

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 Ham

Mission Participants / Agencies: High Seas

[illegible]

Second leg of Mission:		Chief Scientist:		Fourth leg	
Name	Watch	Name	Watch	Name	Watch
John Morris		John Morris		John Morris	
Tyler Zubkowski		Tyler Zubkowski		Tyler Zubkowski	
Mary Thiess		Mary Thiess		Mary Thiess	
Yeongha Jung		Yeongha Jung		Yeongha Jung	
Marc Thudel		Hugh Macdonald		Hugh Macdonald	
Katrina		Jayne Hills		Jayne Hills	
		Merran Hagne		Merran Hagne	

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: 963 LR

Fluorometer: Model SEAPOINT Cable gain: 10x0.15 s/n: 2228 P S or NO pump?

Oxygen sensor: SEI Model: SR6 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: _____

Fluorometer: Model: _____ s/n: _____

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

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

Other sensors: _____ 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? _____

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

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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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
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
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:
UN = 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

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 06 March 2008

Notes:

G501: 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.

G504: Pump turned on after cast descent started (~75m)

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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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
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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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
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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 144m

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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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
09	GS09	18 12	BE	CTD		017	49°48.84	124° 42.86	154			1	MT		T:11.02 S: 28.54
		18 15	BO				49°48.85	124° 42.89		145					BOT@10m: SAL/CHL/NUTS
		18 18	EN				49°48.85	124° 42.89							
		18 22	BE	NET		018	49°48.84	124° 42.84	154	140					BONGO
09	GS10	19 18	BE	CTD		019	49°50.30	124° 34.15	189			1			T:12.06 S: 27.77
		19 21	BO				49°50.34	124° 34.14		175					BOT@10m: SAL/CHL/NUTS
		19 25	EN				49°50.37	124° 34.15							
		19 30	BE	NET		020	49°50.43	124° 34.17	176	150					BONGO
09	GS11	20 19	BE	CTD		021	49°46.23	124° 29.59	307			1			T:12.40 S: 27.95
		20 23	BO				49°46.24	124° 29.57		250					BOT@10m: SAL/CHL/NUTS
		20 28	EN				49°46.26	124° 29.57							
		20 32	BE	NET		022	49°46.26	124° 29.56	306	150					BONGO
09	GS12	21 28	BE	CTD		023	49°43.76	124° 21.01	307			1			T:12.40 S: 27.44
		21 32	BO				49°43.75	124° 20.95		250					BOT@10m: SAL/CHL/NUTS
		21 36	EN				49°43.76	124° 20.91							
		21 40	BE	NET		024	49°43.77	124° 20.87	309	150			V		BONGO

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Bottle Firing Method:
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GS10: Switched to using 'Start Archiving' command to start archiving data from this station onwards.

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Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
09	GS13	22 34	BE	CTD		025	49° 38.34	124° 14.31	333			1	MT		T: 12.73 S: 27.41
		22 38	BO				49° 38.30	124° 14.26		250					BOT@10m: SAL/CHL/NUTS
		22 43	EN				49° 38.27	124° 14.21							
		22 46	BE	NET		026	49° 38.24	124° 14.17	334	150					BONGO
09	GS14	23 40	BE	CTD		027	49° 33.57	124° 07.81	356			1			T: 12.60 S: 28.01
		23 45	BO				49° 33.56	124° 07.76		250					BOT@10m: SAL/CHL/NUTS
		23 49	EN				49° 33.59	124° 07.73							
		23 52	BE	NET		028	49° 34.00	124° 07.72	355	150					BONGO
10	GS15	14 18	BE	CTD		029	49° 37.85	124° 40.56	123			1			T: 11.69 S: 28.29
		14 20	BO				49° 37.85	124° 40.55		115					BOT@10m: SAL/CHL/NUTS
		14 22	EN				49° 37.85	124° 40.54							
		14 27	BE	NET		030	49° 37.85	124° 40.52	121	110					BONGO
10	GS16	15 04	BE	CTD		031	49° 36.58	124° 33.88	134			1		✓	T: 11.44 S: 28.39
		15 06	BO				49° 36.57	124° 33.87		125					BOT@10m: SAL/CHL/NUTS
		15 08	EN				49° 36.57	124° 33.86							
		15 12	BE	NET		032	49° 36.57	124° 33.87	135	125			✓		BONGO

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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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
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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Month				Year			Ship				Cruise ID				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
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	275		1			T: 12.58 S: 27.43
		2209	BO				49°24.12	123°54.77		250					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			V		BONGO

This page is for any notes or observations

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

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Month OCTOBER				Year 2009				Ship WE RICKER				Cruise ID 2009 46			
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							Latitude	Longitude							
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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GS28: Didn't start archiving until ~25m on the way down. ☹

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							Latitude	Longitude							
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	GS 30	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	GS 31	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			V		BONGO

Cast Type:
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							Latitude	Longitude							
11	GS33	21 24	BE	CTD		065	49°18.53	123°40.50	136			1	MT		T:12.43 S:26.68
		21 26	BO				49°18.52	123°40.48		130					BOT@10m: SAL/CHL/NUTS
		21 29	EN				49°18.51	123°40.45							
		21 32	BE	NET		066	49°18.51	123°40.43	136	125					BONGO
11	GS34	22 22	BE	CTD		067	49°12.29	123°41.81	331			1			T:12.02 S:28.54
		22 27	BO				49°12.27	123°41.70		250					BOT@10m: SAL/CHL/NUTS
		22 32	EN				49°12.26	123°41.61							
		22 35	BE	NET		068	49°12.25	123°41.57	340	150					BONGO
11	GS35	23 23	BE	CTD		069	49°14.21	123°47.99	237			1			T:12.14 S:28.08
		23 28	BO				49°14.19	123°47.96		220					BOT@10m: SAL/CHL/NUTS
		23 32	EN				49°14.18	123°47.91							
		23 35	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

Notes:

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

Produced by the Water Properties Group, IOS

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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

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Month <u>OCTOBER</u>				Year <u>2009</u>				Ship <u>W.E. RICKER</u>				Cruise ID <u>2009-46</u>			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
14	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: 32.67
		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:

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

USW = Sea Water Loop

MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

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

Notes:

Time Code:

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

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

Produced by the Water Properties Group, IOS

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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

Month OCTOBER				Year 2009				Ship WE RICKER				Cruise ID 200946			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
14	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

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
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	VIO2	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

Cast Type:

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

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

Bottle Firing Method:

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

Notes:

Time Code:

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

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

Produced by the Water Properties Group, IOS

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IVIO2: Depth manually added to *.HDR and *.HEX files after cast was complete.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month OCTOBER				Year 2009				Ship W.E. RICKER				Cruise ID 2009 46				Page 13 of	
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments		
							Latitude	Longitude									
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:

USW = Sea Water Loop

Bottle Firing Method:

Time Code:

Cast Type:

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

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

Bottle Firing Method:

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

Notes:

Time Code:

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

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

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This page is for any notes or observations

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

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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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
16	V106	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	V107	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	V108	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:

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

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

Bottle Firing Method:

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

Notes:

Time Code:

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

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

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VI06: Bongo cancelled due to weather

VI07: Bongo cancelled due to weather

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month				Year				Ship				Cruise ID				Page		of	
OCTOBER				2009				W E RICKER				2009 46							
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments				
							Latitude	Longitude											
16	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				

Cast Type:

USW = Sea Water Loop

Bottle Firing Method:

Time Code:

Cast Type:

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

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

Bottle Firing Method:

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

Notes:

Time Code:

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

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

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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
17	EPO2	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	EPO3	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	EPO4	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

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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
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	VII1	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:

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

USW = Sea Water Loop

MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
=

Bottle Firing Method:

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

Notes:

Time Code:

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

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

This page is for any notes or observations

VIII. Order of ops reversed, consecutive numbers not 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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
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

This page is for any notes or observations

IVI03: After messenger sent, CTB 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

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Month <u>OCTOBER</u>				Year <u>2009</u>			Ship <u>WE RICKER</u>				Cruise ID <u>200946</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
18	IVIO4	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@IDm: 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	IVIO5	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@IDm: 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	IVIO6	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@IDm: 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

Notes: _____

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

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IN105: (*) 2-3 PSU difference in SAL values @ surface (beginning of cast).

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Month <u>OCTOBER</u>				Year <u>2009</u>			Ship <u>W E RICKER</u>				Cruise ID <u>2009 46</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
19	IVIO7	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	IVIO8	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	IVIO9	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
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USW = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
___ =

Bottle Firing Method:

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

Notes: _____

Time Code:

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

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

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IVIO7: Due to time constraints, station ops were conducted in reverse order. Event numbers were not changed.

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Month <u>OCTOBER</u>				Year <u>2009</u>			Ship <u>W E RICKER</u>				Cruise ID <u>2009 46</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
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:

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CTD = CTD without Rosette
ROS = Rosette plus CTD
SET = Fish Set

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

Bottle Firing Method:

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

Notes:

Time Code:

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

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

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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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
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	VI11	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

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

Cast Type:

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NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

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

Notes:

Time Code:

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

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VI 17: Due to time constraints, station ops were conducted in reverse order (trawl, bongo, CTD).
Consecutive numbers were not changed.

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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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
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

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=

Bottle Firing Method:

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Time Code:

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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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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		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
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

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Bottle Firing Method:

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Notes:

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Month <u>OCTOBER</u>				Year <u>2009</u>				Ship <u>WE RICKER</u>				Cruise ID <u>2009 46</u>			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
21	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 ...

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