

# 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](http://WaterProperties.ca)

Captain: \_\_\_\_\_ First Officer: \_\_\_\_\_  
Second Officer: \_\_\_\_\_ Third Officer: \_\_\_\_\_  
Fishing Master: \_\_\_\_\_

Mission Participants / Agencies: \_\_\_\_\_

**Scientific Personnel:** Chief Scientist: \_\_\_\_\_ Name \_\_\_\_\_ Watch Cabin \_\_\_\_\_

Name	Watch	Cabin
GEE		

**Second leg of Mission:** Chief Scientist: \_\_\_\_\_ Name \_\_\_\_\_ Watch Cabin \_\_\_\_\_

Name	Watch	Cabin

**Data logging computer:** \_\_\_\_\_  
**Data acquisition program:** \_\_\_\_\_ model: \_\_\_\_\_ serial number: \_\_\_\_\_  
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: \_\_\_\_\_ P, S or NO pump?  
Oxygen sensor: \_\_\_\_\_ Model: \_\_\_\_\_ s/n: \_\_\_\_\_ P, S or NO pump?  
PAR sensor: \_\_\_\_\_ Model: \_\_\_\_\_ s/n: \_\_\_\_\_  
Other sensors: \_\_\_\_\_ s/n: \_\_\_\_\_ P, S or NO pump?  
Other sensors: \_\_\_\_\_ s/n: \_\_\_\_\_ P, S or NO pump?  
Other sensors: \_\_\_\_\_ s/n: \_\_\_\_\_ P, S or NO pump?  
Other sensors: \_\_\_\_\_ s/n: \_\_\_\_\_ P, S or NO pump?

**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: \_\_\_\_\_ P, S or NO pump?  
Oxygen sensor: \_\_\_\_\_ Model: \_\_\_\_\_ s/n: \_\_\_\_\_ P, S or NO pump?  
PAR sensor: \_\_\_\_\_ Model: \_\_\_\_\_ s/n: \_\_\_\_\_  
Other sensors: \_\_\_\_\_ s/n: \_\_\_\_\_ P, S or NO pump?  
Other sensors: \_\_\_\_\_ s/n: \_\_\_\_\_ P, S or NO pump?  
Other sensors: \_\_\_\_\_ s/n: \_\_\_\_\_ P, S or NO pump?  
Other sensors: \_\_\_\_\_ s/n: \_\_\_\_\_ P, S or NO pump?

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

# DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month <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							
16	ISEA 07	1354	BE	CTD		223	56° 21.96	133° 22.37	396			2	U.M.	✓	T: 8.39 S: 30.08
	<sup>50</sup>	1358	BO				56° 21.97	133° 22.49		250					Bottle on SAL/CTD/NETS/PH
		1407	EM				56° 21.99	133° 22.59						*	BOTE 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 on SAL/CTD/NETS
		1704	EM				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 on SAL/CTD/NETS
		1907	EM				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:**  
 BOT = Bottle cast, no CTD  
 CTD = CTD without Rosette  
 ROS = Rosette plus CTD  
 SET = Fish Set

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

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

**Time Code:**  
 BE = Beginning Time of Cast  
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 RE = Recover Mooring Time

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

Notes: \_\_\_\_\_

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Ocean Sciences Division, Institute of Ocean Sciences

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OCT		2011		W.E. RICKER				2011-45							
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							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/PH
		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

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 Produced by the Water Properties Group, IOS  
 WaterProperties.ca  
 Version: 16 April 2010

*This page is for any notes or observations*

\* CHECK CONSECUTIVE # SHOULD BE 232 - NOT 231

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## Ocean Sciences Division, Institute of Ocean Sciences

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							Latitude	Longitude								
19	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/NUIS
		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/NUIS
		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/NUIS/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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							Latitude	Longitude							
19	1BC 18	00 34	BE	CTD		250	52° 23.38	128° 50.94	244			1	H.M.		T: 11.19 S: 31.42
		00 39	BO				52° 23.42	128° 51.03		235					BOTOM SAL/CHL/MURS
		00 44	EN				52° 23.50	128° 51.08							
		00 50	BE	NET		251	52° 23.48	128° 51.72		140					BONGO
		01 17	BE	TRAWL		252	52 22.23	128 51.67		15					TRAWL
<del>_____</del>															
19	QCSD 01	14 01	BE	CTD		253	51° 55.00	128° 59.38	99			1			T: 11.63 S: 31.82
		14 03	BO				51° 55.01	128° 59.42		90					BOTOM SAL/CHL/MURS
		14 09	EN				51° 55.01	128° 59.48							
		14 12	BE	NET		254	51° 55.02	128° 59.49		89					BONGO
		14 32	BE	TRAWL		255	51 54.93	128 58.28		0					TRAWL
19	QCSD 02	15 45	BE	CTD		256	51° 54.30	128° 47.35	118			1			T: 11.24 S: 31.69
		15 47	BO				51° 54.30	128° 47.36		110					BOTOM SAL/CHL/MURS
		15 50	EN				51° 54.30	128° 47.38							
		15 53	BE	NET		257	51° 54.29	128° 47.38		107					BONGO
		16 15	BE	TRAWL		258	51 54.37	128 46.005		15					TRAWL

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							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@10 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@10 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@10 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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Notes:



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Ocean Sciences Division, Institute of Ocean Sciences

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Month		Year		Ship				Cruise ID							
OCT		2011		W.E. RICHER				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/MVES/PH
		2307	EN				51° 42.00	128° 17.32							BOTE 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/MVES
		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/MVES
		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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Ocean Sciences Division, Institute of Ocean Sciences

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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							
Zo	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/NUTS
		1601	EH				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
Zo	IBC 22	1742	BE	CTD		280	52° 00.26	127° 55.49	431						T: 10.24 S: 21.93
		1748	BO				52° 00.17	127° 55.49		250					BOT@10m - SAL/CHL/NUTS
		1753	EH				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
Zo	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/NUTS/PH
		1930	EH				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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Ocean Sciences Division, Institute of Ocean Sciences

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Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		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 <sub>20</sub>	BO				51° 58.52	127° 41.06		225					BOTOM. SAL/CHL/NUTS/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 <sub>50</sub>	BO				52° 06.34	127° 38.98		250				*	BOTOM. SAL/CHL/NUTS/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		00.09	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				NO PH	BOTOM. SAL/CHL/NUTS
		1421	EN				51° 47.91	127° 54.40					YES PH	*	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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Ocean Sciences Division, Institute of Ocean Sciences

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							
21	IBC 27	1602	BE	CTD		295	51° 39.90	127° 53.45	227			1	H.M.		T: 9.68 S: 24.65
		1606	BO				51° 39.85	127° 53.45		215					BOTOM - SAL/CHL/NUIS
		1611	EN				51° 39.82	127° 53.43							
		1614	BE	NET		296	51° 39.80	127° 53.41		150					BONGO
		1636	BE	TRAWL		297	51 38.75	127 53.11		15					TRAWL
21	IBC 28	1756	BE	CTD		298	51° 31.79	127° 49.93	183			1			T: 9.93 S: 25.86
		1800	BO				51° 31.78	127° 49.93		175					BOTOM - SAL/CHL/NUIS
		1804	EN				51° 31.78	127° 49.86							
		1807	BE	NET		299	51° 31.78	127° 49.78							BONGO
		1829	BE	TRAWL		300	51 31.16	127° 49.48		0					TRAWL
END OF LEG #2															

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

Notes:

# DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month		Year		Ship			Cruise ID								
OCT		2011		W.C. RICKER			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							
29	IF01	0146	BC	CTD	3 <sup>rd</sup>	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@10 - SAL/CHL/MUTS
		0153	CH				48° 17.84	123° 41.32					*		CAP LEFT ON PH SENSORS
		0140	BC	NET	1 <sup>st</sup>	301	48° 17.57	123° 35.93							BONGO
		0130	BC	TRAWL	2 <sup>nd</sup>	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@10 - SAL/CHL/MUTS
		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@10 - SAL/CHL/MUTS/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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# DAILY SCIENCE LOG

## Ocean Sciences Division, Institute of Ocean Sciences

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							
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							Bottom - 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					Bottom - 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	2019	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					Bottom - 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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Ocean Sciences Division, Institute of Ocean Sciences

Month		Year		Ship				Cruise ID							
OCT		2011		W.C. RICKER				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							
29	VI 06	2158	BE	CTD		319	48° 40.73	125° 35.85	152			2	N.M.		T: 9.77 S: 31.02
		2202	BO				48° 40.71	125° 35.91		140					BOT @ 10m SAL/CAL/HTS/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/HTS
		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/HTS
		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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Notes:

# DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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							
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 @ 9m
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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Notes: \_\_\_\_\_



# DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month <u>OCT</u>			Year <u>2011</u>				Ship <u>W.E. RICKER</u>				Cruise ID <u>Z011-45</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/PH
		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/PH
		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/PH
		1448	EN				49° 06.62	127° 06.92							BOTE 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

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Notes:

*This page is for any notes or observations*

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

# DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month		Year		Ship		Cruise ID									
OCT		2011		W.E. RICKER		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					BOTIDN - SAL/CAL/NOTS
		1635	EN				49° 09.45	126° 58.04							
		16	BE	<del>NET</del>		347	<del>49° 09.</del>	<del>126° 5.</del>	CANCELLED DUE TO WEATHER						<del>BONGO CANCELLED</del>
		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					BOTIDN - SAL/CAL/NOTS
		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					BOTIDN - SAL/CAL/NOTS
		1916	EN				49° 13.41	126° 48.57							
		19	BE	NET		353	<del>49° 13</del>	<del>126° 48</del>	CANCELLED - WEATHER						<del>BONGO</del>
		1929	BE	TRAWL		354	49° 13.72	126° 49.29	143						TRAWL @ 20m

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Notes:

# DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month		Year		Ship		Cruise ID									
OCT/NOV		2011		W.E. RICKER		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/10m SAL/CHL/NOTS
		2100	EN				49° 15.36	126° 44.12							
			BE	<del>NET</del>		356	—	—			CANCELLED				BONGO
		2106	BE	TRAWL		357	49° 15.60	126° 43.9							TRAWL @ 60m
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/10m SAL/CHL/NOTS
		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	IV 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/10m SAL/CHL/NOTS
		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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# DAILY SCIENCE LOG

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Month		Year		Ship			Cruise ID								
NOV		2011		W. E. RICKER			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 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					BOT @ 10m SAL/CHL/NUTS/pH
		1407	EN				49° 52.95	127° 25.39							BOT @ 55m FOR 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					BOT @ 10m SAL/CHL/NUTS
		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					BOT @ 10m SAL/CHL/NUTS
		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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# DAILY SCIENCE LOG

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Month		Year		Ship			Cruise ID								
NOV		2011		W.E. RICKER			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° 43.93	985			1	N.M.		T: 11.40 S: 31.92
		1907	BO				49° 41.85	127° 43.93		250					BOTTEM. 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					BOTTEM. SAL/CAL/NUTS/PH
		2151	EN				49° 35.80	127° 25.28							NOTE 295 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					BOTTEM. 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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**Notes:**  
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 Produced by the Water Properties Group, IOS  
 WaterProperties.ca  
 Version: 16 April 2010

# DAILY SCIENCE LOG

## Ocean Sciences Division, Institute of Ocean Sciences

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	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					BOT @ 10m SAL/CHL/NUVS	
		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					BOT @ 10m SAL/CHL/NUVS	
		1418	EN				49° 50.07	126° 59.84							* BOT @ 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					BOT @ 10m SAL/CHL/NUVS	
		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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# DAILY SCIENCE LOG

## Ocean Sciences Division, Institute of Ocean Sciences

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Month		Year		Ship		Cruise ID									
NOV		2011		W.E. RICKER		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					BOT 210 - SAL/COL/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					ROS 210 - SAL/COL/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					BOT 210 - SAL/COL/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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# DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month		Year		Ship				Cruise ID							
NOV		2011		W. E. RICKER				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	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/NUTS
		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/NUTS/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 <sub>2</sub> = 0.0				* BOT@10m SAL/CAL/NUTS/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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WaterProperties.ca  
 Version: 16 April 2010

Notes:

# 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. 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								
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/NO3
		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° 31.77	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/NO3
		1809	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/NO3
		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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Notes:

*This page is for any notes or observations*

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

# DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month		Year		Ship			Cruise ID									
NOV		2011		W.E. RICKER			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 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					BOT @ 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					BOT @ 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					BOT @ 10m - SAL/CHL/NOTS/PH	
		2347	EN				49° 33.55	126° 37.15							BOT @ 10m - SAL/CHL/NOTS/PH	
		2350	BE	NET			425	49° 33.55	126° 37.18		60				BONGO	
		0033	BE	TRAWL			426	49° 32.70	126° 37.79	62					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								
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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							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/NUTS	
		1913	EM				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/NUTS	
		2102	EM				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/NUTS	
		2244	EM				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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