DAILY SCIENCE LOG BOOK

MISSION NUMBER 2009-46

DATE: From: 08 OCT 09 to: 17 NOV 09

VESSEL: W.E. RICKER

PROJECT(S): HIGH SEAS SALMON (TRUDEL)

(BOOK 1)

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

WaterProperties.ca

Captain: Cpt Scott Doan
First Officer: Kevin
Second Officer: Andrew
Third Officer:
Fishing Master: Les Hand

Mission Participants / Agencies: High Seas

Scientific Personnel: Chief Scientist: Third Leg

Name	Watch	Cabin	Name	Watch	Cabin
Mary Thiess			John Morris		
Yeongha Jung			Tyler Zubkowski		
Dan Bevan			Yeongha Jung		
			Hugh MacLean		
			Edd Hammill		
			~~Vanessa~~		
			ERICA		

Second leg of Mission: Chief Scientist: Fourth Leg

Name	Watch	Cabin	Name	Watch	Cabin
John Morris			John Morris		
Tyler Zubkowski			Tyler Zubkowski		
Mary Thiess			Mary Thiess		
Yeongha Jung			Yeongha Jung		
Marc Trudel			Hugh MacLean		
Katrina			Jayme Hills		
			Merran Hague		

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

Primary CTD

Make: Seabird model: 911 serial number: 585
Primary temperature serial number: 4054
Primary conductivity serial number: 3321
Secondary temperature serial number: 4700
Secondary conductivity serial number: 1766
Transmissometer: WETLAB Model: s/n: 993 DR
Fluorometer: Model SEAPOINT Cable gain: 10 x 0.15 s/n: 2228 **P, S or NO pump?**
Oxygen sensor: SBE Model: SBE 43 s/n: 0997 **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: Seabird model: 25 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?**
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CTD calibration bottle location (height above CTD in metres):

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W.E. RICKER **Cruise ID** 2009 - 46

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
08	GS01	2213	BE	CTD		001	49°16.872	123°59.502	312			1	MT		T: 9.9 S: 30.2
		2218	BO				49°16.876	123°59.495		250					BOT @ 10m: SAL/CHL/NUTS
		2222	EN				49°16.855	123°59.467							
		2232	BE	NET		002	49°16.854	123°59.461	303	150					BONGO
08	GS02	2328	BE	CTD		003	49°19.292	123°54.633	394			1			T: 13.14 S: 26.928
		2332	BO				49°19.272	123°54.696		250					BOT @ 10m: SAL/CHL/NUTS
		2337	EN				49°19.268	123°54.695							
		2342	BE	NET		004	49°19.319	123°54.863	390	150					BONGO
09	GS03	0035	BE	CTD		005	49°22.902	123°48.331	181			1			T: 12.84 S: 27.05
		0038	BO				49°22.923	123°48.361		170					BOT @ 10m: SAL/CHL/NUTS
		0042	EN				49°22.945	123°48.378							
		0049	BE	NET		006	49°22.958	123°48.678	177	150					BONGO
09	GS04	1403	BE	CTD		007	49°57.00	125°05.37	321			1			T: 10.0 S: 27.8
		1407	BO				49°56.99	125°05.32		250					BOT @ 10m: SAL/CHL/NUTS
		1412	EN				49°56.98	125°05.26							
		1416	BE	NET		008	49°56.98	125°05.22	292	150					BONGO

Cast Type:
BOT = Bottle cast, no CTD
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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
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Notes: _____

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

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GS01: Niskin not attached for initial cast; redeployed to 15m for Niskin sample after CTD cast completed.
Trouble with bongo winch; initial bongo cast aborted and redeployed.
Have set 'Data Archiving' to 'start archiving immediately' for now... will switch to using 'Start Archiving' command once I am comfortable with CTD ops.

GS04: Pump turned on after cast descent started (~75m)

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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09	GS05	1450	BE	CTD		009	49° 53.67	125° 03.30	147			1	M.T.		T: 10.3 S: 28.5
		1452	BO				49° 53.66	125° 03.30		135					BOT @ 10m: SAL/CHL/NUTS
		1455	EN				49° 53.66	125° 03.30							
		1458	BE	NET		010	49° 53.66	125° 03.29	146	140					BONGO
09	GS06	1550	BE	CTD		011	49° 54.03	124° 56.41	144			1			T: 10.7 S: 27.9
		1552	BO				49° 54.02	124° 56.44		135					BOT @ 10m: SAL/CHL/NUTS
		1555	EN				49° 54.03	124° 56.44							
		1558	BE	NET		012	49° 54.03	124° 56.41	143	130					BONGO
09	GS07	1633	BE	CTD		013	49° 49.79	124° 56.16	181			1			T: 10.74 S: 28.16
		1636	BO				49° 49.77	124° 56.18		170					BOT @ 10m: SAL/CHL/NUTS
		1639	EN				49° 49.75	124° 56.20							
		1642	BE	NET		014	49° 49.71	124° 56.19	188	150					BONGO
09	GS08	1720	BE	CTD		015	49° 49.78	124° 49.67	277			1			T: 11.145 S: 28.293
		1724	BO				49° 49.79	124° 49.70		250					BOT @ 10m: SAL/CHL/NUTS
		1729	EN				49° 49.80	124° 49.70							
		1732	BE	NET		016	49° 49.81	124° 49.74	279	150					BONGO

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NET = Plankton Net Haul
DRF = Drifter
____ = _____

Bottle Firing Method:
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DN = Down / No stop

Time Code:
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Notes: _____

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GS05: Bongo winch counter failed on first attempt; re-deployed; nets fouled on 2nd attempt; did not deploy a 3rd time.

GS06: Depth for CTD incorrectly stated in header (bridge updated depth after header file created) Correct depth is 144 m

DAILY SCIENCE LOG

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09	GS09	1812	BE	CTD		017	49°48.84	124°42.86	154			1	MT		T: 11.02 S: 28.54
		1815	BO				49°48.85	124°42.89		145					BOT@10m: SAL/CHL/NUTS
		1818	EN				49°48.85	124°42 89							
		1822	BE	NET		018	49°48.84	124°42.84	154	140					BONGO
09	GS10	1918	BE	CTD		019	49°50.30	124°34.15	189			1			T: 12.06 S: 27.77
		1921	BO				49°50.34	124°34.14		175					BOT@10m: SAL/CHL/NUTS
		1925	EN				49°50.37	124°34.15							
		1930	BE	NET		020	49°50.43	124°34.17	176	150					BONGO
09	GS11	2019	BE	CTD		021	49°46.23	124°29.59	307			1			T: 12.40 S: 27.95
		2023	BO				49°46.24	124°29.57		250					BOT@10m: SAL/CHL/NUTS
		2028	EN				49°46.26	124°29.57							
		2032	BE	NET		022	49°46.26	124°29.56	306	150					BONGO
09	GS12	2128	BE	CTD		023	49°43.76	124°21.01	307			1			T: 12.40 S: 27.44
		2132	BO				49°43 75	124°20.95		250					BOT@10m: SAL/CHL/NUTS
		2136	EN				49°43.76	124°20.91							
		2140	BE	NET		024	49°43.77	124°20.87	309	150					BONGO

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____ = _____

Bottle Firing Method:
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Time Code:
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GS10: Switched to using 'StartArchiving' command to start archiving data from this station onwards.

DAILY SCIENCE LOG

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09	GS13	2234	BE	CTD		025	49° 38.34	124° 14.31	333			1	MT		T: 12.73 S: 27.41
		2238	BO				49° 38.30	124° 14.26		250					BOT @ 10m: SAL/CHL/NUTS
		2243	EN				49° 38.27	124° 14.21							
		2246	BE	NET		026	49° 38.24	124° 14.17	334	150					BONGO
09	GS14	2340	BE	CTD		027	49° 33.57	124° 07.81	356			1			T: 12.60 S: 28.01
		2345	BO				49° 33.56	124° 07.76		250					BOT@10m: SAL/CHL/NUTS
		2349	EN				49° 33.59	124° 07.73							
		2352	BE	NET		028	49° 34.00	124° 07.72	355	150					BONGO
10	GS15	1418	BE	CTD		029	49° 37.85	124° 40.56	123			1			T: 11.69 S: 28.29
		1420	BO				49° 37.85	124° 40.55		115					BOT@10m: SAL/CHL/NUTS
		1422	EN				49° 37.85	124° 40.54							
		1427	BE	NET		030	49° 37.85	124° 40.52	121	110					BONGO
10	GS16	1504	BE	CTD		031	49° 36.58	124° 33.88	134			1		✓	T: 11.44 S: 28.39
		1506	BO				49° 36.57	124° 33.87		125					BOT@10m: SAL/CHL/NUTS
		1508	EN				49° 36.57	124° 33.86							
		1512	BE	NET		032	49° 36.57	124° 33.87	135	125					BONGO

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Version: 06 March 2008

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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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
10	GS17	1544	BE	CTD		033	49°33.00	124°34.87	171			1	MT		T: 11.55 S: 28.40
		1546	BO				49°33.02	124°34.87		160					BOT@10m: SAL/CHL/NUTS
		1549	EN				49°33.02	124°34.85							
		1555	BE	NET		034	49°33.00	124°34.82	171	150					BONGO
10	GS18	1632	BE	CTD		035	49°31.17	124°27.80	187			1			T: 11.96 S: 28.51
		1635	BO				49°31.16	124°27.80		175					BOT@10m: SAL/CHL/NUTS
		1638	EN				49°31.14	124°27.81							
		1642	BE	NET		036	49°31.12	124°27.86	187	150					BONGO
10	GS19	1720	BE	CTD		037	49°26.36	124°28.42	322			1			T: 12.48 S: 28.41
		1724	BO				49°26.30	124°28.42		250					BOT@10m: SAL/CHL/NUTS
		1729	EN				49°26.30	124°28.39							
		1733	BE	NET		038	49°26.30	124°28.42	322	150					BONGO
10	GS20	1812	BE	CTD		039	49°24.31	124°21.75	331			1			T: 11.77 S: 28.56
		1816	BO				49°24.31	124°21.71		250					BOT@10m: SAL/CHL/NUTS
		1820	EN				49°24.33	124°21.68							
		1823	BE	NET		040	49°24.34	124°21.69	332	150					BONGO

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Version: 06 March 2008

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 Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
10	GS21	1920	BE	CTD		041	49°22.14	124°15.03	249			1	MT		T: 11.97 S: 28.54
		1925	BO				49°22.14	124°14.95		235					BOT@ 10m: SAL/CHL/NUTS
		1929	EN				49°22.16	124°14.90							
		1933	BE	NET		042	49°22.18	124°14.87	320	150					BONGO
10	GS22	2014	BE	CTD		043	49°23.38	124°07.88	267			1			T: 12.33 S: 28.54
		2019	BO				49°23.44	124°07.76		250					BOT@ 10m: SAL/CHL/NUTS
		2024	EN				49°23.48	124°07.67							
		2028	BE	NET		044	49°23.50	124°07.60	251	150					BONGO
10	GS23	2109	BE	CTD		045	49°25.82	124°01.61	385			1			T: 12.59 S: 27.98
		2113	BO				49°25.83	124°01.51		250					BOT@ 10m: SAL/CHL/NUTS
		2118	EN				49°25.83	124°01.44							
		2121	BE	NET		046	49°25.83	124°01.37	385	150					BONGO
10	GS24	2204	BE	CTD		047	49°24.12	123°54.85	296			1			T: 12.58 S: 27.43
		2209	BO				49°24.12	123°54.77		~~250~~ 275					BOT@ 10m: SAL/CHL/NUTS
		2214	EN				49°24.13	123°54.72							
		2218	BE	NET		048	49°24.12	123°54.67	289	150					BONGO

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Version: 06 March 2008

GS 24: Radio miscommunication – CTD ended up going to about 275m before stopping.

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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
10	GS25	2305	BE	CTD		049	49°20.54	124°00.07	360			1	MT		T: 12.47 S: 28.49
		2310	BO				49°20.52	123°59.98		250					BOT@10m: SAL/CHL/NUTS
		2315	EN				49°20.49	123°59.88							
		2318	BE	NET		050	49°20.48	123°59.79	372	150					BONGO
11	GS26	1411	BE	CTD		051	48°56.70	123°18.33	167			1		✓	T: 10.93 S: 24.77
		1414	BO				48°56.70	123°18.37		155					BOT@10m: SAL/CHL/NUTS
		1416	EN				48°56.68	123°18.39							
		1419	BE	NET		052	48°56.66	123°18.37	168	150					BONGO
11	GS27	1501	BE	CTD		053	49°01.25	123°17.12	144			1			T: 11.78 S: 22.28
		1503	BO				49°01.27	123°17.17		135					BOT@10m: SAL/CHL/NUTS
		1505	EN				49°01.26	123°17.17							
		1508	BE	NET		054	49°01.26	123°17.16	144	130					BONGO
11	GS28	1547	BE	CTD		055	49°00.62	123°24.04	273			1			T: 11.29 S: 24.65
		1551	BO				49°00.66	123°24.02		250					BOT@10m: SAL/CHL/NUTS
		1555	EN				49°00.67	123°24.06							
		1600	BE	NET		056	49°00.71	123°24.00	275	150					BONGO

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Version: 06 March 2008

GS28: Didn't start archiving until ~25m on the way down. ☹

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11	GS 29	1654	BE	CTD		057	49°07.32	123°28.29	325			1	MT		T: 11.64 S: 19.51
		1658	BO				49°07.43	123°28.28		250					BOT@10m: SAL/CHL/NUTS
		1702	EN				49°07.49	123°28.32							
		1705	BE	NET		058	49°07.52	123°28.33	321	150					BONGO
11	GS30	1747	BE	CTD		059	49°07.32	123°21.19	148			1			T: 11.83 S: 25.03
		1749	BO				49°07.37	123°21.18		140					BOT@10m: SAL/CHL/NUTS
		1752	EN				49°07.39	123°21.18							
		1755	BE	NET		060	49°07.43	123°21.18	150	140					BONGO
11	GS31	1850	BE	CTD		061	49°12.79	123°20.10	175			1			T: 12.27 S: 27.32
		1853	BO				49°12.82	123°20.02		165					BOT@10m: SAL/CHL/NUTS
		1857	EN				49°12.82	123°19.98							
		1902	BE	NET		062	49°12.85	123°19.88	171	150					BONGO
11	GS 32	2008	BE	CTD		063	49°12.82	123°31.59	335			1			T: 12.14 S: 28.21
		2012	BO				49°12.80	123°31.52		250					BOT@10m: SAL/CHL/NUTS
		2017	EN				49°12.79	123°31.44							
		2020	BE	NET		064	49°12.77	123°31.40	333	150					BONGO

Cast Type:
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NET = Plankton Net Haul
DRF = Drifter
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Bottle Firing Method:
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Version: 06 March 2008

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** WE RICKER **Cruise ID** 2009 46

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
11	GS33	2124	BE	CTD		065	49°18.53	123°40.50	136			1	MT		T: 12.43 S: 26.68
		2126	BO				49°18.52	123°40.48		130					BOT@10m: SAL/CHL/NUTS
		2129	EN				49°18.51	123°40.45							
		2132	BE	NET		066	49°18.51	123°40.43	136	125					BONGO
11	GS34	2222	BE	CTD		067	49°12.29	123°41.81	331			1			T: 12.02 S 28.54
		2227	BO				49°12.27	123°41.70		250					BOT@10m: SAL/CHL/NUTS
		2232	EN				49°12.26	123°41.61							
		2235	BE	NET		068	49°12.25	123°41.57	340	150					BONGO
11	GS35	2323	BE	CTD		069	49°14.21	123°47.99	237			1			T 12.14 S: 28.08
		2328	BO				49°14.19	123°47.96		220					BOT@10m: SAL/CHL/NUTS
		2332	EN				49°14.18	123°47.91							
		2335	BE	NET		070	49°14.17	123°47.83	232	150					BONGO

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

Notes: _____

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

Produced by the Water Properties Group, IOS

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Version: 06 March 2008

This page is for any notes or observations

GS35: Bottom depth changed after cast started; transducer values read 226-230 m for majority of cast

12-13 OCT 09: SHIP CREW CHANGE @ PBS.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W.E. RICKER **Cruise ID** 2009-46

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
14	JF01	1410	BE	CTD		071	48° 17.82	123° 35.99	128			1	MT	✓	T: 9.35 S: 31.98
		1413	BO				48° 17.89	123° 36.00		115					BOT@10m: SAL/CHL/NUTS
		1415	EN				48° 17.94	123° 36.02							
		1419	BE	NET		072	48° 17.96	123° 36.04	114	104					BONGO
		1442	BE	TRAWL		073	48° 17.98	123° 38.24							TRAWL
14	JF02	1546	BE	CTD		074	48° 20.02	123° 48.28	127			1			T: 9.25 S: 32.07
		1548	BO				48° 20.02	123° 48.30		115					BOT@10m: SAL/CHL/NUTS
		1551	EN				48° 20.02	123° 48.32							
		1554	BE	NET		075	48° 20.02	123° 48.33	126	116					BONGO
		1614	BE	TRAWL		076	48° 20.27	123° 46.16							TRAWL
14	JF04	1924	BE	CTD		077	48° 27.73	124° 18.45	61			1			T: 9.42 S: 32.04
		1925	BO				48° 27.71	124° 18.42		55					BOT@10m: SAL/CHL/NUTS
		1926	EN				48° 27.70	124° 18.39							
		1930	BE	NET		078	48° 27.68	124° 18.34	69	59					BONGO
		1949	BE	TRAWL		079	48° 27.92	124° 19.16							TRAWL

Cast Type:
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DRF = Drifter
____ = _____

Bottle Firing Method:
US = Up / Stop
UN = Up / No stop
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Time Code:
BE = Beginning Time of Cast
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JF01 Depth in header file is incorrect; bridge updated depth after header created; CTD @ surface (data archiving on) for an extra minute at start of cast (to attach Niskin). Correct depth 128m.

JF02/04: Stn JF03 was cancelled due to restricted access in WH (live firing exercises).

JF04: Bongo aborted (winch counter stopped working).

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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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
14	JF05	2104	BE	CTD		080	48°30.32	124°28.00	116			1	MT		T: 9.42 S: 32.08
		2106	BO				48°30.34	124°27.95		110					BOT@10m: SAL/CHL/NUTS
		2108	EN				48°30.36	124°27.90							
		2112	BE	NET		081	48°30.37	124°27.86	110	100					BONGO
		2131	BE	TRAWL		082	48°30.82	124°28.57							TRAWL
14	JF06	2245	BE	CTD		083	48°32.91	124°39.06	90			1			T: 9.27 S: 32.12
		2246	BO				48°32.87	124°39.11		85					BOT@10m: SAL/CHL/NUTS
		2249	EN				48°32.84	124°39.14							
		2252	BE	NET		084	48°32.79	124°39.19	98	88					BONGO
		2310	BE	TRAWL		085	48°32.84	124°40.52							TRAWL
15	VI01	0042	BE	CTD		086	48°33.37	124°55.96	64			1			T: 9.78 S: 32.59
		0043	BO				48°33.37	124°55.01		55					BOT@10m: SAL/CHL/NUTS
		0045	EN				48°33.38	124°55.05							
		0048	BE	NET		087	48°33.37	124°55.13	63	53					BONGO
		0104	BE	TRAWL		088	48°33.56	124°57.86							TRAWL

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DRF = Drifter
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Bottle Firing Method:
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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
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Notes: _____

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

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W.E. RICKER **Cruise ID** 2009-46

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
15	IVI01	1407	BE	CTD		089	48°57.72	125°06.70	89			1	MT	✓	T: 10.99 S: 30.84
		1409	BO				48°57.75	125°06.70		80					BOT@10m: SAL/CHL/NUTS
		1410	EN				48°57.77	125°06.70							
		1414	BE	NET		090	48°57.76	125°06.72	90	80					BONGO
		1435	BE	TRAWL		091	48°56.88	125°07.44							TRAWL
15	IVI02	1529	BE	CTD		092	48°54.45	125°12.57	93			1			T: 10.73 S: 31.30
		1530	BO				48°54.46	125°12.60		85					BOT@10m: SAL/CHL/NUTS
		1533	EN				48°54.48	125°12.63							
		1536	BE	NET		093	48°54.51	125°12.64	94	84					BONGO
		1554	BE	TRAWL		094	48°53.94	125°13.56							TRAWL
15	VI02	1714	BE	CTD		095	48°47.82	125°21.63	87			1			T: 9.33 S: 32.17
		1716	BO				48°47.85	125°21.62		75					BOT@10m: SAL/CHL/NUTS
		1718	EN				48°47.86	125°21.59							
		1723	BE	NET		096	48°47.83	125°21.60	86	76					BONGO
		1743	BE	TRAWL		097	48°47.17	125°21.39							TRAWL

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DRF = Drifter
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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

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Version: 06 March 2008

IVI02: Depth manually added to *.HDR and *.HEX files after cast was complete.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W.E. RICKER **Cruise ID** 2009-46

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
15	VI03	1934	BE	CTD		098	48°40.59	125°35.35	180			1	MT		T: 10.40 S: 32.46
		1937	BO				48°40.61	125°35.34		170					BOT@10m SAL/CHL/NUTS
		1941	EN				48°40.62	125°35.35							
		1945	BE	NET		099	48°40.62	125°35.32	175	150					BONGO
		2050	BE	TRAWL		100	48°39.48	125°35.06							TRAWL
15	VI04	2217	BE	CTD		101	48°35.49	125°42.65	60			1			T: 11.00 S: 32.35
		2218	BO				48°35.49	125°42.69		50					BOT@10m SAL/CHL/NUTS
		2219	EN				48°35.50	125°42.70							
		2223	BE	NET		102	48°35.51	125°42.68	60	50					BONGO
		2242	BE	TRAWL		103	48°34.96	125°42.22							TRAWL
16	VI05	0139	BE	CTD		104	48°26.74	125°49.12	120			1			T: 13.31 S: 32.18
		0142	BO				48°26.83	125°49.11		110					BOT@10m SAL/CHL/NUTS
		0145	EN				48°26.90	125°49.09							
		0124	BE	NET		105	48°26.61	125°49.28	120	110					BONGO
		0038	BE	TRAWL		106	48°28.50	125°51.26							TRAWL

Cast Type:
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USW = Sea Water Loop
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DRF = Drifter
____ = _____

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

VI05: Due to weather & time constraints, stn ops were conducted in reverse order (trawl, bongo, CTD). Consecutive numbers were not changed.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W E RICKER **Cruise ID** 2009 46

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
16	VI06	1426	BE	CTD		107	48°49.37	126°27.24	193			1	MT	✓	T: 10.32 S: 32.37
		1430	BO				48°49.46	126°27.20		180					BOT@10m SAL/CHL/NUTS
		1434	EN				48°49.51	126°27.14							
			BE	NET		—	CANCELLED								BONGO
		1448	BE	TRAWL		108	48°50.58	126°27.61							TRAWL
16	VI07	1633	BE	CTD		109	48°53.04	126°21.27	155			1			T: 10.95 S: 32.22
		1636	BO				48°53.07	126°21.26		145					BOT@10m: SAL/CHL/NUTS
		1639	EN				48°53.08	126°21.24							
			BE	NET		—	CANCELLED								BONGO
		1652	BE	TRAWL		110	48°52.62	126°20.99							TRAWL
16	VI08	1813	BE	CTD		111	48°57.50	126°16.18	117			1			T: 10.64 S: 32.24
		1815	BO				48°57.51	126°16.18		105					BOT@10m: SAL/CHL/NUTS
		1818	EN				48°57.49	126°16.17							
		1822	BE	NET		112	48°57.53	126°16.20	117	107					BONGO
		1842	BE	TRAWL		113	48°56.97	126°16.39							TRAWL

Cast Type:
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SET = Fish Set
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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
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Notes: _____

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

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WaterProperties.ca
Version: 06 March 2008

VI06: Bongo cancelled due to weather

VI07. Bongo cancelled due to weather

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W E RICKER **Cruise ID** 2009 46

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
16	VI09	2027	BE	CTD		114	49°01.45	126°09.69	70			1	MT		T: 10.91 S: 32.29
		2028	BO				49°01.45	126°09.69		60					BOT@10m: SAL/CHL/NUTS
		2030	EN				49°01.46	126°09.70							
		2035	BE	NET		115	49°01.48	126°09.75	69	59					BONGO
		2058	BE	TRAWL		116	49°00.72	126°10.18							TRAWL
16	VI10	2248	BE	CTD		117	49°05.46	126°01.21	40			1			T: 10.75 S: 31.61
		2249	BO				49°05.44	126°01.23		30					BOT@10m: SAL/CHL/NUTS
		2250	EN				49°05.44	126°01.24							
		2253	BE	NET		118	49°05.44	126°01.25	40	30					BONGO
		2309	BE	TRAWL		119	49°04.77	126°01.95							TRAWL
17	EP01	1415	BE	CTD		120	49°21.02	126°31.69	32			1		✓	T: 10.99 S: 31.58
		1416	BO				49°21.01	126°31.70		25					BOT@10m: SAL/CHL/NUTS
		1417	EN				49°21.01	126°31.69							
		1421	BE	NET		121	49°21.03	126°31.67	33	23					BONGO
		1438	BE	TRAWL		122	49°20.74	126°32.73							TRAWL

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

Notes: _____

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Month OCTOBER **Year** 2009 **Ship** WE RICKER **Cruise ID** 2009 46

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
17	EP02	1530	BE	CTD		123	49°18.87	126°36.28	82			1	MT		T: 10.75 S: 31.95
		1532	BO				49°18.86	126°36.38		75					BOT@10m: SAL/CHL/NUTS
		1534	EN				49°18.87	126°36.46							
		1538	BE	NET		124	49°18.89	126°36.59	84	74					BONGO
		1554	BE	TRAWL		125	49°18.51	126°37.84							TRAWL
17	EP03	1649	BE	CTD		126	49°16.56	126°41.50	111			1			T: 11.08 S: 32.26
		1651	BO				49°16.59	126°41.60		105					BOT@10m: SAL/CHL/NUTS
		1654	EN				49°16.61	126°41.68							
		1657	BE	NET		127	49°16.63	126°41.75	111	101					BONGO
		1719	BE	TRAWL		128	49°16.30	126°43.20							TRAWL
17	EP04	1812	BE	CTD		129	49°14.94	126°45.60	118			1			T: 10.87 S: 32.19
		1814	BO				49°14.96	126°45.61		110					BOT@10m: SAL/CHL/NUTS
		1817	EN				49°15.02	126°45.65							
		1821	BE	NET		130	49°15.05	126°45.71	119	109					BONGO
		1841	BE	TRAWL		131	49°15.08	126°46.98							TRAWL

Cast Type:
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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
17	EP05	1935	BE	CTD		132	49°12.56	126°49.87	142						T: 10.71 S: 32.26
		1938	BO				49°12.60	126°49.84		135					BOT@10m: SAL/CHL/NUTS
		1941	EN				49°12.63	126°49.85							
		1945	BE	NET		133	49°12.68	126°49.84	140	130					BONGO
		2006	BE	TRAWL		134	49°12.53	126°51.03							TRAWL
17	EP06	2055	BE	CTD		135	49°10.35	126°54.33	180						T: 10.43 S: 32.32
		2058	BO				49°10.36	126°54.37		170					BOT@10m: SAL/CHL/NUTS
		2101	EN				49°10.38	126°54.43							
		2104	BE	NET		136	49°10.39	126°54.46	182	150					BONGO
		2128	BE	TRAWL		137	49°10.92	126°55.61							TRAWL
18	VI11	0133	BE	CTD		138	49°34.43	127°05.72	115						T: 9.99 S: 32.20
		0136	BO				49°34.45	127°05.75		105					BOT@10m: SAL/CHL/NUTS
		0138	EN				49°34.48	127°05.73							
		0121	BE	NET		139	49°34.48	127°05.60	113	103					BONGO
		0038	BE	TRAWL		140	49°32.28	127°08.73							TRAWL

Cast Type:
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Bottle Firing Method:
US = Up / Stop
UN = Up / No stop
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Time Code:
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BO = Bottom Time of Cast
EN = End Time of Cast
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Notes: _____

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Version: 06 March 2008

This page is for any notes or observations

VIII. Order of ops reversed, consecutive numbers <u>not</u> changed (TRAWL, BONGO, CTD)

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W E RICKER **Cruise ID** 2009 46

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
18	VI12	1410	BE	CTD		141	49°35.46	127°02.25	102			1	MT	✓	T: 10.83 S: 31.57
		1412	BO				49°35.47	127°02.34		95					BOT@10m: SAL/CHL/NUTS
		1414	EN				49°35.48	127°02.42							
		1419	BE	NET		142	49°35.47	127°02.51	102	92					BONGO
		1440	BE	TRAWL		143	49°35.78	127°02.03							TRAWL
18	VI13	1533	BE	CTD		144	49°37.94	126°57.53	47			1			T: 10.82 S: 31.38
		1534	BO				49°37.94	126°57.52		40					BOT@10m: SAL/CHL/NUTS
		1535	EN				49°37.92	126°57.55							
		1538	BE	NET		145	49°37.90	126°57.60	46	36					BONGO
		1558	BE	TRAWL		146	49°36.92	126°56.80							TRAWL
18	IVI03	1754	BE	CTD		147	49°32.50	126°39.15	56			1			T: 11.08 S: 31.11
		1755	BO				49°32.49	126°39.11		45					BOT@10m: SAL/CHL/NUTS
		1757	EN				49°32.47	126°39.07							
		1801	BE	NET		148	49°32.43	126°39.04	54	44					BONGO
		1810	BE	TRAWL		149	49°32.87	126°38.49							TRAWL

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

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Version: 06 March 2008

IV103: After messenger sent, CTD was sent down rather than up for a few seconds (15-20m) before correction was made.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W E RICKER **Cruise ID** 200946

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
18	IVI04	1937	BE	CTD		150	49°38.30	126°29.73	140			1	MT		T: 11.54 S 30.72
		1939	BO				49°38.27	126°29.74		130					BOT@10m: SAL/CHL/NUTS
		1942	EN				49°38.24	126°29.76							
		1944	BE	NET		151	49°38.23	126°29.77	145	135					BONGO
		2005	BE	TRAWL		152	49°37.58	126°29.94							TRAWL
18	IVI05	2053	BE	CTD		153	49°35.79	126°32.44	129			1			T: 11.34 S: 27.08 ⊛
		2056	BO				49°35.78	126°32.50		120					BOT@10m: SAL/CHL/NUTS
		2059	EN				49°35.78	126°32.53							
		2102	BE	NET		154	49°35.79	126°32.54	125	115					BONGO
		2119	BE	TRAWL		155	49°35.77	126°33.88							TRAWL
18	IVI06	2220	BE	CTD		156	49°40.32	126°35.97	138			1			T: 11.52 S: 30.30
		2223	BO				49°40.30	126°35.98		130					BOT@10m: SAL/CHL/NUTS
		2226	EN				49°40.30	126°35.99							
		2229	BE	NET		157	49°40.28	126°36.00	139	129					BONGO
		2247	BE	TRAWL		158	49°40.80	126°34.90							TRAWL

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

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Version: 06 March 2008

IVI05: ⊛ 2-3 PSU difference in SAL values @ surface (beginning of cast).

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W E RICKER **Cruise ID** 2009 46

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
19	IVI07	0145	BE	CTD		159	49°51.19	126°39.64	178			1	MT		T: 10.93 S: 29.19
		0148	BO				49°51.23	126°39.63		170					BOT@10m: SAL/CHL/NUTS
		0152	EN				49°51.28	126°39.60							
		0130	BE	NET		160	49°51.12	126°39.64	178	150					BONGO
		0047	BE	TRAWL		161	49°48.07	126°39.27							TRAWL
19	IVI08	1416	BE	CTD		162	49°57.00	126°48.53	177			1		✓	T: 11.22 S: 29.58
		1419	BO				49°56.61	126°48.51		170					BOT@10m: SAL/CHL/NUTS
		1423	EN				49°56.61	126°48.49							
		1427	BE	NET		163	49°56.64	126°48.47	178	150					BONGO
		1449	BE	TRAWL		164	49°56.00	126°48.25							TRAWL
19	IVI09	1546	BE	CTD		165	49°52.17	126°50.38	231			1			T: 11.35 S: 29.50
		1550	BO				49°52.20	126°50.34		220					BOT@10m: SAL/CHL/NUTS
		1554	EN				49°52.23	126°50.34							
		1559	BE	NET		166	49°52.25	126°50.32	231	150					BONGO
		1619	BE	TRAWL		167	49°52.01	126°51.43							TRAWL

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

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Version: 06 March 2008

IVI07: Due to time constraints, station ops were conducted in reverse order. Event numbers were <u>not</u> changed.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W E RICKER **Cruise ID** 2009 46

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
19	IVI10	1714	BE	CTD		168	49°51.33	126°55.86	233			1	MT		T: 11.11 S 26.58
		1718	BO				49°51.34	126°55.84		215					BOT@10m SAL/CHL/NUTS
		1723	EN				49°51.34	126°55.84							
		1726	BE	NET		169	49°51.34	126°55.85	240	150					BONGO
		1749	BE	TRAWL		170	49°51.17	126°56.60							TRAWL
19	VI14	1928	BE	CTD		171	49°47.008	127°03.545	41			1			T: 10.85 S: 31.49
		1929	BO				49°47.010	127°03.567		30					BOT@10m SAL/CHL/NUTS
		1930	EN				49°47.012	127°03.585							
		1933	BE	NET		172	49°47.018	127°03.590							BONGO
		1948	BE	TRAWL		173	49°47.25	127°04.73							TRAWL
19	VI15	2104	BE	CTD		174	49°49.64	127°15.98	56			1			T: 11.24 S: 31.26
		2105	BO				49°49.64	127°15.98		50					BOT@10m SAL/CHL/NUTS
		2107	EN				49°49.66	127°15.98							
		2110	BE	NET		175	49°49.65	127°15.96	55	45					BONGO
		2125	BE	TRAWL		176	49°50.10	127°17.15							TRAWL

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

Notes: _____

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

Produced by the Water Properties Group, IOS

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Version: 06 March 2008

This page is for any notes or observations

IVI10: Transducer flashed between 217 - 240m, so only went to 215m to be safe(r)!

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W E RICKER **Cruise ID** 2009 46

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
19	VI16	2245	BE	CTD		177	49°54.11	127°29.57	70			1	MT		T:10.66 S:31.54
		2247	BO				49°54.14	127°29.60		60					BOT@10m: SAL/CHL/NUTS
		2249	EN				49°54.19	127°29.64							
		2252	BE	NET		178	49°54.25	127°29.68	68	58					BONGO
		2307	BE	TRAWL		179	49°54.88	127°31.08							TRAWL
20	VI17	0121	BE	CTD		180	50°00.77	127°47.14	110			1			T:10.92 S:31.59
		0124	BO				50°00.79	127°47.17		100					BOT@10m: SAL/CHL/NUTS
		0126	EN				50°00.82	127°47.21							
		0110	BE	NET		181	50°00.65	127°46.97	112	102					BONGO
		0034	BE	TRAWL		182	49°59.77	127°43.63							TRAWL
20	IVI11	1424	BE	CTD		183	50°31.37	127°40.31	122			1		✓	T:10.14 S:31.41
		1426	BO				50°31.39	127°40.31		110					BOT@10m: SAL/CHL/NUTS
		1429	EN				50°31.40	127°40.29							
		1432	BE	NET		184	50°31.41	127°40.29	116	106					BONGO
		1450	BE	TRAWL		185	50°30.49	127°41.34							TRAWL

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

VI17: Due to time constraints, station ops were conducted in reverse order (trawl, bongo, CTD). Consecutive numbers were <u>not</u> changed.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W E RICKER **Cruise ID** 2009 46

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
20	IVI12	1641	BE	CTD		186	50°34.05	127°33.91	122			1	MT		T: 10.89 S: 29.93
		1643	BO				50°34.07	127°33.94		115					BOT@10m: SAL/CHL/NUTS
		1646	EN				50°34.07	127°33.93							
		1649	BE	NET		187	50°34.06	127°33.89	123	113					BONGO
		1707	BE	TRAWL		188	50°34.51	127°35.18							TRAWL
20	IVI13	1811	BE	CTD		189	50°35.64	127°44.22	70			1			T: 11.22 S: 27.77
		1812	BO				50°35.64	127°44.24		60					BOT@10m: SAL/CHL/NUTS
		1814	EN				50°35.64	127°44.26							
		1818	BE	NET		190	50°35.65	127°44.28	68	58					BONGO
		1839	BE	TRAWL		191	50°35.62	127°43.34							TRAWL
20	IVI14	2008	BE	CTD		192	50°35.06	127°29.99	65			1			T: 10.80 S: 31.16
		2009	BO				50°35.08	127°29.98		55					BOT@10m: SAL/CHL/NUTS
		2011	EN				50°35.10	127°29.97							
		2015	BE	NET		193	50°35.12	127°29.94	63	53					BONGO
		2030	BE	TRAWL		194	50°34.72	127°30.76							TRAWL

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: _____

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Version: 06 March 2008

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W E RICKER **Cruise ID** 2009 46

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
20	IVI15	2256	BE	CTD		195	50°30.86	127°36.47	115			1	MT		T: 10.54 S: 30.89
		2259	BO				50°30.86	127°36.45		105					BOT@10m: SAL/CHL/NUTS
		2301	EN				50°30.86	127°36.45							
		2307	BE	NET		196	50°30.88	127°36.50	116	106					BONGO
		2324	BE	TRAWL		197	50°30.44	127°35.77							TRAWL
21	IVI16	1409	BE	CTD		198	50°23.73	127°28.99	105			1		✓	T: 10.69 S: 31.37
		1411	BO				50°23.74	127°28.97		95					BOT@10m: SAL/CHL/NUTS
		1413	EN				50°23.75	127°28.95							
		1416	BE	NET		199	50°23.77	127°28.94	107	97					BONGO
		1435	BE	TRAWL		200	50°24.41	127°29.52							TRAWL
21	IVI17	1641	BE	CTD		201	50°28.73	127°47.15	130			1			T: 10.08 S: 30.75
		1643	BO				50°28.74	127°47.14		120					BOT@10m: SAL/CHL/NUTS
		1645	EN				50°28.75	127°47.14							
		1650	BE	NET		202	50°28.73	127°47.16	127	117					BONGO
		1708	BE	TRAWL		203	50°28.73	127°48.36							TRAWL

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

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Version: 06 March 2008

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** WE RICKER **Cruise ID** 2009 46

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
21	IVI18	1759	BE	CTD		204	50°28.26	127°53.16	157			1	MT		T: 10.22 S: 30.92
		1802	BO				50°28.22	127°53.17		150					BOT@10m: SAL/CHL/NUTS
		1805	EN				50°28.18	127°53.16							
		1808	BE	NET		205	50°28.15	127°53.13	195	150					BONGO
		1928	BE	TRAWL		206	50°28.29	127°54.12							TRAWL
21	IVI19	1920	BE	CTD		207	50°28.06	127°57.07	174			1			T: 10.48 S: 31.48
		1924	BO				50°28.03	127°57.06		165					BOT@10m: SAL/CHL/NUTS
		1927	EN				50°28.03	127°57.04							
		1930	BE	NET		208	50°28.04	127°57.05	196	150					BONGO
		1952	BE	TRAWL		209	50°27.40	127°57.08							TRAWL
21	VI18	2107	BE	CTD		210	50°25.26	128°03.19	68			1			T: 10.64 S: 32.03
		2109	BO				50°25.26	128°03.22		60					BOT@10m: SAL/CHL/NUTS
		2110	EN				50°25.26	128°03.24							
		2113	BE	NET		211	50°25.25	128°03.32	67	57					BONGO
		2132	BE	TRAWL		212	50°25.34	128°04.84							TRAWL
															... cont'd...

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

Notes: _____

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

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Version: 06 March 2008

DAILY SCIENCE LOG BOOK

MISSION NUMBER 2009-46

DATE: From: 08 OCT 09 to: 17 NOV 09

VESSEL: W.E. RICKER

PROJECT(S): HIGH SEAS SALMON (TRUDEL)

(BOOK 2)

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

WaterProperties.ca

Captain: ANDY QUAYE
First Officer: ROGER WILLIAMS
Second Officer: MORGAN
Third Officer:
Fishing Master:

Mission Participants / Agencies: PBS / IOS / UVIC

Scientific Personnel: Chief Scientist: JOHN MORRIS

Name	Watch	Cabin	Name	Watch	Cabin
TYLER ZUBKOWSKI					
YEONGHA JUNG					
HUGH MACLEAN					
ED HAMMIL					
ERIKA					

Second leg of Mission: Chief Scientist:

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: PAC 02328
Data acquisition program: VT
CTD deck unit make: SBE model: 11 serial number: 0471

Primary CTD
Make: SBE model: 9 serial number: 585
Primary temperature serial number: 4054
Primary conductivity serial number: 3321
Secondary temperature serial number: 4700
Secondary conductivity serial number: 1766
Transmissometer: WETLAB Model: s/n: 983 DR
Fluorometer: Model SEAPOINT Cable gain: 10X0.15 s/n: 2228 **P, S or NO pump?**
Oxygen sensor: SBE Model: 4 s/n: 0997 **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):

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER | **Year** 2009 | **Ship** W E RICKER | **Cruise ID** 2009 46

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
21	VI 19	2244	BE	CTD		213	50°28.56	128°15.28	81			1	MT		T: 10.77 S: 32.14
		2245	BO				50°28.56	128°15.32		70					BOT@10m: SAL/CHL/NUTS
		2247	EN				50°28.57	128°15.35							
		2250	BE	NET		214	50°28.61	128°15.41	75	65					BONGO
		2310	BE	TRAWL		215	50°28.80	128°17.19							TRAWL
22	VI20	0142	BE	CTD		216	50°32.86	128°35.32	192			1			T: 10.69 S: 31.97
		0147	BO				50°32.89	128°35.27		180					BOT@10m: SAL/CHL/NUTS
		0151	EN				50°32.95	128°35.28							
		0123	BE	NET		217	50°32.74	128°35.42	195	150					BONGO
		0038	BE	TRAWL		218	50°31.57	128°31.97							TRAWL
22	QCST01	1407	BE	CTD		219	50°48.22	127°23.31	238			1		✓	T: 8.86 S: 31.49
		1412	BO				50°48.22	127°23.34		230					BOT@10m: SAL/CHL/NUTS
		1416	EN				50°48.23	127°23.35							
		1420	BE	NET		220	50°48.26	127°23.32	242	150					BONGO
		1440	BE	TRAWL		221	50°48.04	127°22.50							TRAWL

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

VI20: Due to time constraints, station ops were conducted in reverse order (trawl, bongo, CTD).
Event numbers were not changed

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W E RICKER **Cruise ID** 2009 46

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	QCST02	1614	BE	CTD		222	50°44.85	127°09.54	166			1	MT		T: 8.72 S: 31.76
		1617	BO				50°44.89	127°09.51		160					BOT@10m: SAL/CHL/NUTS
		1620	EN				50°44.91	127°09.44							
		1624	BE	NET		223	50°44.93	127°09.42	164	150					BONGO
		1645	BE	TRAWL		224	50°44.70	127°08.02							TRAWL
22	JS01	1936	BE	CTD		225	50°32.01	126°41.38	476			1			T: 9.13 S: 31.28
		1941	BO				50°32.08	126°41.46		250					BOT@10m: SAL/CHL/NUTS
		1946	EN				50°32.13	126°41.51							
		1950	BE	NET		226	50°32.19	126°41.58	490	150					BONGO
		2010	BE	TRAWL		227	50°32.13	126°40.85							TRAWL
31	QCST 03	1437	BE	CTD		228	50° 36.57	126° 46.06	142			1	H.M		T: 8.68 S: 31.34
		1440	BO				50° 36.57	126° 46.08		130					BOT@10m: SAL/CHL/NUTS
		1443	EN				50° 36.57	126° 46.15						X	RECORDED UP CAST ONLY
		1446	BE	NET		229	50° 36.56	126° 46.18		131					BONGO
		1507	BE	TRAWL		230	50° 37.42	126 47.21							TRAWL

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

Notes: _____

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23-30 OCT 09: CCG Training week break.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2009 **Ship** W.E. RICHER **Cruise ID** 2009-46

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
31	QCST 04	1639	BE	CTD		231	50° 45.87	126° 55.27	115			1	H.M.		T: 8.54 S: 30.75
		1641	BO				50° 45.86	126° 55.28		105					BOT@10m. SAL/CHL/NUTS
		1644	EN				50° 45.83	126° 55.35							
		1648	BE	NET		232	50° 45.80	126° 55.37		111					BONGO
		1708	BE	TRAWL		233	50 45 49	126 56.63							TRAWL
31	QCST 05	1852	BE	CTD		234	50° 48.78	127° 06.32	152			1			T: 8.52 S: 30.42
		1855	BO				50° 48.76	127° 06.32		140					BOT@10m. SAL/CHL/NUTS
		1859	EN				50° 48.74	127° 06.33							
		1902	BE	NET		235	50° 48.71	127° 06.33		145					BONGO
		1925	BE	TRAWL		236	50 49.20	127 07.62							TRAWL
31	QCST 06	2045	BE	CTD		237	50° 49.98	127° 20.43	142			1			T: 8.69 S: 31.56
		2048	BO				50° 49.96	127° 20.42		130					BOT@10m. SAL/CHL NUTS
		2051	EN				50° 49.95	127° 20.43							
		2055	BE	NET		238	50° 49.93	127° 20.44							BONGO
		2116	BE	TRAWL		239	50 49.95	127 21.78							TRAWL

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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
31	QCST 07	22:26	BE	CTD		240	50°52.11	127° 33.21	~~190~~			1	H.M.		T: 9.77 S: 31.77
		2229	BO				50°52.08	127° 33.26	137	130					BOT@10m. SAL/CHL/NUTS
		2232	EN				50°52.08	127° 33.28		142					
		2236	BE	NET		241	50°52.11	127° 33.28							BONGO
		2257	BE	TRAWL		242	50 52 51	127 34.35							TRAWL
01	QCST 08	0138	BE	CTD	3rd	243	50°59.87	127° 48.55	129			1			T: 10.20 S: 32.13
		0140	BO				50°59.91	127° 48.61		120					BOT@10m. SAL/CHL/NUTS
		0144	EN				50°59.96	127° 48.66							
		0121	BE	NET	2nd	244	50°59.70	127° 48.10	152	142					BONGO
		0034	BE	TRAWL	1st	245	50 57 85	127 43.83							TRAWL
01	T7	1508	BE	CTD		246	50°51.20	129° 13.07	75			1			T: 10.53 S: 32.09
		1509	BO				50°51.30	129° 13.04		65					BOT@10m. SAL/CHL/NUTS
		1511	EN				50°51.38	129° 13.02							
		1518	BE	NET		247	50°51.73	129° 12.82		64					BONGO
		1542	BE	TRAWL		248	50 53 15	129 10.99							TRAWL

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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
01	T 06	1647	BE	CTD		249	50° 55.84	129° 00.43	58			1	H.M.		T: 10.80 S: 32.18
		1649	BO				50° 55.86	129° 00.35		50					BOT@10m: SAL/CHL/NUTS
		1650	EN				50° 55.86	129° 00.25							
		1654	BE	NET		250	50° 55.88	129° 00.11							BONGO
		1712	BE	TRAWL		251	50 56 34	128 58.60							TRAWL
01	T 05	1812	BE	CTD		252	51° 00.05	128° 51.84	60			1			T: 10.44 S: 32.18
		1813	BO				51° 00.11	129° 51.76		50					BOT@10m: SAL/CHL/NUTS
		1815	EN				51° 00.13	128° 51.70							
		1820	BE	NET		253	51° 00.10	129° 51.52		50					BONGO
		1837	BE	TRAWL		254	51 00.38	128 50.45							TRAWL
01	T 04	2002	BE	CTD		255	51° 04.24	128° 42.96	64			1			T: 10.47 S: 32.18
		2004	BO				51° 04.23	128° 42.95		55					BOT@10m: SAL/CHL/NUTS
		2007	EN				51° 04.21	128° 42.88							
		2009	BE	NET		256	51° 04.20	128° 42.90		55					
		2028	BE	TRAWL		257	51 04.23	128 42.22							TRAWL

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WaterProperties.ca
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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
01	T 01	2305	BE	CTD		258	51° 18.02	128° 23.34	92			1	H.M.		T: 10.58 S: 32.20
		2306	BO				51° 18.03	128° 23.32		~~80~~ 27					~~BOTTLES SAL/CHL/NUT~~
		2307	EN				51° 18.03	128° 23.34		CAST - CANCELLED					→
		23	BE	NET		259				BONGO - CANCELLED					BONGO
		2321	BE	TRAWL		260	51 18.86	128 23.58							TRAWL
02	IBC 01	1506	BE	CTD		261	51° 26.27	127° 47.17	132			1			T: 9.05 S: 25.02
		1508	BO				51° 26.24	127° 47.25		120					BOTTLES SAL/CHL/NUTS
		1511	EN				51° 26.27	127° 47.36							
		1514	BE	NET		262	51° 26.31	127° 47.43		NO	BONGO			*	BONGO →
		1530	BE	TRAWL		263	51 27.16	127 48.25							TRAWL
02	IBC 02	1637	BE	CTD		264	51° 34.04	127° 52.53	209			1			T: 9.20 S: 27.46
		1641	BO				51° 34.13	127° 52.56							BOTTLES SAL/CHL/NUTS
		1646	EN				51° 34.22	127° 52.57							
		1711	BE	NET		265	51° 34.33	127° 52.55						*	BONGO →
		1731	BE	TRAWL		266	51 35.38	127 53.49							TRAWL

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Version: 06 March 2008

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— T01 - CAST CANCELLED AFTER 30m DUE TO WEATHER - NO SAMPLES

* 1BC 01 - NO BONGO - WINCH COUNTER SHORTED OUT

* 1BC 02 - WINCH COUNTERS SWITCHED FROM CTD WINCH TO BONGO, 20min TIME LAPSE

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02	IBC 03	18.30	BE	CTD		267	51°41.22	127°56.07	320			1	H.M.		T: 9.00 S: 23.92
		1835	BO				51°41.26	127°56.02		250					BOT@10m. SAL/CHL/NUTS
		1841	EN				51°41.27	127°55.97							
		1844	BE	NET		268	51°41.31	127°55.92		150					BONGO
		1905	BE	TRAWL		269	51 42.55	127 56.16							TRAWL
02	IBC 04	2028	BE	CTD		270	51° 52.45	127° 55.38	303			1			T: 9.16 S: 28.20
		2033	BO				51° 52.47	127° 55.33		250					BOT@10m. SAL/CHL/NUTS
		2038	EN				51° 52.44	127° 55.26							
		2041	BE	NET		271	51° 52.43	127° 55.24		150					BONGO
		2103	BE	TRAWL		272	51 53.35	127 55.05							TRAWL
02	IBC 05	2216	BE	CTD		273	52° 00.83	127° 54.62	161			1			T: 9.07 S: 29.02
		2219	BO				52° 00.81	127° 54.61		150					BOT@10m. SAL/CHL/NUTS
		2223	EN				52° 00.72	127° 54.63							
		2227	BE	NET		274	52° 00.72	127° 54.72		147					BONGO
		2247	BE	TRAWL		275	52 01.46	127 54.49							TRAWL

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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
02	IBC 06	2350	BE	CTD		276	52° 06.54	127° 53.56	~~150~~			1	H.M.		T: 8.63 S: 22.90
		2354	BO				52° 06.48	127° 53.64	141	130					BOTTLE ON. SAL/CHL/NUTS
		2357	EN				52° 06.43	127° 53.70							
03		0000	BE	NET		277	52° 06.38	127° 53.77		120					BONGO
		0020	BE	TRAWL		278	52 05.94	127 54.27							TRAWL
03	H 07	1502	BE	CTD		279	52° 31.74	130° 44.18	129			1			T: 10.16 S: 32.00
		1505	BO				52° 31.72	130° 44.19		120					BOTTLE ON. SAL/CHL/NUTS
		1508	EN				52° 31.70	130° 44.17							
		1511	BE	NET		280	52° 31.67	130° 44.14	135	125					BONGO
		1532	BE	TRAWL		281	52 31 39	130 42.91							TRAWL
03	H 06	1702	BE	CTD		282	52° 28.90	130° 28.96	168			1			T: 10.28 S: 32.08
		1705	BO				52° 28.90	130° 28.94		155					BOTTLE ON. SAL/CHL/NUTS
		1709	EN				52° 28.91	130° 28.92							
		1712	BE	NET		283	52° 28.89	130° 28.89		150					BONGO
		1733	BE	TRAWL		284	52 28.75	130 27 58							TRAWL

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03	H 05	1854	BE	CTD		285	52° 26. 21	130° 13. 82	314			1	H.M.		T: 10.05 S: 32.14
		1900	BO				52° 26. 22	130° 13. 78		250					BOT@10m. SAL/CHL/NUTS
		1905	EN				52° 26. 26	130° 13. 76							
		1908	BE	NET		286	52° 26. 29	130° 13. 75		150					BONGO
		1929	BE	TRAWL		287	52 26. 10	130 12. 50.							TRAWL
03	H 04	2104	BE	CTD		288	52° 22. 30	129° 58. 11	212			1			T: 10.08 S: 31.81
		2109	BO				52° 22. 30	129° 58. 11		200					BOT@10m. SAL/CHL/NUTS
		2113	EN				52° 22. 25	129° 58. 19							
		2116	BE	NET		289	52° 22. 22	129° 58. 25		150					BONGO
		2140	BE	TRAWL		290	52 21 79	129 57. 43							TRAWL
03	H 03	2308	BE	CTD		291	52° 18. 97	129° 42. 04	203			1			T: 10.11 S: 32.09
		2312	BO				52° 18. 95	129° 41. 97		190					BOT@10m. SAL/CHL/NUTS
		2316	EN				52° 18. 94	129° 41. 92							
		2320	BE	NET		292	52° 18. 92	129° 41. 86		150					BONGO
		2342	BE	TRAWL		293	52 18. 68	129 40. 58							TRAWL

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04	H 02	0230	BE	CTD	3RD	294	52° 16.11	129° 22.80	140			1	H.M.		T: 10.15 S: 31.76
		0233	BO				52° 16.17	129° 22.87		135					BOT@10m - SAL/CHL/NUTS
		0236	EN				52° 16.23	129° 22.94							
		0216	BE	NET	2ND	295	52° 15.89	129° 22.56		129					BONGO
		0131	BE	TRAWL	1ST	296	52 16.30	129 26 44.							TRAWL
04	IBC 07	1505	BE	CTD		297	53° 50.05	128° 48.01	316			1			T: 6.78 S: 15.70
		1510	BO				53° 50.09	128° 48.00		250					BOT@10m. SAL/CHL/NUTS
		1516	EN				53° 50.13	128° 47.99							
		1519	BE	NET		298	53° 50.17	128° 47.98							BONGO
		1540	BE	TRAWL		299	53 50.71	128 47.55.							TRAWL
04	IBC 08	1705	BE	CTD		300	53° 57.81	128° 40.77	168			1			T: 7.20 S: 22.05
		1709	BO				53° 57.82	128° 40.79		160					BOT@10m. SAL/CHL/NUTS
		1712	EN				53° 57.80	128° 40.81							
		1716	BE	NET		301	53° 57.80	128° 40.83		150					BONGO
		1737	BE	TRAWL		302	53 57.03	128 41.55.							TRAWL

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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
04	IBC 09	1924	BE	CTD		303	53° 46.27	128° 50.12	320			1	H.M.		T: 6.38 S: 15.72
		1929	BO				53° 46.29	128° 50.15		250					BOTTOM: SAL/CHL/NUTS
		1934	EN				53° 46.27	128° 50.14							
		1943	BE	NET		304	53° 46.30	128° 50.26							BONGO
		2007	BE	TRAWL		305	53 45 36	128 49.78							TRAWL
04	IBC 10	2148	BE	CTD		306	53° 34.16	128° 50.91	157			1			T: 6.15 S: 16.01
		2151	BO				53° 34.11	128° 50.84		145					BOTTOM: SAL/CHL/NUTS
		2154	EN				53° 34.08	128° 50.92							
		2157	BE	NET		307	53° 34.10	128° 50.90							BONGO
		2222	BE	TRAWL		308	53 33.58	128 51.49							TRAWL
04	IBC 11	2353	BE	CTD		309	53°26.42	128° 56.59	317			1			T: 7.93 S: 25.99
		2358	BO				53° 26.37	128° 56.54		250					BOTTOM: SAL/CHL/NUTS
05		0003	EN				53° 26.33	128° 56.49							
		0007	BE	NET		310	53° 26.29	128° 56.46		150					BONGO
		0029	BE	TRAWL		311	53 25 33	128 55.17							TRAWL

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

Notes: _____

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Version: 06 March 2008

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month NOVEMBER **Year** 2009 **Ship** W.E. RICHER **Cruise ID** 2009-46

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
05	IBC 12	1503	BE	CTD		312	53° 37.35	129° 12.29	310			1	H.M.		T: 6.94 S: 20.40
		1508	BO				53° 37.41	129° 12.31		250					BOT@10m - SAL/CHL/NUTS
		1514	EN				53° 37.47	129° 12.31							
		1519	BE	NET		313	53° 37.61	129° 12.25		150					BONGO
		1542	BE	TRAWL		314	53 36 84	129 12.27							TRAWL
05	IBC 13	1720	BE	CTD		315	53°26.69	129° 12.03	372			1			T: 7.15 S: 21.27
		1725	BO				53° 26.70	129° 12.03		250					BOT@10m - SAL/CHL/NUTS
		1730	EN				53° 26.69	129° 12.01							
		1733	BE	NET		316	53° 26.70	129° 12.01		150					BONGO
		1756	BE	TRAWL		317	53 25 99	129 11.74							TRAWL
05	IBC 14	1924	BE	CTD		318	53° 21.47	129° 18.69	419			1			T: 8.32 S: 26.23
		1929	BO				53° 21.51	129° 18.61		250					BOT@10m - SAL/CHL/NUTS
		1946	EN				53° 21.70	129° 18.63							
		19	BE	NET		319	53° 21.	129° 18.							BONGO
		2010	BE	TRAWL		320	53 21.29	129 18.56							TRAWL

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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
05	IBC 15	21:27	BE	CTD		321	53°16.63	129°25.67	509			1	H.M.		T: 8.72 S: 27.43
		21 32	BO				53° 16.61	129° 25.60		250					BOT@10m - SAL/CHL/NUTS
		21 38	EN				53° 16.64	129° 25.53							
		21 43	BE	NET		322	53° 16.48	129° 25.50							BONGO
		22 06	BE	TRAWL		323	53 15.99	129 26.04							TRAWL
05	IBC 16	2326	BE	CTD		324	53°11.72	129° 37.17	210			1			T: 9.06 S: 29.17
		2330	BO				53° 11.74	129° 37.17		200					BOT@10m - SAL/CHL/NUTS
		2334	EN				53° 11.74	129° 37.16							
		2337	BE	NET		325	53° 11.72	129° 37.15		150					BONGO
		2357	BE	TRAWL		326	53 12.27	129 38 32							TRAWL
06	IBC 17	0153	BE	CTD	3RD	327	53° 18.66	129° 47.20	119			1			T: 9.12 S: 30.19
		0156	BO				53° 18.65	129° 47.17		110					BOT@10m - SAL/CHL/NUTS
		0158	EN				53° 18.65	129° 47.14							
		0141	BE	NET	2ND	328	53° 18.68	129° 47.28	127	117					BONGO
		00.56	BE	TRAWL	1ST	329	53 16 79	129 44.42							TRAWL

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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
06	IBC 18	1501	BG	CTD		330	53° 31.13	130° 02.49	127			1	H.M.		T: 8.89 S: 29.94
		1504	BO				53° 31.09	130° 02.51		115					BOTTOM SAL/CHL/NUTS
		1507	EN				53° 31.09	130° 02.51							
		1510	BG	NET		331	53° 31.05	130° 02.48							BONGO
		1531	BE	TRAWL		332	53 31 19	130 03.65							TRAWL
06	IBC 19	1657	BG	CTD		333	53° 36.09	130° 18.73	308			1			T: 8.91 S: 30.27
		1702	BO				53° 36.08	130° 18.72		250					BOTTOM SAL/CHL/NUTS
		1707	EN				53° 36.07	130° 18.70							
		1711	BG	NET		334	53° 36.09	130° 18.69							BONGO
		1734	BE	TRAWL		335	53 36 44	130 19.60							TRAWL
06	IBC 20	1857	BG	CTD		336	53° 43.06	130° 33.05	66			1			T: 9.14 S: 31.12
		1859	BO				53° 43 05	130° 33.05		60					BOTTOM SAL/CHL/NUTS
		1900	EN				53° 43 05	130° 33.05							
		1903	BG	NET		337	53° 43 05	130° 33.04							BONGO
		1918	BE	TRAWL		338	53 43 62	130 34.02							TRAWL

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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
06	IBC 21	20 36	BE	CTD		339	53° 49.14	130° 47.36	105			1	H.M.		T: 9.98 S: 34.94
		20 38	BO				53° 49.20	130° 47.33		95					BOT@10m - SAL/CHL/NUTS
		20 41	EN				53° 49.23	130° 47.32							
		20 44	BE	NET		340	53° 49.27	130° 47.29		90					BONGO
		21 04	BE	TRAWL		341	53 50 19	130 48 31							TRAWL
06	IBC 22	22 24	BE	CTD		342	53° 56.66	131° 00.39	85			1			T: 10.06 S: 32.05
		22 26	BO				53° 56.69	131° 00.35		75					BOT@10m - SAL/CHL/NUTS
		22 28	EN				53° 56.74	131° 00.31							
		22 33	BE	NET		343	53° 56.78	131° 00.26		71					BONGO
		22 50	BE	TRAWL		344	53 57.73	131 00.91							TRAWL
07	HS 01	00 07	BE	CTD		345	54° 06.06	131° 01.56	103			1			T: 9.79 S: 32.08
		00 09	BO				54° 06.11	131° 01.49		95					BOT@10m - SAL/CHL/NUTS
		00 11	EN				54° 06.15	131° 01.41							
		00 14	BE	NET		346	54° 06.16	131° 01.36							BONGO
		00 35	BE	TRAWL		347	54 07.41	131 01.1[illegible]							TRAWL

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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
07	IBC 23	1504	BE	CTD		348	55° 13.00	129° 52.05	505			1	H.M.		T: 7.12 S: 27.46
		1509	BO				55° 13.04	129° 52.08		250					Bottom SAL/CHL/NUTS
		1514	EN				55° 13.07	129° 52.06							
		1518	BE	NET		349	55° 13.10	129° 52.05							BONGO
		1540	BE	TRAWL		350	55 12.29	129 52.23							TRAWL
07	IBC 24	1644	BE	CTD		351	55° 07.14	129° 57.03	406			1			T: 7.47 S: 27.61
		1649	BO				55° 07.12	129° 57.05		250					Bottom SAL/CHL/NUTS
		1654	EN				55° 07.09	129° 57.07							
		1657	BE	NET		352	55° 07.09	129° 57.08							BONGO
		1716	BE	TRAWL		353	55 06.40	129 57.73							TRAWL
07	IBC 25	1822	BE	CTD		354	55° 00.50	130° 00.79	129			1			T: 7.36 S: 26.63
		1825	BO				55° 00.48	130° 00.78		120					Bottom SAL/NUTS/CHL
		1827	EN				55° 00.46	130° 00.78							
		1830	BE	NET		355	55° 00.44	130° 00.81							BONGO
		1851	BE	TRAWL		356	54 59.78	130 01.51							TRAWL

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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
07	IBC 26	2019	BE	CTD		357	54°51.47	130° 11.27	422			1	H.M.		T: 7.51 S: 27.15
		2024	BO				54° 51.46	130° 11.33		250					BOT@10m - SAL/CHL/NUTS
		2029	EN				54° 51.47	130° 11.35							
		2032	BE	NET		358	54° 51.46	130° 11.37		150					BONGO
		2051	BE	TRAWL		359	54 50.77	130 12.17.							TRAWL
07	IBC 27	2204	BE	CTD		360	54°45.96	130° 20.96	485			1			T: 8.55 S: 29.15
		2210	BO				54° 46.02	130° 20.93		250					BOT@10m - SAL/CHL/NUTS
		2215	EN				54° 46.07	130° 20.90							
		2218	BE	NET		361	54° 46.14	130° 20.87		150					BONGO
		22 42	BE	TRAWL		362	54 45 59	130 21.90.							TRAWL
08	IBC 28	0000	BE	CTD		363	54° 39.71	130° 28.45	395			1			T: 9.04 S: 29.28
		0005	BO				54° 39.80	130° 28.36		250					BOT@10m - SAL/CHL/NUTS
		0010	EN				54° 39.82	130° 28.26							
		0013	BE	NET		364	54° 39.81	130° 28.27		150					BONGO
		0036	BE	TRAWL		365	54 39 34	130 28.64.							TRAWL

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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
08	IBC 29	1506	BE	CTD		366	54°34.93	130°29.84	137			1	H.M.		T: 8.76 S: 29.44
		1509	BO				54°34.92	130°29.81		125					BOT@10m - SAL/CHL/NUTS
		1512	EN				54°34.91	130°29.73							
		1515	BE	NET		367	54°34.87	130°29.70		124					BONGO
		1538	BE	TRAWL		368	54 33.92	130 30.76							TRAWL
08	IBC 30	1704	BE	CTD		369	54°26.48	130°32.99	124			1			T: 8.70 S: 28.91
		1706	BO				54°26.52	130°32.92		115					BOT@10m - SAL/CHL/NUTS
		1709	EN				54°26.53	130°32.88							
		1713	BE	NET		370	54°26.52	130°32.80							BONGO
		1731	BE	TRAWL		371	54 26.47	130 33.03							TRAWL
08	IBC 31	1844	BE	CTD		372	54°21.86	130°39.80	117			1			T: 9.65 S: 31.83
		1846	BO				54°21.88	130°39.78		105					BOT@10m - SAL/CHL/NUTS
		1849	EN				54°21.92	130°39.74							
		1852	BE	NET		373	54°21.96	130°39.65		113					BONGO
		1917	BE	TRAWL		374	54 21.30	130 39.66							TRAWL

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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
08	IBC 32	2033	BE	CTD		375	54° 15.11	130° 44.23	142			1	H.M.		T: 9.70 S: 31.84
		2036	BO				54° 15.13	130° 44.20		130					BOTTLE @ SAL/CHL/NUTS
		2038	EN				54° 15.18	130° 44.12							
		2041	BE	NET		376	54° 15.20	130° 44.07		136					BONGO
		2059	BE	TRAWL		377	54 14.47	130 43.30							TRAWL
09	IBC 33	2227	BE	CTD		378	54° 10.54	130° 30.71	99			1			T: 9.62 S: 31.57
		2236	BO				54° 10.56	130° 30.64		90					BOTTLE @ SAL/CHL/NUTS
		2232	EN				54° 10.58	130° 30.57							
		2234	BE	NET		379	54° 10.61	130° 30.49							BONGO
		2252	BE	TRAWL		380	54 10.98	130 29.27							TRAWL
11	LSGA 01	1452	BE	CTD		381	54° 57.53	131° 54.46	479			1			T: 9.00 S: 30.94
		1457	BO				54° 57.58	131° 54.42		250					BOTTLE @ SAL/CHL/NUTS
		1502	EN				54° 57.64	131° 54.40							
		1509	BE	NET		382	54° 57.78	131° 54.33		150					BONGO
		1537	BE	TRAWL		383	54 58.04	131 54.92							TRAWL

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WaterProperties.ca
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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
11	ISEA 02	1658	BE	CTD		384	55°05.94	131° 56.28	330			1	H.M.		T: 8.59 S: 30.00
		1702	BO				55°05.99	131° 56.30		250					BOT@10m. SAL/CHL/NUTS
		1711	EH				55°06.03	131° 56.41							
		1714	BE	NET		385	55° 06.05	131° 56.45		150					BONGO
		1734	BE	TRAWL		386	55 06.97	131 56.72							TRAWL
11	ISEA 03	1856	BE	CTD		387	55°14.77	131° 56.54	329			1			T: 8.56 S: 30.21
		1900	BO				55° 14.67	131° 56.42		250					BOT@10m. SAL/CHL/NUTS
		1908	EH				55° 14.57	131° 56.37							
		1913	BE	NET		388	55° 14.41	131° 56.31		150					BONGO
		2002	BE	TRAWL		389	55 14.73	131 56.52							TRAWL
11	ISEA 04	2123	BE	CTD		390	55°21.74	132° 00.83	400			1			T: 8.33 S: 29.88
		2127	BO				55° 21.70	132° 00.71		250					BOT@10m. SAL/CHL/NUTS
		2133	EH				55° 21.67	132° 00.61							
		2137	BE	NET		391	55° 21.64	132° 00.49							BONGO
		2158	BE	TRAWL		392	55 22.07	132 00.36							TRAWL

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WaterProperties.ca
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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
11	ISEA 05	2311	BE	CTD		393	55°30.83	132° 02.72	210			1	H.M		T: 8.27 S: 27.95
		2314	BO				55°30.85	132° 02.71		200					BOTEION. SAL/CHL/NUTS
		2318	EN				55°30.87	132° 02.74							
		2324	BE	NET		394	55°30.90	132° 02.78		150					BONGO
		2343	BE	TRAWL		395	55 31.47	132 04.34							TRAWL
12	ISEA 06	0145	BE	CTD		396	55°36.66	132° 15.12	603			1			T: 8.30 S: 28.42
		0149	BO				55° 36.72	132° 15.07		250					BOTEION. SAL/CHL/NUTS
		0154	EN				55° 36.79	132° 15.05							
		0200	BE	NET		397	55° 36.78	132° 14.99		150					BONGO
		0031	BE	TRAWL		398	55 34.13	132 10.80							TRAWL
12	ISEA 07	1501	BE	CTD		399	55°58.31	132° 37.07	358			1			T: 8.34 S: 29.12
		1505	BO				55° 58.32	132° 37.01		250					BOTEION. SAL/CHL/NUTS
		1510	EN				55° 58.31	132° 36.91							
		1517	BE	NET		400	55° 58.31	132° 36.69		150					BONGO
		1547	BE	TRAWL		401	55 58.53	132 38.01							TRAWL

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DRF = Drifter
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Bottle Firing Method:
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Time Code:
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Notes: _____

Produced by the Water Properties Group, IOS

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Version: 06 March 2008

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month NOVEMBE **Year** 2009 **Ship** W.E. RICKER **Cruise ID** 2009-46

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
12	ISEA 08	1708	BE	CTD		402	56° 05.44	132° 44.02	186			1	H.M.		T: 8.04 S: 28.59
		1711	BO				56° 05.42	132° 43.95		175					BOT@10m · SAL/CHL/NUTS
		1715	EN				56° 05.42	132° 43.91							
		1720	BE	NET		403	56° 05.40	132° 43.87		150					BONGO
		1743	BE	TRAWL		404	56 06.26	132 44.30							TRAWL
12	ISEA 09	1904	BE	CTD		405	56° 13.93	132° 43.39	355			1			T: 8.18 S: 28.98
		1909	BO				56° 13.95	132° 43.40		250					BOT@10m · SAL/CHL/NUTS
		1914	EN				56° 13.97	132° 43.44							
		1918	BE	NET		406	56° 13.92	132° 43.52		150					BONGO
		2016	BE	TRAWL		407	56 14.74	132 42.07							TRAWL
12	ISEA 10	2216	BE	CTD		408	56° 21.12	132° 35.78	275			1			T: 8.30 S: 29.37
		2220	BO				56° 21.13	132° 35.80		250					BOT@10m · SAL/CHL/NUTS
		2225	EN				56° 21.13	132° 35.81							
		2229	BE	NET		409	56° 21.13	132° 35.81							BONGO
		2244	BE	TRAWL		410	56 22.34	132 35.38							TRAWL

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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
13	ISEA 11	0139	BE	CTD	3RD	411	56° 27.80	132° 48.75	117			1	H.M.		T: 7.56 S: 27.96
		0142	BO				56° 27.78	132° 48.80		110					BOT@10m · SAL/CHL/NUTS
		0144	EN				56° 27.76	132° 48.82							
		0148	BE	NET	2ND	412	56° 27.67	132° 48.98		115					BONGO
		0022	BE	TRAWL	1ST	413	56 29.07	132 42.03							TRAWL
13	ISEA 12	1512	BE	CTD		414	56° 29.53	132° 53.04	132			1			T: 7.36 S: 28.14
		1514	BO				56° 29.53	132° 53.05		120					BOT@10m · SAL/CHL/NUTS
		1517	EN				56° 29.52	132° 53.04							
		1520	BE	NET		415	56° 29.50	132° 53.01		121					BONGO
		1543	BE	TRAWL		416	56 29.42	132 53.94							TRAWL
13	ISEA 13	1659	BE	CTD		417	56° 26.60	133° 02.23	141			1			T: 7.46 S: 28.99
		1701	BO				56° 26.62	133° 02.06		130					BOT@10m · SAL/CHL/NUTS
		1704	EN				56° 26.67	133° 01.97							
		1707	BE	NET		418	56° 26.75	133° 01.90		140					BONGO
		1729	BE	TRAWL		419	56 26.42	133 02.10							TRAWL

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Month NOVEMBER **Year** 2009 **Ship** W.E. RICKER **Cruise ID** 2009-46

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
13	ISEA 14	1855	BE	CTD		420	56° 22.30	133° 17.30	~~232~~			1	H.M.		T: 7.64 S: 29.79
		1858	BO				56° 22.31	133° 17.46	24	195					BOTTOM - SAL/CHL/NUTS
		1902	EN				56° 22.33	133° 17.56							
		1906	BE	NET		421	56° 22.29	133° 17.64							BONGO
		1930	BE	TRAWL		422	56 22.23	133 19.20							TRAWL
13	ISEA 15	2040	BE	CTD		423	56 22.75	133° 32.71	424			1			T: 7.36 S: 29.53
		2044	BO				56° 22.74	133° 32.81		250					BOTTOM - SAL/CHL/NUTS
		2049	EN				56° 22.76	133° 32.93							
		2053	BE	NET		424	56° 22.78	133° 32.98		150					BONGO
		2115	BE	TRAWL		425	56 23.16	133 35.27							TRAWL
13	ISEA 16	2224	BE	CTD		426	56° 21.60	133° 46.13	~~250~~			1			T: 7.33 S: 29.60
		2229	BO				56° 21.49	133° 46.04	270	250					BOTTOM - SAL/CHL/NUTS
		2234	EN				56° 21.40	133° 45.96							
		2237	BE	NET		427	56° 21.31	133° 45.91		150					BONGO
		2301	BE	TRAWL		428	56 20.11	133 46.08							TRAWL

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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
14	ISCA 17	2221	BE	CTD		429	55° 14.00	131° 21.93	140			1			T: 7.95 S: 28.44
		2224	BO				55° 13.98	131° 21.96		130					BOT@10m: SAL/CHL/NUTS
		2227	EN				55° 13.94	131° 21.98							
		2230	BE	NET		430	55° 13.92	131° 22.01		135					BONGO
		2254	BE	TRAWL		431	55 13.46	131 20.54							TRAWL
15	ISCA 18	0136	BE	CTD		432	55° 13.48	131° 04.59	438			1			T: 7.86 S: 28.27
		0141	BO				55° 13.47	131° 04.50		250					BOT@10m: SAL/CHL/NUTS
		0146	EN				55° 13.45	131° 04.42							
		0149	BE	NET		433	55° 13.43	131° 04.31	306	150					BONGO
		0010	BE	TRAWL		434	55 11.07	131 08.29							TRAWL
15	ISCA 19	1503	BE	CTD		435	55° 58.30	131° 14.08	277			1			T. 7.06 S: 23.02
		1507	BO				55° 58.29	131° 14.05		250					BOT@10m: SAL/CHL/NUTS
		1511	EN				55° 58.27	131° 13.99							
		1514	BE	NET		436	55° 58.24	131° 13.96		150					BONGO
		1539	BE	TRAWL		437	55 57.56	131 12.91							TRAWL

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DAILY SCIENCE LOG BOOK

MISSION NUMBER 2009-46

DATE: From: 08 OCT 09 to: 17 NOV 09

VESSEL: W.E. RICKER

PROJECT(S): HIGH SEAS SALMON - TRUDEL

BOOK 3

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

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month NOVEMBER **Year** 2009 **Ship** W.E RICKER **Cruise ID** 2009-46

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
15	ISCA 20	1649	BE	CTD		438	55° 51.97	131° 05.40	562			1	H.M.		T: 7.38 S: 24.91
		1653	BO				55° 51.95	131° 05.34		250					BOT@10m · SAL/CHL/NUTS
		1658	EN				55° 51.94	131° 05.26							
		1701	BE	NET		439	55° 51.93	131° 05.14		150					BONGO
		1734	BE	TRAWL		440	55 51.24	131 04.34							TRAWL
15	ISCA 21	1848	BE	CTD		441	55° 43.99	130° 57.66	374			1			T: 7.12 S: 25.47
		1852	BO				55° 43.99	130° 57.68		250					BOT@10m · SAL/CHL/NUTS
		1857	EN				55° 44.02	130° 57.70							
		1902	BE	NET		442	55° 43.99	130° 57.71		150					BONGO
		1923	BE	TRAWL		443	55 43.41	130 57.67							TRAWL
15	ISCA 22	2038	BE	CTD		444	55° 35.98	130° 53.96	566			1			T: 7.48 S: 26.54
		2043	BO				55° 35.97	130° 53.92		250					BOT@10m · SAL/CHL/NUTS
		2048	EN				55° 35.97	130° 53.84							
		2051	BE	NET		445	55° 35.97	130° 53.83		150					BONGO
		2112	BE	TRAWL		446	55 35.18	130 54.12							TRAWL

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Notes: _____

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DAILY SCIENCE LOG

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Month NOVEMBER **Year** 2009 **Ship** W.E. RICKER **Cruise ID** 2009-46

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
15	ISEA 23	2222	BE	CTD		447	55° 28.90	130° 58.34	361			1	H.M.		T: 7.81 S: 27.47
		2227	BO				55° 28.85	130° 58.31		250					BOT@10m. SAL/CHL/NUTS
		2232	EN				55° 28.81	130° 58.28							
		2235	BE	NET		448	55° 28.79	130° 58.29		150					BONGO
		2255	BE	TRAWL		449	55 27.97	130 58.08							TRAWL
16	ISEA 24	0133	BE	CTD		450	55° 17.14	130° 58.09	230			1			T: 7.85 S: 28.40
		0137	BO				55° 17.11	130° 58.11	220	210					BOT@10m. SAL/CHL/NUTS
		0142	EN				55° 17.08	130° 58.14						*	ARCHIVE ON UPCAST
		0145	BE	NET		451	55° 17.07	130° 58.12		150					BONGO
		0017	BE	TRAWL		452	55 19 63	130 55 28							TRAWL
16	DE 06	1507	BE	CTD		453	54° 13.12	132° 54.75	73			1			T: 8.63 S: 31.78
		1508	BO				54° 13.13	132° 54.73		65					BOT@10m. SAL/CHL/NUTS
		1509	EN				54° 13.14	132° 54.72							
		1513	BE	NET		454	54° 13.14	132° 54.63		70					BONGO
		1536	BE	TRAWL		455	54 12.99	132 53.23							TRAWL

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This page is for any notes or observations

— ARCHIVE ON UPCAST ONLY — ISFA 24

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month NOVEMBER **Year** 2009 **Ship** W.E. RICKER **Cruise ID** 2009-46

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
16	DE 05	1634	BE	CTD		456	54° 11.02	132° 46.03	81			1	H.M		T: 8.66 S: 31.79
		1635	BO				54° 11.01	132° 45.95		70					BOT@10m · SAL/CHL/NUTS
		1637	EN				54° 11.00	132° 45.90							
		1642	BE	NET		457	54° 11.00	132° 45.72		70					BONGO
		1657	BE	TRAWL		458	54 10.92	132 43.99							TRAWL
16	DE 04	1807	BE	CTD		459	54° 08.72	132° 31.21	62			1			T: 8.66 S: 31.87
		1808	BO				54° 08.71	132° 31.17		50					BOT@10m · SAL/CHL/NUTS
		1809	EN				54° 08.71	132° 31.15							
		1812	BE	NET		460	54° 09.67	132° 31.03							BONGO
		1830	BE	TRAWL		461	54 08.66	132 28.92							TRAWL
16	DE 03	1947	BE	CTD		462	54° 10.15	132° 14.10	82			1			T: 8.55 S: 31.78
		1948	BO				54° 10.15	132° 14.03		70					BOT@10m · SAL/CHL/NUTS
		1950	EN				54° 10.16	132° 13.93							
		1955	BE	NET		463	54° 10.17	132° 13.80		70					BONGO
		2013	BE	TRAWL		464	54 10.33	132 11.86							TRAWL

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16	DE 02	2136	BE	CTD		465	54°09.96	131°56.12	71			1	H.M		T: 8.51 S: 31.70
		2137	BO				54°09.84	131°56.10		60					BOTTOM SAL/CHL/NUTS
		2139	EN				54°09.83	131°56.07							
		2142	BE	NET		466	54°09.78	131°56.02		60					BONGO
		2200	BE	TRAWL		467	54 10.05	131 54.13							TRAWL
16	DE 01	2325	BE	CTD		468	54°14.16	131°41.19	105			1			T: 7.96 S: 31.74
		2327	BO				54°14.13	131°41.23		95					BOTTOM SAL/CHL/NUTS
		2330	EN				54°14.11	131°41.23							
		2333	BE	NET		469	54°14.08	131°41.29		95					BONGO
		2354	BE	TRAWL		470	54 14.62	131 39.53							TRAWL
								END OF CRUISE							

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