

DAILY LOG BOOK

MISSION
NUMBER

2009-09

DATE:

From:	JUNE 6 / 09	to:	JUNE 23 / 09
J. P. TULLY			
LINE P			

VESSEL:

PROJECT:

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>June</i>				Year <i>2009</i>			Ship <i>Tully</i>				Cruise ID <i>2009-09 pl ✓</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
7	S103	0110	BE	ROS		1	48 35.41	123 30.08	225					✓	PAR on
1	1	0114	BO	1		1	48 35.38	123 30.11		215	1-11	11			all bottles fired
		0130	EN	1		1	48 35.36	123 30.12							for test @ surface
7	JF1	0632		USW		2	48 16.64	123 30.03							Loop - Sal, Nut, Chl.
7	JF2	0836		USW			48° 18.01	124° 30.09							Loop - SAL/NUTS/CHL
7	JF3	1041		USW			48° 26.79	124° 30.20							
7	JF4	1237		USW			48° 32.35	125° 00.00							
7	P1	1435	BE			2	48° 34.52	125° 30.04			12	1			AOTESN - SAL/CHL/NUTS
		1438	BO				48° 34.55	125° 30.08							+ LOOP
		1441	EN				48° 34.57	125° 30.125							
7	P2	1903	BE	ROS		3	48 36.09	126 0.04	118					✓	
		1905	BO				48 36.15	125 59.99		108	13-31	19			
		1919	EN				48 36.13	125 59.96							
	PL	1950	BO	NET		4	48 36.11	126 00.25	117	107					Bongo
		1957	EN				48 36.13	125 59.98							
7	~P3	2118	BE	BOAT		5	48 37.02	126 17.15							
		2218	EN				48 37.07	126 19.56							

Cast type:

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INSTITUTE OF OCEAN SCIENCES

Month <u>JUN</u>				Year <u>2009</u>				Ship <u>TULLY</u>				Cruise ID <u>2009-09</u> <u>p2</u>			
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							
7	P3	2155	BE	ROS		6	48 37.19	126 19.56	767				HB DG HR	✓	
		2209	BO				48 37.12	126 19.58		745	32-35	4			
		2223	EN				48 37.06	126 19.55							
8	P4	0011	BE	ROS		7	48 39.01	126 39.80	1206						Lite cast
		0017	BO				48 38.99	126 39.87		600	36-49	14		✓	
		0040	EN				48 38.96	126 39.99							
8	P4	0108	BE	BoAT		8	48 38.97	126 39.98							Bongo to 250m
		0122	EN				48 38.95	126 40.05							Oliver + Keith
8	P4	0111	BE	NET		9	48 38.97	126 39.96	1313						Bongo to 250m
		0120	BO				48 38.97	126 39.96		250					
		0124	EN				48 38.97	126 39.99							
8	P4	0202	BE	ROS		10	48 38.97	126 39.99	1317						DMS ②
		0205	BO			1	48 38.97	126 39.99		200	50-66	17		✓	
		0223	EN			1	48 38.95	126 40.02							
8	P4	0351	BE	ROS		11	48 38.98	126 39.86	1316						PAR off
		0413	BO			1	48 38.95	126 39.97		1322	67-85	19		✓	
		0455	EN				48 38.90	126 40.00							

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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							
8	P4	0600		PUMP		12	48° 39.06	126° 40.06	1310						PUMPING TM
8	P4	0744	BE	ROS	V.S	13	48° 38.96	126° 39.78	1310		86-109	24	H.M. Team	✓	UBC Deep @
		0805	BO				48° 39.02	126° 39.87		1300					COMAUTOR CRASH
		0845	EN				48° 39.14	126° 39.80							(Fixed)
8	P4	1009	BE	ROS	VS	14	48° 39.02	126° 39.95	1308		110-125	16	"	✓	UBC SHALLOW
		1031	BO			15	48° 39.05	126° 40.01		1000					FAILED @ 295 DOWNCAST
		1050	GM			*	48° 39.11	126° 39.97							RC BOOT, RESTART #15
8	P5	1310	BE	ROS	VS	16	48° 41.96	127° 10.01	2081		126	1	"	✓	BOT@5m. SAL/CHL/NUIS
		1344	BO				48° 41.50	127° 10.05		2005					
		1417	EN				48° 41.56	127° 10.05							
8	P6	1637	BE	ROS	VS	17	48° 44.53	127° 39.91	2542		127	1	"	✓	BOT@5m. SAL/CHL/NUIS
		1706	BO				48° 44.53	127° 39.89		2005					
		1734	EN				48° 44.54	127° 39.83							
8	P7	2020	BE	ROS	VS	18	48° 46.60	128° 09.98	2504		128	1		✓	BOT@5m. SAL/CHL/NUIS
		2045	BO				48° 46.63	128° 09.90		2015					+LOOP
		2114	EN				48° 46.63	128° 09.87							
8	P7	2029	BE	BOAT		19	48° 46.60	128° 09.97	2503						
			EN												

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- COMPUTER CRASH - BROUGHT ON BOARD MANUALLY FROM 140m - COULD NOT REBOOT - COM PORT 1 MALFUNCTION
- SHUT DOWN COMPUTER - TURN ON - REBOOT - ALL OK

FAILED @ 290 ON DOWNCAST / REBOOT, RESTART RENAMED CAST #15 NOTE: FAILED WHILE CHANGING SETTINGS - IN FUTURE
DON'T MESS WITH ANYTHING DURING CAST

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Month <i>June</i>				Year <i>2009</i>				Ship <i>Tully</i>				Cruise ID <i>2009-09</i>				<i>p4</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									
8	P8	2339	BE	ROS		20	48 48.99	128 39.96	2518								
9		0005	BO				48 48.98	128 39.92		2005	129-149	21	DY	✓			
		0054	EN				48 48.90	128 39.79									
9	P8	0106	BE	NET		21	48 49.01	128 39.93	2577	250					Bongo to 250m		
		0114	BO				48 49.01	128 39.93									
		0119	EN				48 49.03	128 39.99							Started Re 0002 TSG.		
9	P9	0340	BE	ROS		22	48 51.41	129 10.02	2360								
		0409	BO				48 51.41	129 10.02		2005	150	1	DY		5 m		
		0441	EN				48 51.44	129 10.06									
9	P10	0708	BE	ROS		23	48° 53.50	129° 40.06	2691								
		0736	BO				48° 53.63	129° 40.12		2005	151	1	TEAM H&H		5 m		
		0804	EN				48° 53.57	129° 39.98									
9	P11	1014	BE	ROS		24	48° 56.08	130° 10.07	2755								
		1043	BO				48° 55.98	130° 09.98		2005	152	1	"		5 m BOT.		
		1110	EN				48° 56.00	130° 10.01									
9	P12	1323	BE	ROS		25	48° 58.15	130° 40.23	3287	3230	153-175	23	"		105 DEEP CAST		
		1409	BO				48° 58.23	130° 40.08		3220							
		1517	EN				48° 58.14	130° 40.10									

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

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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							
9	P12	1440	BE	BOAT	US	26	48° 58.11	130° 40.20					Team Huse		
		1532	EN				48° 58.15	130° 40.10							
9	P12	1623	BE	BOT		27	48° 58.29	130° 40.00	3237				"		X - NISKIN ON KEVLAR
		1639	EN				48° 58.26	130° 40.03		10		3			K.I. ON CHAINS
9	P12	1647	BE	PUMP		28	48° 58.20	130° 40.03		40					3 BOTTLES. RINKIN
		1737	EN				48° 58.12	130° 39.78							
9	P12	1740	BE	BOT		29	48° 58.12	130° 39.79		150		3	"		50/75/50 n Bot.
		1807	BE				48° 58.29	130° 39.84							
9	P12	1815	BE	ROS		30	48° 58.29	130° 39.80	3235						PAR ON
		1819	BO				48° 58.29	130° 39.82		80		Ø			
		1822	EN				48° 58.29	130° 39.84							
9	P12	1823	BE	ROS		31	48° 58.29	130° 39.86	3235						DMS to 600m
		18	BO				48° 58.	130° 39.		600	176-198	23			
		1905	EN				48° 58.13	130° 39.94							
9	P12	1920	BE	BOAT		32	48° 58.24	130° 39.83							
		1935	EN				48° 58.25	130° 39.80							
9	P12	1944	BE	NET		33	48° 58.23	130° 39.84	3236						Bongo
		1958	BO				48° 58.41	130° 39.90		250					
		2008	EN				48° 58.19	130° 39.99							

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Month <i>JUL</i>				Year <i>2009</i>			Ship <i>TULLY</i>				Cruise ID <i>2009-09</i> <i>pg 6</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							
9	P12	2018	DE	ROS		34	48° 58' 16"	130° 39.96'	3236					✓	PAR OFF
		2050	BO				48° 58.14	130° 39.87		2000	199-222	24			WBC deep
		2117	EN				48° 58.20	130° 39.51							
9	P12	2213	BE	ROS		35	48° 58.17	130° 39.94	3236					✓	WBC shallow
		2230	BO				48° 58.19	130° 39.85		1000	223-238	16			
		2247	EN				48° 58.19	130° 39.71							Table-driven bottles
10	P13	0300	BE	ROS		36	49° 2.61	131° 39.98	3000		239-241	3			Loops
		0323	BO				49° 2.62	131° 39.98		2005					
		0349	EN				49° 2.63	131° 39.98							
10	P14	0806	BE	ROS		37	49° 07.47	132° 40.13	3316		242	1	Team HUGA	✓	BOT@ 5m - SAL/CAL/NUTS
		0835	BO				49° 07.42	132° 40.09		2005					
		0904	EN				49° 07.38	132° 40.02							
10	P15	1309	BE	ROS		38	49° 11.99	133° 39.97			243	1	"	✓	BOT@ 5m - SAL/CAL/NUTS
		1336	BO				49° 11.94	133° 39.92		2005					
		1403	EN				49° 11.91	133° 39.99							
10	P16	1816	BE	ROS		39	49° 16.97	134° 40.13	3634		244-256	13	"	✓	DMS CAST
		1820	BO				49° 16.93	134° 40.09		200					Kept recording on deck
		1836	EN				49° 18.02	134° 40.							
								39.95							

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Month <u>June</u>				Year <u>2009</u>				Ship <u>Tully</u>				Cruise ID <u>2009-09</u> <u>p7</u> ✓				
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	
10	P16	1915	BE	ROS		40	49 16.96	134 39.96	3634					✓		
		1924	BO				49 16.99	134 39.94		600	257-274	18				
		1947	EN				49 16.99	134 39.92								
10	P16	1939	BE	BOAT		41	49 16.97	134 39.96								
			EN													
10	P16	2105	BE	ROS		42	49 16.96	134 39.99	3635					✓		
		2125	BO				49 16.97	134 40.04		1560	—	Ø				
		2143	EN				49 16.97	134 40.05							18 kHz = 3612m	
10	P16	2148	BE	ROS	US	43	49 16.95	134 40.07	3636						PAR OFF	
		2233	BO				49 16.99	134 40.15			275-298	24			3686 db 9 off	
		2343	EN				49 17.00	134 40.06							3634 sounder + offset (3623 m CTD)	
11	P16	0040	BE	PUMPING		44	49 17.01	134 40.02		40					Fe pump \$	
		0250	EN				49 17.18	134 39.95		150					+GO-FLO'S	
11	P16	0301	BE	ROS		45	49 16.98	134 39.93	3635					✓	UBC Deep	
		0327	BO				49 17.00	134 39.94		2000	299-322	24				
		0354	EN				49 17.01	134 39.88								
11	P16	0404	BE	NET		46	49 16.98	134 39.87	3635							
		0413	BO				49 16.98	134 39.87		250					Bongo	
		0418	EN				49 16.98	134 39.87								

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							Latitude	Longitude							
11	P16	0447	BE	ROS		47	49 17.01	134 39.98	3624				DY	✓	
		0500	BO				49 16.96	134 39.87		1000	323-338	16			
		0513	EN				49 16.90	134 39.85							
11	P17	0923	BE	ROS		48	49° 21.01	135° 39.94	3338		339	1	Team Hail	✓	Bot@5m - SAL/chl/nut
		0952	BO				49° 21.02	135° 39.98		2005					chl filtered 5m later.
		1021	EN				49° 21.00	135° 40.07							
11	P18	1428	BE	ROS		49	49° 26.08	136° 39.97	3835		340	1	"		Bot@5m - SAL/chl/nut
		1457	BO				49° 25.95	136° 40.16		2005					+LOOP
		1425	EN				49 25.88	136° 40.06							
11	P19 ¹⁸	1530	BE/BO	ROS		50	49 25.88	136° 40.08		5	341	1			Bot@5m - SAL/chl/nut
11	P19	1936	BE	ROS		51	49 30.00	137 40.03	3928	830				✓	crashed @ ~830m
11	P19	1957	BE	ROS		52	49 30.00	137 40.00	3928	2005	342	1			restarted new file
		2012	BO				49 30.01	137 40.00		2005	341	+			Crashed again 342m
		2035	BE	ROS		53	49 30.00	137 39.98		343	342	1			Third file this cast
		2041	EN				49° 30.00	137° 39.98							
12	P20	0038	BE	BOAT		54	49 33.74	138 37.50	3970						
			EN												

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← P19 - computer keeps rebooting - may have had something to do with replaying a file prior to cast (but power-down didn't prevent it from happening again!)

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Month <u>June</u>				Year <u>2009</u>			Ship <u>Tully</u>				Cruise ID <u>2009-09</u> <u>p9</u> ✓					
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	
12	P20	0107	BE	ROS		55	49 34.03	138 40.00	3966						PAR on	
		0109	BO				49 34.03	138 40.00		100		Ø		✓	Light profile	
		0111	EN				49 34.03	138 40.00								
12	P20	0113	BE	ROS	VS	56	49 34.03	138 39.99	3966						OUR etc	
		0122	BO				49 34.03	138 39.99		600	342-364	23				
		0152	EN				49 34.01	138 39.94								
12	P20	0222	BE	NET		57	49 34.02	138 39.99	3966						Bongo	
		0230	BO				49 34.04	138 39.98		250						
		0236	EN				49 34.05	138 39.99								
12	P20	0255	BE	ROS	VS	58	49 34.01	138 39.91	3962					✓	PAR OFF	
		0342	BO				49 33.97	138 39.95		4026	365-388	24			3954 m (1000)	
		0459	EN				49 33.98	138 39.92							3967 m (sounder)	
12	P20	0615	BE	Pumpine		59	49 33.95	138 39.95	3967							
		0724	EN				49 33.98	138 39.91		45						
	P20	0730	BO	Bot		60	49 33.98	138 39.91	3967						X NISHIN 150/100/75	
		0735	EN				49 34.06	138 39.80		150						
12	P20	0806	BE	ROS	VS	61	49 34.08	138 39.82	3967							
		0835	BO				49 34.03	138 39.82		2000	389-412	24		✓	VBC DEEP CAST	
		0906	EN				49 33.98	138 39.85								

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Month <u>JUNE</u>				Year <u>2009</u>			Ship <u>TULLY</u>				Cruise ID <u>2009-09</u> <u>p10</u> <u>✓</u>				
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							
12	P20	1047	BE	ROS	US	62	49°34.07	138°39.99	3967		413-428	16	TEAM HUGO	✓	UVC SHALLOW CAST
		1101	BO				49°34.10	138°39.80		1000					
		1116	EN				49°34.07	138°39.81							
13	P26	1503	BE	MOR		63	50°10.69	144°54.37	4236				NOAA		SOLAS HOVING NOAA
		1818	EN				50°07.52	144°49.36		4220					DROP ANCHOR
13	P26	2048		MOR		64	50°07.51	144°57.26	Sounder off						Released ADCP mooring
		2154					50°06.95	144°58.76	ADCP buoy on deck (starting wire)						
14	Mooring	0506	BE	ROS		65	50°07.87	144°50.13	4218						
		0513	BO				50°08.01	144°50.07		500	429-433	5			On/Ar @ mooring site
		0525	EN				50°08.06	144°50.12							
14	P26	0704	BE	PUMPING		66	49°59.94	145°00.22	4251	40			TEAM HUGO		PUMPS 40/25/10
		0839	EN				50°00.04	144°59.95							
14	P26	0941	BE	BOT		67	50°00.05	144°59.95	4251	150					X missing 25/100/150
		0908	EN				50°00.08	144°59.96							

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Surface NOAA mooring.

DAILY LOG

Ocean Sciences and Productivity Division

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Month <u>June</u>				Year <u>2009</u>			Ship <u>TULLY</u>				Cruise ID <u>2009-09</u>					<u>PII</u>	<u>✓</u>
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									
14	P26	0926	BE	NET		68	50°00.01	145°00.08	4251				HUGH		BONGO		
		0956	BO				50°00.02	145°00.06		1000							
		1020	EN				49°59.94	145°00.03									
14	P26	1030	BE	NET		69	49°59.94	145°00.03	4251				"				
		1035					49°59.95	145°00.03		250					BONGO		
		1040	EN				49°59.95	145°00.03									
14	P26	1120	BE	BOT		70	50°00.00	145°00.31	4251				"		DEEP X WISHIM		
		1127	BO				50°00.02	145°00.32		800							
		1145	EN				50°00.02	145°00.32									
14	P26	1220	BE	ROS		71	50°00.01	144°59.94	4251		434-457	24	Team Hugh	✓	DEEP 10S CAST		
		1321	BO				50°00.04	144°59.98		4320							
		1445	EN				50°00.06	145°00.02									
14	P26	1508	BE	BOAT		72	50°00.00	145°00.26							Oliver + Glider		
		1647	EN				49°59.94	145°00.24									
	P26	1649	BE	ROS		73	49°59.92	145°00.17	4251		458-476	19	HUGH	✓	LIGHTCAST / ONAR		
		1659	BO				49°59.94	144°59.96		600							
		1722	EN				49°59.94	145°00.05									
						Redo	cast 73										

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p11.5 ✓

→ Rosette mis-behaved. Would not go past bottle 18, and only 18 entries in .Bx file,
But all 24 closed. Took sal from BOT 1 (458) and BOT 24 (476)

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>JUNE</u>				Year <u>2009</u>			Ship <u>TULLY</u>				Cruise ID <u>2009-09</u> <u>P12</u> ✓				
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							
14	P26	1738	BE	ROS		74	50° 00.01	145° 00.04	4251						
		1746	BO				50 00.02	145 00.10		600	458-476	19	HUGH	✓	2 nd LIGHT / ONAR cast
		1809	EN				50 0.08	145 0.08							
14	P26	2020	BE	ROS		75	49 59.93	145 0.13	4250						PAR on - S/N 4601
		2023	BO				49 59.94	145 0.17		200	477-495	19	DOUG	✓	installed (no CON file change made)
		2040	EN				49 59.95	145 0.26							
14	P26	2218	BE	ROS		76	49 59.98	144 59.96	4250						
		2304	BO				50 0.17	145 0.11		4000	496-507	12	DOUG	✓	
		0010	EN				50 0.20	144 59.86							
14	P26	0010	A	ROS		77	"	"		5		2			complete #76
	P26	0055				78	50 0.00	145 0.01	4250						pumping
	P26	0213	BE	ROS		79	49 49.99	145 0.04	100	508-515	8				DATA
		0216	BO				50 0.09	145 0.03							redo
		0225	EN				50 0.00	145 0.02							overwritten
15	P26	0233	BE	ROS		79	49 59.97	145 0.02	4250						
		0235	BO				49 59.97	145 0.02		100	508-515	8			
		0245	EN				50 0.00	144 59.99							

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P12.5 ✓

← computer crash @ 5 m during bottle trip. Started new cast (77), came to surface to count bottles, ran through to 12 + 13 (one extra)
(11 had tripped)

15 June 0100 UTC. start new TSC file, P26

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>JUN</u>				Year <u>2009</u>			Ship <u>TULLY</u>				Cruise ID <u>2009-09</u> <u>p13</u>				
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
15	P26	0503	BE	ROS		80	49 59.97	145 0.06	4250						repeated
		0504	BO				49 59.97	145 0.06		30	516-522	7			ONAr II
		0509	EN				49 59.97	145 0.06							
15	P26	0707	BE	ROS		81	50°00.01	145°00.09	4250		523-546	24	HUGH	✓	UBC DEEP CAST
		0735	BO				50°00.01	145°00.09		2000					
		0804	EN				49°59.99	145°00.06							
15	P26	0854	BE	ROS		82	50°00.03	145°00.00	4250		547-570	24	HUGH	✓	UBC SHALLOW CAST
		0909	BO				50°00.05	144°59.92		1000					
			EN												
		0949	EN	ROS		83	50°00.05	145°00.17		10					To 10m
15	MOORING	1458	BE	MOR		84	50°05.20	145 04.80	4250				HUGH		NOAA ADCP MOORING
		1740	EN				50°07.0719	144°57.8615	4240						Drop anchor
15	BOAT	1800	BE	BOAT			50°06.90	144°58.15							CABLE REPLACEMENT
		1834	EN				50°08.14	144°53.25							
15	P26	2217	BE	PUMP		85	50°00.03	145°00.04	4251	10					LAVAL CARROT SW ROS FAST
		2320	EN				50°00.01	144°59.96							
15	P26	2230	BE	BOAT		86	50°00.02	144°59.96	4251						BOAT FOR
		2310	EN				50 0:01	144 59.95							OLIVER

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P13.5

— RE-DO FROM 10m UP - TRAPPED ONLY 1/2 10m ON FIRST CAST - RECOVERED BOTTLES 16-24 - BACK TO 10m AND REPEATED SEQUENCE UP
(SEE YELLOW SHEET)

(75 to 5m)

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>JUN</i>				Year <i>2009</i>			Ship <i>TULLY</i>				Cruise ID <i>2009-09 P14</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>16</i>	<i>P35</i>	<i>0126</i>	<i>BE</i>	<i>ROS</i>		<i>87</i>	<i>50 0.03</i>	<i>144 18.21</i>						✓	<i>Deck Unit 0619 (The Closet)</i>
		<i>0249</i>	<i>BO</i>				<i>50 0.09</i>	<i>144 18.15</i>		<i>2005</i>	<i>571</i>	<i>1</i>			<i>5 m</i>
		<i>0315</i>	<i>EN</i>				<i>50 0.13</i>	<i>144 18.13</i>							<i>1974 m wire out 2004.06</i>
<i>16</i>	<i>P25</i>	<i>0605</i>	<i>BE</i>	<i>ROS</i>		<i>88</i>	<i>50 0.05</i>	<i>143 36.23</i>	<i>4051</i>		<i>572</i>			✓	
		<i>0700</i>	<i>BO</i>				<i>50° 00.06</i>	<i>143° 36.33</i>		<i>2005</i>		<i>1</i>	<i>HUGH</i>		
		<i>0730</i>	<i>EN</i>				<i>50° 00.05</i>	<i>143° 36.35</i>							
<i>16</i>	<i>P24</i>	<i>1138</i>	<i>BE</i>	<i>ROS</i>		<i>89</i>	<i>49° 50.21</i>	<i>142° 40.09</i>	<i>3987</i>						<i>Pumpson @ 200m</i>
		<i>1208</i>	<i>BO</i>				<i>49° 50.20</i>	<i>142° 40.03</i>		<i>2005</i>	<i>573</i>	<i>1</i>	<i>HUGH</i>	✓	
		<i>1237</i>	<i>EN</i>				<i>49° 50.17</i>	<i>142° 39.98</i>							
<i>16</i>	<i>P23</i>	<i>1638</i>	<i>BE</i>	<i>ROS</i>		<i>90</i>	<i>49° 46.02</i>	<i>141° 40.01</i>	<i>4052</i>		<i>574</i>	<i>1</i>	<i>"</i>	✓	<i>Bot @ 5m + Loops</i>
		<i>1707</i>	<i>BO</i>				<i>49° 46.07</i>	<i>141° 40.02</i>		<i>2005</i>					
		<i>1734</i>	<i>EN</i>				<i>49° 46.03</i>	<i>141° 39.99</i>							
<i>16</i>	<i>P22</i>	<i>2138</i>	<i>BE</i>	<i>ROS</i>		<i>91</i>	<i>49 42.02</i>	<i>140 40.02</i>	<i>3880</i>				<i>DRY</i>	✓	<i>Calibration cast</i>
		<i>2201</i>	<i>BO</i>				<i>49 42.02</i>	<i>140 40.02</i>		<i>2005</i>	<i>575-598</i>	<i>24</i>			<i>Bottle 8 hung up</i>
		<i>2227</i>	<i>EN</i>				<i>49 42.00</i>	<i>140 39.98</i>							<i>CHL FILTERED</i>
			<i>BE</i>	<i>BOAT</i>		<i>92</i>									<i>18 HRS LATER!</i>
			<i>EN</i>												

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>JUN</i>				Year <i>2009</i>			Ship <i>TULLY</i>				Cruise ID <i>2009-09 p 15</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							
17	P21	0404	DE	ROS		93	49 37.96	139 37.97	3960						1977m depth
		0431	BO				49 38.04	139 39.99		2005	599	1	dy	✓	1974m out
		0457	EN				49 38.05	139 39.98							2005 db Loop
17	P19	1747	BE	ROS		94	49° 30.04	137° 39.77	3929		600	1	HUGIT		5m Bot - CUL/HUTS/SAL
		1817	BO				49° 30.00	137° 39.86		2005					+2 @ 2000 for ROSA
		1845	EN				49° 30.04	137° 39.84							
17	P19	1745	BE	BOAT		95	49° 30.05	137 39.79							OLIVRE + JIAN
			EN												
17	STOP	2139	BE	BOAT		96	49.27.3	137.13.5							SURFACE/MICRO LAYER
		2225	EN												KS + OLIVRE
17		2235		PUMP		97	49.27.3	137.13.5							PUMPING 5m CHAINS
		2325													
18	SOUTH OF PID	1532	BE	BOAT		98	48 44.2	129° 37.1							SURFACE SAMPLING
		1625	EN				48° 43.8	129° 38.1							KS + OLIVRE W
20	LD 11	1041	BE	ROS	VS	99	48° 28.77	126° 43.01	1580		601-602	2	HUGIT	✓	BOT 5, 10,
		1103	BO				48° 28.76	126° 43.01		1592					SALT/NOIS / ANYTO
		1125	EN				48° 28.77	126° 43.00							Back to lab d/v 0508

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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							
20	LD 10	12 11	BE	ROS	US	100	48° 32. 28	126° 36. 56	1460				HUGH	✓	
		12 32	BO				48° 32. 24	126° 36. 63		1470					
		12 53	EN				48° 32. 32	126° 36. 57							
20	LD 9	13 37	BE	ROS	US	101	48° 35. 65	126° 30. 03	1041				HUGH	✓	
		13 51	BO				48° 35. 65	126° 30. 02		1054					
		14 05	EN				48° 35. 67	126° 29. 97							
20	LD 9	14 33	BO	NET		102	48° 35. 69	126° 29. 91	1046	250			HUGH		BONGO - 250m
		14 45	EN				48° 35. 72	126° 29. 89							
20	LD 8	15 36	BE	ROS		103	48° 39. 13	126° 23. 42	769				HUGH	✓	
		15 47	BO				48° 39. 17	126° 23. 40		769					
		15 58	EN				48° 39. 16	126° 23. 41							
20	LD 7	16 42	BE	ROS		104	48° 42. 60	126° 16. 77	438				HUGH	✓	
		16 49	BO				48° 42. 61	126° 16. 76		436					
		16 55	EN				48° 42. 63	126° 16. 73							
20	LD 6	17 39	BE	ROS		105	48° 46. 14	126° 10. 16	137				HUGH	✓	
		17 41	BO				48° 46. 14	126° 10. 16		129					
		17 43	EN				48° 46. 16	126° 10. 15							

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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							
20	LD 5	1841	BE	ROS		106	48°49.72	126°03.55	91				Hugh	✓	
		1844	BO				48°49.70	126°03.56		83	603-6	Ø			
		1845	EN				48°49.69	126°03.57							
20	LD 4	1946	BE	ROS		107	48°53.21	125°56.89	63						
		1947	BO				48°53.21	125°56.89		55	603-604	2		✓	Phykos @ 10m + 5m
		1950	EN				48°53.21	125°56.89							
	LD 4	1959	BO	NET		108	48°53.20	125°56.89	63						BONGO
		2001	EN				48°53.20	125°56.89		53					
	LD 3	2053	BE	ROS		109	48°56.53	125°50.22	48					✓	
		2054	BO				48°56.52	125°50.20		38	—	Ø			
		2056	EN				48°56.51	125°50.19							
	LD 2	2132	BE	ROS		110	48°58.40	125°46.84	43					✓	
		2133	BO				48°58.40	125°46.87		33	605-606	2			2 phykos
		2136	EN				48°58.39	125°46.87							
	LD 2	2145	BE	NET		111	48°58.39	125°46.86	43						
			BO							33					Bongo
			EN												

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