

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2010-18

DATE:

From: 01 OCT 2010

to: 19 NOV 2010

VESSEL:

W.E. RICKER

PROJECT(S):

HIGH SEAS (TRUDEL)

Book 1 of 3

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

WaterProperties.ca

Captain: Brian Pennell
 Second Officer: Morgan Chisholm
 Fishing Master: Brian West
 First Officer: Ryan Hull
 Third Officer: n/a

Mission Participants / Agencies: DFo - SAFE / BPA

Scientific Personnel:

Name	Watch	Cabin	Name	Watch	Cabin
Chief Scientist: <i>D. Marc Trudel</i>					

[illegible]

Second leg of Mission: Chief Scientist: Samuel Rogers

Name	Watch	Cabin	Name	Watch	Cabin
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[illegible]

Data logging computer:

Data acquisition program: SEA SAVE v7.19
 CTD deck unit make: SBE model: || serial number: 0471

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: τ/a Model: _____

Fluorometer: Model h/a Cable gain: s/n: P, S or NO pump?

Oxygen sensor: SBE Model: 43 s/n: 0997 PS or NO pump? PS

PAR sensor:	Model:	s/n:
	n/a	

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

SECOND LEG

Make: SG model: 911 serial number: 595

Primary temperature serial number: 4054

Primary conductivity serial number: 3321

Secondary temperature serial number: 4700

Secondary conductivity serial number: 1766

Transmissometer: WET LAB Model:
s/n:

Fluorometer: Model SEA POINT Cable gain: 10x0.15 s/n: 2648 P, S or NO pump? P

Oxygen sensor: 55 Model: 43 s/n: 0997 P. S or NO pump?

PAR sensor:	Model:	s/n:

Other sensors: pH SCA-BIRD s/n: 0692 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?

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

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Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER				Year 2010				Ship W.E. RICKER				Cruise ID 2010-18				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments	
							Latitude	Longitude								
03	QC101	2021	BE	CTD		001	52° 14.31	133° 43.08	1400 ⁺			1	MT	NA	CHL, SAL, NUTS @ 10m T: 13.72 S: 32.02	
		2025	BO				52° 14.21	133° 43.19		150						
		2030	EN				52° 14.15	133° 43.22							(*) →	
		2034	BE	NET		002	52° 14.04	133° 43.41	1400 ⁺	150					Bongo - VNH	
		1925	BE	TOW		003	52° 15.3	133° 48.3							Trawl	
03	QC102	2131	BE	TOW		004	52° 13.7	133° 34.3							Trawl	
03	QC103	2258	BE	CTD		005	52° 10.74	133° 23.31	1600 ⁺			1	MT	NA	CHL, SAL, NUTS @ 10m T: 13.62 S: 32.08	
		2302	BO				52° 10.66	133° 23.36		250						
		2307	EN				52° 10.62	133° 23.50								
		2314	BE	NET		006	52° 10.52	133° 23.73	1600 ⁺	150					Bongo - VNH	
		2338	BE	TOW		007	52° 10.35	133° 22.8							Trawl	
END OF DAY																

Gulf of Alaska work scheduled for 01-10 OCT cancelled due to weather

QCID1: Order of ops changed to accomodate galley (TOW/CTD/BONGO instead).
CTD/Bongos will only be done at every other station except where noted otherwise (01-10 OCT only)

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Month OCTOBER				Year 2010			Ship W E RICKER				Cruise ID 2010-18				
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							
04	QCSD 01	1713	BE	CTD		008	51°33.44	130°33.59	791			1	MT	NA	SAL, CHL, NUTS @ 10m T: 11.69 S: 31.97
		1719	BO				51°33.43	130°33.64		250					
		1726	EN				51°33.40	130°33.65							
		1732	BE	NET		009	51°33.40	130°33.74	790	150					Bongo-VNH
		1757	BE	TOW		010	51°33.97	130°32.84	1360						Trawl
04	QCSD02	1940	BE	TOW		011	51°40.13	130°18.5	242						Trawl
04	QCSD03	2120	BE	CTD		012	51°46.05	130°04.23	205			1	MT	NA	SAL, CHL, NUTS @ 10m T: 12.26 S: 31.88
		2124	BO				51°46.01	130°04.32		190					⊗ →
		2128	EN				51°45.96	130°04.46							
		2134	BE	NET		013	51°45.91	130°04.57	207	150					Bongo-VNH
		2155	BE	TOW		014	51°46.33	130°04.1	199						Trawl
04	QCSD04	2316	BE	TOW		015	51°49.88	129°54.42	148						Trawl

Queen Charlotte Sound

⊗ Mistakenly saved as QCS02 in HDR. Changed later in *.HDR and *.HEX file to correct station name.

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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W E. RICKER</u>				Cruise ID <u>2010-18</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							
05	QCS805	0143	BE	CTD		016	51°53.12	129°37.65	230			1	MT	NA	⊗ →
		0147	BO				51°53.11	129°37.68		220					SAL, CHL, NUTS @ 10m T: 12.21 S: 31.76
		0152	EN				51°53.10	129°37.73							
		0124	BE	NET		017	51°53.24	129°37.51	230	150					Bongo - VNH
		0038	BE	TOW		018	51°52.5	129°42.4	235						Trawl
END OF DAY															
05	QCST01	1417	BE	CTD		019	50°52.92	127°20.35	145			1	MT	NA	SAL, CHL, NUTS @ 10m T: 9.52 S: 30.42
		1421	BO				50°52.93	127°20.31		135					
		1424	EN				50°52.95	127°20.28							
		1427	BE	NET		020	50°52.96	127°20.27	147	137					Bongo - VNH
		1451	BE	TOW		021	50°52.87	127°19.03	100						Trawl
05	QCST02	1600	BE	TOW		022	50°49.2	127°12.4	150						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

WaterProperties.ca
Version: 06 March 2008

⊗ QCS05: Order of ops changed to accomodate work schedule (Tow/BONGO/CTD instead of CTD/BONGO/Tow). Consecutive numbers not changed.

Queen Charlotte Strait.

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Month OCTOBER				Year 2010				Ship W E RICKER				Cruise ID 2010-18			
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							
05	QCST03	1721	BE	CTD		023	50°42.52	127°09.01	134			1	MT	NA	SAL, CHL, NUTS @ 10m T: 10.32 S: 30.37
		1724	BO				50°42.53	127°08.97		125					
		1727	EN				50°42.58	127°08.89							
		1730	BE	NET		024	50°42.58	127°08.86	132	125					Bongo-VNH
		1751	BE	TOW		025	50°42.36	127°07.76	129						Trawl
05	QCST04	1915	BE	TOW		026	50°41.1	126°57.2	178						Trawl
05	QCST05	2041	BE	CTD		027	50°37.33	126°47.68	130						SAL, CHL, NUTS @ 10m T: 10.45 S: 30.64
		2044	BO				50°37.28	126°47.64		120					
		2047	EN				50°37.19	126°47.61							
		2051	BE	NET		028	50°37.07	126°47.71	159	149					Bongo-VNH
		2112	BE	TOW		029	50°37.8	126°48.2	150						Trawl

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Month <u>OCTOBER</u>				Year <u>2010</u>				Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</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							
05	QCST06	2220	BE	TOW		030	50°40.8	126°45.2	106						Trawl
05	QCST07	2329	BE	CTD		031	50°46.22	126°51.00	159			1	MT	NA	SAL, CHL, NUTS @ 10m T: 9.41 S: 30.75
		2332	BO				50°46.24	126°51.03		150					
		2335	EN				50°46.24	126°51.04							
		2339	BE	NET		032	50°46.24	126°51.07	160	150					Bongo-VNH
06		0031	BE	TOW		033	50°45.9	126°50.5	161						Trawl
≡ END OF DAY															
06	IBCO1	1402	BE	CTD		034	50°55.16	126°12.18	90			1	MT	NA	SAL, CHL, NUTS @ 10m T: 10.46 S: 27.3
		1404	BO				50°55.18	126°12.19		80					
		1406	EN				50°55.20	126°12.19							
		1409	BE	NET		035	50°55.24	126°12.21	86	76					Bongo-VNH
		1427	BE	TOW		036	50°55.24	126°13.14	109						Trawl

This page is for any notes or observations

Broughton Archipelago

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Month OCTOBER			Year 2010			Ship W.E. RICKER			Cruise ID 2010-18						
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							
06	IBC02	1540	BE	TOW		037	50°55.7	126°24.4	278						Trawl
06	IBC03	1648	BE	CTD		038	50°54.59	126°32.88	463			1	MT	NA	SAL, CHL, NUTS @ 10m T: 10.21 S: 26.9
		1654	BO				50°54.64	126°32.82		250					
		1700	EN				50°54.66	126°32.78							
		1703	BE	NET		039	50°54.67	126°32.76	462	150					Bongo - VNH
		1722	BE	TOW		040	50°54.41	126°33.39	464						Trawl
06	IBC04	1900	BE	TOW		041	50°48.94	126°31.1	138						Trawl
06	IBC05	2059	BE	CTD		042	50°51.21	126°10.75	130			1	MT	NA	SAL, CHL, NUTS @ 10m T: 10.55 S: 23.1
		2101	BO				50°51.21	126°10.73		120					
		2104	EN				50°51.21	126°10.74							
		2107	BE	NET		043	50°51.19	126°10.81	127	117					Bongo - VNH
		2125	BE	TOW		044	50°50.7	126°11.1	129						Trawl

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Month OCTOBER				Year 2010				Ship W.E. RICKER				Cruise ID 2010-18			
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							
06	IBC06	2253	BE	TOW		045	50°46.64	126°07.03	171						Trawl
END OF DAY															
07	T07	—	BE	CTD		046	—	cancelled	—			1	MT	NA	SAL, CHL, NUTS @ 10m T: S:
			BO												
			EN												
		—	BE	NET		047	—	cancelled	—						Bongo - VNH
		1410	BE	TOW		048	50°50.97	129°14.47	91						Trawl
07	T06	1613	BE	CTD		049	50°56.10	129°00.06	58						SAL, CHL, NUTS @ 10m T: 12.37 S: 31.97
		1614	BO				50°56.12	129°00.02		48					
		1616	EN				50°56.14	128°59.98							
		1618	BE	NET		050	50°56.16	128°59.92	58	48					Bongo - VNH
		1640	BE	TOW		051	50°56.8	128°58.1	61						Trawl

Triangle Island transect: CTD & Bongos will be conducted at every station on this line.

T07: Wind/tide/current conditions forced cancellation of CTD/bongo.

T06: 2-3m swell, sloppy seas

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Month OCTOBER				Year 2010			Ship W E. RICKER				Cruise ID 2010-18				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
7	T05	1745	BE	CTD		052	51°00.07	128°51.75	59			1	MT	NA	SAL, CHL, NUTS @ 10m T: 12.54 S: 31.91
		1746	BO				51°00.09	128°51.70		49					
		1748	EN				51°00.10	128°51.68							
		1751	BE	NET		053	cancelled								Bongo-VNH
		—	BE	TOW		054	cancelled								Trawl
7	QCST08	2330	BE	CTD		055	50°51.85	127°49.84	269			1	MT	NA	CHL, NUTS @ 10m T: 11.17 S: 31.97
		2335	BO				50°51.83	127°49.73		250					
		2340	EN				50°51.82	127°49.66							
		2343	BE	NET		056	50°51.81	127°49.64	269	150					Bongo-VNH
		2241	BE	TOW		057	50°52.9	127°54.38	170						Trawl

T05: Bongo/Trawl cancelled due to deteriorating weather conditions.

QCST08: Ops conducted out of order (TRAWL/CTD/BONGO), consecutive numbers not changed.
No salinity sample taken (rationing salinity bottles)
"Pump off" command did not work at end of cast. Seemed to reset when deck unit turned off
(Read out said "0010" when deck unit powered up again.)

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Month <u>OCTOBER</u>			Year <u>2010</u>				Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</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							
8	QCST09	0120	BE	CTD		058	50°48.74	127°36.29	470			1	MT	NA	SAL, CHL, NUTS @ 10m T: 10.31 S: 31.89
		0124	BO				50°48.72	127°36.24		250					
		0130	EN				50°48.70	127°36.17							
		0133	BE	NET		059	50°48.69	127°36.14	480	150					Bongo - VNH
		0031	BE	TOW		060	50°49.7	127°40.9	331						Trawl
≡	END OF DAY														
8	QCST10	1412	BE	CTD		061	50°47.69	127°25.93	223			1	MT	NA	SAL, CHL, NUTS @ 10m T: 9.97 S: 30.53
		1417	BO				50°47.70	127°25.91		210					
		1422	EN				50°47.72	127°25.92							
		1425	BE	NET		062	50°47.73	127°25.92	210	150					Bongo
		1447	BE	TOW		063	50°48.33	127°26.64	88						Trawl
8	QCST11	1635	BE	TOW		064	50°48.2	127°21.2	136						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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QCST09: Ops conducted out of order (TRAWL/CTD/BONGO). Consecutive numbers not changed.
CTD paused @ 7m on upcast due to kelp ball fouling
"Pump off" command did not work at end of cast [See QCST08 for remedy.]

QCST10: "Pump off" command worked...?

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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							
8	QCST12	1741	BE	CTD		065	50°43.92	127°16.49	210			1	MT	NA	SAL, CHL, NUTS @ 10m T: 9.92 S: 31.19
		1746	BO				50°43.95	127°16.47		195					
		1750	EN				50°43.95	127°16.47							
		1753	BE	NET		066	50°43.94	127°16.46	210	150					Bongo - VNH
		1814	BE	TOW		067	50°43.24	127°15.96	201						Trawl
8	JS01	2100	BE	TOW		068	50°33.6	126°49.2	333						Trawl
8	JS02	—	BE	CTD		069	— cancelled —								SAL, CHL, NUTS @ 10m T: S:
			BO												
			EN												
		—	BE	NET		070	— cancelled —								Bongo - VNH
		2226	BE	TOW		071	50°31.13	126°37.88	419						Trawl
8	JS03	2330	BE	TOW		072	50°29.86	126°31.65	389						Trawl

Cast Type: **END OF DAY**
 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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JS02: CTD/Bongo cancelled. Winds gusting >50kts.

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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</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							
9	G501	x1658	BE	CTD		073	x49°57.08	x125°05.85	x228			1	MARC	NA	SAL, CHL, NUTS @ 10m T: S:
		x1704	BO				x49°57.14	x125°05.93		x210					
		x1708	EN				x49°57.17	x125°05.97							
		x1713	BE	NET		074	x49°57.18	x128°05.98	x220	x150					Bongo - VNH
9	G502	x1804	BE	CTD		075	x49°53.66	x125°03.34	x140			1	MARC		SK, CHL, NUTS @ 10m T: 10.20 S: 29.58
		x1807	BO				x49°53.65	x125°03.31		x120					
		x1810	EN				x49°53.66	x125°03.31							
		x1812	BE	NET		076	x49°53.69	x125°03.32	145	135					
9	G503	1904	BE	CTD		077	49°53.99	124°56.24	147			1	MARC		CHL, NUTS @ 10m T: 11.44 S: 28.65
		1907	BO				49°53.98	124°56.24		130					
		1910	EN				49°53.99	124°56.27							
		1913	BE	NET		078	49°53.99	124°56.28	146	136					

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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⇒ did not record the surface salinity + temperature, data file does not appear to be saved.

⇒ I may have set the station to G501. It should be G502.

⇒ started recording only at 106 m on the way down, no salinity bottle.

note: ⇒ station was set to G502. Should be G503 instead.

↳ the surface values are from the up-cast.

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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</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							
9	GS04	1958	BE	CTD		079	49° 50.10	124° 56.05	180			1	MARC		CHL, NUTS @ 10m T:10.67 S:29.29
		2001	BO				49° 50.08	124° 56.03		160					
		2006	EN				49° 50.08	124° 55.99							
		2009	BE	BONGO		080	49° 50.08	124° 55.94	200	150					
9	GS05	2053	BE	CTD		081	49° 49.47	124° 49.35	280			1	MARC		SAL, CHL, NUTS @ 10m T:11.41 S:29.06
		2058	BO				49° 49.52	124° 49.25		250					
		2103	EN				49° 49.54	124° 49.20							
		2106	BE	Bongo		082	49° 49.55	124° 49.18	254	150					
9	GS06	2148	BE	CTD		083	49° 48.98	124° 42.89	150			1	MARC		CHL, NUTS @ 10m T:12.59 S:28.40
		2150	BO				49° 49.04	124° 42.84		120					
		2154	EN				49° 49.09	124° 42.80							
		2157	BE	Bongo		084	49° 49.13	124° 42.73	155	140					

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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⇒ forgot to get the surface values on the way down. Took values on the up-cast.

⇒ started to archive at about 60 m on the down cast. Hopefully, I will get the right by the end of the day.

⇒ forgot to take the temperature and salinity at surface. Will take it during the up cast.

⇒ no salinity bottle.

⇒ - Station should be GS06
- Heade should be 0085

DAILY SCIENCE LOG

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Month <u>October</u>			Year <u>2010</u>			Ship <u>W.E. Richey</u>			Cruise ID <u>2010-18</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							
9	GS07	2255	BE	CTD		085	49°49.93	124°34.80	240			1	MARC		CHL, NUTS @ 10m T: 12.77 S: 27.69
		2259	BO				49°49.93	124°34.76		220					
		2303	EN				49°49.94	124°34.75							
		2307	BE	Bongo		086	49°49.95	124°34.74	240	150					
10	GS08	0038	BE	CTD		087	49°44.65	124°24.13	312			1	MARC		SAL, CHL, NUTS @ 10m T: 12.63 S: 26.83
		0043	BO				49°44.61	124°24.23		250					
		0049	EN				49°44.56	124°24.27							
		0051	BE	Bongo		088	49°44.53	124°24.30	311	150					
10	GS09	0132	BE	CTD		089	49°43.11	124°19.54	300			1	MARC		CHL, NUTS @ 10m T: 12.54 S: 27.47
		0137	BO				49°43.15	124°19.50		250					
		0142	EN				49°43.19	124°19.49							
		0144	BE	Bongo		090	49°43.19	124°19.49	300	150					

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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⇒ no salinity bottle

⇒ Header information may indicate 008, should be 0087

⇒ no salinity bottles. started anchoring at ~ 20m in the launch.

Month October				Year 2010			Ship WE. Kicker				Cruise ID 2010-18					
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		
							Latitude	Longitude								
10	GS10	1400	BE	CTD		091	48° 54.13	123° 13.37	137			1	MARC		SAL, CHL, NUTS @ 10m T: 11.33 S: 28.75	
		1402	BO				48° 54.14	123° 13.42		120						
		1406	EN				48° 54.16	123° 13.45								
		1408	BE	BONGO		092	48° 54.18	123° 13.47	138	128						
10	GS11	1459	BE	CTD		093	48° 56.68	123° 20.01	188			1	MARC		CHL, NUTS @ 10m T: 10.86 S: 29.23	
		1504	BO				48° 56.68	123° 19.98		170						
		1508	EN				48° 56.68	123° 19.96								
		1512	BE	BONGO		094	48° 56.68	123° 19.95	188	150						
10	GS12	1602	BE	CTD		095	49° 01.21	123° 17.21	148			1	MARC		CHL, NUTS @ 10m T: 11.84 S: 28.11	
		1605	BO				49° 01.20	123° 17.24		130						
		1609	EN				49° 01.19	123° 17.26								
		1613	EN	BONGO		096	49° 01.18	123° 17.28	152	142						

$\Rightarrow$ no salinity bottle

$\Rightarrow$ no salinity bottle

DAILY SCIENCE LOG

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Month OCTOBER				Year 2010			Ship W.E. Ricker				Cruise ID 2010-18				
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	GS13	1700	BE	CTD		097	49° 00.67	123° 24.02	274			1	MARC		SAL, CHL, NUTS @ 10m T: 11.84 S: 27.68
		1705	BO				49° 00.64	123° 23.96		250					
		1711	EN				49° 00.61	123° 23.91							
		1718	BE	Bongo		098	49° 00.56	123° 24.08	274	150					
10	GS14	1800	BE	CTD		099	49° 00.99	123° 30.40	210			1	MARC		CHL, NUTS @ 10m T: 11.67 S: 28.02
		1805	BO				49° 00.99	123° 30.42		190					
		1810	EN				49° 00.97	123° 30.48							
		1813	BE	Bongo		100	49° 00.95	123° 30.53	205	150					
10	GS15	1916	BE	CTD		101	49° 06.86	123° 35.70	160			1	MARC		CHL, NUTS @ 10m T: 11.64 S: 28.47
		1919	BO				49° 06.88	123° 35.73		140					
		1922	EN				49° 06.89	123° 35.75							
		1925	BE	Bongo		102	49° 06.92	123° 35.77	165	150					

$\Rightarrow$ no salinity bottle

$\Rightarrow$ no salinity bottle

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month		Year		Ship		Cruise ID									
OCTOBER		2010		W.E. Ricker		2010-18									
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Latitude	Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
10	GS16	2022	BE	CTD		103	49°07.15	123°28.49	320			1	MARC		CHL, NUTS @ 10m T: 12.55 S: 25.43
		2027	BO				49°07.18	123°28.58		250					
		2033	EN				49°07.18	123°28.71							
		2036	BE	Bongo		104	49°07.22	123°28.76	330	150					
10	GS17	2130	BE	CTD		105	49°07.39	123°21.19	145			1	MARC		CHL, NUTS @ 10m T: 12.04 S: 22.50
		2133	BO				49°07.39	123°21.23		130					
		2137	EN				49°07.39	123°21.29							
			BE	Bongo		106									
10	GS18	2233	BE	CTD		107	49°12.04	123°24.34	265			1	MARC		CHL, NUTS @ 10m T: 12.90 S: 23.36
		2238	BO				49°12.12	123°24.33		250					
		2243	EN				49°12.12	123°24.36							
		2245	BE	Bongo		108	49°12.12	123°24.36	275	150					

⇒ no salinity bottle

⇒ no salinity bottle

⇒ bongo cancelled for Sand and Reave.

⇒ no salinity bottle, forgot to change the reader. It probably indicates 010, but should be 0107.

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DAILY SCIENCE LOG																Ocean Sciences Division, Institute of Ocean Sciences															
Month				Year				Ship				Cruise ID																			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments																
							Latitude	Longitude																							
10	GSP	2333	BE	CTD		109	49°12.90	123°31.42	330			1	MARK		SAL, CHL, NUTS @ 10m T: 12.60 S: 26.70																
		2337	BO				49°12.95	123°31.42		250																					
		2342	EN				49°12.99	123°31.45																							
		2346	BE	Bongo		110	49°13.09	123°31.46	333	150																					
11	GSDO	0044	BE	CTD		111	49°12.25	123°42.12	338			1	MARK		CHL, NUTS @ 10m T: 11.73 S: 28.82																
		0049	BO				49°12.24	123°42.19		250																					
		0055	EN				49°12.22	123°42.29																							
		0059	BE	Bongo		112	49°12.19	123°42.37	351	150																					
13	JF01	1407	BE	CTD		113	48°17.84	123°36.35	132			1	H.M.	✓	T: 9.56 S: 31.44																
		1409	BO				48°17.87	123°36.29		120					BOT @ 10m - SAL/CHL/NUTS																
		1414	EN				48°17.86	123°36.12																							
		1417	BE	NET		114	48°17.83	123°36.06		120					BONGO																
		1414	BE	TBW		115	48°17.83	123°36.91							TRAWL																

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

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

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
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$\Rightarrow$ no salinity bath

DAILY SCIENCE LOG

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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W. E. RICHES</u>			Cruise ID <u>2010-18</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							
13	JF02	1625	BE	CTD		116	48° 20.07	123° 48.53	136			1	H.M.	✓	T: 11.73 S: 31.92
		1628	BO				48° 20.04	123° 48.52		120					BOT @ 10m - SAL/CAL/NUTS
		1631	EN				48° 20.01	123° 48.47							
		1635	BE	NET		117	48° 19.95	123° 48.44							BONGO
		1655	BE	TRAWL		118	48 20.047	123 49.216							TRAWL
13	JF03	1831	BE	CTD		119	48° 22.88	124° 02.99	106			1		✓	T: 10.96 S: 31.98
		1833	BO				48° 22.87	124° 02.99		90					BOT @ 10m - SAL/CAL/NUTS
		1836	EN				48° 22.86	124° 02.99							
		1839	BE	NET		120	48° 22.80	124° 02.90							BONGO
		19:07	BE	TRAWL		121	48 23.26	124 03.97							TRAWL
13	JF04	2021	BE	CTD		122	48° 26.01	124° 15.50	112			1		✓	T: 12.73 S: 31.69
		2024	BO				48° 26.02	124° 15.47		100					BOT @ 10m - SAL/CAL/NUTS
		2026	EN				48° 26.03	124° 15.45							
		2029	BE	NET		123	48° 26.04	124° 15.42							BONGO
		2049	BE	TRAWL		124	48 26.416	124 16.74							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
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DN = Down / No stop

Notes:

Time Code:

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

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Month OCTOBER				Year 2010			Ship W.E. RICHER				Cruise ID 2010-18				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
13	IF05	2205	BE	CTD		125	48° 30.31	124° 27.76	113			1	H.M.	☒	T: 11.52 S: 31.36
		2207	BO				48° 30.33	124° 27.75		100					BOT@10m - SAL/CHL/NUIS
		2210	CH				48° 30.34	124° 27.74							
		2213	BE	NET		126	48° 30.34	124° 27.70		100					BONGO
		2230	BE	TRAWL		127	48° 30.85	124° 28.62							TRAWL
14	IF06	0105	BE	CTD		128	48° 33.75	124° 46.10	97			1			T: 12.93 S: 31.58
		0107	BO				48° 33.77	124° 46.10		90					BOT@10m - SAL/CHL/NUIS
		0109	CH				48° 33.78	124° 46.12							
		0112	BE	NET		129	48° 33.82	124° 46.14		85					BONGO
		2347	BE	TRAWL		130	48° 32.9	124° 48.44							TRAWL
14	IV1 01	1419	BE	CTD		131	48° 56.04	125° 11.50	92			1		☒	T: 12.56 S: 26.85
		1421	BO				48° 56.04	125° 11.50		80					BOT@10m - SAL/CHL/NUIS
		1423	CH				48° 56.04	125° 11.49							
		1425	BE	NET		132	48° 56.04	125° 11.45		82					BONGO
		1445	BE	TRAWL		133	48° 55.43	125° 11.40							TRAWL

Cast Type:
BOT = Bottle cast, no CTD
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=

Bottle Firing Method:
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Notes:

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER			Year 2010			Ship W. E. RICKER			Cruise ID 2010-18						
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	V1 02	1531	BE	CTD		134	48° 53.16	125° 13.60	88			1	H.M.	✓	T: 12.31 S: 26.71
		1533	BO				48° 53.16	125° 13.59		80					BOT@10m - SAL/CAL/NOTS
		1535	EN				48° 53.15	125° 13.57							
		1536	BE	NET		135	48° 53.14	125° 13.55		78					BONGO
		1538	BE	TRAWL		136	48° 52.5	125° 13.821							TRAWL
14	V1 01	1717	BE	CTD		137	48° 47.72	125° 21.82	85			1		✓	T: 12.96 S: 31.06
		1719	BO				48° 47.68	125° 21.84		75					BOT@10m - SAL/CAL/NOTS
		1721	EN				48° 47.64	125° 21.87							
		1724	BE	NET		138	48° 47.60	125° 21.93		75					BONGO
		1743	BE	TRAWL		139	48° 47.20	125° 23.036							TRAWL
14	V1 02	1920	BE	CTD		140	48° 40.58	125° 35.59	167			1			T: 12.31 S: 32.02
		1923	BO				48° 40.57	125° 35.64		155					BOT@10m - SAL/CAL/NOTS
		1927	EN				48° 40.53	125° 35.64							
		1931	BE	NET		141	48° 40.48	125° 35.68		150					BONGO
		2011	BE	TRAWL		142	48° 39.93	125° 37.58							TRAWL

Cast Type:

BOT = Bottle cast, no CTD

CTD = CTD without Rosette

ROS = Rosette plus CTD

SET = Fish Set

USW = Sea Water Loop

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DRF = Drifter

_____ = _____

Bottle Firing Method:

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UN = Up / No stop

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Notes: _____

Time Code:

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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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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W.E. RICHER</u>				Cruise ID <u>2010-18</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	V103	2114	BE	CTD		143	48° 35.85	125° 42.82	58			1	H.M.	✓	T: 12.10 S: 32.05
		2115	BO				48° 35.85	125° 42.86		50					BOT @ 10m - SAL/CAL/NTS
		2116	EN				48° 35.84	125° 42.88							
		2119	BE	NET		144	48° 35.82	125° 42.92							BONGO
		2132	BE	TRAWL		145	48° 35.38	125° 43.82							TRAWL
14	V104	2253	BE	CTD		146	48° 29.01	125° 50.90	111			1		✓	T: 11.68 S: 32.11
		2255	BO				48° 29.00	125° 50.93		100					BOT @ 10m - SAL/CAL/NTS
		2257	EN				48° 28.99	125° 50.95							
		2300	BE	NET		147	48° 28.95	125° 50.99		100					BONGO
15		0007	BE	TRAWL		148	48° 27.32	125° 53.54							TRAWL
15	V105	1403	BE	CTD		149	48° 48.95	126° 27.46	202			1		✓	T: 12.38 S: 31.96
		1408	BO				48° 48.93	126° 27.52		190					BOT @ 10m - SAL/CAL/NTS
		1412	EN				48° 48.91	126° 27.49							
		1414	BE	NET		150	48° 48.92	126° 27.51		150					BONGO
		1436	BE	TRAWL		151	48° 49.39	126° 26.97							TRAWL

Cast Type:

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DRF = Drifter

____ =

Bottle Firing Method:

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

Notes: _____

Time Code:

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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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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</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							
15	VI 06	1545	BE	CTD	153	152	48° 53.13	126° 21.51	153		* OVER	1	H.M.		T: 12.62 S: 31.87
		1548	BO		*	*	48° 53.15	126° 21.54		140					BOTEDW. SAL/CAL/NETS
		1552	EN				48° 53.17	126° 21.51							
		1554	BE	NET	154		48° 53.17	126° 21.48		143					BONGO
		1614	BE	TRAWL	155		48° 53.76	126° 20.82							TRAWL
15	VI 07	1718	BE	CTD	156		48° 57.61	126° 16.07	117			1			T: 11.04 S: 31.45
		1721	BO				48° 57.65	126° 16.07		105					BOTEDW. SAL/CAL/NETS
		1723	EN				48° 57.69	126° 16.06							
		1726	BE	NET	157		48° 57.70	126° 16.02		105					BONGO
		1744	BE	TRAWL	158		48° 58.83	126° 15.452							TRAWL
15	VI 08	1858	BE	CTD	159		49° 01.56	126° 09.63	68			1			T: 10.54 S: 31.51
		1859	BO				49° 01.56	126° 09.65		58					BOTEDW. SAL/CAL/NET
		1901	EN				49° 01.56	126° 09.66							
		1903	BE	NET	160		49° 01.55	126° 09.69		58					BONGO
		1921	BE	TRAWL	161		49° 01.907	126° 09.11							TRAWL

Cast Type:

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

USW = Sea Water Loop
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 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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 Version: 06 March 2008

This page is for any notes or observations

* - CAST 152 - PLOT FROZE AND THEN CONTINUED, RE CAST AS #153 BUT LEFT #152 IN FILE TO SHOW WHAT HAPPENED

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER

Year 2010

Ship W.E. RICKER

Cruise ID 2010-18

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	VI 09	2030	BE	CTD		162	49° 05.74	126° 00.90	40			1	H.M.		T: 11.71 S: 30.56
		2031	BO				49° 05.74	126° 00.91		35					BOT@10m - SAL/CHL/NUTS
		2033	EN				49° 05.74	126° 00.91							
		2035	BE	NET		163	49° 05.73	126° 00.91							BONGO
		2050	BE	TRAWL		164	49° 05.73	126° 01.76							TRAWL
15	VI 10	2207	BE	CTD		165	49° 09.55	126° 11.83	46			1			T: 11.33 S: 31.20
		2208	BO				49° 09.55	126° 11.83		40					BOT@10m - SAL/CHL/NUTS
		2210	EN				49° 09.55	126° 11.83							
		2212	BE	NET		166	49° 09.54	126° 11.84		36					BONGO
		2227	BE	TRAWL		167	49° 09.945	126° 12.64							TRAWL
16	VI 11 24	0034	BE	CTD		168	49° 15.76	126° 21.65	45			1			T: 11.52 S: 30.96
		0035	BO				49° 15.76	126° 21.66		40					BOT@10m - SAL/CHL/NUTS
		0036	EN				49° 15.75	126° 21.67							
16	300	0039	BE	NET		169	49° 15.73	126° 21.68		36					BONGO
15	15	2327	BE	TRAWL		170	49° 13.54	126° 17.94							TRAWL

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</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							
16	EP01	1359	BE	CTD		171	49° 21.06	126° 31.72	32			1	H.M.	✓	T: 12.09 S: 28.20
		1400	BO				49° 21.06	126° 31.70		25					BOT@10m - SAL/CAL/NUIS
		1402	EN				49° 21.07	126° 31.70							
		1404	BE	NET		172	49° 21.09	126° 31.65		23					BONGO
		1423	BE	TRAWL		173	49 20.423	126 33.209							TRAWL
16	EP02	1514	BE	CTD		174	49° 18.93	126° 36.36	82			1			T: 11.57 S: 29.05
		1516	BO				49° 18.93	126° 36.43		75					BOT@10m - SAL/CAL/NUIS
		1518	EN				49° 18.95	126° 36.50							
		1521	BE	NET		175	49° 18.96	126° 36.53		73					BONGO
		1541	BE	TRAWL		176	49 18.556	126 37.74							TRAWL
16	EP03	1632	BE	CTD		177	49° 16.85	126° 40.86	109			1			T: 11.29 S: 30.66
		1634	BO				49° 16.83	126° 40.89		100					BOT@10m - SAL/CAL/NUIS
		1636	EN				49° 16.80	126° 40.92							
		1639	BE	NET		178	49° 16.80	126° 41.00		99					BONGO
		1659	BE	TRAWL		179	49 16.36	126 42.08							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 DE = Deployment Time
 BO = Bottom Time of Cast MR = Messenger Release Time
 EN = End Time of Cast RE = Recover Mooring Time

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

Produced by the Water Properties Group, IOS

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-18					
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	EP 04	1750	BE	CTD		180	49° 14. 78	126° 45. 30	117			1	H.M.		T: 11.10 S: 31.65	
		1752	BO				49° 14. 82	126° 45. 36		105					BOT@10m. SAL/CHL/NUTS	
		1755	EN				49° 14. 84	126° 45. 41								
		1757	BE	NET		181	49° 14. 86	126° 45. 44		109					BONGO	
		1814	BE	TRAWL		182	49 14. 693	126 46. 723							TRAWL	
16	EP 05	1908	BE	CTD		183	49° 12. 97	126° 49. 77	137			1			T: 12.42 S: 31.98	
		1910	BO				49° 12. 97	126° 49. 78		125					BOT@10m. SAL/CHL/NUTS	
		1913	EN				49° 12. 97	126° 49. 78								
		1915	BE	NET		184	49° 12. 96	126° 49. 80		126					BONGO	
		1935	BE	TRAWL		185	49 12. 216	126 50. 47.							TRAWL	
16	EP 06	2025	BE	CTD		186	49° 10. 23	126° 54. 11	179			1			T: 12.16 S: 31.47	
		2028	BO				49° 10. 19	126° 54. 13		170					BOT@10m. SAL/CHL/NUTS	
		2033	EN				49° 10. 15	126° 54. 14								
		2050	BE	NET		187	49° 09. 97	126° 54. 14		171					BONGO	
		2110	BE	TRAWL		188	49 09. 26	126 54. 808							TRAWL	

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2010-18

DATE:

From: OCT 1 / 10 to: NOV 19 / 10

VESSEL:

W. E. RICKER

PROJECT(S):

HIGH SEAS SALMON (TRAUDEL)
Book 2 of 3

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

WaterProperties.ca

Captain:	SCOTT DORR	First Officer:	DUNCAN
Second Officer:	ANDREW COSTA	Third Officer:	M'CALLUM
Fishing Master:	AL YOUNG		

Mission Participants / Agencies:

Scientific Personnel:		Chief Scientist:	
Name		Watch	Cabin
JOHN MORRIS			
MARY THIESS			
YEONGHA JUNG			
LISA THOMPSON			
MARIAME DUPOUX			
HUGH MACLEAM			

[illegible]

Data logging computer:

PAC 02328

Data acquisition program:

SCASAVE V7.19

CTD deck unit make:	SB	model:	serial number:
			0471

Primary CTD

Make: SB6 model: 9 serial number: 505

Primary temperature serial number: 4054

Primary conductivity serial number: 3321

Secondary temperature serial number: 4700

Secondary conductivity serial number: 1766

Transmissometer: WT7 LAB Model: 1005 DR
s/n: 1005 DR

Fluorometer: Model SCA Point Cable gain: 10x 0.15 s/n: 2643 P, S or NO pump? P

Oxygen sensor:	SB6	Model:	43	s/n:	0997	P, S or NO pump?	P
----------------	-----	--------	----	------	------	------------------	---

Oxygen sensor: _____ Model: _____ s/n: _____
 PAR sensor: _____ Model: _____ s/n: _____

Other sensors: P# 4 MODEL: _____ S/N: _____
P. S or NO pump? 0692 SBK

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

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

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

Other sensors: _____ s/n: _____ I, 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? _____

Oxygen sensor: _____ s/n: _____
 Model: _____
 PAR sensor: _____ s/n: _____
 Model: _____

Other sensors: _____ 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: _____ I, S or NO pump? _____

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

Outlet sensors: _____ S/I: _____ I, 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

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Month OCTOBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-18				
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	V1 12	0128	BE	CTD	2 ND	189	49° 27.12	126° 47.48	63			1	H.M.		T: 12.42 S: 30.18
		0130	BO				49° 27.08	126° 47.49		55					BOT@ 10m - SAL/CAL/NTS
		0132	EH				49° 27.07	126° 47.51							
		0136	BE	NET	3 RD	190	49° 27.03	126° 47.52		54					BONGO
		0039	BE	TRAWL	1 ST	191	49 24.8	126 46 63							TRAWL
17	V1 13	1402	BE	CTD		192	49° 32.06	127° 09.49	136			1		✓	T: 12.25 S: 30.69
		1405	BO				49° 32.09	127° 09.43		125					BOT@ 10m - SAL/CAL/NTS
		1409	EH				49° 32.14	127° 09.41							
		1411	BE	NET		193	49° 32.14	127° 09.40							BONGO
		1430	BE	TRAWL		194	49 32.7	127 08.58							TRAWL
17	V1 14	1533	BE	CTD		195	49° 35.46	127° 02.32	104			1			T: 12.13 S: 30.50
		1535	BO				49° 35.44	127° 02.29		95					BOT@ 10m - SAL/CAL/NTS
		1538	EH				49° 35.43	127° 02.28							
		1540	BE	NET		196	49° 35.43	127° 02.28		93					BONGO
		1554	BE	TRAWL		197	49 35.833	127 01.59							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
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DE = Deployment Time
MR = Messenger Release Time
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</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							
17	VI 15	1651	BE	CTD		198	49° 38. 27	126° 57. 20	45			1	H.M.		T: 12.18 S: 29.17
		1652	BO				49° 38. 26	126° 57. 20		40					BOT@10m. SAL/CHL/NUTS
		1653	EN				49° 38. 26	126° 57. 20							
		1655	BE	NET		199	49° 38. 25	126° 57. 19		36					BONGO
		1712	BE	TRAWL		200	49 38.677	126 58.049							TRAWL
17	VI 16	1954	BE	CTD		201	49° 55. 35	127° 20. 24	55			1			T: 12.17 S: 29.14
		1955	BO				49° 55. 35	127° 20. 22		50					BOT@10m. SAL/CHL/NUTS
		1958	EN				49° 55. 37	127° 20. 18							
		1902	BE	NET		202	49° 55. 37	127° 20. 14		45					BONGO
		2019	BE	TRAWL		203	49 54.818	127 21.164							TRAWL
17	VI 17	2113	BE	CTD		204	49° 52. 29	127° 25. 31	62			1			T: 12.10 S: 31.33
		2115	BO				49° 52. 29	127° 25. 28		55					BOT@10m. SAL/CHL/NUTS
		2118	EN				49° 52. 29	127° 25. 26							
		2120	BE	NET		205	49° 52. 25	127° 25. 19		52					BONGO
		2137	BE	TRAWL		206	49 51.63	127 26.21							TRAWL

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W. G. RICKER</u>			Cruise ID <u>2010-18</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							
17	V1 18	2241	BE	CTD		207	49° 47.99	127° 31.36	82			1	H.M.		T: 12.21 S: 31.11
		2242	BO				49° 48.02	127° 31.31		72					BOT@10m - SAL/CHL/NTS
		2245	EN				49° 48.02	127° 31.28							
		2248	BE	NET		208	49° 48.04	127° 31.25		69					BONGO
		2307	BE	TRAWL		209	49° 48.34	127° 32.54							TRAWL
18	V1 03	1401	BE			210	50° 24.02	127° 29.20	116			1		✓	T: 11.93 S: 28.99
		1404	BO				50° 24.03	127° 29.27		105					BOT@10m - SAL/CHL/NTS
		1406	EN				50° 24.05	127° 29.28							
		1411	BE			211	50° 23.98	127° 29.35		117					BONGO
		1440	BE			212	50° 24.15	127° 29.3							TRAWL
18	V1 04	1531	BE			213	50° 27.86	127° 32.26	179			1			T: 11.84 S: 28.76
		1536	BO				50° 27.89	127° 32.23		165					BOT@10m - SAL/CHL/NTS
		1540	EN				50° 27.90	127° 32.23							
		1543	BE			214	50° 27.89	127° 32.25		150					BONGO
		1605	BE			215	50° 28.04	127° 33.005							TRAWL

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Bottle Firing Method:

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Notes:

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 Version: 16 April 2010

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month OCTOBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-13				
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	1V1 05	1903	BE	CTD		216	50° 35.02	127° 27.05	60			1	H.M.		T: 11.46 S: 26.11
		1905	BO				50° 35.04	127° 27.02		50					BOT@10m - SAL/CHL/HUTS
		1907	EH				50° 35.06	127° 27.00							
		1910	BE	NET		217	50° 35.06	127° 26.97		52					BONGO
		1928	BE	TRAWL		218	50 34.99	127 28.019							TRAWL
18	1V1 06	2019	BE	CTD		219	50° 35.01	127° 35.41	123			1			T: 11.56 S: 26.19
		2021	BO				50° 35.01	127° 35.42		115					BOT@10m - SAL/CHL/HUTS
		2025	EH				50° 35.01	127° 35.42							
		2027	BE	NET		220	50° 35.01	127° 35.41		116					BONGO
		2046	BE	TRAWL		221									TRAWL
18	1V1 07	2144	BE	CTD		222	50° 35.82	127° 44.44	77			1			T: 11.60 S: 23.10
		2146	BO				50° 35.82	127° 44.44		70					BOT@10m - SAL/CHL/HUTS
		2148	EH				50° 35.84	127° 44.44							
		2151	BE	NET		223	50° 35.85	127° 44.44		67					BONGO
		2207	BE	TRAWL		224	50 35.65	127 43.61							TRAWL

Cast Type:

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Bottle Firing Method:

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Notes:

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month OCTOBER				Year 2010			Ship W.E. RICKER			Cruise ID 2010-18					
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	1V1 08	1417	BE	CTD		225	50° 30.48	127° 41.65	166			1	H.A.	✓	T: 11.47 S: 26.15
		1420	BO				50° 30.48	127° 41.60		155					BOT@10m - SAL/CHL/NUIS
		1424	EN				50° 30.47	127° 41.55							
		1426	BE	NET		226	50° 30.47	127° 41.54		150					BONGO
			BE	TRAWL		227									TRAWL
19	1V1 09	1558	BE	CTD		228	50° 29.21	127° 50.73	147			1			T: 11.40 S: 20.09
		1601	BO				50° 29.17	127° 50.76		135					BOT@10m - SAL/CHL/NUIS
		1605	EN				50° 29.16	127° 50.76							# S = 28.0 @ 10m
		1607	BE	NET		229	50° 29.15	127° 50.75	162	150					BONGO
			BE	TRAWL		230									TRAWL
19	1V1 10	1722	BE	CTD		231	50° 28.41	127° 57.12	115			1			T: 11.82 S: 26.01
		1725	BO				50° 28.41	127° 57.16		105					BOT@10m - SAL/CHL/NUIS
		1728	EN				50° 28.41	127° 57.17							
		1730	BE	NET		232	50° 28.39	127° 57.19	144	134					BONGO
			BE	TRAWL		233									TRAWL

Cast Type:

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

Produced by the Water Properties Group, IOS

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month OCTOBER				Year 2010			Ship W. E. RICKER				Cruise ID 2010-18				
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	VI 19	1923	BE	CTD		234	50° 21.80	128° 05.69	79			1	H.M.		T: 12.21 S: 31.51
		1925	BO				50° 21.80	128° 05.65		70					BOT@10m SAL/CAL/NOTS
		1928	EN				50° 21.80	128° 05.62							
		1930	BE	NET		235	50° 21.80	128° 05.57		65					BONGO
		1948	BE	TRAWL		236	50 21 55	128 06.37							TRAWL
19	VI 20	2052	BE	CTD		237	50° 18.05	128° 12.07	171	7		1			T: 12.60 S: 31.86
		2055	BO				50° 18.00	128° 12.04		160					BOT@10m SAL/CAL/NOTS
		2058	EN				50° 17.99	128° 12.01							
		2101	BE	NET		238	50° 17.95	128° 12.00		150					BONGO
		2128	BE	TRAWL		239	50 17.6	128 12.9							TRAWL
19	VI 21	2232	BE	CTD		240	50° 14.76	128° 18.41	1021			1			T: 12.68 S: 31.84
		2237	BO				50° 14.82	128° 18.26		250	FILE MISSING				BOT@10m SAL/CAL/NOTS
		2243	EN				50° 14.80	128° 18.19							* SPIKES
		2247	BE	NET		241	50° 14.77	128° 18.07		150					BONGO
		2308	BE	TRAWL		242	50 14.55	128 18.52							TRAWL

Cast Type:

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 RE = Recover Mooring Time

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

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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
20	T 07B	1402	BE	CTD		243	50° 49.44	129° 13.88	104			1	H.M.	✓	T: 12.25 S: 31.77
		1404	BO				50° 49.47	129° 13.83		95					BOT@10m - SAL/CAL/NTS
		1407	EN				50° 49.51	129° 13.80							
		1410	BE	NET		244	50° 49.51	129° 13.75		90					BONGO
		1431	BE	TRAWL		245	50 50.54	129 12.94							TRAWL
20	T 06B	1556	BE	CTD		246	50° 55.94	129° 00.17	58			1			T: 12.13 S: 31.76
		1557	BO				50° 55.93	129° 00.17		50					BOT@10m - SAL/CAL/NTS
		1600	EN				50° 55.94	129° 00.07							
		1602	BE	NET		247	50° 55.95	129° 00.03		48					BONGO
		1718	BE	TRAWL		248	50 56.55	128 58.9							TRAWL
20	T 05B	1721	BE	CTD		249	51° 00.04	128° 51.85	59			1			T: 12.17 S: 31.74
		1722	BO				51° 00.04	128° 51.80		50					BOT@10m - SAL/CAL/NTS
		1724	EN				51° 00.03	128° 51.77							
		1725	BE	NET		250	51° 00.03	128° 51.72		49					BONGO
		1742	BE	TRAWL		251	51 00.548	128 50.5							TRAWL

Cast Type:

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Month OCTOBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-18				
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	T04B	1858	BE	CTD		252	51° 04.45	128° 42.84	63			1	H.M.		T: 12.08 S: 31.74
		1859	BO				51° 04.42	128° 42.78		55					BOT@ 10m - SAL/CAL/NOTS
		1901	CH				51° 04.40	128° 42.76							
		1904	BE	NET		253	51° 04.34	128° 42.72		55					BONGO
		1923	BE	TRAWL		254	51 04.567	128 41.77							TRAWL
20	T03B	2028	BE	CTD		255	51° 08.22	128° 35.74	134			1			T: 11.56 S: 31.62
		2030	BO				51° 08.19	128° 35.70		125					BOT@ 10m - SAL/CAL/NOTS
		2033	CH				51° 08.16	128° 35.69							
		2036	BE	NET		256	51° 08.12	128° 35.67							BONGO
		2054	BE	TRAWL		257	51 08.26	128 35.120							TRAWL
20	T02B	2203	BE	CTD		258	51° 12.34	128° 27.93	186			1			T: 12.09 S: 31.69
		2206	BO				51° 12.31	128° 27.91		175					BOT@ 10m - SAL/CAL/NOTS
		2210	CH				51° 12.29	128° 27.92							
		2213	BE	NET		259	51° 12.26	128° 27.94		150					BONGO
		2233	BE	TRAWL		260	51 12.52	128 26.85							TRAWL

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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W.E. BECKER</u>				Cruise ID <u>2010-18</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
20	T 01B	2340	BE	CTD		261	51° 17.08	128° 20.38	76			1	H.M.		T: 11.90 S: 31.72
		2341	BO				51° 17.08	128° 20.37		65					BOTOM - SAL/CAL/NUTS
		2343	EN				51° 17.09	128° 20.36							
		2345	BE	NET		262	51° 17.07	128° 20.34		64					BONGO
21		0030	BE	TRAWL		263	51 17.23	128 20 54							TRAWL
21	IBC 07	1505	BE	CTD		264	51° 17.17	127° 43.96	102			1		✓	T: 10.07 S: 29.81
		1507	BO				51° 17.16	127° 43.99	97	85					BOTOM - SAL/CAL/NUTS
		1509	EN				51° 17.15	127° 44.03							
		1512	BE	NET		265	51° 17.14	127° 44.04		85					BONGO
		1529	BE	TRAWL		266	51 16.708	127 44.892							TRAWL
21	QCSD 06	1724	BE	CTD		267	51° 08.34	127° 54.86	113			1			T: 10.18 S: 30.75
		1726	BO				51° 08 31	127° 54.84		105					BOTOM - SAL/CAL/NUTS
		1729	EN				51° 08 31	127° 54.77							
		1732	BE	NET		268	51° 08 30	127° 54.75		103					BONGO
		1749	BE	TRAWL		269	51 07 51	127 56 433							TRAWL

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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							
21	QCSD 07	1902	BE	CTD		270	51° 02.29	127° 51.29	143			1	W.M.		T: 11.55 S: 31.39
		1904	BO				51° 02.29	127° 51.24		135					BOTELON - SAL/CAL/HUTS
		1907	EN				51° 02.29	127° 51.19							
		1910	BE	NET		271	51° 02.29	127° 51.10		133					BONGO
		1932	BE	TRAWL		272	51 01.52	127 50.20							TRAWL
21	QCST 13	2037	BE	CTD		273	50° 57.95	127° 45.36	221			1			T: 10.83 S: 31.54
		2041	BO				50° 57.94	127° 45.32		210					BOTELON - SAL/CAL/HUTS
		2046	EN				50° 57.94	127° 45.29							
		2048	BE	NET		274	50° 57.95	127° 45.26		150					BONGO
		2110	BE	TRAWL		275	50 57.327	127 44.39							TRAWL
21	QCST 14	2210	BE	CTD		276	50° 53.55	127° 37.84	426			1			T: 11.58 S: 31.44
		2215	BO				50° 53.51	127° 37.81		250					BOTELON - SAL/CAL/HUTS
		2220	EN				50° 53.49	127° 37.80							
		2223	BE	NET		277	50° 53.46	127° 37.76		150					BONGO
		2244	BE	TRAWL		278	50 53.126	127 36.785							TRAWL

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Month OCTOBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-18				
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							
22	GS 21	2203	BE	CTD		279	49° 45.95	124° 49.03	235			1	H.M.	✓	T: 10.92 S: 28.91
		2207	BO				49° 45.93	124° 48.94		225					BOT@10m - SAL/CHL/NUTS
		2212	EN				49° 45.94	124° 48.87							
		2214	BE	NET		280	49° 45.94	124° 48.84		150					BONGO
22	GS 22	2256	BE	CTD		281	49° 42.81	124° 43.77	298			1			T: 11.42 S: 28.37
		2300	BO				49° 42.86	124° 43.69		250					BOT@10m - SAL/CHL/NUTS
		2306	EN				49° 42.86	124° 43.63							
		2308	BE	NET		282	49° 42.90	124° 43.57		150					BONGO
22	GS 23	2354	BE	CTD		283	49° 38.04	124° 40.59	120			1			T: 11.63 S: 28.45
		2356	BO				49° 38.04	124° 40.56		110					BOT@10m - SAL/CHL/NUTS
		2359	EN				49° 38.04	124° 40.53							
23		0002	BE	NET		284	49° 38.04	124° 40.51		108					BONGO
23	GS 24	0042	BE	CTD		285	49° 36.53	124° 33.94	131			1			T: 11.82 S: 28.08
		0045	BO				49° 36.52	124° 33.92		120					BOT@10m - SAL/CHL/NUTS
		0048	EN				49° 36.52	124° 33.89							
		0051	BE	NET		286	49° 36.51	124° 33.86		124					BONGO

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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
23	GS 25	0123	BE	CTD		287	49° 33.00	124° 34.92	171			1	U.M.		T: 11.30 S: 23.34
		0126	BO				49° 32.99	124° 34.91		160					BOT@10m - SAL/CAL/NUTS
		0130	EN				49° 32.98	124° 34.88							
		0133	BE	NET		288	49° 32.95	124° 34.86		150					BONGO
23	GS 26	0218	BE	CTD		289	49° 31.06	124° 27.74	187			1			T: 11.47 S: 23.44
		0222	BO				49° 31.07	124° 27.69		175					BOT@10m - SAL/CAL/NUTS
		0226	EN				49° 31.08	124° 27.63							
		0230	BE	NET		290	49° 31.10	124° 27.49		150					BONGO
23	GS 27	1400	BE	CTD		291	49° 38.41	124° 14.13	336			1		✓	T: 11.65 S: 27.39
		1405	BO				49° 38.41	124° 14.14		250					BOT@10m - SAL/CAL/NUTS
		1410	EN				49° 38.41	124° 14.10							
		1413	BE	NET		292	49° 38.40	124° 14.09		150					BONGO
23	GS 28	1504	BE	CTD		293	49° 33.35	124° 07.60	356			1			T: 11.64 S: 27.83
		1509	BO				49° 33.31	124° 07.59		250					BOT@10m - SAL/CAL/NUTS
		1515	EN				49° 33.30	124° 07.55							
		1518	BE	NET		294	49° 33.32	124° 07.52		150					BONGO

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Month <u>OCTOBER</u>				Year <u>2010</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
23	GS 29	16 24	BE	CTD		295	49° 25.85	124° 01.91	384			1	H.M.		T: 11.84 S: 26.39
		16 29	BO				49° 25.84	124° 01.93		250					BOT@10m SAL/CAL/NUTS
		16 34	EN				49° 25.85	124° 01.93							
		16 36	BE	NET		296	49° 25.86	124° 01.94		150					BONGO
23	GS 30	17 10	BE	CTD		297	49° 22.30	124° 04.02	242			1			T: 11.76 S: 27.76
		17 15	BO				49° 22.31	124° 03.97		230					BOT@10m SAL/CAL/NUTS
		17 20	EN				49° 22.29	124° 03.88							
		17 22	BE	NET		298	49° 22.27	124° 03.86		150					BONGO
23	GS 31	17 55	BE	CTD		299	49° 22.22	123° 58.44	309			1			T: 11.90 S: 26.82
		18 00	BO				49° 22.19	123° 58.37		250					BOT@10m SAL/CAL/NUTS
		18 06	EN				49° 22.19	123° 58.33							
		18 08	BE	NET		300	49° 22.17	123° 58.29							BONGO
23	GS 32	19 00	BE	CTD		301	49° 22.61	123° 48.28	179			1			T: 11.60 S: 27.95
		19 03	BO				49° 22.60	123° 48.24		170					BOT@10m SAL/CAL/NUTS
		19 07	EN				49° 22.61	123° 48.22							
		19 12	BE	NET		302	49° 22.65	123° 48.16		150					BONGO

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Month OCTOBER				Year 2010			Ship W.E. RICHES				Cruise ID 2010-18				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
23	GS 33	2037	BE	CTD		303	49° 18.46	123° 32.25	161			1	H.M.		T: 11.81 S: 25.60
		2040	BO				49° 18.48	123° 32.21		150					BOT@10m - SAL/CAL/NUIS
		2043	EN				49° 18.49	123° 32.18							
		2046	BE	NET		304	49° 18.50	123° 32.16		150					BONGO
23	GS 34	2133	BE	CTD		305	49° 18.86	123° 40.67	121			1			T: 11.85 S: 27.31
		2135	BO				49° 18.88	123° 40.66		110					BOT@10m - SAL/CAL/NUIS
		2138	EN				49° 18.91	123° 40.60							
		2140	BE	NET		306	49° 18.89	123° 40.58	145	135					BONGO
23	GS 35	2224	BE	CTD		307	49° 18.11	123° 48.98	395			1			T: 11.47 S: 28.28
		2229	BO				49° 18.12	123° 48.96		250					BOT@10m - SAL/CAL/NUIS
		2234	EN				49° 18.14	123° 48.94							
		2237	BE	NET		308	49° 18.15	123° 48.91		150					BONGO
23	GS 36	2313	BE	CTD		309	49° 18.95	123° 54.45	392			1			T: 11.16 S: 28.61
		2317	BO				49° 18.98	123° 54.40		250					BOT@10m - SAL/CAL/NUIS
		2323	EN				49° 19.01	123° 54.36							
		2325	BE	NET		310	49° 19.03	123° 54.31							BONGO

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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							
30	GS 37	1755	BE	CTD		311	49° 22.151	124° 14.88	295			1	H.M.	✓	T: 10.64 S: 28.57
		1801	BO				49° 22.20	124° 14.81		250					BOT@10m - SAL/CHL/NTS
		1807	EN				49° 22.20	124° 14.83							
		1808	BE	NET		312	49° 22.21	124° 14.80		150					BONGO
30	GS 38	1921	BE	CTD		313	49° 26.44	124° 28.40	323			1			T: S:
		1926	BO				49° 26.46	124° 28.34		250					BOT@10m - SAL/CHL/NTS
		1931	EN				49° 26.48	124° 28.32							
		1934	BE	NET		314	49° 26.51	124° 28.29		150					BONGO
31	BC 08	1534	BE	CTD		315	51° 28.94	127° 51.43	140			1		✓	T: 9.55 S: 25.76
		1537	BO				51° 28.93	127° 51.40		140					BOT@10m - SAL/CHL/NTS
		1541	EN				51° 28.94	127° 51.36							
		1544	BE	NET		316	51° 28.93	127° 51.32		138					BONGO
		1603	BE	TRAWL		317	51° 29.4	127° 51.23	162						TRAWL

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This page is for any notes or observations

* CTD NOT LOGGED -oops

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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							
31	IBC 09	1700	BE	CTD		318	51° 33.91	127° 52.25	209			1	H.M.		T: 9.39 S: 24.98
		1703	BO				51° 33.89	127° 52.18		195					BOT@10m - SAL/CHL/NO3
		1708	EN				51° 33.86	127° 52.07							
		1711	BE	NET		319	51° 33.84	127° 52.01		150					BONGO
		1731	BE	TRAWL		320	51° 34.28	127° 52.11	245						TRAWL
31	IBC 10	1847	BE	CTD		321	51° 41.15	127° 55.77	322			1			T: 9.54 S: 25.94
		1851	BO				51° 41.12	127° 55.74		250					BOT@10m - SAL/CHL/NO3
		1857	EN				51° 41.10	127° 55.71							
		1859	BO	NET		322	51° 41.08	127° 55.69		150					BONGO
		1918	BE	TRAWL		323	51° 41.74	127° 55.67	323						TRAWL
31	IBC 11	2019	BE	CTD		324	51° 47.35	127° 56.57	331			1			T: 8.96 S: 25.72
		2024	BO				51° 47.35	127° 56.54		250					BOT@10m - SAL/CHL/NO3
		2029	EN				51° 47.37	127° 56.49							
		2032	BE	NET		325	51° 47.36	127° 56.46		150					BONGO
		2052	BE	TRAWL		326	51° 48.15	127° 56.66	304						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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Month		OCTOBER/NOVEMBER		Year		2010		Ship		W.E. RICKER		Cruise ID		2010-18		Page 12 of 12	
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									
31	1BC 12	21 49	BE	CTD		327	51° 52.28	127° 56.63	308			1	H.M.		T: 8.98 S: 24.77		
		21 53	BO				51° 52.23	127° 56.60		250					BOTOM - SAL/CHL/NUTS		
		21 58	EN				51° 52.19	127° 56.59									
		22 01	BE	NET		328	51° 52.17	127° 56.59		150					BONGO		
		22 20	BE	TRAWL		329	51° 53.00	127° 56.74	314						TRAWL		
31	1BC 13	23 09	BE	CTD		330	51° 56.68	127° 56.23	335			1			T: 8.95 S: 25.28		
		23 14	BO				51° 56.68	127° 56.14		250					BOTOM - SAL/CHL/NUTS		
		23 20	EN				51° 56.69	127° 56.07									
		23 23	BE	NET		331	51° 56.67	127° 56.06		150					BONGO		
		23 41	BE	TRAWL		332	51° 57.33	127° 56.08	330						TRAWL		
1	1BC 14	14 37	BE	CTD		333	51° 54.69	127° 53.48	139			1		✓	T: 9.17 S: 25.74		
		14 39	BO				51° 54.68	127° 53.46		130					BOTOM - SAL/CHL/NUTS		
		14 43	EN				51° 54.65	127° 53.38									
		14 46	BE	NET		334	51° 54.62	127° 53.37		132					BONGO		
		15 08	BE	TRAWL		335	51° 55.135	127° 52.38	133						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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Month		NOVEMBER		Year		2010		Ship			W. E. RICKER			Cruise ID			2010-18			Page 45 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													
1	IBC 15	1642	BE	CTD		336	52° 02.23	127° 40.23	260			1	H.M.		T: 8.38 S: 23.14						
		1647	BO				52° 02.30	127° 40.15		250					BOT@10m - SAL/CAL/NOTS						
		1654	EN				52° 02.39	127° 40.12													
		1656	BE	NET		337	52° 02.39	127° 40.05		150					BONGO						
		1715	BE	TRAWL		338	52° 03.09	127° 39.75	335						TRAWL						
1	IBC 16	1903	BE	CTD		339	52° 12.99	127° 25.87	569			1			T: 8.28 S: 16.42						
		1908	BO				52° 12.97	127° 25.83		250					BOT@10m - SAL/CAL/NOTS						
		1914	EN				52° 12.94	127° 25.84													
		1916	BE	NET		340	52° 12.92	127° 25.83		150					BONGO						
		1936	BE	TRAWL		341	52° 13.36	127° 24.59	569						TRAWL						
1	IBC 17	2055	BE	CTD		342	52° 17.67	127° 13.34	548			1			T: 8.48 S: 17.74						
		2100	BO				52° 17.66	127° 13.39		250					BOT@10m - SAL/CAL/NOTS						
		2105	EN				52° 17.65	127° 13.44													
		2108	BE	NET		343	52° 17.65	127° 13.45		150					BONGO						
		2128	BE	TRAWL		344	52° 18.27	127° 12.6	498						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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Month <u>NOVEMBER</u>				Year <u>2010-</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</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							
1	IBC 18	22.59	BE	CTD		345	52° 27. 27	127° 15. 72	499			1	H.M.		T: 8.87 S: 18.37
		23 04	BO				52° 27. 26	127° 15. 66		250					BOTOM - SAL/CAL/NUTS
		23 09	EN				52° 27. 27	127° 15. 62							
		23 12	BE	NET		346	52° 27. 27	127° 15. 59		150					BONGO
		23 33	BE	TRAWL		347	52° 26. 70	127° 16. 75	399						TRAWL
2	IBC 19	01 36	BE	CTD		348	52° 20. 76	127° 28. 37	499			1			T: 9.00 S: 16.21
		01 41	BO				52° 20. 76	127° 28. 26		250					BOTOM - SAL/CAL/NUTS
		01 46	EN				52° 20. 77	127° 28. 24							
		01 49	BE	NET		349	52° 20. 78	127° 28. 21		150					BONGO
		00 49	BE	TRAWL		350	52° 22. 66	127° 27. 30	453						TRAWL
2	IBC 20	14 43	BE	CTD		351	52° 15. 15	128° 33. 45	250			1		✓	T: 10.52 S: 29.65
		14 48	BO				52° 15. 17	128° 33. 39		240					BOTOM - SAL/CAL/NUTS
		14 54	GO				52° 15. 15	128° 33. 35							
		14 57	BE	NET		352	52° 15. 16	128° 33. 32		150					BONGO
		15 24	BE	TRAWL		353	52° 15. 61	128° 33. 32	261						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 DE = Deployment Time
 BO = Bottom Time of Cast MR = Messenger Release Time
 EN = End Time of Cast RE = Recover Mooring Time

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

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IBC19: Trawl first, then CTD & bongo.

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Month NOVEMBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-18				
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							
2	IBC 21	1627	BE	CTD		354	52° 21.59	128° 32.05	220			1	HM		T: 10.21 S: 29.05
		1630	BO				52° 21.60	128° 32.05		210					BOT@10m - SAL/CHL/NOTS
		1635	EN				52° 21.59	128° 32.03							
		1639	BE	NET		355	52° 21.56	128° 32.04		150					BONGO
		1700	BE	TRAWL		356	52° 22.02	128° 31.65	222						TRAWL
2	IBC 22	1807	BE	CTD		357	52° 27.73	128° 26.19	528			1			T: 10.08 S: 28.69
		1811	BO				52° 27.73	128° 26.15		250					BOT@10m - SAL/CHL/NOTS
		1817	EN				52° 27.74	128° 26.13							
		1819	BE	NET		358	52° 27.74	128° 26.13		150					BONGO
		1839	BE	TRAWL		359	52° 28.69	128° 26.65	662						TRAWL
2	IBC 23	1951	BE	CTD		360	52° 35.77	128° 27.69	649			1			T: 10.31 S: 29.20
		1955	BO				52° 35.78	128° 27.65		250					BOT@10m - SAL/CHL/NOTS
		2001	EN				52° 35.78	128° 27.62							
		2003	BE	NET		361	52° 35.78	128° 27.60		150					BONGO
		2023	BE	TRAWL		362	52° 36.83	128° 27.87	578						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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Month NOVEMBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-18				
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							
2	IBC 24	2135	BE	CTD		363	52° 44.47	128° 27.94	677			1	H.M		T: 9.41 S: 27.87
		2140	BO				52° 44.45	128° 27.89		250					BOT@10m - SAL/CHL/NTS
		2145	EN				52° 44.44	128° 27.86							
		2147	BE	NET		364	52° 44.43	128° 27.89		150					BONGO
		2207	BE	TRAWL		365	52° 45.08	128° 27.82	636						TRAWL
3	IBC 25	0047	BE	CTD		366	52° 57.09	128° 30.82	404			1			T: 8.50 S: 24.30
		0052	BO				52° 57.12	128° 30.80		250					BOT@10m - SAL/CHL/NTS
		0057	EN				52° 57.13	128° 30.84							
		0100	BE	NET		367	52° 57.14	128° 30.86		150					BONGO
		2338	BE	TRAWL		368	52° 54.48	128° 30.64	425						TRAWL
3	IBC 26	1438	BE	CTD		369	53° 05.86	129° 07.58	530			1		✓	T: 10.09 S: 29.13
		1443	BO				53° 05.90	129° 07.59		250					BOT@10m - SAL/CHL/NTS
		1449	EN				53° 05.95	129° 07.55							
		1451	BE	NET		370	53° 05.97	129° 07.53		150					BONGO
		1521	BE	TRAWL		371	53° 06.945	129° 07.53	550						TRAWL

Cast Type:

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

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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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IBC25: Trawl before dinner break, CTD/bongo after dinner

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Month NOVEMBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-18				
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							
3	IBC 27	1638	BE	CTD		372	53° 14.51	129° 07.61	515			1	H.M.		T: 9.86 S: 28.68
		1643	BO				53° 14.54	129° 07.63		250					BOT@10m - SAL/CAL/NTS
		1649	EN				53° 14.56	129° 07.67							
		1651	BE	NET		373	53° 14.57	129° 07.69		150					BONGO
		1710	BE	TRAWL		374	53° 15.087	129° 07.954	515						TRAWL
3	IBC 28	1826	BE	CTD		375	53° 20.77	129° 09.73	421			1			T: 9.24 S: 26.51
		1831	BO				53° 20.81	129° 09.77		250					BOT@10m - SAL/CAL/NTS
		1836	EN				53° 20.82	129° 09.82							
		1839	BE	NET		376	53° 20.82	129° 09.84		150					BONGO
		1901	BE	TRAWL		377	53° 21.67	129° 09.94	415						TRAWL
3	IBC 29	2021	BE	CTD		378	53° 28.28	129° 04.56	193			1			T: 8.85 S: 25.16
		2025	BO				53° 28.27	129° 04.58		180					BOT@10m - SAL/CAL/NTS
		2029	EN				53° 28.24	129° 04.58							
		2032	BE	NET		379	53° 28.22	129° 04.59		150					BONGO
		2052	BE	TRAWL		380	53° 28.66	129° 04.53	180						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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Month NOVEMBER				Year 2010			Ship W. E. RICKER				Cruise ID 2010-13				
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							
3	IBC 30	22.27	BE	CTD		381	53° 32.80	128° 55.68	212			1	H.M.		T: 7.94 S: 18.72
		22.31	BO				53° 32.83	128° 55.68		200					BOT@10m SAL/CHL/NUIS
		22.35	EN				53° 32.87	128° 55.72							
		22.37	BE	NET		382	53° 32.88	128° 55.71		150					BONGO
		22.59	BE	TRAWL		383	53° 33.02	128° 54.75	213						TRAWL
4	IBC 31	01.10	BE	CTD		384	53° 42.20	128° 48.79	306			1			T: 7.97 S: 19.81
		01.14	BO				53° 42.23	128° 48.76		250					BOT@10m SAL/CHL/NUIS
		01.20	EN				53° 42.23	128° 48.74							
		01.22	BE	NET		385	53° 42.25	128° 48.72		150					BONGO
		00.22	BE	TRAWL		386	53° 40.038	128° 51.21	271						TRAWL
4	IBC 32	14.38	BE	CTD		387	53° 58.76	128° 40.32	133			1		✓	T: 8.07 S: 20.70
		14.41	BO				53° 58.78	128° 40.32		120					BOT@10m SAL/CHL/NUIS
		14.44	EN				53° 58.80	128° 40.32							
		14.47	BE	NET		388	53° 58.80	128° 40.33		120					BONGO
		15.24	BE	TRAWL		389	53° 58.222	128° 40.52	159						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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IBC 31: Trawl first then CTD/Bongo.

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Month <u>NOVEMBER</u>				Year <u>2010</u>			Ship <u>W. E. RICKER</u>			Cruise ID <u>2010-18</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							
4	IBC 33	1628	BE	CTD		390	53°52.79	128°45.44	270			1	H.M.		T: 8.01 S: 17.98
		1633	BO				53°52.77	128°45.48		250					BOT@10m - SAL/CHL/NOTS
		1638	EN				53°52.78	128°45.50							
		1641	BE	NET		391	53°52.78	128°45.49		150					BONGO
		1700	BE	TRAWL		392	53°52.234	128°45.92	285						TRAWL
4	IBC 34	1808	BE	CTD		393	53°47.29	128°53.41	374			1			T: 7.73 S: 17.11
		1813	BO				53°47.25	128°53.49		250					BOT@10m - SAL/CHL/NOTS
		1819	EN				53°47.20	128°53.47							
		1822	BE	NET		394	53°47.20	128°53.44		150					BONGO
		1840	BE	TRAWL		395	53°46.84	128°54.32	372						TRAWL
4	IBC 35	2006	BE	CTD		396	53°42.57	129°05.70	393			1			T: 8.42 S: 22.07
		2011	BO				53°42.54	129°05.71		250					BOT@10m - SAL/CHL/NOTS
		2017	EN				53°42.51	129°05.68							
		2019	BE	NET		397	53°42.50	129°05.68		150					BONGO
		2038	BE	TRAWL		398	53°42.05	129°06.22	397						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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Month <u>NOVEMBER</u>				Year <u>2010</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</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							
4	IBC 36	2201	BE	CTD		399	53° 35.68	129° 12.90	235			1	H.M.		T: 8.33 S: 20.74
		2205	BO				53° 35.65	129° 12.89		225					BOT@10m - SAL/CAL/NUTS
		2211	EN				53° 35.64	129° 12.88							
		2213	BE	NET		400	53° 35.64	129° 12.89		150					BONGO
		2232	BE	TRAWL		401	53° 35.12	129° 12.81	253						TRAWL
5	IBC 37	0034	BE	CTD	2 nd	402	53° 24.97	129° 13.19	387			1			T: 8.53 S: 22.44 (2)
		0039	BO				53° 24.92	129° 13.14		250					BOT@10m - SAL/CAL/NUTS
		0044	EN				53° 24.89	129° 13.10							
		0046	BE	NET	3 rd	403	53° 24.87	129° 13.08		150					BONGO (3)
4		2348	BE	TRAWL	1 st	404	53° 27.69	129° 12.65	374						TRAWL (1)
5	IBC 38	1446	BE	CTD		405	53° 16.77	129° 16.91	525			1		✓	T: 9.28 S: 27.14
		1451	BO				53° 16.77	129° 16.98		250					BOT@10m - SAL/CAL/NUTS
		1456	EN				53° 16.80	129° 17.01							
		1458	BE	NET		406	53° 16.82	129° 17.01		150					BONGO
		1519	BE	TRAWL		407	53° 16.47	129° 17.50	417						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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DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2010-18

DATE:

From: OCT 1 / 10 to: NOV 19 / 10

VESSEL:

W. E. RICKER

PROJECT(S):

HIGH SEAS SALMON (TRAUDEL)

Book 3 of 3

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

WaterProperties.ca

Captain:	SCOTT DOAN	First Officer:	DUNCAN
Second Officer:	ANDREW COSTA	Third Officer:	
Fishing Master:	AL YOUNG		MCALLUM

Mission Participants / Agencies:

[illegible][illegible]

Data logging computer: PAC 02328

Data acquisition program: SEASAVE V7.19

CTD deck unit make: SBG **model:** 11 **serial number:** 0471

Primary CTD

Make: SB 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: WET LAB Model: 1005 LR s/n: 2648 P, S or NO pump?

Fluorometer: Model SCA Point Cable gain: 10 x 0.15 s/n: 6997 P, S or NO pump?

Oxygen sensor: SB Model: 43 s/n: 6997 P, S or NO pump?

PAR sensor: Model: s/n: 6997 P, S or NO pump?

Other sensors: AH SB s/n: 6997 P, S or NO pump?

Other sensors: Model: s/n: 6997 P, S or NO pump?

Other sensors: Model: s/n: 6997 P, S or NO pump?

Other sensors: Model: s/n: 6997 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

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Month NOVEMBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-18				Page 51 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								
5	IBC 39	1634	BE	CTD		408	53° 09.39	129° 23.34	548			1	H.M.		T: 9.18 S: 28.59	
		1639	BO				53° 09.40	129° 23.32		250					BOT@10m - SAL/CAL/NTS	
		1644	EN				53° 09.38	129° 23.32								
		1646	BE	NET		409	53° 09.38	129° 23.32		150					BONGO	
		1705	BE	TRAWL		410	53° 08.94	129° 22.91	489						TRAWL	
5	IBC 40	1820	BE	CTD		411	53° 02.79	129° 17.01	428			1			T: 9.94 S: 29.35	
		1825	BO				53° 02.87	129° 16.99		250					BOT@10m - SAL/CAL/NTS	
		1831	EN				53° 02.93	129° 17.02								
		1833	BE	NET		412	53° 02.95	129° 17.04		150					BONGO	
		1852	BE	TRAWL		413	53° 02.30	129° 16.27	364						TRAWL	
5	IBC 41	2010	BE	CTD		414	52° 55.03	129° 18.94	232						T: 10.22 S: 30.56	
		2014	BO				52° 55.03	129° 18.91		220					BOT@10m - SAL/CAL/NTS	
		2019	EN				52° 55.03	129° 18.88								
		2021	BE	NET		415	52° 55.03	129° 18.84		150					BONGO	
		2041	BE	TRAWL		416	52° 55.42	129° 19.88	222						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
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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Month				Year				Ship				Cruise ID				Page		of	
NOVEMBER				2010				W.E. RICHER				2010-13				52		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											
5	1BC 42	2150	BE	CTD		417	53°00.20	129° 28.98	117			1	W.M.		T: 10.13 S: 30.38				
		2152	BO				53°00.18	129° 28.94		105					BOT@10m - SAL/CYL/NUTS				
		2155	EN				53°00.14	129° 28.88											
		2158	BE	NET		418	53°00.10	129° 28.85		100					BONGO				
		2215	BE	TRAWL		419	53°00.64	129° 29.45	118						TRAWL				
6	DE 06	1448	BE	CTD		420	54° 14.94	132° 55.64	213			1		✓	T: 10.31 S: 32.00				
		1452	BO				54° 14.98	132° 55.53		200					BOT@10m - SAL/CYL/NUTS				
		1457	EN				54° 15.03	132° 55.40											
		1500	BE	NET		421	54° 15.05	132° 55.36		150					BONGO				
		1527	BE	TRAWL		422	54° 14.404	132° 53.578	233						TRAWL				
6	DE 05	1633	BE	CTD		423	54° 10.58	132° 46.73	58			1			T: 10.41 S: 31.99				
		1634	BO				54° 10.56	132° 46.68		50					BOT@10m - SAL/CYL/NUTS				
		1636	EN				54° 10.55	132° 46.63											
		1639	BE	NET		424	54° 10.54	132° 46.60		45					BONGO				
		1653	BE	TRAWL		425	54° 10.483	132° 45.464	55						TRAWL				

Cast Type: USW - Sea Water Log

Cast Type:

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 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

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Notes:

Time Code:

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

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Month <u>NOVEMBER</u>		Year <u>2010</u>		Ship <u>W. E. RICKER</u>		Cruise ID <u>2010-18</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							
6	DE 04	1817	BE	CTD		426	54° 09.73	132° 31.82	66			1	H.M.		T: 10.06 S: 31.95
		1819	BO				54° 09.71	132° 31.80		55					BOT@10m - SAL/CHL/NUIS
		1821	EN				54° 09.71	132° 31.75							
		1823	BE	NET		427	54° 09.69	132° 31.69		55					
		1839	BE	TRAWL		428	54° 09.393	132° 30.271	57						BONGO TRAWL
6	DE 03	2018	BE	CTD		429	54° 10.10	132° 14.04	81			1			T: 9.95 S: 31.70
		2019	BO				54° 10.08	132° 13.99		70					BOT@10m - SAL/CHL/NUIS
		2021	EN				54° 10.10	132° 13.93							
		2024	BE	NET		430	54° 10.11	132° 13.85		70					
		2041	BE	TRAWL		431	54° 10.38	132° 12.44	74						BONGO TRAWL
6	DE 02	2216	BE	CTD		432	54° 09.88	131° 56.05	71			1			T: 9.61 S: 31.66
		2217	BO				54° 09.87	131° 56.04		60					BOT@10m - SAL/CHL/NUIS
		2219	EN				54° 09.87	131° 56.04							
		2222	BE	NET		433	54° 09.85	131° 56.05		60					
		2237	BE	TRAWL		434	54° 10.16	131° 55.03	75						BONGO TRAWL

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DRF = Drifter

Bottle Firing Method:

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UN = Up / No stop
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Notes:

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Month				Year				Ship				Cruise ID				Page		of	
NOVEMBER				2010				W. E. RICKER				2010-18				54		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											
7	DE 01	0059	BE	CTD		435	54° 14.03	131° 41.37	102			1	H.M.		T: 9.61 S: 31.77				
		0101	BO				54° 14.06	131° 41.37		90					BOTOM-SAL/CHL/NUTS				
		0104	EN				54° 14.03	131° 41.40											
		0107	BE	NET		436	54° 13.98	131° 41.43		90									
		2346	BE	TRAWL		437	54° 13.17	131° 48.82	124						BONGO TRAWL				
				DATA	LIGHT		SAVINGS												
7	IBC 43	1501	BE	CTD		438	55° 00.13	130° 01.05	185			1		✓	T: 8.57 S: 27.09				
		1505	BO				55° 00.20	130° 01.83		175					BOTOM-SAL/CHL/NUTS				
		1509	EN				55° 00.20	130° 01.87											
		1512	BE	NET		439	55° 00.20	130° 01.89		150					BONGO				
		1532	BE	TRAWL		440	54° 59.649	130° 02.719	196						TRAWL				
7	IBC 44	1650	BE	CTD		441	54° 52.02	130° 12.34	420			1			T: 8.23 S: 25.98				
		1654	BO				54° 52.06	130° 12.31		250					BOTOM-SAL/CHL/NUTS				
		1700	EN				54° 52.06	130° 12.32											
		1703	BE	NET		442	54° 52.05	130° 12.34		150					BONGO				
		1729	BE	TRAWL		443	54° 50.947	130° 14.183	398						TRAWL				
						</													

Cast Type:

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Bottle Firing Method:

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Notes:

Time Code:

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

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This page is for any notes or observations

DE01: Trawl first then CTD/bongo.

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Month				Year			Ship				Cruise ID				
NOVEMBER				2010			W.E. RICKER				2010-18				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
7	IBC 45	1815	BE	CTD		444	54° 47.79	130° 17.73	464			1	H.M.		T: 8.57 s: 26.47
		1820	BO				54° 47.76	130° 17.81		250					Boreion. SAL/CHL/NTS
		1826	EN				54° 47.69	130° 17.86							
		1830	BE	NET		445	54° 47.66	130° 18.13		150					BONGO
		1849	BE	TRAWL		446	54° 47.137	130° 18.998	463						TRAWL
7	IBC 46	1953	BE	CTD		447	54° 43.82	130° 25.42	487			1			T: S:
		1958	BO				54° 43.81	130° 25.42		250					Boreion. SAL/CHL/NTS
		2005	EN				54° 43.79	130° 25.44							
		2008	BE	NET		448	54° 43.79	130° 25.45		150					BONGO
		2028	BE	TRAWL		449	54° 42.92	130° 25.87	480						TRAWL
7	IBC 47	2132	BE	CTD		450	54° 36.80	130° 30.32	466			1			T: 9.41 s: 28.69
		2135	BO				54° 36.81	130° 30.30	154	145					Boreion. SAL/CHL/NTS
		2139	EN				54° 36.81	130° 30.27							
		2141	BE	NET		451	54° 36.80	130° 30.24		145					BONGO
		2159	BE	TRAWL		452	54° 36.08	130° 30.53	386						TRAWL

Cast Type:

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= Sea Water Loop
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Bottle Firing Method:

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Notes: _____

Time Code:

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Month NOVEMBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-18				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
7	IBC 48	2315	BE	CTD		453	54°29.21	130°32.45	155			1	Hm		T: 9.33 S: 28.28
		2318	BO				54°29.24	130°32.37		145					BOTOM. SAL/CHL/NUTS
		2321	EN				54°29.24	130°32.33							
		2325	BE	NET		454	54°29.26	130°32.28		135					BONGO
		2347	BE	TRAWL		455	54°28.52	130°32.73	145						TRAWL
		CREW	CHANGE												
10	ISEA 01	1704	BG	CTD		456	55°59.03	131°14.14	351			1		✓	T: 7.01 S: 21.20
		1710	BO				55°59.05	131°14.17		250					BOTOM. SAL/CHL/NUTS
		1715	EN				55°59.08	131°14.16							
		1718	BG	NET		457	55°59.10	131°14.15		150					BONGO
		1744	BG	TRAWL		458	55°58.86	131°14.06							TRAWL
10	ISEA 02	1906	BE	CTD		459	55°51.64	131°04.44	551			1			T: 8.89 S: 25.63
		1912	BO				55°51.59	131°04.37		250					BOTOM. SAL/CHL/NUTS
		1919	EN				55°51.50	131°04.30							
		1922	BE	NET		460	55°51.48	131°04.32							BONGO
		1944	BE	TRAWL		461	55°50.61	131°04.1							TRAWL

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Month NOVEMBER				Year 2010			Ship W.E. RICKER			Cruise ID 2010-18					
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	ISCA 03	2106	BE	CTD		462	55° 42.30	130° 56.34	513			1	4-M.		T: 8.03 S: 24.07
		2111	BO				55° 42.22	130° 56.31		250					BOTOM-SAL/CHL/NOTS
		2118	EN				55° 42.13	130° 56.27							
		2120	BE	NET		463	55° 42.06	130° 56.23							
		2142	BE	TRAWL		464	55 40.73	130 55.68							BONGO
															TRAWL
10	ISCA 04	2248	BE	CTD		465	55° 34.10	130° 54.48	401			1			T: 8.30 S: 24.71
		2253	BO				55° 34.11	130° 54.54							BOTOM-SAL/CHL/NOTS
		2259	EN				55° 34.13	130° 54.60							
		2301	BE	NET		466	55° 34.14	130° 54.64							BONGO
		2321	BE	TRAWL		467	55 33.10	130 55.47							TRAWL
11	ISCA 05	0142	BE	CTD		468	55° 23.11	130° 55.98	399			1			T: 7.36 S: 25.00
	2 nd	0148	BO				55° 22.98	130° 55.95		250					BOTOM-SAL/CHL/NOTS
		0154	EN				55° 22.95	130° 55.97							
	3 rd	0205	BE	NET		469	55° 22.95	130° 55.53							BONGO
	1 st	0032	BE	TRAWL		470	55 25.81	130 57.13							TRAWL

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Notes:

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Month <u>NOVEMBER</u>		Year <u>2010</u>		Ship <u>W.E. RICHER</u>		Cruise ID <u>2010-13</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							
11	ISCA 06	1509	BE	CTD		471	55° 18.32	131° 56.81	393			1	H.M.	✓	T: 8.94 S: 28.96
		1514	BO				55° 18.36	131° 56.64		250					BOTOM-SAL/CAL/NOTES
		1521	EN				55° 18.40	131° 56.52							
		1525	BE	NET		472	55° 18.36	131° 56.22		150					BONGO
		1547	BE	TRAWL		473	55 18 89	131 56.67							TRAWL
11	ISCA 07	1747	BE	CTD		474	55° 32.48	132° 08.77	425			1			T: 7.84 S: 25.91
		1752	BO				55° 32.56	132° 08.72		250					BOTOM-SAL/CAL/NOTES
		1758	EN				55° 32.55	132° 08.67							
		1803	BE	NET		475	55° 32.52	132° 08.50		150					BONGO
		1812	BE	TRAWL		476	55 33 15	132 10.31							TRAWL
11	ISCA 08	1953	BE	CTD		477	55° 40.14	132° 15.77	383			1			T: 8.19 S: 27.13
		1958	BO				55° 40.17	132° 15.72		250					BOTOM-SAL/CAL/NOTES
		2003	EN				55° 40.19	132° 15.67							
		2006	BE	NET		478	55° 40.19	132° 15.67		150					BONGO
		2027	BE	TRAWL		479	55 41 13	132 16.63							TRAWL

Cast Type:

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Notes: _____

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Month NOVEMBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-18				
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							
11	15CA 09	2153	BE	CTD		480	55° 43.01	132° 21.44	624			1	H.M.		T: 8.11 S: 27.16
		2157	BO				55° 43.04	132° 21.37		250					BOTOM - SAL/CHL/NUIS
		2203	EN				55° 43.07	132° 21.30							
		2205	BE	NET		481	55° 43.09	132° 21.28		150					BONGO
		2225	BE	TRAWL		482	55° 43.72	132° 21.89							TRAWL
11	15CA 10	2340	BE	CTD		483	55° 55.50	132° 30.23	430			1			T: 8.55 S: 28.23
		2345	BO				55° 55.58	132° 30.16		250					BOTOM - SAL/CHL/NUIS
		2351	EN				55° 55.62	132° 30.06							
		2354	BE	NET		484	55° 55.66	132° 30.03							BONGO
12		0014	BE	TRAWL		485	55° 56.44	132° 31.02							TRAWL
12	15CA 11	1649	BE	CTD	2 ND	486	56° 15.26	132° 41.05	364			1		✓	T: 8.90 S: 29.33
		1654	BO				56° 15.35	132° 40.92							BOTOM - SAL/CHL/NUIS
		1700	EN				56° 15.42	132° 40.82							
		1705	BE	NET	3 RD	487	56° 15.41	132° 40.60		150					BONGO
		1804	BE	TRAWL	1 ST	488	56° 12.62	132° 45.00							TRAWL

Cast Type:

BOT = Bottle cast, no CTD
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ROS = Rosette plus CTD
SET = Fish Set

USW = Sea Water Loop
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DRF = Drifter

Bottle Firing Method:

US = Up / Stop
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Notes:

Time Code:

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

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Month NOVEMBER				Year 2010			Ship W.E. RICKER				Cruise ID 2010-18				
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							
12	ISCA 12	1745	BE	CTD		489	56° 18.63	132° 36.05	301			1	H.M		T: 8.71 S: 28.23
		1750	BO				56° 18.69	132° 35.89		250					BOTOM - SAL/CHL/NUTS
		1756	EN				56° 18.78	132° 35.79							
		1759	BE	NET		490	56° 18.84	132° 35.73		150					BONGO
		18:20	BE	TRAWL		491	56 20 14	132 35 24							TRAWL
12	ISCA 13	1935	BE	CTD		492	56° 28.13	132° 39.25	86			1			T: 8.40 S: 28.14
		1936	BO				56° 28.13	132° 39.27		75					BOTOM - SAL/CHL/NUTS
		1939	EN				56° 28.13	132° 39.31							
		1941	BE	NET		493	56° 28.13	132° 39.34		81					BONGO
		19:56	BE	TRAWL		494	56.28.7	132 40.4							TRAWL
12	ISCA 14	2111	BE	CTD		495	56° 29.53	132° 54.16	128			1			T: 7.94 S: 27.24
		2114	BO				56° 29.54	132° 54.20		120					BOTOM - SAL/CHL/NUTS
		2117	EN				56° 29.56	132° 54.18							
		2120	BE	NET		496	56° 29.56	132° 54.04		118					BONGO
		2138	BE	TRAWL		497	56 29.3	132 55.7							TRAWL

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Month NOVEMBER			Year 2010			Ship W.E. RICKER			Cruise ID 2010-18						
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							
12	ISEA 15	2249	BE	CTD		498	56°25.70	133°05.06	80			1	H.M.		T: 8.24 S: 28.98
		2251	BO				56°25.68	133°05.06		70					BOTEDW SAL/CAL/NTS
		2253	EN				56°25.68	133°05.01							
		2255	BE	NET		499	56°25.69	133°04.99		68					BONGO
		2311	BE	TRAWL		500	56°25.0	133°06.25							TRAWL
13	ISEA 16	0137	BE	CTD	2 nd	501	56°22.17	133°22.59	332			1			T: 8.23 S: 30.16
		0143	BO				56°22.14	133°22.63		256					BOTEDW SAL/CAL/NTS
		0149	EN				56°22.12	133°22.53							
		0152	BE	NET	3 rd	502	56°22.09	133°22.44		150					BONGO
		0032	BE	TRAWL	1 st	503	56°22.3	133°18.1							TRAWL
13	ISEA 17	1516	BE	CTD		504	56°00.39	133°49.01	330			1		✓	T: 8.26 S: 30.99
		1521	BO				56°00.33	133°48.98		250					BOTEDW SAL/CAL/NTS
		1527	EN				56°00.29	133°48.92							
		1529	BE	NET		505	56°00.27	133°48.87		150					BONGO
		1532	BE	TRAWL		506	56°01.402	133°48.501							TRAWL

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Month <u>NOVEMBER</u>				Year <u>2010</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2010-18</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							
13	ISEA 18	1656	BE	CTD		507	56° 06.29	133° 46.25	244			1	H.M.		T: 8.08 S: 30.53
		1701	BO				56° 06.21	133° 46.12		225					BOT 10m SAL/CHL/NOTS
		1707	EN				56° 06.21	133° 46.02							
		1710	BE	NET		508	56° 06.17	133° 45.94		150					BONGO
		1732	BE	TRAWL		509	56° 06.84	133° 45.57							TRAWL
13	ISEA 19	1846	BE	CTD		510	56° 13.88	133° 46.76	298			1			T: 8.09 S: 30.29
		1852	BO				56° 13.77	133° 46.55		250					BOT 10m SAL/CHL/NOTS
		1858	EN				56° 13.68	133° 46.37							
		1901	BE	NET		511	56° 13.61	133° 46.30		150					BONGO
		1925	BE	TRAWL		512	56° 14.13	133° 45.62							TRAWL
13	ISEA 20	2027	BE	CTD		513	56° 18.47	133° 48.35	300			1			T: 8.20 S: 30.21
		2032	BO				56° 18.38	133° 48.41		250					BOT 10m SAL/CHL/NOTS
		2037	EN				56° 18.26	133° 48.51							
		2040	BE	NET		514	56° 18.21	133° 48.52		150					BONGO
		2100	BE	TRAWL		515	56° 18.5	133° 47.8							TRAWL

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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									
13	ISEA 21	22 23	BE	CTD		516	56° 25. 76	133° 45. 22	356			1	A.M.		T: 8.12 S: 29.79		
		22 28	BO				56° 25. 71	133° 45. 16		250					BOTEDON-SAL/CHL/NUIS		
		22 33	EN				56° 25. 70	133° 45. 08									
		22 35	BE	NET		517	56° 25. 70	133° 45. 05		150					BONGO		
		22 57	BE	TRAWL		518	56 25 23	133 43. 51							TRAWL		
14	ISEA 22	00 39	BE	CTD	2 ND	519	56° 22. 25	133° 31. 73	372			1			T: 8.40 S: 30.06		
		00 44	BO				56° 22. 31	133° 31. 71		250					BOTEDON-SAL/CHL/NUIS		
		00 50	EN				56° 22. 37	133° 31. 66									
		00 52	BE	NET	3 RD	520	56° 22. 40	133° 31. 66		150					BONGO		
		03 56	BE	TRAWL	1 ST	521	56 23. 65	133 35. 9							TRAWL		
14	ISEA 23	15 05	BE	CTD		522	55° 10. 59	131° 55. 48	322			1		✓	T: 8.89 S: 28.47		
		15 10	BO				55° 10. 58	131° 55. 44		250					BOTEDON-SAL/CHL/NUIS		
		15 16	EN				55° 10. 52	131° 55. 38									
		15 19	BE	NET		523	55° 10. 45	131° 55. 38		150					BONGO		
		15 42	BE	TRAWL		524	55 9. 7	131 55. 7							TRAWL		

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Month NOVEMBER				Year 2010				Ship W.E. RICKER				Cruise ID 2010-18			
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	ISEA 24	1706	BE	CTD		525	55° 00.85	131° 53.45	413			1	HM.		T: 9.34 S: 30.32
		1711	BO				55° 00.80	131° 53.45		250					BOTOM. SAL/CHL/NUIS
		1718	EN				55° 00.77	131° 53.44							
		1720	BE	NET		526	55° 00.73	131° 53.40		150					BONGO
		1743	BE	TRAWL		527	54 59.89	131 53.7.							TRAWL
14	ISEA 25	1907	BE	CTD		528	54° 51.07	131° 54.93	400			1			T: 9.17 S: 29.58
		1913	BO				54° 50.88	131° 54.83		250					BOTOM. SAL/CHL/NUIS
		1919	EN				54° 50.75	131° 54.73							
		1922	BE	NET		529	54° 50.65	131° 54.65		150					BONGO
		1945	BE	TRAWL		530	54 49.5	131 53.64							TRAWL
14	ISEA 26	2118	BE	CTD		531	54° 43.34	131° 38.79	265			1			T: 9.12 S: 29.63
		2123	BO				54° 43.26	131° 38.95		250					BOTOM. SAL/CHL/NUIS
		2129	EN				54° 43.16	131° 39.15							
		2131	BE	NET		532	54° 43.14	131° 39.22		150					BONGO
		2152	BE	TRAWL		533	54 42.65	131 38.64							TRAWL

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Month		NOVEMBER		Year			2010			Ship		WE. RICKER		Cruise ID				2010-18		Page		65		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																	
14	ISEA 27	2336	BE	CTD		534	54° 42.47	131° 21.49	148			1	H.M.		T: 9.15 S: 29.63										
		2339	BO				54° 42.42	131° 21.55		135					BOTOM. SAL/CHL/NOTS										
		2344	EN				54° 42.34	131° 21.65																	
		2346	BE	NET		535	54° 42.31	131° 21.76		125					BONGO										
15		00:08	BE	TRAWL		536	54 42.4	131 20.94							TRAWL										
15	IBC 49	1506	BE	CTD		537	54° 32.82	130° 40.24	95			1		✓	T: 9.57 S: 31.14										
		1508	BO				54° 32.82	130° 40.24		85					BOTOM. SAL/CHL/NOTS										
		1511	EN				54° 32.83	130° 40.25																	
		1514	BE	NET		538	54° 32.87	130° 40.30		85					BONGO										
		1534	BE	TRAWL		539	54 32.47	130 39.6							TRAWL										
15	IBC 50	1649	BE	CTD		540	54° 27.36	130° 31.00	83			1			T: 8.94 S: 27.56										
		1651	BO				54° 27.41	130° 30.98		70					BOTOM. SAL/CHL/NOTS										
		1653	EN				54° 27.42	130° 30.99																	
		1655	BE	NET		541	54° 27.45	130° 31.00		73					BONGO										
		1714	BE	TRAWL		542	54 27 35	130 31.15							TRAWL										

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Month <u>NOVEMBER</u>				Year <u>2010</u>			Ship <u>W. E. RICKER</u>				Cruise ID <u>2010-18</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							
15	IBC 51	1820	BE	CTD		543	54° 22.46	130° 34.37	106			1	H.M.		T: 9.39 S: 29.58
		1822	BO				54° 22.48	130° 34.37		75					BOTOM-SAL/CHL/NTS
		1824	EN				54° 22.51	130° 34.42							
		1828	BE	NET		544	54° 22.56	130° 34.42		68					BONGO
		1845	BE	TRAWL		545	54 22 12	130 33.912							TRAWL
15	IBC 52	2014	BE	CTD		546	54° 17.01	130° 33.80	100			1			T: 9.05 S: 28.90
		2016	BO				54° 17.07	130° 33.85		90					BOTOM-SAL/CHL/NTS
		2018	EN				54° 17.12	130° 33.95							
		2021	BE	NET		547	54° 17.21	130° 33.96	111	100					BONGO
		2038	BE	TRAWL		548	54 17.035	130 33.52							TRAWL
15	IBC 53	2210	BE	CTD		549	54° 13.83	130° 45.55	160			1			T: 9.86 S: 31.34
		2213	BO				54° 13.87	130° 45.55		150					BOTOM-SAL/CHL/NTS
		2217	EN				54° 13.91	130° 45.53							
		2219	BE	NET		550	54° 13.94	130° 45.52		150					BONGO
		2240	BE	TRAWL		551	54 13.43	130 44.74							TRAWL

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Month <u>NOVEMBER</u>				Year <u>2010</u>			Ship <u>W. E. RICHER</u>				Cruise ID <u>2010-13</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							
15	IBC 54	2356	BE	CTD		552	54° 10. 49	130° 34. 09	105			1	H.M.		T: 9.75 S: 31.13
		2358	BO				54° 10. 50	130° 34. 10		95					BOT@10m - SAL/CHL/NOTS
16		0000	EN				54° 10. 52	130° 34. 12							
		0003	BE	NET		553	54° 10. 54	130° 34. 14		95					BONGO
		0021	BE	TRAWL		554	54° 10. 46	130° 32. 09							TRAWL
16	IBC 55	1504	BE	CTD		555	53° 43. 87	130° 36. 73	83			1		✓	T: 9.26 S: 29.75
		1506	BO				53° 43. 88	130° 36. 83		75					BOT@10m - SAL/CHL/NOTS
		1508	EN				53° 43. 91	130° 36. 95							
		1512	BE	NET		556	53° 44. 01	130° 37. 07		75					BONGO
		1530	BE	TRAWL		557	53° 43. 91								TRAWL
16	IBC 56	1718	BE	CTD		558	53° 36. 14	130° 20. 60	313			1			T: 9.02 S: 28.75
		1724	BO				53° 36. 11	130° 20. 62		250					BOT@10m - SAL/CHL/NOTS
		1729	EN				53° 36. 14	130° 20. 63							
		1732	BE	NET		559	53° 36. 14	130° 20. 62		150					BONGO
		1754	BE	TRAWL		560	53° 35. 82	130° 19. 20							TRAWL

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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							
16	IBC 57	1948	BE	CTD		561	53° 29.17	130° 01.52	212			1	H.M.		T: 8.88 S: 29.19
		1952	BO				53° 29.12	130° 01.42		200					BOTOM. SAL/CHL/NOTS
		1957	EN				53° 29.09	130° 01.33							
		1959	BE	NET		562	53° 29.05	130° 01.22	150						BONGO
		2019	BE	TRAWL		563	53 28.26	129 59.74							TRAWL
16	IBC 58	2202	BE	CTD		564	53° 19.04	129° 45.21	175			1			T: 9.14 S: 29.58
		2205	BO				53° 18.99	129° 45.08		165					BOTOM. SAL/CHL/NOTS
		2210	EN				53° 18.95	129° 45.04							
		2212	BE	NET		565	53° 18.91	129° 45.02		150					BONGO
		2231	BE	TRAWL		566	53 18.1	129 43.85							TRAWL
16	IBC 59	2356	BE	CTD		567	53° 10.20	129° 35.81	186			1			T: 9.32 S: 29.35
		2359	BO				53° 10.20	129° 35.82	177	165					BOTOM. SAL/CHL/NOTS
17		0004	EN				53° 10.21	129° 35.81							
		0006	BE	NET		568	53° 10.22	129° 35.80		150					BONGO
		0025	BE	TRAWL		569	53 10.81	129 34.77							TRAWL
							END OF TRIP								

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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