DAILY SCIENCE LOG BOOK

MISSION NUMBER: 2014-66

DATE: From: 09 OCT 2014 to: 31 OCT 2014

VESSEL: W.E. RICKER

PROJECT(S): HIGH SEAS SALMON

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

WaterProperties.ca

Captain: Brian Pennell/Al Young First Officer: Pete Sloan/
Second Officer: Ryan / Chris Wyman Third Officer: —
Fishing Master: Doug Murdoch/Les Hand

Mission Participants / Agencies: _____

Scientific Personnel: Chief Scientist: Mary Thiess (09-12OCT)

Name	Watch	Cabin	Name	Watch	Cabin
Claire Rycroft			John Morris		
			Strahan Tucker		
			Dylan Conover		

Second leg of Mission: Chief Scientist: John Morris (13-31OCT)

Name	Watch	Cabin	Name	Watch	Cabin
Mary Thiess			Yeonaha Jung		
Land Fitzpatrick			Tyler Zubkowski		
Taylor Nettles					
Taylor					

Data logging computer: OSD Field Computer PAC02511
Data acquisition program: Seasave Version 7.22.4
CTD deck unit make: SBE model: 11plus serial number: 0424

Primary CTD
Make: SBE model: 9 serial number: 0550
Primary temperature serial number: 2710
Primary conductivity serial number: 2128
Secondary temperature serial number: 2374
Secondary conductivity serial number: 3396
Transmissometer: _____ Model: _____ s/n: _____
Fluorometer: Model WET Labs Eco AFL/FL Cable gain: _____ s/n: 2215 **P, S or NO pump?**
Oxygen sensor: SBE Model: 43 s/n: 1176 **P, S or NO pump?**
PAR sensor: _____ Model: _____ s/n: _____
Other sensors: _____ s/n: _____ **P, S or NO pump?**
Other sensors: _____ s/n: _____ **P, S or NO pump?**
Other sensors: _____ s/n: _____ **P, S or NO pump?**
Other sensors: _____ s/n: _____ **P, S or NO pump?**

Secondary CTD
Make: _____ model: _____ serial number: _____
Primary temperature serial number: _____
Primary conductivity serial number: _____
Secondary temperature serial number: _____
Secondary conductivity serial number: _____
Transmissometer: _____ Model: _____ s/n: _____
Fluorometer: Model _____ Cable gain: _____ 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?**
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Other sensors: _____ s/n: _____ **P, S or NO pump?**

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

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER | **Year** 2014 | **Ship** W E RICKER | **Cruise ID** 2014 66

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	JS01	1413	BE	SET		001	50°27.35	126°02.99	227						TRAWL-SURFACE
09	JS02	1518	BE	SET		002	50°28.519	126°08.293	302						TRAWL-15m
09	JS03	1617	BE	CTD		003	50°29.249	126°14.447	374				CR	✓	T-9.7° S-31.3
	↓	1617	BO				50°29.306	126°14.590		250					NUTS, CHL & SAL@10m
		1623	EN				50°29.357	126°14.668							
		1631	BE	NET		004	50°29.384	126°14.789	358	150			CR		Bongo-VNH
	↓	1652	BE	SET		005	50°29.35	126°15.25	368						TRAWL-SURFACE
09	JS04	1748	BE	SET		006	50°29.92	126°22.40	370						TRAWL-30m
09	JS05	1834	BE	CTD		007	50°29.729	126°26.443	381				CR		T-9.6 S-31.9
	↓	1839	BO				50°29.726	126°26.452		250					
		1843	EN				50°29.732	126°26.450							
		1901	BE	NET		008	50°29.729	126°26.477	382	150					BONGO
	↓	1920	BE	SET		009	50°29.891	126°26.811	387						TRAWL-SURFACE
09	JS06	2015	BE	SET		010	50°30.228	126°33.602	458						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

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

Notes: _____

Set JS02 - Water sample deployed at 1622 50°29.346
126°14.670

Set JS05 - Temp/Salinity recorded upon return to the surface

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2014 **Ship** W.E. Ricker **Cruise ID** 2014-666

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	JS07	2110	BE	CTD		011	50° 31.504	126° 39.100	445				CR		T- 9.7 S- 31.3
	↓	2114	BO				50° 31.492	126° 39.096		250					
		2119	EN				50° 31.446	126° 39.026							
09		2127	BE	NET		012	50° 31.367	126° 38.965	445	150			CR		BONGO
09	↓	2146	BE	SET		013	50° 31.666	126° 40.555	491						TRAWL - SURFACE
09	JS08	2305	BE	SET		014	50° 33.973	126° 52.410	125						TRAWL - 30m
10	QCST01	0043	BE	SET		015	50° 40.837	126° 52.255	189						TRAWL - SURFACE
END OF DAY															
10	QCST02	1415	BE	SET		016	50° 48.960	127° 38.018	365						TRAWL - SURFACE
10	QCST03	1512	BE	CTD		017	50° 48.052	127° 34.300	357				CR	✓	T- 11.3 S- 32.1
	↓	1517	BO				50° 48.055	127° 34.260		250					
		1522	EN				50° 48.048	127° 34.204							
		1530	BE	NET		018	50° 48.027	127° 34.186	357	150			CR		Bongo - VNIH
	↓	1551	BE	SET		019	50° 47.834	127° 32.950	359						TRAWL - 15m

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Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2014 **Ship** W.E. Ricker **Cruise ID** 2014-66

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	QCST04	1717	BE	SET		020	50°49.441	127°22.510	159						TRAWL-SURFACE
10	QCST05	1817	BE	CTD		021	50°50.879	127°19.705	132				CR		T-10.6 S-31.6
		1820	BO				50°50.886	127°19.704		122					Nuts, CHL & SAL
		1823	EN				50°50.890	127°19.675							@ 10m
		1830	BE	NET		022	50°50.905	127°19.612	132	122					Bongo-VNH
		1850	BE	SET		023	50°51.002	127°18.067	130						TRAWL-30m
10	QCST06	1952	BE	SET		024	50°50.865	127°12.399	128						TRAWL-SURFACE
10	QCST07	2047	BE	SET		025	50°47.814	127°11.390	155						TRAWL-15m
10	QCST08	2150	BE	SET		026	50°45.994	127°16.166	203						TRAWL-SURFACE
10	QCST09	2243	BE	CTD		027	50°45.011	127°09.922	182				CR		T-10.3 S-31.6
		2246	BO				50°45.020	127°09.880		172					NUTS, CHL & SAL
		2250	EN				50°45.036	127°09.847							@ 10m
		2258	BE	NET		028	50°45.066	127°09.867	182	150					Bongo-VNH
		2315	BE	SET		029	50°44.975	127°09.955	181						TRAWL-30m

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Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER | **Year** 2014 | **Ship** W.E. RICKER | **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
11	QCST10	0041	BE	SET		030	50°42.133	127°17.600	98						TRAWL - SURFACE
= END OF DAY															
11	QCST11	1412	BE	SET		031	50°41.070	127°12.570	91						TRAWL - SURFACE
11	QCST12	1510	BE	CTD		032	50°42.606	127°06.402	184				CR	✓	T- 10.1 S-31.6
	↓	1514	BO				50°42.576	127°06.419		174					
		1517	EN				50°42.563	127°06.442							
		1526	BE	NET		033	50°42.558	127°06.539	183	150			CR		Bongo - VNH
	↓	1550	BE	SET		034	50°43.150	127°05.608	190						TRAWL - 15m
11	QCST13	1641	BE	SET		035	50°46.212	127°01.861	185						TRAWL - SURFACE
11	QCST14	1736	BE	CTD		036	50°48.022	126°59.257	110				CR		T- 9.6 S- 31.2
	↓	1738	BO				50°48.031	126°59.243		100					
		1740	EN				50°48.043	126°59.230							
		1747	BE	NET		037	50°48.047	126°59.123	109	99			CR		Bongo - VNH
	↓	1806	BE	SET		038	50°47.400	126°58.140	114						TRAWL - 30m

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Notes: _____

QCST12- Bottom depth originally recorded as 192, depth changed to 183 during deployment - as such CTD went to max depth 174

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Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2014 **Ship** W E Ricker **Cruise ID** 2014-666

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	QCST15	1919	BE	SET		039	50°44.947	126°52.742	162						TRAWL - SURFACE
11	QCST16	2035	BE	SET		040	50°42.064	127°01.625	152						TRAWL - 15m
11	QCST17	2130	BE	SET		041	50°42.111	126°55.055	198						TRAWL - SURFACE
11	QCST18	2225	BE	CTD		042	50°40.790	126°48.428	164				CR		T- 10.1 S-31.7
	↓	2228	BO				50°40.753	126°48.427		154					
		2231	EN				50°40.713	126°48.394							
		2239	BE	NET		043	50°40.597	126°48.341	164	150					BONGO
		2300	BE	SET		044	50°40.855	126°47.809	167						TRAWL - 30m
= END OF DAY															
12	SOG23	1631	BE	CTD		045	50°20.806	125°25.482	316				CR		T: 10.1 S: 29.9
		1636	BO				50°20.797	125°25.646		250					NUTS, CHL & SAL @ 10m
		1641	EN				50°20.803	125°25.781							
		1650	BE	NET		046	50°20.781	125°25.846	336	150					BONGO
	— NO SET —														
	[13-15 OCT TO PBS FOR MAINTENANCE DAY & CREW CHANGE.]														

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Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 16 April 2010

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2014 **Ship** W.E. RICKER **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
16	JF01	1404	BE	CTD		047	48°17.401	123°39.839	165				MT	✓	T:10.4 S:31.3
	↓	1408	BO				48°17.404	123°39.823		155					
		1412	EN				48°17.420	123°39.760							
		1422	BE	NET		048	48°17.525	123°39.682	163	150					BONGO
	↓	1444	BE	SET		049	48°17.90	123°40.00	161						TRAWL-SURFACE
16	JF02	1608	BE	SET		050	48°28.38	123° 51.71	129						TRAWL-15m
16	JF03	1741	BE	CTD		051	48°23826	124°04.825	104				MT		T:9.7 S:31.9
	↓	1743	BO				48°23.362	124°04.793		94					
		1745	EN				48°23.347	124°04.736							
		1753	BE	NET		052	48°23.293	124°04.532	103	93					BONGO
	↓	1810	BE	SET		053	48°23.49	124°05.40	102						TRAWL-SURFACE
16	JF04	—	BE	SET		054	CANCELLED DUE TO PRESENCE OF WHALES.								~~TRAWL~~

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WaterProperties.ca
Version: 16 April 2010

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2014 **Ship** W.E. RICKER **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
16	JF05	2001	BE	CTD		055	48°28.331	124° 20.426	70				MT		T: — S: —
	↓	2002	BO				48°28.332	124°20.422		60					
		2003	EN				48°28.331	124°20.414							
		2010	BE	NET		056	48°28.337	124°20.416	66	56					BONGO
	↓	2025	BE	SET		057	48°27.72	124°21.52	83						TRAWL - 15m
16	JF06	2150	BE	SET		058	48°31.06	124°31.05	128						TRAWL - SURFACE
= END OF DAY															
17	IV101	1412	BE	CTD		059	48°54.634	125°12.173	95						T: 13.2 S: 29.9
	↓	1414	BO				48°54.655	125°12.168		85					
		1416	EN				48°54.666	125°12.167							
		1425	BE	NET		060	48°54.725	125°12.207	95	85					BONGO
	↓	1451	BE	SET		061	48° 55.25	125° 11.93		TOW AT SURFACE					TRAWL
17	IV102	16:03	BE	SET		062	48 56.45	125° 10.93		TOW AT 15m					TRAWL
17	IV103	17:00	BE	SET		063	48 55.36	125° 11.84		TOW AT 30m					TRAWL

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2014 **Ship** W.E. RICKER **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
17	IVI04	1739	BE	SET		064	48 56.21	125 11.19		TOW	AT 45m.				TRAWL
17	IVI05	1856	BE	SET		065	48 55.43	125.11.77		TOW	AT 60m.				TRAWL
	↓	1959	BE	CTD		066	48°55.621	125°11.557	98						T:13.2 S:28.5
		2001	BO				48°55.627	125°11.548		88					
		2003	EN				48°55.624	125°11.553							
	↓	2011	BE	NET		067	48°55.583	125°11.421	99	89					BONGO
17	IVI06	2046	BE	CTD		068	48°57.331	125°06.546	91						T:13.5 S:29.4
	↓	2048	BO				48°57.322	125°06.524		81					
		2050	EN				48°57.306	125°06.497							
		2058	BE	NET		069	48°57.214	125°06.426	87	77					BONGO
	↓	21 17	BE	SET		070	48 57.06	125° 07.24		TOW	AT SURFACE				TRAWL
17	IVI07	23:01	BE	SET		071	48 56.55	125° 07.96		TOW	AT 15m				TRAWL

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Notes: _____

IVI05: Fire drill between Set & CTD.

IVI06: Hydraulic leak in net drum needed to be fixed before set could be done.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month OCTOBER **Year** 2014 **Ship** WE RICKER **Cruise ID** 201466

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
18	IVI08	00 45	BE	Set		072	48 56 91	125 07. 48			TOW AT 30m				TRAWL
	↓	0122	BE	ctd		073	48°56.166	125°08.700'	94	75					T:12.9 S:30.4
		0124	BO				48°56'.168	125°08.663		84					
		0126	EN				48°56.162	125°08.618							
	V	0133	BE	NET		074	48°56.120	125°08.458	92	82					BONGO
= END OF DAY															
	[STEERING PUMP BREAKDOWN: 18 - 21 OCTOBER, 2014]														
22	IVI09	1657	BE	CTD		075	48° 52.99	125° 5. 92	143						T 13.5 S 28.0
		1659	BO				52.98	5. 98		133					
		1703	EN				52.96	6.04							
22	IVI09	1717	BO	NET		076	48° 52.89	125° 6.35	145	135					BONGO
	IVI04	17:36		SET		077	48 52.61	125 7.33			TOW AT SURFACE.				
	IVI10	18:56		SET		078	48 51.42	125 8.05			TOW AT 6m				
	IVI11	19:48		SET		079	48 52.06	125 7.35			TOW AT 30m				
22	IVI12	2024	BE	CTD		080	48° 51.09	125° 9.06	111	101					T=14.1 C=29.9
		2026	BO			~~080~~	51.06	9.06							Messenger Sent @ 15m
		2031	EN				51.02	9.08							
	IVI12	2040	BO	NET		081	48° 50.982	125° 9.130	111	101					

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Notes:

IVI12 21:13 SET 48 51.13 125 8.44 TOW AT 45m
IVI13 21:43 SET 48 51.45 125 8.02 TOW AT 60m

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2014 **Ship** Richter **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
22	IVI 14	2300	BE	CTD		082	48° 51.25	125° 14.35	87				ER		T=14.5 S=29.6
	↓	2302	BO				51.26	14.34		77					
	↓	2304	EN				51.27	14.34							
22	IVI 14	2309	BO	NET		083	48° 51.257	125° 14.320	87	77					Bongo
	IVI 14	2332	BE	SET		084	48 51.87	125 13.34			Tow at surface				
	END OF DAY														
23	EP07	1441	BE	CTD		085	49° 8.69	126° 58.82	403						
		1446	BO				8.72	58.79		250					
		1452	EN				8.76	58.80							
	EP07	1505	BO	NET		086	49° 8.890	126° 58.856	400	150					
	"	1526	BE	SET		087	49° 9.33	126° 57.74			Tow at 15m				
23	EP06	1619	BE	CTD		088	49° 10.44	126° 53.59	177						
	↓	1623	BO				10.47	53.50		167					
	↓	1627	EN				10.52	53.47							
	EP06	1637	BO	NET		089	49° 10.599	126° 53.320	175	150	Tow at		Jon		
	"	1657	BE	SET		090	49 11.03	126° 52.03							
23	EP05	1745	BE	CTD		091	49° 12.39	126° 48.86	138						Sat at surface while
	↓	1752	BO				12.39	48.86		132					Idid a visual
	↓	1756	EN				12.42	48.85							Check on CTD ER

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: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2014 **Ship** W.E. Ricker **Cruise ID** 2014-06

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	EPØ5	1810	BO	NET		092	49° 12.490	126° 48.792	137	127					
23	EPØ5	1859	BE	SET	BE	093	49 13.00	126 47.91			TOW AT	15m			
23	EPØ4	1950		CTD		094	49° 14.91	126° 45.48	123						
		1953					14.91	45.47		113					
		1956					14.91	45.48							
23	EPØ4	2007	BO	NET		095	49° 14.913	126° 45.500	122	112					
23	EPØ4	2025	BE	SET		096	49° 15.38	126° 44.57			TOW AT	15m.			
23	EPØ3	2114	BE	CTD		097	49° 16.64	126° 42.20	118						
		2116	BO				16.63	42.23		111					
		2120	EN				16.63	42.27							
23	EPØ3	2132	BO	NET		098	49° 16.605	126° 42.461	116	106					
23	EPØ3	2152	BE	SET		099	49 16.49	126 41.53			TOW AT	15m.			
23	EPØ2	2253	BE	CTD		100	49° 18.93	126° 37.45	93						
	↓	2255	BO				18.95	37.49		85					
		2258	EN				18.98	37.53							
		2311	BO	NET		101	49° 19.056	126° 37.746	92	82					
	↓	2328	BE	SET		102	49 19.32	126° 36.69			TOW AT	15m			

Cast Type:
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NET = Plankton Net Haul
DRF = Drifter
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Bottle Firing Method:
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Time Code:
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Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2014 **Ship** **Cruise ID**

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
24	EPØ1	0051	BE	CTD		103	49° 20.40	126° 32.83	45						
	↓	0051	BO				20.40	32.83		37					
	↓	0053	EN				20.41	32.86							
24	EPØ1	0102	BO	NET		104	49° 20.391	126° 32.921	46	36					
24	VI01	1405	BE	CTD		105	49° 32.59	127° 8.72	136						
	↓	1408	BO				32.59	8.72		126					
	↓	1411	EN				32.64	8.74							
	VIØ1	1422	BO	NET		106	49° 32.760	127° 8.907	136	126					
	VIØ1	1443	BE	SET		107	49° 33.07	127 7.79		Tow at 15m					
	VI02	1544	BE	CTD		108	49° 35.67	127° 2.89	107						
	↓	1547	BO				35.71	2.89		102					
	↓	1549	EN				35.72	2.92							
	VIØ2	1558	BO	NET		109	49° 35.902	127° 2.942	107	97					
	VIØ2	1616	BE	SET		110	49° 36.49	127 1.85		Tow at 15m					
	VIØ3	1710	BE	CTD		111	49° 38.67	126° 57.04	44						
	↓	1710	BO				38.70	57.05		37					
		1712	EN				38.71	57.05							
	VI03	1719	BO	NET		112	49° 38.796	126° 57.110	44	34					

Cast Type:
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CTD = CTD without Rosette
ROS = Rosette plus CTD
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USW = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
____ = _____

Bottle Firing Method:
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DN = Down / No stop

Time Code:
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BO = Bottom Time of Cast
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MR = Messenger Release Time
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2014 **Ship** W.E. Ricker **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
24	VI03	1736	BE	SET	/	113	49 39.39	126 58.18		Tow	AT SURFACE				
~~24~~	~~VI04~~			~~SET~~		~~114~~									?
24	VI05[4]	1947	BE	CTD		115	49° 49.93	127° 19.88	76						
	↓	1948	BO				49.95	19.87		69					
	↓	1951	EN				49.99	19.85							
24	VI05[4]	1959	BO	NET		116	49° 50.096	127° 19.782	76	67					
24	VI05[4]	2016	BE	SET		117	49 50.79	127 20.171		Tow AT 15m					
24	VI06[5]	2132	BE	CTD		118	49 55.27	127° 29.87	68						
	↓	2133	BO				55.27	29.87		61					
	↓	2135	EN				55.31	29.86							
	VI06[5]	2147	BO	NET		119	49° 55.454	127° 29.831	67	57					
	11	2203	BE	SET		120	49 56.00	127 30.75		Tow AT 5m.					
24	VI07[6]	2318	BE	CTD		121	49° 59.94	127° 40.70	89						
	↓	2320	BO				59.95	40.73		82					
	↓	2322	EN				59.96	40.78							
	↓	2331	BO	NET		122	50° 00.012	127° 41.009	90	80					
	↓	2350	BE	SET		123	50 00.03	127 41.70		Tow AT 15m.					

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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

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

Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month Oct **Year** 2014 **Ship** Richter **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
25	VI087	1410	BE	CTD		124	50° 12.53	128° 2.14	88						
		1412	BO				12.54	2.14		82					
		1415	EN				12.59	2.15							
		1422	BO	NET		125	50°12.678	128° 2.169	70	60					
		1440	BE	SET		126	50 13.47	128° 2.71		TOW AT 15m					
25	VI098	1549	BE	CTD		127	50° 18.61	128° 5.40	96						
	↓	1551	BO				18.62	5.41		90					
		1554	EN				18.63	5.41							
		1602	BO	NET		128	50° 18.635	128° 5.353	96	86					
	↓	1625	BE	SET		129	50 19.66	128 6.25		TOW AT 15m					
25	VI109	1735	BE	CTD		130	50° 24.72	128° 7.38	78						
	↓	1736	BO				24.73	7.38		69					
		1739	EN				24.75	7.36							
		1747	BO	NET		131	50° 24.805	128° 7.286	72	62					
	↓	1802		SET		132	50 24.97	128 8.47		TOW AT 15m					
25	IVI15	2026	BE	CTD		133	50° 29.11	127° 51.79	180						
	↓	2029	BO				29.10	51.83		172					
		2033	EN				29.10	51.86							
	↓	2044	BO	NET		134	29.042	51.874	182	150					

Cast Type:
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ROS = Rosette plus CTD
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NET = Plankton Net Haul
DRF = Drifter
____ = _____

Bottle Firing Method:
US = Up / Stop
UN = Up / No stop
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Time Code:
BE = Beginning Time of Cast
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EN = End Time of Cast
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RE = Recover Mooring Time

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

Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month Oct **Year** 2014 **Ship** Ricker **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
25	IVI15	2103		SET		135	50 28.86	127 50.82		TOW AT SURFACE					
	IVI16		BE	CTD											didn't happen
			BO												
			EN												
			BO	NET											
		2158		SET		136	50 23.54	127 49 37.		TOW AT 15m					
	IVI19	2259		SET		137	50 29.02	127 51.23		TOW AT 30m					
	IVI18	2338		SET		138	50 28.78	127 50.18		TOW AT 45m					
26	IVI19	0039	BE	CTD		139	50° 28.42	127° 49.37	124						CTD
		0042	BO				28.42	49.37		116					
		0044	EN				28.41	49.39							
		0053	BO	NET		140	50° 28.427	127° 49.472	121	111					Bongo
	END OF DAY														
26	TØ8	1408	BE	CTD		141	50° 42.79	129° 29.06	1000+						
		1413	BO				42.79	29.15		252					
		1419	EN				42.78	29.28							
		1432	BO	NET		142	50° 42.816	129° 29.120	1000+	150					
		1452		SET		143	50° 43.21	129 27.97		TOW AT 15m					

Cast Type:
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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
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Time Code:
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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

Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 16 April 2010

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month Oct **Year** 2014 **Ship** Ricker **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
26	T07	1636	BE	CTD		144	50°49.55	129° 14.08	103						
	↓	1638	BO				49.58	14.14		95					
		1641	EN				49.63	14.24	105	95					
		1652	BO	NET		145	50° 49.804	129° 14.508							
		1711	BE	SET		146	50 50.55	129 14.06	Tow AT 15m.						
26	T06	1855	BE	CTD		147	50°56.10	129° 0.00	61						
	↓	1856	BO				56.10	0.01		54					
		1858	EN				56.09	0.01							
		1908	BO	NET		148	50°56.047	129° 0.00	61	51					
		1924	BE	SET		149	50 56.42	128 59.32	Tow	AT	15m.				
26	T05	2029	BE	CTD		150	50°59.96	128° 51.71	61						
		2030	BO				59.95	51.71		53					
		2032	EN				59.96	51.73							
		2041	BO	NET		151	50° 59.954	128° 51.678	63	53					
		2057	BE	SET		152	51 00.46	128 51.22	Tow	AT	15m				

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NET = Plankton Net Haul
DRF = Drifter
____ = _____

Bottle Firing Method:
US = Up / Stop
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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

Notes:

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

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month Oct **Year** 2014 **Ship** Richter **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information: Latitude	Positional Information: Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
26	TØ4	2210	BE	CTD		153	51° 4.36	128° 43.93	63						
	↓	2212	BO				4.34	43.97		56					
		2215	EN				4.33	43.99							
		2222	BO	NET		154	51° 4.242	128° 44.146	63	53					
	↓	2238		SET		155	51 4.51	128 43.72		Tow	at 15m				
26	TØ3	2356	BE	CTD		156	51° 8.38	128° 36.03	140						
		2358	BO				8.35	36.06		130					
27		0001	EN				8.32	36.10		Tow	at 15m.				
		0012	BO	NET		157	51° 8.268	128° 36.180	138	128					
		0101	BE	SET		158	51 8.75	128 36.82							
	END OF DAY														
27	IBCØ1	1404	BE	CTD		159	52° 6.34	127° 54.65	369						
		1410	BO				6.37	54.67							
		1416	EN				6.40	54.67							
		1426	BO	NET		160	52° 6.474	127° 54.688	369	150					
		1504	BE	SET		161	52 6.49	127 54.6		Tow	at SURFACE				

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Bottle Firing Method:
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Time Code:
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MR = Messenger Release Time
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Notes:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2014 **Ship** Ricker **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
27	IBC02	1516	BE	SET		162	51 57.56	127 56.29		Tow at 15m.					
	IBC03	1723	BE	CTD		163	51° 52.71	127° 57.86	301						
	↓	1728	BO				52.71	57.86		250					
		1733	EN				52.70	57.85							
		1741	BO	NET		164	51° 52.690	127° 57.864	301	150					
	↓	1800	BE	SET			51 52.01	127 57.29		Tow at 30m.					
27	IBC04	1926	BE	SET		165	51 46.33	127 57.11		Tow at surface					
27	IBC05	2051		SET		166	51 40.36	127 56.65		Tow at 15m					
27	IBC06	2155	BE	CTD		167	51° 36.04	127° 52.33	183						
	↓	2159	BO				36.01	52.33		175					
		2103	EN				35.98	52.33							
		2213	BO	NET		168	51° 35.75	127° 52.465	183	150					
	↓	22:54	BE	SET		169	51 35.18	127 51.76		Tow at surface					
27	IBC07	24 40	BE	SET		170	51 30.38	127 49.32		Tow at 15m.					

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SET = Fish Set
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DRF = Drifter
___ = _____

Bottle Firing Method:
US = Up / Stop
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Time Code:
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2014 **Ship** Ricker **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
28	RI01	1403	BE	CTD		171	51° 40.62	127° 17.94	160						
		1407	BO				40.63	17.87	[redacted]	153					
		1411	EN				40.63	17.79							
		1421	BO	NET		172	51° 40.64	127° 17.60	161	150					
		15:07	BE	SET		173	51 40.6	127 18,12	TOW AT SURFACE						
28	RI02	1606	BE	CTD		174	51°38.90	127° 26.63	296						
		1611	BO				38.92	26.61		251					
		1616	EN				38.92	26.55							
		1628	BE	SET		175	51 38.55	127 27.66	TOW AT 15m.						
28	RI03	1723	BE	CTD		176	51° 36.01	127° 32.20							
		1728	BO				35.99	32.19							
		1733	EN				35.99	32.19							
		1744	BO	NET		177	51° 35.962	127° 32.317							
		1801	BE	SET		178	52 51.35	127 32.34	TOW AT SURFACE						
28	RI04	1902	BE	CTD		179	51° 31.21	127° 33.92	325						
		1907	BO				31.19	33.94		250					
		1912	EN				31.17	33.97							

Cast Type:
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Time Code:
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Transmissometer to be cleaned before each cast, do not use Ammonia products

Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2014 **Ship** Richter **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Positional Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
28	RIØ4	1931		SET	180	180	51 30.29	127 34.37		Tow	AT 15m.				
28	RIØ5	2030	BE	CTD	181	181	51° 26.26	127° 38.33	327						
		2035	BO				26.29	38.36		250					
		2040	EN				26.31	38.39							
		2049	BO	NET	182	182	51° 26.349	127 38.449	327	150					
		2139	BE	SET	183	183	51 26.28	127 39.71		Tow AT SURFACE.					
					END OF DAY										
29	QCST19	1402	BE	CTD	184	184	51° 3.31	127° 47.78	113						
		1404					3.31	47.79		106					
		1407					3.29	47.81							
		1417		NET	185	185	51° 3.250	127° 47.841	114	104					
		1452		SET	186	186	51 2.49	127 48.57		Tow AT SURFACE.					
29	QCST20	1538	BE	CTD	187	187	50°59.33	127° 50.62	140						
		1542	BO				59.32	50.59		132					
		1547	EN				59.33	50.58							
		1556	BO	NET	188	188	50° 59.823	127° 50.568	140	130					
		1613		SET	189	189	50 58.73	127 49.48		Tow AT	15nm				

Cast Type:
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ROS = Rosette plus CTD
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EN = End Time of Cast
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RE = Recover Mooring Time

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

Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2014 ~~6~~ **Ship** Richter **Cruise ID** 2014-66

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
29	QCST21	1727		CTD		190	50° 54.71	127° 38.73	395						
	↓	1732					54.68	38.69		250					
		1738					54.68	38.64							
		1746		NET		191	50° 54.622	127° 38.434	395	150					
	↓	1804		SET		192	50 53 89	127 36,90		TOW	AT 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
BO = Bottom Time of Cast
EN = End Time of Cast
DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

Notes: _____

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