

DAILY LOG

CRUISE
NUMBER

2001-14

INSTITUTE OF OCEAN SCIENCES

OCEAN SCIENCES AND PRODUCTIVITY DIVISION

DATE

13 Jun 01 - 25 Jun 01

VESSEL

W.E. Ricker

PROJECT

High Seas Salmon - Welch

Winches:

1. Swann model:	serial #:	use:
2. Swann model:	serial #:	use:
3. Swann model:	serial #:	use:
4. Swann model:	serial #:	use:
5. Swann model:	serial #:	use:
6. Swann model:	serial #:	use:
7. Swann model:	serial #:	use:

Comments:

Salinometer: make: serial number: model: serial number:

Comments:

Surface Temperature / Salinity Data Logging System:

Program: Cdad V.1.0
Sampling interval (seconds):
Sensor serial number:
Comments: Instrument seems to be running very well this cruise (not crashing)
All WET LAB SEAWATER LOOP samples are taken for calibration of this sensor.

ADCP Setup: NO ADCP this cruise

Program version:
Time zone:
Sampling interval (seconds):
Blank beyond transmit:
% pings good threshold:
Comments:

Number of depth bins:
Bin length (2X):
Pulse length:
Pings per ensemble:

Comments:

WET LAB SEAWATER LOOP - refers to the seawater tap in the sink just behind the door in the fish-hopper room

OCEAN LAB SEAWATER LOOP - refers to the seawater tap on deck just outside the small starboard lab aft. This is next to the CTD window.

PROBLEM WITH SECONDARY CONDUCTIVITY UNIT / SECONDARY PUMP CIRCUIT:
during this cruise it appears the 2nd cond. cell is not functioning properly unless part of the downcast exceeds 50m depth. Typically, the cell will be way off the 1st for 0-50m of downcast and then read fine for rest of cast. Sometimes the 2nd temp is also giving suspect readings. My guess is it has something to do with the pump-and-bulb circuit, as it appears to be pressure-related. I have tried:
• keeping sensors in filter - X solution for all peripherals not in use

• cleaning the air bleed valve with the 0.016" OD (26 AWG) wire

• turning pump on + off while submerged
BUT none of the above seem to help

SACRIFICIAL ZINCS NEED REPLACEMENT

• LT = Local Time (Pacific Daylight Time) • So = surface salinity, primary sensor
• MLD = mixed-layer depth, approximate • T₀ = surface temperature, primary sensor
ALL SURFACE BOTTLERS SHOULD HAVE Salinity, Nutrient, and Chl-a samples

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INSTITUTE OF OCEAN SCIENCES

Year 2001					Month June			Ship W.E. Rider				Cruise I.D. 2001-14				
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude		Longitude		Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
13	QCST-01	CTD	23:45	BE	001	50	47.639	127	25.238	GPS	299		001	1	JEZ	T ₀ = 9.693 pump not working S ₀ = 31.062
				BO		50	47.597	127	25.287	"	293	200				surface bottle N. in
			23:55	EN		50	47.609	127	25.200	"	294					X-mis not released before deployment
14	QCST-01	NET	00:12	BE	002	50	47.6	127	25.200	"	246		n/a	LT=1712		BONGO lots of copepods!
14	SM-01	CTD	05:05	BE	003	51	18.737	127	30.005	GPS	210		002	2	JEZ	T ₀ = 10.64 LT=2201 S ₀ = 27.78 [Bottle 1 @ 210m 05:23
			05:18	BO		51	18.758	127	30.063	"	205	182				Bottle 1 - 210m "L" - lower Bottle 2 - 210m "U" - upper
			05:30	EN		51	18.741	127	30.102	"	206					
	SM-01	NET	05:40	BE	004	51	18.7	127	29.99	"	205		n/a	LT=2248		BONGO
	SM-02	CTD	06:53	BE	005	51	17.945	127	22.126	GPS	360		003	3	JEZ	T ₀ = 27.2 CS LT=2354 S ₀ = 29.762 Bottle 1 → sample at 341m Bottle 2 → sample at 21m Bottle 3 → sample at 1m
			06:33	BO		51	17.900	127	22.042	"	357	341				
			06:15	EN		51	17.888	127	21.938	"	332					
	SM-02	NET	07:45	BE	006	51	17.76	127	21.55	"	332		n/a	LT=0045		BONGO
	SM-03	CTD	08:30	BE	007	51	18.516	127	14.489	GPS	321		004	2	JEZ	T ₀ = 12.034 LT=0130 S ₀ = 20.636 S ₁ & S ₂ 0-50m Bottle 1 - lower layer, CTD stopped @ 22m Bottle 2 - surface, bottle @ 1m
			08:42	BO		51	18.573	127	14.367	"	320	301				
			08:49	EN		51	18.56	127	14.31	"	319					
	SM-03	NET	09:07	BE	008	51	18.57	127	13.84	"	315			LT=0207		BONGO
	SM-04	CTD	10:08	BE	009	51	21.55	127	08.96	GPS	183		005	2	JEZ	T ₀ = 12.14 LT=0308 S ₀ = 11.05 Bottle 1 - CTD @ 28.7m Bottle 2 - surface
			10:15	BO		51	21.58	127	08.90	"	181	166				
			10:20	EN		51	21.59	127	08.86	"	181					S ₁ & S ₂ 0-45m

Cast type:

BOT = otter cast
CTD = CTD
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ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

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13 Jun 2001

★

QCST-01

test cast - pump is off; deck unit not responding to ctrl-F4 to

turn on.

Also. CTD paused on way down for a bit at 19.5m b/c radio communication needed to confirm depth.

checked the "Misc Run Parameters" menu + found that the Water Sample Type was set to "None" - changed it for next test CTD.

John + I also checked the cabling on the CTD + pumps. Some were a little loose; hopefully that fixed it!!!

SM-01

① Let CTD hang @ surface 2.7m for 1min, then 1FZ pump NOT ON

② re do file, turn on "Misc Run Param" change to "go 1015" water sample type, 1FZ wait 1min. NO PUMP

3 then hit ctrl F4 PUMP ON
ctrl F2 PUMP OFF

Two water bottles taken @ SM-01

1 sample w/ CTD @ 21.0m, bottle @ 18m "lower" salty layer

1 sample w/ bottle just submerged "upper" fresh layer
→ may be contaminated by mixing from ship prop, as fresh signal degrades on station

SM-02

Bottle #1 ⇒ Messenger deployed at 341m depth for DEEP bottle; supposed to be at 25m, but deep bottle @ 341m communication screwup trip @ 07:10:20

Bottle #2 ⇒

lower bottle @ ~21m CTD @ surface, then bottle on, then pay out 25m wire to get bottle down

Bottle #3 @ 1m

surface bottle Right @ surface

SM-03 -

Bottle #1 ⇒ 22.7m; 08:48 UTC tripped Bottle #2 ⇒ @ surface

SM-04

Bottle #1 $\Rightarrow$ wa CTD @ 28.6 m b/c fresh layer is deeper

Bottle tipped @ 10:19

Bottle #2 $\Rightarrow$ @ surface

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14	SM-04	NET	10:36	BE	010	51 21.52	127 08.96	GPS	185		n/a	LT=0336		BONGO LT=
14	SM-03	NET	13:00	BE	011	51 18.5	127 14.6	"	320		N/A	LT=0615		TRAWL
14	SM-02	NET	14:20	BE	012	51 18.0	127 22.1	"	397		N/A	LT=0720		TRAWL
14	SM-01	NET	15:30	BE	013	51 18.7	127 30.0	"	200		N/A	LT=0827		TRAWL
14	RI-01	NET	18:33	BE	014	51 26.4	127 38.1	"	340		N/A	LT=1133		TRAWL
14	RI-02	NET	19:42	BE	015	51 31.25	127 33.6	"	334		N/A	LT=1242		TRAWL
14	RI-03	NET	20:35	BE	016	51 35.9	127 32.1	"	313		N/A	LT=1335		TRAWL
14	RI-04	NET	21:25	BE	017	51 38.9	127 26.7	"	306		N/A	LT=1425		TRAWL
14	RI-05	NET	22:20	BE	018	51 39.8	127 23.0	"	251		N/A	LT=1520		TRAWL
	RI-05	CTD	23:37	BE	019	51 40.67	127 20.37	GPS	203		006	2	JEZ	To = 9.406 LT=1637 So = 1.406 Bottle #1 = "deep" 48m S1 & S2 Bottle #2 @ surface fr 0-50
			23:44	BO		51 40.63	127 20.37	"	206	182				
			23:47	EN		51 40.60	127 20.35	"	206					
15	RI-05	NET	00:05	BE	020	51 40.44	127 20.4	"	221		n/a			BONGO LT=1705
15	RI-04	CTD	01:01	BE	021	51 38.91	127 26.58	GPS	297		007	2	JEZ	To = 11.458 LT=1801 So = 4.527 Bottle #1 = 48m CTD depth Bottle #2 = surface S1 & S2 for top 0-47m
			01:09	BO		51 38.90	127 26.54	"	297	282				
			01:16	EN		51 38.90	127 26.50	"	297					
	RI-04	NET	01:30	BE	022	51 38.8	127 26.5	"	296		n/a			BONGO LT=1830
	RI-03	CTD	02:14	BE	023	51 35.91	127 32.14	GPS	326		008	2	JEZ	To = 12.491 LT=1914 So = 13.667 Bottle #1 = 45m CTD depth, S1 & S2 0-20m Bottle #2 = surface
			02:24	BO		51 35.89	127 32.16	"	326	301				

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RE = recover mooring time

14 Jun 01 Local time 1600 - net repairs at station RI-05; one hour between trawl + CTD.

RI-05 CTD Bottle #1 @ CTD depth 48m in salt layer
tripped 23:48 Bottle #2 at surface

RI-04 CTD Bottle #1 @ CTD depth of 48m in salt layer
tripped at 01:14 Bottle #2 at surface

RI-03 CTD Bottle #1 @ CTD depth of 45 m in salt layer
tripped at 02:30 Bottle #2 at surface

NOTE: Salinity cells seem to be in better agreement on RI-03 if they are left purging @ surface for
73min (at least for this very fresh inlet H₂O)

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Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
15	RI-03	CTD	02:31	EN	023	51 35.86	127 32.18	GPS	326		008	2		Continued from previous page
	RI-03	NET	02:45	BE	024	51 35.7	127 32.2	"	320		n/a			BONGO LT=1945
	RI-02	CTD	03:31	BE	025	51 31.25	127 33.58	GPS	331		009	2	JEZ	T ₀ = 11.97 S ₀ = 20.94 LT=2030
			03:42	BO		51 31.22	127 33.40	"	334	312				Bottle #1 - CTD @ 46m Bottle #2 - surface
			03:50	EN		51 31.23	127 33.13	"	295					S ₁ & S ₂ 0-40m
	RI-02	NET	04:03	BE	026	51 31.1	127 33.1	"	240		n/a			BONGO LT=2103
	RI-01	CTD	04:56	BE	027	51 26.31	127 38.30	GPS	327		010	2	JEZ	T ₀ = 12.241 S ₀ = 22.929 LT=21:56
			05:07	BO		51 26.28	127 38.34	"	328	311				Bottle #1 - CTD @ 48m Bottle #2 - surface S ₁ & S ₂ 0-50m
			05:14	EN		51 26.28	127 38.37	"	328					
	RI-01	NET	05:25	BE	028	51 26.2	127 38.6	"	324					BONGO LT=2225
	H-01	CTD	13:40	BE	029	52 12.39	129 10.41	GPS	160		011	2	JEZ	T ₀ = 10.871 S ₀ = 31.763 LT=0640
			13:45	BO		52 12.37	129 10.38	"	160	151				Surface bottle (Nisk) Loop sample (lab) MLD=15m
			13:47	EN		52 12.35	129 10.36	"	160					S ₁ & S ₂ 0-50m
	H-01	NET	13:59	BE	030	52 12.38	129 10.53	"	164					BONGO LT=0659 SALPS
	H-01	TRAWL	14:26	BE	031	52 12.86	129 12.72	"	165					TRAWL LT=0726 SALPS and totes
	H-02	CTD	15:51	BE	032	52 15.36	129 26.74	GPS	182			3	JEZ	T ₀ = 11.063 S ₀ = 31.937 LT=0857
			15:59	BO		52 15.24	129 26.54	"	183	171				Surface Bottle MLD @ 18m
			16:02	EN		52 15.21	129 26.43	"	181					S ₁ & S ₂ 0-50m S ₂ is not really correct 0-50m
														Also: CHL-A samples from Ocean Lab tap + Wet Lab tap

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15 Jun 01 RI-02 Bottle #1 CTD at 46m depth
tripped @ 03:48

Bottle #2 @ surface

RI-01 Bottle #1 CTD at 48m depth
tripped at 05:13

Bottle #2 - surface

H-01 1° + 2° conductivity cells respond very differently for 0-50m. ? 2° likely ~~was~~ off
not sure what is going on w/ 2° conductivity cell. Seems to take top 50m to "warm up" - will check
air bleed valves to make sure it is clear.

Bottle @ surface (Niskin). Also took loop sample to compare to SeaDAQ/Neoxalograph

H-02 Bottle @ surface; 2° conductivity cell is still screwy - not reading same in top 50m of down cast.

Also - two additional chl-a samples from ocean lab tap (o-deck) and wet lab tap (seawater loop)

↳ This being done because John Morris wants to check whether the chl-a levels
from the ocean tap vs. the wet lab tap (seawater loop) are the same. This is
a check on historical data as the October 2000 cruise showed that the
mussels on the intake significantly affected the chl-a levels.

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15	H-02	NET	1609	BE	033	52 15.26	129 26.43	GPS	185		n/a			BONGO LT=0909
	H-02	NET	1636	BE	034	52.15.17	129 27.74	"	193		n/a			Large green tote full of E. hirsutis TRAWL LT=0936
5 1100	H-03	NET	18:00	BE	035	52 18.28	129 39.98	"	202					TRAWL
	H-03	CTD	1859	BE	036	52 18.92	129 41.92	GPS	208		013	1	JEZ	To = 11.249 So = 32.056 LT=1159
			1906	BO		52 18.82	129 41.82	"	187	176				Surface bottle
			1910	EN		52 18.76	129 41.78	"	182					S ₁ & S ₂ 0-50m MLD=20m
	H-03	NET	1916	BE	037	52 18.6	129 42.0	"	187				LT=1216	BONGO
	H-04	CTD	20:39	BE	038	52 22.26	129 57.48	GPS	199		014	1	JEZ	To = 11.016 So = 31.951 LT=1339
			20:47	BO		52 22.18	129 57.37	"	194	184				Surface bottle MLD=26
			20:51	EN		52 22.16	129 57.30	"	194					S ₁ = 31.9520 S ₂ = 31.7572 (avg 10+g)
	H-04	NET	21:00	BE	039	52 22.1	129 57.5	"	196				LT=1400	Bongo
LT=1414	H-04	NET	21:25	BE	040	52 22.77	129 59.18	"	231					Trawl a few euphausiids a few salps
	H-05	CTD	22:51	BE	041	52 25.59	130 13.26	GPS	325		015	1	JEZ	To = 11.291 So = 32.962 LT=1551
			23:01	BO		52 25.55	130 13.20	"	326	310				Surface bottle S ₁ & S ₂ 0-50m
			23:07	EN		52 25.53	130 13.14	"	366					S ₁ = 31.9817 at surface S ₂ now 20°C/20°C
	H-05	NET	23:13	BE	042	52 25.4	130 13.13	"	324				LT=1613	BONGO salps
LT=1637	H-05	NET	23:37	BE	043	52 25.7	130 15.4	"	332					TRAWL
LT 1804	H-06	NET	01:04	BE	044	52 29.5	130 30.0	"	159					TRAWL several cubic meters of salps

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can see Penaeus surface of flat calm Hecke: 1-10 per m²

15 Jun 01

H-02 trawl : caught 1 full grown tote of Euphausiids ; probably Euphausia pacifica
~ large animals, round eyeballs

H03 took cleaning wire to air bleed valve on CTD Y-assembly to clear hole in case that
is what is causing secondary conductivity cell to foul up.
Will run diagnostic on temp. to see if 10 + 20 temps agree. If not there may be a
problem with the whole flow thru system on the secondary circuit?

H04 Still problem with conductivity cells disagreeing in 0-50m depth.
Secondary is 0.2 > primary!!! or more!!!

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16	H-06	CTD	02:14	BE	045	52 28.91	130 28.90	GPS	175		016	1	JEZ	T ₀ = 10.443 LT = 1914 S ₀ = MLD = 20m
			02:21	BO		52 28.93	130 28.93	"	174	161				surface bottle
			02:25	EN		52 28.94	130 28.96	"	174					C ₁ = 35.2994 C ₂ = 34.9097 mS m.g. S ₁ ≠ S ₂ 0-56m
	H-06	NET	02:30	BE	046	52 29.4	130 29.1	"	176		n/a	LT = 1930		BONGO
	DE-01	NET	14:55	BE	47	54 12.63	131 41.47	"	47		n/a			TRAWL Herring = 8 fishes Adult chum + coho
	DE-01	CTD	15:44	BE	48	54 11.03	133 44.46	GPS	45		017	3	JEZ	T ₀ = 10.168 LT = 0850 S ₀ = MLD = 15
			15:54	BO		54 11.03	133 44.36	"	43	36				Bottle #1 - surface Bottle #2 - sandy loop
			15:55	EN		54 11.04	133 44.3	"	43					Bottle #3 - wet lab sandy loop ocean w/o
	DE-01	NET	16:05	BE	49	54 11.04	131 44.51	"	44		n/a	LT = 0905		BONGO
	DE-02	CTD	17:03	BE	50	54 08.13	131 57.28	GPS	41		018	1	JEZ	T ₀ = 10.475 LT = 16103 S ₀ = 31.687
			17:07	BO		54 08.13	131 57.31	"	41	34				surface bottle
			17:09	EN		54 08.13	131 57.31	"	41					S ₁ = 31.6873 @ surface S ₁ ≠ S ₂ whole cast
	DE-02	NET	17:15	BE	51	54 08.69	131 57.41	"	40			LT = 1015		BONGO
	DE-02	NET	17:32	BE	52	54 08.50	131 58.94		42					TRAWL Herring = 2 fishes Coho = 1
	DE-03	CTD	18:45	BE	53	54 08.23	132 11.51	GPS	43		019	1		T ₀ = 10.197 LT = 1145 S ₀ = 31.208 MLD = 9m
			18:49	BO		54 08.26	132 11.49	"	43	31				surface bottle
			18:51	EN		54 08.26	132 11.49	"	43					S ₁ = 31.708 S ₂ = 31.565 J surface S ₁ ≠ S ₂ down-cast
	DE-03	NET	18:55	BE	54	54 08.2	132 11.6	"	42			LT = 1155		BONGO
	DE-03	NET	19:16	BE	55	54 08.2	132 13.6		51					TRAWL herring (one) adult salmon

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16 Jan 01

H-06

CTD: still big problems w/ 1° vs. 2° salinity. Again, disagrees on downcast 0-56m, then good agreement for rest of cast + upcast

Niskin bottle at surface

DE-01

Still problem with 2° conductivity cell

Niskin bottle at surface

DE-02

2° conductivity disagrees w/ 1° for WHOLE CAST

DE-03

Same conductivity cell problem

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16	DE-04	CTD	20:28	BE	56	54 07.66	132 26.19	GPS	48		020	1	JEZ	$T_0 = 9.654$ LT=1320 $S_0 = 31.320$ MLD=41a
			20:32	BO		54 7.68	132 26.23	"	51	40				$S_1 = 31.839$ } surface
			20:34	EN		54 7.69	132 26.25	"	52					$S_2 = 31.551$ } surface
	DE-04	NET	20:40	BE	57	54 07.6	132 26.1	"	51					surface bottle 10 temp off, too... $S_1 \neq S_2$
	DE-04	NET	22:00	BE	58	54 07.87	132 28.64	"	51					BONGO
	DE-05	CTD	22:03	BE	59	54 10.51	132 40.39	GPS	49		021	1	JEZ	Aggregates after 10 min $T_0 = 11.6729$ LT=1500 $S_0 = 30.8026$ MLD=N/A
		2	22:07	BO		54 10.52	132 40.48	"	48	39				$S_1 = 30.8115$
			22:09	EN		54 10.52	132 40.50	"	49					$S_2 = 30.4868$ surface bottle $S_1 \neq S_2$
	DE-05	NET	22:15	BE	60	54 10.3	132 40.6	"	48					BONGO
	DE-05	NET	22:35	BE	61	54 10.15	132 42.57	"	47					TRAWL
	DE-06	CTD	23:48	BE	62	54 13.26	132 54.40	GPS	126		022	1	JEZ	$T_0 = 11.0295$ LT=1648 $S_0 = 30.8479$
			23:56	BO		54 13.25	132 54.45	"	122	101				$S_1 = 31.4348$ $S_1 \neq S_2$ from 0-50m
			23:59	EN		54 13.25	132 54.47	"	119					$S_2 = 30.4914$ surface bottle
17	DE-06	NET	00:05	BE	63	54 13.27	132 54.8	"	76					BONGO
	DE-06	NET	00:30	BE	64	54 13.14	132 55.8	"	69					TRAWL
	FI-01	CTD	12:03	BE	65	54 47.29	133 03.33	GPS	120		023	1	JEZ	$T_0 = 10.1302$ LT=0503 $S_0 = 31.6509$ MLD=20
			12:08	BO		54 47.32	133 03.30	"	114	101				$S_1 = 31.6561$
			12:11	EN		54 47.33	133 03.27	"	113					$S_2 = 31.2945$ surface bottle $S_1 \neq S_2$ 0-50m
	FI-01	NET	12:20	BE	66	54 47.24	133 03.60	"	120					BONGO lots of greenish goop (photo)

Cast type:

BOT = otter cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

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

LT = 0520

DE-04

DE-05

DE-06

} 2° cells still messed up.

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year 2001					Month June			Ship WE Ricker				Cruise I.D. 2001-14			
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments	
17	FI-01	NET	13:10	BE	067	54 48.39	132 59.92	GPS	99						
	FI-02	CTD	14:39	BE	068	54 46.51	133 11.08	GPS	199		024	2	JEZ	TRAWL ^{surface 10m} ^{to 10.431} ^{S₀ = 30.9172} ^{MLD = 16m}	
			14:46	BO		54 46.53	133 11.02	"	198	190				surface bottle, wet lab loop	
			14:50	EN		54 46.56	133 10.97	"	203					S ₁ & S ₂ 0-50m	
	FI-02	NET	14:57	BE	069	54 46.61	133 11.16	"	198						
	FI-02	NET	15:20	BE	070	54 46.49	133 12.91	"	125					BONGO lots of greenish goop (phyto)	
	FI-03	CTD	16:14	BE	071	54 45.77	133 18.93	GPS	115		025	3	JEZ	TRAWL ^{10m, 10m} ^{adult pink cone, crustacean}	
			16:19	BO		54 45.79	133 18.85	"	114	107				T ₀ = 10.4093 S ₀ = 31.8768 ^{LT = 0915} MLD = 14m	
			16:22	EN		54 45.79	133 18.80	"	115					surface bottle #2 Bottle #2 - wet lab seawater	
	FI-03	NET	16:27	BE	072	54 45.77	133 18.93	"	110					Bottle #3 - ocean lab seawater S ₁ & S ₂ 0-50m down cast	
	FI-03	NET	16:52	BE	073	54 45.60	133 20.66	"	128					BONGO no more greenish goop	
	FI-04	CTD	17:47	BE	074	54 45.07	133 26.54	GPS	146		026	1	JEZ	TRAWL ^{LT = 0952}	
			17:53	BO		54 45.08	133 26.53	"	146	137				T ₀ = 10.3301 S ₀ = 32.0884 ^{LT = 1048} MLD = 7	
			17:56	EN		54 45.10	133 26.48	"	146					surface bottle S ₁ & S ₂ 0-50m down cast	
	FI-04	NET	17:54	BE	075	54 45.07	133 26.39	"	142						
	FI-04	NET	18:28	BE	76	54 44.54	133 28.54	"	138					BONGO	
	FI-05	CTD	19:21	BE	77	54 44.31	133 34.63	GPS	197		027	1	JEZ	TRAWL ^{LT = 1128}	
			19:28	BO		54 44.28	133 34.63	"	198	186				T ₀ = 9.0390 S ₀ = 32.2126 ^{LT = 1212} MLD = 30	
			19:32	EN		54 44.25	133 34.63	"	198					surface bottle	
Cast type: BOT = otter cast ROS = Rosette USW = sea water loop Time Code BE = beginning time of cast DE = deployment time															
CTD = CTD NET = net haul S ₁ & S ₂ for 0-54m															

Cast type:

BOT = otter cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

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

* FI-04 Bongo took place after CTD. Time discrepancy probably due to personal watches not synchronized. Guess Bongo went ~ 17:58 UTC

17 Jun 01

FI-02

2° conductivity + temp are screwy from 0-50 m or downcast ;

FI-03

Bottle #1: surface Niskin for Sal, Nut, chl-a ; "Bottle" #2 wet lab seawater loop sal only

Bottle #1: surface Niskin for Sal, Nut, chl-a

"Bottle" #2: wet lab seawater loop sample, chl-a only

"Bottle" #3: ocean lab seawater loop sample, chl-a only

FI-04

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year	Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Month	Consec. Number	Latitude	Longitude	Ship	Position Code	Bottom Depth	Max Depth	Consec Sample #	Cruise I.D.	# of Bottles	initials	Comments
2001	17	FI-05	NET	19:38	BE	June	78	54 44.23	133 34.71	WE	GPS	198			HS 2001-14			
		FI-05	NET	20:00	BE		79	54 44.11	133 36.82	Richer	GPS	282					LT=1238	BONGO
		FI-06	CTD	20:50	BE		80	54 43.59	133 42.52		GPS	222					LT=1300	TRAWL adult salm
				20:58	BO			54 43.61	133 42.57		"	221	210	028	1	JEZ	T ₀ = 10.4458 S ₀ = 32.0231	LT=1350 MLD=6m
				21:03	EN			54 43.60	133 42.57		"	221						surface bottle
		FI-06	NET	21:10	BE		81	54 43.30	133 43.5			219					LT=1410	S ₁ & S ₂ T ₁ & T ₂ 0-54m downcast
		FI-06	NET	21:30	BE		82	54 43.29	133 45.21		"	195						BONGO
		FI-07	CTD	22:17	BE		83	54 42.83	133 50.37		GPS	227						TRAWL 50-100m adult salm
				22:25	BO			54 42.77	133 50.53			228	212	029	1	JEZ	T ₀ = 10.7814 S ₀ = 32.0334	LT=1450 MLD=10
				22:30	EN			54 42.70	133 50.64			229						surface bottle
		FI-07	NET	22:36	BE		84	54 42.60	133 51.08			229						S ₁ & S ₂ T ₁ & T ₂ 0-46m downcast
		FI-07	NET	23:00	BE		85	54 42.26	133 54.53			221					LT=1536	BONGO
		FI-08	CTD	23:53	BE		86	54 42.15	133 58.20		GPS	206					LT=1600	TRAWL 50-100m adult salm
18				00:01	BO			54 42.11	133 58.33		"	207	195	030	2	JEZ	T ₀ = 10.2909 S ₀ = 31.9659	LT=1653 MLD=n/d
				00:06	EN			54 42.11	133 58.40		"	208						surface bottle
		FI-08	NET	00:10	BE		87	54 42.0	133 59.00			209						T ₁ & T ₂ 0-58m downcast
		FI-08	NET	00:35	BE		88	54 41.79	135 01.34		"	216						BONGO LT=1710
																		TRAWL LT=1735

Cast type:

BOT = otter cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

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

FI-05, FI-06, FI-07 : all have problems w/ secondary conductivity + temp on 0-50m in down cast

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year 2001					Month June			Ship WE Riche					Cruise I.D. 2001-14			
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude		Longitude		Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
18	FI-09	CTD	01:25	BE	89	54	41.48	134	06.00	GPS	223		031	1	JEZ	To = 11.1945 LT = 1825 So = 31.8912 MLD = 14
			01:33	BO		54	41.49	134	06.02	"	224	211				surface bottle
			01:38	EN		54	41.50	134	06.07	"	223					S ₁ & S ₂ 0-50m downcast T ₁ & T ₂ whole downcast
	FI-09	NET	01:45	BE	90	54	41.48	134	06.31	"	217				LT = 1845	OFFSHORE COPEPODS NOW IN NET, P. 1000
	FI-10	CTD	02:53	BE	91	54	40.02	134	21.83	GPS	2124		032	2	JEZ	To = 10.5036 LT = 1953 So = 32.3898 MLD = 13.2
			03:22	BO		54	40.24	134	21.96	"	2123	1002				deep bottle #1 - S&E + NW surface bottle #2
			03:54	EN		54	40.42	134	21.76	"	2112					S ₁ & S ₂ same sensor problem as FI-09
	FI-10	NET	04:08	BE	92	54	40.80	134	21.89		2149				LT = 2108	BON60
④	FI-15	CTD	11:55	BE	93	54	31.64	135	42.93	GPS	~2800		033	1		To = 10.6083 LT = 04:55 So = 32.5075 MLD = 10
			12:10	BO		54	31.71	135	42.85	"	~2800	503				surface bottle
			12:19	EN		54	31.71	135	42.83	"						S ₁ & S ₂ downcast 0-50m
	FI-15	NET	12:25	BE	94	54	32.03	135	42.53		1537				LT = 0525	BON60 very offshore copepods
	FI-15	NET	13:15	BE	95	54	31.78	135	42.15	"	72500					TRAWL LT = 0615
	FI-14	CTD	14:34	BE	96	54	33.29	135	26.48	GPS	~2800		034	1		To = 10.4451 LT = 0734 So = 32.5048 MLD = 16
			14:49	BO		54	33.30	135	26.57	"	~2800	504				surface
			14:59	EN		54	33.30	135	26.58	"	~2800					S ₁ & S ₂ downcast 0-50m
	FI-14	NET	15:05	BE	97	54	33.31	135	26.41	"	2506				LT = 0805	BON60
	FI-14	NET	15:42	BE	98	54	33.62	135	23.14	"	72500					TRAWL LT = 0842

Cast type:

BOT = otter cast

ROS = Rosette

USW = sea water loop

Time Code

BE = beginning time

DE = duration

Cast type:

BOT = otter cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

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

④ sounder reading based on eye-ball estimate of echogram where bottom visible but no bottom reading in digital

FI-09

~~2nd probe~~ probe with 2° C-T unit.

~~W/ the unit T₂ is reading exactly 1°C cooler than T₁!!~~

Ignore this, axis problem on display only

Also same problem with the conductivity cell - equal for only 250m downcast + complete upcast

360

FI-10

Deep Niskin sample

1000 m

60 sec/hr

$\frac{16}{60} \frac{1000}{400}$

Messenger sent down @ 03:22, but stuck on tar. CTD raised to retrieve messenger, but slips + sticks lower.

② 2nd messenger attempt 03:23, bottle sample likely to be at $\approx$ 990 m; depth of CTD is 994 m on 2nd attempt.

Temp @ 994 m = 3.2266

S₁ = 34.3499

S₂ = 34.3442

Messenger sticky due to greaseball on wire

③ Ascent begin at 03:34

54 40.31 N

depth 2120 m

④ Stop at 03:37, 849 m to remove stuck messenger.
resume 03:38

134 21.93 W

stuck messenger.

FI-15

same problem with 2° conductivity cell 0-50m

Also, note very constant salinity reading between 200 - 300 m; for sal bottle later if necessary $\sim$ 33.9261

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year <u>2001</u>					Month <u>June</u>			Ship <u>WE</u> <u>Richter</u>				Cruise I.D. <u>H52001-14</u>		
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
19	FI-13	CTD	16:53	BE	099	54 34.94	135 10.22	GPS	2714		035	1	JEZ	T ₀ = 10.8823 LT = 0953 S ₀ = 32.5037 MLD = 8
			17:08	BO		54 34.14	135 09.97	"	2714	500				surface bottle
			17:18	EN		54 35.28	135 09.83	"	2714					S ₁ & S ₂ ΔS = ~0.7
	FI-13	NET	17:25	BE	100	54 35.35	135 09.67	"	2500					LT = 1025 BONGO offshore corals
	FI-13	NET	17:54	BE	101	54 35.33	135 09.67	"	72500					TRAWL LT = 1054
	FI-12	CTD	19:06	BE	102	54 36.65	134 54.14	GPS	2657		036	3	JEZ	T ₀ = 10.7389 LT = 1206 S ₀ = 32.5114 MLD = 11
			19:20	BO		54 36.71	134 53.76	"	2656	503				Bottle #1 - surface Nipke
			19:32	EN		54 36.76	134 53.49	"	2655					Bottle #2 - wet lab sampler loop for chl-a, Sal
		NET	19:38	BE	103	54 36.76	134 53.21	"	2660					Bottle #3 - ocean lab sampler loop for chl-a only
		NET	20:05	BE	104	54 37.08	134 49.75	"	2422					BONGO LT = 1305
	FI-11	CTD	21:13	BE	105	54 38.34	134 37.95	GPS	2374		037	3		TRAWL LT = 1413
			21:27	BO		54 38.37	134 37.93	"	2375	501				T ₀ = 10.9902 LT = 1413 S ₀ = 32.5047 MLD = 10
			21:39	EN		54 38.38	134 37.96	"	2375					surface bottle #1 S ₁ & S ₂
	FI-11	NET	21:48	BE	106	54 38.19	134 37.67	"	2325					#2 wet lab sampler loop chl-a, Sal
	FI-11	NET	22:10	BE	107	54 38.45	134 36.00	"	2363					#3 ocean lab sampler loop chl-a
	FI-10	NET	23:35	BE	108	54 40.05	134 21.76	"	2090					BONGO LT = 1448
20	FI-09	NET	01:05	BE	109	54 41.98	134 05.55	"	221					TRAWL LT = 1510
														TRAWL LT = 1635
														TRAWL LT = 1805

Cast type:

BOT = otter cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

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

S₁, S₂
0-50
m
down
cast

18 Jan 01

FI-13:

talking w/ winch man; their wheel reads 0.7-0.8 when
I can see descent rate of 1m/s. like they read 0.9-1.0
I get speeds of ≈ 1.5 m/s. So we're keeping it
at about 0.7-0.8 from their end.

Salinity at 200-300m very stable at ≈ 33.92 psu

FI-12:

Bottles:

#1 - surface Niskin

#2 - wet lab seawater loop sample for sal, chl-a

#3 - ocean lab seawater loop sample for chl-a only

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year 2001					Month June			Ship WE Richee				Cruise I.D. 2001-14		
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
20	SE-01	CTD	11:57	BE	110	55 47.31	133 44.03	GPS	101		038	1	JFZ	T ₀ = 9.7306 LT = 0457 S ₀ = 31.6318 MLD = 40
			12:03	BO		55 47.31	133 44.14	"	79	70				surface bottle
			12:05	EN		55 47.31	133 44.15	"	88					
	SE-01	NET	12:14	BE	111	55 47.37	133 44.21	"	80					LT=0514 ① complex topography, on bank
	SE-01	NET	13:04	BE	112	55 46.59	133 43.67	"	102					BONDO small orotic caperods
	SE-02	CTD	14:32	BE	113	55 56.07	133 49.91	GPS	40		039	1	JFZ	LT=1309 TRAWL herring, small sand-lance, juvenile walleye pollack
			14:36	BO		55 56.19	133 49.97	"	45	30				T ₀ = 7.9422 LT = 0732 S ₀ = 31.6497 MLD = 1/4
			14:38	EN		55 56.22	133 49.99	"	42					surface bottle well-mixed
	SE-02	NET	14:50	BE	114	55 57.52	133 50.21	"	60					phew.
	SE-03	CTD	18:51	BE	115	55 33.60	133 46.10	GPS	141		040	1	JFZ	TRAWL (no bonny this LT=0750 station)
			18:57	BO		55 33.79	133 45.97	"	142	125				T ₀ = 10.5770 LT = 1151 S ₀ = 31.7040 MLD = 32
			19:01	EN		32.0	46.01	"	143					surface bottle
	SE-03	NET	19:20	BE	116	55 33.26	133 46.15	"	103					weather → GALE SWELLS 2-3m, blowing 30-40
	SE-03	NET	20:20	BE	117	55 32.30	133 47.50		118					TRAWL LT=1220
	SE-04	CTD	22:12	BE	118	55 19.36	133 43.91	GPS	75		041	1	JFZ	BONDO LT=1512
			22:17	BO		55 19.39	43.92	"	76	62				T ₀ = 10.1109 LT = 1512 S ₀ = 31.6714 MLD = 23
			22:18	EN		55 19.41	133 43.92	"	?					surface bottle
	SE-04	NET	22:22	BE	119	55 19.20	133 44.20	"	75					weather → GALE SWELLS 3-4m blowing 30kph
	SE-04	NET	22:45	BE	120	55 18.25	133 43.7	"	80					BONDO LT=1522
														TRAWL LT=1545

Cast type:

BOT = otter cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

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

20 Jun 01

SE-01

on shelf, lots of acoustic targets (prob. Lermy)
same problem w/ $S_1 \neq S_2$? did not have chance to see - watching bathymetry

SE-02

tidal current, very complex shoals + troughs can't tell if $S_1 \neq S_2$
NO BONGOS at SE-02 b/c topography/currents

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year		2001			Month			Ship			Cruise I.D.			
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
20	SE-05	NET	01:05	BE	121	55 10.47	133 29.73	GPS	74					TRAWL
20	SE-05	CTD	02:01	BE	122	55 06.81	133 29.51	GPS	164		042	3	JEZ	T ₀ = 10.0588 LT = 19:01 S ₀ = 31.7082 MLD = 30
			02:08	BO		55 06.96	133 29.48	"	162	141				bottle #1 - surface skin S' & S ₂ bottle #2 - wet lab seawater loop
			02:12	EN		55 07.03	133 29.52	"	162					bottle #3 - ocean lab seawater loop complex tops; 3-4 m walls
	SE-05	NET	02:20	BE	123	55 07.02	133 29.66	"	175					LT = 1920 BONGO
20	HS-01	CTD	20:30	BE	124	53 41.80	130 26.78	GPS	141		043	1	JEZ	T ₀ = 9.2132 LT = 1834 S ₀ = 31.0783 MLD = 16
			20:35	BO		53 41.82	130 26.71	"	144	125				surface bottle S' & S ₂
			20:38	EN		53 41.83	130 26.62	"	144					
20	HS-01	NET	20:52	BE	125	53 41.86	130 26.74	"	144					LT = 1852 BONGO heavy phytoplankton many small copepods
20	HS-01	NET	21:15	BE	126	53 40.60	130 27.46	"	122					TRAWL JUVENILE SALMON - larval, adult salmon
21	HS-02	NET	01:00	BE	127	53 18.67	129 47.73	"	125					TRAWL
21	HS-02	CTD	01:51	BE	128	53 15.86	129 45.38	GPS	120		044	1	JEZ	T ₀ = 4.8280 LT = 1851 S ₀ = 30.5154 MLD = 16
			01:55	BO		53 15.87	129 45.36	"	120	110				surface skin S' & S ₂
			01:58	EN		53 15.87	129 45.34	"	118					
	HS-02	NET	02:10	BE	129	53 15.61	129 45.32	"	120					LT = 1910 BONGO
										</				

Cast type:

BOT = otter board
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

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

④ Why is GMT 1/2 hour off???. I am reading GMT from computer GMT ok at 1800;

20 June

SE-05 still having conductivity cell issues...

Bottle #1 - surface Niskin

Bottle #2 - wet lab seawater loop sample for salinity + chl-a

Bottle #3 - ocean lab seawater loop sample for chl-a only

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year <u>2001</u>					Month <u>June</u>			Ship <u>WE Rider</u>				Cruise I.D. <u>H52001-17</u>		
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
21	T-01	CTD	17:05	BE	130	51 16.49	128 20.03	GPS	75		045	1	JEZ	T ₀ = 12.3549 S ₀ = 30.4493 LT = 1005 MLD = n/a
			17:09	BO		51 16.49	128 20.05	"	75	66				surface bottle
			17:11	EN		51 16.50	128 20.05	"	75					S ₁ & S ₂ 0-50m downcast
	T-01	NET	17:16	BE	131	51 16.44	128 20.07	"	75			LT=1016		BONGO
	T-01	NET	17:40	BE	132	51 15.72	128 21.38	"	86			LT=1040		TRAWL
	T-02	CTD	18:44	BE	133	51 12.49	128 28.02	GPS	192		046	3	JEZ	T ₀ = 12.4227 S ₀ = 31.0050 LT = 1141 MLD = 13
			18:47	BO		51 12.53	128 27.94	"	193	181				Bottle #1 - surface water Bottle #2 - vent lab seawater loop Bottle #3 - open lab seawater loop
			18:51	EN		51 12.56	128 27.98	"	192					S ₁ & S ₂
	T-02	NET	19:00	BE	134	51 12.49	128 27.98	"	193			LT=1200		BONGO
	T-02	NET	19:26	BE	135	51 11.86	128 26.67	"	197			LT=1220		TRAWL
	T-03	CTD	20:21	BE	136	51 08.49	128 35.99	GPS	141		047	3	JEZ	T ₀ = 11.9989 S ₀ = 31.9476 LT = 1321 MLD = 24
			20:26	BO		51 08.46	128 35.97	"	141	131				three bottles, same as previous CTD
			20:29	EN		51 08.45	128 35.97	"	142					S ₁ & S ₂ 0-60m downcast
	T-03	NET	20:35	BE	137	51 08.30	128 36.30	"	140			LT=1335		BONGO
	T-03	NET	21:00	BE	138	51 07.60	128 37.64	"	123			LT=1400		TRAWL juvenile salmon a few
	T-04	CTD	21:56	BE	139	51 04.46	128 43.99	GPS	63		048			T ₀ = 12.2145 S ₀ = 31.1982 LT = 1456 MLD = n/a
			22:00	BO		51 04.44	128 44.04	"	63	51				surface bottle
			22:01	EN		51 04.43	128 44.07	"	63					S ₁ & S ₂

Cast type:

BOT = otter cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

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

21 June 01

C Day fill 1407. bin is mostly junk data b/c power to seawater loop pump
shut off when power went down for ~ 30 sec at 0612 local time (1312 UTC)

T-02

Taking 3 water samples at this station.

Bottle #1 - surface Niskin sal, chl-a, nat

Bottle #2 - wet lab seawater loop chl-a and sal

Bottle #3 - ocean lab seawater loop chl-a only

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year 2001					Month June			Ship WE Ricker				Cruise I.D. HS2001-14			
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments	
21	T-04	NET	22:10	BE	140	51° 04.32	128 44.31	GPS	60			LT=1510		BONGO	
	T-04	NET	15:25 7555	BE	141	51° 03.31	128 46.29	GPS	58		51 0146 1139.75 58 4412 59 depth 1000m 500m 500m	32x128		TRAWL 1 Pacific white-sided dolphin (observed) 5.1km off Gillette Pt	
	T-05	CTD	23:18	BE	142	50 59.99	128 52.24	GPS	63		049	1	JEZ	To = 11.3462 LT = 1618 S ₀ = 31.5660 MLD = n/a	
			23:23	BO		50 59.96	128 52.40	"	63	51				surface bottle	
			23:24	EN		50 59.95	128 52.46	"	64					S ₁ & S ₂ large swells 3-4m ship wallowing	
	T-05	NET	23:30	BE	143	50 59.98	128 52.14	"	64			LT=1630		BONGO	
	T-05	NET	23:50	BE	144	50 58.99	128 54 89	"	65			LT=1650		TRAWL	
22	T-06	CTD	01:05	BE	145	50 56.06	129 00.17	GPS	60		050	1	JEZ	To = 11.5604 LT = 1801 S ₀ = 31.5017 MLD = n/a	
			01:09	BO		50 56.07	129 00.23	"	61	51				surface bottle swells 2-3m	
			01:10	EN		50 56.07	129 00.28	"	61					S ₁ & S ₂ whole crust	
	T-06	NET	01:15	BE	146	50 56.00	129 00.97	"	60			LT=1815		BONGO	
	T-06	NET	01:30	BE	147	50 55.24	129 03.11	"	65			LT=1830		TRAWL	
	T-07	NET	02:40	BE	148	50 51.03	129 10.00	"	73			LT=1940		TRAWL	
	T-07	CTD	03:29	BE	149	50 49.22	129 13.04	GPS	92		051	1	JEZ	To = 10.6345 LT = 2029 S ₀ = 31.7344 MLD = n/a	
			03:34	BO+EN		50 49.27	129 13.02	"	92	80				surface bottle	
			-oops- hit wrong button + ended file after downcast - no upcast in this file!												swells 2-3m
	T-07	NET	03:44	BE	150	50 49.32	129 13.03	"	93			LT=2044		BONGO	
	T-08	NET	05:20	BE	151	50 41.86	129 29.42	"	1970			LT=2220		BONGO	
Cast type: BOT = otter cast ROS = Rosette USW = sea water loop Time Code BE = beginning time of cast DE = end time of cast															

Cast type:

BOT = otter cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

BE = beginning time of cast
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RE = recover mooring time

22 Jun

C Day for station T-07 probably messed up because reading fresh at 17-19 PSU

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year 2001					Month June			Ship WE Ricker				Cruise I.D. HS 2001-14		
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
22	T-08	CTD	05:35	BE	152	50 41.88	129 29.39	GPS	1914		052	2	JEZ	T ₀ = 11.2130 LT = 2234 S ₀ = 31.4913 MLD = 15
			06:00	BO		50 41.84	129 29.16	"	1914	1102				S ₁ & S ₂ 0-66m Swells 2-3m
			06:13	BO	returns to surface	50 41.95	129 29.02	"	1912					DEEP sea bottle @ 1000m
			06:37	EN		50 42.03	129 28.87	"	1911					Also surface bottle
	T-14	CTD	11:59	BE	153	50 14.29	130 30.47	GPS	2464		053	1	JEZ	T ₀ = 11.1902 LT = 0459 S ₀ = 32.2375 MLD = 30m
			12:14	BO		50 14.20	130 30.43	"	2464	501				surface bottle
			12:26	EN		50 14.17	130 30.39	"	2463					S ₁ & S ₂ 0 - 64m
	T-14	NET	12:33	BE	154	50 14.15	130 30.31	"	2046				LT = 0533	BON 60
	T-14	NET	13:15	BE	155	50 15.21	130 28.38	"	2500				LT = 0615	TRAWL (15 min)
	T-13	CTD	14:12	BE	156	50 18.58	130 19.80	GPS	1854		054	3	JEZ	T ₀ = 11.5049 LT = 0711 S ₀ = 32.2407 MLD = 32
			14:27	BO		50 18.65	130 19.63	"	1900	500				Bottle #1 - surface
			14:40	EN		50 18.69	130 19.53	"	1920					Bottle #2 - net lab seawater cult-a
	T-13	NET	14:50	BE	157	50 18.73	130 19.36	"	1900				LT = 0750	Bottle #3 - ocean lab seawater cult-a only S ₁ & S ₂ 0-65m downcast
	T-13	NET	15:12	BE	158	50 19.71	130 16.25	"	2292				LT = 0812	BON 60
	T-12	CTD	16:07	BE	159	50 22.83	130 09.49	GPS	2666		055	3	JEZ	T ₀ = 11.5196 LT = 0907 S ₀ = 32.2569 MLD = 12
			16:21	BO		50 22.89	130 09.32	"	2678	562				Bottle #1 - surface
			16:33	EN		50 22.89	130 09.26	"	2674					Bottle #2 - net lab seawater loop cult-a, sd
	T-12	NET	16:40	BE	160	50 22.97	130 09.03	"	2652				LT = 0940	Bottle #3 - ocean lab seawater loop cult-a only S ₁ & S ₂ 0-62m
	T-12	NET	17:05	BE	161	50 23.65	130 07.31	"	1875				LT = 1005	BON 60
														TRAWL (15 min)

Cast type:

BOT = bottle cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

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

T-08

Bottle #1 Deep salinity samples + deep nutrient samples

Messenger sent at 06:02:36

waiting ≈ 13 minutes
for messenger

Bottom temp = 3.32/8

Cast retrieved at 06:13:36

Bottom sal = 34.4070(10)

34.4013(20)

On way back up - some backing up on winch $\approx 450m$ to help spool wire on properly,

T-13

Bottle #1 - surface Niskin: sal, nut, chl-a

Bottle #2 - net lab seawater loop: sal, chl-a

Bottle #3 - ocean lab seawater loop: chl-a only

T-12

Same 3 bottles as T-13

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year 2001					Month June					Ship WE Ricker					Cruise I.D. H52001		
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude		Longitude		Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments	
22	T-11	CTD	18:00	BE	162	50	27.61	129	59.35	GPS	2177		056	2	JEZ	b = 11.4472 LT = 11:00 s = 32.3113 MLD = 17	
			18:15	BO		50	27.60	129	59.01	"	2179	499				Surface bottle	
			18:27	EN		50	27.64	129	58.88	"	2182					S, #s 0-62m downcast	
	T-11	NET	18:42	BE	163	50	27.76	129	58.02	"	2185				LT=1142	BONGO	
	T-11	NET	19:05	BE	164	50	28.34	129	56.31	"	2191				LT=1205	TRAWL (15-min)	
	T-10	CTD	20:01	BE	165	50	32.48	129	49.32	GPS	2163		057	3	JEZ	To = 11.4859 LT = 13:01 s = 32.2937 MLD = 25	
			20:16	BO		50	32.57	129	49.35	"	2161	502				Bottle #1 - Surface Niskin S, #s 0-68m Bottle #2 - wet lab seawater loop sel, chl-a	
			20:26	EN		50	32.59	129	49.36	"	2160					Bottle #3 - ocean lab seawater loop sel-a LOT OF CASSIN'S AUKLETS	
	T-10	NET	20:30	BE	166	50	32.68	129	49.16	"	2161				LT=1330	BONGO	
	T-10	NET	20:55	BE	167	50	33.68	129	46.86	"	2153				LT=1355	TRAWL (15-min)	
	T-09	CTD	21:53	BE	168	50	37.28	129	39.12	GPS	2028		058	3	JEZ	To = 11.7848 LT = 14:53 s = 32.1279 MLD = 17	
			22:00	BO		50	37.24	129	38.89	"	2036	501				Bottle #1 Surface Niskin Bottle #3 Bottle #2 wet lab seawater ocean lab seawater loop	
			22:20	EN		50	37.25	129	38.86	"	2029					S, #s 0-60m swells 1-2m	
	T-09	NET	22:25	BE	169	50	37.37	129	38.54	"	2020				LT=1525	BONGO	
	T-09	NET	22:50	BE	170	50	38.22	129	36.22	"	2013				LT=1550	TRAWL (15-min)	
23	T-08	NET	00:00	BE	171	50	42.81	129	26.59	"	1860				LT=1700	TRAWL (15-min)	

Cast type:

BOT = otter cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

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

T-09

- re-adjusting wire on upcast around 222-212m depth, so CTD goes up + down a bit

- water bottles

Bottle #1: surface Niskin: chl-a, nut, sal

Bottle #2: net lap seawater loop: chl-a + sal

Bottle #3: ocean lab, seawater loop chl-a only

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year	2001				Month	June		Ship WE Ricker				Cruise I.D. HS 2001-14				
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude		Longitude		Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
23	EP-01	CTD	13:38	BE	172	49	21.05	126	31.51	GPS	33		059	1	JEZ	T ₀ = 9.9727 LT = 0633 S ₀ = 32.2197 MLD = n/a
			13:43	BO		49	21.05	126	31.50	"	32	21				surface bottle
			13:44	EN		49	21.05	126	31.49	"	33					S ₁ & S ₂ whole cast
	EP-01	NET	14:07	BE	173	49	20.30	126	32.84	"	49			LT = 0702		TRAWL (15 min) NO BONGO CEP-01
	EP-02	CTD	15:06	BE	174	49	18.96	126	36.18	GPS	83		060	3	JEZ	T ₀ = 11.0464 LT = 0806 S ₀ = 31.9084 MLD = 16
			15:12	BO		49	18.94	126	36.15	"	83	71				Bottle #1 - Surface Niskin Bottle #2 - wet lab chl-a, sal
			15:14	EN		49	18.93	126	36.12	"	83					Bottle #3 - ocean lab chl-a only S ₁ & S ₂ whole rest
	EP-02		15:15	BE	175	49	18.84	126	36.20	"	79			LT = 0805		BONGO
	EP-02		15:43	BE	176	49	18.26	126	37.59	"	92			LT = 0843		TRAWL (15 min)
	EP-03	CTD	16:20	BE	177	49	16.74	126	40.86	GPS	110		061	3	JEZ	T ₀ = 11.9541 LT = 0920 S ₀ = 31.8916 MLD = 8
			16:26	BO		49	16.73	126	40.91	"	110	101				Bottle #1 = surface bottle; Bottle #2 = wet lab chl-a Bottle #3 = ocean lab "
			16:29	EN		49	16.73	126	40.92	"	110					S ₁ & S ₂ 0-60m
	EP-03	NET	16:40	BE	178	49	16.67	126	41.14	"	210			LT = 0940		BONGO
	EP-03	NET	16:58	BE	179	49	16.01	126	42.58	"	120			LT = 0958		TRAWL (15 min)
	EP-04	CTD	17:34	BE	180	49	14.62	126	45.25	GPS	120		062	3	JEZ	T ₀ = 12.7470 LT = 1034 S ₀ = 32.0430 MLD = 14
			17:40	BO		49	14.62	126	45.24	"	119	110				S ₁ & S ₂ 0-56m
			17:43	EN		49	14.63	126	45.23	"	118					Bottles same as EP-03: surface, wet lab, ocean lab
	EP-04	NET	17:58	BE	181	49	14.52	126	45.32	"	115			LT = 1050		BONGO
	EP-04	NET	18:10	BE	182	49	13.80	126	46.71	"	123			LT = 1110		TRAWL

Cast type:

BOT = otter cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

BE = beginning time of cast
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23 Jun 01 Estero + sect is first one with substantial particulate matter in H_2O ; likely to have high chl-a levels
low nutrients

EP-01

No lingo here; too shallow

EP-02

Bottle #1 - Surface Niskin for chl-a, nut, sal

Bottle #2 - wet lab seawater loop - chl-a, sal

Bottle #3 - ocean lab seawater loop - chl-a

EP-03

Bottle #1 - surface Niskin chl-a, nut, sal

Bottle #2 - wet lab seawater loop chl-a only

Bottle #3 - ocean lab seawater loop chl-a only

EP-04

Bottles same as EP-03

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year 2001					Month June			Ship WE Ricker				Cruise I.D. HS2001-14		
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
23	EP-05	CTD	18:48	BE	183	49 12.31	126 49.89	GPS	141		063	1	JEZ	T ₀ = 12.5813 MLD = 10 S ₀ = 32.0066 LT = 1148
			18:54	BO		49 12.29	126 49.92	"	141	133				Surface bottle S ₁ S ₂ 0-56m
			18:57	EN		49 12.29	126 49.94	"	142					Pressure spike on initial start-up
	EP-05	NET	19:04	BE	184	49 12.30	126 50.09	"	146				LT = 1204	BONSO
	EP-05	NET	19:30	BE	185	49 11.51	126 51.94	"	154				LT = 1230	TRAWL (15 min)
	EP-06	CTD	20:05	BE	186	49 10.22	126 54.32	GPS	189		064	1	JEZ	T ₀ = 12.7023 LT = 1305 S ₀ = 32.0580 MLD = 17
			20:12	BO		49 10.27	126 54.30	"	188	177				surface bottle
			20:16	EN		49 10.30	126 54.33	"	188					S ₁ S ₂ 0-69m
	EP-06	NET	20:21	BE	187	49 10.32	126 54.55	"	188				LT = 1321	BONSO
	EP-06	NET	20:45	BE	188	49 09.55	126 56.20	"	234				LT = 1345	TRAWL (15 min)
	EP-07	CTD	21:21	BE	189	49 08.05	126 58.93	GPS	465		065	1	JEZ	T ₀ = 12.8284 MLD = 17 S ₀ = 32.0426 LT = 14:20
			21:34	BO		49 08.13	126 58.92	"	458	441				surface bottle
			21:44	EN		49 08.26	126 58.89	"	436					S ₁ S ₂ 0-79m
	EP-07	NET	21:49	BE	190	49 08.32	126 58.71	"	427				LT = 1449	BONSO
	EP-07	NET	22:10	BE	191	49 07.79	126 59.48	"	544				LT = 1510	TRAWL
	EP-08	CTD	23:30	BE	192	49 02.13	127 10.00	GPS	1705			1	JEZ	T ₀ = 13.0642 MLD = 20 S ₀ = 32.0366 LT = 1630
			23:44	BO		49 02.29	127 10.03	"	1691	501				surface bottle
			23:55	EN		49 02.39	127 10.08	"	1678					S ₁ S ₂ 0-68m
24	EP-08	NET	00:04	BE	193	49 02.16	127 10.28	"	1670				LT = 1704	BONSO

Cast type:

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DRF = drifter

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year <u>2001</u>					Month <u>June</u>			Ship <u>WE Richey</u>			Cruise I.D. <u>H52001-14</u>			
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
24	EP08	NET	00:25	BE	194	49 01.73	127 11.95	GPS	1886			LT=1715		
	EP-09	CTD	01:57	BE	195	48 53.87	127 25.62	GPS	2134		067	1	JEZ	TRAWL
			02:12	BO		48 54.02	127 25.71	"	2133	501				To=12.9010 LT=1857 So=32.1984 MLD=15
			02:23	EN		48 54.12	127 25.76	"	2133					surface bottle sea well 12-3m
	EP-09	NET	02:32	BE	196	48 54.04	127 26.02	"	2133			LT=1932		S, f S ₂ 0-63m
	EP-10	CTD	04:07	BE	197	48 45.70	127 41.20	GPS	2566		068	2	JEZ	BONGO
			04:22	BO		48 45.79	127 41.13	"	2566	501				To=12.9322 LT=2107 So=32.2357 MLD=25
			04:38	EN		48 45.91	127 41.03	"	2565					Bottle #1 Deep bottle @ 275m Bottle #2 Surface Mixture S, f S ₂ 0-63m
	EP-10	NET	04:51	BE	198	48 46.02	127 40.61	"	2566			LT=2151		BONGO
	VI-01	CTD	12:15	BE	199	49 04.59	126 00.87	GPS	55		069	1	JEZ	To=10.3841 LT=0515 So=32.0493 MLD=1/4
			12:20	BO		49 04.55	126 00.83	"	55	46				surface bottle
			12:22	EN		49 04.55	126 00.83	"	55					S, f S ₀ whole can, t
	VI-01	NET	12:30	BE	200	49 04.56	126 00.88	"	50			LT=0530		BONGO
	VI-01	NET	13:21	BE	201	49 04.80	125 57.67	"	42			LT=0621		TRAWL
	VI-02	CTD	14:20	BE	202	49 01.33	125 48.93	GPS	30		070	1	JEZ	To=10.5719 LT=0720 So=32.3860 MLD=
			14:25	BO		49 01.38	125 48.91	"	29					surface bottle
			14:26	EN		49 01.39	125 48.91	"	31					S, f S ₂ whole cast
	VI-02	NET	14:43	BE	203	49 00.99	125 47.86	"	37			LT=0743		TRAWL
														NO BONGO @ VI-02 → young under salmon lots of squid, Agurra

Cast type:

BOT = otter cast
CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

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



EP-10 wire popped out of reel @ 9.6m on way down, so there is a pause in the downcast.

Bottle #1: deep sample at CTD indicating 270 m depth.

Messenger sent at: 21:23

CTD wire retrieved at: 21:31

salinity only ~ 33.9400

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Year 2001					Month June			Ship WE Ricker			Cruise I.D. HS2001-14			
Day	Station I.D.	Cast Type	Time (UTC)	Time Code	Consec. Number	Latitude	Longitude	Position Code	Bottom Depth	Max Depth	Consec Sample #	# of Bottles	initials	Comments
24	VI-03	CTD	15:35	BE	204	48 58.28	125 41.89	GPS	63		071	1	JEZ	T ₀ = 10.6769 LT = 0933 S ₀ = 32.2874 MLD = n/a
			15:39	BO		48 58.31	125 41.87	"	62	50				surface bottle
			15:41	EN		48 58.31	125 41.87	"	61					S ₁ & S ₂ 0-50m
	VI-03	NET	15:55		205	48 58.08	125 41.84	"	62					BON60
	VI-03	NET	16:08	BE	206	48 57.57	125 40.47	"	74					TRAWL
	VI-04	CTD	16:59	BE	207	48 55.15	125 37.80	GPS	83		072	1	JEZ	T ₀ = 10.6564 LT = 0959 S ₀ = 32.1176 MLD = n/a
			17:04	BO		48 55.22	125 34.98	"	85	71				surface bottle
			17:06	EN		48 55.24	125 35.03	"	85					S ₁ & S ₂ 0-48m
	VI-04	NET	17:14	BE	208	48 55.33	125 35.27	"	84					BON60
	VI-04	NET	17:34	BE	209	48 55.07	125 34.96	"	88					TRAWL
	VI-05	CTD	20:32	BE	210	48 43.83	125 16.29	GPS	81		073	1	JEZ	T ₀ = 9.7482 LT = 1331 S ₀ = 32.2159 MLD = n/a
			20:37	BO		48 43.87	125 16.27	"	79	71				surface bottle
			20:38	EN		48 43.88	125 16.27	"	77					S ₁ & S ₂ 0-50m
	VI-05	NET	20:45	BE	211	48 43.93	125 16.03	"	76					BON60
	VI-05	NET	21:03	BE	212	48 43.39	125 14.36	"	72					TRAWL
	VI-06	CTD	22:23	BE	213	48 37.13	125 02.81	GPS	79		074	1	JEZ	T ₀ = 9.9067 LT = 1523 S ₀ = 32.0362 MLD = 19
			22:28	BO		48 37.21	125 02.68	"	78	69				surface bottle
			22:30	EN		48 37.21	125 02.67	"	77					S ₁ & S ₂ 0-56m
	VI-06	NET	22:36	BE	214	48 37.29	125 02.38	"	73					BON60

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CTD = CTD
MOR = mooring

ROS = Rosette
NET = net haul
DRF = drifter

USW = sea water loop

Time Code

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

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

[illegible]

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