

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

SWL-2008-02

DATE:

From: July 03 to: July 28, 2008

VESSEL:

SWL

PROJECT(S):

C30

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

WaterProperties.ca

Captain: _____
 Second Officer: _____
 Fishing Master: _____
 First Officer: _____
 Third Officer: _____

Mission Participants / Agencies:

[illegible][illegible]

Data logging computer:

Data acquisition program:

CTD deck unit make: _____ model: _____ serial number: 20434 0508

Primary CTD

Make: _____ model: _____ serial number: 0585-011+

Primary temperature serial number: 032374

Primary conductivity serial number: 047364

Secondary temperature serial number: 032710

Secondary conductivity serial number: 042676

Transmissometer: _____ s/n: 10540
Model: CST-

Fluorometer: Model _____ s/n: _____
Cable gain: _____ s/n: _____

Oxygen sensor: _____ s/n: _____ P, S or NO pump? _____
Cable gail: _____ s/n: _____
Model: _____ s/n: _____

J gen sensor: _____ Model: _____ sn: 0052 P, S or NO pump? _____
 PAR sensor: _____ Model: _____ sn: _____

Other sensors: _____
Model: _____ s/n: _____
_____ s/n: _____
_____ s/n: _____

Other sensors: _____ sn: 153445 P, S or NO pump?

Pump 1: 2 P, S or NO pump?

Pump 2: 5 P, S or NO pump?

Other sensors: _____

sn: _____ P, S or NO pump? _____

Other sensors: _____ s/n: 20281 P, S or NO pump?

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

Secondary CTD

Make: _____ model: _____ serial number: _____

Primary temperature serial number: _____ serial number: _____

Primary conductivity serial number: _____

Secondary temperature serial number: _____

Secondary conductivity serial number: _____

Transmissometer: _____ s/n: _____
Model: _____

Fluorometer: Model _____	Cable gain: _____	s/n: _____
Fluorometer: Model _____	Cable gain: _____	s/n: _____

Oxygen sensor: _____ s/n: _____
Cable gam. _____ s/n: _____
Model: _____

PAR sensor:	Model:	s/n:

Other sensors: _____ s/n: _____
 _____ model. _____ s/n: _____

Other sensors: _____ s/n: _____

Other sensors: _____ s/n: _____
 _____ s/n: _____

Other sensors: _____ s/n: _____
 _____ s/n: _____

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

Guide to cable terminations:

Date of cable termination: _____

Please read and complete this form before reterminating cable. We have two standard CTD cables in use, nominal .316" and .322". This form specifically addresses these two cables; however, the same considerations apply to using other cables. The specifications for non-standard cables and associated terminations are available from Tom Juhász, IOS room 1221, phone 250.363.6598.

Please identify nominal cable diameter:

Actual diameter measurements, two locations in triplicate at termination and approximately 5 metres back from termination. **Winch:** _____

At cable end:

at 5 metres:

1. _____
2. _____
3. _____

For comparison, the outer armour measurements of new cable:

Nominal .316" should be .3155 to .3165"

Nominal .322" should be .318 to .326"

Record specifications for other cables: _____ within: _____

The tolerance of the PMI Evergrip termination is tighter and only cables within these limits should be used.

For nominal .316" cable the lowest possible diameter is .309"

For nominal .322" cable the lowest possible diameter is .321"

Describe cable:

Kinks: _____

Birdcage _____

Rust flaking off cable _____

Cable round or oval _____

Does cable have loose outer armour? _____

(Raised wires or space between wires.) _____

Are outer armour wires flattened? _____

Remove cable that exhibits these signs of deterioration.

cruise or the winch shop, Phil Lobb at 250.363.6799.

(flaking, not just looks rusty)

Megger results by conductor (should be greater than 10,000. meg ohms)

Inner armour to conductor 1 _____

Inner armour to conductor 2 _____

Inner armour to conductor 3 _____

Please identify PMI sleeve used by checking the appropriate blank:

For .316" cable, diameter of inner dimension of sleeve should be .3265" part number 9004897-13, cable diameter range .309" to .320".

For .322" cable, diameter of inner dimension of sleeve should be .3400" part number 9004897-14, cable range .321" to .333".

Sliding the sleeve onto the cable should be difficult.

Evergrip helical Rods:

The part number is 9005-9002 and covers left hand lay cables of diameter range .309" to .333".

Presence of grit on inner surface (yes / no) _____

Condition of wires (damaged ends?) _____

Are the wires rusted? _____

Comments:

Voltage Sensor.

0.

1

2

3

4

5

6

7

FL

Tr

O2

-Free-

Alt

-Free-

ISVS

U-PAR

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page _____ of _____

Month				Year	CAST			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							
03/07	NP-1	15:20	BE	ROS	US	001	49 6.954	126 41.021	134	bot-3	—	24	SK/BW	✓	chloro for CTD
		15:26	BO				49 6.952	126 41.106							
		15:33	EN				49 6.930	126 41.179							
03/07	NP-1	16:03	BE	ROS	US	002	49.7 .015	126 41.419	136	bot-5	1-7	7	SK		Geochem
		16:19	EN				49 7.05	126 41.417							
03/07	NP-1	17:08	BE	ROS	US	003	49 7.146	126 41.438	136	bot-5	8-29		SK		Biochem.
		17:29	EN				49 7.151	126 41.556				22	SK		
04/07	NP2	01:14	BE	ROS	US	004	49 37.73	128 22.25	~2000	1000	30-45	16	BW	✓✓✓	
		02:12	EN				49 37.85	128 22.60							
04/07	NP3	14:41	BE	ROS	US	005	50 28.036	131 29.808	2955	1000	46-61	17	SK	✓	geochem
		15:35					50 28.042	131 30.855							
05/07	NP4	01:11	BE	ROS	US	006	50 58.975	133 37.675	3261	1000	62-77	15	HD/BW	✓✓	geochem
		01:36	BO				50 58.993	133 37.779							
		02:05	EN				50 58.985	133 37.890							
05/07	NP5	14:16	BE	ROS	US	007	51 38.764	136 39.508	3641	150	—	23	SK	✓	cast for chloramax (1010)
		14:25	EN				51 38.743	136 39.451							chloramax@30m
05/07	NP5	14:54	BE	ROS	US	008	51 38.681	136 39.556	3641	1000	78-98	21	SK		no sample #98
		15:38	EN				51 38.653	136 39.769							Biochem

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 DE = Deployment Time
 BO = Bottom Time of Cast MR = Messenger Release Time
 EN = End Time of Cast RE = Recover Mooring Time

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 06 March 2008

24 bottles for C_{org} at the chlorophyll max. Max chloro in mixed layer depth (top 8m). Bot's triggered at 5m. Arm went off at/near surface. Auto stop on scantriel didn't stop at 5m on the way up! Winch op stopped at the surface ^{in manual} and sent ROS back down to 5m for samples.

Biocast went down to ~25m then came back up to the surface to restart. Winch op sent it down in manual at 0.5m/s for full cast.

NP3

16 bottles tripped for geochem ⁽⁰⁰⁵⁾ cast. Rosette brought to the surface to complete the ^{geochem} cast (16 bots) and then sent back down for Alcaish to trip. bottle 17 at the chlorophyll max (~35m).
→ Between bot 15 and bot 16 (10 and 5m) the CTB/ROS was brought up to the surface and then sent back so far down by mistake.

→ #1 When cable is (-) the manual to auto winch operator control will not work. Wire length must be (+)!
One of two nutrient vials was not filled for bot 4, sample 65 on cast 006
HD.

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Ocean Sciences Division, Institute of Ocean Sciences

Month				Year				Ship				Cruise ID			
Day	Station	Time	Time	Cast	Firing	Event	Positional		Bottom	Max	Sample	# of	Watch	Trans.	Comments
dd/mm	Name	(UTC)	Code	Type	Method	Number	Latitude	Longitude	Depth	Depth	Numbers	Bottles	Keepers	Cleaned	
05/07	NP5	17:12	BE	ROS	US	009	51 38.552	136 39.420	3640	3000m	99-119	24	SK	✓	DEEP CAST (NO FAR/ISUS) Goodchem
		18:04	BO				51 38.634	136 39.619							
		19:13	EN				51 38.828	136 40.044							
06/07	NP6	17:51	BE	ROS	US	010	53 29.302	139 45.696	3560	150m	—	23	SK	✓	Water cut the ontoro max for caro
			BN				53 29.306	139 45.690							
06/07	NP6	18:19:58	BE	ROS	US	011	53 29.326	139 45.702	3562	1000m	120-135	16	SK		Goodchem
		18:39	BO				53 29.326	139 45.738							
		19:07	BN				53 29.318	139 45.719							
06/07	NP6	20:12	BE	ROS	US	012	53°29.325	139°45.695	3561.5	1000m	136-157	22	HD	✓✓	5050-250db worked all the way down + back again. Goodchem
		20:30	BO				53°29.325	139°45.7042							
		21:02	EN				53°29.34	139°45.744							
07/07	NP7	01:49	BE	ROS	US	013	53°02.4514	140°13.457	3652.5	1000m	158-173	16	HD	✓✓	1st point for 300, 400, 600, 800. BUS NOT TUNE DOWN! Goodchem
		02:37	EN				53 02.451	140°13.462							
07/07	NP8	14:15	BE	ROS	US	014	52 37.218	142 28.765	3864	~50m		23	SK	✓	high volume cast
			EN				52 37.222	142 28.732							

- bots 1+2 are for biology - sample number is #99 ^{→ same for all bottles at 3000m} (DNA, chl, DAPI, Nut, Bac)
- PAR + ISUS Removed - No ISUS Dummy plug for battery pack - so it was also removed
- PAR + ISUS Re-installed
- Bottle 16 was leaky when up on deck (cast 010) | * Nutrients left out for ~12 hours after cast 011
- Cast 011: ISUS works at depth but not at the surface. Began working at ~100m on the way down at ~80m on the way up. Bottle 9 was leaky.
- 1st time ISUS worked all the way back up!
- Bill W. removed ISUS to replace battery.
- Power not connected to ISUS - thus battery pack pin exposed to salt water for whole cast. Bill W. + SWL electrician cleaned + dried plug. All ok.
- Wind failed at the end of the cast while bringing it back on board. Break wasn't working. ISUS had a lot of corrosion on one pin. Bill W. cleaned connection.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month			Year				Ship				Cruise ID				
Day	Station	Time	Time	Cast	Firing	Event	Positional Information		Bottom	Max	Sample	# of	Watch	Trans.	Comments
dd/mm	Name	(UTC)	Code	Type	Method	Number	Latitude	Longitude	Depth	Depth	Numbers	Bottles	Keepers	Cleaned	
07/07	NP8	15:51	BE	ROS	US	015	52 37.189	142 28.628	3863	1000	174-189	19	SK		bot 17,18 fired at 1000m for extra water, bot 19 fired at chlr max OUT of sequence!
			EN				52 37.211	142 28.667							
07/07	NP8	17:38:3	BE	ROS		016	52 37.177	142 28.568		400					
		17:46	EN	@400m										✓	just down cast
07/07	NP8	17:49	BE	@400m	US	017					190-213	24	SK		just upcast
		18:05	EN				52 37.212	142 28.633							upcast
08/07	NP9	14:09	BE	ROS	US	018	53 15.574	148 3.222	4258	chlr max		22	SK	✓	high volume for
		14:14	EN				53 15.599	148 3.215							problem with which
															Caro testing Winch
08/07	NP9	14:58:	BE	ROS	US	019	53 15.640	148 3.269	4257	1000	214-237	24	SK	✓	geoderm
			BO				53 15.672	148 3.236							
			EN				53 15.665	148 3.229							
08/07	NP9	16:31	BE	ROS	US	020	53 15.671	148 3.118	4268	300	238-259	22	SK	✓	biology
		16:52	EN				53 15.724	148 3.125							
09/07	NP10	01:12:20	BE	ROS	US	021	53 19.57	150 11.030	4543	1000	260-275	16	SK	✓	geochem
		1.	EN												
			EN												

ISUS working well!

This page is for any notes or observations

Cast⁰¹⁶ was started with 'next bottle to fire as #18'. At 400m the acquisition was stopped and a new cast was started with corrected values entered into the table driven firing sequence. The downcast (0 to 400m) is cast # 016 and the upcast (400 to 0m) is cast # 017.

→ Cast # 017 the winch failed at the end of the cast.

→ Same problem as at NP8.

Cast 019 triggered multiple bottles at one depth to speed up sampling time. Each ^{bottle} ~~depth~~ regardless of depth has a sample #.

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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							
09/07	NP11	1409	BE	ROS	US	022	53°38.11	153°45.709	4625	1000	276-291				
		1504	EN				53°38.14	153°45.813	4626			16	BC/HD	✓✓✓✓	Geochem
10/07	NP12	1:14	BE	ROS	US	023	53°42.715	156°7.534	4717	1000	292-315	24	SK	✓	Geochem
		1:33	BO				53°42.725	156°7.543							
		2:03	EN				53°42.726	156°7.543							
10/07	NP12	3:06	BE	ROS	US	024	53°42.718	156°7.489	4718	100m	316-332	17	SK	✓	Biology: Ian Caro
		3:15	BN				53°42.712	156°7.494							
10/07	NP13	14:08	BE	ROS	US	025	53°43.30	159°20.238	6,900	1000m	333-356	24	HD	✓✓	Helena did not close pigots. (5)
			BN												
10/07	NP13	15:18	BE	ROS		026	53°43.065	159°19.557	6,900	1000m	" 11	24	HD	✓✓	this is a redo cast for #25
		15:58	EN				53°42.862	159°19.165							
10/07	NP13	1720	BE	ROS	US	27	53°42.124	159°17.50	6,900	80m	357-373	22	HD	✓✓	For IAN & CARO.
		1746	EN												

023 - bottles 17-24 taken for biology. Bottles triggered using 'user input bottle fire'

Stn NP12 is on the edge of the eddy

025 - all samples for 026 are labelled 025 or "OP. EDDY" NB (Note Stn # = 13.)

026 - all ok.

#27, 28 [Temperature 1 + 2] ↑ difference.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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	
11/07	NP14	00:46	BE	ROS	US	028	53 43.415	161 6.578	3868	1000	374-397	24	SK	WV	Eddy-grochem cast	
		01:01	BO				53 43.552	161 6.574								
		01:31	EN				53 43.696	161 6.590								
11/07	NP14	2:54	BE	ROS	US	029	53 44.596	161 6.358	3999	100	398-418	21	SK	WV	biology cast	
		3:05	EN				53 44.756	161 6.301								
11/07	UN-8	11:39	BE	ROS	US	030	53'38.473	163'45.219	1738	1000	419-434	16	HD/BVH	WV	Not much PAR - still dark, grochem.	
		12:00	BO				53'38.369	163'45.392								
		12:31	EN				53'38.061	163'45.787								
11/07	UN-7	13:42	BE	ROS	US	031	53'44.016	163'55.883	1337	1000	435-452	18	BVH/HD	WV	w la bot 12-118	
		13:57	BO				53'43.98	163'55.911								
		14:27	EN				53 44.05	163'56.278								
11/07	UN-6	15:21	BE	ROS	US	032	53'48.44	164'03.755	90	85	453-461	09	BVH/HD	WV		
		15:25	BO				53'48.43	164'03.77								
		15:34	EN				53'48.42	164'04.661								

028 - During 2min soak the winch^{op} switched the winch into standby and the wire crept out. ROS got at the surface for ~5min and bridge said to send the ~~ros~~ down in manual.

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Ocean Sciences Division, Institute of Ocean Sciences

Month				Year			Ship			Cruise ID					
JULY				2008			LAURIER			2008-02					
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 N	Longitude W							
11	UN-5	17:00	BE	ROS	US	33	53°53.095	164°11.945	80	75	462-469	8	BUH/HD	✓✓	
		17:09	EN				53°53.110	164°11.968							
11	UN-4	17:59	BE	ROS	US	34	53°57.59	164°19.97	109	104	470-479	11	BUH/HD	✓✓	Fan Samples # 479 + 479a
		18:13					53°57.61	164°19.98							
11	UN-3	19:07	BE	ROS	US	35	54°2.272	164°27.485	100	bot-5	480-488	9	SK	✓✓✓	
		19:19	EN				54°2.263	164°27.502							
11	UN-2	20:10	BE	ROS	US	36	54°6.691	164°35.845	89	bot-5	489-498	10	SK	✓✓✓	lan sample 497 498
		20:20	EN				54°6.672	164°35.867							
11	UN-1	21:12	BE	ROS	US	037	54°11.278	164°43.613	68	bot-5	499-506	8	SK	✓✓✓	
		21:23	EN				54°11.380	164°43.643							
12	BCL 1	0024	BE	ROS		038	54°10.525	166°40.555	1136		507-522	16		✓	
		0039	BO				54°10.429	166°40.428		1002					
		0112	EN				54°10.187	166°40.043							

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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							
13	BCL-2	15:12	BE	ROS.	VS	039	55° 3.52	170° 12.65	3,000	25	0	21	BC/HD		Caro-Chl. max 23
13	BCL-2	15:46	BE	ROS	US	040	55° 03.64	170° 12.94	2502	1000	523-538	16			Geochem
		16:03	BO				55° 3.43	170° 12.82							
		16:32	EN				55° 3.311	170° 12.98							
13	BCL-2	18:19	BE	ROS	US	041	55° 2.932	170° 13.17	2441	600	539-562	24	BC/HD		Biology.
			EN												
14	BS-0	04:41	BE	ROS		042	55° 42.414	172° 56.982	23400					✓	
		05:24	BO				55° 42.425	172° 56.983		3000	563-583	21			Geo Chem
		06:23	EN				55° 42.421	172° 56.994							
14	BS-1	10:59	BE	ROS	US	043	56° 18.869	172° 49.46	3000	1000	584-598	15	BC/HD	✓✓	Geo chem
			EN												
			EN												
14	BS-2	12:53	BE	CTD	/	044	56° 25.20	172° 47.66	1357	1000	0	/	BC/HD	✓✓	Instrument only.
		1317	BO				56° 25.26	172° 47.75							
			EN												

Cast Type:

USW = Sea Water Loop

Bottle Firing Method:

Time Code:

Cast Type:
BOT = Bottle cast, no CTD
CTD = CTD without Rosette
ROS = Rosette plus CTD
T = 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

Time Code:
BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast

Notes: _____

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

Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

Produced by the Water Properties Group, IOS

bottle 19 had the lampard stuck in bottle 20 - when it closed: possible leak in bottle 20?

PAR + ISUS NOT ON: PAR PIN badly corroded. NB PAR SPIKE at 10m Z.
Bottom Contact alarm stayed on during cast. Need ear protection for CTD shack!
#check O₂ #13 rep's for variation.

Bottom contact ok! (Line was wrapped round frame.)

NB) PAR (still NOT ATTACHED) 3 spikes on log plot above 30m.

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Month <u>JULY</u>				Year <u>2008</u>				Ship <u>LAURIER</u>				Cruise ID <u>2008-02</u>			
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							
14	BS-3	14:20	BE	ROS	US	045	56'28.649	172'46.825	806	700m	599-600	2	BC/HD	✓	2 bottles surface for Jan.
		14:45	EN				56'28.75	172'46.957							
14	BS-4	16:04	BE	CTD	/	046	56'32.85	172'45.210	236	220 ^(+7m)			BC/HD		(-7m from bottom)
		16:17	EN				56'32.918	172'45							
14	BS-5	18:08	BE	ROS	US	047	56'39.061	172'48.852	135	12db		22	BVH/HD		Card Cast
14	BS-5	18:45	BE	ROS	US	48	56'39.079	172'44.648	134	26 ⁺ 7	601-621	22			Geoche + Kater.
		19:09	EN				56'39.132	172'44.101							
14	BS-5	19:58	BE	ROS	US	49	56'39.127	172'44.102	135		622-635	14			
		20:02	BO				56'39.133	172'44.098		128					BIO - PAR on
		20:09	EN				56'39.136	172'44.118							bottles 1+2 no trip
15	BCL3	03:30	BE	LOS	US	50	57'57.67	173'05.515	115						
		03:35	BO				57'57.650	173'05.500		109	638-648	11		✓	
		03:47	EN				57'57.701	173'05.270							

Before BS-5 ISUS + PAR (not fixed) put back on. (Darren et Ben). ISUS replaced 2 Niskins # 23/22
-7m from bottom

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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							
15	BCL-4	11:58	BE	ROS	US	051	59° 19.282	173° 29.995	110	70	649-658	10	BC/HD	✓	fair Noir
		12:12	EN				59° 19.272	173° 29.952							
15	BCL-5	1955	BE	ROS		52	60° 38.866	174° 09.001	91		659-671	13		✓	Came up from 9m to re-cast - Winch problem
		1959	BO				60° 38.862	174° 09.006		82					
		20:10	EN				60° 38.856	174° 09.026							
15	SLIP 1	0513	BE			53	62° 00.888	175° 02.993	84		672-684	13		✓	Akash? did max
↑		0515	BO				62° 00.822	175° 02.986							
		0529	EN				62° 00.880	175° 02.718							
16	Slip-2	834	BE	ROS	US	54	62° 2.995	175° 12.181	84	76 ⁺	687-698	14	BC/HD	✓✓	(# 685, 686 Not used)
		844	EN				62° 2.976	175° 12.085							
16	Slip 3	12:53	BE	ROS	US	55	62° 23.576	174° 34.264	74	68 ⁺	699-709	13	BC/HD	✓✓	
		13:07	EN				62° 23.578	174° 34.325							
16	Slip 5	17:16		CTD	US	56	62° 33.79	173° 33.416	68	61 ⁽⁶⁾			BC/HD		one for backlog
		17:29					62° 33.75	173° 33.361							

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Bottle Firing Method:

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 UN = Up / No stop
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Notes:

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Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 06 March 2008

Winch making ↑ noise when in manual.

Also was drawn for geodan at all slip stations except slip-05.

#55-60 [Temperature 1+2] ↑ diff.
from 10-20m depth.

Winch noise less this time when in manual.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page _____ of _____

Month		Year		Ship		Cruise ID									
July		2008		Laurent		2008-02									
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							
16	SLIP 4	2122	BE	ROS		57	63 01.740	173 27.422	73.5		710-720	11		✓	Geochem/Caro/JG
		2125	BO				63 01.736	173 27.418							
		2137	EN				63 01.730	173 27.403							
															Bongo/Mud Grab
16	SLIP 4	2349	BE	ROS		58	63 01 583	173 27 371	74.0		721-742	22		✓	
		2352	BO				63 01 578	173 27 367		65					
		0003	EN				63 01 517	173 27 304							
17	BCL 6	0637	BE			59	63 59 899	171 59 441	55		743-753				Geocast
		0639	BO				63 59 905	171 59 382							
		0648	EN				63 59 978	171 59 967							
17	UTBS-5	13:26	BE	ROS		60	64°39.947	169°55.315	48	41+6	754-761	10	BC/HD	✓	Renumbered samples in pencil (753 was actually 754.)
		13:34	EN				64°39.936	169°55.306							
17	UTBS-4	16:42	BE			61	64°57.533	169°53.124	49	45	762-769	10	BC/HD		few H ₂ O samples for IOS.
		16:53	EN				64°57.511	169°53.051							

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 Version: 06 March 2008

July 16 2008

SLIP 4 - Geochem/Canv cast @ 1422

- Bongos @ 1445

- Sed. grabs @ 1600

- Bio cast

@ 1641
@ 1650

Moved ship from mud sampling area
in water

This page is for any notes or observations

↳ skipped stn: UTBS-2.

→ After UTBS-4 removed ISUS for Darren to look at L. Xie plotted ^{voltage} ISUS DATA for review.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month <i>July</i>				Year <i>2008</i>			Ship <i>Laurier</i>				Cruise ID <i>2008-02</i>					
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								
17	UTBS-1	1949	BE			62	64 59.454	169 08.226	50		770-778	23		✓	Geo chem / cana	
		1953	BO													
		2003	EN													
17	UTBS-1	2048	BE			63	64 59 413	169 08 182	49		779-802	24			UVIC BIO	
		2051	BO				64 59 408	169 08 167								
		2101	EN				64 59 382	169 08 083								
18	BRS-1	0530	BE			64	65 42 977	168 53 822	49		803-810	8				
		0533	BO				65 42 978	168 53 806		44						
		0540	EN				65 42 993	168 53 707								
18	BRS-2	0652	BE			65	65 41 993	168 43 036	53		811-819	9				
		0654	BO				65 41 999	168 42 972		45.4						
		0705	EN				65 42.044	168 42 839								
18	BRS-3	07:57	BE			66.	65'40.938	168'33.901	54	50	820-828	9	Bu/HD	✓✓	↑ current threw off set points + altimeter	
		8:11					65'40.966	168'33.583								

July 17 2008

local 7

1249: Geochem CTD/R

1310: Bongo

1348: Bio CTD/R

1410: Mud grabs

- 1500 - opened up ISUS battery 10.8 VDC. Replaced pack - 14:03 VDC
 - ISUS probe mirror lens unscrewed $\frac{3}{4}$ way off. Path length doubled - check data
 - Remount ISUS + battery
 - All 24 bottles on rosette

2200 - Back from Diomedea, pulled anchor

*HD - The sample missed 018 #'s 816 - 819 inclusive @ in BRS-2

→ Altimeter not steady reading flickers when in cant down (less than 40m depth)
 Wire slip in auto mode? Sinker did not see any slippage
 current? (Wire angle was straight.)

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page _____ of _____

Month				Year <u>2008</u>			Ship <u>Laurence</u>				Cruise ID <u>2008-02</u>				
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
18	BRS-4	9:39	BE	ROS	US	67	65°40.663	168°24.268	53	44	829-837	9	BO/HD	UV	↑ current
		9:55	EN				65°41.066	168°24.388							!!
18	BRS-5	11:51	BE	ROS	US	68	65°39.691	168°13.160	41	37 ⁺⁴	838-845	8	BO/HD	UV	↑ current
		12:02	EN				65°40.003	168°13.246							
18	UTN-1	17:39	BE	ROS	US	69	66°42.550	168°23.824	34	28 ⁺⁶	846-851	8	BO/HD		Arctic circle! Crossed.
		17:51	EN				66°42.707	168°23.962							hello King Neptune May we enter??
18	UTN-2	2134	BE			70	67°03.047	168°43.834	46		852-859	10			
		2136	BO				67°03.067	168°43.813		40					
		2143	EN				67°03.103	168°43.782							
19	UTN-3	0059	BE			71	67°20.136	168°57.530	50		860-868	11		✓	No ISUS
		0102	BO				67°20.132	168°57.528		49					
		0111	EN				67°20.126	168°57.568							
19	UTN-4	0337	BE			72	67°30.032	168°54.452	51		869-877	9		✓	Geo cast
		0340	BO				67°30.042	168°54.449		49					
		0350	EN				67°30.079	168°54.415							

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#67, 68 [Temperature 1+2] ↑ diff. @ ~ 20m depth.

#68 [Conductivity 1+2] ↑ diff @ ~ 4m depth.

→ Altimeter still not steady cont down. last Cast (#68) wait from 12-5-12-6.

→ Alkalinity samples.

2008-02
Bot 1
68
BRS-5
ALK
838

→

2008-02
Bot 8
68
BRS-5
ALK
845

not spiked w mercury chloride - disposed after 24 hrs.

ISUS Pulled off AGAIN, bottles 24, 23 also

ISUS battery blown fuse, batteries have low voltage for day old pack
1.4 - 1.2V 2 cells completely dead.

July 19
2010

ISUS back on for VTN-4. Blew another fuse? on supply out bulkhead
Fuse 14.6V on 2 packs 13.8 on other. 24 bottles back on board.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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 4	0445	BE	ROS		73	67 30 246	168 54 156	51		878-893	16	DT	✓	Bio Cast
		0449	BO				67 30 274	168 54 136		42.5					
		0457	EN				67 30 330	168 54 112							
19	UTN 5	0656	BE	ROS		74	67 40 223	168 57 107	51		894-902	9	DT	✓	2.4m offset
		0659	BO				67 40 250	168 57 077		48					on press. bottle bps
		07.11	EN				67 40 254	168 57 061							@ surf.
19	UTN-6	9:27	BE	ROS	US	75	67'44.249	168'26.194	51	46 ⁺	903-911	11	BC/HB	✓✓	Altimeter ok!!
		9:41	EN				67'44.240	168'26.094							Thales Darron for taking off the balls!
19	UTN-7	12:30	BE	ROS	US	76	68' 0.044	168'55	59	53 ⁺	912-921	12	BC/HB	✓✓	Fluorescence
		12:46	EN				68' 0.029	168'55.943							saturation @ 5?
19	CCL-1	1927	BE	ROS	US	77	68 22 376	167 10 654	46.5		922-928	7	DT	✓	
		1932	BO				68 22 532	167 10 801		39					bottle 3 leak
		1937	EN				68 22 644	167 10 900							

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2200 - Both UTM 4 casts have Nitrate data on sensor

→ Bill C. noticed Fluorescence Saturation pt at 5. $\therefore$ Δ scale on plot? Will confirm to
Cero.

→ O₂ bottles: 2nd shake at 1358 UTC

CCL-1 - bottle #3 leaky - nothing obvious

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page _____ of _____

Month <u>July</u>				Year <u>2008</u>				Ship <u>Laurier</u>				Cruise ID <u>2008-02</u>			
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	CCL-2	0218	BE			78	68°57'47.4	168°31'41.5	53.5		929-938	10		✓	
		0221	BO				68°57'47.9	168°31'42.3		51					
		0231	EN				68°57'49.6	168°31'38.5							
20	CCL-3	7:08	BE	ROS	US	79	68°57'92.8	166°31'96.3	36		939-944	6	BC/HD	✓✓	Bridge asked to bring Rosette
		7:13	BO				68°57'92.5	166°31'92.6							to bring Rosette
		7:20	EN				68°57'91.8	166°31'82.4							back up the
															-after a few
20	CCL-4	17:01	BE	ROS	US	80	69°59'95.1	168°2'13.7	48.5	45+3	945-953	24	BC/HD	✓✓	meters back
		17:17	EN				69°59'77.9	168°1'92.1							down
															+ Curo
20	CCL-4	18:28	BE	ROS	US	81	69°59'45.9	168°1'19.9	49.5		954-969	16	BC/HD	✓✓	10 on surface
		18:33	BO				69°59'41.3	168°1'13.3		40					short delay to
		18:39	EN				69°59'38.1	168°0'91.7							bring up Rosette.
21	BC-1	14:08	BE	ROS	US	82	71°4'03.4	159°21'15.7	88.5		970-981		BC/HD	✓✓	went down to
		14:25	EN				71°4'09.9	159°20'50.4		81.4					10 for Akash-
															Chla Max.
															for Fa Samples.

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Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 06 March 2008

July 21/2008

CCL-5 - 10:40 ADCP in water

- Still quite white out
- ADCP & Rosette cancelled
- Bongos done

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month <u>July</u>		Year <u>2008</u>				Ship <u>Laurier</u>				Cruise ID <u>2008-02</u>					
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							
21	BC-2	1957	BE	ROS		83	71 24 823	157 29 826	126.5		982-1002	21		✓	Geo + Bio cast
		2003	BO				71 24 824	157 29 869		120					
		2017	EN				71 24 830	157 29 854							
22	BC-3	0046	BE	ROS		84	71 34 669	156 01 418	188		1003-1010	8		✓	
		0050	BO				71 34 668	156 01 396		182.3					
		0104	EN				71 34 664	156 01 367							
22	BC-4	0527	BE	ROS		85	71 55.982	154 53.539	596		1011-1024	14		✓	
		0536	BO				71 56.004	154 53.671		582					4m off bottom - Alt.
		0556	EN				71 56.087	154 54.023							
23	BL-1	1411	BE	ROS		86	71 19 525	152 12 931	60.5						Cast 22.9m
		1419	BO				71 19 528	152 12.886	22.9	36					
		1421	EN				71 19 529	152 12 881							
23	BL-1	1447	BE	ROS		87	71 19.555	152 12.920	61		1025-1031	7		✓	Geo cast
		1449	BO				71 19.554	152 12.910		58.6					
		1458	EN				71 19.544	152 12.850							

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page _____ of _____

Month <u>July</u>		Year <u>2008</u>		Ship <u>Laurel</u>		Cruise ID <u>2008-02</u>								
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						
23	BL-1	1538	BE	ROS		88	71 19.444	152 12.767	63		1032-1055	24		BIO Cast
		1542	BO				71 19.445	152 12.749		59.2				
		1554	EN				71 19.429	152 12.610						
23	BFBZ	2341	BE			89	71 12.422	148 17.472	978		1056-1072			10m off bottom
		2357	BO				71 12.415	148 17.654		973				
		0034	EN				71 12.428	148 17.792						
24	BFB3	13:19	BE	ROS	US	90	70'38.101	142'15.804	1054					46m left spigot open again.
		13:38	BO				70'38.089	142'15.824		1000.				
		14:14	EN				70'38.							
24	BFB-3	14:30	BE	ROS	US	91	70'38.023	142'15.528	1092		1073-1089			Redo cast! all samples labeled w # 90. 018 extra depth at bottle 11
		14:48	BO				70.38.012	142 15.538.		1000				
		15:19	EN				70.37.973	142'15.569						
25	MK-1	2134	BE	ROS		92	7013842	140 00 496		51.8m		21	Caro	Caro.
		2140	BO				7013840	140 00 504						
		2141	EN				7013838	140 00 511						

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DAILY SCIENCE LOG

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Month <u>July</u>		Year <u>2008</u>		Ship <u>Laurier</u>		Cruise ID <u>2008-02</u>									
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							
25	MK-1	2209	BE	ROS		93	70 13 784	140 00 256	245		1090-1102	13			About 88m
			Bo							88					Nitrate signal?
			EN												Clean connector
25	M/C-1	2220	BE	ROS		93	70 13 787	140 00 241	245		1090-1102				GEO
		2226	Bo				70 13 780	140 00 236		138		13			
		2244	EN				70 13 770	140 00 239							
25	MK-1	23:46	BE	ROS		94	70 13.561	139 59.582	242		1103-1126				Bio
		00:05	EN				70 13.463	139 59.317		200		24			
26	BFB-4	0415	BE	ROS		95	70 19 127	137 50 207	260					✓	Geocast
		0420	Bo				70 19 129	137 50 210		248	1127-1139				
		0437	EN				70 19 099	137 50 381							
26	BFB-5	4:16	BE	ROS	US	96	71 19.590	133 44.876	1002		1140-1159	20		✓✓	Geocast.
		4:36	Bo				71 19.968	133 45.080		978(46)					
		5:09	EN				71 19.928	133 45.338							

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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							
26	BFB-5	6:45	BE	ROS	US	97	71°19.775	133°45.943	1000	350	1160-1181	22		X	Biology
		7:04	BO				71°19.742	133°45.962							
		7:19	EN				71°19.714	133°46.201							
26	BFB-6	1816	BE	ROS	US	98	70°49.568	127°25.416	181		1182-1193	12		✓	Geo
		1823	BO				70°49.575	127°25.405		177					
		1839	EN				70°49.584	127°25.451							Tripped 5 for lan
27	BFB-7	0409	BE	ROS		99	70°32.707	122°54.510	657						Caro
		0417	EN				70°32.675	122°54.550		70	(tripped @ 43m)				pressure offset lost .9/.7 m surf.
27	BFB-7	0444	BE	ROS		100	70°32.683	122°54.656	665						
		0455	BO				70°32.664	122°54.622		646	1194-1209				
		0516	EN				70°32.650	122°54.623							
27	BFB-7	06:47	BE	ROS		101	70°32.616	122°54.923	665		1210-1233	24			Biology
		6:58	BO				70°32.593	122°54.977		500					
		7:17	EN				70°32.542	122°55.11							

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WaterProperties.ca
 Version: 06 March 2008

July 27 2008

BFB 7

2200 - pressure offset done with top ring of rosette base @ sea surface

This page is for any notes or observations

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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							
27	BFB-8	1545		ROS		102	69 27 854	118 19 940	430		1234-1248	15		✓	
		1552					69 27 864	118 19 860		412.82db 408.25m					7m off bottom
		1618					69 27 922	118 19 652							
28	BFB-9	0420		ROS		103	68 23 015	113 06 882	223	210.8m 208.4m	1249-1264			✓	8m off bottom
		0424					68 22 992	113 06 802				16			
		0441					68 22 954	113 06 784							
Hel → (DRIFT BOTTLES w children) → Z = (218.50) ← (all the rest!)															
							68 23.7990	112 26.9608							