

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2010-05

DATE:

From: 6 July 2010 to: 22 July 2010

VESSEL:

CCGS Sir Wilfrid Laurier

PROJECT(S):

Canada's Three Oceans (C3O)

Svein Vagle

Water Properties Group
Fisheries and Oceans Canada
Institute of Ocean Sciences
Ocean Sciences Division
North Saanich, BC, Canada

WaterProperties.ca

Captain: M. Taylor First Officer: Simon
Second Officer: Ben Third Officer: John
Fishing Master: _____

Mission Participants / Agencies: _____

Scientific Personnel:

Name	Chief Scientist:	Watch	Cabin	Name	Watch	Cabin
<u>JACOB GONZALEZ</u>	<u>Simon</u>					
<u>BETTY CARVILLAS</u>						
<u>MARISA GUARINELLO</u>						
<u>DOANNE HAYNES</u>						
<u>EMILY HALL</u>						
<u>STEPHANIE MING</u>						
<u>KELLY YOUNG</u>						

Second leg of Mission:

Name	Chief Scientist:	Watch	Cabin	Name	Watch	Cabin

Data logging computer: WABCIOS101U55

Data acquisition program: Seasave 7.20c

CTD deck unit make: SBE model: 11plus serial number: _____

Primary CTD

Make: SBE model: 9+ serial number: 09P53201-0941
Primary temperature serial number: _____
Primary conductivity serial number: 03P5048
Secondary temperature serial number: 3579
Secondary conductivity serial number: 3581
Transmissometer: CST-993-DR Model: Wetlab Seabuf s/n: CST-993-DR
Fluorometer: Model Seapoint 2336 Cable gain: 10 x 3 x s/n: 2336 P S or NO pump?
Oxygen sensor: SBE43 Model: _____ s/n: 1117 P, S or NO pump?
PAR sensor: Heur Model: Biospherical s/n: 70123
Other sensors: Altimeter s/n: 1252 P, S or NO pump?
Other sensors: ISUS s/n: 072 P, S or NO pump?
Other sensors: Wetlabs CDM s/n: 1076 P, S or NO pump?
Other sensors: SPAR s/n: 20281 P, S or NO pump?

Secondary CTD

Make: _____ model: _____ serial number: _____
Primary temperature serial number: _____
Primary conductivity serial number: _____
Secondary temperature serial number: _____
Secondary conductivity serial number: _____
Transmissometer: _____ Model: _____ s/n: _____
Fluorometer: Model _____ Cable gain: _____ s/n: _____ P, S or NO pump?
Oxygen sensor: _____ Model: _____ s/n: _____ P, S or NO pump?
PAR sensor: _____ Model: _____ s/n: _____
Other sensors: _____ s/n: _____ P, S or NO pump?
Other sensors: _____ s/n: _____ P, S or NO pump?
Other sensors: _____ s/n: _____ P, S or NO pump?
Other sensors: _____ s/n: _____ P, S or NO pump?

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

Rosette Setup:

Number of bottles: 22 (2 used for ISUS sensor and Battery pack).
Manufacturer: Ocean Test Equipment
Volume of bottles (litres): 10L

Winches:

1. Make: _____ Model: _____ Serial #: _____ Used for: _____
2. Make: _____ Model: _____ Serial #: _____ Used for: _____
3. Make: _____ Model: _____ Serial #: _____ Used for: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Salinometer:

Make: _____ Model: _____ Serial Number: _____
Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Oxygen Kit(s):

Make: _____ Model: _____ Kit Number: _____
Make: _____ Model: _____ Kit Number: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Thermosalinograph System (SBE21):

Program: Seasave 7.2f Version: 7.2f
Sampling interval (seconds): 5

Fluorometer sensor serial number: SCF2859 CDM: Wetlabs 1281

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

CDM fluorometer spike and connection v. sensitive.
Emily did taking loop measurements for CDM.

ADCP Setup:

Computer time zone: UTC User Exits: Name: _____ Exit points: _____
Sampling interval (sec): ~3sec Name: _____ Exit points: _____
Bin Length: (2^x): 4m Name: _____ Exit points: _____
Pulse Length: _____ Work File: _____
Buffer (bytes): _____
Gyro Offset: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

CTD Test Cast Information

Test Cast along side? Yes ☒ No ☐

Comments week before sailing

Test Cast in Saanich Inlet or other location? Yes ☐ No ☒

Comments _____

CTD pressure reading on deck (db), before cast: _____ after cast: _____

Pumps working? Yes ☐ (0011) No ☐ (0010)

Secondary Temp – Primary Temp:
(Average from the mixed region) _____

Secondary Salinity – Primary Salinity:
(Average from the mixed region) _____

Additional Comments:

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! 4 Sensors to clean
Trans/PAR/ISUS/CTD

Month July			Year 2010				Ship SWL				Cruise ID 2010-05				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
7	NPI	15:23	BE	ROS	US	001	49 30.199	127 50.662	2082	1000	1-17	17	SK/EH	VVV	
		15:44	BO				49 30.210	127 50.597	2079						
		16:19	EN				49 30.218	127 50.606	2084						
7	NPI	16:33	BE	Bongo		Net1	49 30.1793	127 50.5589	2086.5						
		16:36	BO				49 30.1919	127 50.5611	2085	100m			KY		
8	NP3	15:22	BE	ROS	US	002	51 3.188	133 30.677	3133	1000m	18-34	17	SK/EH	VVV	
		15:44	BO				51 3.196	133 30.647	3133.5						
		16:19	EN				51 3.184	133 30.648	3133.5						
8	NP3	16:24	BE	Bongo		NET2	51 3.177	133 30.625	3134	100m			KY		
		16:30	BO				51 3.167	133 30.611							
		16:32	EN				51 3.167	133 30.611							
9	NPS	15:12	BE	ROS	US	003	52 11.898	138 51.437	3649	1000m	35-51	17	SK/EH	VVV	
		15:38	BO				52 11.905	138 51.431	3651						
		16:08	EN				52 11.905	138 51.429	3648.5						
9	NPS	16:43	BE	BONGO		NET3	52 11.9118	138 51.4258	3649	100m					
			BO												
		16:49	EN				52 11.9142	138 51.3641	3648						

Cast Type:

BOT = Bottle cast, no CTD
CTD = CTD without Rosette
ROS = Rosette plus CTD
SET = Fish Set

USW = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

US = Up / Stop
UN = Up / No stop
DN = Down / No stop

Notes:

Time Code:

BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast
DE = Deployment Time
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

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Version: 16 April 2010

ADG13

Fluoro 3 con changed to 10x before cast 001. ISUS turned on at 14:54; took time to get CTD in water. Wire out 3 pressure are about 50m out at 100m. → Cast goes to 1004db, wire out says 1060m. Winch is operated in manual.

ADCP in before ROS, out after Net

ADCP in before ROS 002 ^{out} after Net 2
ISUS on at 14:55. Scantral winch ~~zeroed~~ at the surface. Down at 0.5m/s for first 100m, 1m/s from 100-1000.
Spigot leaks on bottles 1, 2, 3, 13, 15, 17

19:21 - S-PAR tested in file 20005-SPAR-test.hex. Sensor shaded/unshaded 2x. Works!

ISUS on at 18:00, ADCP is before ROS 003 and out after Net 3
Down at 0.5m/s for first 100m and 1m/s from 100m to 1000, up at 1m/s.
S-PAR tested with cover at 540-580m. Spigot leaks on bottles 1, 2, 3, 13, 15, 17

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004 - 1 SUS on at 14:56

new winch op, used scan tral for down cast. Depth wrong in Header. SPAR shaded by mast aft of stack
Missed depth 35, triggered two bottles at 25
↳ 4 1/5

↳ this was corrected

21:55 July 10 - 1 SUS internal memory cleared. 12.07v on battery pack read from Hyperterm

005 - 1 SUS on at 15:02

1 SUS voltage measured from voltmeter 12.61v.

23:27 - inspected ^{inside} O-rings on top of bottles 17, 15, 13, 3, 2, 1.
/ valve.

Inside O-rings looked good. Valve O-rings cracked. No spares. Bot 17 valve O-ring switched with the one from 21. Bot 13 valve O-ring switched with bot 22
Spigot O-ring on bot 5 replaced.
- Remarked spigot guides with sharpie.

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Month				Year				Ship				Cruise ID				Page _____ of _____	
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments		
							Latitude	Longitude									
Jul 12	NP11	15:18	BE	ROS	VS	006	54 2.644	158 8.590	4346	1000	810-102	17	SK/EH/KY	VVV	Rain ☹️		
		15:38	BO				54 2.644	158 8.579									
		16:07	EN				54 2.640	158 8.585	4360								
	NP11	16:14	BE	Bongo		Net 6	54 2.6431	158 8.5887	4321								
		16:17	BO				54 2.6532	158 8.5976	4411								
		16:21	EN				54 2.6720	158 8.6013	4765								
Jul 13	UN-1	14:25	BE	ROS	VS	007	54 11.33	164 43.487	65m	62m	103-108	6					
		14:29	BO				54 11.378	164 43.450									
		14:34	EN				54 11.393	164 43.436									
July 13	UN-1	14:43	BE	Bongo		Net 7	54 11.385	164 43.504	65m								
		14:48	BO				54 11.424	164 43.426									
		14:52	EN				54 11.427	164 43.387	60m								
July 13	BCL-1	22:33	BE	ROS	VS	008	54 26.945	166 15.580	535m ^{on summer}		109-124	16	SK/EH/KY	VVV	fog ☹️		
		22:44	BO				54 26.977	166 15.515	527m	523							
		23:07	EN				54 27.08	166 15.369	533								
July 13	BCL-1	23:21	BO	Bongo		Net 8	54 27.1133	166 15.2381	533								

Cast Type: USW Sea Water

Cast Type:

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DRF = Drifter

Bottle Firing Method:

US = Up / Stop
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Time Code:

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

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Notes:

006 - ISUS on at 15:03. After cast ISUS bat 12.3 volts with voltmeter. Seasave left on after cast → long file.

Before 007 O-rings on top Valve of bats 1, 2, 3 reinspected for cracks - all 3 look good.

007 - ISUS on at 14:13

ISUS - 12.83V with voltmeter after cast

008 - ISUS voltage measured at 13v before cast. ISUS on at 22:02

Gave pump off command at end but not turned off. Pumps ran in air for ~ 40 sec.

depth on ship sounder reads 535m. CTD pressure + altimeter give depth at 527m!

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Month				Year				Ship				Cruise ID				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Latitude	Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments	
Jul 14	BCL-2	12:05	BE	ROS	US	009	55 3.632	170 12.457	2611m	1000m	125-141	17	SK/EH/ky JJJ			
		12:26	BO				55 3.646	170 12.472					SV			
		12:55	EN				55 3.638	170 12.468								
Jul 14	BCL-2	13:06	BE	Bongo		NET 9	55 03.6404	170 12.4774	2607m	160m						
		13:11	BO				55 03.6332	170 12.4746	2604							
		13:15	EN				55 03.6451	170 12.4732	2613							
July 14	BCL-deep	21:41	BE	ROS	US	010	55 43.876	172 33.281	3294m	1000m	142-158	17	SK/EH JJJJ		calm, overcast.	
		22:02	BO				55 43.888	172 33.211	3293							
		22:32	EN				55 43.957	172 33.101	3289							
July 14	BCL-deep	22:39	BE	Bongo		NET 10	55 43.951	172 33.119	3289	100						
		22:47	EN				55 43.940	172 33.070	3289	100						
July 15	BCL-3	12:19	BE	ROS	US	011	57 57.566	173 5.609	115	bot-5	159-166	8	SK/ky/JJJ		dark.	
		12:25	BO				57 57.56	173 5.615		109+3.5					bot T: 2.9	
		12:34	EN				57 57.546	173 5.658	114.5						bot S: 32.7	
July 15	BCL-3	12:41	BE	Bongo		N11	57 57.55	173 05.64	115	100			ky			
		12:45	BO				57 57.54	173 05.68								

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Notes:

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ISUS on at 11:53

010 - ISUS on at 21:23. Batts 12.83v before cast.

011 - ISUS on at 11:56. ISUS Batts 12.83v before cast

lots of jelly seen at surface
* called BC13-deep in header. Changed to BCL-3 after.

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Month				Year				Ship				Cruise ID			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
July 14	BCL-3	12:47	EN	Bongo		N11	57 57.526	173 05.703	115	100					
July 15	BCL-4	20:59	BE	ROS	US	012	59 19.219	173 30.116	109	bot: 5	167-175	9	SK/KY/EA	WJW	
		21:04	BO				59 19.23	173 30.140	104+2.5	(pta)			SV		bot T: 1.75
		21:11	EN				59 19.220	173 30.140	108.5	(ship sound)					bot S: 32.5
July 15	BCL-4	21:20	BE	Bongo		N12	59 19.213	173 30.204	109	100			KY		
		21:30	BO				59 19.217	173 30.184							
		21:25	EN				59 19.216	173 30.173							
July 16	BCL-5	05:37	BE	ROS	US	013	60 38.832	174 9.061	91		176-182	7	SK/KY/EA	WJW	bot T: -0.48
		05:42	BO				60 38.821	174 9.085	85+3						bot S: 31.95
		5:50	EN				60 38.834	174 9.113							
July 16	BCL-5	5:52	BE	Bongo		N13	60 38.8533	174 9.1494	85						
			BO												
		06:06	EN				60 38.8845	174 9.1044							

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012 *Called BCL3-deep at beginning of cast by mistake. changed to BCL-4 after

ISUS on at 20:47. Bottles 1 and 2 for J.G. for bottom water.

Sample #167, 168 have no water.

Possible drips from lower ring on bot 5 after sampling.

013- ISUS on at 05:22.

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Month				Year			Ship				Cruise ID				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
Jul 16	Slip-1	15:00	BE	ROS	VS	014	62 0.740	175 2.977	82		183-189	7	SK/KY/EM	UUU	bot T: -1.4
		15:04	BO				62 0.70	175 2.987		76.5+2.5			SV		bot S: 32.1
		15:12	EN				62 0.670	175 2.964	81.5						stems chl max @ 40m fluoro saturates
	Slip-1	15:21	DE	Bongo		N14	62 00.608	175 2.963	81	71					
			BO				62 0.627	175 2.943							
		15:25	EN				62 0.620	175 2.943							
Jul 16	Slip-2	17:38	BE	ROS	VS	015	62 2.954	175 12.043	83.5m		190-196	7	SK/KY/EM	UUU	bot T: -1.39
		17:42	BO				62 2.95	175 12.02	78.5+2.5						bot S: 32.09
		17:49	EN				62 2.966	175 12.031	83.5						
July 16	Slip-3	21:50	BE	ROS	VS	016	62 23.63	174 34.125			197-203	7	SK/KY/EM	UUU	bot T: -1.47
		21:54	BO				62 23.62	174 34.12	68+3.5						bot S: 32.3
		22:01	EN				62 23.634	174 34.099							
July 17	Slip 5	2:15	BE	ROS	VS	017	62 33.748	173 33.058	67		204-210	7	SK/KY/EM	UUU	bot T: -1.39
		2:19	BO				62 33.75	173 33.065	61+4.5						bot S: 32.34
		2:25	EN				62 33.756	173 33.08	67.5						

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

Notes:

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014 - ISUS on at 14:40. Voltage: 12.7v
bot 1 for J.G.

← fluoro saturator @ 40m.

16:10 July 16 - Chlorophyll fluorometer gain cable changed from 10x to 3x. Con file also changed to 3x
New con file: 0941_2010-07-16nmea-3xfluoro.con

015 - ISUS on at 17:24. bottle 1 for J.G. / No ^{10S} samples for #190
lots of jellies

016 - ISUS on at 21:41

017 - ISUS on at 1:54 12.55v.

V, slow drips noted on bot 5 after samples taken. Bottle had a chip on the outside of the lower ^{inside} O-ring. Replaced with spare (#23).

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Month				Year			Ship				Cruise ID				
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							Latitude	Longitude							
Jul 17	SLIP 4	6:29	BE	ROS	US	018	63 1.763	173 27.444	72		211-217	7	SK/EH/KY	VVV	T: -1.5
		6:34	BO				63 1.805	173 27.46	67+4.						S: 32.4
		6:40	EN				63 1.816	173 27.48	73						
	SLIP 4	6:47	BE	BONGO		NET 15	63 1.808	173 27.426	74	64			KY/SJ		
		—	BO												
		6:51	EN				63 1.827	173 27.390							
Jul 17	BCI-6a	14:24	BE	ROS	US	019	63 54.27	172 13.133	50.2	56	218-222	5	SK/SV/EH	VVV	T: -0.9
		14:27	BO				63 54.28	172 13.06	51+35						S: 32.36
		14:33	EN				63 54.29	172 12.97	56.						
Jul 17	UTBS-5	22:16	BE	ROS	US	020	64 40.23	169 55.201	48		223-228	6	SK/EH		T:
		22:20	BO				64 40.25	169 55.25	48+2						S:
		22:25	EN				64 40.26	169 55.27	48						
		22:35	BE	BONGO			64 40.251	169 55.292	49	39			KY/SJ		
		22:36	BO				64 40.252	169 55.259							
		22:37	EN				64 40.258	169 55.247							

Cast Type:

USW = Sea Water Loop

Bottle Firing Method:

Time Code:

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BOT = Bottle cast, no CTD
CTD = CTD without Rosette
ROS = Rosette plus CTD
SET = Fish Set

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Notes:

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ISUS on at 6:16

Bot 1 is for Jackie. no sample 21

A bit of a swell.

- Some chafing on the seacable below the termination. Secured and wrapped in electrical tape after cast 018

019 - ISUS on at 7:04. Voltage 12.58 before cast.
moderate swell.

020 - bottom bottles tripped after 10 sec.

23:30 - Ship drags for ~~over~~ until 4:00 July 18

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Month				Year			Ship				Cruise ID				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
Jul 18	UTBS-2	6:02	BE	ROS	US	021	64 40.938	169 5.934	46		229-234	6	SK/EH/IC	VVV	T 1.79
		6:05	BO				64 40.948	169 5.941	41.5	+3.5			SV		S - 32.5
		6:11	EN				64 40.966	169 5.992	46.3						
Jul 18	UTBS-4	8:54	BE	ROS	US	022	64 57.47	169 53.054	49		235-239	5	SK/EH/IC	VVV	T = 1.7
		8:59	BO				64 57.975	169 53.058	45	+4			SV		S = 32.53
		8:04	EN				64 57.472	169 53.058	49.						
Jul 18	UTBS-1	11:23	BE	ROS	US	023	64 59.513	169 8.447	49.5		240-244	5	SK/EH/IC	VVV	T: 1.56
		11:27	BO				64 59.514	169 8.449	45	+3.8			SV		S: 32.56
		11:32	EN				64 59.518	169 8.437	50						
Jul 18	BRS-9	16:02	BE	ROS	US	024	65 41.939	168 42.859	52		245-249	5	SK/SV	VVV	Sun!
		16:06	BO						48	+3			EH/SV		brl T: 2.2
		16:12	EN				65 41.974	168 42.794	51						S: 32.09
→	UTBS-1	11:39	BE	BONGO		NET 17	64 59.524	169 8.426	49	39			KY/SV		

Cast Type:

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 16 April 2010

Notes:

021-1SUS on at 5:53. Bottle 1, (sample 229) for Jacky

022-

023-1SUS on at 11:02

024-1SUS on at 15:57. Only on for 7-8 min before cast.

Wrong in header
Sta name.

Q

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month				Year			Ship				Cruise ID				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
Jul 18	BRS-5	16:48	BE	ROS	US	025	65 43.01	168 53.78	49.5		250-254	5	SK/SV/ET	WVJ	T: 1.95
		16:52	BO				65 43.01	168 53.771	44.6	43.6					S: 32.66
		16:57	EN				65 43.014	168 53.692	49						
Jul 18	BRS-5	17:05	BE	Bongo		N18	65 43.022	168 53.698	50	40			WY		
		17:06	BO				65 43.028	168 53.679							
		17:07	EN				65 43.023	168 53.672							
Jul 18	BR6-3	20:39	BE	ROS	US	026	65 41.018	168 33.752	52		255-259	5	SK/SV/EH/KY	WVJ	T: 2.8
		20:43	BO				65 41.039	168 33.716	49.4	3					S: 32.1
		20:50	EN				65 41.06	168 33.644	53						
Jul 18	BRS-3	21:01	BE	Bongo		NET 19	65 41.167	168 33.696	54	43			KY/SV		
July 18	BRS-2	21:36	BE	ROS	US	027	65 40.097	168 23.948	52		260-264	5	SK/SV	WVJ	T: 5.89
		21:41	BO				65 40.109	168 23.915	49	43.2					S: 31.70
			EN												

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ISUS on at 16:38.

ISUS on 20:17. Voltage 12.33 before the cast.

027-ISUS on at 21:26

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Month				Year			Ship				Cruise ID				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
19	BRS-0	00:44	BE	ROS	US	028	65 39.137	168 13.088	41		265-269	5	SK/SH/SV VVV		T: 7.6
		0:47	BO				65 39.178	168 13.138					KY		but S: 31.3
			BN												
	BRS-0		BE	BONGOS		NET 20			42	32			KY/SV		
			BO												
			EN												
19	UTN-1	06:07	BE	ROS	US	029	66 42.416	168 23.688	35		270-273	4			SAL
		06:10	BO				66 42.410	168 23.664	29+5	30					TENP
		6:16	EN				66 42.41	168 23.61	35						
			BE	Bongo											
			BO	ROS											
			EN												
19	UTN-2	9:35	BE	ROS	US	030	67 2.854	168 43.666	46		274-278	5	SK/SV	VVV	T: 2.67
		9:39	BO				67 2.851	168 43.654	42+3	42m					S: 32.72
		9:45	EN				67 2.851	168 43.590	47m						

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Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 16 April 2010

ISUS on at 00:20. High current.

ISUS on at 22:55. 12.24 V

030 - ISUS on at 9:27

DAILY SCIENCE LOG

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Month				Year			Ship			Cruise ID					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
19	UTN-3	12:22	BE	ROS	US	031	67 20.088	168 57.401	50m		279-283	5	SK/EH	✓✓✓✓	T: 2.1
		12:25	BO				67 20.087	168 57.380	46+3.5						S: 32.18
		12:31	EN				67 20.104	168 57.332	50m						
19	UTN-4	14:17	BE	ROS	US	032	67 30.042	168 54.409	50		284-288	5	K/EH	✓✓✓	T: 2.3
		14:19	BO				67 30.050	168 54.420	45+4.7						S: 32.49
		14:25	EN				67 30.048	168 54.374							
19	UTN-5	16:17	BE	ROS	US	033	67 40.103	168 57.622	53		289-293	5	SK/EH	✓✓✓✓	T: 2.09
		16:20	BO				67 40.105	168 57.624	46+3.5						S: 32.4
		16:28	EN				67 40.114	168 57.616	51.5						
19	UTN-6	18:39	BE	ROS	US	034	67 44.171	168 26.292	51m		294-298	5	SK/SV	✓✓✓✓	T: 1.1
		18:43	BO				67 44.165	168 26.298	46.8 + 2.8m						S: 32.09
		18:48	EN				67 44.172	168 26.275	50m						
19	UTN-7	21:42	BE	ROS	US	035	68 0.191	168 54.978	59m		299-303	5	SK/EH SV/KT	✓✓✓✓	T: 0.4
		21:45	BO				68 0.194	168 55.013	53.7+3.6m						S: 32.1
		21:51	EN				68 0.209	168 55.073	58						

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Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 16 April 2010

Notes:

ISUS on at 12:08. Voltage 12.3 volts before cast.

ISUS on at 07:11. Voltage 12.15 before cast

ISUS memory cleared after cast 033 (Free: 170663936 / 256449 = 12).
ISUS Batteries replaced after cast 033. New Voltage 14.24v.
Connection on battery pack corroded.

034- ISUS on for 5min before start of cast.

035- ISUS on at 21:24

upper O-ring on bottle 5 had a nick on it and is replaced after cast
inside

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month				Year			Ship				Cruise ID				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
20	PAG-1	1:39	BE	ROS	US	036	68 0.748	167 52.382	55.3	53.5	304-308	5	SK/SV	VVV	bT: 2.13
		1:43	BO				68 0.736	167 52.348	49.3	3.5			SY/EH		bS: 32.12
		1:50	EN				68 0.726	167 52.360	54						
20	PAG-2	3:20	BE	ROS	US	037	68 7.603	167 29.892	51		309-313	5	SK/SV KY/EH	VVV	bT: 1.7
		3:29	BO				68 7.61	167 29.903	45.8	4.3					bS: 32.15
		3:35	EN				68 7.616	167 29.892	51						
20	PAG-2		BE	Bongo		NET 24			53	43			KY/SV		
		3:45	BO				68 7.633	167 29.921							
			EN												
20	PAG-3	5:55	BE	ROS	US	038	68 14.417	167 7.556	44m		314-318	5	SK/SV KY/EH	VVV	bT: 2.22
		5:58	BO				68 14.419	167 7.566	39.4	4.7m					bS: 32.1
		6:04	EN				68 14.411	167 7.571	48.5m						
21	BCL-7	3:58	BE	ROS	US	039	70 37.17	161 6.197	34.5m		319-322	4	SK/SV KY/EH	VVV	bT:
		4:01	BO				70 37.172	161 6.196	31.2	3.3					bS:
		4:06	EN				70 37.169	161 6.199							
	BCL-7	4:16	BO	BONGO		NET 25	70 37.183	161 6.172	35	25			KY/SV		

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Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 16 April 2010

036 ISUS on at 01:29 . White caps on the water.

037: ISUS on at 3:09

039: ISUS on at 3:46

DAILY SCIENCE LOG

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							Latitude	Longitude							
21	BC-2	12:54	BE	ROS	VS	040	71 24.743	157 30.04	128.5		323-330	8	SK/KY	WV	
		12:59	BO				71 24.749	157 30.103	121+3				EH/SV		
		13:09	EN				71 24.750	157 30.098	129.5						
	BC-2	13:19	BO	BONGO		NET 26	71 24.746	157 30.089	130	100					
21	PAG-5	14:19	BE	ROS	US	041	71 29.752	157 40.254	88		331-337	7	SK/KY/SV	WV	
		14:24	BO				71 29.749	157 40.284	80.2+3.6				SV		
		14:32	EN				71 29.737	157 40.349	86						
	PAG-5	14:40	BO	BONGO		NET 27	71 29.712	157 40.399	88	78			SV/KY		
21	PAG-6	15:47	BE	ROS	US	042	71 34.698	157 50.388	66.5		338-343	6	SK/KY/EH	WV	Ice in distance
		15:51	BO				71 34.63	157 50.443	61.5+3				SV		
		15:58	EN				71 34.621	157 50.479	66.5						
	PAG-6	16:11	BO	Bongo			71 34.612	157 50.461	67	57			KY/SV		
21	PAG-4	20:11	BE	ROS	US	043	71 19.83	157 19.610	93		344-350	7	SE/KY/EH	WV	beauty dry!
		20:16	BO				71 19.847	157 19.58	88.4+3				SV		
			EN												
	PAG-4	20:31	BO	BONGO		NET 29	71 19.896	157 19.389	97	87			KY/SV		

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Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 16 April 2010

040 - 12:46 ISUS is on.

Step in T, S, O at 75m on up cast. Fast leak from lower o-ring on ⁶4.

041 - 14:04 ISUS is on. Bilge emptied ~ 5min before cast. Water clear for cast.

No water taken from bottle 4/sample 334. O-ring/bottle inspected. Uneven (?) plastic on inside of lower bottle below the o-ring.

Station labeled incorrectly as BC-J changed after.
in file

042 - ISUS on at 15:31

043 - ISUS on at 19:56