

DAILY LOG BOOK

MISSION
NUMBER

2003-16

DATE:

From: JUNE 25 to: AUGUST 5

VESSEL:

W.E. RICKER

PROJECT:

Make Survey

Book 1 of

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

Captain: DAVID WENSLEY First Officer: IAN POYNIZ
Second Officer: KEVIN MCKECHIE Third Officer:

Mission Participants / Agencies: IOS PBS / NOAA

Scientific Personnel:		Party Chief: GUY FLEISCHER - NOAA SEATTLE	
Name		Watch	Cabin
CHRIS WILSON	NOAA Seattle		
STEVE DE BLOIS	"		
JOAN HARMS	"		
CURT WHITMIRE	"		
KEVIN MORGAN	OSU - Newport		
SYLVIA PAULY	"		
AMY WHITEHOUSE	NOAA SEATTLE		
HUGH MACLEAN			

Second leg of Mission:		Party Chief: LARRY HUENAGLE - NOAA SEATTLE	
Name		Watch	Cabin
SYLVIA PAULY	GPRs O.S.U.		
KEVIN MORGAN	O.S.U.		
DANIEL MCKENNA	Marine Mammals NOAA		
JULIA CLEMENS	NOAA Newport		
PATRICK RESSLER	"		
WALDO WAKEFIELD	"		
MARY HENDERSON	" SEATTLE		
DWEN HANDEL	"		
REBECCA THOMAS	"		

Data logging computer:

Data acquisition program: CTD deck unit make: SBE model: 11+ serial number: 11818377-04091

Primary CTD

Make: SBE model: 911+ serial number: 0550 ?
Primary temperature serial number: 2668
Primary conductivity serial number: 2424
Secondary temperature serial number: 2374
Secondary conductivity serial number: 2399
Transmissometer: ? Model: ? s/n: 197
Fluorometer: Model SEAPoint Cable gain: 10x0.15 s/n: 2228 P, S or NO pump?
Oxygen sensor: Model: s/n: P, S or NO pump?
PAR sensor: Model: s/n: P, S or NO pump?
Other sensors: s/n: P, S or NO pump?
Other sensors: s/n: P, S or NO pump?
Other sensors: s/n: P, S or NO pump?
Other sensors: s/n: P, S or NO pump?

Secondary CTD

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

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month JUNE					Year 2003			Ship W.E. Ricker				Cruise ID 2003-16		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
25	EKCAL01	10:50	CTD	BE	01	49 12.42	123 57.650	33.3	31.2			KC	✓	Departure Bay EK CAL CTD CAST
30	C02	02:58	CTD	BE	02	36 08.171	121 40.356	44.7	48.1			KC		0629-02 T3
	C03	03:28	CTD	BE	03	36 08.181	121 40.341	440	475			KC		0629-03 T3
	C04	05:06	CTD	BE	04	36 08.12	121 55.02	1196	1190			KC		0629-04 T3
	C05	06:32	CTD	BE	05	36 08.09	122 07.36	1275				KC		0629-05 T3
		0643		BO		36 08.143	122 07.605		1272					
		0658		EN		36 08.173	122 07.690							
	C06	08:12	CTD	BE	06	36 08.130	122 20.016	1680				JH		0629-06 T3
		0826		BO		36 08.149	122 20.149		1682					
		0836		EN		36 08.169	122 20.213							
	C07	16:20	CTD	BE	07	36 38.21	122 04.62	1442				KC		T005
		1628		BO		36 38.235	122 04.607		1433					
		1648		EN										
2	C08	06:19		BE	08	36 48.020	122 27.079	1964						
		0629		BO		36 48.008	122 27.060							
		0640		EN		36 48.030	122 27.086							
	C09	07:50		BE	09	36° 48.14	122 17.51							
		0759		BO		36° 48.16	122° 17'.55	1200						
		0814		EN		36° 48.24	122° 17. 59							

[illegible]

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>July</i>					Year <i>2003</i>			Ship <i>W. E. RICKER</i>				Cruise ID <i>2003-16</i>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
2	C 10	0938	CTD	BE	10	36° 48' .12	122° 8' .52	408							
		0949		BO		36° 48' .17	122° 8' .48	392	380						
		0959		EN		36° 48' .14	122° 8' .54	444							
	C 11	1122	CTD	BE	11	36° 48' .16	121° 55' .07	88							
		1125		BO		36° 48' .17	121° 55' .06	88	78						
		1128		EN		36° 48' .15	121° 55' .05	89							
3	C 12	0852	CTD	BE	12	36° 58' .07	122° 32' .17	415						T: 13.34 Sal: 33.53	
		0902		BO		36° 58' .13	122° 32' .19	408	400						
		0911		EN		36° 58' .12	122° 32' .22	412							
3	C 13	1217	CTD	BE	13	37 08 13	122 58 .92	639						T: 13.39 S: 33.49	
		1220		BO		37 08 14	122 58 .91		500					T: 5.76 S: 34.20 ^{transm.} 69.98	
		1240		EN		37 08 14	122 58 .93							T: 13.38 S: 33.49	
4	C 14	0408	CTD	BE	14	37 28 0	122 59 .87	400			1			T: 12.95 S: 33.36	
		0418		BO		37 28 13	122 59 .94		390	T: 6.78 S: 34.15		TRANS 88.0		SAL FROM 390m	
		0426		EN		37 28 16	122 59 .96							NUTS FROM SURFACE LOOP	

Cast type:
 BOT = bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD

USW = sea water loop
 MOR = mooring
 NET = net haul
 DRF = drifter

bottle firing method:
 • US = up / stop
 • UN = up / no stop
 • DN = down / no stop

Time Code
 • BE = beginning time of cast
 • BO = bottom time of cast
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DE = deployment time
 MR = messenger release time
 RE = recover mooring time

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

22 March 2002
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Additional comments

2561.420 Cruise to pt

267.875

401.1 # 12

456.565 Cruise to pt #13

581.215 TRIP TRAVELLED

DAILY LOG

Ocean Sciences and Productivity Division

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Month JULY					Year			Ship				Cruise ID			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
4	C 15	0821	CTD	BE	15	37 38.15	123 38.07	>2000m			1			T: 15.02 S: 32.84	
		0831		BO		37 38 33	123 38 32	"	500	T: 5.53 S: 34.23	Trans 88.65			SAL @ 500m	
		0842		EN		37 38 45	123 38 54	"						NUTS FROM SURFACE LOOP	
4	C 16	1246	CTD	BE	16	37 38 10	122 54 71	78						T: 12.83 S: 33.43	
		1247		BO		37 38 12	122 54 71		70	T: 9.10 S: 33.95	Trans 80.6			NO SAL	
		1249		EN		37 38 13	122 54 70							NUTS FROM SURFACE LOOP	
5	C 17	0546	CTD	BE	17	38 08 17	123 00 92	59						T: 12.09 S: 33.70	
		0546		BO		38 08 18	123 00 93		50	T: 9.32 S: 33.90	FLUO .47			NO SALINITY	
		0548		EN		38 08 18	123 00 93							NUTS - SURFACE LOOP	
5	C 18	0836	CTD	BE	18	38 08 20	123 20 82	159						T: 11.12 S: 33.86	
		0839		BO		38 08 21	123 20 79		150	T: 7.98 S: 34.06	FLUO .08			NO SALINITY	
		0841		EN		38 08 21	123 20 76							NUTS - SURFACE LOOP	
5	C 19	1010	CTD	BE	19	38 08 07	123 28 71	389						T: 9.66 S: 33.50	
		1017		BO		38 08 05	123 28 81	380		T: 5.97 S: 34.16	FLUO .048			SAL @	
		1025		EN		38 08 05	123 28 77							NUTS - SURFACE	

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Additional comments

612.625 Trip dist #

779.070 Trip dist #

DAILY LOG

Ocean Sciences and Productivity Division

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Month <i>July</i>					Year			Ship				Cruise ID		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
5	C20	1227	CTD	BE	20	38 08 07	123 37 44	1200			1			T: 10.84 S: 33.31
		1238		BO		38 07 97	123 37 56		500	T: 5.74 S: 34.10	FLOR 0.44			SAL @ 500 m
		1247		EN		38 07 90	123 37 66							NUTS @ SURFACE
6	C21	0653	CTD	BE	21	38 28 .16	123 16 .56	78		T: 9.138 S: 33.93	FLOR .33			T: S:
		0658		BO		38 28 .16	123 16 .59		70	T: 8.51 S: 33.99	.013			NO SALINITY BOTTLE
		0700		EN		38 28 .15	123 16 .60							NUTS. @ SURFACE (NEW)
6	C22	0933	CTD	BE	22	38° 28 04	123 31 . 28	154		T: 9.31 S: 33.63	FLOR			
		0936		BO		38° 28 05	123 31 31		145	T: 8.08 S: 34.05	.077			NO SALINITY BOTTLE
		0939		EN		38 28 05	123 31 32							NUTS @ SURFACE
6	C23	1055	CTD	BE	23	38° 28 .12	123 38 .10	335		T: 9.44 S: 33.72				
		1101		BO		38° 28 .08	123 38 .08	332	320	T: 6.77 S: 34.11	FLOR 0.048			bottle sal. @ 320 m
		1107		EN		38° 28 .07	123 38 .09	331			1 bottle			NUTS. @ SURFACE
6	C24	12129	CTD	BE	24	38° 28 .02	123 47 .57	1480	503	T: 10.86 S: 33.17				bottle sal @ 500 m
		12138		BO		38° 27 .95	123° 47 .72	1215		T: 5.85 S: 34.17	FLOR 0.04			Nutrients @ Surface
		12147		EN		38° 27 .87	123 47 .84				1 bottle			

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Additional comments

808.77 Trip distance ID

922.910

940.090

947.950

DAILY LOG

Ocean Sciences and Productivity Division

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Month <u>JULY</u>					Year			Ship				Cruise ID		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
7	C25	0817	CTD	BE	25	38 57.98	124 19.44	1500			1			T: 10.11 S: 32.95
		0826		BO		38 57.99	124 19.55		500*	(OVER PAGE)				T: 5.34 S: 34.15 F: 0.44
		0837		EN		38 57.97	124 19 65		(523)					SAL @ 500 / NUTS @ SURFACE
7	C26	1113	CTD	BE	26	38 58 06	123 57 82	440			1			T: 10.21 S: 33.68
		1121		BO		38 58 08	123 57 95		430					T: 5.96 S: 34.16 F: 0.48
		1129		EN		38 58 06	123 57 86							SAL @ 430 / NUTS @ SURFACE
7	C27	1150	CTD	BE	27	38 58 03	123 55 33	140			—			T: 9.98 S: 33.72
		1153		BO		38 58 12	123 55 34		130					T: 7.71 S: 34.03
		1155		EN		38 58 13	123 55 35							NO SAL / NUTS FROM SURFACE
7	C28	1248	CTD	BE	28	38 58 14	123 46 91	69			—			T: 9.18 S: 33.87
		1250		BO		38 58 16	123 46 92		60					T: 8.62 S: 33.97
		1251		EN		38 58 17	123 46 92							NO SAL / NUTS FROM SURFACE
8	C29	0523	CTD	BE	29	39° 38 .17	123 50 . 09	71			—			T: 11.92 S: 33.67 FL: 1
		0528		BO		39° 38 .17	123 50 . 09		65					T: 8.48 S: 33.99 FL: 0.234
		0526		EN		39° 38 .17	123 50 . 10							No Sal / NUTS @ Surface

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Additional comments

1086.96

* STOPPED @ 500m FOR SAL BOTTLE THEN WENT DEEPER TO FIX LOOSE WIRE ON DAPM - FINAL DEPTH = 523m

1104.59

1106.775

1113.53

1244.98

DAILY LOG

Ocean Sciences and Productivity Division

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Month <i>July</i>					Year			Ship				Cruise ID		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
8	C 30	0610	CTD	BE	30	39° 38.04	123 57.19	164			—			T: 10.03 S: 33.36
		0613		BO		39° 38.04	123 57.20		155					T: 7.64 S: 34.07 FL 121
		0616		EN		39° 38.02	123 57.20	164						No Sal. - got surface nuts
8	C 31	0657	CTD	BE	31	39° 38.04	124 1.23	469			1			T: 8.83 S: 33.54
		0705		BO		39° 38.09	124 1.28		460					T: 5.98 S: 34.15 FL 149
		0714		EN		39 38 14	124 01 31							SAL @ 460 / NUTS @ SURFACE
8	C 32	0911	CTD	BE	32	39° 38.17	124 20.01	1416			1			T: 12.08 S: 32.94
		0920		BO		39° 38.21	124 20.00		500					T: 5.39 S: 34.17 FL 048
		0933		EN		39° 38.18	124 19.83							SAL @ 500 / NUTS @ SURFACE
8	C 33	1038	CTD	BE	33	39° 38.13	124 29 05				1			T: 11.24 S: 32.91
		1047		BO		39° 38 13	124 29 05		500					T: 5.32 S: 34.16 FL 040
		1056		EN		39° 38 13	124 29 04							SAL @ 500 / NUTS @ SURFACE
9	C 34	0525	CTD	BE	34	39 58 06	124 13 66	405			1			T: 9.58 S: 32.24
		0533		BO		39 58 07	124 13 70		395					T: 6.34 S: 34.13
		0541		EN		39 58 10	124 13 77							SAL @ 395 / SURFACE NUTS

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Additional comments

1250.430 Trip ID #

1253.705

1268.32

→ Went to 577 m to straighten cable. Samples @ 500 m.

577 m @ 0923 = temp 5.06 Sal 34.21 Fluor 0.044

1275.750

1405.57

DAILY LOG

Ocean Sciences and Productivity Division

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Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
9	C 35	0606	CTD	BE	35	38 58 15	124 10 54	146			/			T: 9.80 S: 33.72	
		0610		BO		38 58 20	124 10 55		140					T: 7.69 S: 34.07	
		0612		EN		38 58 21	124 10 55							NO SAL / NUTS SURFACE	
9	C 36	0856	CTD	BE	36	39 58 .01	124 28 43	1133			1			T: 9.46 S: 33.57	
		0906		BO		39 57 94	124 28 53		500					T: 5.30 S: 34.5	
		0915		EN		39 57 87	124 28 62							SAL @ 500 / NUTS @ SURFACE	
9	C 37	1605	CTD	BE	37	39 58 22.	124 55. 41		1071		1			T: 15.91 S: 32.29	
		1614		BO		39 58 17	124 55 34			500				T: 5.32 S: 34.15	
		1623		EN		39 58 17	124 55 36							SAL @ 500 / NUTS @ SURFACE	
10	C 38	0519	CTD	BE	38	40° 27 .95	124 34 .63	105			—			T: 11.21 S: 33.67	
		0522		BO		40 27 .94	124 34 .65	105	100					T: 7.88 S: 34.00	
		0524		EN		40 27 .92	124 34 .69							NO SAL / NUTS @ SURFACE	
10	C 39	0545	CTD	BE	39	40° 27 93	124 37 80	514			1			T: 12.09 S: 33.64	
		0556		BO		40' 27 90	124 37 90	534	500					T: 6.15 S: 34.13	
		0604		EN		40 27 86	124 37 98							SAL @ 500 / NUTS @ SURFACE	

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Additional comments

1408.19 trip 10 distance #

1422.155

1574.52

1577.00

DAILY LOG

Ocean Sciences and Productivity Division

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Month JULY					Year 2003			Ship WE RICKER				Cruise ID 2003-16		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
10	C 40	0800	CTD	BE	40	40° 27.92	125 01.98	1140			1			T: 12.74 Sal: 33.02
		0810		BO		40° 27.86	125 02.24		500					T: 5.16 Sal: 34.16
		0820		EN		40 27.81	125 02 51							Salinity @ 500 nutrients
10	C 41	0941	CTD	BE	41	40 28.18	125 17.34	>1500			1			
		0956		BO		40 28.24	125 17.40		500					T: 13.1 Sal: 32.6
		1000		EN		40 28 20	125 17.48							T: 5.18 Sal: 34.5
														Salinity @ 500, say 1000
11	C 42	0511	CTD	BE	42	40 58 11	124 22 01	155						T: 14.34 S: 33.48
		0515		BE		40 58 12	124 22 03		150					T: 7.38 S: 34.03
		0517		EN		40 58 12	124 22 03							NO SAL / NUTS @ SURFACE
11	C 43	0550	CTD	BE	43	40 58 09	124 26 66	366						T: 13.29 S: 32.94
		0558		BO		40 58 05	124 26 67		360					T: 6.24 S: 34.09
		0604		EN		40 58 05	124 26 69							SAL @ 360 / NUTS @ SURFACE
11	C 44	0900	CTD	BE	44	40 58 10	124 54 17	1472						T: 15.75 S: 32.18
		0908		BO		40 58 06	124 54 17		500					T: 5.40 S: 34.15
		0915		EN		?	?							Sal @ 500 / NUTS @ Surface

Additional comments

1595.570

1607.21

1749.42

1753.04

1774.54

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						Latitude	Longitude							
11	C45	1039	CTD	BE	45	40 58 58	125 07 20	3000			1			T: 14.61 S: 32.23
		1049		BO		40 58 67	125 07 03		500					T: 5.61 S: 34.13
		1059		EN		40 58 66	125 06 88							SAL@ 500 / NUTS@ SURFACE
13	C46	0504	CTD	BE	46	41 28 13	124 27 57	147			—			T: 13.36 S: 33.23
		0507		BO		41 28 14	124 27 60		140					T: 7.58 S: 34.00
		0509		EN		41 28 14	124 27 61							NUTS@ SURFACE - NO SALINITY
13	C47	0539	CTD	BE	47	41 28 16	124 31 98	499			1			T: 13.67 S: 13.14
		0549		BO		41 28 18	124 31 97	501	490					T: 5.50 S: 34.15
		0557		EN		41 28 13	124 31 90							SAL@ 490 / NUTS@ SURFACE
13	C48		CTD	BE	48	41 28 15	124 51 18	916			1			T: 14.30 S: 32.80
		0753		BO		41 28 24	124 51 13	920	502					T: 5.14 S: 34.18
		0803		EN		41 28 29	124 51 12	923						NO SALINITY* / NUTS@ SURFACE
13	C49	0918	CTD	BE	49	41 28 12	125 04 06	< 1500			1			T: 13.94 S: 32.97
		0927		BO		41 28 10	125 04 09		501					T: 5.16 S: 34.19
		0937		EN		41 28 00	125 04 12							SALINITY@ 500 / NUTS@ SURFACE

Cast type: BOT = bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD

USW = sea water loop
 MOR = mooring
 NET = net haul
 DRF = drifter

• bottle firing method:
 • US = up / stop
 • UN = up / no stop
 • DN = down / no stop

• Time Code
 • BE = beginning time of cast
 • BO = bottom time of cast
 • EN = end of cast time

DE = deployment time
 MR = messenger release time
 RE = recover mooring time

* Code No. 4
 A Scientist Interfered

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

22 March 2002
 Daily_log_book.doc

Additional comments

1784.60

1975.37

1978.69

1993.49

2003.52

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>July</i>					Year <i>2003</i>			Ship <i>WE RICKER</i>			Cruise ID <i>2003-16</i>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
14	C50	0712	CTD	BE	50	41 48.07	124 27.53	145						T: 12.55 S: 33.53
		0715		BO		41 48.04	124 27.55		140	SBE 39 ATTACHED				T: 7.59 S: 33.98
		0717		EN		41 48.00	124 27.56							Nuts @ surface / No salinity
14	C51	0751	CTD	BE	51	41 48 12	124 32 20	461			1			T: 13.37 S: 33.35
		0759		BO		41 48 12	124 32 19		455					T: 5.58 S: 34.13
		0807		EN		41 48 .05	124 32 .23	461						SAL @ 455 / NUTS @ SURFACE
14	C52	1013	CTD	BE	52	41 48 16	124 55 13	999		SBE 39 ATTACHED	1			T: 14.80 S: 32.59
		1022		BO		41 48 15	124 55 12		500					T: 5.17 S: 34.17
		1032		EN		41 48 18	124 55 11							SAL @ 500 / NUTS @ SURFACE
14	C53	1129	CTD	BE	53	41 48 13	125 05 03	1380			1			T: 15.12 S: 32.64
		1138		BO		41 48 18	125 05 04		500					T: 5.10 S: 34.18
		1147		EN		41 48 15	125 05 03							SAL @ 500 / NUTS @ SURFACE
15	C54	0424	CTD	BE	54	42 08 11	124 38 46	433			1			T: 11.57 S: 33.06
		0432		BO		42 08 05	124 38 49		425					T: 5.83 S: 34.11
		0440		EN		42 08 03	124 38 52							SAL @ 425 / NUTS @ SURFACE

Additional comments

2164.58 - SBE 39 ATTACHED TO TEST DEPTH AGAINST SBE 911

2168.25

2185.56 SBE 39 ATTACHED

2193.24

2326.13

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship				Cruise ID		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
15	C55	0509	CTD	BE	55	42 08.04	124 34 81	176			/			T: 12.73 S: 33.55
		0513		BO		42 08 03	124 34 87		170					T: 7.05 S: 34.04
		0516		EN		42 08 03	124 34 90							NO SAL / NUTS @ SURFACE
15	C56	0839	CTD	BE		42 08 05	125 11 02	7200m						T: 16.83 S: 31.75
		0849		BO		42 07 97	125 11 19		500					T: 5.29 S: 34.17
		0859		EN		42 07 95	125 11 36							SAL @ 500 / NUTS @ SURFACE
15	C57	1029	CTD	BE		42 08 07	124 56 28	1155			/			T: 14.78 S: 32.61
		1039		BO		42 08 05	124 56 40		500					T: 5.24 S: 34.17
		1047		EN		42 08 04	124 56 48							SAL @ 500 / NUTS @ SURFACE
16	C58	0402	CTD	BE		42 28.13	124 45.32	152			/			T: 12.41 S: 33.40
		0405		BO		42 28.13	124 45.38		145					T: 7.33 S: 34.02
		0408		EN		42 28.13	124 45.40							NO SAL / NUTS @ SURFACE
16	C59	0440	CTD	BE		42 28 12	124 50 26	426			1			T: 13.18 S: 33.18
		0450		BO		42 28 06	124 50 41		420					T: 5.68 S: 34.12
		0458		EN		42 28 06	124 50 54							SAL @ 420 / NUTS @ SURFACE

Cast type:
BOT = bottle cast, no CTD
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NET = net haul
DRF = drifter

• bottle firing method:
• US = up / stop
• UN = up / no stop
• DN = down / no stop

• Time Code
• BE = beginning time of cast
• BO = bottom time of cast
• EN = end of cast time

DE = deployment time
MR = messenger release time
RE = recover mooring time

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

22 March 2002
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Additional comments

2329.25

2356.04

2367.54

2487.14

2490.86

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship				Cruise ID			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
16	C60	0711	CTD	BE	60	42 28 18	125 13 20	7200		SBE 39 ATTACHED	1			T: 16.88 S: 31.66	
		0720		BO		42 28 24	125 13 20		500	VEMCO'S ATTACHED				T: 5.14 S: 34.14	
		0729		EN		42 28 27	125 13 16							SAL @ 500 / NUTS @ SURFACE	
16	C61	0908	CTD	BE	61	42 28 02	125 27 30	7200		SBE 39 ATTACHED	1			T: 17.53 S: 31.46	
		0917		BO		42 28 06	125 27 25		500	VEMCO'S ATTACHED				T: 5.15 S: 34.13	
		0928		EN		42 28 08	125 27 15							SAL @ 500 / NUTS @ SURFACE	
17	C62	0422	CTD	BE	62	42 58 09	125 13 50	>2000			1			T: 16.58 S: 31.63	
		0432		BO		42 58 14	125 13 68		500					T: 5.24 S: 34.17	
		0440		EN		42 58 12	125 13 84							SAL @ 500 / NUTS @ SURFACE	
17	C63	0640	CTD	BE		42 58 10	124 55 64	429			1			T: 13.82 S: 33.22	
		0649		BO		42 58 16	124 55 72		420					T: 5.79 S: 34.11	
		0658		EN		42 58 19	124 55 74							SAL @ 420 / NUTS @ SURFACE	
17	C64	0806	CTD	BE		42 58 13	124 46 55	154						T: 14.08 S: 33.08	
		0809		BO		42 58 14	124 46 55		145					T: 7.23 S: 34.00	
		0812		EN		42 58 15	124 46 55							NO SAL / NUTS @ SURFACE	

Cast type:
BOT = bottle cast, no CTD
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DRF = drifter

• bottle firing method:
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• UN = up / no stop
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• BE = beginning time of cast
• BO = bottom time of cast
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MR = messenger release time
RE = recover mooring time

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

Additional comments

SBE 39 + VEMCO PACKAGE ATTACHED TO TEST DEPTH WITH 911+

2508.57

2674.80

2688.40

2695.57

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship				Cruise ID		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
17	C65	0935	CTD	BE	65	42 58 13	124 31 59	52			/			T: 10.64 S: 33.61
		0937		BO		42 58 14	124 31 58		45					T: 7.95 S: 33.89
		0938		EN		42 58 14	124 31 58							NO SAL / NUTS @ SURFACE
18	C66	0429	CTD	BE	66	43 08 08	124 39 58	149			/			T: 13.53 S: 32.77
		0432		BO		43 08 04	124 39 60		145					T: 7.17 S: 34.01
		0434		EN		43 08 01	124 39 63							NO SAL / NUTS @ SURFACE
18	C67	0553	CTD	BE	67	43 08 08	124 52 96	436			1			T: 14.37 S: 32.07
		0601		BO		43 08 08	124 53 11		430					T: 5.93 S: 34.11
		0608		EN		43 08 05	124 53 25							Sal @ 430 / NUTS @ Surface lost in a boating accident.
18	C68	0756	CTD	BE	68	43 08 11	125 12 97	~2000			1			T: 15.97 S: 31.68
		0805		BO		43 08 10	125 13 27		500					T: 5.38 S: 34.15
		0815		EN		43 08 13	125 13 52							Sal @ 500 / NUTS @ Surface
18	C69	0918	CTD	BE	69	43 08 09	125 24 80	~2000			1			T: 16.10 S: 31.54
		0926		BO		43 08 12	125 25 04		500					T: 5.39 S: 34.15
		0935		EN		43 08 15	125 25 22							Sal @ 500 / NUTS @ Surface

Cast type:
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DRF = drifter

bottle firing method:
US = up / stop
UN = up / no stop
DN = down / no stop

Time Code
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BO = bottom time of cast
EN = end of cast time

DE = deployment time
MR = messenger release time
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Transmissometer to be cleaned for each cast, do not use Ammonia products

Additional comments

2706.57

2828.92

2838.80

2853.50

2861.8

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month July					Year 2003			Ship WE RICKER				Cruise ID 2003-16			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
19	C70	0546	CTD	BE	70	43 28.10	124 33.97	152			—			T: 15.10 S: 32.25	
		0550		BO		43 28.09	124 34.01		145					T: 7.25 S: 33.98	
		0601		EN		43 28.07	124 34.02							No Sal / Nuts @ Surface	
19	C71	0652	CTD	BE	71	43 28.09	124 41.34	405			1			T: 15.44 S: 32.16	
		0659		BO		43 28.11	124 41.38		401					T: 5.701 S: 34.11	
		0707		EN		43 28.02	124 41.37							Sal @ 401 / Nuts @ Surface	
19	C72	0918	CTD	BE	72	43 28.10	125 04.99	1170			1			T: 16.86 S: 31.22	
		0926		BO		43 28.09	125 04.99		500					T: 5.15 S: 34.13	
		0936		EN		43 28.12	125 05.02							Sal @ 500 / Nutrients @ Surface	
19	C73	1024	CTD	BE	73	43 28.11	125 13.76	1209			1			T: 17.11 S: 31.22	
		1033		BO		43 28.09	125 13.89		500					T: 5.26 S: 31.14	
		1041		EN		43 28.08	125 14.00							SAL @ 500 / NUTS @ SURFACE	
20	C74	0541	CTD	BE	74	43 58.12	124 35.39	164			—			T: 16.49 S: 31.83	
		0545		BO		43 58.11	124 35.38		155					T: 6.99 S: 33.99	
		0547		EN		43 58.09	124 35.35							No Sal / Nuts @ Surface	

Cast type:
BOT = bottle cast, no CTD
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USW = sea water loop
MOR = mooring
NET = net haul
DRF = drifter

bottle firing method:
US = up / stop
UN = up / no stop
DN = down / no stop

Time Code
BE = beginning time of cast
BO = bottom time of cast
EN = end of cast time

DE = deployment time
MR = messenger release time
RE = recover mooring time

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

Additional comments

3037.45

3043.00

3062.08

3068.62

3235.02

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship				Cruise ID		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
20	C75	0733	CTD	BE	75	43 58 07	124 58 01	408			1			T: 18.25 S: 31.75
		0740		BO		43 58 07	124 58 00		400					T: 5.88 S: 34.09
		0747		EN		43 58 08	124 57 98							SAL @ 400 / NUTS @ SURFACE
20	C76	0908	CTD	BE	76	43 58 13	125 14 13	72000			1			T: 18.79 S: 30.99
		0917		BO		43 58 10	125 14 09		500					T: 5.12 S: 34.12
		0926		EN		43 58 13	125 14 11							SAL @ 500 / NUTS @ SURFACE
20	C77	1055	CTD	BE	77	43 58 13	125 26 80	72000			1			T: 18.90 S: 30.61
		1105		BO		43 58 08	125 26 81		500					T: 5.05 S: 34.08
		1113		EN		43 58 01	125 26 82							SAL @ 500 / NUTS @ SURFACE
21	C78	0415	CTD	BE	78	44 18 11	125 18 01	1192			1			T: 18.71 S: 31.24
		0425		BO		44 18.13	125 18.06		500					T: 4.91 S: 34.09
		0432		EN		44 18.14	125 18 06							SAL @ 500 / NUTS @ SURFACE
21	C79	0614	CTD	BE	79	44 18 10	124 59.00	660						T: 17.92 S: 31.65
		0623		BO		44 18.07	124 59.13	664	501		1			T: 5.33 S: 34.14
		0631		EN		44 18.10	124 59.16							SAL @ 500 / NUTS @ SURFACE

Cast type:

BOT = bottle cast, no CTD
CTD = CTD without Rosette
ROS = Rosette plus CTD

USW = sea water loop
MOR = mooring
NET = net haul
DRF = drifter

• bottle firing method:
• US = up / stop
• UN = up / no stop
• DN = down / no stop

• Time Code

• BE = beginning time of cast
• BO = bottom time of cast
• EN = end of cast time

DE = deployment time
MR = messenger release time
RE = recover mooring time

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

22 March 2002
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Additional comments

3251	21
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32	62.	83
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32	72.	25
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3405	220
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34	9.12
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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>July</u>					Year <u>2003</u>				Ship <u>WE RICKER</u>				Cruise ID <u>2003-16</u>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments		
						Latitude	Longitude									
21	C 80	0802	CTD	BE	80	44 18.06	124 49.13	149			—			T: 17.14 S: 31.53		
		0805		BO		44 18.06	124 49.14		145					T: 7.08 S: 33.97		
		0808		EN		44 18.07	124 49.16							No Sal / Nuts @ Surface		
21	C 81	1108	CTD	BE	81	44 18.14	124 18.39	72			—			T: 15.86 S: 32.45		
		1110		BO		44 18.14	124 18.39		66					T: 7.11 S: 33.95		
		1111		BN		44 18.13	124 18.39							No Sal / Nuts @ Surface		
*	HUGH HAS TAKEN THE BACK UP ZIP DISKS (2) TO 105 - CAST 01 - 81								BACK-UP 01-81 STILL ON 'D' DRIVE							
24	C 82	0515	CTD	BE	82	44 48.15	124 28.91	162			—	Sylvia		T: 12.44 S: 31.86		
		0518		BO		44 48.08	124 29.05		155					T: 6.96 S: 33.92		
		0522		EN		44 48.02	124 29.26							No Sal / Nuts @ surface		
24	C 83	0658	CTD	BE	83	44 48.25	124 45.72	425			1	Sp		T: 14.48 S: 31.53		
		0710		BO		44 48.33	124 46.07	430	400*					T: 5.87 S: 34.05		
		0719		EN		44 48.25	124 46.05							Sal@ / Nuts @ surface		
														* problems w/ ship engine irregular decent / ascent		

Cast type: BOT = bottle cast, no CTD
USW = sea water loop
MOP = mooring
bottle firing method: Y2
Time Code

Cast type:

BOT = bottle cast, no CTD
CTD = CTD without Rosette
ROS = Rosette plus CTD

USW = sea water loop
MOR = mooring
NET = net haul
DRF = drifter

bottle firing method:
• US = up / stop
• UN = up / no stop
• DN = down / no stop

Time Code

• BE = beginning time of cast
• BO = bottom time of cast
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DE = deployment time
MR = messenger release time
RE = recover mooring time

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

22 March 2002
Daily_log_book.doc

Additional comments

3426.82

3448.82

3677.35

3689.30

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month JULY					Year 2003			Ship WE RICKER				Cruise ID 2003-16		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
24	C84	0926	CTD	BE	84	44° 48.23	125 07.90	1800			1	Sp		T: 17.28 S: 30.90
		0936		BO		44° 48.28	125 08.07		500					T: 5.14 S: 34.13
		0947		EN		44° 48.32	125 08.10							Sal @ 500 / Surface Nuts.
25	C85	0545	CTD	BE	85	45° 08.10	124 14.83	162			—	Sp		T: 13.21 S: 31.76
		0548		BO		45 08.05	124 14.88		155					T: 6.70 S: 33.99
		0551		EN		45 08.02	124 14.90	163						No Sal / Surface Nutrients
25	C86	0735	CTD	BE	86	45 08.24	124 35.97	380			1	Sp	✓	T: 16.53 S: 30.75
		0742		BO		45 08.18	124 36.05		378					T: 5.73 S: 34.05
		0751		EN		45 08.13	124 36.06							Sal @ 378 / Surface Nutr.
25	C87	1016	CTD	BE	87	45 08.84	125 9.01	>			1	Sp		T: 12.64 S: 30.59
		1028*		BO		45 08.89	125 8.9		500					T: 5.27 S: 34.12
		1036*		EN		45 08.94	125 8.95							Sal @ 500 / Surface Nutr.
26	C88	0525	CTD	BE	88	45 28.11	124 22.18	182			—	Sp		T: 15.63 S: 30.89
		0528		BO		45 28.09	124 22.15	183	179					T: 6.57 S: 33.99
		0532		EN		45 28.05	124 22.13							No Sal / Nuts @ Surface

Cast type:
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MOR = mooring
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bottle firing method:
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Time Code
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MR = messenger release time
RE = recover mooring time

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

22 March 2002
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* C87 NMEA clock interface failed (all other readings - except decent rate, which is clock dependant seem to be OK). Used watch for time data. Test run after cast showed clock working again

Additional comments

3705.80

3865.11

3879.94

3903.01

4063.82

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>July</i>					Year <i>2003</i>			Ship <i>US RICKER</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
<i>26</i>	<i>C89</i>	<i>0620</i>	<i>CTD</i>	<i>BE</i>	<i>89</i>	<i>45 28.11</i>	<i>124 30.83</i>	<i>458</i>			<i>1</i>	<i>Sp</i>		<i>T: 16.54 S: 29.45</i>
		<i>0630</i>		<i>BO</i>		<i>45 27.96</i>	<i>124 31.04</i>		<i>450</i>					<i>T: 5.34 S: 34.08</i>
		<i>0638</i>		<i>EN</i>		<i>45 27.86</i>	<i>124 31.12</i>							<i>Sal @ 360 / Nuts @ Surf</i>
														<i>(34.05) ←</i>
<i>26</i>	<i>C90</i>	<i>0923</i>	<i>CTD</i>	<i>BE</i>	<i>90</i>	<i>45 28.53</i>	<i>125 4.98</i>	<i>71500</i>			<i>1</i>			<i>T: 17.78 S: 31.73</i>
		<i>0931</i>		<i>BO</i>		<i>45 28.53</i>	<i>125 4.98</i>		<i>502</i>					<i>T: 5.19 S: 34.09</i>
		<i>0942</i>		<i>EN</i>		<i>45 28.55</i>	<i>125 5.01</i>							<i>Sal @ 502 / Nuts @ Surf</i>
<i>27</i>	<i>C91</i>	<i>0408</i>	<i>CTD</i>	<i>BE</i>	<i>91</i>	<i>45 48.14</i>	<i>124 28.37</i>	<i>160</i>			<i>—</i>	<i>Sp</i>	<i>✓</i>	<i>T: 16.13 S: 25.60</i>
		<i>0410</i>		<i>BO</i>		<i>45 48.10</i>	<i>124 28.46</i>		<i>155</i>					<i>T: 6.63 S: 33.97</i>
		<i>0413</i>		<i>EN</i>		<i>45 48.03</i>	<i>124 28.52</i>							<i>No Sal / Nuts @ Surf</i>
<i>27</i>	<i>C92</i>	<i>0525</i>	<i>CTD</i>	<i>BE</i>	<i>92</i>	<i>45 48.15</i>	<i>124 44.35</i>	<i>388</i>			<i>1</i>			<i>T: 17.01 S: 31.65</i>
		<i>0533</i>		<i>BO</i>		<i>45 48.13</i>	<i>124 44.36</i>		<i>380</i>					<i>T: 5.94 S: 34.03</i>
		<i>0539</i>		<i>EN</i>		<i>45 48.10</i>	<i>124 44.35</i>							<i>Sal @ 381 / Nuts @ Surface</i>
<i>27</i>	<i>C93</i>	<i>0740</i>	<i>CTD</i>	<i>BE</i>	<i>93</i>	<i>45 48.57</i>	<i>125 11.30</i>	<i>71600</i>			<i>1</i>			<i>T: 17.55 S: 31.8</i>
		<i>0751</i>		<i>BO</i>		<i>45 48.56</i>	<i>125 11.31</i>		<i>502</i>					<i>T: 4.97 S: 34.11</i>
		<i>0802</i>		<i>EN</i>		<i>45 48.68</i>	<i>125 11.32</i>							<i>Sal @ 502 / Nuts @ Surface</i>

Additional comments

4070.35

4093.94

4249.20

4260.24

4279.22

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>July</i>					Year <i>2003</i>			Ship <i>WE RICKER</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
27	C94	0837	CTD	BE	94	45° 47.38	125 17.80	1900			1	Sp		T: 17.85 S: 31.97
		0847		BO		45 47.45	125 17.75		504					T: 5.01 S: 34.10
		0853		EN		45 47.47	125 17.78							Sal@504 / Nuts@SURFACE
28	C95	0519	CTD	BE	95	46 8.10	124 34.73	150			—	Sp		T: 14.39 S: 32.06
		0522		BO		46 8.05	124 34.75		147					T: 6.72 S: 33.95
		0524		EN		46 8.02	124 34.74							No Sal / Nuts. @ SURFACE
28	C96	0602	CTD	BE	96	46 8.13	124 41.49	512			1			T: 14.65 S: 31.74
		0608		BO		46 8.09	124 41.50		500					T: 5.40 S: 34.07
		0618		EN		46 8.06	124 41.57							Sal@500 / Nuts @ SURFACE
28	C97	0821	CTD	BE	97	46 8.17	125 5.23				1			T: 17.49 S: 31.78
		0832		BO		46 8.20	125 5.25		500					T: 4.95 S: 34.09
		0842		EN		46 8.23	125 5.22							Sal@500 / Nuts @ SURFACE
29	C98	0527	CTD	BE	98	46 28.09	124 30.01	170			—		✓	T: 13.85 S: 32.24
		0530		BO		46 28.05	124 29.96		163					T: 6.84 S: 33.95
		0533		EN		46 28.05	124 29.97							No Sal / Nuts @ SURFACE

Cast type:

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USW = sea water loop

MOR = mooring
 NET = net haul
 DRF = drifter

• bottle firing method:

• US = up / stop
 • UN = up / no stop
 • DN = down / no stop

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RE = recover mooring time

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

22 March 2002

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Additional comments

4284.27

4464.57

4469.47

4657.33

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month July					Year 2003			Ship WE RICKER				Cruise ID 2003-16		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
29	C 99	0551	CTD	BE	99	46 28.05	124 32.12	400			1	Sp		T: 14.79 S: 32.16
		0557		BO		46 28.05	124 32.12	367	365					T: 5.84 S: 34.03
		0604		EN		46 27.94	124 31.98	340						Sal @ 365 / Nuts @ SURFACE
29	C 100	0743	CTD	BE	100	46 37.99	124 42.05	436			1			T: 14.74 S: 32.15
		0752		BO		46 37.90	124 41.95	373	369					T: 5.84 S: 34.03
		0800		EN		46 37.83	124 41.88	370						Sal @ 369 / Nuts @ SURFACE
29	C 101	0833	CTD	BE	101	46 38.17	124 36.23	142			—			T: 14.63 S: 32.29
		0837		BO		46 38.13	124 36.18		138					T: 6.70 S: 33.96
		0840		EN		46 38.09	124 36.15							No Sal / Nuts @ SURFACE
30	C 102	0513	CTD	BE	102	46 58.14	124 49.30	166			—			T: 15.73 S: 31.89
		0516		BO		46 58.15	124 49.32		160					T: 6.76 S: 33.90
		0519		EN		46 58.12	124 49.26							No Sal / Nuts @ SURFACE
30	C 103	0630	CTD	BE	103	46 58.12	125 2.54	796			1			T: 16.35 S: 31.71
				BO		46 58.08	125 2.65	805	500					T: 5.28 S: 34.08
		0647		EN		46 57.97	125 2.78	829						Sal @ 502 / Nuts @ SURFACE

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Additional comments

4659.10 steep canyon, drifted up

4671.77 steep canyon w/ "high mounds"

4675.82

4843.950

4853.410

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>July</i>					Year <i>2003</i>			Ship <i>WE RICKER</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
30	C104	0757	CTD	BE	104	46 58.21	125 16.25	2000			1	Sp		T: 16.415; 31.62
		0806		BO		46 58.21	125 16.41		500					T: 5.05 S: 34.11
		0812		EN		46 58.22	125 16.42							Sal @ 501 / Nuts @ Surface
31	C105	0548	CTD	BE	105	47 18.13	125 24.98	~1300			1			T: 15.75 S: 31.67
		0556		BO		47 18.03	125 25.10		500					T: 5.04 S: 34.10
		0605		EN		47 17.95	125 25.25							Sal @ 495 / Nuts @ Surface
31	C106	0907	CTD	BE	106	47 18.20	124 51.21	~208*						T: 14.09 S: 31.09
		0911		BO		47 18.17	124 51.28		193					T: 6.64 S: 33.97
		0915		EN		47 18.16	124 51.33							No sal / Nuts @ Surface
31	C107	0937	CTD	BE	107	47 18.11	124 54.47	~600*			1			T: 14.35 S: 31.86
		0946		BO		47 18.06	124 54.57		503					T: 5.21 S: 34.09
		0952		EN		47 18.03	124 54.39							Sal @ 503 / Nuts @ Surface
1	C108	0507	CTD	BE	108	47 48.09	125 42.15	1215		Send M @ 7:10	1	Sp	✓	T: 14.87 S: 31.79
		0522		BO		47 47.94	125 42.20		1000	6 min				T: 3.61 S: 34.38
		0546		EN		47 47.69	125 42.30	1227						Sal @ 762* / Nuts @

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bottle firing method:

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Time Code

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RE = recover mooring time

C108

@ 500 T: 5.02 S: 34.09

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

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* Ship's depth sounder down; waiting down depth recorded in this afternoon's pass.

Additional comments

4863.030

5049.020

5072.780

5075.185

5224.225 * initially sent messenger @ 770 ft down, - allowed 6 min to fall. However - upon retrieval messenger was found to be stuck in cable grease. When CTD was @ 762 M. Re-Sent messenger then, - waited four minutes (05:29:40 > 05:34:00) for bottle to trip. Sal @ 762M was 34.24 in Sea Sav Scheme

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>AUGUST</i>					Year <i>2003</i>			Ship <i>WE RICKER</i>				Cruise ID <i>2003-16</i>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
1	C109	0820	CTD	BE	109	47 48.15	125 7.23	387			1	Sp		T: 14.32 S: 31.74	
		0827		BO		47 48.15	125 7.30		381					T: 5.57 S: 34.04	
		0836		EN		47 48.11	125 7.37	391						Sal @ 381 / Nuts AT SURFACE	
1	C110	0910	CTD	BE	110	47 48.28	125 2.48	143			—			T: 14.43 S: 31.69	
		0912		BO		47 48.	125 2.42		135					T: 6.75 S: 33.87	
		0915		EN		47 48.20	125 2.40							No Sal / Nuts @ SURFACE	
1	C111	1143	CTD	BE	111	47 48.15	125 34.05	1155			1			T: 14.77 S: 31.84	
		1152		BO		47 48.24	125 34.09		500					T: 5.12 S: 34.08	
		1202		EN		47 48.27	125 34.05							Sal @ 502 / Nuts @ SURFACE	
2	C112	0555	CTD	BE	112	48 8.08	125 39.98	190			1		✓	T: 14.65 S: 31.91	
		0558		BO		48 8.00	125 40.00		185					T: 6.51 S: 33.94	
		0603		EN		48 7.96	125 39.99							Sal @ 184 / Nuts @ SURFACE	
2	C113	0643	CTD	BE	113	48 8.11	125 46.63	475			1			T: 14.69 S: 31.87	
		0652		BO		48 8.05	125 46.71	465	450					T: 5.56 S: 34.04	
		0702		EN		48 7.98	125 46.69	475						Sal @ 452 / Nuts @ SURFACE	

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• bottle firing method:

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

22 March 2002
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Additional comments

5248.235

~ 5252.105

5273.35

5429.550

5434.290

CTD drift went over a ridge 475M → 450M → 475

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month August					Year 2003			Ship WE RICKER				Cruise ID 2003-16		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
2	C114	0846	CTD	BE	114	48 8.20	126 09.45	~1188			1	Sp		T: 15.21 S: 31.74
		0854		BO		48 8.25	126 09.51		490					T: 4.99 S: 34.08
		0906		EN		48 8.33	126 09.71							Sal @ 490 / Nuts @ Surface
2	C115	1031	CTD	BE	115	48 8.24	126 25.00	~1850			1			T: 15.44 S: 31.66
		1041		BO		48 8.26	126 25.05		503					T: 4.79 S: 34.06
				EN		48 8.27	126 25.02							Sal @ 503 / Nuts @ Surface
3	C116	0602	CTD	BE	116	48 28.05	125 59.20	152			—			T: 13.96 S: 31.91
		0605		BO		48 27.97	125 59.21		145					T: 6.89 S: 33.85
		0608		EN		48 27.89	125 59.21							No Sal / Nuts @ Surface
3	C117	0720	CTD	BE	117	48 28.18	126 11.84	457			1			T: 13.46 S: 32.03
		0729		BO		48 28.10	126 11.88		455					T: 5.07 S: 34.09
		0738		EN		48 28.02	126 11.93	473						Sal @ 455 / Nuts @ Surface
3	C118	0957	CTD	BE	118	48 28.18	126 35.79	1707						T: 13.11 S: 31.89
		1006		BO		48 28.17	126 35.95	1683	503					T: 4.78 S: 34.08
		1017		EN		48 28.14	126 36.03	1679						Sal @ 503 / Nuts @ Surface

Additional comments

5449.825

5460.375

5620.935

5629.460

5645.610

2003

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month August					Year 2003			Ship WB RICKER				Cruise ID 2003-16			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
3	C119	1119	CTD	BE	119	48 28.09	126 45.71	7200M			1	SP		T: 12.90	S: 31.88
		1128		BO		48 28.08	126 45.83		500					T: 4.90	S: 34.10
		1139		EN		48 28.13	126 45.87							Sal @ 500 / NUTS @ SURFACE	
4	C120	0655	CTD	BE	120	48 38.16	126 09.42	161			—		✓	T: 13.82	S: 31.99
		0658		BO		48 38.14	126 9.38		155					T: 6.58	S: 33.92
		0702		EN		48 38.11	126 9.28							No Sal / NUTS @ SURFACE	
4	C121	0736	CTD	BE	121	48 38.16	126 13.72	497			1			T: 13.98	S: 32.05
		0744		BO		48 38.13	126 13.61	480	475					T: 5.12	S: 34.08
		0755		EN		48 38.09	126 13.37							Sal @ 475 / NUTS @ SURFACE	
END	LEG III														
5	122	1844		BE	122	48 58.86	125 19.00	38						T: 17.37	S: 29.00
				BO		Calibration on anchor			35					T: 9.47(7)	S: 32.09(64)
6	23 07	0439	CTD	BE	123	48 32.86	126 00.53	125	120		1	ST		T: 14.6	S: 32.19
		0441		BO		48 32.87	126 00.54							T: 6.62	S: 33.79
		0444				48 32.86	126 00.53							SAL ~ 119	NUTS @ SURFACE

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

Additional comments

5652.460 nm trip distance

5815.340

5819.595

DAILY LOG BOOK

MISSION
NUMBER

2003-16

DATE:

From: AUGUST 6

to:

VESSEL:

W. E. RICKER

PROJECT:

Hake Survey

Book 2 of

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

Captain: 510 WEBB First Officer: _____
 Second Officer: _____ Third Officer: _____

Mission Participants / Agencies:	PBS	NOMA	JDS

Scientific Personnel: _____

Name	Watch	Cabin	Name	Watch	Cabin
GUY					
BILL					
ROB					
LESLIE					
CAROL					
WENDY					
SHEILA					
TOM					
BRIAN					

Second leg of Mission:	
Name	Party Chief: _____
	Watch Cabin Name
	Watch Cabin

Data logging computer:

Data acquisition program: seasonave

CTD deck unit make: SBE **model:** 911

serial number: 1818377-0471

Primary CTD

Make: SBC model: 911+ serial number: 0550

Primary temperature serial number: 2668

Primary conductivity serial number: 2424

Secondary temperature serial number: 2374

Secondary conductivity serial number: 2399

Transmissometer: Chelsea Seatech Model: Wetlab s/n: 1977

Fluorometer: Model Heart Cable gain: 10x0.5 s/n: 2228 P, S or NO pump?

Oxygen sensor: _____ Model: _____ s/n: _____
P, S or NO pump? _____

PAR sensor: _____ Model: _____ s/n: _____

Other sensors: _____ s/n: _____ P, S or NO pump? _____

Other sensors: _____ s/n: _____ P, S or NO pump? _____

Other sensors: _____
s/n: _____
P, S or NO pump? _____

Other sensors: _____ s/n: _____ P, S or NO pump? _____

Secondary CTD

Make: _____ model: _____ serial number: _____

Primary temperature serial number: _____

Primary conductivity serial number:

Secondary temperature serial number:

Secondary conductivity serial number:

Transmissometer: _____ Model: _____ s/n: _____

Fluorometer: Model _____ Cable gain: _____ s/n: _____ P, S or NO pump? _____

Oxygen sensor: _____
 Model: _____ s/n: _____
 P, S or NO pump? _____

PAR sensor: _____ Model: _____ s/n: _____

Other sensors: _____
 s/n: _____
 P, S or NO pump? _____

Other sensors: _____ s/n: _____ P, S or NO pump? _____

Other sensors: _____ s/n: _____ P, S or NO pump? _____

Other sensors: _____ s/n: _____ P, S or NO pump? _____

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

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>AUGUST</i>					Year <i>2003</i>			Ship <i>TULLY</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
7	LC07	0439	CTD	BE	123	48°32.86	126°00.53	125						$T_B = 14.6$ $S = 32.19$
		0441		BO		48°32.87	126°00.54		120		1	ST		$T_E = 6.62$ $S = 33.79$
		0444		EN		48°32.86	126°00.53							NUT SAMPLES AT SURF.
	LC06	0529	CTD	BE	124	48°36.48	125°54.02			{ redone -			✓	1 SALINITY @ 119 m
7		0530		BO	redone	48°36.48	125°54.03	89	80	{ pump was			off!	touch down! had to
		0532		EN		48°36.49	125°54.04							* reds - had pump
		0534	CTD	BE	124	48°36.50	125°54.05							off
		0535		BO		48°36.52	125°54.06				1			- sal @ 81.5
		0537		EN		48°36.53	125°54.06							- surface nuts taken
7	LC05	0613	CTD	BE	125	48°39.88	125°47.57	60						
		0615		BO		48°39.88	125°47.56		50					NUTS @ surface
		0616		EN		48°39.87	125°47.54							- SALINITY - no
	LC04	0704	CTD	BE	126	48°43.48	125°40.88	163						
		0707		BO		48°43.48	125°40.89		156					{ NUTS @ surface
		0710		EN		48°43.46	125°40.91					ST		{ salinity - no
	LC03	0753	CTD	BE	127	48°47.00	125°34.22	130						$T_S = 14.7^\circ$ $S_S = 31.34$
		0755		BO		48°47.00	125°34.21		128					$T_S = 14.3$ $S_S = 31.33$
		0758		EN		48°47.00	125°34.20							NUTS @ surface
														no sal.

Cast type:

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• bottle firing method:

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• DN = down / no stop

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RE = recover mooring time

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

22 March 2002

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>August</i>					Year <i>2003</i>			Ship <i>W.E. RICKER</i>				Cruise ID <i>2003-16</i>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
07	LC02	0820	CTD	BE	128	48' 48.68	125' 31.01	105				ST		Nuts @ surf.	
		0823		BO		48' 48.69	125' 31.01		100					no salinity.	
		0825		EN		48' 48.70	125' 31.01								
	LC01	0846	CTD	BE	129	48' 50.46	125' 27.77	90	86					Nuts @ surface <i>Pecan? hazel?</i>	
		0848		BO		48' 50.47	125' 27.77							-no salinity.	
		0850		EN		48' 50.48	125' 27.77								
08	D1	0740	CTD	BE	130	48' 58.34	125' 47.03	38					✓		
		0741		BO		48' 58.35	125' 47.03		32					Nuts @ surface	
		0742		EN		48' 58.36	125' 47.04					ST+		no salinity	
08	P1	0752	NET	BO	131	48' 58.36	125' 47.04	38	32			SR		-	
	D2	0854	CTD	BE	132	48' 53.20	125' 57.08	57							
		0855		BO		48' 53.21	125' 57.09		50						
		0856		EN		48' 53.23	125' 57.10								
	D2	0910	NET		133	48' 53.23	125' 57.10	57	50					HA = hake CTD	
09	HA1	0446	CTD	BE	134	48' 48.20	125' 56.22	68					✓	line made up	
		0448		BO		48' 48.21	125' 56.20		60					along hake survey	
		0449		EN		48' 48.22	125' 56.19							line } nuts @ surf.	
														- no sal.	

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 • DN = down / no stop

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⑩ A2

149

2500

2859

26660 → 28380

⑪ A3

151

2500

142

28380 → 30020

⑫ A1

153

1850

257

30020 → 3213

⑬ LCB3

155

2000

2154

31213 → 32060

⑭ LCB4

157

6500

2243

Ans

2003 - 16

③

D1

23100

131

30m

0050

23420

④

D2

133

50m

0205

23420 → 23540

⑤

C1

141

140m

2229

23520 → 24365

⑥

C3

143

110m

2340

24365 → 25288

⑦

C2

145

135m

0109

25288 → 26020

⑧

E1

147

100m

0214

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>AUGUST</u>					Year <u>2003</u>			Ship <u>W.E. RITCHER</u>				Cruise ID <u>2003-16</u>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
9	HA 2	0543	CTD	BE	135	48° 48.11	126° 07.04	108				ST		NUTS @ surf. no sal.	
		0545		BO		48° 48.09	126° 07.07		102						
		0547		EN		48° 48.08	126° 07.08								
	HA 3	0631	CTD	BE	136	48° 48.12	126° 14.52	150					✓	NUTS @ surf - no sal	
		0635		BO		48° 48.12	126° 14.50		145						
		0637		EN		48° 48.13	126° 14.49								
	HA 4	0723	CTD	BE	137	48° 48.19	126° 22.28	188						NUTS @ surface	
		0727		BO		48° 48.21	126° 22.23		180					-no sal.	
		0731		EN		48° 48.21	126° 22.21								
	HA 5	0804	CTD	BE	138	48° 48.10	126° 30.27	249						NUTS @ surface	
		0810		BO		48° 48.09	126° 30.32		242		1			sal @ 242 m	
		0816		EN		48° 48.08	126° 30.28								
9	HA 6	0903	CTD	BE	139	48° 48.21	126° 38.40	590						NUTS @ surface	
		0914		BO		48° 48.23	126° 38.26		503		1			sal @ 503m	
		0924		EN		48° 48.24	126° 38.27								
10	C1	0503	CTD	BE	140	48° 28.89	125° 15.31	150			1	ST	✓	NUTS @ surface	
		0508		BO		48° 28.89	125° 15.42		150					no sal.	
		0510		EN		48° 28.89	125° 15.44								
10	C1	0540	NET		141	48° 28.89	125° 15.44	145	140						

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DAILY LOG

mislabeled as C2 in computer

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship				Cruise ID			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
10	C3	0625	CTD	BE	142	48°23.47	125°20.70	119				ST		<i>event mislabelled as 141</i>	
		0628		BO		48°23.46	125°20.70		110					<i>m computer. ST</i>	
		0631		EN		48°23.46	125°20.70							<i>NUTS @ surf - sal - no</i>	
	C3	0642	NET	BO	143	48°23.46	125°20.70		110						
10	C2	0755	CTD	BE	144	48°25.45	125°07.82	142						<i>NUTS @ surface</i>	
		0758		BO		48°25.48	125°07.81		135						
		0801		EN		48°25.50	125°07.81								
	C2	0812	NET	BO	145	48°25.50	125°07.81		135						
	E1	0903	CTD	BE	146	48°31.78	125°03.79	112						<i>NUTS @ surf</i>	
		0905		BO		48°31.81	125°03.79		113			ST		<i>hit bottom - I wasn't</i>	
		0907		EN		48°31.84	125°31.79							<i>paying attention</i>	
	E1	0912	NET		147	48°31.84	125°31.79	100	110						
	A2	0633	CTD	BE	148	48°22.74	126°03.75	351				ST	✓	<i>NUTS @ surface</i>	
		0640		BO		48°22.77	126°03.71		340		1			<i>sal @ 341m</i>	
		0646		EN		48°22.78	126°03.69								
	A2	0659	NET	BO	149	48°22.78	126°03.69		250						
11	A3	0807	CTD	BE	150	48°24.59	126°15.95	935	507		1	SR		<i>sal @ 500m</i>	
		0816		BO		48°24.59	126°15.87							<i>NUTS @ surface</i>	
		0829		EN		48°24.57	126°15.84								

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>AUGUST</i>					Year <i>2003</i>			Ship <i>RICKER</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
11	A3	0835	NET	BO	151	48°24.57	126°15.04	924	256			ST/SR		
	A1	0941	CTD	BE	152	48°29.49	126°07.11	196	2					NUTS @ surface
		0945		BO		48°29.50	126°07.06		190			ST		no sal.
		0949		EN		48°29.51	126°07.03							
	A1	1000	NET		153	48°29.51	126°07.03		190					
12	LCB3	0440	CTD	BE	154	48°34.43	125°30.08	133						NUTS @ surface no sal
		0444		BO		48°34.39	125°30.17		125					
		0446		EN		48°34.36	125°30.20							
		0500	NET	BO	155	48°34.36	125°30.20		120					
		0534	CTD	BE	156	48°31.96	125°35.43	76						NUTS @ surf.
		0537		BO		48°31.95	125°35.41		70					
		0538		EN		48°31.94	125°35.40							
12	LCBH	0543	NET		157	48°31.94	125°35.40	70	65					82
14	82-1	0305	CTD		158	49°18.22	126°25.07	46						82=line (PBS)
		0307				49°18.22	126°25.06		40					NUTS @ surf.
		0307				49°18.21	126°25.05							
14	82-2	0455	CTD		159	49°18.15	126°44.95	118				✓		NUTS @ surf
		0459				49°18.15	126°44.94		110					
		0501				49°18.10	126°44.93							

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22 March 2002

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>AUGUST</i>					Year <i>2003</i>			Ship <i>RICHER</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
<i>14</i>	<i>82-3</i>	<i>0724</i>	<i>CTD</i>	<i>BE</i>	<i>160</i>	<i>49°18.14</i>	<i>127°08.96</i>	<i>230</i>				<i>ST</i>	<i>✓</i>	<i>NUTS @ surface</i>
		<i>0730</i>		<i>BO</i>		<i>49°18.13</i>	<i>127°08.94</i>		<i>225</i>					<i>sal @ ~225m</i>
		<i>0736</i>		<i>EN</i>		<i>49°18.12</i>	<i>127°08.98</i>							
	<i>82-4</i>	<i>0757</i>	<i>CTD</i>	<i>BE</i>	<i>161</i>	<i>49°18.12</i>	<i>127°11.00</i>	<i>438</i>					<i>*</i>	<i>NUTS @ surf</i>
		<i>0803</i>		<i>BO</i>		<i>49°18.12</i>	<i>127°11.02</i>		<i>430</i>					<i>sal @ 430</i>
		<i>0810</i>		<i>EN</i>		<i>49°18.12</i>	<i>127°11.12</i>							<i>*interesting trans.</i>
<i>14</i>	<i>82-5</i>	<i>0829</i>	<i>CTD</i>	<i>BE</i>	<i>162</i>	<i>49°18.16</i>	<i>127°15.02</i>	<i>1052</i>						<i>readings > 350m</i>
		<i>0839</i>		<i>BO</i>		<i>49°18.22</i>	<i>127°15.01</i>		<i>503</i>					<i>sal @ 503m</i>
		<i>0848</i>		<i>EN</i>		<i>49°18.23</i>	<i>127°15.04</i>							<i>NUTS @ surf.</i>
<i>15</i>	<i>84-1</i>	<i>0123</i>	<i>CTD</i>	<i>BE</i>	<i>163</i>	<i>49°38.12</i>	<i>126°56.11</i>	<i>38</i>				<i>ST</i>	<i>✓</i>	
		<i>0125</i>		<i>BO</i>		<i>49°38.12</i>	<i>126°56.11</i>		<i>30</i>					<i>no nuts - pump not</i>
		<i>0125</i>		<i>EN</i>		<i>49°38.12</i>	<i>126°56.11</i>							<i>working - looking into it</i>
	<i>84-2</i>	<i>0238</i>	<i>CTD</i>	<i>BE</i>	<i>164</i>	<i>49°38.14</i>	<i>127°10.16</i>	<i>121</i>						<i>NUTS @ surface</i>
		<i>0241</i>		<i>BO</i>		<i>49°38.15</i>	<i>127°10.22</i>		<i>116</i>					<i>(got it working)</i>
		<i>0243</i>		<i>EN</i>		<i>49°38.15</i>	<i>127°10.27</i>							
	<i>84-3</i>	<i>0340</i>	<i>CTD</i>	<i>BE</i>	<i>165</i>	<i>49°38.07</i>	<i>127°20.21</i>	<i>150</i>						<i>NUTS @ surf.</i>
		<i>0344</i>		<i>BO</i>		<i>49°38.04</i>	<i>127°20.30</i>		<i>140</i>					
		<i>0347</i>		<i>EN</i>		<i>49°38.02</i>	<i>127°20.32</i>							

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Additional comments

Station Name 84-1 etc. is named by myself
after the fishing line 84 (Shelter)

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>AUGUST</i>					Year <i>2003</i>			Ship <i>RICHER</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
<i>15</i>	<i>84-4</i>	<i>0410</i>	<i>CTD</i>	<i>BE</i>	<i>166</i>	<i>49°38.18</i>	<i>127°24.38</i>	<i>494</i>				<i>ST</i>		<i>sd @ 460m</i>
		<i>0421</i>		<i>BO</i>		<i>49°38.14</i>	<i>127°24.66</i>		<i>477</i>		<i>1</i>			<i>hit bottom?</i>
		<i>0430</i>		<i>EN</i>		<i>49°38.11</i>	<i>127°24.76</i>							<i>NUTS @ surface</i>
	<i>84-5</i>	<i>0454</i>	<i>CTD</i>	<i>BE</i>	<i>167</i>	<i>49°38.22</i>	<i>127°27.10</i>	<i>678</i>						
		<i>0505</i>		<i>BO</i>		<i>49°38.20</i>	<i>127°27.22</i>		<i>502</i>		<i>1</i>			<i>sal @ 502</i>
		<i>0512</i>		<i>EN</i>		<i>49°38.17</i>	<i>127°27.24</i>							<i>nuts @ surface</i>
	<i>85-1</i>	<i>0658</i>	<i>CTD</i>	<i>BE</i>	<i>168</i>	<i>49°48.11</i>	<i>127°42.14</i>	<i>666</i>						
		<i>0707</i>		<i>BO</i>		<i>49°48.18</i>	<i>127°42.28</i>		<i>504</i>					<i>sal @ 504m</i>
		<i>0717</i>		<i>EN</i>		<i>49°48.21</i>	<i>127°42.36</i>							<i>nuts @ surface</i>
	<i>85-2</i>	<i>0739</i>	<i>CTD</i>	<i>BE</i>	<i>169</i>	<i>49°48.21</i>	<i>127°40.37</i>	<i>208</i>						
		<i>0743</i>		<i>BO</i>		<i>49°48.22</i>	<i>127°40.43</i>		<i>200</i>					<i>NUTS @ surface</i>
		<i>0747</i>		<i>EN</i>		<i>49°48.28</i>	<i>127°40.54</i>							<i>no sal</i>
	<i>85-3</i>	<i>0801</i>	<i>CTD</i>	<i>BE</i>	<i>170</i>	<i>49°48.14</i>	<i>127°38.90</i>	<i>171</i>						
		<i>0804</i>		<i>BO</i>		<i>49°48.18</i>	<i>127°38.95</i>		<i>164</i>					<i>nuts @ surface</i>
		<i>0807</i>		<i>EN</i>		<i>49°48.19</i>	<i>127°38.95</i>							
	<i>85-4</i>	<i>0917</i>	<i>CTD</i>	<i>BE</i>	<i>171</i>	<i>49°48.12</i>	<i>127°25.11</i>	<i>82</i>						<i>nuts @ surface</i>
		<i>0920</i>		<i>BO</i>		<i>49°48.14</i>	<i>127°25.17</i>		<i>75</i>					
		<i>0921</i>		<i>EN</i>		<i>49°48.16</i>	<i>127°25.20</i>							

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

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452120

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>AUGUST</u>					Year <u>2003</u>			Ship <u>RICKER</u>				Cruise ID <u>2003-16</u>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
15	85-5	1023	CTD	BE	172	49°48.10	127°14.03	55				ST	✓	sa nuts @ surf,
		1026		BO		49°48.14	127°14.07		52					sa
		1027		EN		49°48.14	127°14.08							
16	87-1	0342	CTD	BE	173	50°08.14	128°12.06	1101		1		ST.		computer says
		0351		BO		50°08.14	128°11.99		501	(sal @ 501 m)				date is Jan 12
		0359		EN		50°08.14	128°11.95			nuts @ surf				2003!! Time +
16	87-2	0447	CTD	BE	174	50°08.12	128°03.43	290		1	sal @ X	ST.		co-ordinates are
		0453		BO		50°08.11	128°03.34		271	nuts @ surface				correct... →
		0458		EN		50°08.09	128°03.31							→ no sal - broke Niskin →
16	87-3	0513	CTD	BE	175	50°08.10	128°01.91	140				ST.		
		0516		BO		50°08.09	128°01.89		135					nuts @ surface
		0518		EN		50°08.09	128°01.87							
16	87-4	0540	CTD	BE	176	50°08.11	127°58.12	70						nuts @ surface
		0541		BO		50°08.09	127°58.10		63					
		0542		EN		50°08.06	127°58.08							
16	88-1	0659	CTD	BE	177	50°18.17	128°03.94	76						
		0706		BO		50°18.14	128°03.88		73					nuts @ surface
		0703		EN		50°18.13	128°03.87							

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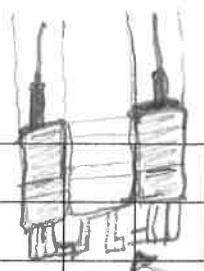
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Aug 16

(last night)

After the 85-5 cast I went to put the syringes back on the CTD and the little piece of plastic tubing that connects the right temp/salinity probe was off. It looked as though the instrument had shifted up from the rest of the unit. With the help of one of the crew, I got it back together.



It must have happened somewhere between station 84-1 and 85-5.

Sheila T.

→ I had told the computer to start acquiring data + then realized I hadn't powered up the deck unit. Maybe when I did it this way it produced the glitch. When I powered it up (as I should have) the data was correct.

→ Wow - crazy night and it's only 10 pm! Wire went under ship + the Niskin now sleeps with the fishes.

00:56 02:08

44:09

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

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Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
16	88-2	0739	CTD	BE	178	50°18.16	128°10.08	166				ST		nuts @ surface
		0742		BO		50°18.13	128°10.03		160					
		0745		EN		50°18.12	128°10.01							
	88-3	0821	CTD	BE	179	50°18.12	128°17.40	355			1			sal @ 342
		0834		BO		50°18.13	128°17.23		345					nuts @ surface
		0842		BN		50°18.10	128°17.02							
	88-4	0914	CTD	BE	180	50°18.14	128°22.00	978						no sal
		0925		BO		50°18.11	128°21.67		503					nuts @ surface.
		0935		BN		50°18.06	128°21.47							
	88-5	0954	CTD	BE	181	50°18.16	128°23.51	1128						
		1002		BO		50°18.18	128°23.31		503					sal @ 502 m
		1012		EN		50°18.17	128°23.16							nuts @ surf.
17	890-1	0436	CTD	BE	182	50°38.20	128°56.02	740			1	ST.	✓	
		0446		BO		50°38.22	128°55.90		504					sal @ 504 m
		0453		EN		50°38.22	128°55.90							nuts @ surf.
	90-2	0522	CTD	BE	183	50°38.11	128°49.97	328			1			
		0528		BO		50°38.12	128°49.83		267					nuts @ surface sal @ 267
		0533		BN		50°38.12	128°49.74							→ bottom keeps changing depths -

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28:55

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>AUGUST</i>					Year <i>2003</i>			Ship <i>RICHER</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
17	90-3	0545	CTD	BE	184	50°38.05	128°47.83	218				ST		
		0551		BO		50°38.07	128°47.74		210		1			sal@210
		0554		EN		50°38.08	128°47.70							nuts @ surface
	90-4	0706	CTD	BE	185	50°38.14	128°30.46	127						
		0709		BO		50°38.15	128°30.52		121					nuts @ surface
		0711		EN		50°38.15	128°30.52							
	90-5	0746	CTD	BE	186	50°38.11	128°23.95	64						nuts @ surface
		0749		BO		50°38.09	128°24.02		59					
		0750		EN		50°38.09	128°24.02							
20	93-1	2255	CTD	BE	187	51°8.21	128°2.51	102				PW		nuts @ surface
		2257		BO		51°8.22	128°2.49		92					
		2259		EN		51°8.23	128°2.46							
21	93-2	0055	CTD	BE	188	51°8.06	128°26.37	180						nuts @ surface
		0058		BO		51°8.06	128°26.30		170					
		0101		EN		51°8.04	128°26.24							
	93-3	0256	CTD	BE	189	51°8.09	128°50.39	91						nuts @ surface
		0257		BO		51°8.10	128°50.40		80					
		0300		EN		51°8.11	128°50.42							

Cast type: USW = sea water loop • bottle firing method: • Time Code
 BOT = bottle cast, no CTD MOR = mooring • US = up / stop • BE = beginning time of cast DE = deployment time
 CTD = CTD without Rosette NET = net haul • UN = up / no stop • BO = bottom time of cast MR = messenger release time
 ROS = Rosette plus CTD DRF = drifter • DN = down / no stop • EN = end of cast time RE = recover mooring time

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Additional comments

* @ 93-1 PAUL W. NORTON conducting CTD's after crew (science & Coast guard) change in P. Hardy.

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>Aug</i>					Year <i>2003</i>			Ship <i>WE PICKER</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
21	93-4	0458	CTD	BE	190	51° 8.05	129° 13.93	188				PW		Nuts @ surface
		0501		BO		51° 8.04	129° 13.84		180					
		0505		EN		51° 8.04	129° 13.81							
21	93-5	1851	CTD	BE	191	51° 8.43	129° 40.29	280				KE		no sync PE clock (+2 min)
		1856		BO		51° 8.44	129° 40.31		280					missed nuts @ surface
		1901		EN		51° 8.46	129° 40.30	279						
22	95-1	2140	CTD	BE	192	51° 27.57	128° 26.46	186				KE		nuts @ surface
		2143		BO		51° 27.51	128° 26.44		187					
		2147		EN		51° 27.44	128° 26.42	186						
23	97-1	0320	CTD	BE	193	51° 48.12	128° 16.83	147				PW		nuts @ surface
		0322		BO		51° 48.11	128° 16.82		135					
		0325		EN		51° 48.11	128° 16.79							
23	97-2	0518	CTD	BE	194	51° 48.05	128° 39.85	97				PW		<u>no</u> Nuts
		0520		BO		51° 48.04	128° 39.81		85					
		0522		EN		51° 48.02	128° 39.74							
23	97-3	0717	CTD	BE	195	51° 48.17	129° 3.97	107				PW		nuts @ surface
		0719		BO		51° 48.18	129° 4.00		100					
		0721		EN		51° 48.16	129° 4.00							

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>August</i>					Year <i>2003</i>			Ship <i>WE RICKER</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
<i>23</i>	<i>97-4</i>	<i>0916</i>	<i>CTD</i>	<i>BE</i>	<i>196</i>	<i>51°48.12</i>	<i>129°27.03</i>	<i>196</i>				<i>PW</i>		<i>nuts @ surface</i>
		<i>0920</i>		<i>BO</i>		<i>51°48.04</i>	<i>129°27.02</i>		<i>185</i>					
		<i>0924</i>		<i>EN</i>		<i>51°48.01</i>	<i>129°26.99</i>							
<i>24</i>	<i>101-1</i>	<i>0355</i>	<i>CTD</i>	<i>BE</i>	<i>197</i>	<i>52°28.21</i>	<i>129°59.87</i>	<i>252</i>				<i>PW</i>		<i>nuts @ surface</i>
		<i>0400</i>		<i>BO</i>		<i>52°28.21</i>	<i>129°59.82</i>		<i>240</i>					
		<i>0404</i>		<i>EN</i>		<i>52°28.18</i>	<i>129°59.76</i>							
<i>24</i>	<i>101-2</i>	<i>0530</i>	<i>CTD</i>	<i>BE</i>	<i>198</i>	<i>52°28.09</i>	<i>130°16.11</i>	<i>326</i>			<i>1</i>	<i>PW</i>		<i>Sal @ 316 m</i>
		<i>0536</i>		<i>BO</i>		<i>52°28.06</i>	<i>130°16.08</i>		<i>316</i>					<i>nuts @ surface</i>
		<i>0546</i>		<i>EN</i>		<i>52°27.98</i>	<i>130°16.04</i>							
<i>24</i>	<i>102-1</i>	<i>1350</i>	<i>CTD</i>	<i>BE</i>	<i>199</i>	<i>52°58.06</i>	<i>129°54.14</i>	<i>247</i>				<i>KE</i>		<i>no nuts</i>
		<i>1354</i>		<i>BO</i>		<i>52°58.07</i>	<i>129°54.06</i>		<i>230</i>					
		<i>1358</i>		<i>EN</i>		<i>52°58.10</i>	<i>129°54.00</i>	<i>236</i>						
<i>24</i>	<i>102-2</i>	<i>1640</i>	<i>CTD</i>	<i>BE</i>	<i>200</i>	<i>52°58.04</i>	<i>130°35.14</i>	<i>95</i>				<i>PW</i>		<i>nuts @ surface</i>
		<i>1641</i>		<i>BO</i>		<i>52°58.03</i>	<i>130°35.10</i>		<i>86</i>					
		<i>1643</i>		<i>EN</i>		<i>52°58.03</i>	<i>130°35.09</i>							
<i>24</i>	<i>103-1</i>	<i>1905</i>	<i>CTD</i>	<i>BE</i>	<i>201</i>	<i>53°18.13</i>	<i>130°33.99</i>	<i>73</i>				<i>PW</i>		<i>nuts @ surface</i>
		<i>1907</i>		<i>BO</i>		<i>53°18.14</i>	<i>130°33.98</i>		<i>65</i>					
		<i>1909</i>		<i>EN</i>		<i>53°18.15</i>	<i>130°33.98</i>							

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Month					Year			Ship				Cruise ID		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
24	103-2	2021	CTD	BE	202	53°18.16	130°50.20	141				PW		nuts @ surface
		2023		BO		53°18.18	130°50.27		130					
		2026		EN		53°18.19	130°50.24							
26	106-1	1358	CTD	BE	203	54°15.45	131°32.89	49				KC		no nuts @ surface
		1359		BO		54°15.45	131°32.89		41					
		1400		EN		54°15.45	131°32.90	49						
26	106-2	1703	CTD	BE	204	54°35.04	131°32.72	138				KC		about up center
		1707		BO		54°35.11	131°32.69	135	125					power failure on WCR
26	106-2	1714	CTD	BE	205	54°35.19	131°32.56	125				KC		redo STN 106-2
		1716		BO		54°35.21	131°32.53	128	115					no nuts @ surface
		1718		EN		54°35.25	131°32.48	125						
26	107-1	1945	CTD	BE	206	54°34.99	132°06.85	165				KC		
		1948		BO		54°34.98	132°06.93	167	150					
		1952		EN		54°34.98	132°06.94	166						
26	107-2	2209	CTD	BE	207	54°14.92	132°06.89	135	125					Nutrients at surface
		2211		BO		54°14.87	132°06.90	133.5	126.8					
		2211		EN		54°14.83	132°06.95	131.9						

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>Aug</u>					Year <u>2003</u>			Ship <u>USF RICKER</u>				Cruise ID <u>2003-16</u>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
27	108-1	01:20	CTD	BE	208	54° 14.96	132° 40.80	190						Nuts @ surface
		01:24		BO		54 14.95	132 40.85	192.5	181.6					
		01:28		EN		54 14.9	132 40.8	192.2						
27	108-2	03:52	CTD	BE	209	54° 35.47	132 40.56	160.5						Nuts @ surface
		03:56		BO		54 35.46	132 40.56	164.6	146.0					Pumps rotated 2m below
		04:00		EN		54 35.44	132 40.57	167.0						
27	109-1	13:46	CTD	BE	210	54 47.65	133 4.88	192			1	PW		nuts, sal @ 10m
		13:49		BO		54 47.66	133 4.95		180					
		13:53		EN		54 47.63	133 4.97							
27	109-2	17:37		BE	211	54 46.53	133 11.11	198						Nuts @ surface
		17:40		BO		54 46.56	133 11.04	198	185					
		17:44		EN		54 46.57	133 11.03	200						Salinity @ 10m
27	109-3	19:41		BE	212	54 45.65	133 19.07	128						Nuts @ 10m
		19:44		BO		54 45.64	133 19.04	117	115					Pump on 1m below
		19:46		EN		54 45.64	133 19.02	113						Salinity @ 10m
27	109-4	21:35		BE		54 45.13	133 26.90	145						Salinity Nuts @ 10m
		21:37		BO		54 45.15	133 26.96	144.7	135					
		21:41		EN		54 45.19	133 27.03	143.9						

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>AUG</u>					Year <u>2003</u>			Ship <u>WE PICKER</u>				Cruise ID <u>2003-16</u>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
27	109-6	2353	CTD	BE	214	54 43.54	133 42.64	218.3			1			Nut & Salinity @ 10m
		23:59		BO		54 43.50	133 42.70	214.2	200					
28		00:04		EN		54 43.59	133 42.70	213.5						
28	109-7	01:05	CTD	BE	215	54 42.96	133 50.53	226.5			1			Nut & Salinity @ 10m
		01:08		BO		54 42.99	133 50.64	225.4	206.8					
		01:17		EN		54 43.01	133 50.70	225.6						
28	109-9	03:11	CTD	BE	216	54 41.57	134 6.06	222.5			1			Nut & Salinity @ 10m
		03:15		BO		54 41.57	134 6.04	221.6	201.8					
		03:19		EN		54 41.58	134 6.01	221.8						
28	109-10	04:54	CTD	BE	217	54 40.02	134 21.52	+1000	293		1	PW		Nut & Sal @ 10m
		04:59		BO		54 39.99	134 21.50		198					
		05:04		EN		54 39.99	134 21.47							
28	109-11	06:49	CTD	BE	218	54 38.46	134 37.52	+1000			1	PW		nuts & Sal @ 500m
		06:59		BO		54 38.55	134 37.50		500					
		07:10		EN		54 38.64	134 37.47							
28	110-1	13:56	CTD	BE	219	54 08.89	133 52.93	1265			1	KC		nuts @ surface
		14:06		BO		54 07.99	133 53.00		500					nuts & Sal @ 500m
		14:17		EN		54 07.94	133 53.18							

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DAILY LOG

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INSTITUTE OF OCEAN SCIENCES

Month <i>AUG</i>					Year <i>2003</i>			Ship <i>WE RICKER</i>			Cruise ID <i>2003-16</i>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
<i>28</i>	<i>110-2</i>	<i>18:16</i>	<i>CTD</i>	<i>BE</i>	<i>220</i>	<i>54 8.20</i>	<i>133 14.67</i>	<i>856</i>				<i>JH</i>		<i>Nuts @ surface</i>
		<i>18:18</i>		<i>BO</i>		<i>54 8.23</i>	<i>133 14.60</i>	<i>82.8</i>	<i>70</i>					
		<i>18:19</i>		<i>EN</i>		<i>54 8.25</i>	<i>133 14.54</i>	<i>82.8</i>						
<i>28</i>	<i>111-1</i>	<i>22:05</i>	<i>CTD</i>	<i>BE</i>	<i>221</i>	<i>53 48.19</i>	<i>133 27.51</i>	<i>633.4</i>				<i>JH</i>		<i>Nuts & salinity @ 500m</i>
		<i>22:14</i>		<i>BO</i>		<i>53 48.15</i>	<i>133 27.44</i>	<i>633.7</i>	<i>500</i>					
		<i>22:25</i>		<i>EN</i>		<i>53 48.13</i>	<i>133 27.38</i>	<i>621.8</i>						
<i>29</i>	<i>112-1</i>	<i>03:37</i>	<i>CTD</i>	<i>BE</i>	<i>222</i>	<i>53 28.16</i>	<i>132 58.14</i>	<i>111</i>	<i>11</i>			<i>KC</i>		<i>Nuts @ surface</i>
		<i>03:39</i>		<i>BO</i>		<i>53 28.11</i>	<i>132 58.08</i>		<i>592</i>					
		<i>03:40</i>		<i>EN</i>		<i>53 28.09</i>	<i>132 58.06</i>	<i>96</i>						
<i>29</i>	<i>112-3-1</i>	<i>13:44</i>	<i>CTD</i>	<i>BE</i>	<i>223</i>	<i>53 18.21</i>	<i>133 6.96</i>	<i>499</i>				<i>KC</i>		<i>nuts @ surface</i>
		<i>13:53</i>		<i>BO</i>		<i>53 18.25</i>	<i>133 6.70</i>	<i>475</i>	<i>445</i>					<i>nuts & salinity @ 445m</i>
		<i>14:02</i>		<i>EN</i>		<i>53 18.31</i>	<i>133 6.52</i>	<i>460</i>						
<i>29</i>	<i>112-3-2</i>	<i>15:29</i>	<i>CTD</i>	<i>BE</i>	<i>224</i>	<i>53 17.99</i>	<i>132 48.71</i>	<i>151</i>				<i>KC</i>		<i>nuts @ surface</i>
		<i>15:31</i>		<i>BO</i>		<i>53 17.96</i>	<i>132 48.67</i>	<i>151</i>	<i>140</i>					
		<i>15:34</i>		<i>EN</i>		<i>53 17.97</i>	<i>132 48.65</i>	<i>152</i>						
<i>30</i>	<i>116-1</i>	<i>13:51</i>	<i>CTD</i>	<i>BE</i>	<i>225</i>	<i>52 08.06</i>	<i>131 36.12</i>	<i>1250</i>				<i>KC</i>		<i>nuts @ surface</i>
		<i>14:00</i>		<i>BO</i>		<i>52 08.05</i>	<i>131 36.25</i>	<i>1276</i>	<i>500</i>					<i>nuts & salinity @ 500m</i>
		<i>14:09</i>		<i>EN</i>		<i>52 08.10</i>	<i>131 36.37</i>	<i>1308</i>						

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Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>AUG</i>					Year <i>2003</i>			Ship <i>Kickapoo</i>				Cruise ID <i>2003-16</i>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
30	116-2	15:25	CTD		226	52 8.000	131 19.66	1150				JH		Nuts @ surface	
		15:27				52 7.95	131 19.65	113.6	100						
		15:29				52 7.92	131 19.63	113.6							
30	117-1	18:34	CTD		227	51 48.15	131 0.44	1520				JH		Nuts; salinity @ 500m	
		18:43				51 48.22	131 0.14	1484	500					Nuts @ surface	
		18:53				51 48.29	131 0.01	1417							
31	117-2	01:07	CTD		228	51 48.18	130 16.62	215				RC		Nuts @ surface	
		01:10				51 48.13	130 16.76	216	200						
		01:15				51 48.12	130 16.76	217							
31	118-1	1351	CTD		229	51 37.82	129 39.77	135	1			FW		nuts @ surface	
		1354				51 37.77	129 39.77		125						
		1357				51 37.73	129 39.80								
31	118-2	18:16	CTD	BE	230	51 38.14	130 40.02	770						Nuts @ surface	
		18:24		BO		51 38.14	130 39.97	773.9	500						
		18:33		EN		51 38.16	130 39.94	773.5							
31	119-1	20:28	CTD	BE	231	51 27.95	130 19.95	1086						Nuts; salinity @ 500m	
		20:37		BO		51 27.81	130 19.99	1105.5	500						
		20:48		EN		51 27.79	130 19.98	1107.5							

Cast type:

BOT = bottle cast, no CTD
CTD = CTD without Rosette
ROS = Rosette plus CTD

USW = sea water loop
MOR = mooring
NET = net haul
DRF = drifter

bottle firing method:
• US = up / stop
• UN = up / no stop
• DN = down / no stop

Time Code

• BE = beginning time of cast
• BO = bottom time of cast
• EN = end of cast time

DE = deployment time
MR = messenger release time
RE = recover mooring time

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

22 March 2002
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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>Aug / Sept</i>					Year <i>2003</i>			Ship <i>ZICKER</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
<i>31</i>	<i>119-2</i>	<i>23:50</i>	<i>CTD</i>	<i>BE</i>	<i>232</i>	<i>51 27.72</i>	<i>129 56.66</i>	<i>255</i>				<i>SH</i>		<i>Nuts @ surface</i>
		<i>23:54</i>		<i>BO</i>		<i>51 27.68</i>	<i>129 56.59</i>	<i>252.5</i>	<i>225</i>					
		<i>23:58</i>		<i>EN</i>		<i>51 27.63</i>	<i>129 56.54</i>	<i>250.2</i>						
<i>01 Sept</i>	<i>119-3</i>	<i>03:47</i>	<i>CTD</i>	<i>BE</i>	<i>233</i>	<i>51 27.92</i>	<i>129 34.22</i>	<i>139.0</i>				<i>SH</i>		<i>Nuts @ surface</i>
		<i>03:49</i>		<i>BO</i>		<i>51 27.87</i>	<i>129 34.37</i>	<i>138.9</i>	<i>120</i>					
		<i>03:52</i>		<i>EN</i>		<i>51 27.84</i>	<i>129 34.46</i>	<i>140.2</i>						
<i>05 Sept</i>	<i>94-1</i>	<i>13:36</i>	<i>CTD</i>	<i>BO</i>	<i>234</i>	<i>51 18.46</i>	<i>129 14.81</i>	<i>263</i>				<i>KE</i>		<i>Nuts @ surface</i>
		<i>13:41</i>		<i>BO</i>		<i>51 18.47</i>	<i>129 14.78</i>	<i>262</i>	<i>250</i>					
		<i>13:45</i>		<i>EN</i>		<i>51 18.48</i>	<i>129 14.74</i>	<i>262</i>						
<i>07</i>	<i>94-2</i>	<i>15:48</i>	<i>CTD</i>	<i>BE</i>	<i>235</i>	<i>51 18.16</i>	<i>129 39.83</i>	<i>224</i>				<i>KE</i>		<i>Nuts @ surface</i>
		<i>15:52</i>		<i>BO</i>		<i>51 18.19</i>	<i>129 39.96</i>	<i>221</i>	<i>210</i>					
		<i>15:56</i>		<i>EN</i>		<i>51 18.24</i>	<i>129 39.96</i>	<i>220</i>						
<i>02</i>	<i>94-3</i>	<i>19:10</i>	<i>CTD</i>	<i>BE</i>	<i>236</i>	<i>51 18.51</i>	<i>130 03.02</i>	<i>341</i>				<i>KE</i>		<i>Nuts @ surface</i>
		<i>19:15</i>		<i>BO</i>		<i>51 18.47</i>	<i>130 02.78</i>	<i>326</i>	<i>300</i>					
		<i>19:20</i>		<i>EN</i>		<i>51 18.47</i>	<i>130 02.60</i>	<i>322</i>						
<i>02</i>	<i>93-6</i>	<i>20:48</i>	<i>CTD</i>	<i>BE</i>	<i>237</i>	<i>51 08.05</i>	<i>130 00.22</i>	<i>840</i>				<i>KE</i>		<i>Nuts @ surface</i>
		<i>20:56</i>		<i>BO</i>		<i>51 08.06</i>	<i>129 59.94</i>	<i>850</i>	<i>500</i>			<i>1/2</i>		
				<i>EN</i>										
														<i>- power out at end of down cast; abort up cast</i>

Cast type:

BOT = bottle cast, no CTD
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USW = sea water loop

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• bottle firing method:

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22 March 2002

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>SEPT</i>					Year <i>2003</i>			Ship <i>RICKER</i>				Cruise ID <i>2003-16</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
1	92-1	22:31	CTD	BE	238	50 58.13	129 49.81	1551						<i>Nuts @ surface</i>
		22:40		BO		50 58.07	129 49.74	1548	500					
		22:50		EN		50 58.04	129 49.68	1543						
1	92-2	23:51	CTD	BE	239	50 57.85	129 38.17	260						<i>Nuts @ surface</i>
		23:55		BO		50 57.94	129 38.15	260	240					
		23:59		EN		50 57.94	129 38.13	260						
2	92-3	03:46	CTD	BE	240	50 58.04	129 2.66	81				<i>PW</i>		<i>Nuts @ surface</i>
		03:47		EN		50 58.05	129 2.71		70					
		03:49		BO		50 58.06	129 2.75							
3	<i>(92-1)</i>	12:03	CTD	BE	241	50 47.68	129 26.30	775				<i>Kc</i>		<i>- should be sta 91-1</i>
		12:13		BO		50 47.62	129 26.71	945	560					<i>nuts & salinity @ 500m</i>
		12:23		EN		50 47.57	129 26.89	956						
3	91-2	19:07	CTD	BE	242	50 48.13	129 20.11	130				<i>Kc</i>		<i>nuts @ surface</i>
		19:10		BO		50 48.14	129 20.08	140	126					
		19:13		EN		50 48.20	129 20.07	125						
2	91-3	20:48	CTD	BE	243	50 48.13	129 0.04	98.4						<i>Nuts @ surface</i>
		20:50		BO		50 48.14	128 59.99	96.7	80					
		20:52		EN		50 48.16	128 59.	95.2						

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