 2000db.
2	LG08			67	1220			28					calibration 22db. 1215.

9/1/06/01

Time check of record S4
Date check of S4

2 min Slow. 1634
o/k. 1632

DATA FILE B:\652_S4.RAW

<u>LG 1</u>	<u>HYDRO</u>	58
0	1042	6831
10	1043	5923
20	1044	3555
30	1045	3289
50	1046	3190
60	1047	3036

<u>LG 2</u>	<u>HYDRO</u>	59
0	1048	6148
10	1049	6228
20	1050	4954
30	1051	3752
50	1052	2857
75	1054	2415
95	1055	1600

LG04

HYDRO. 61

0	1056	.6069	mess.	21:38	PDT
10	1057	6006		OK	
20	1058	4873			
30	1060	3728			
50	1061	2944			
75	1062	2724			
100	1063	2093			
125	1064	1684			

LG05

22:30 PDT Net Haul.

CTD to 260 m

Wind 20k NW

LG06

HYDRO

63

mess 0722 hrs

OK

0	1065	.5785
10	1066	5712
20	1067	5315
30	1068	—
50	1069	3936
75	1072	3229
100	1079	2610
125	1080	2255
150	1082	1975
175	1083	1898
200	1084	1850
250	1085	1408
300	1086	1165
400	1087	0752
500	1088	0340
600	1089	0486
800	1090	0235
900	1092	0275
930	1095	0301

buoyette reset by mistake.

box 2

A

box 3.

LG #8 44070 #65

0	1096	5914
10	1097	6019
20	1099	5976
30	2000	5990
50	2001	5895
75	2002	5605
100	2004	4306
125	2005	3118
150	2006	2917
175	2007	2835
200	2008	2215
250	2009	1962
300	2010	1563
400	2012	1093
500	2013	0746
600	2014	0513
800	2015	0271
1000	2017	0300
1200	2018	0348
1500	2052	0615
2000	2053	1253

Deployed mooring E03-M 0922 PST Jun 2, 91
 in 502 m water at: 49°04.424 GPS.
 126°56.855

Commenced Tucker Trawl operations 1000 PST Jun 2, 91

CTD Calibration

1700 lb

0800 1690 2247 34.561
mg after 17 min.

DAILY LOG

OCEAN PHYSICS

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OCEAN PHYSICS

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YEAR	1991	MONTH	JUNE	TIME ZONE	UTC	SHIP	PARIZEAU	CRUISE	9110	PAGE	8 OF 12			
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	
2	LG08	1105 1347	485499 12713.19	65	1310	29 49	1096 2053						Trawl Hydro to 2000m	
2	E03-M	Deploy mooring 0922 PST.												
2	Tucker	Trawl operations along LG Line. 1000 PST —												
2	Trawl	UP —————												
2	LG06	2150 1270256	490330 1270256	TRAWL										SAR 1330 local Back on station
3	LJ01	63	0814 0820	494407 1270260	68	0817	/	/	/	10.137 31.864	34		GPS, LOOP CTD to 55	
3	LJ02	80	0842 0852	4942.32 12705.32	69	0844	/	/	/	10.003 31.914	35		LOOP CTD 84m	
3	LJ03	123	0935 0946	493897 1271090	70	0936	/	/	/	10.024 32.153	36		CTD 119m Loop	
3	LJ04	160	1022 1034	493512 1271683	71	1024	/	/	/	10.245 31.967	37		CTD 150m Loop	
3	LJ05	1084	1113 1146	4931.55 1272239	72	1115	/			10.113 32.074	38		CTD to 1077	
3	LJ06	1087	1216 1247	4927.76 12728.48	73	1222	/			10.194 31.992	39	KKX	CTD to 1077	
3	LJ08	1724		4920.07 12740.45	74	1403	/	1425		10.218 32.006	40		CTD to 1721	

CALIBRATION
6554

Deep Cast
DIGITAL

FILE 75.CTD
5957

SAL #

8.0 17.45
9.2 17.40

2.266

11.1 2.44
11.8 2.43

50

CTD
1690.

Temp
2.249

RATIO
.73123

SAL
34.561

CALIBRATION AT ISMETRE

FILE 76.CTD

6554
10.4 10.40

DIGITAL
10.209

5957
11.0 10.21
11.4 10.21

51

CTD
1696.

Temp
10.204

Ratio
.82352

Sal
32.014

Recovered mooring BP1-L 1336 PST Jun. 3, 91
without incident.

Deployed mooring BP1-M 1600 PST Jun 3, 91

LBP2HYDRO

78

0	1003	5415
10	04	4861
20	05	3462
30	08	2717
50	09	2175
75	1010	1845
100	1011	1653

LBP4 80 min 2026 < 10°

0	1014	5838	175	1028	1615
10	16	5816	200	29	1459
20	17	4183	250	30	—
30	18	3715	300	31	1028
50	20	2115	400	32	0707
75	22	1817	500	33	0581
100	25	1841	600	34	0425
125	26	1791	800	35	0250
150	1027	1575	1000	36	0287
			1100	1038	0343

LBP6

0	1039	5960	min 23'08	< 0°	782
10	1040	5875	300	1096	1250
20	1083	5730	400	97	0679
30	84	4459	500	99	0405
50	85	3562	600	2000	0354
75	86	2567	800	2001	0239
100	87	2274			
125	88	1917			
150	89	2035			
175	90	1982			
200	92	2110			
250	95	1509			
		1750			
		st			

Cast (84)

June 4 1991

0850 UTC

LBP 7

CTD

Cal.

2011m

2012 1.910 34.609

SN 6554

Digi

SN 5957

aux
9.5main
19.90aux
11.1main
2.11bath sal = 1.925
34.248Cal. hydro bottle mount busted off
Salinity no good

LBP 8

HYDRO #85

0	2002	6167
10	2004	6192
20	2005	6172
30	2006	5738
50	2007	5806
75	2008	4902
100	2009	4166
125	2010	3469
150	2012	2727
175	2013	3139
200	2014	2455
250	2015	1883
300	2017	1473
400	2018	1134
500	2019	0674
600	2020	0449
800	2021	0255
1000	2022	0269
1200	2023	0369
1500	2024	0681
2000	2025	1339
2075	2026	1361

3.8 m deeper than
wire out

DAILY LOG

OCEAN PHYSICS

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OCEAN PHYSICS														INSTITUTE OF OCEAN SCIENCES	
YEAR	91	MONTH	June	TIME ZONE	UTC	SHIP				CRUISE 91-10		PAGE 9 OF 12			
DAY	STATION IDENTIFICATION	DEPTH SOUNDING (m)	SHIP STOP/START TIME	LATITUDE/ LONGITUDE	STD CONSEC #	STD TIME	HYDRO #	MESSANGER TIME	HYDRO SALINITY #	OXYGEN #	SURFACE TEMPERATURE/ SALINITY	LOOP SALINITY #	NOTES		
	LJ08	1766	4920 01 12741.05	75	1432			50					calibration bottle 1690 db		
	LJ08			76	1512			51					calibration bottle 30 db		
Jun 3	Recovered Mooring			BPI-L	1336 PST										
Jun 3	Deployed Mooring			BPI-M	1700 PST 0000 GMT.										
JUN 4	LBP1	53	0107 5004.74 0115 12762.78	77	0112					9.295 32.316	41	✓			
4	LBP2	100	0127 5003.87 0149 12754.23	78	0129	78	0143		1003 1011	9.629 32.098	42	✓	CTD + 102		
4	LBP3	198	0158 5002.98 0209 12755.00	79	0200					9.787 32.104	43	✓	CTD + 246		
4	LBP4	1144	0228 5001.14 0358 12757.92	80	0229	80	0326 100		1014 1038	9.858 32.086	44	✓	CTD + HYDRO O ₂		
4	LBP5	1170	0408 4959.701 12759.76	81	0410					9.766 31.921	45	✓			
4	LBP6	780	0513 4955.913 12805.317	82	0517	82	0608		1039 2001	9.937 31.995		✓	change depth L in header to 800 m		
4	LBP7	2 ₁₂	0708 4952.08 12811.03	83	0711		0753			10.077 32.067	46	✓	CTD CAL 2011.9 Depth shown 2 4952.416 12811.129 ** Cal. bottle 2011.9 m busted **		
4	LBP7		0807 4952.49 0850 12811.08	84	0807			52							

June 4/91 P.d.t.

Stn SQ11 Calibration @ 1995 (10min).

#87 PROBE C 1.72763
T 1.886
S‰ 34.608

Mass sent 1608:45
Start up 1621:15

SALINITY #75
34.595

DIGITAL

6554

5957

1.896

8.7 19.70

9.9 2.10

8.9 19.70

10.7 2.09

1.896

9.2 19.70

11.3 2.10

SURFACE CAST FOR CALIBRATION SAMPLE

#88

PROBE C 0.82140

T 10.206

S‰ 31.920

SALINITY #76

31.903

Mass sent 1659
Start up 1701.

^ 17.5 METRE

Digital
10.222

6554

5957

10.5 10.40

11.0 10.21

10.4 10.40

11.5 10.25

10.5 10.40

12.4 10.26

CTD Calibration 3.414 34.398

93 3.418 8.9 13.00 10.4 3.55 1063.16
8.9 13.00 10.6 3.56

CTD bottle sal = 34.383

94 10.262 13.8 10.40 16.0 10.40 7.6 dB
13.8 10.42 16.2 10.40

CTD = 10.248 31.618 @ 7.6 dB

bottle sal = 31.606

* CTD # 86 to 93 have wrong station I.D.

DAILY LOG

OCEAN PHYSICS

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OCEAN PHYSICS

INSTITUTE OF OCEAN SCIENCES

YEAR	1991	MONTH	June	TIME ZONE	UTC	SHIP	Parizeau	CRUISE	9110	PAGE	10 OF 12		
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	LBP8	2100	6930	49 48 18 128 16 60	85	0935	85	115	53	10.011 32.112	48	✓	1147. CTD - 2000 4948 35 Hydro - 2070 1281709 up at 1148
4	LBP8			494835 12817.09			85	1132	53 2002 74 2026	/			
4	SQ11	2170	1540	49°59.805 128°55.617	86	1544	/	/	/	10.207 31.920	✓ KKX		CTD to 2000
	SQ11-C				87		1609	75	/	/			deep cal sample @ 1995 m.
	SQ11-C				88	1659	1653	76	/	/			shallow cal sample @
4	SQ08	1792	1815 1905	50 06.39 128 41.34	89	1820	/	/	/	10.449 31.786	49	✓	CTD to 1772 m. lamp-ray loop.
4	SQ07	1500	1940 2038	50 09.79 128 35 03	90	1948	/	/	/	10.362 31.753	50	✓	CTD - 1480m Depth 1480m → 1510m
4	SQ06	1175	2119 2154	50 13.24 128 28 06	91	2120	/	/	/	10.289 31.632	51	✓	CTD - 1180m
4	SQ05	1050	2216	50 14.94 128 25.08	92	2218	/	/	/	10.120 31.599	52	✓	CTD - 1070 Cal. depth @ 1063
4	SQ05	1063		50 15.00 128 25	93		2238	77	/	/			Cal. file 1063m
4	SQ05	1140		50 15.03 128 25.70	94		2315	78	/	/			Cal. file 0411 7.6m
4/5	SQ04	710	2342 0002	50 16.75 128 21.62	95	2345	/	/	/	10.149 31.734	53	X	CTD to 706

Little cart 104 TCB3

10	1003	5837
20	1004	5779
30	1005	5096
50	1008	4286
75	1009	3126
100	1010	2412
125	1011	2130
150	1014	1795
175	1016	1650
200	1017	1466
250	1018	1370
300	1020	1076
400	1022	0650

CALIBRATION CAST FOR

LCSG T100

2000 M.

9/1/06/5.

UP Messenger + 12 m 30 sec.

PROBE

T

1.894

Ratio

0.72780

Depth

1991

S‰

34.609

FILE 100.CTD

DIGITAL

6554

5957

SAL #

TEMP

AUX

MAIN

AUX MAIN

79

1.910

8.5

19.60

9.8

2.10

Did not stop file until 1790 m

1.910

8.6

19.61

10.4

2.10

CALIBRATION

CAST

FOR

LCSG

20

15 M

20 m

9/1/06/5

Probe T 9.933

SAL #

31.831

Ratio 81414

80

Depth 20

S‰ 31.846

DIGITAL

6554

5957

FILE 101.CTD

TEMP

AUX

MAIN

AUX MAIN

9.949

10.0

10.15

10.8

10.00

YEAR	91	MONTH	June	TIME ZONE	UTC	SHIP	CRUISE	91-70	PAGE	11 OF 12			
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	SQ03	480	0023 5018.46 0038 12818.32	96	0025	/				10467 31.745	54	✓	CTD to 530
5	SQ02	190	0057 5020.12 0106 12815.00	97	0059	/				10241 31.649	55	✓	CTD to 188
5	SQ01	100	0139 5023.55 0145 12808.59	98	0140	/				9.864 31.754	56	✓	CTD to 99.
5	LCS6	2050	0552 5024.850 12911.897	99	0554	/	/	/		10.001 31.849	57	✓ KKX	
5	LCS6	2050	0532	100		0621		79		/			Calibration file 2000m
5	LCS6	2050	0726	101		0704		80		/			CALIBRATION file at 20m Net haul
5	TCB5	2025	0930 5032.25 1053 12941.61	102	0934	/				10.119 32.085	58	✓	CTD 2000m NET HAUL STN ID. lat + long changed? CTD to 1994.
5	TCB4	2007	1135 5036.71 1222 12931.53	103	1137	/				10.099 31.756	59		
5	TCB3	1825	1301 5040.17 1448 12922.57	104	1302	104	1418		1003 9.823 1022 31.756		60		CTD to 1811. no wind calm hydro to 400.
5	TCB2	170	1527 5045.719 1534 12915.773	105	1529	105	1550		1026 9.938 1033 31.702		61		CTD to 170m. Bottle cast to 150
5	TCB1	115	1612 5049.90 12911.22	106	1623		1639		1034 10.084 1040 31.656		62		CTD to 113m. Bottle cast to 100m.
5	LCS5	1960	18105 5033.54 1938 12903.61	107	1808	107	1911		1083 10.553 1097 31.848		63	✓	CTD to 1943m HYDRO 000m

June 5/91. P.d. time.

TCB2 -

Bottle cast to 150 m. (no surface bottle).
 - Consec 105. water depth 158 & changing
 mess 0850 wire $< 2^{\circ}$
 Felt all bottles trip.

Nom. depth

Oz bottle No

10	1026	6148
20	1027	5734
30	1028	5505
50	1029	4436
75	1030	2464
100	1031	1930
125	1032	1840
150	1033	1636

TCB1 -

Bottle cast 106 to 100 m.

10	1034	5975	water depth 112 and
20	1035	5637	changing - hard bottom
30	1036	4986	mess 0939
50	1038	4742	Felt all trips
75	1039	3517	wire $< 0^{\circ}$
100	2040	1040	} both from 100 m bottles.
	1946	1025	

LCS5

- HYDRO #107 across 1911

angle 0°

Depth.

#

10.	1083	6030
30	1084	5559
50	1085	5116
75	1086	4667
100	1087	4118
125	1088	3197
150	1089	2549
175	1090	2330
200	1092	2272
250	1095	1921
300	1096	1527
400	1097	0916

LCS 3

HYDRO #109

messenger line 22 m angle 0°

10	1099	5740
20	2000	5097
30	2001	4733
50	2002	4266
75	2004	2437
100	2005	2214
125	2006	2052
150	2007	1705
175	2008	1609
190	2009	1500

50m bottle was used

LCS 2

#110

10	2010	6322
20	2012	4840
30	2013	4709
50	2014	4317
75	2015	2302
100	2017	1810

QCS 1 #114

0	1080	5443
10	1057	5389
20	1058	4216
30	1060	3830
50	1061	3250
75	1062	2578
100	1063	2236
125	1064	2111
150	1065	2085
175	1066	1970
200	1067	1951
250	1068	1882
300	1069	1884
400	1072	1752
420	1079	1750

QSC 3

#112

10	1042	6594
20	1043	4544
30	1044	4356
50	1045	3900
75	1046	2929

QCS 42

#113

10	1047	5905
20	1048	4454
30	1049	4784
50	1050	4274
75	1051	3521
100	1052	2484
125	1055	1700
150	1056	1650

MEND 2243 PBT

[illegible]