

DAILY LOG BOOK

MISSION
NUMBER

2004-20

DATE:

From: 20 AUG 2004 to: 2 SEPT 2004

VESSEL:

JOHN P TULLY

PROJECT:

LINE P

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

Captain:	<u>JOHN ANDERSON</u>	First Officer:	<u>PETER VISSER</u>
Second Officer:	<u>DAVID MURDOCK</u>	Third Officer:	<u>RYAN HAUL</u>

Mission Participants / Agencies: Los

Scientific Personnel:

Party Chief: FRANK WHITEHEAD

Name	Watch	Cabin	Name	Watch	Cabin
WENDY RICHARDSON	W-13	B	MIKE BENTLEY	W-13	ELC
MARTY DAUCLAIR	D-13	C			
MARIE ROBERT	B-11	D			
JAMES ZWILDS	12-4	E			
EVAN SEAL	4-8	F			
PETER CHANDLER	12-4	F			
MAAIGIE VAN DER STEEN	8-12	G			
LIZ GRANT	4-8	G			
CELINE GUEGUEN	W-8C	H			
HUGH MACLEAN	4-8	7			

Second leg of Mission:

Party Chief:

[illegible]

Data logging computer: PACOSAP-F503 (02328)

Data acquisition program:

CTD deck unit make: SEABIRD model: 11 serial number: 0508

Primary CTD

Make: Scania model: 911 serial number: 0585

Primary temperature serial number: 2023

Primary conductivity serial number: 1763

Secondary temperature serial number: 2106

Secondary conductivity serial number: 2107

Transmissometer: WET LABS Model: SCA STAR s/n: 723

Fluorometer: Model	Model	Cable gain:	s/n:
SEAPO 147	SEAPO 147	10x	2229

Oxygen sensor: _____

Model: _____ s/n: _____

Cable gam: _____ s/n: _____

I, S or NO pump? _____ P S or NO numm? _____

PAR sensor: _____ s/n: _____ I, S or NO pump?
Model: _____ s/n: _____

Other sensors: _____ S/H: _____
 _____ model: _____ s/n: _____
 _____ p/c or NO number _____

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

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

Other sensors:

S/n: _____

P, S or NO pump? _____

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		S/n.
Cable gain:		S/n.

Oxygen sensor: _____ S/n: _____
 Model: _____

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

Other sensors: _____ s/n: _____

Other sensors: _____ s/n: _____

Other sensors: _____ s/n: _____

Other sensors: _____ s/n: _____

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

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>Aug</i>				Year <i>2004</i>			Ship <i>Tully</i>				Cruise ID <i>2004-20</i>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
							Latitude	Longitude							
<i>20</i>	<i>SIG 1</i>	<i>17:07</i>	<i>BE</i>	<i>ROS</i>		<i>1</i>	<i>48 35.42</i>	<i>123 29.99</i>	<i>231</i>						
		<i>17:13</i>	<i>BO</i>				<i>48 35.73</i>	<i>123 29.95</i>		<i>220</i>		<i>24</i>			<i>Test, no samples</i>
		<i>17:19</i>	<i>EN</i>				<i>48 35.74</i>	<i>123 29.99</i>							<i>#2 did not tip. Raised bottle height.</i>
	<i>JF 1</i>	<i>23:10</i>	<i>BE</i>	<i>USW</i>			<i>48 16.218</i>	<i>123 33.992</i>	<i>175.5</i>	<i>surface</i>	<i>loop</i>		<i>EMG HM</i>		<i>loop sample</i>
<i>21</i>	<i>JF 2</i>	<i>01:09</i>	<i>BE</i>	<i>USW</i>			<i>48 18.121</i>	<i>124 00.006</i>	<i>188.7</i>	<i>surface</i>	<i>loop</i>		<i>EMG HM</i>		<i>loop sample</i>
	<i>JF 3</i>	<i>03:44</i>	<i>BE</i>	<i>USW</i>			<i>48 28.065</i>	<i>124 35.075</i>	<i>236.8</i>	<i>surface</i>	<i>loop</i>		<i>MudS</i>		<i>loop sample</i>
	<i>JF 4</i>	<i>05:16</i>	<i>BE</i>	<i>USW</i>			<i>48 30.582</i>	<i>125 00.229</i>	<i>77.9</i>	<i>surface</i>	<i>loop</i>		<i>MudS</i>		<i>loop sample</i>
<i>21</i>	<i>P 1</i>	<i>07:24</i>	<i>BE</i>	<i>ROS</i>		<i>2</i>	<i>48 34.54</i>	<i>125 30.18</i>	<i>132</i>		<i>1</i>	<i>1</i>		<i>✓</i>	
		<i>07:31</i>	<i>BO</i>				<i>48 34.54</i>	<i>125 30.28</i>		<i>126</i>					
		<i>07:35</i>	<i>EN</i>				<i>48 34.54</i>	<i>125 30.34</i>							
<i>21</i>	<i>P 2</i>	<i>09:48</i>	<i>BE</i>	<i>ROS</i>		<i>3</i>	<i>48 36.00</i>	<i>125 59.97</i>	<i>118</i>		<i>2-9</i>	<i>8</i>		<i>✓</i>	
		<i>09:52</i>	<i>BO</i>				<i>48 35.99</i>	<i>125 59.97</i>		<i>112</i>					
		<i>10:03</i>	<i>EN</i>	<i>ROS</i>			<i>48 35.98</i>	<i>126 0.018</i>							
<i>21</i>	<i>P 3</i>	<i>11:52</i>	<i>BE</i>	<i>CTD</i>		<i>4</i>	<i>48 37.47</i>	<i>126 19.86</i>	<i>820</i>	<i>1</i>	<i>10</i>	<i>1</i>			<i>CTD ONLY</i>
		<i>12:04</i>	<i>BO</i>				<i>48 37.49</i>	<i>126 19.88</i>	<i>808</i>						
			<i>EN</i>				<i>48 37.38</i>	<i>126</i>							
<i>21</i>	<i>P 4</i>	<i>14:02</i>	<i>BO</i>	<i>NET</i>		<i>5</i>	<i>48 38.87</i>	<i>126 39.22</i>	<i>1300</i>	<i>250</i>					

Cast type: USW = sea water loop bottle firing method: Time Code:

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

bottle firing method:
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Time Code
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Transmissometer to be cleaned for each cast, do not use Ammonia products

Daily_log_book.doc

20 Aug 2004

2030 UTC
(1330 PDT)

Changed plumbing on "thermosal" CTD (Model 25-02, SN 2529247-0334)
to supply seawater rather than tap water!

CTD is logging T+S from the Thermosal water bath
Fluorescence by WETLABS SN W535-713P
GPS logged Separately.

21 Aug 2004

0100 UTC

Removed bubble chamber from thermosal to reduce warming of S Seawater
Seawater now runs directly into Thermosal bath.

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>AUGUST</i>				Year <i>2004</i>			Ship <i>JOHN P TULLY</i>			Cruise ID <i>2004-20</i>					Comments
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	
							Latitude	Longitude							
21	P4	1431	BE	ROS	US	6	48° 39.01	126° 39.94	~1350		11-30	20		X	
			BO			7	48° 39.81	126° 40.04							→
		1550	EN				48° 38.09	126° 39.40							
21	P5	1826	BE	ROS	US	8	48° 41.52	127° 09.94	2100						
		1854	BO				48° 41.45	127° 09.89		2005	31	1		✓	
		1924	EN			9	48° 41.49	127° 09.89							bottle @ 4m * →
21	P6	2151	BE	ROS	US	10	48° 44.578	127° 39.936	2559					✓	
		2157	BE				48° 44.56	127° 39.96			32				restart cast
		2220	BO				48° 44.16	127° 39.65		2005					bottle @ 4m
		2245	EN				48° 43.97	127° 38.89							excess line angle and following sea
22	P7	0120	BE	ROS	US	11	48° 46.55	128° 09.92	2520		33	1		✓	CTD ONLY - Bottle 4m
		0147	BO				48° 46.52	128° 09.92	2450	2000					P on deck - 0.25
		0213	EN				48° 46.52	128° 09.93							
22	P8	0458	BO	NET		12	48° 48.001	128° 39.901	2530	250					
		0506	EN				48° 48.987	128° 39.938							
22	P8	0519	BE	ROS	US	13	48° 49.01	128° 39.96	2530					✓	
		0547	BO				48° 49.00	128° 39.96		2540'	34-54	21			→
		0645	EN				48° 48.98	128° 39.93							

Cast type:

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Daily_log_book.doc

21 Aug
0945 local, (1644 UTC) Start TSG R6 0002.hex 48 39.08 126 51.57

Start Tara Term R6 2004-20 gps 21 aug. txt

Black out on the ship, have to restart everything!

Start TSG @ 1815, R6 0003.hex 48 41.45 127 09.94, just before P5

→ Computer: crashed @ the end of P3, when we got to the bottom of P4, I could not close the bottle I could not look at the configuration of the water sample either. Then the software crashed again. Finally got cast 7 going.

→ Computer crash - power failure - CTD @ 1800 m on ascent - file becomes 2004-20-0009

- Nickie bottles 1 & 2 were tipped @ 4m - sample taken from Nickie bottle 1 @ 1950 48 47.47 127 09.90

21 Aug

1800: Shut off everything in the lab.

1810: restart TSG, Tara Term 2004-20 GPS 21 Aug B. txt TSG 2004-20-0004 hex

→ Did not wait 30 sec @ bottom because altimeter still on.

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Month AUGUST				Year 2004			Ship JOHN P TULLY				Cruise ID 2004-20				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
							Latitude	Longitude							
22	P9	0923	BE	ROS	US	14	48 51.340	129 09.86	2393		55	1		✓	
		0955	BO				48 51.457	129 09.92		2005					NISKIN BOTTLE 1 @ 4m
		1028	EN				48 51.389	129 09.865							
22	P10	1307	BC	ROS	US	15	48 53.576	129 39.997	2653		56	1	A.M.V.E.S.	✓	CTD ONLY
		1337	BO				48 53.622	129 40 070		2000					1 BOT @ 4m
		1405	EN				48 53.574	129 40 313							
22	P11	1625	BE	ROS	US	16	48 56.00	130 09.95	2760					✓	
		1655	BO				48 56.02	130 09.89		2005	57	1			
		1715	EN				48 56.03	130 09.87							
22	P12	1941	BO	NET		17	48 58.20	130 40.001	2813						
		1957	EN												
22	P12	2024	BE	ROS	US	18	48 58.199	130 40.013	2950	?				✓	Poor bottom det ⁿ
		2059	BO				48 58.199	130 40.012		3000	58-80	23			bottles 1 & 2 fired @ 3000m
		2158	EN				48 58.262	130 39.982							
23	P13	0209	BC	ROS	US	19	49 02.604	131 40 054	2875	2000	81	1		✓	CTD ONLY
		0231	BO				49 02.603	131 40 031							1 BOT @ 4m
		0253	EN				49 02.56	131 40.00							

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Daily_log_book.doc

22 Aug 04

1500 Re-start TSG Re 2004-20-0005 key between P10 and P11

Start Tusa-term file 2004-20 gps 22 aug txt

- No DMS analysis on GC, flame would not ignite (Marty)

- Sonar in active mode displayed varying depths from 2200 - 2850 m - all lower than the expected +3000 m; in passive mode the trans @ Curacao were indistinct & questionable - lowered rosette at reduced rate monitoring pressure sensor - max depth of cast was 3000 m.

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Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month AUGUST				Year 2004				Ship JOHN A TULLY				Cruise ID 2004-20			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
							Latitude	Longitude							
23	P14	0707	BE	ROS		20	49 7.428	132 39.994	2894					✓	
		0737	BO				49 7.471	132 40.081		2005	82	1			1 bottle @ 4 m
		0805	EN				49 7.516	132 40.139							
23	P15	1234	BE	ROS		21	49 11.98	133 40.011			83	1		✓	CTD E 1 Bot @ 4m
		1304	BO				49 12.008	133 40.018	3200	2000					SI 32.27 T:17.22
		1330	EN				49 12.058	133 40.014							
23	P16	1804	BO	NET		22	49 17.026	134 40.159		~250					
		1812	EN				49 17.018	134 40.178							
23	P16	1826	BE	ROS		23	49 17.01	134 40.01	~3500*		84-106	23			* no reading
		1922	BO				49 17.00	134 40.07		3601					N 3650 ast. using X overs
		2028	EN				49 16.985	134 39.956							
24	P17	0104	BE	ROS		24	49 20.96	135 39.95	4320		107	1		✓	CTD E 1 Bot @ 4m
		0126	BO				49 20.99	135 39.96		2000					
		0148	EN				49 21.002	135 39.905							
24	P18	0601	BE	ROS		25	49 25.99	136 40.03	~3775		108	1		✓	
		0628	BO				49 26.01	136 40.01		2005					
		0659	EN				49 26.01	136 39.99							

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Daily_log_book.doc

23 Aug 2000 local : Start TSG 2004-20-0006. hz 49.13.55 13400.00
Start Ten Term Gls 2004-20 gps 23 tot

- note rising signal in flowmeter - check connection on deck

DAILY LOG

Ocean Sciences and Productivity Division

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Month AUGUST				Year 2004			Ship JOHN P TULLY				Cruise ID 2004-20				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
							Latitude	Longitude							
24	P19	1128	BE	ROS	US	26	49 30 052	137 39.898	3850				W. E. S.	✓	
		1157	BO				49 30 175	137 39.822		2000	109	1			
		1219	EN				49 30 294	137 39.798							
24	P20	1734	BO	NET		27	49 34 084	138 40 073		~250					
		1743	EN				49 34 177	138 40 098							
24	P20	1802	BE	ROS		28	49 34 06	138 39 83	~3890					✓	Winds blowing 40 Large swell
		1858	BO				49 34 505	138 39 961		3900	110-133	24			
		2012	EN				49 34 445	138 39 792							
25	P21	0216	BE	ROS	US	29	49 37 950	139 39 906	3840~		134	1			CTD = 1 Bot @ 4m
		0239	BO				49 37 952	139 39 964		2000					+LOOP
		0300	EN				49 38 00	139 39 974							
25	P22	0836	BE	ROS	US	30	49 41.99	140 39.79	2693				R/SZ	✓	
		0906	BO				49 41.98	140 40.05		2005	135	1			1 bottle @ 4 m
		0931	EN				49 42.04	140 39.89							
25	P23	1517	BE	ROS	US	31	49 46.00	141 39.93	No Reading					✓	+LOOP
		1549	BO				49 46.02	141 40.06		2008	136	1			40 kts winds, large swell
		1614	EN				49 45.81	141 40.22							

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24 Aug. 0700 Local (1500 UTC)

Start TSC File 2004-20-0007 hex

49-31.66

138-12.20

Start File 2004-20 gps 24 aug lat.

Just realized that 2004-20 GPS 23 aug + 24 aug had no data in them
Re-start 2004-20 GPS 24 AUG @ 2040 local, 24 aug.

25 Aug 0749 Local

Start TSC File 2004-20-0008 hex

49-45.50

141-37.66

Start Term Term 2004-20 gps 25 aug.

DAILY LOG

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Month August				Year 2004			Ship JOHN P TULLY				Cruise ID 2004-20				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
							Latitude	Longitude							
25	P24	22 10	BE	ROS	US	32	49 50.27	142 39.97	4250		137	1	PC/JZ	✓	
		22 30	BO				49 50.23	142 39.96		2005					1 bottle @ 4 m
		22 54	EN				49 50 257	142 39 972							
26	P25	03 57	BE	ROS	US	33	49 59.90	143 36 27	4150		138			✓	+ Loop
		04 20	BO				49 59.94	143 36.34		2005		1			
		04 43	EN				49 59.92	143 36.42							
26	P35	08 03	BE	ROS	US	34	50 0.023	144 18.14	4091		139			✓	
		08 30	BO				49 59.89	144 18.29		2005					1 bottle @ 4 m
		08 50	EN				49 59.91	144 18.35							
26	P26	12 25	BE	NET		35	49 59 996	144 59 857	4250	250					BONGO
26	P26	13 00	BE	ROS	US	36	49 59 959	144 59 936	4250		140-163	24	H.M/ES/EG	✓	
		14 08	BO				49 59 916	144 59 915		4300					
		15 37	EN				50 00 49	145 00 12							
26	AD1	21 05	BE	USW			50 0.16	146 1.47		SURFACE	Loop				Loop SAMPLE
27	AD2	01 48	BE	USW			49 59 63	147 00 83		SURF	Loop		EG		Loop - SAL/CYL/NOTES
27	AD3	06 09		DRF	—	37	50 00 073	147 59 977	3195				M.P.		Deploy Plant 1421
27	AD3	06 38	BE	ROS	US	38	50 1.369	147 55.764					PC/JZ	✓	
		07 08	BO				50 1.51	147 55.74		2005	164-183	20			
		07 55	EN				50 1.64	147 55.42							

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Daily_log_book.doc

26 Aug 0730 local:

Start TSG 2004-20-0009 hex 49.59.91 144.59.55 1433 UTC

Term Term 2004-20 gps 26 aug tot.

27 Aug 0750 local

Start TSG 2004-20-0010 hex 50.13.11 146.55.45 1452 UTC

Term Term 2004-20 gps 27 aug tot.

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Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
							Latitude	Longitude							
27	Argo R.	21:00		DRF	-	39	50 18.09	146 42.79	4345						Recover float - 1422
28	P32	0434	BE	ROS	US	40	50 54.11	145 00.20	4249					✓	Primary Ten
		0459	BO				50 54.09	144 59.95		2005	184	1			down east ??
		0533	EN				50 54.06	144 59.93							
28	P49	0826	BE	ROS	US	41	50 54.07	144 17.17	3530		185	1	PC/JZ	✓	
		0857	BO				50 54.04	144 17.29		2005					bottle 1 @ 4 m
		0923	EN				50 53.91	144 17.29							
28	P33	1216	BE	ROS	US	42	50 53.99	143 35.50	3660		186-205	20		✓	T=14.03°C S=32.33
		1246	BO				50 53.97	143 35.49		2000					
		1341	EN				50 53.93	143 35.42							
28	R20	1557	BE	ROS	US	43	50 55.68	143 00.98	3620					✓	Calibration cast
		1629	BO				50 55.50	143 01.41		2005	206-229	24			ALTIMETER ON
		1657	EN				50 55.43	143 01.45							
28	R19	1953	BE	ROS	US	44	50 57.94	142 20.27	3910		230	1	PC/JZ		
		2016	BO				50 57.99	142 20.38		2005					bottle 1 @ 4 m
		2047	EN				50 58.02	142 20.28							
28	R18	2349	BE	ROS	US	45	51 00.13	141 39.09	3900		231	1			Bot th @ 4 m SAL/CHL/NO ₃ S
29		0012	BO				51 00.12	141 39.11		2000					T=14.40°C S=32.29
		0034	EN				51 00.13	141 39.10							

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Daily_log_book.doc

28 August 0752 local
Start TSG Rle 2004-20-0011 hex 50:52:43 143 16.27 1454 U2
Start Term Term Rle 2004-20- gas 2P any ext

Cast 40 - only cast in which T was wonky on Primary, downcast.

Secondary Salinity is offset by ~ 0.014 from primary S + bottle S. offset is constant so sensors had not been changed only CTD.

R-20 - ALTIMETER RE-INSTALLED

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month AUGUST				Year 2004			Ship JOHN P TULLY				Cruise ID 2004-20				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
							Latitude	Longitude							
29	R17	0324	BE	ROS	US	46	51 02.02	140 55.96	3767		232-251	20		✓	V. Large T ^o # in 1st 150m ↓
		0354	BO				51 02.06	140 55.94		2005					
		0447	EN				51 02.05	140 55.88							
29	R16	0733	BE	ROS	US	47	51 3.98	140 14.03	3655		252	1	PC/JZ	✓	
		0803	BO				51 3.87	140 14.28		2005					bottle 1 @ 4 m
		0827	EN				51 3.77	140 14.23							
29	R15	1121	BE	ROS	US	48	51 05.98	139 30.57	3648		253	1		✓	Bot @ 4m. Sal/cor/mut
		1152	BO				51 05.82	139 31.02		2000					
		1217	EN				51 05.73	139 31.24							
29	R14	1510	BE	ROS	US	49	51 09.01	138 47.57	NO Reading					✓	Very Large T ^o # ↓ 100m
		1541	BO				51 08.77	138 47.70		2005	254	1			
		1605	EN				51 08.49	138 47.74							
29	R13	1847	BE	ROS	US	50	51 11.00	138 06.02	3658				R/JZ	✓	DT looks okay
		1911	BO				51 10.99	138 06.00		2005	255-276	22			
		1957	EN				51 10.99	138 05.97							MAX DT = 0.056
29	R12	2245	BE	ROS	US	51	51 13.01	137 23.02	3650		277	1	R/JZ	✓	
		2309	BO				51 13.01	137 23.01		2005					
		2330	EN				51 13.01	137 22.99							

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Daily_log_book.doc

29 August, 0736 local

Start 750 file 2004-20-0012 hex

Shut Two Term file 2004-20 90 29 aug. hel

510888

4385300

1439 UTC

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>AUGUST</i>			Year <i>2004</i>				Ship <i>JOHN P. TULLY</i>				Cruise ID <i>2004-20</i>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
							Latitude	Longitude							
30	R 11	0217	BE	ROS	US	52	51 14.99	136 40 37			278	1		✓	BOT 1 @ 4m. SAL/CAL/MVS
		0240	BO				51 15 02	136 40 33		2003					→
		0304	EN				51 15 01	136 40 31							
30	R 10	0551	BE	ROS	US	53	51 17 00	135 57.60	3634		279	1		✓	wrong depth in header
		0617	BO				51 16.99	135 57.58		2006					
		0651	EN				51 16.95	135 57.56							
30	R 9	0937	BE	ROS	US	54	51 19.00	135 15.02	3500		290 → 299	20	R/JZ	✓	Δt ~ 0.1° @ ~32 m
		1007	BO				51 18.95	135 15.11		2005					descending
		1050	EN				51 18.89	135 15.06							
30	R 8	1335	BE	ROS	US	55	51 21.18	134 32.76			→ 280	1	MN/LG	✓	BOT 1 @ 4m. SAL/CAL/MVS
		1404	BO				51 21 20	134 32 99			wrong, should be 300				Ti 16.64 S: 31.97
		1428	EN				51 21 27	134 32 91							
30	R 7	1724	BE	ROS	US	56	51 23.52	133 49 61	3145		301	1		✓	
		1756	BO				51 23.83	133 49.90		2006					
		1822	EN				51 24.10	133 49.92							
30	R 6	2111	BE	ROS	US	57	51 25.51	133 06.63	2960		302	1		✓	
		2134	BO				51 25.50	133 06.57		2004					
		2156	EN				51 25.59	133 06.49							

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Daily_log_book.doc

R-11 TRANS & FLUOR CABLES RE GREASED & CLEANED

30 August 0745 local

Start TSC Rle 2004-20-0013 hex

51 21 46

134 29 70

14 46 02

Start Ten Term Rle 2004-20 gps 30 aug. x1

0443

Prim T 2449

Prim C.

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month AUGUST				Year 2004			Ship JOHN P TULLY			Cruise ID 2004-26					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
							Latitude	Longitude							
31	JS	0121	BG	NET		58	51 27.48	132 24 08	2750						NO SAMPLE
			BE	ROS	US	59	51 27 50	132 23 98			303-307	5			→
		0142	BO				51 27.51	132 23.98		2010					
		0211	EN				51 27.51	132 24.01							
31	SSO	0752	BE	ROS	US	60	51 11.96	130 59.97	2470				PC/JZ	✓	
		0820	BO				51 11.70	131 0.26		2005	308	1			1 bottle @ 4 m
		0845	EN				51 11.33	131 0.24							
31	SS1	1230	BG	NET		61	51 12 00	129 59.98		280					DNA for MOR
	SS1	1300	BG	ROS	US	62	51 12.02	129 59 97	496		309-328	20	HM/ES/EG	✓	
		1309	BO				51 12.05	129 59.97		488					
		1338	EN				51 12.12	130 00.14							
31	SS2	1502	BG	ROS	US	63	51 12.96	129 42.07	496		329	1	HM/ES/EG	✓	1 BOT @ 4m - SAL/COL/MURS
		1512	BO				51 12.93	129 42.40		490					
		1520	EN				51 12.91	129 42.53							
31	SS2	1535	BE	NET		64	51 12 90	129 42 87	496	250					BONGO
31	SS3	1735	BE	ROS	US	65	51 14.53	129 21.05	295					✓	
		1742	BO				51 14.60	129 21.16		287	330-343	14			
		1759	EN				51 14.77	129 21.31							

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Daily_log_book.doc

IS - 1st CAST TO 2000 - E 0585 CTD - SAL SAMPLES @ 1000, 800, 600, 400, 4

2nd CAST TO 1000 - E 0443 CTD - SAL SAMPLES @ 1000, 800, 600, 400, 4

→ Hooked up CTD 0443 to deck unit 0508 Did not work

Hooked up CTD 0443 to deck unit 0425 Did not work either

Have to keep working with CTD 0585

~ 1945 local time 30 aug. Start Tera Term file 2004-20 gps 30 aug B.txt

~ 2030 local time 30 aug. Have to re boot TSG laptop

Start R6 2004-20-0014.bxy ~ 0334 UTC, 31/8

~ 0745 31 august

Start TSG file 2004-20-0015. mex 51.12.86 129.43.10 1446 UTC

Start Tera Term 2004-20 gps 31 aug.txt

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month AUG / SEPT				Year 2004			Ship JOHN P TULLY				Cruise ID 2004-20				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keepers	Trans. cleaned	Comments
							Latitude	Longitude							
31	SS4	1932	BE	ROS	US	66	51 21.02	128 59.92	242				Re/SZ	✓	
		1936	BO				51 21.08	128 59.94		237	344	1			1 Silt @ 4m
		1939	EN				51 21.01	128 59.97							
31	SS5	2207	BE	ROS	US	67	51 27.94	128 29.91	203		345-357	13	Re/SZ	✓	
		2212	BO				51 27.93	128 29.90		198					
		2226	EN				51 27.90	128 29.93							
1	SS6	0043	BE	ROS	US	68	51 20.01	128 00.04	183		358	1	A.M/G.S/EG	✓	180 @ 4m
		0046	BO				51 20.015	128 0.05		175					
		0049	EN				51 20.022	128 0.061							
1	SS7	0200	BE	ROS	US	69	51 24.78	127 47.61	124		359-367	9	"	✓	
		0202	BO				51 24.78	127 47.62		118					
		0212	EN				51 24.77	127 47.61							
1	Ri 1	0307	BE	ROS	US	70	51 26.40	127 38.17	325					✓	
		0313	BO				51 26.39	127 38.20		324	368-381	14			
		0334	EN				51 26.39	127 38.19							
1	Ri 2	0420	BE	ROS	US	71	51 31.24	127 33.57	334					✓	
		0426	BO				51 31.27	127 33.56		325	382	1			
		0430	EN				51 31.28	127 33.51							

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Daily_log_book.doc

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

[illegible]

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Daily_log_book.doc

1 Sept 0800 local:

Start TSG file 2004-20-0016 hux

5125.93

127.42.83

1503 UTC

Start Tera Term file

2004-20

gps

01 Sept hux

1 Sept, 1300 local:

Anchoring @ Open Bright Bay. Close TSG + GPS files for the afternoon