

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2009-46

DATE:

From: 08 OCT 09

to: 17 NOV 09

VESSEL:

W.E. RICKER

PROJECT(S):

HIGH SEAS SALMON (TRUDEL)

(BOOK 2)

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

WaterProperties.ca

Captain: ANDY QUAYE
 Second Officer: MORGAN
 Fishing Master: _____
 First Officer: ROGER WILLIAMS
 Third Officer: _____

Mission Participants / Agencies: PBS / 105 / UVIC

[illegible][illegible]

Data logging computer: PAC 02328
Data acquisition program: V7
CTD deck unit make: SBG model: 11 serial number: 0471

Primary CTD

Make: SBC model: 9 serial number: 585

Primary temperature serial number: 4054

Primary conductivity serial number: 3321

Secondary temperature serial number: 4700

Secondary conductivity serial number: 1766

Transmissometer: WETLAB Model: 983 LR s/n: 2228 P, S or NO pump?

Fluorometer: Model SCA Point 7 Cable gain: 10 x 0.15 s/n: 0997 P, S or NO pump?

Oxygen sensor: SBC Model: 4 s/n: 0997 P, S or NO pump?

PAR sensor: SBC Model: 4 s/n: 0997 P, S or NO pump?

Other sensors: SBC s/n: 0997 P, S or NO pump?

Other sensors: SBC s/n: 0997 P, S or NO pump?

Other sensors: SBC s/n: 0997 P, S or NO pump?

Other sensors: SBC s/n: 0997 P, S or NO pump?

Secondary CTD

Make: _____ model: _____ serial number: _____

Primary temperature serial number: _____

Primary conductivity serial number: _____

Secondary temperature serial number: _____

Secondary conductivity serial number: _____

Transmissometer: _____ Model: _____ s/n: _____

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

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

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

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

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

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

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

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

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>OCTOBER</u>				Year <u>2009</u>			Ship <u>WE RICKER</u>				Cruise ID <u>2009 46</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
21	VI19	2244	BE	CTD		213	50°28.56	128°15.28	81			1	MT		T: 10.77 S: 32.14
		2245	BO				50°28.56	128°15.32		70					BOT@10m: SAL/CHL/NUTS
		2247	EN				50°28.57	128°15.35							
		2250	BE	NET		214	50°28.61	128°15.41	75	65					BONGO
		2310	BE	TRAWL		215	50°28.80	128°17.19							TRAWL
22	VI20	0142	BE	CTD		216	50°32.86	128°35.32	192			1			T: 10.69 S: 31.97
		0147	BO				50°32.89	128°35.27		180					BOT@10m: SAL/CHL/NUTS
		0151	EN				50°32.95	128°35.28							
		0123	BE	NET		217	50°32.74	128°35.42	195	150					BONGO
		0038	BE	TRAWL		218	50°31.57	128°31.97							TRAWL
22	QCST01	1407	BE	CTD		219	50°48.22	127°23.31	238			1		✓	T: 8.86 S: 31.49
		1412	BO				50°48.22	127°23.34		230					BOT@10m: SAL/CHL/NUTS
		1416	EN				50°48.23	127°23.35							
		1420	BE	NET		220	50°48.26	127°23.32	242	150					BONGO
		1440	BE	TRAWL		221	50°48.04	127°22.50					✓		TRAWL

Cast Type:

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

USW = Sea Water Loop

MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

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

Notes: _____

Time Code:

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

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

Produced by the Water Properties Group, IOS

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VI20: Due to time constraints, station ops were conducted in reverse order (trawl, bongo, CTD).
Event numbers were not changed.

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Month OCTOBER				Year 2009			Ship W E RICKER				Cruise ID 2009 46				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
22	QCST02	1614	BE	CTD		222	50°44.85	127°09.54	166			1	MT		T: 8.72 S: 31.76
		1617	BO				50°44.89	127°09.51		160					BOT@10m: SAL/CHL/NUTS
		1620	EN				50°44.91	127°09.44							
		1624	BE	NET		223	50°44.93	127°09.42	164	150					BONGO
		1645	BE	TRAWL		224	50°44.70	127°08.02							TRAWL
22	JS01	1936	BE	CTD		225	50°32.01	126°41.38	476			1			T: 9.13 S: 31.28
		1941	BO				50°32.08	126°41.46		250					BOT@10m: SAL/CHL/NUTS
		1946	EN				50°32.13	126°41.51							
		1950	BE	NET		226	50°32.19	126°41.58	490	150					BONGO
		2010	BE	TRAWL		227	50°32.13	126°40.85					↓		TRAWL
													—		
31	QCST 03	1437	BE	CTD		228	50°36.57	126°46.06	142			1	H.M		T: 8.68 S: 31.34
		1440	BO				50°36.57	126°46.08		130					BOT@10m: SAL/CHL/NUTS
		1443	EN				50°36.57	126°46.15						*	RECOVERED UP CAST ONLY
		1446	BE	NET		229	50°36.56	126°46.18		131					BONGO
		1507	BE	TRAWL		230	50°37.42	126°47.21							TRAWL
													↓		

This page is for any notes or observations

23-30 Oct 09 CCG Training week break.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER				Year 2009			Ship W.E. RICHES				Cruise ID 2009-46				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional	Information	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
31	QCST 04	1639	BC	CTD		231	50° 45. 87	126° 55. 27	115			1	H.M.		T: 8.54 S: 30.75
		1641	BO				50° 45. 86	126° 55. 28		105					BOT@10m. SAL/CAL/NUTS
		1644	EN				50° 45. 83	126° 55. 35							
		1648	BC	NET		232	50° 45. 80	126° 55. 37		111					BONGO
		1708	BC	TRAWL		233	50 45 49	126 56. 63							TRAWL
31	QCST 05	1852	BC	CTD		234	50° 48. 78	127° 06. 32	152			1			T: 8.52 S: 30.42
		1855	BO				50° 48. 76	127° 06. 32		140					BOT@10m. SAL/CAL/NUTS
		1859	EN				50° 48. 74	127° 06. 33							
		1902	BC	NET		235	50° 48. 71	127° 06. 33		145					BONGO
		1925	BC	TRAWL		236	50 49. 20	127 07. 62							TRAWL
31	QCST 06	2045	BC	CTD		237	50° 49. 98	127° 20. 43	142			1			T: 8.68 S: 31.56
		2048	BO				50° 49. 96	127° 20. 42		130					BOT@10m. SAL/CAL/NUTS
		2051	EN				50° 49. 95	127° 20. 43							
		2055	BC	NET		238	50° 49. 93	127° 20. 44							BONGO
		2116	BC	TRAWL		239	50 49. 95	127 21. 78							TRAWL

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Month				Year				Ship				Cruise ID			
OCTOBER				2009				W.E. RICHER				2009.46			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
31	QCST 07	22:26	BC	CTD		240	50°52.11	127°33.21	190			1	H.M.		T: 9.77 S: 31.77
		22:29	BO				50°52.08	127°33.26	137	130					BOT@10m. SAL/CHL/NUIS
		22:32	EN				50°52.08	127°33.28		142					
		22:36	BC	NET		241	50°52.11	127°33.28							BONGO
		22:57	BC	TRAWL		242	50 52 51	127 34 35							TRAWL
01	QCST 08	01:38	BC	CTD	3 rd	243	50°59.87	127°48.55	129			1			T: 10.20 S: 32.13
		01:40	BO				50°59.91	127°48.61		120					BOT@10m. SAL/CHL/NUIS
		01:44	EN				50°59.96	127°48.66							
		01:21	BC	NET	2 nd	244	50°59.70	127°48.10	152	142					BONGO
		00:34	BC	TRAWL	1 st	245	50 57 8.5	127 43.83							TRAWL
01	T7	15:08	BC	CTD		246	50°51.20	129°13.07	75			1			T: 10.53 S: 32.09
		15:09	BO				50°51.30	129°13.04		65					BOT@10m. SAL/CHL/NUIS
		15:11	EN				50°51.38	129°13.02							
		15:18	BC	NET		247	50°51.73	129°12.82		64					BONGO
		15:42	BC	TRAWL		248	50 53 15	129 10.99							TRAWL

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Month NOVEMBER				Year 2009			Ship W.E. RICKER			Cruise ID 2009-46					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
01	T 06	16 47	BE	CTD		249	50° 55. 84	129° 00. 43	58			1	H.M.		T: 10.80 S: 32.18
		16 49	BO				50° 55. 86	129° 00. 35		50					BOT@ 10m - SAL/CHL/NOTS
		16 50	CH				50° 55. 86	129° 00. 25							
		16 54	BE	NET		250	50° 55. 88	129° 00. 11							BOMGO
		17 12	BE	TRAWL		251	50 56 34	128 58. 60							TRAWL
01	T 05	18 12	BE	CTD		252	51° 00. 05	128° 51. 84	60			1			T: 10.44 S: 32.18
		18 13	BO				51° 00 11	128° 51. 76		50					BOT@ 10m - SAL/CHL/NOTS
		18 15	CH				51° 00. 13	128° 51. 70							
		18 20	BE	NET		253	51° 00. 10	128° 51. 52		50					BOMGO
		18 37	BE	TRAWL		254	51 00. 38	128 50 45.							TRAWL
01	T 04	20 02	BE	CTD		255	51° 04. 24	128° 42. 96	64			1			T: 10.47 S: 32.18
		20 04	BO				51° 04 23	128° 42. 95		55					BOT@ 10m - SAL/CHL/NOTS
		20 07	CH				51° 04 21	128° 42. 88							
		20 09	BE	NET		256	51° 04. 20	128° 42. 90		55					
		20 28	BE	TRAWL		257	51 04. 23	128 42. 22							TRAWL

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Month				NOVEMBER		Year		2009		Ship				W.E. RICKER		Cruise ID				2009-46	
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments						
							Latitude	Longitude													
01	T 01	2305	BE	CTD		258	51° 18.02	128° 23.34	92			1	H.M.		T: 10.53 S: 32.20						
		2306	BO				51° 18.03	128° 23.32		8627					BOTOM. SAL/CHL/NET						
		2307	CH				51° 18.03	128° 23.34		CAST - CANCELLED											
		23	BE	NET		259				BONGO - CANCELLED					BONGO						
		2321	BE	TRAWL		260	51 18.86	128 23.58							TRAWL						
Q2	IBC 01	1506	BE	CTD		261	51° 26.27	127° 47.17	132			1			T: 9.05 S: 25.02						
		1508	BO				51° 26.24	127° 47.25		120					BOTOM. SAL/CHL/NETS						
		1511	CH				51° 26.27	127° 47.36													
		1514	BE	NET		262	51° 26.31	127° 47.43		NO	BONGO			*	BONGO →						
		1530	BE	TRAWL		263	51 27, 16	127 48, 25							TRAWL						
02	IBC 02	1637	BE	CTD		264	51° 34.04	127° 52.53	208			1			T: 9.20 S: 27.46						
		1641	BO				51° 34.13	127° 52.56							BOTOM. SAL/CHL/NETS						
		1646	CH				51° 34.22	127° 52.57													
		1711	BE	NET		265	51° 34.33	127° 52.55						*	BONGO →						
		1731	BE	TRAWL		266	51 35.38	127 53.49							TRAWL						

— T 01 — CAST CANCELLED AFTER 30m DUE TO WEATHER — NO SAMPLES

* IBC 01 — NO BONGO — WINCH COUNTER SHORTED OUT

* IBC 02 — WINCH COUNTERS SWITCHED FROM CTD WINCH TO BONGO, 20min TIME LAPSE

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Month NOVEMBER				Year 2009			Ship W.E. RICKER				Cruise ID 2009-46				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
02	IBC 03	18.30	BG	CTD		267	51°41.22	127°56.67	320			1	H.M.		T: 9.00 S: 23.92
		1835	BO				51°41.26	127°56.02		250					BOT 10m. SAL/CHL/NOTS
		1841	EN				51°41.27	127°55.97							
		1844	BG	NET		268	51°41.31	127°55.92		150					BONGO
		1905	BE	TRAWL		269	51°42.55	127°56.16							TRAWL
02	IBC 04	2028	BG	CTD		270	51°52.45	127°55.38	303			1			T: 9.16 S: 28.20
		2033	BO				51°52.47	127°55.33		250					BOT 10m. SAL/CHL/NOTS
		2038	EN				51°52.44	127°55.26							
		2041	BE	NET		271	51°52.43	127°55.24		150					BONGO
		2103	BE	TRAWL		272	51°53.35	127°55.05							TRAWL
02	IBC 05	2216	BG	CTD		273	52°00.83	127°54.62	161			1			T: 9.07 S: 29.02
		2219	BO				52°00.81	127°54.61		150					BOT 10m. SAL/CHL/NOTS
		2223	EN				52°00.72	127°54.63							
		2227	BG	NET		274	52°00.72	127°54.72		147					BONGO
		2247	BE	TRAWL		275	52°01.46	127°54.49							TRAWL

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Month				Year				Ship				Cruise ID			
NOVEMBER				2009				W.C. RICKER				2009-46			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
02	IBC 06	2350	BG	CTD		276	52° 06.54	127° 53.56	150			1	H.M.		T: 8.63 S: 22.90
		2354	BO				52° 06.48	127° 53.64	141	130					BOTOM - SAL/CAL/NUTS
		2357	GN				52° 06.43	127° 53.70							
03		0000	BG	NET		277	52° 06.38	127° 53.77		120					BONGO
		0020	BG	TRAWL		278	52 05.94	127 54.27							TRAWL
03 H 07 1502 BG CTD 279 52° 31.74 130° 44.18 129 120 1508 GN 52° 31.70 130° 44.17 1511 BG NET 280 52° 31.67 130° 44.14 135 125 1532 BG TRAWL 281 52 31 39 130 42.91															
03	H 07	1502	BG	CTD		279	52° 31.74	130° 44.18	129			1			T: 10.16 S: 32.00
		1505	BO				52° 31.72	130° 44.19		120					BOTOM - SAL/CAL/NUTS
		1508	GN				52° 31.70	130° 44.17							
		1511	BG	NET		280	52° 31.67	130° 44.14	135	125					BONGO
		1532	BG	TRAWL		281	52 31 39	130 42.91							TRAWL
03 H 06 1702 BG CTD 282 52° 28.90 130° 28.96 168 155 1709 GN 52° 28.91 130° 28.92 1712 BG NET 283 52° 28.89 130° 28.89 150 1733 BG TRAWL 284 52 28.75 130 27.58															
03	H 06	1702	BG	CTD		282	52° 28.90	130° 28.96	168			1			T: 10.28 S: 32.08
		1705	BO				52° 28.90	130° 28.94		155					BOTOM - SAL/CAL/NUTS
		1709	GN				52° 28.91	130° 28.92							
		1712	BG	NET		283	52° 28.89	130° 28.89		150					BONGO
		1733	BG	TRAWL		284	52 28.75	130 27.58							TRAWL

Cast Type: USW = Sea Water Loop Firing Method: T = Trawl Bottle Firing Method: C = Continuous E = Event

Cast Type:

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

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

Bottle Firing Method:

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

Time Code:

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

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

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Month <u>NOVEMBER</u>		Year <u>2009</u>		Ship <u>W.E. RICKER</u>		Cruise ID <u>2009-46</u>									
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
03	H 05	1854	BE	CTD		285	52° 26. 21	130° 13. 82	314			1	H.M.		T: 10.05 S: 32.14
		1900	BO				52° 26. 22	130° 13. 78		250					BOT@10m - SAL/CAL/MUTS
		1905	EN				52° 26. 26	130° 13. 76							
		1908	BE	NET		286	52° 26. 29	130° 13. 75		150					BONGO
		1929	BE	TRAWL		287	52° 26. 10	130° 12. 50							TRAWL
03	H 04	2104	BE	CTD		288	52° 22. 30	129° 58. 11	212			1			T: 10.08 S: 31.81
		2108	BO				52° 22. 30	129° 58. 11		200					BOT@10m - SAL/CAL/MUTS
		2113	EN				52° 22. 25	129° 58. 19							
		2116	BE	NET		289	52° 22. 22	129° 58. 25		150					BONGO
		2140	BE	TRAWL		290	52° 21. 79	129° 57. 43							TRAWL
03	H 03	2308	BE	CTD		291	52° 18. 97	129° 42. 04	203			1			T: 10.11 S: 32.09
		2312	BO				52° 18. 95	129° 41. 97		190					BOT@10m - SAL/CAL/MUTS
		2316	EN				52° 18. 94	129° 41. 92							
		2320	BE	NET		292	52° 18. 92	129° 41. 86		150					BONGO
		2342	BE	TRAWL		293	52° 18. 68	129° 40. 58							TRAWL

Cast Type:

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=

Bottle Firing Method:

US = Up / Stop

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BO = Bottom Time of Cast

EN = End Time of Cast

DE = Deployment Time

MR = Messenger Release Time

RE = Recover Mooring Time

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

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Month <u>NOVEMBER</u>			Year <u>2009</u>				Ship <u>W.E. RICKER</u>				Cruise ID <u>2009-46</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
04	H 02	0230	BE	CTD	3 RD	294	52° 16.11	129° 22.80	140			1	H.M.		T: 10.15 S: 31.76
		0233	BO				52° 16.17	129° 22.87		135					BOT@10m. SAL/CHL/NTS
		0236	EN				52° 16.23	129° 22.94							
		0216	BE	NET	2 ND	295	52° 15.89	129° 22.56		129					BONGO
		0131	BE	TRAWL	1 ST	296	52° 16.30	129° 26.44							TRAWL
04	IBC 07	1505	BE	CTD		297	53° 50.05	128° 48.01	316			1			T: 6.78 S: 15.70
		1510	BO				53° 50.09	128° 48.00		250					BOT@10m. SAL/CHL/NTS
		1516	EN				53° 50.13	128° 47.99							
		1519	BE	NET		298	53° 50.17	128° 47.98							BONGO
		1540	BE	TRAWL		299	53° 50.71	128° 47.55							TRAWL
04	IBC 08	1705	BE	CTD		300	53° 57.81	128° 40.77	168			1			T: 7.20 S: 22.05
		1709	BO				53° 57.82	128° 40.79		160					BOT@10m. SAL/CHL/NTS
		1712	EN				53° 57.80	128° 40.81							
		1716	BE	NET		301	53° 57.80	128° 40.93		150					BONGO
		1734	BE	TRAWL		302	53° 57.03	128° 41.55							TRAWL

Cast Type:

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

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

Bottle Firing Method:

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

Notes:

Time Code:

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

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Month NOV EMBA				Year 2009			Ship W.E. RICKER				Cruise ID 2009-46				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
04	IBC 09	1924	BE	CTD		303	53° 46. 27	128° 50. 12	320			1	H.M.		T: 6.38 S: 15.72
		1929	BO				53° 46. 29	128° 50. 15		250					BOTOM - SAL/CAL/NTS
		1934	EN				53° 46. 27	128° 50. 14							
		1943	BE	NET		304	53° 46. 30	128° 50. 26							BONGO
		2007	BE	TRAWL		305	53 45 36	128 49. 78							TRAWL
04	IBC 10	2148	BE	CTD		306	53° 34. 16	128° 50. 81	157			1			T: 6.15 S: 16.01
		2151	BO				53° 34. 11	128° 50. 84		145					BOTOM - SAL/CAL/NTS
		2154	EN				53° 34. 03	128° 50. 92							
		2157	BE	NET		307	53° 34. 10	128° 50. 90							BONGO
		2222	BE	TRAWL		308	53 33.58	128 51.49							TRAWL
04	IBC 11	2353	BE	CTD		309	53° 26. 42	128° 56. 59	317			1			T: 7.93 S: 25.99
		2358	BO				53° 26. 37	128° 56. 54		250					BOTOM - SAL/CAL/NTS
05		0003	EN				53° 26. 33	128° 56. 49							
		0007	BE	NET		310	53° 26. 29	128° 56. 46		150					BONGO
		0029	BE	TRAWL		311	53 25 33	128 55. 17							TRAWL

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Month				Year				Ship				Cruise ID			
NOVEMBER				2009				W. E. RICHER				2009-46			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
05	IBC 12	1503	BE	CTD		312	53° 37. 35	129° 12. 29	310			1	H.M.		T: 6.94 S: 20.40
		1508	BO				53° 37. 41	129° 12. 31		250					BOT@10m - SAL/CAL/NUTS
		1514	EN				53° 37. 47	129° 12. 31							
		1519	BE	NET		313	53° 37. 61	129° 12. 25		150					BONGO
		1542	BE	TRAWL		314	53 36 84	129 12. 27							TRAWL
05	IBC 13	1720	BE	CTD		315	53° 26. 69	129° 12. 03	372			1			T: 7.15 S: 21.27
		1725	BO				53° 26. 70	129° 12. 03		250					BOT@10m - SAL/CAL/NUTS
		1730	EN				53° 26. 69	129° 12. 01							
		1733	BE	NET		316	53° 26. 70	129° 12. 01		150					BONGO
		1756	BE	TRAWL		317	53 25 99	129 11. 74							TRAWL
05	IBC 14	1924	BE	CTD		318	53° 21. 47	129° 18. 69	419			1			T: 8.32 S: 26.23
		1929	BO				53° 21. 51	129° 18. 61		250					BOT@10m - SAL/CAL/NUTS
		1946	EN				53° 21. 70	129° 18. 63							
		19	BE	NET		319	53° 21.	129° 18.							BONGO
		2010	BE	TRAWL		320	53 21. 29	129 18. 56							TRAWL

Cast Type:

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 ROS = Rosette plus CTD
 SET = Fish Set

USW = Sea Water Loop
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 NET = Plankton Net Haul
 DRF = Drifter
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Bottle Firing Method:

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

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Month <u>NOVEMBER</u>				Year <u>2009</u>			Ship <u>W. C. FICKER</u>			Cruise ID <u>2009-46</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
05	IBC 15	21:27	BE	CTD		321	53° 16.63	129° 25.67	509			1	HM		T: 8.72 S: 27.43
		21:32	BO				53° 16.61	129° 25.60		250					BOT@10m - SAL/CAL/HUTS
		21:38	EN				53° 16.64	129° 25.53							
		21:43	BE	NET		322	53° 16.48	129° 25.50							BONGO
		22:06	BE	TRAWL		323	53 15.99	129 26.04							TRAWL
05	IBC 16	23:26	BE	CTD		324	53° 11.72	129° 37.17	210			1			T: 9.06 S: 29.17
		23:30	BO				53° 11.74	129° 37.17		200					BOT@10m - SAL/CAL/HUTS
		23:34	EN				53° 11.74	129° 37.16							
		23:37	BE	NET		325	53° 11.72	129° 37.15		150					BONGO
		23:47	BE	TRAWL		326	53 12.71	129 38 32							TRAWL
06	IBC 17	01:53	BE	CTD	3RD	327	53° 18.66	129° 47.20	119			1			T: 9.12 S: 30.19
		01:56	BO				53° 18.65	129° 47.17		110					BOT@10m - SAL/CAL/HUTS
		01:58	EN				53° 18.65	129° 47.14							
		01:41	BE	NET	2ND	328	53° 18.68	129° 47.28	127	117					BONGO
		00:56	BE	TRAWL	1ST	329	53 16 39	129 44.42							TRAWL

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Month <u>NOVEMBER</u>				Year <u>2009</u>			Ship <u>N.E. RICKER</u>				Cruise ID <u>2009-46</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
06	IBC 18	1501	BC	CTD		330	53° 31.13	130° 02.49	127			1	H.M.		T: 8.89 S: 29.94
		1504	BO				53° 31.09	130° 02.51		115					BOTOM. SAL/CAL/NUTS
		1507	GN				53° 31.08	130° 02.51							
		1510	BC	NET		331	53° 31.05	130° 02.48							BONGO
		1531	BE	TRAWL		332	53 31 19	130 03.65							TRAWL
06	IBC 19	1657	BC	CTD		333	53° 36.09	130° 18.73	308			1			T: 8.91 S: 30.27
		1702	BO				53° 36.08	130° 18.72		250					BOTOM. SAL/CAL/NUTS
		1707	GN				53° 36.07	130° 18.70							
		1711	BC	NET		334	53° 36.09	130° 18.69							BONGO
		1734	BC	TRAWL		335	53 36 44	130 19.60							TRAWL
06	IBC 20	1857	BC	CTD		336	53° 43.06	130° 33.05	66			1			T: 9.14 S: 31.12
		1859	BO				53° 43.05	130° 33.05		60					BOTOM. SAL/CAL/NUTS
		1900	GN				53° 43.05	130° 33.05							
		1903	BC	NET		337	53° 43.05	130° 33.04							BONGO
		1918	BE	TRAWL		338	53 43 12	130 34.02							TRAWL

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Month <u>NOVEMBER</u>				Year <u>2009</u>			Ship <u>W.E. RICKER</u>			Cruise ID <u>2009-46</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
06	IBC 21	20 36	BE	CTD		339	53° 49.14	130° 47.36	105			1	H.M.		T: 9.98 S: 31.94
		20 38	BO				53° 49.20	130° 47.33		95					BOT@10m SAL/CAL/NTS
		20 41	EN				53° 49.23	130° 47.32							
		20 44	BE	NET		340	53° 49.27	130° 47.29		90					BONGO
		21 04	BE	TRAWL		341	53° 50.19	130° 48.31							TRAWL
06	IBC 22	22 24	BE	CTD		342	53° 56.66	131° 00.39	85			1			T: 10.06 S: 32.05
		22 26	BO				53° 56.69	131° 00.35		75					BOT@10m SAL/CAL/NTS
		22 28	EN				53° 56.74	131° 00.31							
		22 33	BE	NET		343	53° 56.78	131° 00.26		71					BONGO
		22 50	BE	TRAWL		344	53° 57.73	131° 00.91							TRAWL
07	HS 01	00 07	BE	CTD		345	54° 06.06	131° 01.56	103			1			T: 9.79 S: 32.08
		00 09	BO				54° 06.11	131° 01.49		95					BOT@10m SAL/CAL/NTS
		00 11	EN				54° 06.15	131° 01.41							
		00 14	BE	NET		346	54° 06.16	131° 01.36							BONGO
		00 35	BE	TRAWL		347	54° 07.49	131° 01.16							TRAWL

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Month <u>NOVEMBER</u>				Year <u>2009</u>			Ship <u>W.E. RICKER</u>			Cruise ID <u>2009-46</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
07	IBC 23	1504	BE	CTD		348	55° 13.00	129° 52.05	505			1	H.M.		T: 7.12 S: 27.46
		1509	BO				55° 13.04	129° 52.08		250					Bottom SAL/CHL/NTS
		1514	EN				55° 13.07	129° 52.06							
		1518	BE	NET		349	55° 13.10	129° 52.05							BONGO
		1540	BE	TRAWL		350	55 12.29	129 52.23							TRAWL
07	IBC 24	1644	BE	CTD		351	55° 07.14	129° 57.03	406			1			T: 7.47 S: 27.61
		1649	BO				55° 07.12	129° 57.05		250					Bottom SAL/CHL/NTS
		1654	EN				55° 07.09	129° 57.07							
		1657	BE	NET		352	55° 07.09	129° 57.08							BONGO
		1716	BE	TRAWL		353	55 06.40	129 57.73							TRAWL
07	IBC 25	1822	BE	CTD		354	55° 00.50	130° 00.79	129			1			T: 7.36 S: 26.63
		1825	BO				55° 00.48	130° 00.78		120					Bottom SAL/NTS/CHL
		1827	EN				55° 00.46	130° 00.78							
		1930	BE	NET		355	55° 00.44	130° 00.81							BONGO
		1851	BE	TRAWL		356	54 59.78	130 01.51							TRAWL

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Month				Year			Ship				Cruise ID				
NOVEMBER				2009			W.C. RICKER				2009-46				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
07	IBC 26	20 19	BE	CTD		357	54° 51.47	130° 11.27	422			1	H.M.		T: 7.51 S: 27.15
		20 24	BO				54° 51.46	130° 11.33		250					BOT@10m - SAL/CHL/NTS
		20 29	CH				54° 51.47	130° 11.35							
		20 32	BE	NET		358	54° 51.46	130° 11.37		150					BONGO
		20 51	BE	TRAWL		359	54 50.77	130 12.17.							TRAWL
07	IBC 27	22 04	BE	CTD		360	54° 45.96	130° 20.96	485			1			T: 8.55 S: 29.15
		22 10	BO				54° 46.02	130° 20.93		250					BOT@10m - SAL/CHL/NTS
		22 15	CH				54° 46.07	130° 20.90							
		22 18	BE	NET		361	54° 46.14	130° 20.87		150					BONGO
		22 42	BE	TRAWL		362	54 45 59	130 21.90.							TRAWL
08	IBC 28	00 00	BE	CTD		363	54° 39.71	130° 28.45	395			1			T: 9.04 S: 29.28
		00 05	BO				54° 39.80	130° 28.36		250					BOT@10m - SAL/CHL/NTS
		00 10	CH				54° 39.82	130° 28.26							
		00 13	BE	NET		364	54° 39.81	130° 28.27		150					BONGO
		00 36	BE	TRAWL		365	54 39 34	130 28.44.							TRAWL

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Month				Year			Ship				Cruise ID				
NOVEMBER				2009			W.E. RICKER				2009-46				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
08	IBC 29	1506	BC	CTD		366	54° 34.93	130° 29.84	137			1	H.M.		T: 8.76 S: 29.44
		1509	BO				54° 34.92	130° 29.81		125					BOT@10m - SAL/CAL/NTS
		1512	EH				54° 34.91	130° 29.73							
		1515	BC	NET		367	54° 34.87	130° 29.70		124					BOT@10
		1538	BE	TRAWL		368	54° 33.92	130° 30.76							TRAWL
08	IBC 30	1704	BC	CTD		369	54° 26.48	130° 32.99	124			1			T: 8.70 S: 29.91
		1706	BO				54° 26.52	130° 32.92		115					BOT@10m - SAL/CAL/NTS
		1709	EH				54° 26.53	130° 32.88							
		1713	BC	NET		370	54° 26.52	130° 32.80							BOT@10
		1731	BE	TRAWL		371	54° 26.17	130° 33.03							TRAWL
08	IBC 31	1844	BC	CTD		372	54° 21.86	130° 39.80	117			1			T: 9.65 S: 31.83
		1846	BO				54° 21.88	130° 39.78		105					BOT@10m - SAL/CAL/NTS
		1849	EH				54° 21.92	130° 39.74							
		1852	BC	NET		373	54° 21.96	130° 39.65		113					BOT@10
		1917	BE	TRAWL		374	54° 21.30	130° 39.66							TRAWL

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Month November				Year 2009			Ship W.E. Ricker				Cruise ID 2009-46				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
08	IBC 32	2033	BG	CTD		375	54° 15. 11	130° 44. 23	142			1	H.M.		T: 9.70 S: 31.84
		2036	BO				54° 15. 13	130° 44. 20		130					BOT@10- SAL/CHL/NUTS
		2038	EH				54° 15. 18	130° 44. 12							
		2041	BG	NET		376	54° 15. 20	130° 44. 07		136					BONGO
		2059	BG	TRAWL		377	54 14. 47	130 43. 30							TRAWL
09	IBC 33	2227	BG	CTD		378	54° 10. 54	130° 30. 71	99			1			T: 9.62 S: 31.57
		2230	BO				54° 10. 56	130° 30. 64		90					BOT@10- SAL/CHL/NUTS
		2232	EH				54° 10. 58	130° 30. 57							
		2234	BG	NET		379	54° 10. 61	130° 30. 49							BONGO
		2252	BG	TRAWL		380	54 10. 98	130 29. 27							TRAWL
11	LSGA 01	1452	BG	CTD		381	54° 57. 53	131° 54. 46	479			1			T: 9.00 S: 30.94
		1457	BO				54° 57. 58	131° 54. 42		250					BOT@10- SAL/CHL/NUTS
		1502	EH				54° 57. 64	131° 54. 40							
		1509	BG	NET		382	54° 57. 78	131° 54. 33		150					BONGO
		1537	BG	TRAWL		383	54 58 04	131 54. 92							TRAWL

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Month <u>NOVEMBER</u>				Year <u>2009</u>			Ship <u>W.E. RICHER</u>				Cruise ID <u>2009-46</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
11	ISEA 02	1658	BE	CTD		384	55°05.94	131°56.28	330			1	H.M.		T: 8.59 S: 30.00
		1702	BO				55°05.99	131°56.30		250					BOT@10m SAL/CHL/NOTS
		1711	EH				55°06.03	131°56.41							
		1714	BE	NET		385	55°06.05	131°56.45		150					BONGO
		1734	BE	TRAWL		386	55°06.97	131°56.72							TRAWL
11	ISEA 03	1856	BE	CTD		387	55°14.77	131°56.54	329			1			T: 8.56 S: 30.21
		1900	BO				55°14.67	131°56.42		250					BOT@10m SAL/CHL/NOTS
		1908	EH				55°14.57	131°56.37							
		1913	BE	NET		388	55°14.41	131°56.31		150					BONGO
		2002	BE	TRAWL		389	55°14.73	131°56.52							TRAWL
11	ISEA 04	2123	BE	CTD		390	55°21.74	132°00.83	400			1			T: 8.33 S: 29.88
		2127	BO				55°21.70	132°00.71		250					BOT@10m SAL/CHL/NOTS
		2133	EH				55°21.67	132°00.61							
		2137	BE	NET		391	55°21.64	132°00.49							BONGO
		2158	BE	TRAWL		392	55°22.07	132°00.36							TRAWL

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month November				Year 2009				Ship W.E. RICKER				Cruise ID 2009-46			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
11	ISCA 05	23 11	BE	CTD		393	55° 30. 93	132° 02. 72	210			1	H.M.		T: 8.27 S: 27.95
		23 14	BO				55° 30. 95	132° 02. 71		200					BOT 10m SAL/CAL/HUTS
		23 18	EN				55° 30. 87	132° 02. 74							
		23 24	BG	NET		394	55° 30. 90	132° 02. 78		150					BONGO
		23 43	BE	TRAWL		395	55 31. 47	132 04. 34							TRAWL
12	ISCA 06	01 45	BE	CTD		396	55° 36. 66	132° 15. 12	603			1			T: 8.30 S: 28.42
		01 49	BO				55° 36. 72	132° 15. 07		250					BOT 10m SAL/CAL/HUTS
		01 54	EN				55° 36. 79	132° 15. 05							
		02 00	BE	NET		397	55° 36. 78	132° 14. 99		150					BONGO
		00 31	BE	TRAWL		398	55 34. 13	132 10. 80							TRAWL
12	ISCA 07	15 01	BG	CTD		399	55° 58. 31	132° 37. 07	358			1			T: 8.34 S: 29.12
		15 05	BO				55° 58. 32	132° 37. 01		250					BOT 10m SAL/CAL/HUTS
		15 10	EN				55° 58. 31	132° 36. 91							
		15 17	BG	NET		400	55° 58. 31	132° 36. 69		150					BONGO
		15 57	BE	TRAWL		401	55 58. 53	132 38. 01							TRAWL

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Month <u>NOVEMBER</u>			Year <u>2009</u>			Ship <u>W.E. RICHES</u>			Cruise ID <u>2009-46</u>						
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
12	ISCA 08	1708	BG	CTD		402	56° 05.44	132° 44.02	186			1	H.M.		T: 8.04 S: 28.59
		1711	BO				56° 05.42	132° 43.95		175					BOTOM. SAL/CHL/HUTS
		1715	EH				56° 05.42	132° 43.91							
		1720	BG	NET		403	56° 05.40	132° 43.87		150					BONGO
		1743	BE	TRAWL		404	56° 06.26	132° 44.30							TRAWL
12	ISCA 09	1904	BE	CTD		405	56° 13.93	132° 43.39	355			1			T: 8.18 S: 28.98
		1909	BO				56° 13.95	132° 43.40		250					BOTOM. SAL/CHL/HUTS
		1914	EH				56° 13.97	132° 43.44							
		1918	BE	NET		406	56° 13.92	132° 43.52		150					BONGO
		2016	BE	TRAWL		407	56° 14.74	132° 42.07							TRAWL
12	ISCA 10	2216	BG	CTD		408	56° 21.12	132° 35.78	275			1			T: 8.30 S: 29.37
		2220	BO				56° 21.13	132° 35.80		250					BOTOM. SAL/CHL/HUTS
		2225	EH				56° 21.13	132° 35.81							
		2229	BE	NET		409	56° 21.13	132° 35.81							BONGO
		2244	BE	TRAWL		410	56° 22.39	132° 35.38							TRAWL

Cast Type:

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

USW = Sea Water Loop

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

Bottle Firing Method:

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

Notes:

Time Code:

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

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

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Month NOVEMBER				Year 2009			Ship W.E. RICKER			Cruise ID 2009-46					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
13	ISGA 14	1855	BE	CTD		420	56° 22.30	133° 17.30	232			1	H.M.		T: 7.64 S: 29.79
		1858	BO				56° 22.31	133° 17.46	211	195					BOTOM - SAL/CHL/HUTS
		1902	EN				56° 22.33	133° 17.56							
		1906	BE	NET		421	56° 22.29	133° 17.64							BONGO
		1930	BE	TRAWL		422	56 22.23	133 19.20							TRAWL
13	ISGA 15	2040	BE	CTD		423	56° 22.75	133° 32.71	424			1			T: 7.36 S: 29.53
		2044	BO				56° 22.74	133° 32.81		250					BOTOM - SAL/CHL/HUTS
		2049	EN				56° 22.76	133° 32.93							
		2053	BE	NET		424	56° 22.78	133° 32.98		150					BONGO
		2115	BE	TRAWL		425	56 23.16	133 35.27							TRAWL
13	ISGA 16	2224	BE	CTD		426	56° 21.60	133° 46.13	250			1			T: 7.33 S: 29.60
		2229	BO				56° 21.49	133° 46.04	270	250					BOTOM - SAL/CHL/HUTS
		2234	EN				56° 21.40	133° 45.96							
		2237	BE	NET		427	56° 21.31	133° 45.91		150					BONGO
		2301	BE	TRAWL		428	56 20.11	133 46.08							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							
14	ISCA 17	22 21	BE	CTD		429	55° 14.00	131° 21.93	140			1			T: 7.95 S: 28.44
		22 24	BO				55° 13.98	131° 21.96		130					BOT 10m SAL/CHL/NUIS
		22 27	CH				55° 13.94	131° 21.98							
		22 30	BE	NET		430	55° 13.92	131° 22.01		135					BONGO
		22 54	BE	TRAWL		431	55 13.46	131 20.54							TRAWL
15	ISCA 18	01 36	BE	CTD		432	55° 13.48	131° 04.59	438			1			T: 7.86 S: 28.27
		01 41	BO				55° 13.47	131° 04.50		250					BOT 10m SAL/CHL/NUIS
		01 46	CH				55° 13.45	131° 04.42							
		01 49	BE	NET		433	55° 13.43	131° 04.31	306	150					BONGO
		01 10	BE	TRAWL		434	55 11.07	131 08.29							TRAWL
15	ISCA 19	15 03	BE	CTD		435	55° 58.30	131° 14.08	277			1			T: 7.06 S: 23.02
		15 07	BO				55° 58.29	131° 14.05		250					BOT 10m SAL/CHL/NUIS
		15 11	CH				55° 58.27	131° 13.99							
		15 14	BE	NET		436	55° 58.24	131° 13.96		150					BONGO
		15 39	BE	TRAWL		437	55 57.56	131 12.91							TRAWL

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