

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
Second Officer:	DEVAN CARTER	Third Officer:	M'CALLUM
Fishing Master:	LES HAN		

Mission Participants / Agencies:

[illegible]

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

Data logging computer:

Data acquisition program: SAB V7

CTD deck unit make: S&C model: 11 serial number: 0424

Primary CTD

Make: SSF 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: _____

Fluorometer: Model Wt-1 LAB Cable gain: 2214 s/n: 2214 PS or NO pump? PS

Oxygen sensor: 95C Model: 43 s/n: 419 P, S or NO pump? P

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

Other sensors: _____ s/n: 0651 P, S or NO pump? _____

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

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

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

Secondary CTD

Make: _____ model: _____ serial number: _____

Primary temperature serial number: _____

Primary conductivity serial number:

Secondary temperature serial number:

Secondary conductivity serial number:

Transmissometer: _____ Model: _____ s/n: _____

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

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

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

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

Other sensors:	s/n:	P, S or NO pump?
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CTD calibration bottle location (height above CTD in metres):

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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:

BOT = Bottle cast, no CTD
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 SET = Fish Set

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

Bottle Firing Method:

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

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: 30.8f
		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					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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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	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	BOT@ 10. SAL/CHL/NUTS
		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			1			T: 11.67 S: 30.24
		1858	BO				50° 24.57	128° 00.75		160					BOT@ 10. 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					BOT@ 10. 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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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/NUIS
		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/NUIS
		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/NUIS
		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/NUIS
		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/NUIS (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/NUIS
		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:

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Bottle Firing Method:

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Notes:

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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							
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

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Month OCT				Year 2011			Ship W.C. 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 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/CHL/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/CHL/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/CHL/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

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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@95 FOR PH
		1411	BE	HET		110	53° 00. 30	129° 28. 67		93					BONGO
		1430	BE	TRAWL		111	53° 00. 99	129° 29. 1		0					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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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/NUIS/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/NUIS
		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/NUIS
		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

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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/NUTS
		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/NUTS
		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/NUTS
		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

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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-SEA/CHE/NOTS		
		1913	EN				54° 28.33	130° 35.80									
		1912	BE	NET		137	54° 28.33	130° 35.79		94					BONGO		
		1935	BE	TRAWL		138	54° 29.23	130° 36.07		15					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-SEA/CHE/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-SEA/CHE/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		

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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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Month <u>OCT</u>				Year <u>2011</u>			Ship <u>W.E. RICKER</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							
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/NTS
		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/NTS/PH
		1603	EN				54°46.29	133°17.81						✱	BOT 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/NTS
		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

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 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							
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

Cast Type:

BOT = Bottle cast, no CTD
 CTD = CTD without Rosette
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 NET = Plankton Net Haul
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Bottle Firing Method:

US = Up / Stop
 UN = Up / No stop
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Notes:

Time Code:

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 EN = End Time of Cast
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Month <u>OCT</u>				Year <u>2011</u>				Ship <u>W. E. RICKER</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							
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 10.11 S: 32.16															
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

Cast Type:

BOT = Bottle cast, no CTD
 CTD = CTD without Rosette
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Bottle Firing Method:

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

Time Code:

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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							
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					BOTOM Sal/CHL/NO3/PH
		2219	EN				56° 14.50	135° 02.85						X	BOT 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					BOTOM Sal/CHL/NO3
		2353	EN				56° 17.37	134° 55.84							
		2359	BE	NET		203	56° 17.30	134° 55.84		136					BONGO
15		00.19	BE	TRAWL		204	56° 16.7	134° 55.4		0					TRAWL
15	13CA01	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					BOTOM 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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Bottle Firing Method:

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

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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	15EA 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	15EA 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	15EA 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

Cast Type:

BOT = Bottle cast, no CTD
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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		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	ISEA 05	2153	BE	CTD		217	56°25.26	133°44.26	311		1	H.M.		T: 8.55s: 29.28	
		2158	BO				56°25.29	133°44.33		250				BOT 10m. SAL/CAL/HUTS	
		2203	EN				56°25.27	133°44.26							
		2207	BE	NET		218	56°25.25	133°44.27						BONGO	
		2230	BE	TRAWL		219	56°25.26	133°44.23		0				TRAWL	
16	ISEA 06	0034	BE	CTD		220	56°21.66	133°30.86	279		1			T: 8.37s: 30.10	
		0038	BO				56°21.66	133°30.82		250				BOT 10m. SAL/CAL/HUTS	
		0044	EN				56°21.65	133°30.83							
		0047	BE	NET		221	56°21.64	133°30.80		150				BONGO	
		0109	BE	TRAWL		222	56°21.59	133°29.69		15				TRAWL	
NEXT BOOK															

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
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Bottle Firing Method:

US = Up / Stop
UN = Up / No stop
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Notes:

Time Code:

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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 2 of 3

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

WaterProperties.ca

Captain: _____

Second Officer: _____

Fishing Master: _____

First Officer: _____

Third Officer: _____

Mission Participants / Agencies:

Scientific Personnel:	Chief Scientist:	
Name	Watch	Cabin
	Name	
	Watch	Cabin

gee

BOOK

1

Second leg of Mission:						
Name	Watch	Cabin	Name	Watch	Cabin	

[illegible]

Data logging computer:

Data acquisition program: _____

CTD deck unit make: _____ model: _____ serial number: _____

Primary CTD

Make: model: serial number:

Primary temperature serial number:

Primary conductivity serial number:

Secondary temperature serial number:

Secondary conductivity serial number:

Transmissometer:	Model:	s/n:
------------------	--------	------

Fluorometer: Model	Cable gain:	s/n:
--------------------	-------------	------

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

PAR sensor:	Model:	s/n
75		

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: _____ s/n: _____
Model: _____

Fluorometer: Model	Cable gain:	s/n:
--------------------	-------------	------

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

PAR sensor: _____ Model: _____ s/n _____

Other sensors: _____ s/n: _____

Other sensors: s/n: _____

Other sensors: _____ s/n: _____

Other sensors: s/n: _____

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

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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							
16	ISEA 07	1354	BE	CTD		223	56° 21.96	133° 22.37	396			2	4.M.	✓	T: 8.39 S: 30.08
	50	1358	BO				56° 21.97	133° 22.49		250					Bottle - SAL/CHL/NTS/PH
		1407	EN				56° 21.99	133° 22.59						(*)	Bottle 245 for PH
		1410	BE	NET		224	56° 22.01	133° 22.66		150					BONGO
		1437	BE	TRAWL		225	56° 21.97	133° 21.95		0					TRAWL
16	ISEA 08	1657	BE	CTD		226	56° 27.31	133° 00.47	166			1			T: 9.20 S: 27.18
		1700	BO				56° 27.31	133° 00.48		155					Bottle - SAL/CHL/NTS
		1704	EN				56° 27.30	133° 00.52							
		1707	BE	NET		227	56° 27.28	133° 00.55		150					BONGO
		1732	BE	TRAWL		228	56° 27.68	132° 59.67		15					TRAWL
16	ISEA 09	1902	BE	CTD		229	56° 29.33	132° 51.19	134			1			T: 9.49 S: 26.33
		1905	BO				56° 29.33	132° 51.20		125					Bottle - SAL/CHL/NTS
		1907	EN				56° 29.34	132° 51.19							
		1911	BE	NET		230	56° 29.35	132° 51.17		125					BONGO
		1935	BE	TRAWL		231	56° 29.21	132° 48.98		0					TRAWL

Cast Type:

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 SET = Fish Set

USW = Sea Water Loop

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 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

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

Notes:

Time Code:

BE = Beginning Time of Cast
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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 <u>OCT</u>				Year <u>2011</u>			Ship <u>W.E. RICKER</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							
16	ISEA 10	2047	BE	CTD	232	231	56° 27.70	132° 39.21	61			1	H.M.		T: 9.77 S: 26.84
		2049	BO				56° 27.70	132° 39.20		50					BOT 10m - SAL/CAL/NOTS
		2050	EN				56° 27.70	132° 39.20							* →
		2055	BE	NET	233	232	56° 27.68	132° 39.15		50					BONGO
		2105	BE	TRAWL	234	233	56° 27.75	132° 38.12		0					TRAWL
18	IBC 13	1437	BE	CTD		235	52° 58.51	129° 15.52	258			2			T: 11.00 S: 29.98
	20	1442	BO				52° 58.53	129° 15.53		245					BOT 10m - SAL/CAL/NOTS/14
		1450	EN				52° 59.55	129° 15.50							* BOT 240 For pH
		1454	BE	NET		236	52° 58.54	129° 15.52		150					BONGO
		1519	BE	TRAWL		237	52° 57.58	129° 15.41		0					TRAWL
18	IBC 14	1641	BE	CTD		238	52° 50.58	129° 11.59	103			1			T: 10.77 S: 30.05
		1643	BO				52° 50.54	129° 11.53		95					BOT 10m - SAL/CAL/NOTS
		1645	EN				52° 50.54	129° 11.52							
		1648	BE	NET		239	52° 50.49	129° 11.47		92					BONGO
		1707	BE	TRAWL		240	52° 49.56	129° 10.51		15					TRAWL

Cast Type:

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Notes:

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This page is for any notes or observations

* CHECK CONSECUTIVE # SHOULD BE 232- NOT 231

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Month <u>OCT</u>				Year <u>2011</u>			Ship <u>W.E. RICKER</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							
10	IBC 15	1820	BE	CTD		241	52°44.42	129°04.77	238			1	H.M.		T: 10.89 S: 29.89
		1825	BO				52°44.42	129°04.73		225					Bottle - SAL/CHL/NTS
		1830	EM				52°44.44	129°04.70							
		1832	BE	NET		242	52°44.45	129°04.68		150					BONGO
		1854	BE	TRAWL		243	52°44.00	129°04.805		0					TRAWL
18	IBC 16	2022	BE	CTD		244	52°38.65	128°55.13	155			1			T: 10.83 S: 29.40
		2025	BO				52°38.66	128°55.15		145					Bottle - SAL/CHL/NTS
		2028	EM				52°38.66	128°55.13							
		2032	BE	NET		245	52°38.67	128°55.10		145					BONGO
		2054	BE	TRAWL		246	52°38.04	128°54.84		15					TRAWL
18	IBC 17	2216	BE	CTD		247	52°31.08	128°52.64	236			2			T: 10.88 S: 29.40
	2221	2220	BO				52°31.05	128°52.68		225					Bottle - SAL/CHL/NTS/PH
		2228	EM				52°31.05	128°52.70							Bottle 220 cor PH
		2231	BE	NET		248	52°31.05	128°52.71		150					BONGO
		2252	BE	TRAWL		249	52°30.14	128°52.58		0					TRAWL

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 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

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

Notes:

Time Code:

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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
19	BC 18	0034	BE	CTD		250	52° 23.38	128° 50.94	244			1	H.M.		T: 11.19 S: 31.42
		0039	BO				52° 23.42	128° 51.03		235					BOTOM SAL/CHL/MOPS
		0044	EN				52° 23.50	128° 51.08							
		0050	BE	NET		251	52° 23.48	128° 51.72		140					BONGO
		0117	BE	TRAWL		252	52 22.23	128 51.67		15					TRAWL
19	QCSD 01	1401	BE	CTD		253	51° 55.00	128° 59.38	99			1			T: 11.63 S: 31.82
		1403	BO				51° 55.01	128° 59.42		90					BOTOM SAL/CHL/MOPS
		1409	EN				51° 55.01	128° 59.48							
		1412	BE	NET		254	51° 55.02	128° 59.49		89					BONGO
		1432	BE	TRAWL		255	51 54.93	128 58.28		0					TRAWL
19	QCSD 02	1545	BE	CTD		256	51° 54.30	128° 47.35	118			1			T: 11.24 S: 31.69
		1547	BO				51° 54.30	128° 47.36		110					BOTOM SAL/CHL/MOPS
		1550	EN				51° 54.30	128° 47.38							
		1553	BE	NET		257	51° 54.29	128° 47.38		107					BONGO
		1615	BE	TRAWL		258	51 54.37	128 46.005		15					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							
19	QCSD 03	1726	BE	CTD		259	51° 54.73	128° 35.03	129			2	H.M.		T: 10.61 S: 29.97
		1729	BO				51° 54.73	128° 35.05		120					BOT@10m SAL/CHL/NUTS/PH
		1734	EN				51° 54.74	128° 35.07							BOT@115 FOR PH
		1737	BE	NET		260	51° 54.75	128° 35.04		119					* BONGO
		18:00	BE	TRAWL		261	51 53.97	128 35.19		0					TRAWL
19	QCSD 04	1935	BE	CTD		262	51° 45.22	128° 36.87	99			1			T: 10.40 S: 28.44
		1937	BO				51° 45.21	128° 36.88		90					BOT@10m SAL/CHL/NUTS
		1939	EN				51° 45.20	128° 36.91							
		1942	BE	NET		263	51° 45.18	128° 36.93		87					BONGO
		2003	BE	TRAWL		264	51° 44.96	128 36.86		15					TRAWL
19	QCSD 05	2119	BE	CTD		265	51° 43.91	128° 25.62	145			1			T: 10.67 S: 29.61
		2122	BO				51° 43.90	128° 25.64		135					BOT@10m SAL/CHL/NUTS
		2125	EN				51° 43.89	128° 25.65							
		2128	BE	NET		266	51° 43.87	128° 25.65							BONGO
		2200	BE	TRAWL		267	51 43 51	128 24.71		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							
19	QCSD 06	2300	BE	CTD		268	51° 41.98	128° 17.31	134			2	H.M.		T: 11.04 S: 31.32
		2303	BO				51° 41.99	128° 17.32		125					BOTOM - SAL/CHL/NO3/PH
		2307	EN				51° 42.00	128° 17.32						*	BOTOM 120 For PH
		2310	BE	NET		269	51° 42.01	128° 17.30		124					BONGO
		2332	BE	TRAWL		270	51° 42.24	128° 16.21		15					TRAWL
20	IBC 19	0126	BE	CTD		271	51° 45.21	127° 58.62	424			1			T: 9.94 S: 25.54
		0131	BO				51° 45.18	127° 58.66		250					BOTOM - SAL/CHL/NO3
		0137	EN				51° 45.15	127° 58.68							
		0139	BE	NET		272	51° 45.14	127° 58.70		150					BONGO
		0201	BE	TRAWL		273	51° 45.75	127° 58.44		0					TRAWL
20	IBC 20	1400	BE	CTD		274	52° 15.93	127° 46.21	368			1			T: 9.71 S: 16.23
		1405	BO				52° 15.94	127° 46.24		250					BOTOM - SAL/CHL/NO3
		1410	EN				52° 15.95	127° 46.26							
		1413	BE	NET		275	52° 15.95	127° 46.28		150					BONGO
		1438	BE	TRAWL		276	52° 15.35	127° 46.70		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							
20	IBC 21	1551	BE	CTD		277	52° 08.78	127° 52.28	675			1	H.M.		T: 9.53 S: 16.52
		1556	BO				52° 08.72	127° 52.30		250					BOT@10m - SAL/CHL/NTS
		1601	EN				52° 08.68	127° 52.31							
		1604	BE	NET		278	52° 08.64	127° 52.32		150					BONGO
		1624	BE	TRAWL		279	52° 07.74	127° 52.71		15					TRAWL
20	IBC 22	1742	BE	CTD		280	52° 00.26	127° 55.44	431						T: 10.24 S: 21.93
		1748	BO				52° 00.17	127° 55.49		250					BOT@10m - SAL/CHL/NTS
		1753	EN				52° 00.12	127° 55.47							
		1756	BE	NET		281	52° 00.69	127° 55.46		150					BONGO
		1819	BE	TRAWL		282	51 59.14	127 55.61		0					TRAWL
20	IBC 23	1921	BE	CTD		283	51° 54.02	127° 53.76	189			2			T: 9.14 S: 27.75
		1925	BO				51° 54.01	127° 53.80		170					BOT@10m - SAL/CHL/NTS/PH
		1930	EN				51° 54.00	127° 53.88						⊗	BOT@165m PH
		1933	BE	NET		284	51° 53.98	127° 53.97		150					BONGO
		1957	BE	TRAWL		285	51 54.38	127 53.7		15					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							
20	IBC 24	2134	BE	CTD		286	51° 58.53	127° 41.03	238			2	H.M.		T: 9.58 S: 21.15
		2139 ₂₀	BO				51° 58.52	127° 41.06		225					BOTOM. SAL/CHL/NTS/PH
		2146	EN				51° 58.52	127° 41.09							BOTE 220 FOR PH
		2149	BE	NET		287	51° 58.51	127° 41.12		150					BONGO
		2211	BE	TRAWL		288	52° 1.206	127° 37.84-		0					TRAWL
20	IBC 25	2330	BE	CTD		289	52° 06.35	127° 38.98	345			2			T: 9.69 S: 19.24
		2335 ₅₀	BO				52° 06.34	127° 38.98		250					BOTOM. SAL/CHL/NTS/PH
		2344	EN				52° 06.29	127° 38.98							BOTE 245 FOR PH
		2348	BE	NET		290	52° 06.24	127° 38.99		150					BONGO
21		0009	BE	TRAWL		291	52° 06.67	127° 38.05		15					TRAWL
21	IBC 26	1407	BE	CTD		292	51° 47.97	127° 54.51	301			2			T: 9.89 S: 23.15
		1412	BO				51° 47.95	127° 54.45		250					BOTOM. SAL/CHL/NTS
		1421	EN				51° 47.91	127° 54.40							BOTE 50 FOR PH
		1425	BE	NET		293	51° 47.89	127° 54.44		150					BONGO
		1447	BE	TRAWL		294	51° 47.08	127° 54.26		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							
29	IF01	0146	BC	CTD	3 rd	303	48° 17. 86	123° 41. 12	164			1	H.M.	✓	T: 8.92 S: 31.81
		0149	BO				48° 17. 85	123° 41. 23		155					BOT@ 10m - SAL/CHL/NTS
		0153	CH				48° 17. 84	123° 41. 32					*		CAP LEFT ON PH SENSORS
		0140	BC	NET	1 st	301	48° 17. 57	123° 35. 93							BONGO
		0130	BC	TRAWL	2 nd	302	48° 17. 51	123° 36. 77	146						TRAWL @ 0m
29	IV1 10	1400	BC	CTD		304	48° 57. 72	125° 06. 91	93			1			T: 11.45 S: 26.16
		1402	BO				48° 57. 72	125° 06. 94		85					BOT@ 10m - SAL/CHL/NTS
		1404	CH				48° 57. 73	125° 06. 98							
		1407	BC	NET		305				83					BONGO
		1430	BC	TRAWL		306	48° 57. 7	125° 06. 9	97						TRAWL @ 0m
29	IV1 11	1531	BC	CTD		307	48° 54. 04	125° 13. 17	102			2			T: 11.58 S: 28.11
		1534	BO				48° 54. 03	125° 13. 19		90					BOT@ 10m - SAL/CHL/NTS/PH
		1540	CH				48° 54. 04	125° 13. 22							BOT@ 85 for PH
		1543	BC	NET		308	48° 54. 04	125° 13. 24		98					BONGO
		1556	BC	TRAWL		309	48° 54. 0	125° 13. 3	100						TRAWL @ 15m

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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							
29	VI 12	1713	BE	CTD		310	48° 48.28	125° 15.40	57	50		1	H.M.		T: 10.12 s: 30.72
		1714	BO				48° 48.28	125° 15.41							BOT@10m - SAL/CHL/NOTS
		1716	EN				48° 48.28	125° 15.41							
		1719	BE	NET		311	48° 48.28	125° 15.42		47					BONGO
		1738	BE	TRAWL		312	48° 47.68	125° 15.80	103						TRAWL @ 0m
29	VI 04	1855	BE	CTD		313	48° 47.89	125° 22.04	87			1			T: 11.07 s: 30.32
		1856	BO				48° 47.90	125° 22.07		80					BOT@10m - SAL/CHL/NOTS
		1858	EN				48° 47.91	125° 22.10							
		1902	BE	NET		314	48° 47.91	125° 22.14		78					BONGO
		1918	BE	TRAWL		315	48° 47.45	125° 23.30	98						TRAWL @ 30m
29	VI 05	2014	BE	CTD		316	48° 44.93	125° 27.43	107			1			T: 9.98 s: 30.86
		2022	BO				48° 44.97	125° 27.47		100					BOT@10m - SAL/CHL/NOTS
		2024	EN				48° 45.00	125° 27.49							
		2029	BE	NET		317	48° 44.98	125° 27.56	120	110					BONGO
		2049	BE	TRAWL		318	48° 44.44	125° 28.63	114						TRAWL @ 0m

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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								
29	VI 06	2158	BE	CTD		319	48°40.73	125°35.85	152			2	11.1		T: 9.77 S: 31.02	
		2202	BO				48°40.71	125°35.91		40					BOT 10m SAL/CAL/HRS/PH	
		2207	EN				48°40.71	125°35.97							* BOT @ 135 For PH	
		2212	BE	NET		320	48°40.71	125°36.02		134					BONGO	
		2234	BE	TRAWL		321	48°40.31	125°37.42	108						TRAWL @ 15m	
29	VI 07	2345	BE	CTD		322	48°35.99	125°42.65	60			1			T: 10.42 S: 31.51	
		2347	BO				48°35.99	125°42.66		50					BOT 10m SAL/CAL/HRS	
		2348	EN				48°35.99	125°42.66								
		2351	BE	NET		323	48°35.98	125°42.65	64						BONGO	
		0032	BE	TRAWL		324	48°35.5	125°45.5							TRAWL @ 0m	
30	VI 08	1439	BE	CTD		325	48°29.15	125°51.12	111			1			T: 11.68 S: 31.42	
		1441	BO				48°29.12	125°51.10		100					BOT 10m SAL/CAL/HRS	
		1444	EN				48°29.10	125°51.10								
		1447	BE	NET		326	48°29.09	125°51.09		101					BONGO	
		1508	BE	TRAWL		327	48°28.90	125°51.91	121						TRAWL @ 0m	

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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	V1 09	1630	BE	CTD		328	48° 23.92	125° 57.11	325			1	H.M.			T: 12.51 S: 32.10
		1635	BO				48° 23.90	125° 57.11		250						BOT @ 10m - SAL/CHL/NUTS
		1641	EN				48° 23.88	125° 57.12								
		1643	BE	NET		329	48° 23.87	125° 57.12		150						BONGO
		1711	BE	TRAWL		330	48° 23.83	125° 58.15	369							TRAWL @ 15m
30	V1 10	1851	BE	CTD		331	48° 16.68	126° 04.38	>1000			1				T: 12.81 S: 32.34
		1856	BO				48° 16.66	126° 04.47		250						BOT @ 10m - SAL/CHL/NUTS
		1900	EN				48° 16.66	126° 04.57								
		1903	BE	NET		332	48° 16.65	126° 04.62		150						BONGO
		1924	BE	TRAWL		333	48° 16.44	126° 05.69	1270							TRAWL @ 21m
30	V1 11	2039	BE	CTD		334	48° 14.66	126° 12.02	1607			1				T: 12.95 S: 32.31
		2043	BO				48° 14.61	126° 12.13		250						BOT @ 10m - SAL/CHL/NUTS
		2048	EN				48° 14.65	126° 12.25								
		2051	BE	NET		335	48° 14.65	126° 12.29		150						BONGO
		2104	BE	TRAWL		336	48° 14.7	126° 12.07								TRAWL @ 10m

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

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Month <u>OCT</u>				Year <u>2011</u>			Ship <u>W.E. RICKER</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							
30	V1 12	2224	BE	CTD		337	48° 10. 37	126° 19. 10	1000			1	H.M.		T: 12.84 S: 32.33
		2229	BO				48° 10. 35	126° 19. 15		250					BOTOM - SAL/CAL/HRS
		2234	EN				48° 10. 37	126° 19. 19							
		2236	BE	NET		338	48° 10. 38	126° 19. 23		150					BONGO
		2255	BE	TRAWL		339	48° 10. 18	126° 20. 43	1132						TRAWL @ 30m
31	V1 13	0629	BE	CTD		340	48° 05. 31	126° 26. 45	1000 +			1			T: 13.12 S: 32.37
		0034	BO				48° 05. 32	126° 26. 55		250					BOTOM - SAL/CAL/HRS
		0039	EN				48° 05. 32	126° 26. 65							
		0041	BE	NET		341	48° 05. 31	126° 26. 67		150					BONGO
		0104	BE	TRAWL		342	48° 05. 07	126° 27. 51	2200						TRAWL @ 0m
31	ED 7	1432	BE	CTD		343	49° 06. 64	127° 06. 52	1158			2		✓	T: 11.86 S: 32.18
		1440	BO				49° 06. 62	127° 06. 76		250					BOTOM - SAL/CAL/HRS/PH
		1448	EN				49° 06. 62	127° 06. 92							BOT 245 FOR PH
		1452	BE	NET		344	49° 06. 63	127° 06. 96		150					BONGO
		1515	BE	TRAWL		345	49° 06. 8	127° 07. 1	1000						TRAWL @ 10m

Cast Type:

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(*) CALLED EP 01 IN FILES - SHOULD BE EP 07

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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							
31	EP 06	1624	BE	CTD		346	49° 09.35	126° 57.92	294			1	H.m.		T: 11.94 s: 32.08
		1629	BO				49° 09.43	126° 57.94		250					BOTEDON - SAL/CAL/NOTES
		1635	EN				49° 09.45	126° 58.04							
		16	BE	NET		347	49° 09.	126° 5.	CANCELLED DUE TO WEATHER						BONGO CANCELLED
		1647	BE	TRAWL		348	49° 09.83	126° 57.30	254						TRAWL @ 10m
31	EP 05	1736	BE	CTD		349	49° 10.99	126° 53.23	167			1			T: 11.87 s: 31.93
		1739	BO				49° 11.00	126° 53.27		155					BOTEDON - SAL/CAL/NOTES
		1743	EN				49° 11.00	126° 53.27							
		1754	BE	NET		350	49° 11.07	126° 53.16		150					BONGO
		1816	BE	TRAWL		351	49° 11.55	126° 51.99	152						TRAWL @ 10m
31	EP 04	1910	BE	CTD		352	49° 13.40	126° 48.60	134			1			T: 11.72 s: 31.54
		1913	BO				49° 13.41	126° 48.56		125					BOTEDON - SAL/CAL/NOTES
		1916	EN				49° 13.41	126° 48.57							
		19	BE	NET		353	49° 13	126° 48	CANCELLED - WEATHER						BONGO
		1929	BE	TRAWL		354	49° 13.72	126° 49.29	143						TRAWL @ 20m

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Month		OCT / NOV		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							
31	EP 03	2055	BE	CTD		355	49° 15.39	126° 44.14	117			1	H.M.		T: 11.64 S: 31.30
		2057	BO				49° 15.38	126° 44.14		105					BOT/ION-SAL/CHL/NUIS
		2100	EN				49° 15.36	126° 44.12							
			BE	NET		356	—	—			CANCELLED				BONGO
		2106	BE	TRAWL		357	49° 15.60	126° 43.9							TRAWL @ 10m
31	EP 02	2207	BE	CTD		358	49° 17.29	126° 39.50	107			1			T: 11.82 S: 31.28
		2209	BO				49° 17.26	126° 39.50		95					BOT/ION-SAL/CHL/NUIS
		2211	EN				49° 17.24	126° 39.49							
			BE	NET		359									BONGO
		2222	BE	TRAWL		360	49° 17.60	126° 40.07							TRAWL @ 10m
Nov 1	IV1 13	0154	BE			361	49° 36.37	126° 35.70	122			1			T: 11.88 S: 29.17
		0156	BO				49° 36.35	126° 35.70		110					BOT/ION-SAL/CHL/NUIS
		0158	EN				49° 36.33	126° 35.70							
		0200	BE			362	49° 36.32	126° 35.70		110					BONGO
		0108	BE			363	49° 34.16	126° 36.77							TRAWL @ 10m

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Month <u>NOV</u>				Year <u>2011</u>			Ship <u>W. E. RICKER</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							
1	VI 14	1401	BE	CTD		364	49° 52.93	127° 25.49	65			2	H.M.	✓	T: 11.65 S: 30.77
		1402	BO				49° 52.93	127° 25.47		60					BOTED - SAL/CHL/NTS/pH
		1407	EN				49° 52.95	127° 25.39							BOTED - SAL/CHL/NTS/pH
		1411	BE	NET		365	49° 52.96	127° 25.37		56					BONGO
		1428	BE	TRAWL		366	49° 52.74	127° 26.40	73						TRAWL @ 0m
1	VI 15	1537	BE	CTD		367	49° 48.98	127° 32.65	84			1			T: 11.46 S: 31.13
		1539	BO				49° 48.98	127° 32.67		75					BOTED - SAL/CHL/NTS
		1541	EN				49° 48.99	127° 32.70							
		1544	BE	NET		368	49° 48.99	127° 32.71		75					BONGO
		1601	BE	TRAWL		369	49° 48.26	127° 33.05	92						TRAWL @ 15m
1	VI 16	1706	BE	CTD		370	49° 45.47	127° 38.07	270			1			T: 11.06 S: 31.68
		1711	BO				49° 45.47	127° 38.22		250					BOTED - SAL/CHL/NTS
		1717	EN				49° 45.48	127° 38.27							
		1720	BE	NET		371	49° 45.49	127° 38.29		150					BONGO
		1743	BE	TRAWL		372	49° 45.54	127° 39.90	446						TRAWL @ 0m

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Month NOV				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							
1	VI 17	1902	BE	CTD		373	49° 41.83	127° 43.98	985			1	N.M.		T: 11.40 S: 31.92
		1907	BO				49° 41.85	127° 43.93		250					BOTEDON-SAL/CAL/NUTS/PH
		1911	EN				49° 41.85	127° 43.87							
		1914	BE	NET		374	49° 41.84	127° 43.84		150					BONGO
		1933	BE	TRAWL		375	49° 41.38	127° 43.54	888						TRAWL @ 30m
1	VI 18	2138	BE	CTD		376	49° 35.72	127° 25.42	668			2			T: 11.44 S: 31.80
		2143	BO				49° 35.77	127° 25.35		250					BOTEDON-SAL/CAL/NUTS/PH
		2151	EN				49° 35.80	127° 25.28							BOTE 245 for PH
		2153	BE	NET		377	49° 35.81	127° 25.24		150					BONGO
		2213	BE	TRAWL		378	49° 36.56	127° 23.93	452						TRAWL @ 06m
1	VI 19	2308	BE	CTD		379	49° 39.40	127° 18.76	147			1			T: 11.38 S: 31.79
		2311	BO				49° 39.42	127° 18.78		140					BOTEDON-SAL/CAL/NUTS
		2314	EN				49° 39.44	127° 18.76							
		2316	BE	NET		380	49° 39.45	127° 18.75		137					BONGO
		2336	BE	TRAWL		381	49° 39.84	127° 17.59	140						TRAWL @ 15m

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Month <u>NOV</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							
2	VI 20	0035	BE	CTD		382	49° 42.97	127° 11.25	110			1	H.M.		T: 11.69 S: 31.23
		0037	BO				49° 42.98	127° 11.21		100					BOTOM SAL/CHL/NUIS
		0039	EN				49° 42.99	127° 11.18							
		0042	BE	NET		383	49° 43.03	127° 11.18		95					BONGO
		0058	BE	TRAWL		384	49° 43.38	127° 10.48	105						TRAWL @ 0m
2	VI 14	1413	BE	CTD		385	49° 50.27	126° 59.80	50			2			T: 11.47 S: 28.77
		1415	BO				49° 50.08	126° 59.83		40					BOTOM SAL/CHL/NUIS
		1418	EN				49° 50.07	126° 59.84							* BOTQ 35 FOR ALT
		1421	BE	NET		386	49° 50.05	126° 59.85		39					BONGO
		1437	BE	TRAWL		387	49° 50.22	126° 58.75	123						TRAWL @ 0m
2	VI 15	1554	BE	CTD		388	49° 57.29	126° 56.08	203			1			T: 10.92 S: 27.16
		1558	BO				49° 57.29	126° 56.13		190					BOTOM SAL/CHL/NUIS
		1603	EN				49° 57.28	126° 56.15							
		1605	BE	NET		389	49° 57.26	126° 56.14		150					BONGO
		1637	BE	TRAWL		390	49° 56.67	126° 55.88	208						TRAWL @ 15m

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Month NOV				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							
2	101 16	1739	BE	CTD		391	49° 51.70	126° 52.33	227			1	H.M.		T: 11.79 S: 30.22
		1743	BO				49° 51.73	126° 52.37		215					ROSETTE - SAL/CAL/NUTS
		1748	EN				49° 51.76	126° 52.41							
		1751	BE	NET		392	49° 51.78	126° 52.44		150					BONGO
		1814	BE	TRAWL		393	49° 52.01	126° 51.41	242						TRAWL @ 0m
2	101 17	1958	BE	CTD		394	49° 56.56	126° 48.49	187			1			T: 11.08 S: 26.70
		2001	BO				49° 56.52	126° 48.49		175					ROSETTE - SAL/CAL/NUTS
		2005	EN				49° 56.51	126° 48.49							
		2010	BE	NET		395	49° 56.33	126° 48.45		150					BONGO
		2030	BE	TRAWL		396	49° 55.56	126° 48.03	225						TRAWL @ 15m
2	101 18	2115	BE	CTD		397	49° 52.29	126° 45.43	256			1			T: 10.77 S: 27.82
		2119	BO				49° 52.26	126° 45.40		245					ROSETTE - SAL/CAL/NUTS
		2124	EN				49° 52.25	126° 45.38							
		2126	BE	NET		398	49° 52.24	126° 45.38							BONGO
		2144	BE	TRAWL		399	49° 52.70	126° 45.97	266						TRAWL @ 0m

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Month <u>NOV</u>				Year <u>2011</u>			Ship <u>W.E. RICKER</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							
2	1V1 19	2313	BE	CTD		400	49°53.77	126°39.51	183			1	H.M.		T: 11.32 S: 25.68
		2317	BO				49°53.79	126°39.51		170					BOT@10m SAL/CAL/HUTS
		2320	EN				49°53.80	126°39.52							
		2323	BE	NET		401	49°53.81	126°39.54		150					BONGO
		2343	BE	TRAWL		402	49°52.97	126°36.61	200						TRAWL @ 19m
3	1V1 20	0035	BE	CTD		403	49°50.96	126°39.67	184			2			T: 10.34 S: 25.16
		0039	BO				49°50.94	126°39.65		170				(*)	BOT@10m SAL/CAL/HUTS/PH
		0045	EN				49°50.93	126°39.64							BOT@ FOR PH
		0047	BE	NET		404	49°50.92	126°39.64		150					BONGO
		0107	BE	TRAWL		405	49°50.30	126°39.51	181						TRAWL @ 0m
3	1V1 21	1410	BE	CTD		406	49°38.87	126°15.44	352			2			T: 12.37 S: 28.84
		1415	BO				49°38.86	126°15.46		250	*O ₂ = 0.0			(*)	BOT@10m SAL/CAL/HUTS/PH
		1424	EN				49°38.91	126°15.50							BOT@ FOR PH
		1427	BE	NET		407	49°38.91	126°15.52		150					BONGO
		1448	BE	TRAWL		408	49°38.75	126°16.60	298						TRAWL @ 0m

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Month NOV				Year 2011			Ship W.E. RICHER				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							
3	1V1 22	1617	BE	CTD		409	49° 41.21	126° 32.36	254			1	H.M.		T: 10.86 S: 26.79
		1622	BO				49° 41.23	126° 32.44		245					Boreion - Sal/Chl/Notes
		1627	EN				49° 41.25	126° 32.51							
		1630	BE	NET		410	49° 41.27	126° 32.57		150					BONGO
		1655	BE	TRAWL		411	49° 41.56	126° 31.72	251						TRAWL @ 15m
3	1V1 23	1800	BE	CTD		412	49° 47.06	126° 28.53	100			1			T: 12.73 S: 27.63
		1802	BO				49° 47.07	126° 28.52		90					Boreion - Sal/Chl/Notes
		1804	EN				49° 47.07	126° 28.51							
		1806	BE	NET		413	49° 47.07	126° 28.48		97					BONGO
		1826	BE	TRAWL		414	49° 47.07	126° 28.58		90					TRAWL @ 0m
3	1V1 24	1945	BE	CTD		415	49° 39.31	126° 28.46	191			1			T: 9.48 S: 20.71
		1948	BO				49° 39.29	126° 28.48		180					Boreion - Sal/Chl/Notes
		1952	EN				49° 39.28	126° 28.50							
		1954	BE	NET		416	49° 39.26	126° 28.51							BONGO
		2013	BE	TRAWL		417	49° 38.61	126° 29.10							TRAWL @ 0m

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⇒ initial coordinates for trial not recorded. so set to bongo coordinate

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Month				Year				Ship				Cruise ID				Page	
NOV				2011				W.E. RICKER				2011-45				41 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									
3	1V1 25	2053	BE	CTD		418	49° 35.87	126° 32.07	137		1	H.M.		T:11.71 S:29.48			
		2055	BO				49° 35.86	126° 32.10		125				BOTO 10m-SAL/CHL/NOTS			
		2058	EN				49° 35.85	126° 32.13									
		2100	BE	NET		419	49° 35.84	126° 32.18		126				BONGO			
		2117	BE	TRAWL		420	49° 35.69	126° 33.23	100					TRAWL @ 15m			
3	1V1 26	2207	BE	CTD		421	49° 37.82	126° 36.20	157		1			T:10.44 S:24.40			
		2210	BO				49° 37.83	126° 36.21		145				BOTO 10m-SAL/CHL/NOTS			
		2213	EN				49° 37.83	126° 36.23									
		2215	BE	NET		422	49° 37.81	126° 36.24		147				BONGO			
		2233	BE	TRAWL		423	49° 38.49	126° 36.42	166					TRAWL @ 0m			
3	1V1 27	2343	BE	CTD		424	49° 33.56	126° 37.10	77		2			T:11.30 S:29.92			
		2345	BO				49° 33.56	126° 37.13		70				BOTO 10m-SAL/CHL/NOTS/PH			
		2347	EN				49° 33.55	126° 37.15						BOTO 10m-SAL/CHL/NOTS/PH			
		2350	BE	NET		425	49° 33.55	126° 37.18		60				BONGO			
		0033	BE	TRAWL		426	49° 30.70	126° 37.79	62					TRAWL @ 15m			

Cast Type:

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SET = Fish Set

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

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month NOV				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							
4	VI 21	1400	BE	CTD		427	49° 19.20	126° 23.00	41			1	H.M.		T: 11.12 S: 30.16
		1402	BO				49° 19.23	126° 22.99		30					BOT@10m - SAL/CHL/NUTS
		1403	EM				49° 19.24	126° 22.99							
		1407	BE	NET		428	49° 19.20	126° 22.96		30					BONGO
		1407	BE	TRAWL		429	49° 18.40	126° 22.51	47						TRAWL @ 0m
4	VI 22	1543	BE	CTD		430	49° 11.92	126° 16.94	52			1			T: 9.81 S: 31.03
		1545	BO				49° 11.94	126° 16.98		40					BOT@10m - SAL/CHL/NUTS
		1546	EM				49° 11.96	126° 17.01							
		1549	BE	NET		431	49° 11.99	126° 17.10		44					BONGO
		1604	BE	TRAWL		432	49° 11.67	126° 16.71	58						TRAWL @ 15m
4	VI 23	1727	BE	CTD		433	49° 05.04	126° 10.46	60			1			T: 10.44 S: 30.99
		1729	BO				49° 05.05	126° 10.51		50					BOT@10m - SAL/CHL/NUTS
		1730	EM				49° 05.05	126° 10.54							
		1733	BE	NET		434	49° 05.06	126° 10.55		52					BONGO
		1750	BE	TRAWL		435	49° 04.95	126° 09.55	67						TRAWL @ 0m

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DAILY SCIENCE LOG

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Month <u>Nov</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							
4	VI 24	1911	BE	CTD		436	49° 00.44	126° 01.02	48			1	H.M.		T: 10.08 S: 30.93
		1912	BO				49° 00.44	126° 01.03		38					BOT@10m SAL/CHL/NUIS
		1913	EN				49° 00.44	126° 01.03							
		1915	BE	NET		437	49° 00.45	126° 01.05		37					BONGO
		1931	BE	TRAWL		438	49° 00.31	126° 00.78	53						TRAWL @ 20m
4	VI 25	2100	BE	CTD		439	48° 56.44	125° 48.98	48			1			T: 10.24 S: 31.04
		2101	BO				48° 56.44	125° 49.00		40					BOT@10m SAL/CHL/NUIS
		2102	EN				48° 56.44	125° 49.00							
		2105	BE	NET		440	48° 56.44	125° 49.04		37					BONGO
		2119	BE	TRAWL		441	48° 56.18	125° 47.98	64						TRAWL @ 0m
4	VI 26	2238	BE	CTD		442	48° 56.30	125° 37.62	89			1			T: 10.33 S: 30.97
		2240	BO				48° 56.31	125° 37.64		80					BOT@10m SAL/CHL/NUIS
		2244	EN				48° 56.32	125° 37.67							
		2246	BE			443	48° 56.33	125° 37.68		79					BONGO
		2303	BE			444	48° 55.82	125° 37.13	100						TRAWL @ 15m

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Notes:

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DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2011-45

DATE:

From:

OCT 1 / 11

to:

NOV 6 / 11

VESSEL:

W.E. RICHER

PROJECT(S):

HIGH SEAS SALMON - TRUDEL

BOOK 3 OF 3

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

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>NOV</u>				Year <u>2011</u>			Ship <u>W.E. RICKER</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							
5	V127	0031	BE	CTD		445	48° 49.81	125° 28.20	95			1	H.M.		T: 10.73 S: 30.86
		0033	BO				48° 49.83	125° 28.27		85					BOT @ 10m - SAL/CAL/NOTS
		0035	EN				48° 49.85	125° 28.30							
		0038	BE	NET		446	48° 49.86	125° 28.34		86					BONGO
			BE	TRAWL		447	CANCELLED - WIRE BROKEN								TRAWL
5	V128	1405	BE	CTD		448	48° 34.69	125° 02.97	81			1			T: 9.76 S: 31.70
		1407	BO				48° 34.70	125° 02.96		70					BOT @ 10m - SAL/CAL/NOTS
		1409	EN				48° 34.70	125° 02.95							
		1413	BE	NET		449	48° 34.73	125° 02.98		70					BONGO
		1621	BE	TRAWL		450	48° 33.64	124° 56.51	67						TRAWL @ 0m
5	IF6	1742	BE	CTD		451	48° 34.80	124° 44.93	54			2			T: 8.95 S: 31.43
		1744	BO				48° 34.79	124° 44.91		45					BOT @ 10m - SAL/CAL/NOTS/PH
		1745	EN				48° 34.79	124° 44.90							BOT @ FOR PH
		1747	BE	NET		452	48° 34.74	124° 44.84		44					BONGO
		1803	BE	TRAWL		453	48° 34.51	124° 43.66	63						TRAWL @ 15m

⇒ Net was changed because it needed to be fixed

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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DAILY SCIENCE LOG															
Month NOV				Year 2011			Ship W.E. RICHER				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							
5	IF 5	1939	BC	CTD		454	48°29.58	124°28.40	160			2	H.M.		T: 8.63 S: 31.90
		1942	BO				48°29.56	124°28.30		150					BOTE 10m - SAL/CHL/NOTS/PH
		1948	EN				48°29.52	124°28.17							BOTE 145 FOR PH
		1951	BE	NET		455	48°29.48	124°28.09		150					BONGO
		2009	BE	TRAWL		456	48°29.16	124°26.79	157						TRAWL @ 0m
5	IF 4	2133	BE	CTD		457	48°26.22	124°13.92	67			1			T: 8.64 S: 31.84
		2134	BO				48°26.23	124°13.90		55					BOTE 10m - SAL/CHL/NOTS
		2136	EN				48°26.23	124°13.89							
		2138	BE	NET		458	48°26.24	124°13.84		54					BONGO
		2153	BE	TRAWL		459	48°26.04	124°12.53	52						TRAWL @ 15m
5	IF 3	2314	BE	CTD		460	48°23.02	124°02.69	100			1			T: 8.79 S: 31.67
		2316	BO				48°23.02	124°02.66		90					BOTE 10m - SAL/CHL/NOTS
		2318	EN				48°23.03	124°02.65							
		2321	BE	NET		461	48°23.03	124°02.64		89					BONGO
		0037	BE	TRAWL		462	48°22.98	124°01.64	99						TRAWL @ 0m
END OF CRUISE															
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