

DAILY LOG BOOK

MISSION
NUMBER

2002-31

DATE:

From: Sept 3, 2002 to: Sept 13, 2002

VESSEL:

VECTOR

PROJECT:

Shant of Georgia/Juan de Fuca

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

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>Sept</i>					Year <i>2002</i>			Ship <i>Vector</i>				Cruise ID <i>2002-31</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							
04	Kn2	23:32	CTD	BE	1	50 40.45	125 59.15	132				DA	✓	Sampling the sil hoo-ahh!
		23:37		BO		50 40.46	125 59.11		142					
		23:39		EN		50 40.46	125 59.10							
04	Kn1	23:54	CTD	BE	2	50 40.70	126 01.03	135				DA		
		23:57		BO		50 40.68	126 01.03		120					
		23:59		EN		50 40.67	126 01.03							
06	A2(Kn1a)	09:02	CTD	BE	3	50 40.67	126 00.61	95				DA		
		09:06		BO		50 40.66	126 00.64		90					
		09:08		EN		50 40.67	126 00.65							
06	A3	09:22	CTD	BE	4	50 40.51	125 59.57	98				DA		
		09:25		BO		50 40.52	125 59.58		90					
		09:27		EN		50 40.52	125 59.58							
06	Crest	21:50	CTD	BE	5	50 40.66	126 00.55	71						
		22:04		BO		50 40.66	126 00.55		65					
		22:05		EN		50 40.66	126 00.55							
06	Crest	22:07	CTD	BE	6	50 40.66	126 00.55	71						
		22:10		BO		50 40.66	126 00.55		60					
		22:11		EN		50 40.66	126 00.55							

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
 CTD = CTD without Rosette NET = net haul • UN = up / no stop • BO = bottom time of cast
 ROS = Rosette plus CTD DRF = drifter • DN = down / no stop • 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
 Daily_log_book.doc

DAILY LOG

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Month <i>Sept</i>					Year <i>2002</i>			Ship <i>Vector</i>				Cruise ID <i>2002-31</i>			
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						Latitude	Longitude								
<i>06</i>	<i>Crest</i>	<i>22:41</i>	<i>CTD</i>	<i>BE</i>	<i>7</i>	<i>50 40.66</i>	<i>126 00.55</i>	<i>71</i>				<i>DA</i>			
		<i>22:43</i>		<i>BO</i>		<i>50 40.66</i>	<i>126 00.55</i>		<i>66</i>						
		<i>22:44</i>		<i>EN</i>		<i>50 40.66</i>	<i>126 00.55</i>								
<i>06</i>	<i>Crest</i>	<i>22:59</i>	<i>CTD</i>	<i>BE</i>	<i>8</i>	<i>50 40.66</i>	<i>126 00.55</i>	<i>71</i>				<i>DA</i>		<i>At anchor</i>	
		<i>2301</i>		<i>BO</i>		<i>50 40.66</i>	<i>126 00.55</i>		<i>65</i>					<i>Repeated profile of</i>	
		<i>2302</i>		<i>EN</i>		<i>50 40.66</i>	<i>126 00.55</i>							<i>sil area</i>	
<i>06</i>	<i>Crest</i>	<i>2329</i>	<i>CTD</i>	<i>BE</i>	<i>9</i>	<i>50 40.66</i>	<i>126 00.55</i>	<i>71</i>							
		<i>2331</i>		<i>BO</i>		<i>50 40.66</i>	<i>126 00.55</i>		<i>65</i>			<i>DA</i>			
		<i>2332</i>		<i>EN</i>		<i>50 40.66</i>	<i>126 00.55</i>								
<i>06</i>	<i>Crest</i>	<i>2359</i>	<i>CTD</i>	<i>BE</i>	<i>10</i>	<i>50 40.66</i>	<i>126 00.55</i>	<i>71</i>							
<i>07</i>		<i>0000</i>		<i>BO</i>		<i>50 40.66</i>	<i>126 00.55</i>		<i>65</i>			<i>DA</i>			
		<i>0001</i>		<i>EN</i>		<i>50 40.66</i>	<i>126 00.55</i>								
<i>07</i>	<i>Crest</i>	<i>0100</i>	<i>CTD</i>	<i>BE</i>	<i>11</i>	<i>50 40.66</i>	<i>126 00.55</i>	<i>71</i>							
		<i>0102</i>		<i>BO</i>		<i>50 40.66</i>	<i>126 00.55</i>		<i>65</i>			<i>DA</i>			
		<i>0103</i>		<i>EN</i>		<i>50 40.66</i>	<i>126 00.55</i>								
<i>07</i>	<i>Crest</i>	<i>0130</i>	<i>CTD</i>	<i>BE</i>	<i>12</i>	<i>50 40.67</i>	<i>126 00.56</i>	<i>71</i>							
		<i>0133</i>		<i>BO</i>		<i>50 40.67</i>	<i>126 00.56</i>		<i>65</i>			<i>DA</i>			
		<i>0133</i>		<i>EN</i>		<i>50 40.67</i>	<i>126 00.56</i>								

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

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship		Cruise ID				
Sept					2002			Vector		2002-31				
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	Crest	0159	CTD	BE	13	50 40.66	126 00.57	71						
		0201		BO		50 40.66	126 00.57		67			DA		
		0202		EN		50 40.66	126 00.57							
07	Crest	0229	CTD	BE	14	50 40.65	126 00.54	71						
		0231		BO		50 40.65	126 00.54		65			DA		
		0232		EN		50 40.65	126 00.54							
07	Crest (AI)	1000	CTD	BE	15	50 40.59	126 00.25	69						
		1003		BO		50 40.59	126 00.25		65			DA		
		1005		EN		50 40.59	126 00.25							
07	SillTop	1028	CTD	BE	16	50 40.59	126 00.25	69						
		1030		BO		50 40.59	126 00.25		67			DA		
		1032		EN		50 40.59	126 00.25							
07	SillTop	1059	CTD	BE	17	50 40.61	126 00.30	69						
		1101		BO		50 40.61	126 00.30					DA		
		1103		EN		50 40.61	126 00.30							
07	SillTop	1130	CTD		18	50 40.61	126 00.30	66						
		1133				50 40.61	126 00.30							
		1134				50 40.61	126 00.30							

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Sept					2002			Vector				2002-31		
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						Latitude	Longitude							
07	SillTop	11:55	CTD	BE	19	50 40.61	126 00.35	66						Continuous cycling
					↓	↓	↓	↓						0-15 m
		12:09		BE										Going to bottom
		12:10		BO	↓	↓	↓	↓	62					
		12:11		EN										
07	SillTop	12:30	CTD	BE	20	50 40.61	126 00.34	65						
		12:32		BO		50 40.61	126 00.34					DA		
		12:36		EN		50 40.61	126 00.34							
07	SillTop	12:59	CTD	BE	21	50 40.61	126 00.33	65						
		13:01		BO		50 40.61	126 00.33		63					
		13:34		EN		50 40.61	126 00.33							cycling between surface and 20 m
07	SillTop	13:56	CTD	BE	22	50 40.62	126 00.35	65						
		13:59		BO		50 40.62	126 00.35		62					
		14:00		EN		50 40.62	126 00.35							
07	SillTop	14:28	CTD	BE	23	50 40.61	126 00.35	65						
		14:31		BO		50 40.61	126 00.35		60					
		14:32		EN		50 40.61	126 00.35							
07	SillTop	14:56	CTD	BE	24	50 40.61	126 00.35	65						
		14:59		BO		50 40.61	126 00.35							

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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							
07	<i>Sill Top</i>	<i>15:01</i>	<i>CTD</i>	<i>EN</i>		<i>50 40.61</i>	<i>126 00.35</i>							
08	<i>Sep Point</i>	<i>00:03</i>	<i>CTD</i>	<i>BE</i>	<i>25</i>	<i>50 40.59</i>	<i>126 00.78</i>	<i>125</i>	<i>10</i>			<i>DA</i>		
		<i>00:06</i>		<i>BO</i>		<i>50 40.60</i>	<i>126 00.77</i>		<i>120</i>					
		<i>00:08</i>		<i>EN</i>		<i>50 40.60</i>	<i>126 00.77</i>							
08	<i>Sill</i>	<i>00:42</i>	<i>CTD</i>	<i>BE</i>	<i>26</i>	<i>50 40.55</i>	<i>126 00.56</i>	<i>65</i>						<i>cycling between</i>
														<i>5-45 m.</i>
08	<i>Sill</i>	<i>02:24</i>	<i>CTD</i>	<i>BE</i>	<i>27</i>	<i>50 40.55</i>	<i>126 00.56</i>	<i>63</i>						<i>5-60 m</i>
08	<i>Sill</i>	<i>11:36</i>	<i>CTD</i>	<i>BO</i>	<i>28</i>	<i>50 40.55</i>	<i>126 00.57</i>	<i>64</i>						
		<i>11:38</i>		<i>BO</i>		<i>50 40.54</i>	<i>126 00.56</i>		<i>60</i>			<i>DA</i>		
		<i>11:40</i>		<i>EN</i>		<i>50 40.54</i>	<i>126 00.56</i>							
08	<i>Sill</i>	<i>12:18</i>	<i>CTD</i>	<i>BE</i>	<i>29</i>	<i>50 40.55</i>	<i>126 00.56</i>	<i>66</i>						
		<i>12:21</i>		<i>BO</i>		<i>50 40.55</i>	<i>126 00.57</i>		<i>63</i>					
		<i>12:32</i>		<i>EN</i>		<i>50 40.55</i>	<i>126 00.57</i>							
08	<i>Sill</i>	<i>12:34</i>	<i>CTD</i>	<i>BE</i>	<i>30</i>	<i>50 40.56</i>	<i>126 00.57</i>	<i>66</i>						<i>Continuous CTD Profiling.</i>
09	<i>127</i>	<i>00:39</i>	<i>ROS</i>	<i>BE</i>	<i>31</i>	<i>50 32.04</i>	<i>126 41.33</i>	<i>511</i>						<i>Seacable measurement</i>
		<i>00:49</i>		<i>BO</i>		<i>50 32.03</i>	<i>126 41.35</i>			<i>1-1617</i>	<i>16</i>	<i>DA</i>		<i>(Remeasured - Likely 309-311)</i>
		<i>01:13</i>		<i>EN</i>		<i>50 32.15</i>	<i>126 41.25</i>							<i>extra bottle @ 25 m</i>
09	<i>126</i>	<i>03:14</i>	<i>CTD</i>	<i>BE</i>	<i>32</i>	<i>50 29.35</i>	<i>126 18.05</i>	<i>359</i>						<i>Pump problem still present</i>
		<i>03:22</i>		<i>BO</i>		<i>50 29.58</i>	<i>126 18.11</i>		<i>350</i>					<i>but showed up deeper than before. Pump Cable?</i>

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

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						Latitude	Longitude							
09	126	0405	CTD	EN	32	50 28.72	126 11.41							
09	125	0442	ROS	BE	33	50 27.99	126 05.01	292						Charged Pump cable & miss cable
		0449		BO		50 27.95	126 05.04		285	18-30	13	DA	✓	Extra surface bottle tripped. Will not sample.
		0503		EN		50 27.90	126 05.02							
09	124	0918	ROS	BE	34	50 26.5	126 01.0	210						
		0925		BO		50 26.49	126 01.13		220	31-42	12	DA		
		0940		EN		50 26.31	126 01.02							
09	123	1023	CTD	BE	35	50 23.51	125 53.84	231						
		1030		BO		50 23.57	125 53.80		221					
		1035		EN		50 23.46	125 53.66							
09	122	1121	CTD	BE	36	50 21.99	125 43.05	237						
		1126		BO		50 21.99	125 42.95		223					
		1131		EN		50 22.01	125 42.79							
09	121	1207	ROS	BE	37	50 22.72	125 35.07	257						
		1213		BO		50 22.67	125 35.10		250	43-55	13			
				EN		50.22								
09	21	13:46	ROS	BE	38	50.14.93	125.22.97	238						
		1352		BO		50 14 92	125 22 96		229	56-68	13	ME		
		14:07		EN		50 14 96	125 22 93							

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						Latitude	Longitude							
09	19	17:45	CTD	BE	39	50.1 20	124 53 03	282				ME		
		17:51		BO		50.1.16	124 52 98		275					
		17:56		EN		50.1.16	124 52.98							
09	18	18:30	CTD	BE	40	49.59.20	124.58 98	149				ME		
		18:33		BO		49.59.18	124.59.04		140					
		18:36		EN		49.59.14	124.59.87							
09	17	19:10		BE	41	49 58 84	125 4 32	265				ME		
		19:16		BO		49 58 81	125 4 37		255					
		19:19		EN		49 58 79	125 4 36							
09	23		CTD	BE	42	50 2 0	125 13.6	70	60					change of personnel
		22:54		BO		50 1 68	125 13 30							
		22:57		EN		50 1 65	125 13 30							
09	16	23:24	ROS	BE	43	49 57 61	125 8 4 7	163						* position slightly
		23:28		BO		57 12	8 43		120	69-77				changed because of
		23:34		EN		57 87	8 6 1							bad rip tide.
10	15	00:31		BE	44	49 51 61	125 1 62	143	129					
		00:35		BO		49 51 64	125 1 61							
		00:36		EN		49 51 63	125 1 62							

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						Latitude	Longitude								
10	14	00:55	ROS	BE	45	49 53 00	124 59 59	315	300	78-93	16				
		1:02		BO		49 53 03	124 59 57								
		1:11		EN		49 53 06	124 59 52								
10	13	1:42	CTD	BE	46	49 55 31	124 55 22	236	232						
		1:46		BO		49 55 33	124 55 22								
		1:50		EN		49 55 35	124 55 19								
10	20	04:02	CTD	BE	47	49 47 21	124 32 33	311							
		4:08		BO		49 47 20	124 32 31		310						
		4:12		EN		49 47 21	124 32 32								
10	12	5:19	ROS	BE	48	49 43 62	124 40 88	357		94-109	16				
		05:26		BO		49 43 61	124 40 87		350						
		05:38		EN		49 43 58	124 40 83								
10	11	06:08	CTD	BE	49	49 42 41	124 43 45	295							
		06:14		BO		49 42 39	124 43 44		293						
		06:17		EN		49 42 40	124 43 45								
10	10	06:45	CTD	BE	50	49 40 71	124 47 36	97						error in file name..	
		06:47		BO		49 40 72	124 47 35		87					2002-31-004059 recheck	
		06:49		EN		49 40 72	124 47 32							back to 2002-31-0050	

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Month 9					Year 2002			Ship V BC70R				Cruise ID 2002-31		
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	09	749	ROS	BE	51	49 35.54	124 38.41	170		110-121	12			
		754		BO		49 35.58	124 38.40		160					
		809		EN		49 35.75	124 38.19							
10	08	851	CTD	BE	52	49 39.28	124 32.92	338						
		858		BO		49 39.32	124 32.78		327					
		904		EN		49 39.39	124 32.65							
10	07	959	CTD	BE	53	49 34.36	124 24.15	352						
		1008		BO		49 34.35	124 24.12		341					
		1014		EN		49 34.36	124 24.08							
10	06	1048	ROS	BE	54	49 30 59	124 27 75	195		122-133				
		1052		BO		49 30 60	124 27 73		180					
		11:06		EN		49 30 61	124 27 73							
10	05	11:35	CTD	BE	55	49 27 41	124 30 81	315	7					
		11:41		BO		49 27 49	124 30 79		300					
		11:47		EN		49 27 54	124 30 75							
10	(04)	12:39	CTD	BE	56	49 26 65	124 20 30	326						Station 3
	03	12:45		BO		49 26 67	124 20 23		309					
		12:51		EN		49 26 73	124 20 31							

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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								
10	03	13:16	ROS	BE	57	49 24 60	124 21 99	350						station 4	
	04	13:22		BO		49 24 63	124 21 95		330						
		13:33		EN		49 24 61	124 21 92								
10	01	14:31	CTD	BE	58	49 20 38	124 12 24	251							
		14:35		BO		49 20 39	124 12 27		245						
		14:39		EN		49 20 41	124 12 28								
10	02	15:13	ROS	BE	59	49 24 18	124 09 23	280		149-163	15				
		15:18		BO		49 24 22	124 09 20		279						
		15:32		EN		49 24 24	124 09 17								
10	25	15:59	CTD	BE	60	49 27 61	124 07 44	311							
		16:04		BO		49 27 63	124 07 40		305						
		16:10		EN		49 27 67	124 07 40								
10	24	16:32	CTD	BE	61	49 30 24	124 06 08	428							
		16:40		BO		49 30 21	124 05 96		420						
		16:47		EN		49 30 21	124 05 94								
10	22	18:01	CTD	BE	62	49 40 21	124 16 35	353							
		18:07		BO		49 40 25	124 16 43		348						
		18:13		EN		49 40 28	124 16 45								

Additional comments

* STATION 3 & 4 WERE SWITCHED IN @ STA 3 WAS CTD & 4 WAS RESSETT *

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month9					Year2002			ShipVZC7Jk				Cruise ID2002-31			
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	28	2105	CTD	BE	63	49 24.12	123 45.30	138							
		2111		BO		49 24.16	123 45.28		122						
		2113		EN		49 24.19	123 45.28								
10	27	2154	ROS	BE	64	49 19 08	123 48 06	355		164-179					
		2201		BO		49 19 06	123 48 18		346						
		2217		EN		49 18 98	123 48 37								
10	26	2258	CTD	BE	65	49 14 28	123 50 81	235							
		2302		BO		49 14 28	123 50 78		234						
		2306		BE		49 14 26	123 50 79								
11	40	0018	CTD	BE	66	49 8 63	123 36 81	139							
		0021		BO		49 8 61	123 36 76		134						
		0023		EN		49 8 61	123 36 73								
11	39	0044	ROS	BE	67	49 9 85	123 32 96	315		180-195					
		0050		BO		49 9 90	123 32 86		350						
		0059		EN		49 9 96	123 32 75								
11	38	1:31	CTD	BE	68	49 12 00	123 26 36	308							
		1:38		BO		49 11 99	123 26 29		303						
		1:42		BE		49 12 01	123 26 29								

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month 9					Year 2002			Ship Vector				Cruise ID 2002-31		
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	37	2:12	CTD	BE	69	49 13 57	123 20 70	214						
		2:17		BO		49 13 54	123 20 71		205					
		2:20		EN		49 13 53	123 20 70							
11	41	03:23	CTD	BE	70	49 03 37	123 22 38	247						
		03:29		BO		49 03 24	123 22 37		238					
		03:33		EN		49 03 17	123 22 36							
11	42	05:57	ROS	BE	71	49 01 76	123 26 20	321		196-211	16			
		04:04		BO		49 01 72	123 26 23		310					
		04:18		EN		49 01 70	123 26 30							
11	43	04:45	CTD	BE	72	49 00 15	123 30 22	185						
		04:49		BO		49 01 17	123 30 26		176					
		04:51		EN		49 01 17	123 30 32							
11	46	06:28	ROS	BE	73	48 51 36	123 10 79	178						
		06:32		BO		48 51 34	123 10 77		169	212-223	12			
		06:41		EN		48 51 35	123 10 76							
11	45	7:10	CTD	BE	74	48 53 83	123 8.37	130						
		7:13		BO		48 53 78	123 8.34		120					
		7:16		EN		48 53 79	123 8.38							

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month 9					Year 2002			Ship Vector				Cruise ID 2002-31			
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	44	0744	CTD	BE	75	48 56.71	123 59.4	121							
		0748		BO		48 56.66	123 5.87		112						
		0750		EN		48 56.63	123 5.79								
11	50	0833	CTD	BE	76	48 57.71	122 56.07	25							
		0835		BO		48 57.70	122 56.06		23						
		0836		EN		48 57.69	122 56.07								
11	49	0905	CTD	BE	77	48 54.95	122 59.55	133							
		0909		BO		48 54.92	122 59.49		122						
		0911		EN		48 54.87	122 59.44								
11	48	0944	CTD	BE	78	48 51.64	123 3.17	213							
		0948		BO		48 51.61	123 3.19								
		0952		EN		48 51.57	123 3.29								
11	47	1018	CTD	BE	79	48 49.26	123 6.26	183							
		1022		BO		48 49.26	123 6.27		169						
		1025		EN		48 49.27	123 6.27								
11	56	11:12	(ROS)	BE	80	48 46 36	123 1 6 3	210		224-236					
		11:16		BO		48 46 33	123 1 6 6		200						
		11:29		EN		48 46 16	123 1 6 2								

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month		September		Year		2002		Ship		Vector		Cruise ID		2002-31	
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	57	12:05	CTD	BE	81	48 44 04	123 8 15	157							
		12:08		BO		48 44 08	123 8 16		147						
		12:11		EN		48 44 13	123 8 16								
11	58	12:43	CTD	BE	82	48 42 97	123 14 24	328							
		12:49		BO		48 42 93	123 14 12		319						
		12:55		EN		48 42 93	123 13 98								
11	59	13:39	ROS	BE	83	48 37 87	123 14 51	235		237-250					
		13:44		BO		48 37 96	123 14 45		225						
		13:58		EN		48 38 24	123 14 50								
11	60	14:37	CTD	BE	84	48 33 97	123 12 76	285							
		14:42		BO		48 34 06	123 12 74		275						
		14:48		EN		48 34 23	123 12 78								
11	61	15:32	CTD	BE	85	48 29 22	123 09 14	240						calm, sunny and warm	
		15:37		BO		48 29 31	123 09 11		233						
		15:42		EN		48 29 42	123 09 26								
11	62	16:41	ROS	BE	86	48 22 81	123 02 51	147		251-261	11				
		16:44		BO		48 22 83	123 02 42		140						
		16:54		BE		48 22 87	123 02 33								

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month			Year		Ship			Cruise ID						
SEPTEMBER			2002		JEC70K			2002-31						
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	63	17:53	CTD	BE	87	48 14 54	122 58 57	152						
		17:56		BO		48 14 53	122 58 61	111	149					
		18:00		EN		48 14 53	122 58 66							
11	64	18:32	CTD	BE	88	48 12 80	123 05 88	110						
		18:35		BO		48 12 79	123 05 94		104					
		18:37		EN		48 12 78	123 06 01							
11	65	19:04	ROS	BE	89	48 15.89	123 9.87	125						
		19:08		BO		48 15.94	123 9.92		121					
		19:15		EN		48 15.93	123 10.03							
11	66	19:48	CTD	BE	90	48 19.29	123 14.15	100						
		19:51		BO		48 19.29	123 14.15		96					
		19:53		EN		48 19.29	123 14.17							
11	67	20:27	CTD	BE	91	48 22.80	123 18.12	105						
		20:29		BO		48 22.82	123 18.10		101					
		20:31		EN		48 22.82	123 18.10							
11	104	20:52	CTD	BE	92	48 20.06	123 18.01	82						
		20:55		BO		48 20.06	123 18.02		76					
		20:56		EN		48 20.05	123 18.03							

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22 March 2002
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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>September</u>					Year <u>2002</u>			Ship <u>Vector</u>				Cruise ID <u>2002-31</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							
11	ADCP	2137	ROS	BE	93	48 14.04	123 18.08	120						
		2140		BO		48 14.05	123 18.15		116	272-280				
		2145		EN		48 14.11	123 18.27							
11	105	2210	CTD	BE	94	48 10.99	123 19.05	85						
		2214		BO		48 10.99	123 19.16		84					
		2216		EN		48 10.97	123 19.18							
11	68	2356	CTD	BE	95	48 12.20	123 42.96	139						
		2359		BO		48 12.23	123 42.95		130					
		00:01		EN		48 12.23	123 42.93							
12	69	00:29	ROS	BE	96	48 15.68	123 43.15	180						
		00:33		BO		48 15.74	123 43.18		170					
		00:43		EN		48 15.91	123 43.27							
12	70	01:07	CTD	BE	97	48 19.23	123 43.18	151						
		01:10		BO		48 19.28	123 43.20		140					
		01:12		EN		48 19.30	123 43.22							
12	71	2:25	CTD	BE	98	48 22.18	123 59.42	108						
		2:28		BO		48 22.17	123 59.45							
		2:29		EN		48 22.16	123 59.47							

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month				September		Year		2002		Ship		Vector		Cruise ID		2002 - 31	
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										
12	72	03:02	ROS	BE	99	48 18 62	124 03 99	189		293-304	12						
		03:06		BO		48 18 65	124 04 03		185								
		03:15		EN		48 18 60	124 04 08										
12	73	03:50	CTD	BE	100	48 15 01	124 06 08	160									
		03:54		BO		48 15 02	124 06 70		152								
		03:56		EN		48 15 00	124 06 73										
12	74	06:29	CTD	BE	101	48 25 15	124 35 70	186									
		06:33		BO		48 25 25	124 35 78		182								
		06:36		EN		48 25 31	124 35 89										
12	75	0708	ROS	BE	102	48 28 15	124 32 90	223		305-318	14						
		0714		BO		48 28 16	124 33 01		220								
		0725		EN		48 28 15	124 33 33										
12	76	0801	CTD	BE	103	48 31 38	124 30 08	88									
		0803		BO		48 31 37	124 30 11		85								
		0805		EN		48 31 38	124 30 14										
12	103	0859	CTD	BE	104	48 32 94	124 42 85	122									
		0902		BO		48 32 97	124 43 00		115								
		0904		EN		48 32 98	124 43 09										

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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							
12	102	0934	ROS	BE	105	48 30 06	124 44 13	255		319-332	14			
		0940		BO		48 30 09	124 44 33		249					
		0952		EN		48 30 14	124 44 70							
12	101	1034	CTD	BE	106	48 25 42	124 45 21	237						
		1039		BO		48 25 45	124 45 29		232					
		1043		EN		48 25 49	124 45 35							
12	54	18:55	CTD	BE	107	48 26 62	122 44 31	77						
		18:57		BO		48 26 63	122 44 33		74					
		1858		EN		48 26 63	122 44 35							
12	53	1943	CTD	BE	108	48 33 19	122 44 98	60						
		1945		BO		48 33 18	122 44 97		55					
		1946		EN		48 33 18	122 44 97							
12	52	2032	CTD	BE	109	48 38 90	122 43 32	85						
		2034		BO		48 38 89	122 43 35		80					
		2035		EN		48 38 88	122 43 37							
12	51	2148	CTD	BE	110	48 46 69	122 51 58	161						
		2151		BO		48 46 67	122 51 52		154					
		2153		EN		48 46 67	122 51 48							

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