DAILY SCIENCE LOG BOOK

MISSION NUMBER

2008-30
BOOK 1

DATE: From: July 17 to: Aug 21, 2008

VESSEL: CCGS Louis S St-Laurent

PROJECT(S): Joint Ocean Ice Study 2008

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

Treat this daily science log as an invaluable source of information of what happened on your research mission. Months, years, or even decades after your research has been completed, people will still consult this logbook for information and as such, one should make all efforts to complete this logbook (and any associated sheets for rosettes, fish sets, plankton tows, etc) as events unfold on a daily basis. This logbook has been supplied with extra sheets of paper for you to record any additional information.

Please remember to record such events as:

- An observed failure or strange reading of a sensor during a CTD cast
- A computer crash or software issue
- Switching of a CTD or sensor unit, including the removal or replacement of a PAR sensor
- A bottle that fails to trip or bottles that are tripped without commands being sent to the pylon during the cast
- A syringe that is left on a cell during a cast
- The cleaning (or lack thereof) of a transmissometer
- A nutrient sample from the seawater loop
- A failure of a NMEA string input into the deck unit
- Failure of the CTD pump to turn on or failure to turn on the CTD pump during a cast
- A CTD or rosette that is recovered with mud or jellyfish attached to it
- A sample bottle is removed or switched or weights are added or removed from the rosette or CTD unit
- Any unusual biological observations (e.g., large numbers of squid, jellyfish, birds, zooplankton swarms, thick waters due to phytoplankton)
- Any change in sampling protocols that either do not follow standard procedures or are using different standard procedures

Please ensure that you have reviewed the required standardized sampling protocols prior to taking any samples. Current copies of sampling protocols may be found on the Water Properties website at WaterProperties.ca

The format for sample labels is:

Sample Number	124
Sample Type	Sal
Station Name	LC12
Cruise ID	2008-16
Bottle Number	Bot 1

Water Properties Emergency Contacts:

CTD/Rosette:	Doug Anderson, 250.363.6305 Hugh Maclean, 250.363.6594 Ron Lindsay, 250.363.6592
Nutrients:	Janet Barwell-Clarke, 250.363.6815 Wendy Richardson, 250.363.6544
Salinities/Oxygen:	Sheila Sloman, 250.363.6300
Other Questions:	Steve Romaine, 250.363.6868

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

Mission Participants / Agencies: _____

Scientific Personnel: Chief Scientist: _____

Name	Watch	Cabin	Name	Watch	Cabin

Second leg of Mission: Chief Scientist: _____

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: _____
Data acquisition program: _____
CTD deck unit make: _____ model: _____ serial number: _____

Primary 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?**

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: _____

Manufacturer: _____

Volume of bottles (litres): _____

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: _____ Version: _____

Sampling interval (seconds): _____

Fluorometer sensor serial number: _____

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

_____

ADCP Setup:

Computer time zone: _____ User Exits: Name: _____ Exit points: _____

Sampling interval (sec): _____ Name: _____ Exit points: _____

Bin Length: (2^x): _____ 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 _____

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:

_____

_____

_____

_____

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

Mission Participants / Agencies: _____

Scientific Personnel: Chief Scientist: _____

Name	Watch	Cabin	Name	Watch	Cabin

Second leg of Mission: Chief Scientist: _____

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: _____
Data acquisition program: _____
CTD deck unit make: _____ model: _____ serial number: _____

Primary 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?

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: _____
Manufacturer: _____
Volume of bottles (litres): _____

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: _____ Version: _____
Sampling interval (seconds): _____
Fluorometer sensor serial number: _____
Comments on performance during cruise (comments should also be reflected in the post-cruise report):
_____

ADCP Setup:
Computer time zone:_____ User Exits: Name:_____Exit points:_____
Sampling interval (sec):_____ Name:_____Exit points:_____
Bin Length: (2^x):_____ 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 _____

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:
_____
_____
_____
_____

Date of cable termination: _____

Guide to cable terminations:

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: _____ Winch: _____

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

At cable end:	at 5 metres:
1. _____	**1.** _____
2. _____	**2.** _____
3. _____	**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 _____ (flaking, not just looks rusty)

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. To be authorised by Chief Scientist of the cruise or the winch shop, Phil Lobb at 250.363.6799.

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:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Date of cable termination: _____

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Please identify nominal cable diameter: _____ **Winch:** _____

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

At cable end:	at 5 metres:
1. _____	**1.** _____
2. _____	**2.** _____
3. _____	**3.** _____

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Describe cable:

Kinks: _____
Birdcage _____
Rust flaking off cable _____ (flaking, not just looks rusty)
Cable round or oval _____
Does cable have loose outer armour? _____
(Raised wires or space between wires.)
Are outer armour wires flattened? _____

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Presence of grit on inner surface (yes / no) _____
Condition of wires (damaged ends?) _____
Are the wires rusted? _____

Comments:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

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Condition of wires (damaged ends?) _____

Are the wires rusted? _____

Comments:

_____

_____

_____

_____

_____

_____

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Describe cable:

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Condition of wires (damaged ends?) _____

Are the wires rusted? _____

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

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_____

This page is for any notes or observations

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY **Year** 2008 **Ship** LSSL **Cruise ID** 2008-30

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth W	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
20	Test	1949	BE	ROS	US	001	69 30.50	117 40.897	~~378~~	76.1	1-24	24	SZ		
		1953	BO				69 30.518	117 40.820	378						
		20:07	EN				69 30.611	117 40.767							
21	AGS			ADCP											
21	AGS			NETS x2						100					
21	AGS	05:55	BE	ROS	US	002	70 33.116	122 54.307		634			ZF		
		06:18					70 33.136	122 53.914	638		25-48	24			
		07:13					70 33.233	122 53.842							

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

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

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

Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 06 March 2008

Bottles #18 & #19 leaked when spigot opened. #18 has body broken around middle block. #19 has small crack in bottle and middle block loose. – Replaced MB.

→ Bottle #2 did not triggered
- lanyard was run over top of black tape. should be to right hand side.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY **Year** 2008 **Ship** LSSL **Cruise ID** 2008-30

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
22/07	XCTD-001	0137	Z	XCTD			70°59.332'	125°58.816'	401	396			WW/MD		probe 07012631
22/07	XCTD-002	05:57	Z	XCTD			71°26.2364'N	128°38.9938'W	111	100			WB/SH		07012638
22/07	XCTD-003	08:19	Z	XCTD			71°39.0627'N	130°28.9011'W	291	290			WB/SH		07012634
22/07	CAB08	10:48		ADCP											
22/07	CAB08			NETSX2						100					
22/07	CAB08	11:01	BE	ROS	US/UN	003	71 49.632	131 45.581			49-73	24	ET/SZ		-bottle #2 miss
		11:32	BO				71 49.678	131 45.258		1100					trip #1
		12:13	EN				71 49.691'	131 44.843							
22.07	XCTD-004	2014	Z	XCTD			71 34.690'	133 30.00W		1000			WW/		07012635
22.07	XCTD-005	22:35	Z	XCTD			71° 34.70N	135° 00.00W		1080			WW/		07012636
2307	XCTD-006	00:55	Z	XCTD			71° 32.19 N	136° 30.00W		1080			WW/		07012632
2307	XCTD-007	02:	Z	XCTD			71° 32.90N	138° 00.00W		2600			WW/		07012633
	MK6			ADCP											
24	CAB08		DE	MOR	—		71 49.7024	131 46.5905	1115	1115					

Cast Type:
BOT = Bottle cast, no CTD
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DRF = Drifter
____ = _____

Bottle Firing Method:
US = Up / Stop
UN = Up / No stop
DN = Down / No stop

Time Code:
BE = Beginning Time of Cast
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EN = End Time of Cast
DE = Deployment Time
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RE = Recover Mooring Time

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

Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 06 March 2008

This page is for any notes or observations

- bottle #2 not closed, fixed label.csv to reflect changes.

- bottle 13, top valve need to be tighten

← Knudsen sound speed changed from 1441 m/s to 1450 m/s (First Δ during 2008-30)

@ 1404 UTC (24)? July → I think this must be 22 July as Rosette log sheet has Mk 6 at 1450 m/s SZ 6 Jan 2009

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JUL **Year** 2008 **Ship** ZSSL **Cruise ID** 2008-30

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	MK6	06:06	BE	ROS	UN	004	71 35.143	140 0.538	2447				EF/MK		
		07:07	BO				71 35.140	140 0.604		2460	74-97				*bottle 2 not tripped
		07:58	EN				71 35.122	140 0.502							
23	MK6			NETSX2						100					
23	XCTD-008	09:37	Z	XCTD			71 17.5744	140 00.1257	2275	1000			SN		probe 07032787
23	MK5	11:11	BE	ROS	UN	005	71 0.079	140 0.004	262		98-121				data check file for max depth
		11:48	BO				71 0.092	139 59.869		2059	Copper		EF/MK		
		12:42	EN				70 59.93	140 0.028							
23	MK5			NETSX2						100					
23	MK4	15:12		ADCP											
23	MK4	15:39	BE	ROS	UN	006	70 48.728	140 0.883	1484				EF/		
		16:16	BO				70 48.768	140 0.912		1481	122-145				
		16:50	EN				70 48.761	140 0.674							

Cast Type:
BOT = Bottle cast, no CTD
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Notes: _____

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- not run over top of black tape, on right hand side of side. Still problem.. Need to test before deploy.
- rinse with water, tested

- oxygen sensor does not work properly on the way up, stuck ~ 1800 m. pegged at 5 or 0 V.
- bottle #2 looks O.K.
- checked all cable connections on DO sensor 435 - all dry and clean. Replaced sensor with 1115
- V = 5.0 V on deck. changed input of DO/4 from V0/4 to V4/V5. V on deck = 2.71 V for 2° Xmiss 993 dummied off and removed from con file

TRANS 2 : 993 gave 08 19,5125 -1,12 .250

- DO sensor stable but no cals entered. Voltage of sensor

435
08 Mar 2008
4.1510 e-001
-0.4924
.001
1.3.5 e-04

- MK4 - Sample #143 tripped at wrong depth, somewhere between 90 & 40 m
- Calibrations entered for DO sensor 1115 prior to MK-3 cast 007 MD.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JUL **Year** 2008 **Ship** LSSL **Cruise ID** 2008-30

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	MK-3	19:10.		ADCP											
23	MK-3	19:10	BE	ROS	UN	007	70° 34.44'N	140° 0.182 W	785	759	146-167	22	K.S/M.D.		
		19:32	BO.				70° 34.202 N	140° 0.337 W							
		19:56	EN				70°34.211 N	140° 0.385 W							
23	~~CTD~~ 009	21:00	BE	XCTD			70 24.284	140.0.288	508	500			MD		7022786
	MK-3			NETS(2)						100					
	MK-1			ADCP											
23	MK-1	22:43	BE	ROS	UN	008	70° 13.778 N	140° 0.130W	230	230	168-179	12	K.S/M.D.		
		22:56	BO				70 13.774	140 0.094							
			EN				70° 13.764	139 59.993							
	MK-1			Nets(2)						100					

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____ = _____

Bottle Firing Method:
US = Up / Stop
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 06 March 2008

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JUL **Year** 2008 **Ship** LSSL **Cruise ID** 2008-30

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							
	CB-28			ADCP											
14	CB2800	1:09	BE	ROS	UN	009	69 59.986	140 0.078	50 m	50 m	180-183	5	K.S/M.D.		
		1:15	BO												
		1:18	EN				69 59.986	140 0.072							
24	XCTD-010	02:50	Z	XCTD			70°17,00 'N	140°23 '	160m	160			WJ/		SN 07022785
24	XCTD-011	03:57	Z	XCTD			70°28,86N	140°47,85'W	520	520			WJ/		07022788
24	XCTD-012	04:24	Z	XCTD			70° 35,62 N	140°58,12 W	1010	1010			WJ		07022790
24	XCTD-013	04:54	Z	XCTD			70°41,35 N	141°09,60 W	1500	1100			WJ		07022789
24	XCTD-014	05:43	Z	XCTD			70° 51.17 N	141° 24.71 W	2014	1100			SN		07033322
24	XCTD-015	06:51	Z	XCTD			71° 05,92 N	141° 50.28 W	2498	1100			SN		07033323
24	XCTD-016	08:42	Z	XCTD			71° 29.28 N	142° 32.93 W	2875	1100			SN		07033324
24	XCTD-017	10:33	Z	XCTD			71° 54,04N	143 15, 42W	3000	1100			SN		07033327
24	XCTD-018	12:32	Z	XCTD			72° 8,05N	143 58, 65W	3204	1100			SN		07033326
				ADCP											
24	STNA	14:44	BE	ROS	UN/US	010	72 41.25	144 41.432	3410		184-204		EF/MK/MS		stop at 2000m up cast for sample 188-196
		15:59	BO		US		72 41.41	144 41.188		3409					
		17:59	EN		UN		72° 41,422	144° 42,001							

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Notes: _____

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STNA: On upcast, after bottles at 2000 m, stop for mooring operation.
stop at 16:31 start: 17:40
↖ To test releases attached to rosette

⇐ Deep geochem
+ Water for David Griffith
Sed traps

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month 07 **Year** 2008 **Ship** LSSL **Cruise ID** 2008-30

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
24	Sta-A			NETSX2						100					
	STA-A	1800		ZOO									MK/DG		Near surface sampling w/ zooplnc
24	Sta-A	19:37	BE	ROS	US	011	72° 41.273	144° 42.282	3400		205-228	24	KS/SZ	✓	2 CTD Files
		20:00	BO				72. 41.285	144 42.390		1000					↳ 011 and 011A
		20:36	EN				72° 41.306	144 42.540							Cesium Cast
24	STA-A	21:13	BE	ROS	UN	012	72° 41.186	144° 41.839	3400		229-252	24	SZ/M.D.	✓	Intrusion +
			BO							700					surface Geochem
		19:37	EN				72 41.273	144° 42.286							
25	XCTD-018	00:28	Z	XCTD			72 28.56	146° 12.344	3400	1100			WW/MD		07033325
25	XCTD-020	02:28	Z	XCTD			71° 18.03	147° 42.163	3500	1080			WW/MD		07022654
25	XCTD-021	04:58	Z	XCTD			72° 06.11	149° 11.77	3400	1080			WW/MD		07022653
25	BL08			NETSX2						100					
25.	BL08.	07:09	BE	ROS	UN	013	71 57.886	150 13.595	2980		253-276	24.	EF/MK/MD.		
		08:14	BO				71 58.090	150 14.508.		2997					
		09:13	EN				71 58.55	150 15 623.							

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Notes: _____

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Version: 06 March 2008

CAST 011

- check T sensor, difference is 0.1 °C • getting better with depth.
- conductivity difference is high (~0.1) as well
- ADCP brought on board.
- Beam transmission is high (89.8%). It should be @ approximately 84%

display crashed at 1000m when bottle 1 tripped.
re initialize log file 2008_30_011A.dat
— downcast may be lost(?)

- After program crash, I restarted pump (I don't believe it stopped) to be safe.

*No in air pressure recorded.
- I stopped acquisition before any in-air data was recorded by mistake.

cast 012
pump off 21:49 700m check for depletion of DO on sbe43. If pump good, DO should rebound when pump is turned back on
21:55:36 pump on. Check DO connections and pump flow rates.

Pump Flow rates ok not measured but similar and strong.
checked and cleaned connections on 1° Xmiss - ok
changed spigot o rings on 1, 13, 23.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month 07 **Year** 2008 **Ship** LSSL **Cruise ID** 2008-30

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
25	XCTD-022	11:29	E	XCTD			71° 48.81'N	150° 58.83'W	2525	1100			SN		07022652
25	BL-04	13:56	BE	ROS	UN	014	71 30.072	151 39.451	1007		277–300	24	EZ/MK		
		14:22	BO				71 30.112	151 39.453		983					
		14:48	EN				71 30.137	151 39.413							
25	BL-04			ADCP											
25	BL-04			NETSX2						100					
25	BL-02	17:01	BE	ROS	UN	015	71 23.738	152 2.215	149				EZ/MK		
		17:11	BO				71 23.	152 2.2		142.	301-312	12			
		17:25	EN				71° 23.735	152° 2.286							
	BL-02			NETSX2						100					
	BL-02			ADCP											

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Notes: _____

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Ocean Sciences Division, Institute of Ocean Sciences

Month JUL | **Year** 2008 | **Ship** LSSL | **Cruise ID** 2008-30

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
				ADCP											Rosette for chl-Test methods
25	BL-03	1904	BE	ROS	US	016	71 27.334	151 49.284	412		~~313-336~~	24	MD/KS	✓	
	(nearr)	19:23	BO				71° 27.326	151 49.400		400					
		19:33	EN				71° 27.314	151° 49.400							
															CTD ONLY NO Bottles
25	BL-03	20:00	BE	ROS		017	71 28.174	151 46.649	640	100	313-336	24	MD/KS		Real chl methods test
			BO												
		20:26	EN				71 28.136	151 46.864							
	BL-03			ADCP											
25	BL-03	21:13	BE	ROS	UN	018	71° 28.096	151° 46.750	580		337-356	20	MD/KS/S2		
		21:35	BO				71° 28.142	151° 46.708		580					
		22:01	EN				71° 28.133	151° 46.606							
				~~ADCP~~											

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Notes: _____

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CAST 16

- chlorophyll max was lacking in the profile and therefore no samples were taken.
- Max depth was changed from 100 m to 400 m in order to log CTD data.
- we are going to move into deeper water for chl. sampling.
- appears that sensors are working
- oxygen sensor pegged at 5 volts.

Cast 017

- oxygen working again after MD cleaned it
- LG log (10 ft long 2-3 ft diameter) in water

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JUL **Year** 2008 **Ship** LSSL **Cruise ID** 2008-30

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
25	BL-5	23:57	BE	ROS		019	71 35.596	151 21.57	1557		357-358	2	S.Z./K.S./M.D.		-0.8 in air (IN)
26		00:29	BO				71 35,563	151 21.60	1570	1576					-0.8 in air (OUT) no ice
		00:57	EN				71° 35.579	151° 21.487	357 1100		CFC 7 ✓ Syringe# 7433 ✓ Bot# 1				tmax 33.1 34.0 2m swell
									358 898		CFC ✓7222 ✓ 2				tmax 500 800 1000 1500 oxygen pegged NOT WORKING
25	BL-5			ADCP											
26	BL-6			ADCP											
26	BL-6	0203	BE	ROS		020	71 39.509	151 13,930	1993		359-382	24	MD/MW/SZ		New oxy sensor
		0248					71 39,439	151 14,038	1991						SN 0398
		0330	EN				71 39.444	151 14,035	1990						+ New con file
26	XCTD-023	06:19	Z	XCTD			72 14.96 N	150 23.00 W	3500	1100			SN		07022651
26	XCTD-024	07:25	Z	XCTD			72 29.88N	149 59.91W	3655	1100			SN		07022650
26	XCTD-025	08:20	Z	XCTD			72 44.63N	149 59.62 W	3665	No Data			SN		07022649
	CLOCKS			CHANGED			From 0400 local to		0300 local				Now UTC is #6		
26	CB2	09:46	BE	ROS.		021	73 0.00	150 0.01	3680		383-406	24	SZ/MW/DM		
		10:59	BO				73 0.001	150 0.032		3679					attenuator not work.
		12.08	EN				73.002	150 0.017							

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← did not go to bottom. slope causing sounder + altimeter to flick btw 1500 - 1550 so stopped early.

← Oxygen sensor replaced: #1115 taken off, #0398 put on however we don't have the cal info for this...

← No Data (XCTD-025).

← Radio not working, miscue, missed in-air pressure.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JUL **Year** 2008 **Ship** LSSL **Cruise ID** 2008-30

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
26	XCTD-026	14:31	DE	XCTD			73 30.28 N	150.00.23 W	3728	1100			SN		07022698
26	CB2			ADCP											
26	CB2			NETS×2						100					
26										1450 m/s					sound speed
26	CB3	17:02	BE	ROS	UN	022	73 59.721	150 0.262	3779				ZH/MD		
	~	1820	BO	ROS			73 59.96	150 0.433	3750	3810	407-430	24	SZ		shift change
		2004	EN	ROS			74 0.173	150 0.173	3740						STOP @ bottom
															For Release tests
															A Mooring
26	CB3			ADCP											1851 RESUME
26	CB3			NETS						300					upcast
26	CB3			NETS						100					
26	XCTD-027	21:43:56	DE	XCTD			74°14,806	148°52,657	3773	~~1080~~			WH/MD		07022682
26	CB6	2341	BE	ADCP											CTD = 3888.4 3889.4
	CB6	2341	BE	ROS	UN	23	74 29.975	147 44.113	3709	SS1450	431-454	24	MD/WW/SZ		3779 (H 9,4)
		0102	BO				74 30.013	147 44.010		3780					3782 +9 (34 out)
			EN												
															3791 w/1479

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DAILY SCIENCE LOG

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Month	Jul	Year	2008	Ship	LSSL	Cruise ID	2008-30

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
				changed Knudsen sound speed from 1450 to 1479 m/s											
							@ 27 July 2008 0010 UTC						This is the second change during 2008-30		
27	XCTD-028	03:39:08	Z	XCTD			74°34.667'	148°50.708	3800	1080			WW/MD		0702 2683
			INTO THE ICE ... FINALLY 74 43.353°N ~~TE~~ 149 31.622°W on way to CB-4												
	CB-4	0709	BE	PUMP			74 59.120	149 58.722	1479m/s 3818						
27	CB-4			NETS x4						100					
	CB4		RE	MOR											
	CB4	2100		ZOO										MK/	Near Surface Sample
27	CB4	2144	BE	ROS	US	24	74 59.519	150 3.377	3819.		455-478	24	MD/WW/SZ		KY Intrusion +
		—	BO				—	—							Calibration Cast
		2316	EN				74 59.758	150 1.808							
	CB4			ADCP											

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← Zodiac used to collect near surface samples + CTD profile

DAILY SCIENCE LOG

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Month July **Year** 2008 **Ship** LSSL **Cruise ID** 2008-30

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
28	CB-4		BE	PUMP			75 0.060	149 54.083	3817	?			DG/KB		
		erased by mistake sorry ET	EN					erased by mistake sorry ET							
28	CB-4			NETS						1000					
28	CB-4	07:13	BE	ROS	UN	025	75 1.788	149 54.072	3817		479-502	24	EF/W		IMS Block Display does not work properly
		08:28	BO				75 1.416	149 53.672		3807					
		09:41	EN				75 1.900	149 53.570							
28	CB-4			NETS						500					
28				XCTD											
28				XCTD											
29	CB-5	0435	BE	ROS		26	75 19.160	153 16.822	3838		503-526	24	MD/WW/SZ		
		0551	BO		*		75 19.409	153 16.710		~3838 +9					MAX Tension @ 3840 IS
		07:03	EN				75 19.586	153 16.754							
29	CB-5		DE	ADCP											
29		08:50-09:45		Rain									MK		rain collected for 180 analysis

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cast 25

top LADCP removed to check batteries. small amount (or 20 ml) of SW found in case. All 3 PCBs have some water damage. Unable to communicate with unit on bench so left off from cast 26 on.

DAILY SCIENCE LOG

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Month JUL **Year** 2008 **Ship** LSSL **Cruise ID** 2008-30

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
29	XCTD-031	08:41	Z	XCTD			75°22.31'N	153°57.25'W	3847	1100			SN		07022680
29	XCTD-032	10:04	Z	XCTD			75°26.60'N	154°24.44'W	3838	1100			JY		07022686
29	RS-06			ADCP											
29	RS-06	11:19	BE	ROS	UN	27	75 30.79	155 16.135	3840				EF/W		
		12:32	BO				75 30.822	155 15.956		3832	527-550	24			
		13:45	EN				75 30.803	154 16.038							
29	RS-06			NETSX2			~~0 30N 69~~			100					
29	XCTD-033	15:01	Z	XCTD			75°37.69'N	155°53.00'W	2883	1100			CN		07022~~685~~689
29	XCTD-034	15:24	Z	XCTD			75°37.83'N	155°58.15'W	2470	1100			SN		07022~~693~~695
29	XCTD-035	16:00	Z	XCTD			75°38.14'N	156°08.02'W	2032	1100			SH		07022693
29	RS-01	18:08	BE	ROS	UN	28	75 44.593	157 5.600							
		1844	BO				75 44.438	157 5.11	1000	987	551-574	24			
		1920	EN				75 44.141	157 5.282							
29	RS-01			NETSX2						100					
29	RS-01			ADCP											
				DRF	throw		75.44.141	157.5282			#97-144	48			DRIFT BOTTLES!

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CAUTION - XCTD may be entered using local time not UTC SZ 21 NOV 2008

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Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2008 **Ship** LSSL **Cruise ID** 2008-30

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
28	XCTD-036	18:57:11	Z	XCTD			75 42,546	156 44,3656	1110	780			WW/MD		07022688
29	RS-2	21:18	BE	ROS	UN	29	75 39.626	156 15.565	1593	1	575 - 598	24	MD/WW/SZ	KY	
		21:55	BO				75 39.521	156 16.277	1586	1574					
		22:33	EN				75 39.240	156 15.907	8	1607					
29	RS-2			ADCP											
29	RS-2			NETSx2						100					Bongos
29	RS-2			DRF					2						WHOI deploys Polar Profiling Float
28	XCTD-037	23:10		XCTD			75°40,87N	155°39,04	2350	1080			WW/MD		07022682
28	XCTD-038	23:53		XCTD			75°42,007N	155°40,583	3666	1100			WW/MD		07022691
30	XCTD-039	00:19		XCTD3			75°43,00	152°21,34	3842	1100			WW/MD		08048177
30	XCTD-040	01:16		XCTD3			75°44,87	154°39,88	3837	1100			WW/MD		08048178
30	XCTD-041	02:13		XCTD3			75°47,57	154°01,05	3836	1100			WW/MD		08048179
30	XCTD-042	03:08		XCTD3			75°49,60	153°21,76	3835	1100			WW/MD		08048182
30	XCTD-043	04:02		XCTD3			75°53,54	152°43,56W	3834	1100			WW/MD		08048181
30	XCTD-044	04:58		XCTD3			75°54,58	151°58,82W	3831	1100			WW/MD		08048180

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

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

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

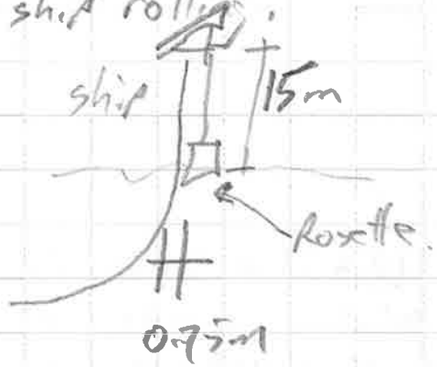
Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 06 March 2008

Cast 29 – Roselle slammed into side of ship when it rolled during recovery. Bottles 5, 6, 7, 8, 11, 17 & 18 all knocked off frame and hanging on safety rope. Bottle 17 empty and Bottle 11 suspected to have opened bottom stud so not sampled. Bottles 5, 6, 7, 8, 17 & 18 all remounted and tested OK. Bottle 11 had broken centre mount and was replaced. Centre mount is repairable.

– Be very careful when ship rolling.



~ 5-8° of swing inboard will hit ship!

* Cast 29 missed collect samples 575-598 for *Ark*. Midnight slipt found all empty bottles labelled but no samples.