

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2011-02

DATE:

From: 01 FEB 2011 to: 28 FEB 2011

VESSEL:

W.E. RICKER

PROJECT(S):

HIGH SEAS SALMON

Book 1 of 2

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

WaterProperties.ca

01 FEB 11: Regular 9/11 CTD unit has not returned from annual maintenance at Seabird yet. Therefore, using SBE 19 until it comes back (expected for second leg of survey Feb 17-28). All depths recorded for SBE 19 casts will be based on winch counter readings.

07 FEB 11 - Dummy plug left off during day's casts (QCST07-13)

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Month FEB

Year 2011

Ship W.E. RICKER

Cruise ID 2011-02

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	VI 01	1538	BE	CTD		001	48° 42.32	125° 11.38	62			1	MT	n/a	BOT @ 10m (chl, nitr & sal)
		1540	BO				48° 42.32	125° 11.37		50					
		1542	EN				48° 42.31	125° 11.39							
		1553	BE	NET		002	48° 42.23	125° 11.34	60	50					
		1616	BE	SET		003	48° 42.54	125° 12.12	63						BONGO-VNH TRAWL
02	VI 01	2037	BE	CTD		004	48° 54.36	125° 12.59	93			1			BOT @ 10m (chl, nitr & sal)
		2039	BO				48° 54.35	125° 12.58		80					
		2041	EN				48° 54.35	125° 12.60							
		2044	BE	NET		005	48° 54.31	125° 12.66	94	84					
		2104	BE	SET		006	48° 53.54	125° 13.32	92						BONGO-VNH TRAWL
02	VI 02	2223	BE	CTD		007	48° 47.87	125° 21.63	86			1	↓		BOT @ 10m (chl, nitr & sal)
		2225	BO				48° 47.88	125° 21.62		75					
		2227	EN				48° 47.89	125° 21.60							
		2230	BE	NET		008	48° 47.88	125° 21.58	85	75					
		2248	BE	SET		009	48° 47.46	125° 22.59	87						BONGO-VNH 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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MR = Messenger Release Time
RE = Recover Mooring Time

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

Notes:

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V101: Stopped mid-cast when it was realized Niskin bottle was not put on wire prior to cast. Cast continued and Niskin was installed & deployed at the end of the cast. During Niskin cast, CTD was sent to 125m instead of 15m. CTD was stopped at 15m on upcast and tripped. Everything appears okay, but...?

IV101: Held CTD at surface for 1 min. prior to starting cast. Will do this for all casts from this point forward.

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Month FEB				Year 2011			Ship WE RICKER				Cruise ID 2011-02				
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	VI03	0036	BE	CTD		010	48°40.60	125°35.58	166			1	MT	NA	BOT@10m
		0039	BO				48°40.66	125°35.53		155					(CHL, NUTS & SAL)
		0042	EN				48°40.66	125°35.53							
		0044	BE	NET		011	48°40.69	125°35.54	156	146					BONGO-VNH
		0105	BE	SET		012	48°40.80	125°36.80	113						TRAWL
END OF DAY															
03	EP01	1506	BE	CTD		013	49°21.07	126°31.89	32			1			BOT@10m
		1506	BO				49°21.09	126°31.90		25					(CHL, NUTS & SAL)
		1507	EN				49°21.10	126°31.90							
		1513	BE	NET		014	49°21.12	126°31.90	32	22					BONGO-VNH
		1535	BE	SET		015	49°19.7	126°33.08	58						TRAWL
03	EP02	1633	BE	CTD		016	49°19.01	126°36.12	81			1	↓		BOT@10m
		1635	BO				49°19.05	126°36.11		70					(CHL, NUTS & SAL)
		1637	EN				49°19.08	126°36.11							
		1640	BE	NET		017	49°19.10	126°36.10	79	69					BONGO-VNH
		1703	BE	SET		018	49°18.8	126°37.37	93						TRAWL

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EP01: CTD cast was started without direction from the lab. Brought back to surface after reaching ~10m and then began again (unit was on the whole time).
Winds steady 30 kts, gusting >40 kts.

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	EP03	1802	BE	CTD		019	49°16.94	126°40.79	108			1	MT	NA	BOT @ 10 m
		1805	BO				49°16.97	126°40.77		98					(CHL, NUTS & SAL)
		1807	EN				49°17.00	126°40.77							
		1810	BE	NET		020	49°17.03	126°40.76	109	99					BONGO-VNH
		1832	BE	SET		021	49°16.78	126°41.81	110						TRAWL
03	EP04	1952	BE	CTD		022	49°14.54	126°45.68	118			1			BOT @ 10 m
		1955	BO				49°14.54	126°45.67		108					(CHL, NUTS & SAL)
		1957	EN				49°14.54	126°45.66							
		2000	BE	NET		023	49°14.55	126°45.69	118	108					BONGO-VNH
		2134	BE	SET		024	49°13.63	126°46.73							TRAWL
03	EP05	2226	BE	CTD		025	49°12.32	126°49.74	140			1	↓		BOT @ 10 m
		2228	BO				49°12.31	126°49.76		130					(CHL, NUTS & SAL)
		2231	EN				49°12.31	126°49.78							
		2234	BE	NET		026	49°12.30	126°49.81	138	128					BONGO-VNH
		2257	BE	SET		027	49°11.78	126°50.81	143						TRAWL

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EP04: Doors crossed during first trawl attempt. Boat & fire drill @ 2100h, then sent trawl out again.

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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							
03	EP06	2350	BE	CTD		028	49°10.22	126°54.31	180			1	MT	NA	BOT@10m
		2353	BO				49°10.20	126°54.36		170					(CHL, NUTS & SAL)
		2356	EN				49°10.19	126°54.39							
04		0000	BE	NET		029	49°10.13	126°54.46	183	150					BONGO-VNH
		0023	BE	SET		030	49°09.51	126°55.50	210						TRAWL
END OF DAY															
04	IV102	1507	BE	CTD		031	50°05.74	127°14.84	75			1			BOT@10m
		1508	BO				50°05.74	127°14.84		65					(CHL, NUTS & SAL)
		1510	EN				50°05.73	127°14.83							
		1514	BE	NET		032	50°05.72	127°14.81	80	70					BONGO-VNH
		1535	BE	SET		033	50°05.17	127°15.20	188						TRAWL
04	IV103	1639	BE	CTD		034	49°59.95	127°13.09	165			1	↓		BOT@10m
		1642	BO				49°59.93	127°13.08		155					(CHL, NUTS & SAL)
		1645	EN				49°59.93	127°13.09							
		1648	BE	NET		035	49°59.93	127°13.08	165	150					BONGO-VNH
		1710	BE	SET		036	49°59.52	127°13.62	160						TRAWL

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1V102 Kyuquot Sound

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Month <u>FEB</u>				Year <u>2011</u>			Ship <u>W.E. RICKER</u>				Cruise ID <u>2011-02</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	V104	1822	BE	CTD		037	49°55.38	127°20.27	55			1	MT	NA	BOT @ 10m
		1823	BO				49°55.39	127°20.28		45					(CHL, NUTS & SAL)
		1825	EN				49°55.40	127°20.32							
		1827	BE	NET		038	49°55.40	127°20.38	55	45					BONGO-VNH
		1847	BE	SET		039	49°54.86	127°21.65	58						TRAWL
04	V105	1952	BE	CTD		040	49°52.26	127°25.33	62			1			BOT @ 10m
		1953	BO				49°52.25	127°25.34		52					(CHL, NUTS & SAL)
		1955	EN				49°52.23	127°25.36							
		2007	BE	NET		041	49°52.15	127°25.51	65	55					BONGO-VNH
		2025	BE	SET		042	49°51.59	127°26.41	65						TRAWL
04	V106	2130	BE	CTD		043	49°47.92	127°31.50	82			1	↓		BOT @ 10m
		2131	BO				49°47.91	127°31.53		72					(CHL, NUTS & SAL)
		2133	EN				49°47.90	127°31.56							
		2136	BE	NET		044	49°47.89	127°31.60	85	75					BONGO-VNH
		2153	BE	SET		045	49°47.42	127°32.43	101						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							
04	VI07	2315	BE	CTD		046	49°48.34	127°40.42	233			1	MT	NA	BOT @ 10m
		2319	BO				49°48.34	127°40.41		220					(CHL, NUTS & SAL)
		2323	EN				49°48.32	127°40.41							
		2326	BE	NET		047	49°48.33	127°40.44	243	150					BONGO-VNH
		2346	BE	SET		048	49°48.92	127°39.53	190						TRAWL
05	VI08	0041	BE	CTD		049	49°51.40	127°34.94	82			1			BOT @ 10m
		0042	BO				49°51.39	127°34.98		72					(CHL, NUTS & SAL)
		0044	EN				49°51.38	127°34.98							
		0048	BE	NET		050	49°51.33	127°34.05	80	70					BONGO-VNH
		0105	BE	SET		051	49°51.74	127°34.45	90						TRAWL
≡	END OF DAY														
05	TD7	1506	BE	CTD		052	50°49.30	129°14.46	104			1	↓		BOT @ 10m
		1508	BO				50°49.31	129°14.47		95					(CHL, NUTS & SAL)
		1510	EN				50°49.32	129°14.48							
		1513	BE	NET		053	50°49.32	129°14.48	106	96					BONGO-VNH
		1532	BE	SET		054	50°50.00	129°13.76	79						TRAWL

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	T06	1659	BE	CTD		055	50°55.97	129°00.26	57			1	MT	NA	BOT @ 10m
		1700	BO				50°55.98	129°00.26		47					(CHL, NUTS & SAL)
		1701	EN				50°55.99	129°00.26							
		1705	BE	NET		056	50°56.01	129°00.27	57	47					BONGO - VNH
		1724	BE	SET		057	50°56.74	128°59.35	62						TRAWL
05	T05	1827	BE	CTD		058	51°00.14	128°51.66	59			1			BOT @ 10m
		1828	BO				51°00.15	128°51.66		49					(CHL, NUTS & SAL)
		1830	EN				51°00.16	128°51.65							
		1832	BE	NET		059	51°00.18	128°51.64	60	50					BONGO - VNH
		1848	BE	SET		060	51°00.80	128°50.48	58						TRAWL
05	T04	1953	BE	CTD		061	51°04.50	128°43.06	63			1	↓		BOT @ 10m
		1955	BO				51°04.51	128°43.03		53					(CHL, NUTS & SAL)
		1956	EN				51°04.52	128°43.02							
		2008	BE	NET		062	51°04.62	128°42.82	64	54					BONGO - VNH
		2024	BE	SET		063	51°05.23	128°41.69	65						TRAWL

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							Latitude	Longitude							
05	T03	2122	BE	CTD		064	51°08.36	128°35.57	138			1	MT	NA	BOT @ 10m
		2124	BO				51°08.37	128°35.54		128					(CHL, NUTS & SAL)
		2127	EN				51°08.36	128°35.52							
		2130	BE	NET		065	51°08.34	128°35.45	138	128					BONGO-VNH
		2147	BE	SET		066	51°08.90	128°34.41	NA						TRAWL
05	T02	2341	BE	CTD		067	51°12.33	128°27.87	186			1			BOT @ 10m
		2344	BO				51°12.30	128°27.81		175					(CHL, NUTS & SAL)
		2348	EN				51°12.27	128°27.74							
		2351	BE	NET		068	51°12.20	128°27.68	187	150					BONGO-VNH
06		0009	BE	SET		069	51°12.52	128°26.88	183						TRAWL
06	T01	0122	BE	CTD		070	51°16.90	128°20.62	78			1	↓		BOT @ 10m
		0123	BO				51°16.92	128°20.61		68					(CHL, NUTS & SAL)
		0125	EN				51°16.94	128°20.63							
		0128	BE	NET		071	51°16.96	128°20.65	79	69					BONGO-VNH
		0144	BE	SET		072	51°16.46	128°20.08	74						TRAWL
END of DAY															

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Engine shut-down between T03 & T02 to replace fuel pump.

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							Latitude	Longitude							
06	QCST01	1514	BE	CTD		073	50°57.39	127°44.42	325			1	MT	NA	BOT @ 10m
		1520	BO				50°57.39	127°44.46		250					(CHL, NUTS & SAL)
		1525	EN				50°57.48	127°44.45							
		1527	BE	NET		074	50°57.50	127°44.39	252	150					BONGO-VNH
		1547	BE	SET		075	50°57.11	127°43.53	338						TRAWL
06	QCST02	1659	BE	CTD		076	50°53.06	127°36.82	414			1			BOT @ 10m
		1704	BO				50°53.06	127°36.80		250					(CHL, NUTS & SAL)
		1709	EN				50°53.05	127°36.80							
		1712	BE	NET		077	50°53.05	127°36.79	414	150					BONGO-VNH
		1731	BE	SET		078	50°52.77	127°35.91	358						TRAWL
06	QCST03	1905	BE	CTD		079	50°48.24	127°26.49	112			1	↓		BOT @ 10m
		1907	BO				50°48.21	127°26.44		100					(CHL, NUTS & SAL)
		1909	EN				50°48.18	127°26.42							
		1913	BE	NET		080	50°48.16	127°26.40	115	105					BONGO-VNH
		1929	BE	SET		081	50°47.92	127°34.00	233						TRAWL

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batt 11.1 v

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Queen Charlotte Strait.

QCST02: Winds 20⁺ knots & strong current. CTD wire had lots of aft lead during cast.

QCST03: Strong wind & wind over tide conditions. SOG ~ 1-2 kts during cast.

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	QCST04	2053	BE	CTD		082	50°43.29	127°15.97	208			1	MT	NA	BOT@10m
		2057	BO				50°43.31	127°15.94		195					(CHL, NUTS & SAL)
		2101	EN				50°43.32	127°15.88							
		2104	BE	NET		083	50°43.33	127°15.86	217	150					BONGO-VNH
		2123	BE	SET		084	50°43.37	127°14.59	NA						TRAWL
06	QCST05	2220	BE	CTD		085	50°42.37	127°07.66	129			1			BOT@10m
		2222	BO				50°42.40	127°07.64		118					(CHL, NUTS & SAL)
		2225	EN				50°42.41	127°07.63							
		2228	BE	NET		086	50°42.44	127°07.61	133	123					BONGO-VNH
		2247	BE	SET		087	50°42.53	127°06.43	175						TRAWL
06	QCST06	2356	BE	CTD		088	50°41.09	126°57.11	175			1			BOT@10m
		2358	BO				50°41.10	126°57.06		165					(CHL, NUTS & SAL)
07		0001	EN				50°41.10	126°57.05							
		0004	BE	NET		089	50°41.11	126°57.00	176	150					BONGO-VNH
		0024	BE	SET		090	50°41.12	126°55.76	190						TRAWL
≡	END of DAY														

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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QCST04: Winds steady 35 kts, gusting >40 kts.

QCST05/06: Deckhands noticed Nisken bottle release mechanism has become noticeably looser. There is a possibility the bottle is being triggered involuntarily at some point during up/down cast (no way to tell until sal's are run?) Trying to fix both Niskens prior to tomorrow's start. [Engineer managed to fix both, so problem solved... for now!]

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	QCST07	1506	BE	CTD		091	50°37.97	126°48.40	150			1	MT	NA	BOT @ 10m
		1509	Bo				50°37.99	126°48.49		140					(CHL, NUTS & SAL)
		1511	EN				50°38.01	126°48.31							(*) →
		1521	BE	NET		092	50°38.00	126°48.20	150	140					BONGO - VNH
		1540	BE	SET		093	50°38.78	126°47.34	150						TRAWL
07	QCST08	1618	BE	CTD		094	50°40.90	126°45.43	110			1			BOT @ 10m
		1620	Bo				50°40.94	126°45.47		100					(CHL, NUTS & SAL)
		1622	EN				50°40.97	126°45.49							
		1625	BE	NET		095	50°41.02	126°45.55	118	108					BONGO - VNH
		1643	BE	SET		096	50°42.14	126°46.15	131						TRAWL
07	QCST09	1743	BE	CTD		097	50°45.98	126°50.64	161			1	↓		BOT @ 10m
		1746	Bo				50°46.02	126°50.74		150					(CHL, NUTS & SAL)
		1749	EN				50°46.04	126°50.81							
		1752	BE	NET		098	50°46.10	126°50.95	164	150					BONGO - VNH
		1810	BE	SET		099	50°45.85	126°52.63	104						TRAWL

Cast Type:

BOT = Bottle cast, no CTD
CTD = CTD without Rosette
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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
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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(*) See note at end of day regarding missing data terminal cap.

QCST07: Drifting at >2 kts. Niskin bottle hit platform & broke on first attempt. Deployed 2nd Niskin @ 1515 to get water sample, CTD on the whole time.

Trawl ended early due to presence of dolphins around the ship.

QCST09: Drifting at >2 kts.

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Month FEB				Year 2011			Ship W.E. RICKER				Cruise ID 2011-02				
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	QCST10	1950	BE	CTD		100	50°47.71	127°00.91	128			1	MT	NA	BOT @ 10m
		1952	BO				50°47.68	127°00.93		118					(CHL, NUTS & SAL)
		1954	EN				50°47.65	127°00.92							
		1958	BE	NET		101	50°47.61	127°00.94	132	122					BONGO-VNH
		2017	BE	SET		102	50°47.55	127°02.01	163						TRAWL
07	QCST11	2128	BE	CTD		103	50°49.18	127°12.42	152			1			BOT @ 10m
		2131	BO				50°49.17	127°12.41		142					(CHL, NUTS, SAL)
		2134	EN				50°49.13	127°12.41							
		2137	BE	NET		104	50°49.11	127°12.43	160	150					BONGO-VNH
		2156	BE	SET		105	50°48.81	127°13.55	137						TRAWL
07	QCST12	2300	BE	CTD		106	50°48.21	127°21.12	129			1	↓		BOT @ 10m
		2302	BO				50°48.19	127°21.14		119					(CHL, NUTS, SAL)
		2305	EN				50°48.17	127°21.16							
		2308	BE	NET		107	50°48.15	127°21.21	115	105					BONGO-VNH
		2326	BE	SET		108	50°47.95	127°22.23	201						TRAWL

Cast Type:

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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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DE = Deployment Time
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Transmissometer to be cleaned before each cast, do not use Ammonia products

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Month FEB		Year 2011				Ship W.E. RICKER				Cruise ID 2011-02					
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	QCST13	0036	BE	CTD		109	50°48.00	127°33.11	355			1	MT	NA	BOT @ 10m
		0041	BO				50°48.01	127°33.14		250					(CHL, NUTS, SAL)
		0045	EN				50°48.00	127°33.14							
		0049	BE	NET		110	50°47.98	127°33.18	353	150					BONGO-VNH
		0107	BE	SET		111	50°48.15	127°34.38	360						TRAWL
≡ END of DAY															
08	QCSD01	1512	BE	CTD		112	50°55.23	128°11.48	41			1			BOT @ 10m
		1512	BO				50°55.23	128°11.51		30					(CHL, NUTS & SAL)
		1513	EN				50°55.21	128°11.54							
		1516	BE	NET		113	50°55.22	128°11.63	41	31					BONGO-VNH
		1534	BE	SET		114	50°54.78	128°13.16	40						TRAWL
08	QCSD02	1645	BE	CTD		115	50°51.87	128°24.15	43			1	↓		BOT @ 10m
		1646	BO				50°51.87	128°24.18		33					(CHL, NUTS & SAL)
		1647	EN				50°51.87	128°24.20							
		1650	BE	NET		116	50°51.91	128°24.25	46	36					BONGO-VNH
		1707	BE	SET		117	50°51.10	128°25.57	49						TRAWL

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DRF = Drifter

Bottle Firing Method:

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DN = Down / No stop

Notes:

Time Code:

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

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End of day: [QCST07-13] Protective cap was left off from last night's data download. Temp/sal channels from all of today's casts are suspect. Terminals rinsed w/ MilliQ water and dried then coated w/ Silicone lube.

batt: 11.0v

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Month FEB				Year 2011			Ship W.E. RICKER				Cruise ID 2011-02				
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	VI09	1814	BE	CTD		118	50°45.45	128°28.96	67			1	MT	NA	BOT @ 10m
		1815	BO				50°45.46	128°28.97		57					(CHL, NUTS & SAL)
		1816	EN				50°45.47	128°28.98							
		1819	BE	NET		119	50°45.49	128°28.98	66	56					BONGO-VNH
		1835	BE	SET		120	50°44.78	128°28.43	56						TRAWL
08	VI10	1949	BE	CTD		121	50°37.87	128°23.81	64			1			BOT @ 10m
		1950	BO				50°37.85	128°23.83		54					(CHL, NUTS & SAL)
		1952	EN				50°37.85	128°23.84							
		1955	BE	NET		122	50°37.82	128°23.85	65	55					BONGO-VNH
		2010	BE	SET		123	50°37.00	128°23.27	67						TRAWL
08	VI11	2111	BE	CTD		124	50°31.81	128°17.42	61			1	↓		BOT @ 10m
		2112	BO				50°31.80	128°17.43		51					(CHL, NUTS & SAL)
		2114	EN				50°31.79	128°17.45							
		2116	BE	NET		125	50°31.76	128°17.49	62	52					BONGO-VNH
		2133	BE	SET		126	50°30.84	128°16.66	59						TRAWL

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Bottle Firing Method:

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UN = Up / No stop
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Notes:

Time Code:

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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 FEB				Year 2011			Ship W.E. RICKER				Cruise ID 2011-02				
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	VI12	2238	BE	CTD	127		50°26.07	128°10.08	85			1	MT	NA	BOT@10m
		2240	BO				50°26.09	128°10.12		75					(CHL, NUTS & SAL)
		2241	EN				50°26.10	128°10.12							
		2244	BE	NET	128		50°26.14	128°10.14	80	70					BONGO-VNH
		2301	BE	SET	129		50°25.76	128°09.45	80						TRAWL
09	VI13	0004	BE	CTD	130		50°27.45	128°07.76	56			1			BOT@10m
		0005	BO				50°27.46	128°07.76		46					(CHL, NUTS & SAL)
		0006	EN				50°27.46	128°07.76							
		0008	BE	NET	131		50°27.49	128°07.76	55	45					BONGO-VNH
		0023	BE	SET	132		50°27.03	128°06.84	55						TRAWL
≡≡≡ END OF DAY															
09	IVI04	1507	BE	CTD	133		50°24.06	127°29.39	126			1			BOT @10m
		1510	BO				50°24.06	127°29.39		120					(CHL, NUTS & SAL)
		1513	EN				50°24.06	127°29.40							
		1515	BE	NET	134		50°24.07	127°29.40	127	117					BONGO-VNH
		1535	BE	SET	135		50°24.87	127°30.14	136						TRAWL

Cast Type:

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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
BO = Bottom Time of Cast
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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batt. 11.0v

IV104 Quatsino Sound

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Month FEB				Year 2011			Ship W.E. RICKER				Cruise ID 2011-02				
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							
09	IVIO5	1612	BE	CTD		136	50°27.81	127°32.30	179			1	MT	NA	BOT @ 10m
		1615	BO				50°27.83	127°32.33		169					(CHL, NUTS & SAL)
		1618	EN				50°27.85	127°32.36							
		1620	BE	NET		137	50°27.86	127°32.37	179	150					BONGO-VNH
		1640	BE	SET		138	50°28.62	127°33.32	181						TRAWL
09	IVIO6	1741	BE	CTD		139	50°30.58	127°41.64	132			1			BOT @ 10m
		1744	BO				50°30.54	127°41.66		122					(CHL, NUTS & SAL)
		1746	EN				50°30.50	127°41.64							
		1748	BE	NET		140	50°30.48	127°41.63	159	150					BONGO-VNH
		1808	BE	SET		141	50°30.05	127°42.84	115						TRAWL
09	IVIO7	2011	BE	CTD		142	50°35.05	127°27.05	64			1	↓		BOT @ 10m
		2012	BO				50°35.06	127°27.04		54					(CHL, NUTS & SAL)
		2014	EN				50°35.06	127°27.03							
		2016	BE	NET		143	50°35.07	127°27.00	65	55					BONGO-VNH
		2032	BE	SET		144	50°34.93	127°27.99	58						TRAWL

Cast Type:

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DRF = Drifter

Bottle Firing Method:

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Notes:

Time Code:

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

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IV107: Bridge postponed cast once CTD was in the water (@the surface) → ~1 min extra at start of cast

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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							
09	IV108	2122	BE	CTD		145	50°35.03	127°35.58	120			1	MT	NA	BOT@10m
		2124	BO				50°35.03	127°35.59		110					(CHL, NUTS & SAL)
		2126	EN				50°35.04	127°35.61							(*) →
		2128	BE	NET		146	50°35.05	127°35.62	121	111					BONGO-VNH
		2147	BE	SET		147	50°35.19	127°36.76	113						TRAWL
09	IV109	2237	BE	CTD		148	50°35.82	127°44.45	77			1			BOT @10m
		2238	BO				50°35.83	127°44.46		67					(CHL, NUTS & SAL)
		2240	EN				50°35.83	127°44.46							
		2242	BE	NET		149	50°35.85	127°44.42	77	67					BONGO-VNH
		2259	BE	SET		150	50°35.63	127°43.23	87						TRAWL
END of DAY															
10	IV110	1504	BE	CTD		151	50°29.35	127°51.05	58			1	↓		BOT@10m
		1505	BO				50°29.35	127°51.04		48					(CHL, NUTS & SAL)
		1506	EN				50°29.35	127°51.04							
		1510	BE	NET		152	50°29.34	127°51.03	58	48					BONGO-VNH
		1531	BE	SET		153	50°28.74	127°52.07	179						TRAWL

Cast Type:

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

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

Bottle Firing Method:

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

Notes:

Time Code:

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

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IVIO8: No sal @ this station

batt: 11.0V

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02				Page 18 of 49
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	VI11	1625	BE	CTD		154	50°28.35	127°57.18	145			1	MT	NA	BOT@10m	
		1627	BO				50°28.34	127°57.20		135					(CHL, NUTS & SAL)	
		1630	EN				50°28.33	127°57.22								
		1635	BE	NET		155	50°28.32	127°57.14	142	132					BONGO-VNH	
		1652	BE	SET		156	50°27.37	127°57.05	72						TRAWL	
10	VI14	1812	BE	CTD		157	50°21.43	128°05.85	81			1			BOT@10m	
		1813	BO				50°21.43	128°05.82		71					(CHL, NUTS & SAL)	
		1815	EN				50°21.43	128°05.79								
		1818	BE	NET		158	50°21.42	128°05.78	80	70					BONGO-VNH	
		1833	BE	SET		159	50°20.98	128°06.56	92						TRAWL	
10	VI15	1948	BE	CTD		160	50°18.00	128°12.13	171			1	↓		BOT@10m	
		1950	BO				50°18.02	128°12.08		161					(CHL, NUTS & SAL)	
		1954	EN				50°18.03	128°12.06								
		1957	BE	NET		161	50°18.02	128°12.04	170	150					BONGO-VNH	
		2018	BE	SET		162	50°17.82	128°12.82	183						TRAWL	
≡	END of DAY															
Cast Type: USW - Sea Water Log Bottle Firing Method: 15 min																

Cast Type:

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

USW = Sea Water Loop
 MOR = Mooring
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 DRF = Drifter

Bottle Firing Method:

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

Time Code:

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

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

Notes:

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Cut off ops early to run & hide from storm.

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Month FEB		Year 2011				Ship W.E. RICKER				Cruise ID 2011-02					
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	IVI12	1508	BE	CTD		163	49°52.52	126°49.30	219			1	MT	NA	BOT@10m
		1512	BO				49°52.49	126°49.36		210					(CHL, NUTS & SAL)
		1516	EN				49°52.47	126°49.39							
		1519	BE	NET		164	49°52.45	126°49.46	221	150					BONGO-VNH
		1537	BE	SET		165	49°52.06	126°50.77	226						TRAWL
11	IVI13	1629	BE	CTD		166	49°51.67	126°55.96	195			1			BOT@10m
		1632	BO				49°51.72	126°55.95		185					(CHL, NUTS & SAL)
		1636	EN				49°51.74	126°55.93							
		1638	BE	NET		167	49°51.77	126°55.95	191	150					BONGO-VNH
		1655	BE	SET		168	49°51.37	126°56.19	175						TRAWL
11	IVI14	1742	BE	CTD		169	49°50.30	126°59.73	70			1			BOT@10m
		1744	BO				49°50.30	126°59.72		60					(CHL, NUTS & SAL)
		1745	EN				49°50.31	126°59.72							
		1748	BE	NET		170	49°50.34	126°59.70	67	57					BONGO-VNH
		1804	BE	SET		171	49°49.69	127°00.29	51						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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IVI12: Esperanza Inlet

DAILY SCIENCE LOG

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Month FEB

Year 2011

Ship W.E. RICKER

Cruise ID 2011-02

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	VI16	1904	BE	CTD		172	49°46.07	127°05.54	51			1	MT	NA	BOT@10m
		1905	BO				49°46.07	127°05.52		41					(CHL, NUTS & SAL)
		1906	EN				49°46.07	127°05.50							
		1909	BE	NET		173	49°46.07	127°05.40	51	40					BONGO-VNH
		1926	BE	SET		174	49°45.51	127°06.33	58						TRAWL
11	VI17	2027	BE	CTD		175	49°43.12	127°10.30	97			1			BOT@10m
		2028	BO				49°43.15	127°10.26		87					(CHL, NUTS & SAL)
		2030	EN				49°43.19	127°10.24							
		2033	BE	NET		176	49°43.17	127°10.23	96	86					BONGO-VNH
		2055	BE	SET		177	49°42.74	127°10.83	104						TRAWL
11	VI18	2210	BE	CTD		178	49°39.39	127°15.92	130			1			BOT@10m
		2212	BO				49°39.43	127°15.89		120					(CHL, NUTS & SAL)
		2215	EN				49°39.45	127°15.88							
		2218	BE	NET		179	49°39.42	127°15.90	128	118					BONGO-VNH
		2242	BE	SET		180	49°39.34	127°14.94	127						TRAWL
END of DAY															

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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VI 16-18

Winds SE 35kts, gusting >40kts. Building seas, blowing spray. Off Esperanza Inlet.

batt: 110v

DAILY SCIENCE LOG

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	IVI15	1500	BE	CTD		181	49°39.54	126°23.22	150			1	MT	NA	BOT@10m
		1502	BO				49°39.55	126°23.20		140					(CHL, NUTS & SAL)
		1505	EN				49°39.55	126°23.20							
		1508	BE	NET		182	49°39.55	126°23.19	143	133					BONGO-VNH
		1531	BE	SET		183	49°39.14	126°22.71	171						TRAWL
12	IVI16	1656	BE	CTD		184	49°40.05	126°09.55	353			1			BOT@10m
		1701	BO				49°40.04	126°09.54		250					(CHL, NUTS & SAL)
		1705	EN				49°40.02	126°09.55							
		1708	BE	NET		185	49°40.01	126°09.53	352	150					BONGO-VNH
		1728	BE	SET		186	49°40.01	126°10.52	354						TRAWL
12	IVI17	1949	BE	CTD		187	49°38.05	126°29.69	132			1	V		BOT@10m
		1952	BO				49°38.03	126°29.69		122					(CHL, NUTS & SAL)
		1954	EN				49°38.02	126°29.66							
		1958	BE	NET		188	49°38.02	126°29.70	133	120					BONGO-VNH
		2016	BE	SET		189	49°37.55	126°30.18	152						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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IVI15: Nootka Sound.

IVI17: Winds steady 40 kts, gusting > 50 kts

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Month FEB				Year 2011			Ship W.E. RICKER				Cruise ID 2011-02				
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	IVI18	2124	BE	CTD		190	49°37.76	126°36.24	153			1	MT	NA	BOT@10m
		2127	BO				49°37.77	126°36.23		142					(CHL, NUTS & SAL)
		2130	EN				49°37.77	126°36.21							
		2132	BE	NET		191	49°37.78	126°36.19	152	140					
		2204	BE	SET		192	49°39.33	126°36.12	153						BONGO-VNH
≡	END of DAY														TRAWL
13	VI19	1507	BE	CTD		193	49°05.73	126°00.71	44			1			BOT@10m
		1508	BO				49°05.73	126°00.70		34					(CHL, NUTS & SAL)
		1509	EN				49°05.73	126°00.69							
		1512	BE	NET		194	49°05.70	126°00.69	43	33					BONGO-VNH
		1530	BE	SET		195	49°05.28	126°01.80	50						TRAWL
13	VI20	1641	BE	CTD		196	49°01.69	126°09.32	69			1	↓		BOT@10m
		1642	BO				49°01.69	126°09.31		59					(CHL, NUTS & SAL)
		1644	EN				49°01.70	126°09.30							
		1647	BE	NET		197	49°01.69	126°09.26	70	60					BONGO-VNH
		1704	BE	SET		198	49°01.21	126°10.17	70						TRAWL

Cast Type:

USW = Sea Water Loop

Bottle Firing Method:

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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batt: 13.0 (changed prior to downloading day's casts)

VI19: Off Tofino. Swells >3m.

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02				Page 23 of 49	
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	VI21	1807	BE	CTD		199	48°57.68	126°15.94	115			1	MT	NA	BOT @ 10m		
		1809	BO				48°57.69	126°15.93		105					(CHL, NUTS & SAL)		
		1811	EN				48°57.69	126°15.93									
		1814	BE	NET		200	48°57.70	126°15.95	115								
		1834	BE	SET		201	48°57.26	126°17.03	120						BONGO-VNH TRAWL		
13	VI22	1942	BE	CTD		202	48°53.05	126°21.59	153			1			BOT @ 10m		
		1945	BO				48°53.06	126°21.58		143					(CHL, NUTS & SAL)		
		1947	EN				48°53.07	126°21.57									
		1952	BE	NET		203	48°53.08	126°21.55	152	142							
		2013	BE	SET		204	48°52.66	126°22.50	156						BONGO-VNH TRAWL		
13	VI23	2212	BE	CTD		205	48°47.85	126°10.94	126			1			BOT @ 10m		
		2215	BO				48°47.86	126°10.93		116					(CHL, NUTS & SAL)		
		2218	EN				48°47.88	126°10.93									
		2221	BE	NET		206	48°47.87	126°10.92	126	116							
		2241	BE	SET		207	48°48.65	126°10.83	123						BONGO-VNH TRAWL		

Cast Type:

USW = Sea Water Loop

Bottle Firing Method:

Time Code:

Cast Type:

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

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

Bottle Firing Method:

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

Time Code:

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

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

Notes:

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	VI24	2354	BE	CTD		208	48°52.90	126°02.59	70			1	MT	NA	BOT@10m
		2355	BO				48°52.90	126°02.59		60					(CHL, NUTS & SAL)
		2357	EN				48°52.91	126°02.58							
14		0000	BE	NET		209	48°52.89	126°02.57	70						BONGO-VNH
		0015	BE	SET		210	48°53.62	126°01.88	69						TRAWL
14	END of DAY														
14	IVI19	1626	BE	CTD		211	48°55.11	125°27.69	51			1			BOT@10m
		1627	BO				48°55.10	125°27.67		41					(CHL, NUTS & SAL)
		1628	EN				48°55.10	125°27.66							
		1631	BE	NET		212	48°55.09	125°27.59	51	40					BONGO-VNH
		1647	BE	SET		213	48°55.77	125°26.72	50						TRAWL
14	IVI20	1811	BE	CTD		214	48°59.55	125°18.45	34			1	↓		BOT@10m
		1812	BO				48°59.55	125°18.44		24					(CHL, NUTS & SAL)
		1813	EN				48°59.55	125°18.43							
		1815	BE	NET		215	48°59.56	125°18.43	34						BONGO-VNH
		1831	BE	SET		216	48°58.88	125°19.36	40						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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batt: 12.7v

IVIZ2: No CTD cast logged at this station. Suspect switch not turned on.

DAILY SCIENCE LOG

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	IVI21	2111	BE	CTD		217	48°54.42	125°01.59	129			1	MT	NA	BOT@10m
		2113	BO				48°54.42	125°01.60		119					(CHL, NUTS & SAL)
		2116	EN				48°54.42	125°01.61							
		2119	BE	NET		218	48°54.41	125°01.61	132	122					BONGO-VNH
		2138	BE	SET		219	48°53.77	125°02.52	145						TRAWL
14	IVI22	2229	BE	CTD		220	48°51.94	125°07.12	128			1			BOT@10m
		2232	BO				48°51.93	125°07.15		118					(CHL, NUTS & SAL)
		2235	EN				48°51.93	125°07.21							⊕ COMMENT PREV PG.
		2238	BE	NET		221	48°51.92	125°07.32	129	119					BONGO-VNH
		2258	BE	SET		222	48°52.57	125°08.15	132						TRAWL
≡	END of DAY	(batt. 12.5v)													
15	JF06	1502	BE	CTD		223	48°33.22	124°42.05	102			1	↓		BOT@10m
		1504	BO				48°33.25	124°42.01		92					(CHL, NUTS & SAL)
		1506	EN				48°33.28	124°41.97							Drifting @ 1-2 kts
		1508	BE	NET		224	48°33.35	124°41.83	96	86					BONGO-VNH
		1527	BE	SET		225	48°33.38	124°39.86	78						TRAWL

Cast Type:

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

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

Bottle Firing Method:

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

Notes:

Time Code:

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

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

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DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2011-02

DATE:

From: 01 FEB 2011

to: 28 FEB 2011

VESSEL:

W.E. RICKER

PROJECT(S):

HIGH SEAS SALMON

Book 2 of 2

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

WaterProperties.ca

Captain: Scott Boan
Second Officer: Andrew Costa
Fishing Master: Brent Parkinson

First Officer: Duncan McCallum
Third Officer: N/A

Mission Participants / Agencies: DFO

Scientific Personnel:

Chief Scientist: John Morris 01-16 FEB

[illegible]

Second leg of Mission:

Chief Scientist: Marc Trudel 17-28 FEB

[illegible]

Data logging computer:

Data acquisition program:

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

Primary CTD 01-15 FEB

Make: SE model: 19 serial number: 1294 1294.com

Primary temperature serial number: 1294

Primary conductivity serial number: 1294

Secondary temperature serial number: —

Secondary conductivity serial number: —

Transmissometer:	n/a	Model:	n/a
------------------	-----	--------	-----

Fluorometer: Model _____ Cable gain: _____

Oxygen sensor:	Model:
—	Model:

PAR sensor: _____ Model: _____

Other sensors:

Other sensors:

Other sensors:

Other sensors:

Primary
~~Secondary~~ CTD

Secondary CTD 17-28 FEB

Make: SBE model: 25
serial number: 0404 0404 0404.com

Primary temperature serial number: 4484 calib. 30BEC10

Primary conductivity serial number: 3194 catib 29 DEC 10

Secondary temperature serial number: —

Secondary conductivity serial number: —

Transmissometer: n/a Model: n/a

Fluorometer: Model	Cable gain:
—	—

Oxygen sensor:	Model:
—	—

PAR sensor: _____ Model: _____

Other sensors:

Other sensors:

Other sensors:

Other sensors:

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

01-15 FEB 11: Regular 9/11 CTD unit has not returned from annual maintenance at Seabird yet.
Therefore, using SBE19 until it comes back (expected for 2nd leg of survey, Feb 17-28).
All depths recorded for SBE19 casts will be based on winch counter readings.

17 FEB 11: SBE 9/11 unit still doesn't work, so using usual backup CTD (SBE25), recently returned from Seabird & newly calibrated. Con file: 0404.con

DAILY SCIENCE LOG

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	JF05	1639	BE	CTD		226	48°30.26	124°27.60	114			1	MT	NA	BOT@10m
		1642	BO				48°30.26	124°27.56		104					(CHL, NUTS & SAL)
		1644	EN				48°30.23	124°27.50							
		1646	BE	NET		227	48°30.18	124°27.45	114	104					
		1702	BE	SET		228	48°29.61	124°24.94	118						BONGO-VNH
															TRAWL
15	JF04	1814	BE	CTD		229	48°26.02	124°15.69	110			1			BOT@10m
		1816	BO				48°26.02	124°15.67		100					(CHL, NUTS & SAL)
		1818	EN				48°26.04	124°15.65							
		1820	BE	NET		230	48°26.04	124°15.61	110	100					BONGO-VNH
		1836	BE	SET		231	48°25.78	124°14.26	104						TRAWL
15	JF03	1956	BE	CTD		232	48°23.01	124°02.81	102			1	✓		BOT@10m
		1957	BO				48°23.00	124°02.78		92					(CHL, NUTS & SAL)
		1959	EN				48°23.00	124°02.78							
		2003	BE	NET		233	48°22.97	124°02.72	102	92					BONGO-VNH
		2020	BE	SET		234	48°22.69	124°01.50	102						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 FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	JF02	2141	BE	CTD		235	48°20.09	123°48.36	127			1	MT	NA	BOT@10m
		2144	BO				48°20.12	123°48.39		117					(CHL, NUTS & SAL)
		2146	EN				48°20.13	123°48.40							
		2150	BE	NET		236	48°20.17	123°48.41	125	115					BONGO-VNH
		2200	BE	SET		237	48°20.06	123°47.44	123						TRAWL
15	JF01	2308	BE	CTD		238	48°18.40	123°40.33	127			1		NA	BOT@10m
		2310	BO				48°18.41	123°40.35		117					(CHL, NUTS & SAL)
		2313	EN				48°18.43	123°40.36							
		2315	BE	NET		239	48°18.41	123°40.34	125	115					BONGO-VNH
		2333	BE	SET		240	48°18.36	123°39.59	118						TRAWL
≡ END of DAY → 1 DAY BREAK IN VICTORIA ←															
17	GSD1	2150	BE	CTD		241	48°21.00	123°18.13	57			1	↓		✗ ✗
		2151	BO				48°21.03	123°18.10		47					BOT@10m
		2152	EN				48°21.05	123°18.07							(CHL, NUTS & SAL)
		2155	BE	NET		242	48°21.11	123°18.10	54	44					BONGO-VNH
		2209	BE	SET		243	48°21.37	123°17.95	65						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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GSO1 Start use of SBE 25 CTD. (SBE 9/11 is still broken, so must use backup.)

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
17	GS02	2343	BE	CTD		244	48°28.55	123°13.75	77			1	MT	NA	BOT@10m
		2344	BO				48°28.53	123°13.75		67					(CHL, NUTS & SAL)
		2346	EN				48°28.51	123°13.76							
		2349	BE	NET		245	48°28.48	123°13.80	72	62					BONGO-VNH
18		0005	BE	SET		246	48°29.06	123°14.25	78						TRAWL
18	GS03	0107	BE	CTD		247	48°34.26	123°14.45	200			1			BOT@10m
		0110	BO				48°34.23	123°14.41		190					(CHL, NUTS & SAL)
		0114	EN				48°34.19	123°14.38							
		0117	BE	NET		248	48°34.20	123°14.38	197	150					BONGO-VNH
		—	BE	SET		249	CANCELLED		→						TRAWL
END of DAY															
18	GS04	1506	BE	CTD		250	48°36.61	123°30.02	213			1	↓		BOT@10m
		1509	BO				48°36.60	123°30.00		203					(CHL, NUTS & SAL)
		1513	EN				48°36.60	123°30.00							
		1517	BE	NET		251	48°36.60	123°29.99	214	150					BONGO-VNH
		1538	BE	SET		252	48°37.27	123°30.12	201						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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G503: Trawl cancelled — too dark.

batt. 12.6v

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Month FEB				Year 2011			Ship W.E. RICKER				Cruise ID 2011-02				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
18	GS05	1701	BE	CTD	253		48°44.59	123°35.32	59			1	MT	NA	BOT@10m
		1703	BO				48°44.60	123°35.30		49					(CHL, NUTS & SAL)
		1704	EN				48°44.61	123°35.30							
		1707	BE	NET	254		48°44.65	123°35.26	60	50					BONGO-VNH
		1759	BE	SET	255		48°44.38	123°34.47	73						TRAWL
18	GS06	1903	BE	CTD	256		48°42.77	123°27.32	51			1			BOT@10m
		1904	BO				48°42.79	123°27.31		41					(CHL, NUTS & SAL)
		1906	EN				48°42.79	123°27.30							
		1909	BE	NET	257		48°42.82	123°27.26	51	41					BONGO-VNH
		1924	BE	SET	258		48°43.37	123°26.06	54						TRAWL
18	GS07	2039	BE	CTD	259		48°43.94	123°16.07	125			1			BOT@10m
		2041	BO				48°43.96	123°16.07		115					(CHL, NUTS & SAL)
		2043	EN				48°44.00	123°16.04							
		2046	BE	NET	260		48°44.04	123°16.02	110	100					BONGO-VNH
		2102	BE	SET	261		48°44.62	123°16.40	95						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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GS05: Delay between CTD and tow - waiting for radar tech to arrive

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Month FEB				Year 2011			Ship W.E. RICKER				Cruise ID 2011-02				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
18	GS08	2232	BE	CTD		262	48°51.75	123°24.42	38			1	MT	NA	BOT@10m
		2233	BO				48°51.75	123°24.42		28					(CHL, NUTS & SAL)
		2234	EN				48°51.75	123°24.42							
		2237	BE	NET		263	48°51.74	123°24.38	38	28					BONGO-VNH
		2251	BE	SET		264	48°52.23	123°25.24	34						TRAWL
18	GS09	2347	BE	CTD		265	48°55.95	123°30.71	57			1			BOT@10m
		2348	BO				48°55.96	123°30.70		47					(CHL, NUTS & SAL)
		2350	EN				48°55.97	123°30.70							
		2353	BE	NET		266	48°55.99	123°30.67	46	36					BONGO-VNH
19		0006	BE	SET		267	48°56.47	123°31.69	50						TRAWL
≡	END of DAY														
19	GS10	1503	BE	CTD		268	48°51.94	123°35.32	200			1			BOT@10m
		1506	BO				48°51.95	123°35.35		190					(CHL, NUTS & SAL)
		1510	EN				48°51.94	123°35.36							
		1515	BE	NET		269	48°51.94	123°35.36	200	150					BONGO-VNH
		1535	BE	SET		270	48°52.62	123°36.24	193						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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batt. 12.5v

GS10: Had to re-do water sample b/c bottle didn't trip on first attempt.

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	GS11	1634	BE	CTD		271	48°56.27	123°40.36	100			1	MT	NA	BOT @10m
		1636	BO				48°56.26	123°40.38		90					(CHL, NUTS & SAL)
		1638	EN				48°56.25	123°40.38							
		1640	BE	NET		272	48°56.24	123°40.38	101	91					BONGD-VNH
		1658	BE	SET		273	48°56.71	123°41.13	95						TRAWL - SURFACE
19	GS12	1746	BE	CTD		274	48°59.15	123°43.16	72			1			BOT@10m
		1747	BO				48°59.15	123°43.17		62					(CHL, NUTS & SAL)
		1749	EN				48°59.14	123°43.18							
		1751	BE	NET		275	48°59.13	123°43.19	69	59					BONGD-VNH
		1807	BE	SET		276	48°59.87	123°43.25	64						TRAWL - SURFACE
19	GS13	1928	BE	CTD		277	49°06.61	123°46.39	49			1			BOT@10m
		1930	BO				49°06.63	123°46.42		39					(CHL, NUTS & SAL)
		1931	EN				49°06.63	123°46.42							
		1934	BE	NET		278	49°06.64	123°46.42	46	36					BONGD-VNH
		1948	BE	SET		279	49°06.13	123°45.57	57						TRAWL - SURFACE

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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GS13: Winch operator did not stop @ 39m. CTD may have touched bottom.

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	GS14	2110	BE	CTD		280	49°07.16	123°44.30	52			1	MT	NA	BOT @ 10m
		2111	BO				49°07.16	123°44.31		42					(CHL, NUTS & SAL)
		2112	EN				49°07.16	123°44.32							
		2115	BE	NET		281	49°07.18	123°44.37	50	40					BONGO - VNH
		2129	BE	SET		282	49°06.54	123°43.66	50						TRAWL - SURFACE
19	GS15	2216	BE	CTD		283	49°03.69	123°40.42	74			1			BOT @ 10m
		2218	BO				49°03.69	123°40.43		64					(CHL, NUTS & SAL)
		2219	EN				49°03.70	123°40.44							
		2222	BE	NET		284	49°03.13	123°40.44	75	65					BONGO - VNH
		2237	BE	SET		285	49°03.03	123°39.74	50						TRAWL - SURFACE
20	GS16	0224	BE	CTD		286	48°48.49	123°04.47	113			1	↓		BOT @ 10m
		0226	BO				48°48.48	123°04.47		103					(CHL, NUTS & SAL)
		0228	EN				48°48.46	123°04.46							
		0230	BE	NET		287	48°48.48	123°04.45	114	104					BONGO - VNH
		0139	BE	SET		288	48°49.90	123°08.80	165						TRAWL - SURFACE
= END of DAY															

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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GS16: Ops conducted out of order. Fish first, then bongo, CTD. Consecutive numbers not changed.

batt 12.4v

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Month FEB			Year 2011			Ship W.E. RICKER			Cruise ID 2011-02						
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	GS17	1504	BE	CTD		289	48°51.95	123°11.95	171			1	MT	NA	BOT@10m
		1507	BO				48°51.91	123°11.94		161					(CHL, NUTS & SAL)
		1510	EN				48°51.91	123°11.92							
		1515	BE	NET		290	48°51.91	123°11.94	173	150					BONGO-VNH
		1534	BE	SET		291	48°52.27	123°12.83	183						TRAWL - SURFACE
20	GS18	1652	BE	CTD		292	48°55.93	123°20.93	182			1			BOT@10m
		1655	BO				48°55.94	123°20.82		172					(CHL, NUTS & SAL)
		1658	EN				48°55.96	123°20.74							
		170	BE	NET		293	48°55.96	123°20.73	186	150					BONGO-VNH
		1719	BE	SET		294	48°56.26	123°21.15	187						TRAWL @ 15m
20	GS19	1837	BE	CTD		295	49°00.09	123°29.99	185			1	↓		BOT@10m
		1840	BO				49°00.11	123°29.93		175					(CHL, NUTS & SAL)
		1844	EN				49°00.14	123°29.89							
		1847	BE	NET		296	49°00.16	123°29.83	204	150					BONGO-VNH
		1905	BE	SET		297	49°00.78	123°30.11	202						TRAWL - SURFACE

Cast Type:

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

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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
 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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GS17: Trouble with CTD leading under ship during cast. Stopped near surface during up cast until CTD was clear. Niskin bottle did not trip on 1st attempt. Re-deployed to 15m and tripped.

GS18: Drifting @ 1.5-2 kts.

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	GS20	2018	BE	CTD		298	49°06.99	123°34.95	227			1	MT	NA	BOT @ 10m
		2022	BO				49°06.98	123°34.88		217					(CHL, NUTS & SAL)
		2026	EN				49°06.97	123°34.85							
		2029	BE	NET		299	49°06.98	123°34.80	224	150					BONGO-VNH
		2048	BE	SET		300	49°06.97	123°33.33	240						TRAWL @ 30m
20	GS21	2141	BE	CTD		301	49°07.11	123°28.88	328			1			BOT @ 10m
		2146	BO				49°07.12	123°28.77		250					(CHL, NUTS & SAL)
		2150	EN				49°07.14	123°28.69							
		2155	BE	NET		302	49°07.15	123°28.53	323	150					BONGO-VNH
		2213	BE	SET		303	49°06.54	123°27.87	309						TRAWL-SURFACE
20	GS22	2323	BE	CTD		304	49°00.04	123°23.82	269			1	V		BOT @ 10m
		2327	BO				49°00.07	123°23.73		250					(CHL, NUTS & SAL)
		2332	EN				49°00.11	123°23.69							
		2334	BE	NET		305	49°00.12	123°23.64	262	150					BONGO-VNH
		2352	BE	SET		306	48°59.78	123°22.68	243						TRAWL @ 15m

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
 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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GS21: Spigot on Niskin not fully closed, lost most of the sample. Niskin reset & redeployed.

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02				Page 35 of 49	
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	GS23	0049	BE	CTD		307	49°00.06	123°16.95	163			1	MT	NA	BOT@10m		
		0052	BO				49°00.08	123°16.93		153					(CHL, NUTS & SAL)		
		0055	EN				49°00.11	123°16.94									
		0057	BE	NET		308	49°00.12	123°16.91	162	150					BONGO-VNH		
21	GS24	0154	BE	CTD		309	49°07.00	123°21.04	146			1			BOT@10m		
		0156	BO				49°07.04	123°21.04		136					(CHL, NUTS & SAL)		
		0159	EN				49°07.09	123°21.03									
		0203	BE	NET		310	49°07.11	123°20.96	145	135					BONGO-VNH		
≡ END of DAY																	
21	GS25	1510	BE	CTD		311	49°12.89	123°23.95	279			1	↓		BOT@10m		
		1514	BO				49°12.90	123°24.03		250					(CHL, NUTS & SAL)		
		1519	EN				49°12.92	123°24.09									
		15	BE	NET		312	49°12.	123°24	280	150					BONGO-VNH		
		1542	BE	SET		313	49°13.52	123°25.65	289						TRAWL-SURFACE		

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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GS23&24: No trawl - too close to shipping lanes.

batt: 11.7v

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Month <u>FEB</u>				Year <u>2011</u>				Ship <u>W.E. RICKER</u>				Cruise ID <u>2011-02</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	GS26	1643	BE	CTD		314	49°18.06	123°31.01	164			1	MT	NA	BOT@10m
		1646	BO				49°18.07	123°31.00		154					(CHL, NUTS & SAL)
		1649	EN				49°18.09	123°31.00							
		1651	BE	NET		315	49°18.11	123°31.02	161	150					BONGO-VNH
		1710	BE	SET		316	49°17.52	123°30.93	185						TRAWL-SURFACE
21	GS27	1811	BE	CTD		317	49°12.03	123°31.88	349			1			BOT@10m
		1816	BO				49°11.98	123°31.86		250					(CHL, NUTS & SAL)
		1820	EN				49°11.96	123°31.82							
		1823	BE	NET		318	49°11.93	123°31.79	348	150					BONGO-VNH
		1848	BE	SET		319	49°12.42	123°32.83	351						TRAWL @ 15m
21	GS28	2024	BE	CTD		320	49°17.97	123°43.93	260			1			BOT@10m
		2029	BO				49°17.97	123°43.88		250					(CHL, NUTS & SAL)
		2034	EN				49°17.97	123°43.86							
		2037	BE	NET		321	49°17.96	123°43.84	279	150					BONGO-VNH
		2054	BE	SET		322	49°17.33	123°43.71	302						TRAWL @ 30m

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 FEB

Year 2011

Ship W.E. RICKER

Cruise ID 2011-02

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	GS29	2153	BE	CTD		323	49°12.19	123°42.31	354			1	MT	NA	BOT@10m
		2158	BO				49°12.19	123°42.22		250					(CHL, NUTS & SAL)
		2202	EN				49°12.20	123°42.15							
		2206	BE	NET		324	49°12.22	123°42.10	347	150					BONGO - VNH
			BE	SET		325									TRAWL @ 0m
END of DAY															
22	GS30	1646	BE	CTD		326	49°16.33	123°47.77	396			1	MT	NA	Bot@10m
		1650	BO				49°16.31	123°47.79		250					(CHL - NUTS + SAL)
		1655	EN				49°16.26	123°47.78							
		1657	BE	NET		327	49°16.22	123°47.79	370	150					Bongo - VNH
		1722	BE	SET		328	49°16.93	123°47.55							TRAWL @ 0m
22	GS31	1840	BE	CTD		329	49°21.44	123°52.28	386			1	MT	NA	Bot@10m
		1845	BO				49°21.43	123°52.31		250					(CHL - NUTS + SAL)
		1850	EN				49°21.40	123°52.35							
		1851	BE	NET		330	49°21.46	123°52.35	392	150					Bongo - VNH
		1916	BE	SET		331	49°21.51	123°53.35							TRAWL @ 15m

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 FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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	GS32	2036	BE	CTD		332	49° 21.71	124° 05.06	230			1	MT	NA	Bot @ 10m
		2040	BO				49° 21.69	124° 05.08		220					(CHL, NUTS, + SAL)
		2044	EN				49° 21.65	124° 05.08							
		2049	BE	NET		333	49° 21.65	124° 05.09	256	150					BONGO-VNH
		2112	BE	SET		334	49° 21.75	124° 06.32							TRAWL @ 0m
22	GS33	2201	BE	CTD		335	49° 22.98	124° 11.56	339			1	MT	NA	Bot @ 10m
		2205	BO				49° 22.98	124° 11.56		250					(CHL, NUTS + SAL)
		2210	EN				49° 22.97	124° 11.55							
		2212	BE	NET		336	49° 22.97	124° 11.54	338	150					BONGO-VNH
		2233	BE	SET		337	49° 22.76	124° 12.61							TRAWL @ 30m
22	GS34	2333	BE	CTD		338	49° 22.01	124° 19.41	133			1	MT	NA	Bot @ 10m
		2335	BO				49° 22.01	124° 19.41		120					(CHL, NUTS + SAL)
		2338	EN				49° 21.99	124° 19.45							
		2339	BE	NET		339	49° 22.00	124° 19.43	132	122					BONGO-VNH
23		0000	BE	SET		340	49° 22.14	124° 20.44							TRAWL @ 0m

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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GS32 DRIFTING @ 1 Knot

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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									
23	GS35	0218	BE	CTD		341	49° 24.41	124° 35.21	35			1	MT	NA	Bot @ 10m		
		0218	BO				49° 24.41	124° 35.20		30					(CHL, NUTS, SAL)		
		0219	EN				49° 24.41	124° 35.20									
		0224	BE	NET		342	49° 24.41	124° 35.20							Bongo - VNH		
		0234	BE	SET		343	49° 23.16	124° 31.45							Trawl @ 15m		
≡ END OF DAY.																	
23	GS36	1502	BE	CTD		344	49° 42.86	124° 39.86	336			1	MT	NA	Bot @ 10m		
		1506	BO				49° 42.82	124° 39.83		250					(CHL, NUTS, SAL)		
		1512	EN				49° 42.75	124° 39.80									
		1513	BE	NET		345	49° 42.74	124° 39.80	330	150					Bongo - VNH		
		1536	BE	SET		346	49° 42.14	124° 38.82							Trawl @ 0m		
23	GS37	1634	BE	CTD		347	49° 38.96	124° 31.20	317			1	MT	NA	Bot @ 10m		
		1639	BO				49° 38.94	124° 31.22		250					(CHL, NUTS, SAL)		
		1644	EN				49° 38.91	124° 31.22		150							
		1645	BE	NET		348	49° 38.90	124° 31.23	320	150					Bongo - VNH		
		1708	BE	SET		349	49° 38.46	124° 30.48							Trawl @ 15m		

Cast Type:

USW = Sea Water Loop

Bottle Firing Method

Firing Sequence

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

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GS35 TOWED FIRST, Then CTD + BONGO. DID NOT CHANGE the
CONSECUTIVE #.

GS36 Drifting @ ~1 knot

GS37 tow was put short due to mechanical problems (hydraulics).

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Month <u>FEB</u>				Year <u>2011</u>				Ship <u>W.E. RICKER</u>				Cruise ID <u>2011-02</u>			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
23	GS38	1821	BE	CTD		350	49° 34.89	124° 24.44	316			1	MT	NA	Bot @ 10m
		1826	BO				49° 34.90	124° 24.49		250					(CHK, NUTS, SAL)
		1833	EN				49° 34.87	124° 24.53							
		1835	BE	NET		351	49° 34.87	124° 24.56	326	150					Bongo- VNH
		1857	BE	SET		352	49° 34.64	124° 25.61							Trawl @ 15m
23	GS39	2017	BE	CTD		353	49° 31.84	124° 35.04	52			1	MT	NA	Bot @ 10m
		2018	BO				49° 31.84	124° 35.02		45					(CHK, NUTS, SAL)
		2019	EN				49° 31.83	124° 35.01							
		2022	BE	NET		354	49° 31.84	124° 35.02	53	43					Bongo- VNH
		2039	BE	SET		355	49° 32.39	124° 35.85							Trawl @ 0m
23	GS40	2146	BE	CTD		356	49° 35.16	124° 43.80	76			1	MT	NA	Bot @ 10m
		2147	BO				49° 35.15	124° 43.80		70					(CHK, NUTS, SAL)
		2149	EN				49° 35.16	124° 43.81							
		2152	BE	NET		357	49° 35.19	124° 43.84	76	66					Bongo- VNH
		2210	BE	SET		358	49° 35.86	124° 44.32							Trawl @ 30m

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

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GS38: ship drifted. Rearranged its position. Leaking under ship.
while the CTD was @ 125m.
⇒ switch may have been off

GS40: drifting @ 0.5-0.8 knots.

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
23	GS41	2342	BE	CTD		359	49°44.52	124°49.63	131			1	MT	NA	Bot. @ 10m
		2345	BO				49°44.53	124°49.65		125					(CHL, NUTS, SAL)
		2347	EN				49°44.54	124°49.67							
		2350	BE	NET		360	49°44.55	124°49.69	130	120					Bongo-VNH
24		0011	BE	SET		361	49°45.00	124°50.59							TRAWL @ 0m
24	GS42	0129	BE	CTD		362	49°49.86	124°57.72	175			1	MT	NA	Bot. @ 10m
		0132	BO				49°49.88	124°57.77		176					(CHL, NUTS, SAL)
		0135	EN				49°49.90	124°57.81							
		0137	BE	NET		363	49°49.93	124°57.84	175	150					Bongo-VNH
		0158	BE	SET		364	49°50.49	124°58.77							TRAWL @ 15m
≡	END OF DAY														
24	GS43	1502	BE	CTD		365	50°31.33	124°59.42	7600			1	MT	NA	Bot. @ 10m
		1506	BO				50°31.33	124°59.46		250					(CHL, NUTS, SAL)
		1512	EN				50°31.35	124°59.52							
		1514	BE	NET		366	50°31.36	124°59.51	7600	150					Bongo-VNH
		1542	BE	SET		367	50°31.00	125°00.73							TRAWL @ 0m

Cast Type:

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

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MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

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

Notes:

Time Code:

BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast

DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

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

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GS42: drifting @ ~0.8 knots.

GS43: drifting @ ~0.8 knots

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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									
24	GS44	1636	BE	CTD		368	50° 27.81	125° 05.20	635			1	MT	NA	Bst @ 10m (CHL, NUTS, SAL)		
		1640	BO				50° 27.81	125° 05.19		250							
		1645	EN				50° 27.81	125° 05.21									
		1647	BE	NET		369	50° 27.82	125° 05.23	635	150					Bongo - VNH		
		1711	BE	SET		370	50° 26.62	125° 06.81							TRAWL @ 15m		
24	GS45	1816	BE	CTD		371	50° 20.96	125° 07.31	530			1	MT	NA	Bst @ 10m (CHL, NUTS, SAL)		
		1820	BO				50° 20.97	125° 07.34		250							
		1826	EN				50° 21.03	125° 07.42									
		1829	BE	NET		372	50° 21.05	125° 07.47	473	150					BONGO - VNH		
		1850	BE	SET		373	50° 20.62	125° 06.81							TRAWL @ 0m		
24	GS46	2002	BE	CTD		374	50° 16.19	124° 58.68	475			1	MT	NA	Bst @ 10m (CHL, NUTS, SAL)		
		2006	BO				50° 16.21	124° 58.65		250							
		2011	EN				50° 16.17	124° 58.59									
		2014	BE	NET		375	50° 16.15	124° 58.51	465	150					Bongo - VNH		
		2036	BE	SET		376	50° 16.72	124° 57.97							Trawl @ 30m		

Cast Type: USW - Sea Water Loop

Bottle Firing Method

Cast Type:

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

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

Bottle Firing Method:

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

Time Code:

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

Notes:

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GS45: Drifted at > 1 knot (~ 1.4)

GS46: Drifting @ > 1 knot. Ship position ~~was~~ Readjusted.

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02				Page 45 of
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments	
							Latitude	Longitude								
24	GS47	2144	BE	CTD		377	50° 17.97	124° 51.48	492			1	MT	NA	Bot @ 10m (CHL, SAL, NUTS)	
		2148	BO				50° 17.97	124° 51.49		250						
		2152	EN				50° 17.98	124° 51.51								
		2156	BE	NET	378	378	50° 17.97	124° 51.51	491	150					Bongo - VNH	
		2216	BE	SET	379	379	50° 18.00	124° 50.49							TRAWL @ 0m	
24	GS48	2317	BE	CTD		380	50° 18.54	124° 42.50	353			1	MT	NA	Bot @ 10m (CHL, SAL, NUTS)	
		2322	BO				50° 18.60	124° 42.57		250						
		2325	EN				50° 18.63	124° 42.57								
		2327	BE	NET		381	50° 18.63	124° 42.56		150					Bongo - VNH	
		2349	BE	SET		382	50° 18.18	124° 41.92							TRAWL	
25	GS49	0129	BE	CTD		383	50° 08.93	124° 45.18	515			1	MT	NA	Bot. @ 10m (CHL, NUTS, SAL)	
		0133	BO				50° 08.93	124° 45.17		250						
		0137	EN				50° 08.92	124° 45.19								
		0143	BE	NET		384	50° 08.97	124° 45.17		150					Bongo - VNH	
		0201	BE	SET		385	50° 08.33	124° 45.66							TRAWL @ 0m	
≡	END of day															

Cast Type:

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

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

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
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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GS48: *digging @ 0.4-0.8 knots*

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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							
25	G550	1502	BE	CTD	3	386	50° 06.14	125° 04.80	157			1	MT	NA	Bot @ 10m
		1504	BO				50° 06.10	125° 04.80		150					(CHL, NUTS, SAL)
		1508	EN				50° 06.03	125° 04.83							
		1510	BE	NET		387	50° 06.02	125° 04.85	184	150					Bongo - VNH
		1534	BE	SET		388	50° 05.26	125° 05.18							Trawl @ 0m
25	G551	1643	BE	CTD		389	49° 58.11	125° 04.82	265			1	MT	NA	Bot @ 10m
		16	BO				49° 58.11	125° 04.		250					(CHL, NUTS, SAL)
		1652	EN				49° 58.14	125° 04.84							
		1654	BE	NET		390	49° 58.15	125° 04.84	262	150					Bongo - VNH
		1716	BE	SET		391	49° 57.61	125° 04.43							Trawl @ 13m
	G552	1821	BE	CTD		392	49° 52.44	124° 59.02	297			1	MT	NA	Bot. @ 10m
		1825	BO				49° 52.44	124° 59.06		250					(CHL, NUTS, SAL)
		1830	EN				49° 52.43	124° 59.08							
		1833	BE	NET		393	49° 52.42	124° 59.08	295	150					Bongo - VNH
		1855	BE	SET		394	49° 52.53	124° 57.66							Trawl @ 0m

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

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G550: drifting @ ~ 1 knot.

G551: missed the bottom time + coordinates as I received a phone call from Coast Guard at the time.

G552: drifting @ ~ 0.8 knot

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02				Page 45 of
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments	
							Latitude	Longitude								
25	G553	1959	BE	CTD		395	49° 53.24	124° 52.08	240			1	MT	NA	Bot @ 10m	
		2003	BO				49° 53.23	124° 52.10		235					(CHK, NUTS, SAL)	
		2007	EN				49° 53.22	124° 52.15								
		2011	BE	NET		396	49° 53.20	124° 52.16	250	150					Bongo-VNH	
		2035	BE	SET		397	49° 52.28	124° 51.79							Trawl @ 30m	
25	G554	2134	BE	CTD		398	49° 47.74	124° 48.51	339			1	MT	NA	Bot @ 10m	
		2138	BO				49° 47.72	124° 48.51		250					CHK, NUTS, SAL	
		2142	EN				49° 47.71	124° 48.51								
		2144	BE	NET		399	49° 47.70	124° 48.51	339	150					Bongo-VNH	
		2205	BE	SET		400	49° 48.00	124° 47.25							Trawl @ 0m	
25	G555	2321	BE	CTD		401	49° 49.51	124° 35.21	273			1	MT	NA	Bot @ 10m	
		2325	BO				49° 49.52	124° 35.17		250					(CHK, NUTS, SAL)	
		2329	EN				49° 49.52	124° 35.06								
		2331	BE	NET		402	49° 49.52	124° 35.06	271	150					Bongo-VNH	
		2351	BE	SET		403	49° 48.82	124° 34.21							Trawl @ 15m	

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

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

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GS55: ' drifted at > 1 knot.

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Month FEB				Year 2011			Ship W.E. RICKER				Cruise ID 2011-02				
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							
26	G556	0043	BE	CTD		404	49°45.87	124°29.41	309			1	MT	NA	Bot @ 10m (CHK, NUTS, SAL)
		0048	BO				49°45.89	124°29.44		250					
		0052	EN				49°45.90	124°29.45							
		0054	BE	NET		405	49°45.90	124°29.46	309	150					Bongo - VNH
		0147	BE	SET		406	49°45.62	124°28.63							Trawl @ 0m
= END of day															
26	G557	1457	BE	CTD		407	49°39.52	123°14.33	215			1	MT	NA	Bot @ 10m (CHK, NUTS, SAL)
		1501	BO				49°39.55	123°14.33		210					
		1506	EN				49°39.57	123°14.36							
		1508	BE	NET		408	49°39.61	123°14.37	212	150					Bongo - VNH
		1532	BE	SET		409	49°38.99	123°14.20							Trawl @ 0m
26	G558	1641	BE	CTD		410	49°33.02	123°16.22	138			1	MT	NA	Bot @ 10m (CHK, NUTS, SAL)
		1643	BO				49°33.04	123°16.22		130					
		1646	EN				49°33.10	123°16.23							
		1648	BE	NET		411	49°33.13	123°16.23	130	120					Bongo - VNH
		1709	BE	SET		412	49°32.78	123°16.34							Trawl @ 15m

Cast Type:

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 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:

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BO = Bottom Time of Cast

EN = End Time of Cast

DE = Deployment Time

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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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G556: CTD + Bongo done before dinner. Tow done after dinner.

G557: drifting @ $\approx 1.2 - 1.4$ knot.

G558: drifting @ $1.2 - 1.4$ knot.

DAILY SCIENCE LOG

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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							
26	G559	1810	BE	CTD		413	49°28.36	123°18.21	237			1	MT	NA	Bot @ 10m
		1814	BO				49°28.39	123°18.22		230					(CHL, SAL, NUTS)
		1819	EN				49°28.41	123°18.22							
		1820	BE	NET		414	49°28.41	123°18.22	237	150					Bongo - VNH
		1842	BE	SET		415	49°28.99	123°18.53							Trawl @ 0m
26	G560	1950	BE	CTD		416	49°32.94	123°22.88	215			1	MT	NA	Bot @ 10m
		1953	BO				49°32.96	123°22.86		210					(CHL, NUTS, SAL)
		1957	EN				49°32.97	123°22.83							
		1959	BE	NET		417	49°32.97	123°22.82	215	150					Bongo - VNH
		2022	BE	SET		418	49°32.70	123°23.50							Trawl @ 30m
26	G561	2147	BE	CTD		419	49°25.18	123°28.37	91			1	MT	NA	Bot @ 10m
		2149	BO				49°25.18	123°28.37		85					(CHL, SAL, NUTS)
		2150	EN				49°25.18	123°28.36							
		2153	BE	NET		420	49°25.19	123°28.36	90	80					Bongo - VNH
		2212	BE	SET		421	49°25.19	123°27.17							Trawl @ 0m

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Bottle Firing Method:

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Time Code:

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02			
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							
27	GS62	0128	BE	CTD		422	49°23.36	123°41.32	162			1	MT	NA	Bot @ 10m
		0131	BO				49°23.37	123°41.31		155					(CHL, NUTS, SAL)
		0134	EN				49°23.37	123°41.29							
		0136	BE	NET		423	49°23.36	123°41.26	162	150					Borgo - VNA
		0158	BE	SET		424	49°23.49	123°42.30							Trawl @ 15m
	= END of day														
27	GS63	1500	BE	CTD		425	49°42.16	124°17.97	187			1	MT	NA	Bot @ 10m
		1503	BO				49°42.16	124°17.96		180					(CHL, NUTS, SAL)
		1507	EN				49°42.17	124°17.95							
		1509	BE	NET		426	49°42.18	124°17.95	179	150					Borgo - VNA
		1533	BE	CTD		427	49°41.63	124°17.22							Trawl @ 0m
27	GS64	1649	BE	CTD		428	49°36.27	124°09.96	227						Bot @ 10m
		1653	BO				49°36.28	124°09.94		220					(CHL)
		1653	EN				49°36.30	124°09.93							
		1700	BE	NET		429	49°36.30	124°09.93	210	150					Borgo - VNA
		1721	BE	SET		430	49°35.77	124°09.46							Trawl @ 15m

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 DRF = Drifter

Bottle Firing Method:

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

Notes:

Time Code:

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

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G562: drifting @ ≈ 0.5 knot.

G564 CTD may have touched the bottom. Drifted from a maximum depth of 227m to 210m. CTD went down to 220m.

G564 No Nutrients or Salinity bottles
tubes

DAILY SCIENCE LOG

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Month FEB				Year 2011				Ship W.E. RICKER				Cruise ID 2011-02				Page 49 of 49
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								
27	GS65	1837	BE	CTD		431	49° 29.43	124° 04.17	180			1	MT	NA	Bot @ 10m (CHL, SAL, NUTS)	
		1840	BO				49° 29.45	124° 04.12		170						
		1844	EN				49° 29.46	124° 04.11								
		1846	BE	NET		432	49° 29.45	124° 04.12	178	150					Bongo - VNH	
		1908	BE	SET		433	49° 29.03	124° 03.16							Haul @ 0m	
27	GS66	2021	BE	CTD		434	49° 24.30	123° 58.00	366			1	MT	NA	Bot @ 10m (CHL)	
		2025	BO				49° 24.30	123° 57.95		250						
		2029	EN				49° 24.31	123° 57.92								
		2031	BE	NET		435	49° 24.30	123° 57.92	411	150					Bongo - VNH	
		2053	BE	SET		436	49° 24.21	123° 56.68							Haul @ 30m	
27	GS67	2213	BE	CTD		437	49° 19.91	123° 45.75	297			1	MT	NA	Bot @ 10m (CHL, SAL)	
		2217	BO				49° 19.94	123° 45.67		250						
		2222	EN				49° 19.92	123° 45.65								
		2224	BE	NET		438	49° 19.92	123° 45.60	280	150					Bongo - VNH	
		2246	BE	SET		439	49° 19.49	123° 46.02							Haul @ 0m	
=	EN of Cruise															

Cast Type:

USW = Sea Water Loop

Bottle Firing Method:

Time Code:

Cast Type:

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ROS = Rosette plus CTD
SET = Fish Set

USW

= Sea Water Loop
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Bottle Firing Method:

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Notes:

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Version: 16 April 2010

GS65: Drifting @ 0.5-1.0 Knot

GS66: No nutrient tubes, No Salinity bottle
Drifting @ 1 knot.

GS67: No nutrient tubes
Drifting @ 0.5-1.0 Knot.

