DAILY SCIENCE LOG BOOK

MISSION NUMBER 2015-15

DATE: From: 23 JUNE 2015 to: 20 JULY 2015

VESSEL: W.E. RICKER

PROJECT(S): STRAIT OF GEORGIA JUV SALMON

HIGH SEAS SALMON

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

WaterProperties.ca

Captain: Simon Dockerill First Officer: Peter Sloan
Second Officer: Doug Murdoch Third Officer: n/a
Fishing Master: Brian West

Mission Participants / Agencies: DFO / NOAA (Strait of Georgia Juv Salmon)

Scientific Personnel: Chief Scientist: Chrys Neville (23JUN-02JUL)

Name	Watch	Cabin	Name	Watch	Cabin
Carol Cooper			Bryan Recalma		
Meredith Journey			Mitch		
Mary Thiess			Cameron Freshwater		
Lenora Turcotte					
Kelsey Flynn					
Svetlana Esenkulova					
Claire Rycroft					

Second leg of Mission: Chief Scientist: Mary Thiess (03-07JUL)

Name	Watch	Cabin	Name	Watch	Cabin
Carol Cooper			Bryan Recalma		
Svetlana Esenkulova			Cameron Freshwater		
Meredith Journey			Peter van Buren		
Heather Brown					
Lenora Turcotte					
Claire Rycroft					

Data logging computer: WP10
Data acquisition program: Seasave V7.21d
CTD deck unit make: SBE model: 11 serial number: 0424
Confile: Ricker 585 June 22-2015.xmlcon

Primary CTD
Make: SBE model: 911+ serial number: 585
Primary temperature serial number: 4752
Primary conductivity serial number: 3396
Secondary temperature serial number: 2449
Secondary conductivity serial number: 2399
Transmissometer: — Model: — s/n: —
Fluorometer: Model Seapoint Cable gain: 3x 0-50µg/L s/n: 3685 **P**, **S** or **NO** pump?
Oxygen sensor: Model: SBE 43 s/n: 1119 **P**, **S** or **NO** pump?
PAR sensor: Model: s/n:
Other sensors: pH s/n: 0851 **P**, **S** or **NO** pump?
Other sensors: DO 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
N/a
Make: model: serial number:
Primary temperature serial number:
Primary conductivity serial number:
Secondary temperature serial number:
Secondary conductivity serial number:
Transmissometer: Model: s/n:
Fluorometer: Model Cable gain: s/n: **P**, **S** or **NO** pump?
Oxygen sensor: Model: s/n: **P**, **S** or **NO** pump?
PAR sensor: Model: s/n:
Other sensors: s/n: **P**, **S** or **NO** pump?
Other sensors: s/n: **P**, **S** or **NO** pump?
Other sensors: s/n: **P**, **S** or **NO** pump?
Other sensors: s/n: **P**, **S** or **NO** pump?

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

Rosette Setup:
Number of bottles: ____________
Manufacturer: ____________
Volume of bottles (litres): ____________

Winches:
1. Make: ________ Model: ________ Serial #: ____ Used for: ____________
2. Make: ________ Model: ________ Serial #: ____ Used for: ____________
3. Make: ________ Model: ________ Serial #: ____ Used for: ____________

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Salinometer:
Make: ____________ Model: ________ Serial Number: ________

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Oxygen Kit(s):
Make: ____________ Model: ________ Kit Number: ________
Make: ____________ Model: ________ Kit Number: ________

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Thermosalinograph System (SBE21):
Program: ____________ Version: ________
Sampling interval (seconds): ________
Fluorometer sensor serial number: ________

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

ADCP Setup:
Computer time zone: ________ User Exits: Name: ________ Exit points: ________
Sampling interval (sec): ________ Name: ________ Exit points: ________
Bin Length: (2^x): ________ Name: ________ Exit points: ________
Pulse Length: ________ Work File: ________
Buffer (bytes): ________
Gyro Offset: ________

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

CTD Test Cast Information

Test Cast along side? Yes No
Comments ____________

Test Cast in Saanich Inlet or other location? Yes No
Comments ____________

CTD pressure reading on deck (db), before cast: ________ after cast: ________

Pumps working? Yes (0011) No (0010) missing cable on day1

Secondary Temp – Primary Temp: ________
(Average from the mixed region)

Secondary Salinity – Primary Salinity: ________
(Average from the mixed region)

Additional Comments:

Captain: ____________ First Officer: ____________
Second Officer: ____________ Third Officer: ____________
Fishing Master: ____________

Mission Participants / Agencies: DFO / LLTK / UW (08-09 JUL)

THIRD LEG
Scientific Personnel: Chief Scientist: Mary Thiess

Name	Watch	Cabin	Name	Watch	Cabin
Iris Kemp LLTK			Dayv Lowry (WDFW)		
~~Neala Kendall~~			Adam Hansen (UW)		
Megsie Siple (UW)			Bryan Recalma		
Meredith Journey					
Lenora Turcotte					

FOURTH
~~Second~~ leg of Mission: Chief Scientist: John Morris (10-20 JUL)

Name	Watch	Cabin	Name	Watch	Cabin
Lana Fitzpatrick			Yeongha Jung		
Brooke Davis			Hugh Maclean		
Midoli Bresch			Jim Irvine		
Carolyn Knapper			Dylan Conover		
Kelsey Flynn					

Data logging computer: ____________
Data acquisition program: ____________
CTD deck unit make: ____________ model: ____________ serial number: ____________

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

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

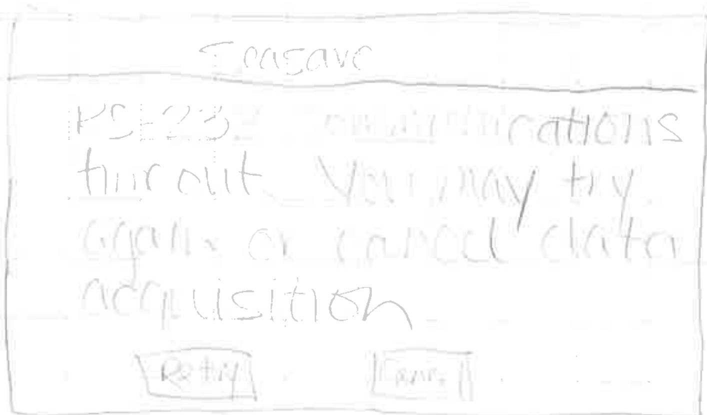
CTD calibration bottle location (height above CTD in metres): ____________

- Fish samples collected on the Strait of Georgia portion of the survey will be labelled with Neville cruise number 2015-06.

- DB25 to DB9 cable missing from CTD deck unit (no pump for first 2 casts of the survey).

- CTD procedure:
  - in water, at surface, turn pump on
  - down to 10m and back to surface
  - wait ~60sec
  - start archiving
  - complete cast
  - stop at 15m on upcast to take Nisken sample (@ ~10m) for phytoplankton sample
  - back to surface, pump off, stop archiving

TSG Error:



26JUN2015 9:35AM PDT
... in TCP-Com, maxed out buffer size (default was 8192) ⇒ changed to 67108864

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JUNE **Year** 2015 **Ship** W.E. RICKER **Cruise ID** 2015-15

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	Set 1	1325	BE	SET		001	49°10.52	123°36.90	289						TRAWL - Surface
		1427	BE	CTD		002	49°12.344	123°40.243	368				MT	n/a	T:13.7 S:27.3 BOT@10m for phyto
		1433	BO				49°12.330	123°40.180		250					
		1439	EN				49°12.330	123°40.132							
		1456		NET		003	49°12.347	123°40.060	370	150					BONGO - VNH
24	Set2	1518	BE	SET		004	49°12.51	123°41.61	371						TRAWL - 15m
24	Set 3	1618	BE	SET		005	49°14.269	123°47.485	286						TRAWL - Surface
24	Set 4	1722	BE	SET		006	49°15.52	123°47.82	412						TRAWL - 30m
		1818	BE	CTD		007	49°18.096	123°46.236	283				MT	n/a	T:16.2 S:25.6 BOT@10m for phyto
		1823	BO				49°18.126	123°46.196		250					
		1828	EN				49°18.136	123°46.139							
		1839	BE	NET		008	49°18.213	123°46.042	251	150					BONGO - VNH
	[Lunch & fire/boat drill]														
24	Set 5	1900	BE	SET		009	49°19.28	123°45.51	335						TRAWL - 15m
24	Set6	2117	BE	SET		010	49°23.05	123°45.32	138						TRAWL - 60m

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 & Fluorometer are to be cleaned before each cast

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 7 July 2014

Set 1 "PUMP ON" command not functional → CTD has no pump? (In any case, pump not on for this cast.)
Niskin bottle @ 10m for phyto plankton sample

< Scott Rose assistance >
- Configure Inputs → Pump Control → Select "Enable pump on/pump off commands.
- Changed Com Port to Com 3 (Configure inputs → Serial Ports)

Set 4 "PUMP ON" command received by Seasave, but pump status does not change. Deck unit indicates pump is still off.

<Scott Rose/Seabird assistance >
- DB25-DB9 cable missing (why???) to connect "Modem Channel" on deck unit to PC Com port.
- Found spare cable. All appears to be working now.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month JUNE	Year 2015	Ship W.E. RICKER	Cruise ID 2015-15

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
24	Set 7	2216	BE	SET		011	49°26.216	123°47.101	178						TRAWL-Surface
	[SAR call]														
25	Set 8	0042	BE	SET		012	49°26.85	123°54.94	225						TRAWL-15m
25	↓	0157	BE	CTD		013	49°27.360	123°59.719	197				MT	n/a	T: 18.2 S: 22.6
		0200	BO				49°27.382	123°59.786		187					BOT@10m for phyto
		0205	EN				49°27.403	123°59.848							
25	↓	0137	BE	NET		014	49°27.270	123°59.386	202	150					BONGO-VNH
= END OF DAY															
25	Set 9	1310	BE	SET		015	49°27.69	124°02.632	88						TRAWL-Surface
	↓	1438	BE	CTD		016	49°29.251	124°02.554	140				MT	n/a	T: 17.8 S: 23.6
		1440	BO				49°29.250	124°02.556		130					BOT@10m for phyto
		1444	EN				49°29.251	124°02.554							
	↓	1454	BE	NET		017	49°29.256	124°02.559	139	129					BONGO-VNH
25	Set 10	1517		SET		018	49°30.82	124°04.90	220						TRAWL-Surface
25	Set 11	1617		SET		019	49°35.797	124°06.238	270						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

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 & Fluorometer are to be cleaned before each cast

Set 8 Due to ship crew time constraints, bongo completed before CTD → consecutive numbers not changed
CTD pump working fine.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JUNE | **Year** 2015 | **Ship** WE RICKER | **Cruise ID** 2015-15

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
25	Set 12	1717	BE	SET		020	49°38.57	124°11.666	210						TRAWL - 15m
	↓	1807	BE	CTD		021	49°39.676	124°15.511	349				MT	n/a	T: 18.2 S: 23.6
		1811	BO				49°39.682	124°15.524		250					BOT@10m for phyto
		1817	EN				49°39.682	124°15.504							
		1825	BE	NET		022	49°39.689	124°15.511	350	150					BONGO-VNH
25	Set 13	1844	BE	SET		023	49°40.20	124°16.57	356						TRAWL-Surface
25	Set 14	1943	BE	SET		024	49°43.82	124°20.17	291						TRAWL - 45m
	<NET REPAIRS>														
25	Set 15	2106	BE	SET		025	49°43.79	124°24.26	181						TRAWL-Surface
25	Set 16	2206	BE	SET		026	49°45.88	124°31.49	247						TRAWL-15m
25	Set 17	2308	BE	SET		027	49°48.36	124°33.15	212						TRAWL -30m

Cast Type:
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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
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MR = Messenger Release Time
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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ________________

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JUNE | **Year** 2015 | **Ship** W.E. RICKER | **Cruise ID** 2015-15

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	Set 18	2351	BE	SET		028	49°49.77	124°34.88	268						TRAWL - 15m
26	↓	0122	BE	CTD		029	49°49.978	124°34.891	261				MT	n/a	T: 18.6 S: 24.5
		0127	BO				49°50.006	124°34.842		250					BOT @ 10m for phyto
		0132	EN				49°50.045	124°34.818							
26	↓	0102	BE	NET		030	49°49.959	124°34.987	262	250					BONGO - VNH
= END OF DAY															
26	Set 19	1310	BE	SET		031	49°47.611	124°39.890	112						TRAWL - Surface
	↓	1403	BE	CTD		032	49°44.796	124°42.475	359				MT	n/a	T: 17.8 S: 25.4
		1408	BO				49°44.795	124°42.506		250					BOT @ 10m for phyto
		1413	EN				49°44.792	124°42.550							
	↓	1425	BE	NET		033	49°44.772	124°42.656	359	250					BONGO - VNH
26	Set 20	1448		SET		034	49°44.22	124°43.84	357						TRAWL - 30m
26	Set 21	1544		SET		035	49°42.33	124°48.09	117						TRAWL - 15m
26	Set 22	1650		SET		036	49°40.212	124°50.864	57						TRAWL - Surface
26	Set 23	1737		SET		037	49°36.96	124°46.86	76						TRAWL - 30m

continued

Cast Type:
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- ____ = ____________

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 & Fluorometer are to be cleaned before each cast

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 7 July 2014

This page is for any notes or observations

Set 18: Bongo completed before CTD → consecutive numbers not changed.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month JUNE | **Year** 2015 | **Ship** W.E. RICKER | **Cruise ID** 2015-15

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	Set 23	1831	BE	CTD		038	49°35.082	124°45.164	70				MT	n/a	T: 17.6 S: 26.9
		1832	BO				49°35.084	124°45.170		65					BOT @ 10 m for phyto
		1835	EN				49°35.088	124°45.185							
		1843	BE	NET		039	49°35.083	124°45.216	71	65					BONGO - VNH
26	Set 24	19⁰⁰	BE	SET		040	49°35.74	124°44.27	101						TRAWL - 15m
26	Set 25	1952	BE	SET		041	49°38.82	124°41.11	103						TRAWL - Surface
26	Set 26	2046	BE	SET		042	49°41.49	124°37.04	368						TRAWL - Surface
26	Set 27	2150	BE	SET		043	49°38.434	124°30.815	329						TRAWL - 45m
26	Set 28	2250	BE	SET		044	49°35.592	124°25.922	348						TRAWL - 15m
		2341	BE	CTD		045	49°33.996	124°22.685	356				MT	n/a	T: 18.8 S: 25.4
		2345	BO				49°34.004	124°22.723		250					BOT @ 10m for phyto
		2350	EN				49°34.000	124°22.756							
27		0002	BE	NET		046	49°33.993	124°22.799	356	250					BONGO - VNH

= END OF DAY

Cast Type:
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Bottle Firing Method:
- US = Up / Stop
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Time Code:
- BE = Beginning Time of Cast
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- MR = Messenger Release Time
- RE = Recover Mooring Time

Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ____________________

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JUNE	Year 2015	Ship W.E. RICKER	Cruise ID 2015-15

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
27	Set 29	1316	BE	SET		047	49°43.611	124°49.581	101						TRAWL - Surface
	↓	1402	BE	CTD		048	49°46.025	124°49.774	207 → shallowing up				MT	n/a	T: 17.8 S: 25.8
		1405	BO				49°46.012	124°49.816		~~200~~	195				BOT @ 10m for phyto
		1411	EN				49°46.020	124°49.877							
		1419	BE	NET		049	49°45.974	124°49.979	197	187					BONGO - VNH
27	Set 30	1511	BE	SET		050	49°47.89	124°42.64	211						TRAWL - 15m
27	Set 31	1607	BE	SET		051	49°49.97	124°47.21	157						TRAWL - Surface
27	Set 32	1701	BE	SET		052	49°49.34	124°50.28	340						TRAWL - 45m
27	Set 33	1757	BE	SET		053	49°46.24	124°52.21	118						TRAWL - 15m
27	Set 34	1917	BE	SET		054	49°48.60	124°57.06	77						TRAWL - 30m
27	Set 35	2012	BE	SET		055	49°51.28	124°59.42	200						TRAWL - Surface

Cast Type:
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Bottle Firing Method:
US = Up / Stop
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Time Code:
BE = Beginning Time of Cast
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DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month | **Year** 2015 | **Ship** W.E. RICKER | **Cruise ID** 2015-15

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	Set 36	2109	BE	CTD		056	49°54.176	124°54.271	238				MT	n/a	T:173 S:26.6
		2114	BO				49°54.172	124°54.277		230					BOT @ 10m for phyto
		2119	EN				49°54.163	124°54.271							
27		2129	BE	NET		057	49°54.741	124°54.549	239	229					BONGO-VNH
27		2156	BE	SET		058	49°54.158	124°54.237	244						TRAWL-15m
27	Set 37	2252	BE	SET		059	49°57.431	124°57.942	152						TRAWL-Surface
27	Set 38	2349	BE	SET		060	49°59.043	125°02 868							TRAWL-30m
28		0113	BE	CTD		061	49°57.696	125°06.256	192				SE	n/a	T:16.4 S:27.2
		0116	BO				49°57.672	125°06.295		185					BOT @ 10m for phyto
		0121	EN				49°57.666	125°06.310							
28		0132	BE	NET		062	49°57.650	125°06.361	195	185					BONGO-VNH
=END OF DAY															
28	Set 39	1311	BE	SET		063	50°00.70	125°07.21	203						TRAWL-Surface
		1402	BE	CTD		064	50°03.836	125°08.453	235				MT	n/a	T:184 S:24.9
		1407	BO				50°03.835	125°08.464		230					BOT @ 10m for phyto
		1412	EN				50°03.835	125°08.468							
		1423	BE	NET		065	50°03.843	125°08.489	237	227					BONGO-VNH

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 & Fluorometer are to be cleaned before each cast

Notes: ____________________

This page is for any notes or observations

Set 36 CTD/bongo closer to start of Set 36 than end of Set 35. Labelled accordingly.

Set 39 BOT sample not taken.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JUNE | **Year** 2015 | **Ship** W.E. RICKER | **Cruise ID** 2015-15

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	Set 40	1445	BE	SET		066	50°04.71	125°08.30	226						TRAWL - 15m
28	Set 41	1536	BE	SET		067	50°07.09	125°07.57	200						TRAWL - Surface
28	Set 42	1636	BE	SET		068	50°09.454	125°01.967	330						TRAWL - Surface
28	Set 43	1719	BE	SET		069	50°11.73	125°00.19	157→517						TRAWL - Surface
28	↓	1805	BE	CTD		070	50°13.290	125°01.548	483				MT	n/a	T: 18.4 S: 21.3
		1810	BO				50°13.280	125°01.560		250					BOT @ 10m for phyto
		1815	EN				50°13.292	125°01.562							
28	↓	1825	BE	NET		071	50°13.277	125°01.590	478	250					BONGO - VNH
28	Set 44	1908	BE	SET		072	50°16.40	125°01.24	411						TRAWL - Surface
28	Set 45	1958	BE	SET		073	50°18.7	125°05.50	346						TRAWL - 15m
	[NET TROUBLE]														
28	Set 46	2113	BE	SET		074	50°25.88	125°04.56	659						TRAWL - Surface
	⇓ CONTINUED														

Cast Type:
BOT = Bottle cast, no CTD
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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 JUNE | **Year** 2015 | **Ship** W.E. RICKER | **Cruise ID** 2015-15

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	Set46	2218	BE	CTD		075	50°29.644	125°03.601	652				MT	n/a	T:16.4 S:7.7
	↓	2223	BO				50°29.630	125°03.610		250					BOT@10m for phyto
		2228	EN				50°29.633	125°03.613							
28	↓	2239	BE	NET		076	50°29.683	125°03.620	657	250					BONGO-VNH
28	Set47	2300	BE	SET		077	50°30.2	125°02.58	657						TRAWL-Surface
= END OF DAY															
29	Set48	1308	BE	SET		078	50°16.921	124°57.863	510						TRAWL-Surface
29		1349	BE	CTD		079	50°18.654	124°57.084	512				MT	n/a	T:18.6 S:22.2
		1354	BO				50°18.624	124°57.072		250					
		1359	EN				50°18.608	124°57.034							
29	↓	1409	BE	NET		080	50°18.576	124°56.943	516	250					BONGO-VNH
29	Set49	1434	BE	SET		081	50°19.41	124°57.00	320						TRAWL-15m
29	Set50	1530	BE	SET		082	50°17.96	124°48.85	510						TRAWL-Surface
29	Set51	1625	BE	SET		083	50°18.092	124°40.921	660						TRAWL-15m

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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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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ________________

Set 46 Bute Inlet

TSG ran from ~ 1315 (UTC) to ~1920 (UTC) before timing out. Unsure why?!

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month JUNE	Year 2015	Ship W.E. RICKER	Cruise ID 2015-15

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
29	Set52	1716	BE	SET		084	50°14.00	124°37.76	732						TRAWL-Surface
29		1756	BE	CTD		085	50°11.940	124°38.244	726				MT	n/a	T: 17.9 S: 24.3
		1801	BO				50°11.946	124°38.243		250					BOT@10m for phyto
		1806	EN				50°11.947	124°38.258							
29		1818	BE	NET		086	50°11.931	124°38.283	712						BONGO-VNH
29	Set53	1905	BE	SET		087	50°09.92	124°40.87	648						TRAWL-Surface
		1945	BE	CTD		088	50°08.950	124°44.424	574				MT	n/a	T: 18.2 S: 24.7
		1950	BO				50°08.947	124°44.485		250					BOT@10m for phyto
		1954	EN				50°08.940	124°44.527							
29	Set54	2007	BE	SET		089	50°08.19	124°45.86	502						TRAWL-15m
29	Set55	2111	BE	SET		090	50°05.67	124°45.278	383						TRAWL-Surface
29	Set56	2212	BE	SET		091	50°02.525	124°52.806	142						TRAWL-Surface
29	Set57	2359	BE	SET		092	49°59.35	124°51.30	267						TRAWL-Surface
	Continued														

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Bottle Firing Method:
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Notes: ________

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Transmissometer & Fluorometer are to be cleaned before each cast

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 7 July 2014

This page is for any notes or observations

<u>Set 52</u>: pH buffer bottle not removed for this cast... oops!

<u>Set 55</u>: Live harbour seal released from net.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JUNE	Year 2015	Ship W.E. RICKER	Cruise ID 2015-15

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
30	Set57	0125	BE	CTD		093	49°58.519	125°04.808	272				MT	n/a	T:18.3 S:26.3
	↓	0130	BO				49°58.536	125°04.880		250					BOT@10m for phyto
		0135	EN				49°58.559	125°04.898							
	↓	0150	BE	NET		094	49°58.362	125°04.720	275	250					BONGO-VNH
= END OF DAY															
30	Set58	1317	BE	SET		095	50°27.99	126°03.368	265						TRAWL-Surface
30		1354	BE	CTD		096	50°28.433	126°07.830	306				MT	n/a	T:10.24 S:31.0
	↓	1359	BO				50°28.452	126°08.054		250					BOT@10m for phyto
		1405	EN				50°28.463	126°08.306							
30	↓	1421	BE	NET		097	50°28.497	126°09.104	311	250					BONGO-VNH
30	Set59	1502	BE	SET		098	50°27.37	126°05.48	275						TRAWL-Surface
30	Set60	1730	BE	SET		099	50°22.04	125°44.26	114						TRAWL-Surface
	↓	1805	BE	CTD		100	50°22.169	125°41.845	234				MT	n/a	T:10.8 S:30.1
		1810	BO				50°22.157	125°41.830		224					BOT@10m for phyto
		1815	EN				50°22.152	125°41.779							
	↓	1826	BE	NET		101	50°22.140	125°41.684	236	226					BONGO-VNH

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

Time Code:
BE = Beginning Time of Cast
BO = Bottom Time of Cast
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Notes: ____________

Transmissometer & Fluorometer are to be cleaned before each cast

Produced by the Water Properties Group, IOS

Set 57: This CTD/bongo is not located near the associated fish set, in time or place. Strong current — issues with wire angle for both CTD & bongo.

Set 58: Johnstone Strait — very strong current

Set 60 Johnstone Strait - very strong current

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month JUNE / JULY	**Year** 2015	**Ship** W.E. RICKER	**Cruise ID** 2015-15

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
JUNE 30	Set61	1911	BE	SET		102	50°22.54	125°37.79	264						TRAWL-Surface
30	Set62	2100	BE	SET		103	50°23.49	125°20.42	174						TRAWL-Surface
30	↓	2139	BE	CTD		104	50°22.314	125°21.470	207				MT	n/a	T: 11.0 S: 29.6
		2142	BO				50°22.333	125°21.443		200					BOT@10m for phyto
		2147	EN				50°22.333	125°21.404							
30	↓	2157	BE	NET		105	50°22.318	125°21.400	205	195					BONGO-VNH
= END OF	DAY														
JULY 01	Set63	1311	BE	SET		106	49°34.45	124°24.93	340→	132					TRAWL-Surface
01	↓	1401	BE	CTD		107	49°31.050	124° 25.850	138				MT	n/a	T: 17.1 S: 27.3
		1404	BO				49°31.002	124°25.834		132					BOT@10m for phyto
		1409	EN				49°30.995	124°25.818							
01	↓	1415	BE	NET		108	49°30.884	124°25.864	138	128					BONGO-VNH
01	Set64	1435	BE	SET		109	49°30.98	124°27.73	197						TRAWL -30m
01	Set65	1538	BE	SET		110	49°29.02	124°33.62	137						TRAWL -15m
01	Set 66	1634	BE	SET		111	49°26.316	124° 36.182	106						TRAWL -15m

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Time Code:
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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ______

Produced by the Water Properties Group, IOS

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Version: 7 July 2014

This page is for any notes or observations

Sat 62
Nodales Inlet

Happy Canada Day!!

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY	Year 2015	Ship W.E. RICKER	Cruise ID 2015-15

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
01	Set 67	1732	BE	SET		112	49°26.17	124°35.67	111						TRAWL-Surface
01		1828	BE	CTD		113	49°24.980	124°32.970	136				MT	n/a	T:19.4 S:25.9
		1831	BO				49°24.978	124°32.963		130					BOT@10m for ph
		1834	EN				49°24.986	124°32.963							
01		1851	BE	NET		114	49°25.083	124°32.942	138	128					BONGO-VNH
01	Set 68	1923	BE	SET		115	49°23.80	124°31.23	104						TRAWL-Surface
01	Set 69	2014	BE	SET		116	49°23.01	124°25.49	155						TRAWL-60m
01	Set 70	2102	BE	SET		117	49°24.31	124°21.57	345						TRAWL-15m
01	Set 71	2203	BE	SET		118	49°25.296	124°15.0	270						TRAWL-Surface
01	Set 72	2302	BE	SET		119	49°23.257	124°12,915	331						TRAWL-45m
02		0016	BE	CTD		120	49°21.542	124°13.454	314				MT	n/a	T:19.7 S:26.1
		0021	BO				49°21.505	124°13.445		250					BOT@10m for phyto
		0026	EN				49°21.478	124°13.458							
02		0002	BE	NET		121	49°21.707	124°13.745	309	250					BONGO-VNH

END OF DAY

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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ______________________________

This page is for any notes or observations

Set 72 Bongo completed before CTD, consecutive numbers not changed

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY | **Year** 2015 | **Ship** W.E. RICKER | **Cruise ID** 2015-15

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
02	Set73	1311	BE	SET		122	49°20.659	124°13.482	254						TRAWL-Surface
02		1402	BE	CTD		123	49°23.122	124°09.690	332				MT	n/a	T: 17.8 S: 26.6
		1407	BO				49°23.112	124°09.649		250					BOT@10m for phyto
		1412	EN				49°23.099	124°09.638							
02		1423	BE	NET		124	49°23.083	124°09.580	328	250					BONGO-VNH
02	Set74	1447	BE	SET		125	49°23.84	124°09.51	285						TRAWL-30m
02	Set75	1544	BE	SET		126	49°25.80	124°05.45	370						TRAWL-15m
02	Set76	1657	BE	SET		127	49°25.138	124°01.492	407						TRAWL-45m
02	Set77	1758	BE	SET		128	49°24.27	123°56.15	303						TRAWL-Surface
02		1900	BE	CTD		129	49°21.276	123°53.018	423				MT	n/a	T: 15.1 S: 27.1
		1905	BO				49°21.194	123°53.059		250					BOT@10m for phyto
		1910	EN				49°21.121	123°53.984							
02		1922	BE	NET		130	49°20.923	123°53.934	376	250					BONGO-VNH
02	Set78	1951	BE	SET		131	49°21.04	123°51.52	403						TRAWL-Surface

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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ______________________________

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY **Year** 2015 **Ship** W.E. RICKER **Cruise ID** 2015-15

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
02	Set 79	2053	BE	SET		132	49°19.65	123°57.49	410						TRAWL-30m
02	Set 80	2151	BE	SET		133	49°15.9	123°57.95	271						TRAWL-15m
02		2246	BE	CTD		134	49°14.347	123°54.241	257						T:18.6 S:26.4
		2251	BO				49°14.346	123°54.277		247					BOT@10m for phyto
		2256	EN				49°14.338	123°54.311							
02		2306	BE	NET		135	49°14.394	123°54.195	258	248					BONGO-VNH
END OF DAY															
03	Set 81	1320	BE	SET		136	49°10.77	123°37.28	295						TRAWL-Surface
03		1414	BE	CTD		137	49°13.298	123°36.136	382				SE	n/a	T:15.9 S:26.6
		1420	BO				49°13.272	123°36.143		247					BOT@10m for phyto
		1427	EN				49°13.276	123°36.174							
03		1441	BE	NET		138	49°13.271	123°36.173	382	250					BONGO-VNH
03	SET 82	1510	BE	SET		139	49°15.24	123°36.06	372						TRAWL-60m
03	SET 83	1611	BE	SET		140	49°19.71	123°36.58	205						TRAWL-Surface
03	SET 84	1712	BE	SET		141	49°23.721	123°38.248	154						TRAWL-15m

CONTINUED

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Notes: ____________________

Produced by the Water Properties Group, IOS

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY | **Year** 2015 | **Ship** W.E. RICKER | **Cruise ID** 2015-15

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
03	SET84	1819	BE	NET		142	49°22.481	123°35.069	167	157					BONGO-VNH
03	↓	1845	BE	CTD		143	49°22.735	123°35.226	163				SE	n/a	T:14.4 S:26.3
		1848	BO				49°22.721	123°35.290		153					BOT @ 10m phyto
	↓	1851	EN				49°22.014	123°35.273							
03	SET85	1929	BE	SET		144	49°22.86	123°27.38	143						TRAWL-Surface
03	SET86	2043	BE	SET		145	49°25.28	123°26.29	103						TRAWL-15m
03	SET87	2211	BE	SET		146	49°25.79	123°20.74	250						TRAWL-Surface
03	SET88	2257	BE	SET		147	49°29.12	123°16.89	201						TRAWL-15m
03	SET89	2346	BE	SET		148	49°33.85	123°15.46	223						TRAWL-Surface
04	↓	0054	BE	NET		149	49°34.967	123°14.869	287	250					BONGO-VNH
04		0112	BE	CTD		150	49°34.883	123°14.892	287				SE	n/a	T:12.5 S:27.3
		0116	BO				49°34.064	123°14.862		250					BOT @ 10m phyto
	↓	0122	EN				49°34.870	123°14.804							
END OF DAY															

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Notes: ____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY | **Year** 2015 | **Ship** W.E. RICKER | **Cruise ID** 2015-15

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	SET90	1338	BE	SET		151	49°02.06	123°16.64	110						TRAWL - Surface
04	↓	1426	BE	CTD		152	49°3.204	123°18.460	122				SE/LT	n/a	T:16.01 S:21.3
		1430	BO				49°3.184	123°18.486		110					BOT@10m for phyto
		1433	EN				49°3.170	123°18.512							
04	↓	1444	BE	NET		153	49°03.166	123°18.628	130	120					BONGO-VNH
04	SET 91	1524	BE	SET		154	49°07.59	123°19.45	113						TRAWL -15m
04	SET92	1626	BE	SET		155	49°11.524	123°18.776	127						TRAWL - Surface
04	SET93	1744	BE	SET		156	49°16.52	123°18.18	75						TRAWL - 15m
	↓	1820	BE	NET		157	49°17.603	123°17.220	72	62					BONGO- VNH
		1837	BE	CTD		158	49°17.603	123°17.358	74				SE/LT	n/a	T:16.6 S:23.8
		1840	BO				49°17.596	123°17.388		64					BOT@10m for phyto
	↓	1843	EN				49°17.587	123°17.431							
04	Set 94	1927	BE	Set		159	49°21.54	123°19.57	233						TRAWL - 30m
04	Set 95	2008	BE	Set		160	49°24.39	123°17.76	241						TRAWL - 15m

Cast Type:
- BOT = Bottle cast, no CTD
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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
- DN = Down / No stop

Time Code:
- BE = Beginning Time of Cast
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- MR = Messenger Release Time
- RE = Recover Mooring Time

Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ________________

Training Lenora T

Training Lenora T

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY **Year** 2015 **Ship** W.E. RICKER **Cruise ID** 2015-15

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
04	Set96	2115	BE	Set		161	49°20.53	123°20.31	238						TRAWL-surface
04	Set97	2224	BE	Set		162	49°17.67	123 24.02	246						TRAWL 2.5m
04	↓	23:19	BE	CTD		163	49 15.251	123 25.350	234				LT/SE	n/a	T:16.553 S:24.5
		23:25	BO				49 15.259	123 25.350		224					BOT @ 10m for phyto
		23:29	En				49 15.259	123 .25350							
04	↓	2339	BE	Net		164	49°15.338	123°25.597	231	221					BONGO-VNH
= END OF DAY															
05	SET98	1325	BE	SET		165	49° 54.91	123° 13.2	141						TRAWL-surface
05	↓	1422	BE	CTD		166	49° 51.940	123° 10.747	158				SE	n/a	T:17.1 S:25.5
		1425	BO				49°51.942	123° 10.739		148					BOT@10m for phyto
		1429	EN				49°51.914	123° 10.777							
05	↓	1440	BE	NET		167	49° 51.802	123° 10.830	159	149					BONGO-VNH
05	SET99	1500	BE	SET		168	48°50.84	123° 10.39	211						TRAWL 45m
05	SET100	1606	BE	SET		169	48°49.483	123°04.676	194						TRAWL-15m

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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: Set 98 CTD (event 166) started archiving data right after turned the pump on. data will have go to 10m and back + waiting for ~60seconds

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY | **Year** 2015 | **Ship** W.E. RICKER | **Cruise ID** 2015-15

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
05	SET101	1711	BE	SET		170	48°52.355	123°07.051	142						TRAWL-30m
05	SET102	1835	BE	SET		171	48°54.53	123°19.32	98						TRAWL-surface
05	SET103	2150	BE	SET		172	48°58.699	123°22.888	145						TRAWL-30m
05	SET104	2245	BE	SET		173	49°03.44	123°31.20	286						TRAWL-surface
05	↓	2326	BE	CTD		174	49°5.728	123°32.959	259				SE/PV	n/a	T: 1864 S: 240
		2331	BO				49°5.760	123°33.026		249					BOT@10 [illegible]
		2337	EN				49°5.777	123°33.098							
05	↓	2350	BE	NET		175	49°05.938	123°33.222	260	250					BONGO-VNH
06	SET105	0016	BE	SET		176	49°08.28	123°33.35	359						TRAWL-60m
06	SET106	0118	BE	SET		177	49°13.61	123°30.25	332						TRAWL-15m
06	SET107	0205	BE	SET		178	49°17.31	123°28.66	175						TRAWL-surface

= END OF DAY

Cast Type:
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Bottle Firing Method:
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- UN = Up / No stop
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Time Code:
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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ____________________

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This page is for any notes or observations

training Peter V.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY	Year 2015	Ship W.E. RICKER	Cruise ID 2015-15

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
06	SET108	1332	BE	SET		179	49°14.25	123°25.345	253						TRAWL-Surface
06	SET109	1438	BE	SET		180	49°09.75	123°26.08	258						TRAWL-15m
	↓	1530	BE	CTD		181	49°7.458	123°27.115	301				SE	n/a	T:18.3S:20.1
		1536	BO				49°7.482	123°27.193		250					BOT@10m phyto
06		1542	EN				49°7.511	123°27.223							
		1554	BE	NET		182	49°07.623	123°27.326	300	250					BONGO-VNH
06	SET110	1627	BE	SET		183	49°04.98	123°26.97	315						TRAWL-45m
06	SET111	1730	BE	SET		184	49°00.21	123°26.86	238						TRAWL-30m
06	SET112	1825	BE	SET		185	48°57.00	123°26.20	93						TRAWL-Surface
	↓	1935	BE	NET		186	48°55.338	123°21.629	155	145					BONGO-VNH
		1947	BE	CTD		187	48°55.363	123°21.568	152				SE	n/a	T:17.5S:26.0
		1950	BO				48°55.364	123°21.520		140					BOT@10m phyto
		1953	EN				48°55.324	123°21.458							
06	SET113	2149	BE	SET		188	49°03.387	123°43.995							TRAWL-Surface

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Notes: ______________________________

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY | **Year** 2015 | **Ship** W.E. RICKER | **Cruise ID** 2015-15

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
06	SET114	2239	BE	SET		189	49°01.97	123°44.08	97						TRAWL - 15m
06	SET115	2327	BE	SET		190	49°57.84	123°43.48	228						TRAWL - surface
07		0025	BE	CTD		191	48°56.640	123°42.097	92				SE	n/a	T:12.8 S:26.04
		0027	BO				48°56.646	123°42.085		82					BOT@10m phyto
		0030	EN				48°56.653	123°42.068							
07		0037	BE	NET		192	48°56.674	123°42.043	92	82					BONGO - VNH
END OF DAY															
[ENGINE REPAIR ISSUES — NO SAMPLING JULY 7 — TIED UP AT PAT BAY]															
08	Set116	1310	BE	SET		193	48°42.674	123°28.146	81						TRAWL - surface
08	Set117	1411	BE	SET		194	48°44.63	123°35.46	63						TRAWL - Surface
08		1442	BE	CTD		195	48°43.894	123°33.340	60				MT	n/a	T:15.5 S:28.3
		1444	BO				48°43.891	123°33.352		50					BOT @ 10m for phyto
		1446	EN				48°43.890	123°33.362							
08			BE	NET		196									BONGO - VNH

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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ______________________________

This page is for any notes or observations

Set 116 Cowichan Bay / Satellite Channel.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY	Year 2015	Ship W.E. RICKER	Cruise ID 2015-15

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information Latitude	Information Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
08	Set118	1512	BE	SET		197	48°44.68	123°33.44	89						TRAWL-Surface
08	Set119	1550	BE	SET		198	48°44.34	123°33.29	135						TRAWL-15m
[TRAVEL TO PUGET SOUND]															
08	Set120	2343	BE	SET		199	47°59.77	122°38.97	78						TRAWL-Surface
09	Set121	0108	BE	SET		200	47°52.67	122°29.74	143						TRAWL-15m
09		0145	BE	CTD		201	47°50.750	122°29.437	110				MT	n/a	T:15.4 S:29.2
		0147	BO				47°50.740	122°29.470		100					
		0149	EN				47°50.728	122°29.496							
END OF DAY															
09	Set122	1317	BE	SET		202	47°33.82	122°25.38	114						TRAWL-Surface
09		1355	BE	CTD		203	47°32.164	122°24.638	~~184~~	177			MT	n/a	T:12.8 S:29.7
		1359	BO				47°32.152	122°24.557		~~175~~ 172					
		1402	EN				47°32.137	122°24.526							

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Bottle Firing Method:
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Notes: ______________________________

Time Code:
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Transmissometer & Fluorometer are to be cleaned before each cast

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Set 121: Note, no bongos in Puget Sound. No phyto samples collected either

DAILY SCIENCE LOG Ocean Sciences Division, Institute of Ocean Sciences

Month JULY **Year** 2015 **Ship** W.E. RICKER **Cruise ID** 2015-15

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
09	Set123	1418	BE	SET		204	47°30.15	122°24.18	188						TRAWL-15m
09	Set124	1511	BE	SET		205	47°25.95	122°22.23	179						TRAWL-30m
09	Set125	1601	BE	SET		206	47°21.89	122°21.48	180						TRAWL-Surface
09		1641	BE	CTD		207	47°20.299	122°24.072	158				MT	n/a	T:16.1 S:29.3
		1643	BO				47°20.285	122°24.108		150					
		1647	EN				47°20.275	122°24.137							
09	Set 126	1711		SET		208	47°22.26	122°24.24	146						TRAWL-Surface
09	Set 127	1911		SET		209	47°23.92	122°32.31	119						TRAWL-Surface
09	Set128	2003		SET		210	47°28.61	122°30.88	103						TRAWL-15m
09	Set129	2144		SET		211	47°42.150	122°25.949	198						TRAWL-Surface
09	Set130	2229		SET		212	47°45.59	122°24.95	198						TRAWL-30m

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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ____________________

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY **Year** 2015 **Ship** W.E. RICKER **Cruise ID** 2015-15

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
09	Set 131	2342	BE	SET		213	47°53.47	122°27.56	165						TRAWL – 15m
10	↓	0017	BE	CTD		214	47°55.476	122°28.104	115				MT	n/a	T: 14.8 S: 29.0
		0019	BO				47°55.490	122°28.092		105					
	↓	0021	EN				47°55.501	122°28.087							
= END OF DAY – END OF LEG 2/3.															
== START OF HIGH SEAS/WCVI LEG ==															
10	JF01	1858	BE	CTD		215	48° 17.35	123° 36.59	177				H.M.		T: 10.48 S: 31.35
		1901	BO				48° 17.35	123° 36.55		160					BOT @ 10m
		1904	EN				48° 17.33	123° 36.49							
		1915	BE	NET		216	48° 17.33	123° 36.40							BONGO
		2024	BE	TRAWL		217	48 12.96	123 38.312		TOW AT SURFACE.					TRAWL
10	JF02	2147	BE	CTD		218	48° 20.20	123° 50.99	134						T: 11.01 S: 31.37
		2150	BO				48° 20.17	123° 51.04		125					BOT @ 10m
		2152	EN				48° 20.16	123° 51.08							
		2202	BE	NET		219	48 20.13	123° 51.11							BONGO
		2220	BE	TRAWL		220	48 20.44	123 52.77		TOW AT 15m					TRAWL

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Notes: ____________________

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY **Year** 2015 **Ship** W.E. RICKER **Cruise ID** 2015-15

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
10	JF03	2334	BE	CTD		221	48° 23.32	124° 02.98	~~6~~55			1	H.M.		T: 10.34 S: 31.98
		2335	BO				48° 23.32	124° 03.04		45					BOT @ 10 m
		2336	EN				48° 23.33	124° 03.09							
		2342	BE	NET		222	48° 23.35	124° 03.23							BONGO
		2359	BE	TRAWL		223	48 23.68	124° 04.66			SURFACE TOW				TRAWL
11	VI 01 / LB02	1332	BE	CTD		224	48° 39.03	125° 02.59	52			1			T: 11.74 S: 31.61
		1333	BO				48° 39.06	125° 02.65		40					BOT @ 5 m (IAN PERRY)
		1336	EN				48° 39.10	125° 02 72							DUEL STATION - LUGOLS
		1352	BE	NET		225	48° 39.17	125° 02.83							BONGO
		14:00	BE	TRAWL		226	48° 38.54	125° 04.26			SURFACE TOW				TRAWL
11	VI 02	1508	BE	CTD		227	48° 34.36	125° 11. 33	100			1			T: 13.55 S: 32.17
		1510	BO				48° 34.42	125° 11. 33		90					BOT @ 10 m
		1513	EN				48° 34.45	125° 11. 33							
		1521	BE	NET		228	48° 34.51	125° 11. 34							BONGO
		1540	BE	TRAWL		229	48 33.85	125° 12.71			15 m TOW				TRAWL

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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ____________________

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DAILY SCIENCE LOG BOOK

MISSION NUMBER 2015-15

DATE: From: JULY 10 to: JULY 20

VESSEL: W.E. RICKER

PROJECT(S): HIGH SEAS SALMON LEG 3

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

WaterProperties.ca

Captain: SIMON DOCHERTILL First Officer: PETER SLOAN
Second Officer: DOUG MURDOCH Third Officer: N/A
Fishing Master: BRIA WEST

Mission Participants / Agencies: PBS / IOS / PSF / UBC

Scientific Personnel: Chief Scientist: JOHN MORRIS

Name	Watch	Cabin	Name	Watch	Cabin

Second leg of Mission: Chief Scientist:

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: WP10
Data acquisition program: SEASAVE V7.21D
CTD deck unit make: SBE model: 11 serial number: 0424
CONFILE = RICKER 585 JUNE 22-2015 XMLCON

Primary CTD
Make: SBE model: 911+ serial number: 585
Primary temperature serial number: 4752
Primary conductivity serial number: 3396
Secondary temperature serial number: 2449
Secondary conductivity serial number: 2391
Transmissometer: Model: s/n:
Fluorometer: Model SEAPOINT Cable gain: 3x0-50 ug/L s/n: 3685 **P**, **S** or **NO** pump?
Oxygen sensor: SBE Model: 43 s/n: 1119 **P**, **S** or **NO** pump?
PAR sensor: Model: s/n:
Other sensors: PH s/n: 0851 **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?
Other sensors: s/n: **P**, **S** or **NO** pump?
Other sensors: s/n: **P**, **S** or **NO** pump?

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

DAILY SCIENCE LOG Ocean Sciences Division, Institute of Ocean Sciences

Month JULY **Year** 2015 **Ship** W.E. RICKER **Cruise ID** 2015-15

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	VI 03	1650	BE	CTD		230	48° 29.84	125° 19.96	149			1	H.M.		T: 14.51 S: 32.20
		1653	BO				48° 29.86	125° 19.94		140					BOT@10m
		1656	EN				48° 29.88	125° 19.93							
		1705	BE	NET		231	48° 29.92	125° 19.91							BONGO
		1726	BE	TRAWL		232	48 29.52	125 21.17		SURFACE TOW.					TRAWL
11	VI04/LB08	1839	BE	CTD		233	48° 25.24	125° 28.58	130			1			T: 13.07 S: 32.18
		1842	BO				48° 25.25	125° 28.51		120					BOT @ 5 m
		1844	EN				48° 25.26	125° 28.47						*	IAN PERRY STA.
		1852	BE	NET		234	48° 25.33	125° 28 37							BONGO
		1910	BE	TRAWL		235	48° 25.70	125° 28.96		TOW AT 30m					TRAWL
11	VI 05	2040	BE	CTD		236	48° 29.98	125° 38.12	102			1			T: 12.41 S: 31.84
		2042	BO				48° 29.96	125° 38.04		95					BOT@10m
		2044	EN				48° 29.95	125° 37.99							
		2052	BE	NET		237	48° 29.94	125° 37.95							BONGO
		2111	BE	TRAWL		238	48 30.288	125 38.836		TOW AT SURFACE					TRAWL

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

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 & Fluorometer are to be cleaned before each cast

Notes:

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY	Year 2015	Ship W.C. RICKER	Cruise ID 2015-15

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
11	VI 06/LC06	2312	BE	CTD		239	48° 36.40	125° 54.10	93			1	H.M		T:13.37 S: 31.67
		2314	BO				48° 36.35	125° 54.14		80					BOT @ 5m
		2316	EN				48° 36.35	125° 54.15						*	IAN PERRY STATION LC06
		2323	BE	NET		240	48° 36.34	125° 54.25							BONGO
		2340	BE	TRAWL		241	48 36.92	125 53.56	90	75	TOW AT	15m			TRAWL
12	VI 07	0056	BE	CTD		242	48° 41.42	125° 44.48	144			1			T:11.70 S:32.32
		0059	BO				48° 41.40	125° 44.45		130					BOT @ 10m
		0102	EN				48° 41.39	125° 44.43							
		0110	BE	NET		243	48° 41.36	125° 44.39							BONGO
		0128	BE	TRAWL		244	48° 41.84	125 43.29	150	169	TOW AT	SURFACE			TRAWL
12	VI 08	1306	BE	CTD		245	48° 47.86	126° 30.34	266			1			T:14.47 S: 31.39
		1311	BO				48° 47.86	126° 30.30		250					BOT @ 10m
		1316	EN				48° 47.86	126° 30.28							
		1330	BE	NET		246	48° 47.88	126° 30.27							BONGO
		1353	BE	TRAWL		247	48 48.35	126 29.11			TOW AT	SURFACE			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
- BO = Bottom Time of Cast
- EN = End Time of Cast
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- MR = Messenger Release Time
- RE = Recover Mooring Time

Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ____________

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Ocean Sciences Division, Institute of Ocean Sciences

Month JULY	**Year** 2015	**Ship** W.E. RICKER	**Cruise ID** 2015-15

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
12	VI 09	1452	BE	CTD		248	48° 51.02	126° 24.96	177			1	H.M		T:14.53 S: 31.37
		1455	BO				48° 51.08	126° 24.96		165					BOT @10m
		1459	EN				48° 51.16	126° 24.97							
		1516	BE	NET		249	48° 51.08	126° 25.01							BONGO
		1539	BE	TRAWL		250	48 52.23	126 23.75		TOW	AT 15m				TRAWL
~~12~~	~~VI 10~~	~~1636~~	~~BE~~	~~CTD~~		~~251~~	~~48° 55.07~~	~~126° 19.36~~	~~144~~			~~1~~			~~T: 14.77 S: 31.60~~
		~~1639~~	~~BO~~				~~48° 55.09~~	~~126° 19.35~~		~~130~~	STATION				~~BOT@10m~~
		~~1642~~	~~EN~~				~~48° 55.12~~	~~126° 19.34~~			ABORTED				
		~~1651~~	~~BE~~	~~NET~~		~~252~~	~~48° 55.17~~	~~126° 19.37~~							~~BONGO~~
		~~1710~~	~~BE~~	~~TRAWL~~		~~253~~	— TOW	ABORTED —							~~TRAWL~~
							SHIP BROKEN - INTO PORT ALBERNI								
14	EP01	1314	BE	CTD		254	49° 19.52	126° 31.49	57			1			T:13.81 S: 31.55
		1316	BO				49° 19.52	126° 31.50		50					BOT@10m
		1317	EN				49° 19.50	126° 31.50							
		1324	BE	NET		255	49° 19.47	126° 31.50							BONGO
		1344	BE	TRAWL		256	49 19.335	126 32.619		TOW	AT SURFACE				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
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Time Code:
BE = Beginning Time of Cast
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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ____________

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This page is for any notes or observations

VI10 – MAJOR HYDRAULIC LEAK, REQUIRES DRAINING THE HYDRAULIC SYSTEM INTO TANKS ON DOCK TO MAKE REPAIRS
SHIP HEADED TO PORT ALBERNI. SHIPYARD.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY **Year** 2015 **Ship** W.E. RICKER **Cruise ID** 2015-15

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
14	EP02/LG02	1436	BE	CTD		257	49° 18.75	126° 38.25	98			1	H.M		T: 13.48 S: 31.45
		1438	BO				49° 18.76	126° 38.27		90				*	BOT @ 5m
		1440	EN				49° 18.77	126° 38.28							1Am PERRY STA.
		1448	BE	NET		258	49° 18.74	126° 38.25							BONGO
		1506	BE	TRAWL		259	49 18.17	126 39.37			TOW AT	15m			TRAWL
14	EP 03	1553	BE	CTD		260	49° 16.71	126° 42.25	120			1			T: 12.99 S: 31.51
		1556	BO				49° 16.72	126° 42.28		110					BOT @ 10m
		1558	EN				49° 16.72	126° 42.29							
		1606	BE	NET		261	49° 16.72	126° 42.33							BONGO
		1625	BE	TRAWL		262	49 16.17	126 43.24			TOW AT SURFACE				TRAWL
14	EP 04	1712	BE	CTD		263	49° 13.76	126° 46.66	130			1			T: 12.12 S: 31.87
		1715	BO				49° 13.78	126° 46.73		120					BOT @ 10m
		1717	EN				49° 13.77	126° 46.75							
		1725	BE	NET		264	49° 13.78	126° 46.78							BONGO
		1744	BE	TRAWL		265	49 14.53	126 47.56			TOW AT	30m			TRAWL

Cast Type:
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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:
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BO = Bottom Time of Cast
EN = End Time of Cast
DE = Deployment Time
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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ____________________

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Month July | **Year** 2015 | **Ship** W.E. Ricker | **Cruise ID** 2015-15

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
14	VI 10	1909	BE	CTD		266	49° 22.80	126° 49.00	113			1	HM.		T: 14.02 S: 31.55
		1912	BO				49° 22.84	126° 49.02		100					BOT@10m
		1914	EN				49° 22.86	126° 49.05							
		1921	BE	NET		267	49° 22.87	126° 49.06							BONGO
		1939	BE	TRAWL		268	49 23.84	126 48.95		TOW AT SURFACE					TRAWL
14	VI 11	2047	BE	CTD		269	49° 30.10	126° 48.70	64			1			T: 14.79 S: 31.52
		2048	BO				49° 30.08	126° 48.72		55					BOT@10m
		2050	EN				49° 30.08	126° 48.74							
		2056	BE	NET		270	49° 30.06	126° 48.78							BONGO
		2114	BE	TRAWL		271	49 30.52	126 50.44		TOW AT SURFACE					TRAWL
14	VI 12	2221	BE	CTD		272	49° 35.10	126° 55.63	66			1			T: 14.87 S: 31.53
		2222	BO				49° 35.11	126° 55.68		55					BOT@10m
		2224	EN				49° 35.12	126° 55.71							
		2230	BE	NET		273	49° 35.12	126° 55.74							BONGO
		2243	BE	TRAWL		274	49 35.98	126 56.66		TOW AT SURFACE					TRAWL

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

Time Code:
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EN = End Time of Cast
DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ____________________

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY		Year 2015	Ship W.E. RICKER	Cruise ID 2015-15

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
15	VI 13	0026	BE	CTD		275	49° 43.44	127° 01.37	57			1	H.M.		T: 14.99 S: 31.51
		0028	BO				49° 43.44	127° 01.38		45					BOT @ 10m
		0029	EN				49° 43.43	127° 01.39							
		0035	BE	NET		276	49° 43.43	127° 01.42							BONGO
		0052	BE	TRAWL		277	49 43.831	127 02 489		TOW AT SURFACE					TRAWL
15	VI 14	1309	BE	CTD		278	49° 49.22	127° 16.37	49			1			T: 15.18 S: 31.66
		1311	BO				49° 49.22	127° 16.35		40					BOT @ 10m
		1312	EN				49° 49.22	127° 16.34							
		1318	BE	NET		279	49° 49.18	127° 16.32							BONGO
		1335	BE	TRAWL		280	49° 49.39	127° 17.31		TOW AT SURFACE					TRAWL
15	VI 15	1441	BE	CTD		281	49° 52.12	127° 25.76	69			1			T: 14.49 S: 31.79
		1442	BO				49° 52.12	127° 25.74		60					BOT @ 10m
		1444	EN				49° 52.13	127° 25.72							
		1452	BE	NET		282	49° 52.11	127° 25.64							BONGO
		1508	BE	TRAWL		283	49° 52.60	127° 26.65		TOW AT SURFACE					TRAWL

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Bottle Firing Method:
US = Up / Stop
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Time Code:
BE = Beginning Time of Cast
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Notes: ____________________

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July	**Year** 2015	**Ship** W.E. RICKER	**Cruise ID** 2015-15

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
15	VI 16	1608	BE	CTD		284	49°54.86	127°34.29	74			1	H.M.		T: 14.67 S: 32.08
		1610	BO				49°54.86	127°34.29		65	ON BOTTOM				BOT@10m
		1614	EN				49°54.86	127°34.30			@ 63 m				
		1623	BE	NET		285	49°54.85	127°34.25							BONGO
		1639	BE	TRAWL		286	49 55.018	127°35.469		TOW	AT SURFACE				TRAWL
15	VI 17	1743	BE	CTD		287	49°57.10	127°40.88	116			1			T: 14.36 S: 31.98
		1745	BO				49°57.08	127°40.89		105					BOT@10m
		1748	EN				49°57.06	127°40.88							
		1757	BE	NET		288	49°57.00	127°40.83							BONGO
		1814	BE	TRAWL		289	49 57.63	127 41.17		TOW	AT SURFACE				TRAWL
15	VI 18	1921	BE	CTD		290	50°00.88	127°47.11	113			1			T: 14.62 S: 32.18
		1923	BO				50°00.85	127°47.16		100					BOT@ 10m
		1926	EN				50°00.83	127°47.17							
		1933	BE	NET		291	50°00.80	127°47.16							BONGO
		1949	BE	TRAWL		292	50°01.00	127°47.98	TOW	AT	SURFACE				TRAWL

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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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Notes: ________________________________

DAILY SCIENCE LOG

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Month JULY **Year** 2015 **Ship** W.E. RICKER **Cruise ID** 2015-15

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
15	VI19/LBP3	2051	BE	CTD		293	50° 03.20	127° 55.23	166			1	I.M.		T: 16.17 S: 32.05
		2055	BO				50° 03.18	127° 55.24		155				*	BOT @ 5m
		2058	EN				50° 03.17	127° 55.20							IAN PERRY STA.
		2106	BE	NET		294	50° 03.16	127° 55.11							BONGO
		2125	BE	TRAWL		295	50 03.49	127 55.84	159	133	TOW AT SURFACE				TRAWL
15	VI 20	2226	BE	CTD		296	50° 07.31	128° 00.33	119			1			T: 16.10 S: 31.99
		2228	BO				50° 07.33	128° 00.38		110					BOT @ 10m
		2231	EN				50° 07.35	128° 00.41							
		2240	BE	NET		297	50° 07.40	128° 00.47							BONGO
		2257	BE	TRAWL		298	50° 08.40	128° 06.89			Tow AT 15m				TRAWL
16	VI 21	1306	BE	CTD		299	50° 20.04	128° 05.07	88			1			T: 15.57 S: 31.95
		1308	BO				50° 20.02	128° 05.10		86					BOT @ 10m
		1310	EN				50° 20.00	128° 05.11							
		1319	BE	NET		300	50° 19.94	128° 05.12							BONGO
		1332	BE	TRAWL		301	50 18.841	128 05.116			TOW AT SURFACE				TRAWL

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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
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MR = Messenger Release Time
RE = Recover Mooring Time

Notes: ____________________

Transmissometer & Fluorometer are to be cleaned before each cast

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Month JULY	Year 2015	Ship W.E. RICKER	Cruise ID 2015-15

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
16	VI 22	1453	BE	CTD		302	50° 19.83	128° 06.18	101			1	W.M.		T: 15.35 S: 31.93
		1455	BO				50° 19.80	128° 06.20		90					BOT@10m
		1457	EN				50° 19.77	128° 06.21							
		1507	BE	NET		303	50° 19.68	128° 06.27							BONGO
		1525	BE	TRAWL		304	50 20.43	128 07.08		TOW AT	SURFACE				TRAWL
16	VI 23	1625	BE	CTD		305	50° 24.65	128° 07.24	80			1			T: 15.39 S: 31.94
		1627	BO				50° 24.65	128° 07.26		70					BOT@10m
		1629	EN				50° 24.65	128° 07.27							
		1637	BE	NET		306	50° 24.64	128° 07.27							BONGO
		1655	BE	TRAWL		307	50 24.882	128 08.676		TOW AT	SURFACE				TRAWL
16	VI 24	1756	BE	CTD		308	50° 27.24	128° 14.19	118			1			T: 15.97 S: 31.84
		1759	BO				50° 27.23	128° 14.20		110					BOT@10m
		1801	EN				50° 27.20	128° 14.19							
		1810	BE	NET		309	50° 27.16	128° 14.13							BONGO
		1840	BE	TRAWL		310	50 27.79	128 15.83		TOW	AT SURFACE				TRAWL

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Month July | **Year** 2015 | **Ship** W. E. RICKER | **Cruise ID** 2015-15

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
16	VI 25	1944	BE	CTD		311	50°30.23	128° 19. 60	122			1	H.M.		T: 16.49 S: 31.65
		1946	BO				50° 30 . 23	128° 19. 61		110					BOT@10m
		1948	EN				50° 30. 21	128° 19. 61							
		1955	BG	NET		312	50° 30 . 17	128° 19 . 57							BONGO
		2012	BG	TRAWL		313	50 30.64	128 20.07		TOW AT 15m					TRAWL
16	VI 26	2119	BE	CTD		314	50° 35. 31	128° 22. 90	89			1			T: 16.20 S: 31.58
		2121	BO				50° 35. 30	128° 22. 89		80					BOT@10m
		2123	EN				50° 35 . 29	128° 22. 88							
		21 29	BG	NET		315	50° 35. 27	128° 22. 83							BONGO
			BE	TRAWL		316	50 35.641	128 23. 217		TOW AT SURFACE					TRAWL
		2145													
16	VI27	2247	BG	CTD		317	50° 38 .06	128° 29. 12	120			1			T: 16.72 S: 31.59
		2249	BO				50° 38. 06	128° 29. 14		110					BOT@10m
		22 51	EN				50° 38. 06	128° 29. 16							
		2258	BG	NET		318	50° 38. 06	128° 29. 17							BONGO
		2316	BG	TRAWL		319	50 38. 410	128 30. 02		TOW AT SURFACE					TRAWL

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Bottle Firing Method:
US = Up / Stop
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Time Code:
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EN = End Time of Cast
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MR = Messenger Release Time
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Transmissometer & Fluorometer are to be cleaned before each cast

Notes: ______________________________

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Month July **Year** 2015 **Ship** W.E. RICKER **Cruise ID** 2015-15

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
17	V1 28	0125	BE	CTD	2ND	320	50° 40 57	128° 40 49	166			1	H.M.		T: 17.13 S: 31.56
		0128	BO				50° 40.56	128° 40.54		150					BOT@10m
		0131	EN				50° 40 55	128° 40.53							
		0140	BE	NET	3RD	321	50° 40.54	128° 40.63							BONGO
		0035	BE	TRAWL	1ST	322	50 38.915	128 37.824		TOW AT SURFACE					TRAWL
17	T 07	1303	BE	CTD		323	50° 49.41	129° 13.48	102			1			T: 13.19 S: 31.93
		1305	BO				50° 49.38	129° 13.53		90					BOT@10m
		1308	EN				50° 49.36	129° 13.57							
		1316	BE	NET		324	50° 49.30	129° 13.65							BONGO
		1340	BE	TRAWL		325	50 49.53	129 15.15		TOW AT SURFACE					TRAWL
17	T 06	1600	BE	CTD		326	50° 55.59	129° 00.43	62			1			T: 15.25 S: 31.50
		1601	BO				50° 55.60	129° 00.45		55					BOT@10m
		1603	EN				50° 55.61	129° 00.46							
		1610	BE	NET		327	50° 55.62	129° 00.41							BONGO
		1628	BE	TRAWL		328	50 56.47	128 59.49		TOW AT 15m					TRAWL

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Notes: ______

DAILY SCIENCE LOG

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Month | **Year** | **Ship** | **Cruise ID**

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
17	T05/CS06	1737	BE	CTD		329	51°00.04	128°50.05	65			1	H.M		T: 15.25 S: 31.54
		1738	BO				51°00.04	128°50.05		55				*	BOT@ 5m
		1740	EN				51°00.04	128°50.04							IAN PERRY STA
		1747	BE	NET		330	51°00.05	128°49.99							BONGO
		1803	BE	TRAWL		331	51 00.551	128 47.098	TOW	AT	SURFACE				TRAWL
17	T 04	1902	BE	CTD		332	51°04.50	128°43.95	66			1			T: 14.29 S: 31.64
		1903	BO				51°04.51	128°43.98		56					BOT@ 10m
		1905	EN				51°04.51	128°43.98							
		1918	BE	NET		333	51°04.55	128°43.98							BONGO
		1935	BE	TRAWL		334	51 05.24	128 42.62	TOW	AT	15M				TRAWL
17	T 03	2043	BE	CTD		335	51°08.38	128°36.18	143			1			T: 15.04 S: 31.34
		2046	BO				51°08.38	128°36.23		135					BOT@ 10m
		2049	EN				51°08.38	128°36.29							
		2056	BE	NET		336	51°08.40	128°36.28							BONGO
		2116	BE	TRAWL		337	51 09.24	128 35.05	TOW	AT	SURFACE				TRAWL

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month				Year				Ship				Cruise ID			
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
17	T 02	2220	BE	CTD		338	51° 12.54	128° 28.03	198			1	H.M		T: 15.60 S: 31.09
		2224	BO				51° 12.49	128° 28.07		190					BOT @ 10m
		2228	EN				51° 12.46	128° 28.11							
		2236	BE	NET		339	51° 12.43	128° 28.16							BONGO
		2258	BE	TRAWL		340	51 12.65	128 27.13		TOW AT 15M					TRAWL
18	T 01	0125	BE	CTD	2ND	341	51° 13.39	128° 17.33	85			1			T: 14.07 S: 30.84
		0127	BO				51° 13.37	128° 17.43		75					BOT @ 10m
		0129	EN				51° 13.35	128 17.49							
		—	BE	NET	3RD	342	CANCELLED DUE TO WEATHER.								BONGO
18		0033	BE	TRAWL	1ST	343	51 16.06	128 20.051		TOW AT SURFACE					TRAWL
18	QCST01	1308	BE	CTD		344	50° 51.09	127° 12.86	131			1			T: 10.24 S: 31.37
		1311	BO				50° 51.10	127° 12.87		120					BOT @ 10m
		1314	EN				50° 51.09	127° 12.92							
		1322	BE	NET		345	50° 51.11	127° 12.98							BONGO
		1340	BE	TRAWL		346	50° 50.822	127° 11.95		TOW AT SURFACE					TRAWL

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Notes: ____________________

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Ocean Sciences Division, Institute of Ocean Sciences

Month July | **Year** 2015 | **Ship** W.E. Ricker | **Cruise ID** 2015-15

Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
18	QCST02	1443	BE	CTD		347	50° 47.83	127° 11. 42	156			1	H.M		T: 11.06 S: 31.24
		1447	BO				50° 47.84	127° 11. 47		145					BOT@10m
		1450	EN				50° 47.83	127° 11. 50							
		1458	BE	NET		348	50° 47.79	127° 11 62							BONGO
		1515	BE	TRAWL		349	50 48.02	127 13. 14		Tow at 15m.					TRAWL
18	QCST03	1645	BE	CTD		350	50° 45.02	127° 09. 93	183			1			T: 11.59 S: 31.25
		1648	BO				50° 45.05	127° 09. 96		175					BOT@10m
		1652	EN				50° 45.07	127° 10. 01							
		1701	BE	NET		351	50° 45.11	127° 10. 06							BONGO
		1720	BE	TRAWL		352	50° 44.894	127° 09.227		Tow at surface.					TRAWL
18	QCST04	1913	BE	CTD	2ND	353	50° 41. 47	127° 09. 94	65			1			T: 11.08 S: 31.18
		1915	BO				50° 41. 49	127° 09. 91		55					BOT@10m
		1916	EN				50° 41. 50	127° 09. 87							
		1923	BE	NET	3RD	354	50° 41. 46	127° 09. 72							BONGO
		1825	BE	TRAWL	1ST	355	50 41. 39	127° 06. 09		Tow at surface					TRAWL

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July | **Year** 2015 | **Ship** W.E. Ricker | **Cruise ID** 2015-15

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	QCST 05	2002	BE	CTD		356	50° 41.04	127° 12.84	85			1	H.M.		T: 11.92 S: 30.98
		2004	BO				50° 41.05	127° 12.84		75					BOT @10m
		2006	EN				50° 41.05	127° 12.85							
		2011	BE	NET		357	50° 41.05	127° 12.83							BONGO
		2028	BE	TRAWL		358	50° 41.57	127° 13.38	Tow at surface.						TRAWL
18	QCST 06	2131	BE	CTD		359	50° 41.00	127° 17.03	58			1			T: 11.69 S: 30.99
		2132	BO				50° 40.99	127° 17.03		50					BOT@10m
		2133	EN				50° 40.99	127° 17.04							
		2138	BE	NET		360	50° 40.98	127° 17.03							BONGO
		2155	BE	TRAWL		361	50° 41.47	127 17.61	Tow at surface.						TRAWL
19	JS01	1305	BE	CTD		362	50° 29.04	126° 11.21	323			1			T: 10.39 S: 31.16
		1311	BO				50° 29.06	126° 11.29		250					BOT @10m
		1316	EN				50° 29.06	126° 11.33							
		1326	BE	NET		363	50° 29.05	126° 11.40							BONGO
		1345	BE	TRAWL		364	50° 29.02	126 10.76.	Tow at surface						TRAWL
19	JS02	1428	BE	TRAWL		365	50 27.80	126 08.63	Tow at surface						TRAWL

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month JULY **Year** 2015 **Ship** W.E. RICKER **Cruise ID** 2015-15

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
19	JS03	1726	BE	CTD		366	50° 21.96	125° 44.15	194			1	H.M.		T: 11.14 S: 30.23
		1730	BO				50° 21.97	125° 44.38	160↑	150					BOT@10m
		1734	EN				50° 21.98	125° 44.60							
		1752	BE	NET		367	50° 21.99	125° 44.35							BONGO
		1812	BE	TRAWL		368	50 22.03	125° 44.37			TOW AT SURFACE				TRAWL
19	JS04	1812	BE	TRAWL		369	50 21.29	125 23.69			TOW AT SURFACE				TRAWL
19	JS05	2104	BE	CTD		370	50° 24.18	125° 19.67	261			1			T: 11.75 S: 29.28
		2109	BO				50° 24.18	125° 19.72		250					BOT@10m
		2114	EN				50° 24.20	125° 19.80							
		2121	BE	NET		371	50° 24.22	125° 19.89							BONGO
		2141	BE	TRAWL		372	50 24.002	125 20.38			TOW AT SURFACE				TRAWL
19	JS06	2240	BE	CTD		373	50° 19.70	125° 25.26	279			1			T: 11.90 S: 29.69
		2245	BO				50° 19.68	125° 25.35		250					BOT@10m
		2250	EN				50° 19.65	125° 25.37							
		2258	BE	NET		374	50° 19.68	125° 25.26							BONGO
		2315	BE	TRAWL		375	50 18.40	125 25.39			TOW AT SURFACE				TRAWL

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Notes: END OF TRIP

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