

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2011-45

DATE:

From: OCT 1 / 11 to: NOV 6 / 11

VESSEL:

W. E. RICKER

PROJECT(S):

HIGH SEAS SALMON (TRUDEL)

Book 1 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	MCCALLUM
Second Officer:	DEVAN CARTER	Third Officer:		
Fishing Master:	LES HAN			

Mission Participants / Agencies: PBS / 105

[illegible]

Second leg of Mission:		Chief Scientist:		JOHN MORRIS	
Name	Watch	Cabin	Name	Watch	Cabin
MAE THIESS					
STANAN TUCKER			CAPT - BRIAN PENNEL		
HUGH MACLEAM			MATE - RYAN HULL		
			2 MATE - ROB		
			F.M - BRIAN WEST		

Data logging computer:

Data acquisition program: SB V7
 CTD deck unit make: SSC model: 11 serial number: 0424

Primary CTD

Make: SBF model: 9 serial number: 506

Primary temperature serial number: 2038

Primary conductivity serial number: 3394

Secondary temperature serial number: 4883

Secondary conductivity serial number: 1763

Transmissometer:	Model:	s/n:	
Fluorometer: Model	WAT LAB	Cable gain:	
Oxygen sensor:	SBC	Model:	43
PAR sensor:	Model:	s/n:	
Other sensors:	PH	s/n:	0851
Other sensors:		s/n:	
Other sensors:		s/n:	
Other sensors:		s/n:	
Other sensors:		s/n:	

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:	
Oxygen sensor:	Model:	s/n:	P, S or NO pump?
PAR sensor:	Model:	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?
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CTD calibration bottle location (height above CTD in metres):

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Month <u>OCT</u>				Year <u>2011</u>			Ship <u>W.E. RICHER</u>				Cruise ID <u>2011-45</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							
02	JS 01	1514	BC	CTD		001	50° 28.52	126° 06.62	286			2	H.M.	✓	PIT @ 245m - for PH
		1519	BO				50° 28.50	126° 06.59		250					BOT @ 10m - SAL/CHL/HUTS
		1528	EN				50° 28.51	126° 06.62							+ PH
		1540	BC	NET		002	50° 28.52	126° 06.67		150					BONGO
		1606	BC	TRAWL		003	50° 28.69	126° 08.24		0					TRAWL
02	JS 02	1700	BC	CTD		004	50° 29.87	126° 17.18	305					✓	T: 9.27 s: 30.22
		1706	BO				50° 29.87	126° 17.20		250		1			BOT @ 10m - SAL/CHL/HUTS
		1711	EN				50° 29.88	126° 17.20							
		1714	BC	NET		005	50° 29.88	126° 17.19		150					BONGO
		1736	BC	TRAWL		006	50° 30.11	126° 19.20		0					TRAWL
02	JS 03	1848	BC	CTD		007	50° 30.51	126° 30.62	389						T: 9.36 s: 30.41
		1853	BO				50° 30.52	126° 30.63		250					BOT @ 10m - SAL/CHL/HUTS
		1859	EN				50° 30.49	126° 30.71							
		1905	BC	NET		008	50° 30.47	126° 30.56		150					BONGO
		—	BC	TRAWL		009	CANCELLED DUE TO PORPOISES								TRAWL

Cast Type:

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USW = Sea Water Loop
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 DRF = Drifter

Bottle Firing Method:

US = Up / Stop
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Notes:

Time Code:

BE = Beginning Time of Cast
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Transmissometer to be cleaned before each cast, do not use Ammonia products

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							Latitude	Longitude							
3	QCST 03	1406	BE	CTD		019	50° 44.53	126° 57.69	142			1	H.M.	✓	T: 9.12 S: 30.89
		1409	BO				50° 44.57	126° 57.69		130					BOT@ 10m - Sal/CHL/NOTS
		1412	EN				50° 44.58	126° 57.66							
		1415	BE	NET		020	50° 44.59	126° 57.63		130					BONGO
		1438	BE	TRAWL		021	50° 45.02	126° 58.78		0					TRAWL
3	QCST 04	1547	BE	CTD		022	50° 49.40	127° 07.91	146			2			T: 9.09 S: 30.04
		1549	BO				50° 49.40	127° 07.90		135					BOT@ 10m - Sal/CHL/NOTS
		1555	EN				50° 49.40	127° 07.87							* Alt @ 75 d 10m
		1559	BE	NET		023	50° 49.40	127° 07.84		135					BONGO
	*	1719	BE	TRAWL		024	50° 49.33	127° 08.67		0					TRAWL
3	QCST 05	2026	BE	CTD		025	50° 44.84	127° 10.91	183						T: 9.40 S: 31.01
		2030	BO				50° 44.86	127° 10.91		170		1			BOT@ 10m - Sal/CHL/NOTS
		2034	EN				50° 44.89	127° 10.89							
		2037	BE	NET		026	50° 44.90	127° 10.87		150					BONGO
		2058	BE	TRAWL		027	50° 44.82	127° 11.425		0					TRAWL

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							Latitude	Longitude							
3	QCST 06	2153	BE	CTD		028	50°42.30	127°17.11	105				H.M.		T: 9.37 S: 31.10
		2156	BO				50°42.35	127°17.08		100					BOT@DN - SAL/CAL/HUTS
		2158	EN				50°42.38	127°17.06							
		2203	BE	NET		029	50°42.41	127°16.98	110	100					BONGO
		2223	BE	TRAWL		030	50°43.94	127°17.31		15					TRAWL
3	QCST 07	2328	BE	CTD		031	50°47.37	127°23.78	327			1			T: 9.42 S: 31.04
		2333	BO				50°47.41	127°23.67		250					BOT@DN - SAL/CAL/HUTS
		2338	EN				50°47.43	127°23.63							
		2341	BE	NET		032	50°47.44	127°23.59		150					BONGO
4		0033	BE	TRAWL		033	50°47.50	127°25.24		0					TRAWL
4	W1 01	1622	BE	CTD		034	50°36.11	127°46.91	57						T: 11.52 S: 22.63
		1623	BO				50°36.11	127°46.88		50					BOT@DN - SAL/CAL/HUTS
		1625	EN				50°36.12	127°46.87							
		1629	BE	NET		035	50°36.11	127°46.78		47					BONGO
		1645	BE	TRAWL		036	50°35.96	127°45.78		0					TRAWL

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							Latitude	Longitude							
4	IVI 02	1736	BE	CTD		037	50° 35.38	127° 38.17	110			1	H.M.		T: 11.35 S: 22.66
		1738	BO				50° 35.38	127° 38.14		100					BOT@ 10m - SAL/CHL/NUIS
		1740	EN				50° 35.38	127° 38.11							
		1743	BE	NET		038	50° 35.37	127° 38.09		100					BONGO
		1800	BE	TRAWL		039	50° 35.18	127° 37.14		15					TRAWL
4	IVI 03	1905	BE	CTD		040	50° 34.92	127° 28.80	67			1			T: 11.04 S: 26.91
		1907	BO				50° 34.92	127° 28.81		60					BOT@ 10m FOR SAL
		1908	EN				50° 34.92	127° 28.81							CHL & NUIS
		1911	BE	NET		041	50° 34.92	127° 28.82		55					BONGO
		1929	BE	TRAWL		042	50° 34.86	127° 29.89		0					TRAWL
4	IVI 04	2133	BE	CTD		043	50° 28.01	127° 32.72	180			2			T: 11.39 S: 28.17
		2136	BO				50° 28.01	127° 32.73		170			PH		BOT@ 10m H65 FOR PH
		2143	EN				50° 28.01	127° 32.78							SAL/CHL/NUIS
		2146	BE	NET		044	50° 28.01	127° 32.79		150					BONGO
		2204	BE	TRAWL		045	50° 28.65	127° 32.18		15					TRAWL

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							Latitude	Longitude							
4	1V1 05	2304	BE	CTD		046	50° 24.23	127° 29.39	129			1	H.M.		T: 11.35 S: 29.04
		2306	BO				50° 24.24	127° 29.39		120					Bottom - SAL/CAL/NUTS
		2309	EN				50° 24.25	127° 29.40							
		2313	BE	NET		047	50° 24.24	127° 29.40		120					BONGO
		2333	BE	TRAWL		048	50° 25.01	127° 27.24		0					TRAWL
5	1V1 06	1402	BE	CTD		049	50° 30.37	127° 41.34	126			1			T: 11.17 S: 29.24
		1405	BO				50° 30.34	127° 41.33		115					Bottom - SAL/CAL/NUTS
		1407	EN				50° 30.33	127° 41.32							
		1410	BE	NET		050	50° 30.32	127° 41.30							BONGO
		1432	BE	TRAWL		051	50° 30.16	127° 42.26		0					TRAWL
5	1V1 07	1533	BE	CTD		052	50° 29.05	127° 51.03	169			1			T: 11.17 S: 27.65
		1536	BO				50° 29.03	127° 51.05		160			PH	*	BOT@ 10 + 35 m PH/SAL
		1541	EN				50° 29.01	127° 51.03							CAL + NUTS
		1546	BE	NET		053	50° 29.02	127° 51.10							BONGO
		1606	BE	TRAWL		054	50° 28.66	127° 52.22		15					TRAWL

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							Latitude	Longitude							
5	VI 08	1657	BE	CTD		055	50° 28.22	127° 57.28	139			2	H.M.	*	T: 11.02 S: 27.04
		1700	BO				50° 28.24	127° 57.30		130				PH	BOTED + 25 for PH/SAL
		1705	EN				50° 28.27	127° 57.32							CHL + NUTS
		1708	BE	NET		056	50° 28.29	127° 57.33		130					BONGO
		1730	BE	TRAWL		057	50° 27.34	127° 56.69							TRAWL
5	VI 09	1855	BE	CTD		058	50° 24.58	128° 00.78	169			4			T: 11.67 S: 30.24
		1858	BO				50° 24.57	128° 00.75		160					BOTED on SAL/CHL/NUTS
		1902	EN				50° 24.56	128° 00.71							
		1910	BE	NET		059	50° 24.57	128° 00.80		150					BONGO
		1936	BE	TRAWL		060	50° 23.86	128° 01.75							TRAWL
5	VI 01	2027	BE	CTD		061	50° 21.44	128° 05.74	81			1			T: 12.11 S: 31.15
		2028	BO				50° 21.43	128° 05.77		70					BOTED on SAL/CHL/NUTS
		2031	EN				50° 21.43	128° 05.80							
		2034	BE	NET		062	50° 21.43	128° 05.81		73					BONGO
		2055	BE	TRAWL		063	50° 21.06	128° 07.36		0					TRAWL

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							Latitude	Longitude							
5	V102	2148	BE	CTD		064	50° 18.28	128° 12.34	187			1	H.M.		T: 12.03 S: 30.98
		2151	BO				50° 18.29	128° 12.52		175					BOTOM - SAL/CHL/NOTS
		2155	EN				50° 18.34	128° 12.67							
		2159	BE	NET		065	50° 18.37	128° 12.84		150					BOTOM
		2224	BE	TRAWL		066	50° 18.19	128° 14.59		15					TRAWL
6	V103	0047	BE	CTD		067	50° 14.23	128° 24.12	958						T: 12.44 S: 31.63
		0053	BO				50° 14.24	128° 24.40		240	(WIRE & CURRENT)				BOTOM - SAL/CHL/NOTS
		0059	EN				50° 14.23	128° 24.51							* →
		0102	BE	NET		068	50° 14.23	128° 24.56		150					BOTOM
		0024	BE	TRAWL		069	50° 15.09	128° 18.63		15					TRAWL
6	T 07	1359	BE	CTD		070	50° 49.60	129° 14.14	105			2			T: 12.36 S: 31.65
		1402	BO				50° 49.63	129° 14.14		95			(*) PH		BOTOM + 90. For PH/SAL
		1406	EN				50° 49.66	129° 14.13							CHL/NOTS
		1410	BE	NET		071	50° 49.69	129° 14.20		95					(CALLED T 1 in FILE)
		1431	BE	TRAWL		072	50° 50.60	129° 13.99		15					

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This page is for any notes or observations

PH @ 30 m = 8.24

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							Latitude	Longitude							
6	T 06	1606	BE	CTD		073	50° 56.01	129° 01.49	65			1	H.M.		T: 11.90 S: 31.85
		1607	BO				50° 56.00	129° 01.49		55					BOTOM - SAL/CHL/NTS
		1609	CH				50° 56.00	129° 01.49							
		1611	BE	NET		074	50° 55.99	129° 01.46		54					BONGO
		1628	BE	TRAWL		075	50° 56.33	129° 00.67		0					TRAWL
6	T 05	1739	BE	CTD		076	51° 00.63	128° 52.60	65			1			T: 11.29 S: 31.84
		1741	BO				51° 00.59	128° 52.58		55					BOTOM - SAL/CHL/NTS
		1742	CH				51° 00.58	128° 52.57							
		1745	BE	NET		077	51° 00.54	128° 52.56		56					BONGO
		1803	BE	TRAWL		078	51 01.06	128 51.5		15					TRAWL
6	T 04	1912	BE	CTD		079	51° 04.58	128° 44.34	60			1			T: 11.35 S: 31.67
		1913	BO				51° 04.57	128° 44.34		50					BOTOM - SAL/CHL/NTS
		1915	CH				51° 04.56	128° 44.35							
		1919	BE	NET		080	51° 04.54	128° 44.36		50					BONGO
		1937	BE	TRAWL		081	51 05.02	128° 43.92		0					TRAWL

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							Latitude	Longitude							
6	T 03	2049	BE	CTD		082	51° 08.14	128° 35.42	139			1	H.M.		T: 11.19 S: 31.60
		2051	BO				51° 08.15	128° 35.44		130					BOT@DN - SAL/CHL/NTS
		2054	EN				51° 08.15	128° 35.42							
		2057	BE	NET		083	51° 08.14	128° 35.39		130					BONGO
		2117	BE	TRAWL		084	51° 08.54	128° 34.58		15					TRAWL
6	T 02	2230	BE	CTD		085	51° 12.44	128° 27.11	187			2			T: 10.83 S: 31.21
		2234	BO				51° 12.43	128° 27.09		175					BOT@DN - SAL/CHL/NTS (PH)
		2240	EN				51° 12.37	128° 27.16							BOT@ 170 FOR PH
		22	BE	NET		086	51° 12.	128° 27.		150					BONGO
		2307	BE	TRAWL		087	51° 12.77	128° 26.30		0					TRAWL
7	T 01	0122	BE	CTD		088	51° 16.21	128° 20.39	79			1			T: 10.69 S: 31.27
		0124	BO				51° 16.22	128° 20.37		70					BOT@DN - SAL/CHL/NTS
		0126	EN				51° 16.23	128° 20.36							
		0129	BE	NET		089	51° 16.23	128° 20.35		69					BONGO
		0038	BE	TRAWL		090	51° 17.802	128° 17.512		15					TRAWL

Cast Type:

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

USW = Sea Water Loop

MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

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

Time Code:

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

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

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Notes:

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Month OCT				Year 2011			Ship W.E. RICKER				Cruise ID 2011-45				
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	H 01	1359	BE	CTD		091	52° 12.06	129° 08.65	160			2	H.M.		T: 11.23 S: 30.77
		1403	BO				52° 12.10	129° 08.64		150					BOT 10m - SAL/CAL/NUTS
		1408	EN				52° 12.14	129° 08.65							PH @ 145 + 10m
		1413	BE	NET		092	52° 12.09	129° 08.67		150					BONGO
		1435	BE	TRAWL		093	52° 12.3	129 09.6		0					TRAWL
7	H 02	1604	BE	CTD		094	52° 15.57	129° 25.84	174			1			T: 11.38 S: 29.61
		1607	BO				52° 15.58	129° 25.96		165					BOT 10m - SAL/CAL/NUTS
		1611	EN				52° 15.57	129° 26.09							
		1623	BE	NET		095	52° 15.59	129° 26.18		150					BONGO
		1632	BE	TRAWL		096	52 16.8	129° 27.7		15					TRAWL
7	H 03	1752	BE	CTD		097	52° 19.16	129° 40.83	210			1			T: 11.01 S: 31.61
		1756	BO				52° 19.14	129° 40.89		200					BOT 10m - SAL/CAL/NUTS
		1800	EN				52° 19.10	129° 40.89							
		1803	BE	NET		098	52° 19.09	129° 40.93		150					BONGO
		1822	BE	TRAWL		099	52 19.11	129 42.04		0					TRAWL

Cast Type:

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Bottle Firing Method:

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 UN = Up / No stop
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Notes:

Time Code:

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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							
7	H 04	1958	BE	CTD		100	52° 21.91	129° 57.64	184			2	H.M.		T: 11.61 S: 31.90
		2002	BO				52° 21.91	129° 57.69		175					BOT 10m SAL/CAL/NUTS/PH
		2009	EN				52° 21.91	129° 57.73							BOT 175 for pH →
		2012	BE	NET		101	52° 21.90	129° 57.74		150					BONGO
		2036	BE	TRAWL		102	52° 22.34	129° 59.00		15					TRAWL
7	H 05	2205	BE	CTD		103	52° 25.58	130° 13.78	326			1			T: 11.71 S: 32.11
		2210	BO				52° 25.57	130° 13.80		250					BOT 10m SAL/CAL/NUTS
		2216	EN				52° 25.61	130° 13.74							
		2220	BE	NET		104	52° 25.67	130° 13.73							BONGO
		2244	BE	TRAWL		105	52° 25.94	130° 14.97		0					TRAWL
8	H 06	0049	BE	CTD		106	52° 28.90	130° 29.15	171			1			T: 11.23 S: 31.87
		0052	BO				52° 28.90	130° 29.12		160					BOT 10m SAL/CAL/NUTS
		0056	EN				52° 28.88	130° 29.08							
		0059	BE	NET		107	52° 28.87	130° 29.04		150					BONGO
7		2357	BE	TRAWL		108	52° 28.4	130° 26.7		15					TRAWL

Cast Type:

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Bottle Firing Method:

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

Notes:

Time Code:

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 EN = End Time of Cast
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This page is for any notes or observations

— PH 8.24 @ 23m (8.20 @ 10m)

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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							
8	IBC 01	1400	BE	CTD		109	53° 00. 22	129° 28. 74	113			2	H.m.	✓	T: 10.77 S: 28.04
		1403	BO				53° 00. 24	129° 28. 70		100					BOT@10. SAL/CAL/NOTS/PH
		1408	EN				53° 00. 25	129° 28. 69							BOT@10. SAL/CAL/NOTS/PH
		1411	BE	HET		110	53° 00. 30	129° 28. 67		93					BOT@95 FOR PH
		1430	BE	TRAWL		111	53° 00. 99	129° 29. 1		0					BONGO
															TRAWL
8	IBC 02	1529	BE	CTD		112	53° 06. 53	129° 34. 86	157			1			T: 10.77 S: 28.08
		1532	BO				53° 06. 53	129° 34. 86		145					BOT@10. SAL/CAL/NOTS
		1535	EN				53° 06. 53	129° 34. 86							
		1538	BE	NET		113	53° 06. 53	129° 34. 86		147					BONGO
		1600	BE	TRAWL		114	53° 07. 12	129° 35. 5		15					TRAWL
8	IBC 03	1704	BE	CTD		115	53° 13. 16	129° 41. 54	149			1			T: 10.68 S: 26.58
		1707	BO				53° 13. 17	129° 41. 46		140					BOT@10. SAL/CAL/NOTS
		1710	EN				53° 13. 19	129° 41. 44							
		1713	BE	NET		116	53° 13. 19	129° 41. 40							BONGO
		1734	BE	TRAWL		117	53° 13. 91	129° 41. 81		0					TRAWL

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Bottle Firing Method:

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Notes:

Time Code:

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EN = End Time of Cast
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Transmissometer to be cleaned before each cast, do not use Ammonia products

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Month OCT				Year 2011			Ship W.E. RICKER				Cruise ID 2011-45				
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	IBC 04	1844	BE	CTD		118	53° 19.80	129° 47.58	172			1	H.M.		T: 10.64 S: 26.59
		1847	BO				53° 19.82	129° 47.55		160					BOT@10m - SAL/CHL/NTS/PH
		1855	EN				53° 19.79	129° 47.50							BOT@160 for PH
		1900	BE	NET		119	53° 19.78	129° 47.50		150					BONGO
		1923	BE	TRAWL		120	53° 20.38	129° 48.46		15					TRAWL
8	IBC 05	2028	BE	CTD		121	53° 25.95	129° 55.06	266			1			T: 10.61 S: 26.75
		2033	BO				53° 25.96	129° 55.04		250					BOT@10m - SAL/CHL/NTS
		2039	EN				53° 25.96	129° 55.00							
		2043	BE	NET		122	53° 25.96	129° 54.96		150					BONGO
		2103	BE	TRAWL		123	53° 26.35	129° 56.20		0					TRAWL
8	IBC 06	2208	BE	CTD		124	53° 31.24	130° 05.25	197			1			T: 10.62 S: 27.96
		2212	BO				53° 31.25	130° 05.21		185					BOT@10m - SAL/CHL/NTS
		2216	EN				53° 31.25	130° 05.15							
		2220	BE	NET		125	53° 31.26	130° 05.09		150					BONGO
		2240	BE	TRAWL		126	53° 31.58	130° 06.21		15					TRAWL

Cast Type:

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Bottle Firing Method:

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

Notes:

Time Code:

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

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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	IBC 67	1400	BE	CTD		127	54°06.21	130°31.91	119			1	H.M.		T: 10.84 S: 31.08
		1402	BO				54°06.25	130°31.91		110					BOT@10m SAL/CHL/NUIS
		1405	EN				54°06.29	130°31.89							
		1409	BE	NET		128	54°06.30	130°31.79		109					BONGO
		1429	BE	TRAWL		129	54°06.07	130°32.38		0					TRAWL
9	IBC 08	1547	BE	CTD		130	54°12.78	130°42.19	153			1			T: 10.90 S: 31.14
		1550	BO				54°12.76	130°42.17		145					BOT@10m SAL/CHL/NUIS
		1553	EN				54°12.74	130°42.14							
		1555	BE	NET		131	54°12.74	130°42.11	160	150					BONGO
		1615	BE	TRAWL		132	54°13.41	130°41.62		15					TRAWL
9	IBC 09	1728	BE	CTD		133	54°20.25	130°37.57	197			1			T: 10.73 S: 30.78
		1732	BO				54°20.25	130°37.55		185					BOT@10m SAL/CHL/NUIS
		1736	EN				54°20.24	130°37.54							
		1739	BE	NET		134	54°20.23	130°37.54		150					BONGO
		1759	BE	TRAWL		135	54°20.7	130°37.53		0					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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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	IBC 10	1909	BE	CTD		136	54° 28.31	130° 35.83	105				H.m.		T: 10.89 S: 30.86		
		1911	BO				54° 28.32	130° 35.83		95					BOT 10 - SAL/CHL/NOTS		
		1913	EN				54° 28.33	130° 35.80									
		1912	BE	NET		137	54° 28.33	130° 35.79		94							
		1935	BE	TRAWL		138	54° 29.23	130° 36.07		15					BONGO TRAWL		
9	IBC 11	2050	BE	CTD		139	54° 28.42	130° 33.76	93			1			T: 10.48 S: 29.41		
		2052	BO				54° 28.43	130° 33.73		80					BOT 10 - SAL/CHL/NOTS		
		2054	EN				54° 28.45	130° 33.73									
		2057	BE	NET		140	54° 28.46	130° 33.72		83					BONGO		
		2115	BE	TRAWL		141	54° 28.07	130° 33.53		0					TRAWL		
9	IBC 12	2226	BE	CTD		142	54° 22.42	130° 33.71	119						T: 10.46 S: 28.99		
		2228	BO				54° 22.43	130° 33.71		110					BOT 10 - SAL/CHL/NOTS		
		2231	EN				54.22.40	130° 33.82									
		2235	BE	NET		143	54.22.52	130° 33.90							BONGO		
		2257	BE	TRAWL		144	54° 22.31	130° 33.63		15					TRAWL		
END OF LEG 1																	

Cast Type: USW - Sea Water Loop

Cast Type:

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

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

Bottle Firing Method:

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

Time Code:

BE = Beginning Time of Cast 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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Month OCT				Year 2011			Ship W.E. RICKER				Cruise ID 2011-45				
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	DE 01	1413	BE	CTD		145	54° 13.63	131° 43.65	116			1	H.M	✓	T:10.18 S: 31.91
		1416	BO				54° 13.61	131° 43.58		105					BOT@10m - SAL/CHL/NOTS
		1419	EN				54° 13.60	131° 43.51							
		1425	BE	NET		146	54° 13.59	131° 43.47		92					BONGO
		1449	BE	TRAWL		147	54° 13.15	131 44.67		0					TRAWL
12	DE 02	1615	BE	CTD		148	54° 08.85	131° 57.08	53			1			T:10.16 S: 31.85
		1616	BO				54° 08.84	131° 57.04		45					BOT@10m - SAL/CHL/NOTS
		1618	EN				54° 08.84	131° 57.02							
		1623	BE	NET		149	54° 08.86	131° 56.89		48					BONGO
		1632	BE	TRAWL		150	54 08.9	131 56.8		0					TRAWL
12	DE 03	1815	BE	CTD		151	54° 08.20	132° 10.53	38			1			T:10.15 S: 31.94
		1816	BO				54° 08.20	132° 10.46		30					BOT@10m - SAL/CHL/NOTS
		1817	EN				54° 08.19	132° 10.39							
		1823	BE	NET		152	54° 08.21	132° 10.21		27					BONGO
		1840	BE	TRAWL		153	54° 08.43	132° 10.82		0					TRAWL

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Notes:

Time Code:

BE = Beginning Time of Cast
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EN = End Time of Cast
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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							
12	DE 04	2037	BE	CTD		154	54° 08.19	132° 27.49	58			1	H.M.		T:10.66 S: 31.70
		2038	BO				54° 08.18	132° 27.48		50					BOT @ 10m - SAL/CHL/NUTS
		2039	EN				54° 08.17	132° 27.45							
		2046	BE	NET		155	54° 08.07	132° 27.31		51					BONGO
		2104	BE	TRAWL		156	54° 08.225	132° 28.76		0					TRAWL
12	DE 05	2228	BE	CTD		157	54° 10.74	132° 43.68	65			1			T:10.74 S: 31.74
		2230	BO				54° 10.72	132° 43.75		55					BOT @ 10m - SAL/CHL/NUTS
		2232	EN				54° 10.71	132° 43.79							
		2237	BE	NET		158	54° 10.67	132° 44.01		50					BONGO
		2258	BE	TRAWL		159	54° 10.78	132° 46.52		0					TRAWL
13	DE 06	0044	BE	CTD		160	54° 15.87	132° 58.60	177			1			T:10.81 S: 32.07
		0047	BO				54° 15.82	132° 58.64		135					BOT @ 10m - SAL/CHL/NUTS
		0051	EN				54° 15.81	132° 58.65							* RUM P on @ 82m
		0055	BE	NET		161	54° 15.79	132° 58.70		113					BONGO
		0060	BE	TRAWL		162	54 13.69	132 54.42		0					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	Fi 01	1400	BE	CTD		163	54°47.26	133°10.94	208			1	H.M.	✓	T: 10.44 S: 29.95
		1404	BO				54°47.34	133°11.01		200					BOTOM - SAL/CAL/HUTS
		1408	EN				54°47.42	133°11.07							
		1412	BE	NET		164	54°47.53	133°11.11		150					BONGO
		1452	BE	TRAWL		165	54°47.14	133°09.63		0					TRAWL
13	Fi 02	1555	BE	CTD		166	54°46.10	133°17.71	100			2			T: 10.63 S: 30.56
		1558	BO				54°46.15	133°17.79		95					BOTOM - SAL/CAL/HUTS/PH
		1603	EN				54°46.29	133°17.81						(*)	BOE 90 for PH
		1607	BE	NET		167	54°46.38	133°17.76							BONGO
		1629	BE	TRAWL		168	54°46.64	133°18.84		0					TRAWL
13	Fi 03	1740	BE	CTD		169	54°45.10	133°26.68	144			1			T: 10.62 S: 30.83
		1743	BO				54°45.10	133°26.67		135					BOTOM - SAL/CAL/HUTS
		1746	EN				54°45.11	133°26.66							PH PS on @ 60m
		1750	BE	NET		170	54°45.11	133°26.67							BONGO
		1812	BE	TRAWL		171	54°44.51	133°27.47		0					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	Fi 04	1928	BE	CTD		172	54°44.16	133°34.33	198			1	H.M.		T:10.68 S:30.98
		1932	BO				54°44.13	133°34.31		190					BOTOM. SAL/CHL/NTS
		1936	EN				54°44.10	133°34.25							
		1940	BE	NET		173	54°44.08	133°34.18		150					BONGO
		2003	BE	TRAWL		174	54°43.88	133°35.10		15					TRAWL
13	Fi 05	2102	BE	CTD		175	54°43.76	133°42.76	222			2			T:10.71 S:30.94
		2107	BO				54°43.72	133°42.63		210					BOTOM. SAL/CHL/NTS/PH
		2115	EN				54°43.67	133°42.60							BOTOM. 205 For pH
		2119	BE	NET		176	54°43.69	133°42.75							BONGO
		2144	BE	TRAWL		177	54°43.67	133°44.73		0					TRAWL
13	Fi 06	2233	BE	CTD		178	54°43.52	133°51.29	224			1			T:10.63 S:30.77
		2237	BO				54°43.52	133°51.40		215					BOTOM. SAL/CHL/NTS
		2241	EN				54°43.52	133°51.48							
		2246	BE	NET		179	54°43.52	133°51.61		150					BONGO
		2310	BE	TRAWL		180	54°43.5	133°53.48		15					TRAWL

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Month OCT				Year 2011				Ship W. E. RICKER				Cruise ID 2011-45			
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	Fi 07	0025	BE	CTD		181	54°43.52	133°59.26	211			1	H.M.		T: 11.28 S: 32.02
		0029	BO				54°43.53	133°59.39		200					BOT 10m - SAL/CHL/NOTS
		0033	EN				54°43.53	133°59.50							
		0036	BE	NET		182	54°43.54	133°59.61		150					BONGO
		0100	BE	TRAWL		183	54°44.21	134°00.86		0					TRAWL
14	B 07	1356	BE	CTD		184	56°00.75	135°36.14	850			2		✓	T: 10.11 S: 32.16
		1402	BO				56°00.71	135°36.19		250					BOT 10m - SAL/CHL/NOTS/PH
		1411	EN				56°00.68	135°36.22							BOT 245 FOR PH
		1414	BE	NET		185	56°00.68	135°36.22							BONGO
		1439	BE	TRAWL		186	56°01.07	135°35.62		0					TRAWL
14	B 06	1539	BE	CTD		187	56°03.64	135°28.67	315			1			T: 10.26 S: 32.21
		1544	BO				56°03.68	135°28.75		250					BOT 10m - SAL/CHL/NOTS
		1549	EN				56°03.71	135°28.77							
		1552	BE	NET		188	56°03.74	135°28.77		150					BONGO
		1617	BE	TRAWL		189	56°04.19	135°28.26		15					TRAWL

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Month OCT				Year 2011			Ship W.E. RICKER				Cruise ID 2011-45				
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	B-05	1720	BE	CTD		190	56° 07.23	135° 21.87	305			1	H.M.		T: 10.38 S: 32.02
		1724	BO				56° 07.28	135° 21.93		250					BOT. 10. SAL/CAL/HUTS
		1729	EN				56° 07.33	135° 21.98							
		1734	BE	NET		191	56° 07.34	135° 22.03							BONGO
		1754	BE	TRAWL		192	56 07.70	135° 21.04		0					TRAWL
14	B 04	1905	BE	CTD		193	56° 09.65	135° 15.44	293			1			T: 10.43 S: 31.82
		1910	BO				56° 09.68	135° 15.37		250					BOT. 10. SAL/CAL/HUTS
		1915	EN				56° 09.70	135° 15.30							
		1920	BE	NET		194	56° 09.77	135° 15.31							BONGO
		1946	BE	TRAWL		195	56 11.02	135 13.93		15					TRAWL
14	B 03	2043	BE	CTD		196	56° 12.16	135° 09.48	199			1			T: 9.18 S: 30.46
		2047	BO				56° 12.17	135° 09.48		190					BOT. 10. SAL/CAL/HUTS
		2051	EN				56° 12.18	135° 09.48							
		2054	BE	NET		197	56° 12.17	135° 09.51							BONGO
		2116	BE	TRAWL		198	56 12 46	135° 08.86		0					TRAWL

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Month OCT				Year 2011			Ship W.E. RICKER				Cruise ID 2011-45				
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	B 02	2210	BE	CTD		199	56° 14.57	135° 02.98	147			2	H.M.		T: 9.78 S: 30.77
	S	2213	BO				56° 14.55	135° 02.94		140					Bottle on Sal/CHL/NO3/PH
		2219	EN				56° 14.50	135° 02.85							ROSE 135° 02.85
		2223	BE	NET		200	56° 14.45	135° 02.79		145					BONGO
		2250	BE	TRAWL		201	56° 14.65	135° 01.43		15					TRAWL
14	B 01	2347	BE	CTD		202	56° 17.38	134° 55.98	147			1			T: 9.52 S: 30.69
		2350	BO				56° 17.37	134° 55.88		140					Bottle on Sal/CHL/NO3
		2353	EN				56° 17.37	134° 55.84							
		2359	BE	NET		203	56° 17.30	134° 55.84		136					BONGO
15		0019	BE	TRAWL		204	56° 16.7	134° 55.4		0					TRAWL
15	15CA01	1457	BE	CTD		205	56° 00.10	133° 49.22	332			1			T: 8.38 S: 30.10
		1455	BO				56° 00.10	133° 49.26		250					Bottle on Sal/CHL/NO3
		1501	EN				56° 00.10	133° 49.27							
		1505	BE	NET		206	56° 00.06	133° 49.24		150					BONGO
		1528	BE	TRAWL		207	56° 00.44	133° 48.94		0					TRAWL

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Month				Year			Ship				Cruise ID				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
15	1SEA 02	1639	BE	CTD		208	56° 06.14	133° 45.92	211			1	H.M.		T: 8.41 S: 30.17
		1642	BO				56° 06.12	133° 45.87	165	160					BOTEDON-SAL/CAL/NUIS
		1646	EN				56° 06.13	133° 45.84							
		1650	BE	NET		209	56° 06.14	133° 45.80							BONGO
		1713	BE	TRAWL		210	56° 07.03	133° 45.69		15					TRAWL
15	1SEA 03	1825	BE	CTD		211	56° 13.64	133° 46.32	332			1			T: 8.40 S: 30.22
		1838	BO				56° 13.65	133° 46.33		250					BOTEDON-SAL/CAL/NUIS
		1835	EN				56° 13.66	133° 46.31							
		1842	BE	NET		212	56° 13.66	133° 46.32		150					BONGO
		1905	BE	TRAWL		213	56° 14.3	133° 46.81		0					TRAWL
15	1SEA 04	2003	BE	CTD		214	56° 18.31	133° 48.40	314			1			T: 8.39 S: 30.04
		2007	BO				56° 18.35	133° 48.31		250					BOTEDON-SAL/CAL/NUIS
		2013	EN				56° 18.39	133° 48.27							
		2016	BE	NET		215	56° 18.41	133° 48.21		150					BONGO
		2039	BE	TRAWL		216	56° 19.09	133° 47.30		15					TRAWL

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Month		OCT		Year			2011			Ship		W.E. RICKER		Cruise ID		2011-45		Page		24 of	
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments						
							Latitude	Longitude													
15	15EA 05	2153	BE	CTD		217	56°25.26	133°44.26	311			1	H.M.		T: 8.55 S: 29.28						
		2158	BO				56°25.29	133°44.33		250					BOTELION. SAL/CAL/NTS						
		2203	EH				56°25.27	133°44.26													
		2207	BE	NET		218	56°25.25	133°44.27													
		2230	BE	TRAWL		219	56°25.26	133°44.23		0					BONGO TRAWL						
16	15EA 06	0034	BE	CTD		220	56°21.66	133°30.86	279			1			T: 8.37 S: 30.10						
		0038	BO				56°21.66	133°30.82		250					BOTELION. SAL/CAL/NTS						
		0044	EH				56°21.65	133°30.83													
		0047	BE	NET		221	56°21.64	133°30.80		150											
		0109	BE	TRAWL		222	56°21.59	133°29.69		15					BONGO TRAWL						
XX																					

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