

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2015-18

DATE:

From: 24 JUNE 2015 to: 29 JUNE 2015

VESSEL:

VECTOR

PROJECT(S):

STRAIT OF GEORGIA / JUAN DE FUCA
WATER PROPERTIES SURVEY

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

WaterProperties.ca

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>JUNE</u>				Year <u>2015</u>			Ship <u>VECTOR</u>				Cruise ID <u>2015-18</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
25	SI	0146	BE	ROS	US	1	48 39.17	123.30.61	181		1-10	10	PC	✓	
		0150	BO				39.13	30.62		132					
		0201	EN				39.13	30.66							
25	58	0343	BE	ROS		2	48 42.99	123 14.25	331				PC	✓	
		0350	BO				42.99	14.27		326					
		0356	EN				42.98	14.28							
25	59	0445	BE	NET		3	48 37.79	123 14.62	229				PC		Scar
		0452	BO				37.79	14.61		203					
		0455	EN				37.79	14.61							
25	59	0503	BE	ROS	US	4	48 37.78	123 14.60	230		11-24		PC	✓	CTD filament ~003.hor
		0510	BO				37.78	14.59		228		14			
		0525	EN				37.81	14.49							
25	60	0604	BE	ROS		5	48 33.89	123 17.80	292				PC	✓	
		0612	BO				33.88	12.80		289					
		0617	EN				33.88	12.83							

Cast Type:

BOT = Bottle cast, no CTD
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USW = Sea Water Loop
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 _____ =

Bottle Firing Method:

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Transmissometer & Fluorometer are to be cleaned before each cast

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Depart 16:45

- check lunch

- not lunch not served

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Month				Year			Ship			Cruise ID						
JUNE				2015			VECTOR			2015-18						
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							Latitude	Longitude								
25	61	0656	BE	ROS		6	48 29.20	123 9.27	274				PC	✓		
		0704	BO				29.27	9.27		273						
		0709	EN				29.30	9.30								
25	101	1357	BE	ROS		7	48° 25.397	124° 45.182	232				SR	✓		
		1401	BO				25.381	45.169		227						
		1406	EN				25.361	45.145								
	102	1446	BE	ROS		8	48° 30.022	124° 44.01	258		25-38		SR	✓	HPLC max @ 17m	
		1451	BO				30.02	43.99		253						
		1510	EN													
	102	1515	BE	DRIFTER		9	48 29.99	124 43.95	170 258				SR	✓		
	103	1548	BE	ROS		10	48° 32.99	124° 42.96	120				SR	✓		
		1550	BO				32.97	42.96		115						
		1553	EN				32.96	42.98								
	76	1655	BE	ROS		11	48° 31.39	124° 30.00	88				SR	✓		
		1657	BO				31.39	30.00		83						
		1659	EN				31.39	30.00								
	75	1734	BE	ROS		12	48° 28.20	124 32.85	222		39-52					
		1739	BO				28.22	32.83		218						
		1756	EN				28.27	32.82								

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- activate & deploy 3 Inflator - ① classic sponge bob, ② sponge ball, ③ croachies.

did greater
at 1 m drop
to sea surface

all spot signals positive for battery + satellite communication

- on deployment sponge ball (evaluated to water) did not stay on surface

- weather calm, light swell, SST 11°C, Sea surface salinity 31.3 psu

@ ~ 1700 we noticed that the pump to the TSG had been shut off by accident after doing a net @ Station 59 maybe

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Month <u>June</u>				Year <u>2015</u>			Ship <u>Vector</u>				Cruise ID <u>2015-18</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
25	74	1828	BE	ROS		13	48° 25.11	124° 35.63	187				SR	✓	
		1832	BO				25.12	35.65		182					
		1835	EN				25.10	35.69							
25	73	2055	BE	ROS		14	48 14.97	124 6.80	160					✓	
		2103	BO				15.00	6.87		156					
		2106	EN				15.03	6.89							
25	72	2152	BE	NET		15	48 18.66	124 03.97	185				SR		down 1/2 m/s
		2156	BO				18.66	04.04		180					up 1 m/s
		2159	EN				18.66	04.07							
25	72	2206	BE	ROS	US	16	48 18.66	124 04.06	185		53-65			✓	
		2210	BO				18.67	04.05		182		13			
		2222	EN				18.69	04.16							
25	71	2303	BE	ROS		17	48 22.18	123 59.45	108				PC	✓	
		2305	BO				22.19	59.46		106					
		2307	EN				22.20	59.47							
26	70	0034	BE	ROS		18	48 19.18	123 43.32	150						air temp 20°C
		0038	BO				19.19	43.22		148					17:30 local time
		0040	EN				19.21	43.21							rosette bumped
															A-frame on mooring

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124 45' W

entrance to shoal

30 mm to 1/2 inch

This page is for any notes or observations

net 102

net 72

63

54

42

lots coral larvae

- lots of larvae
- " of *Hydractinia*

kill
phlo

- some *Hydractinia*

CRAB LARVAE
PHYTO

AMPHIPODS
SMALL COPEPODS
PHYTO
MAINLY THEMATIC

AMPHIPODS
MED COPEPODS
NO PHYTO
MAINLY CYPHOGARIS

GEO 1

SMALL KILL
SOME *Hydractinia*
MED/SMALL COPEPODS
PHYTO
AMPHIPODS
TOMOPTERIS
1 SCISSORFOOT

CPF1

AMPHIPODS
MED/SMALL COPEPODS
PHYTO
TOMOPTERIS
SMALL KILL
1 *Hydractinia*

CPF2

BOWLES
lots of phyto
small copepods
CHITOCERAN
POLYCHAETE LARVAE

14

no phyto
in kill
med/small copepods
SCISSORFOOT
pelagic shrimp

22

no phyto
lots amphipods
no kill
small/med copepods
1 larval fish
mostly liparis
pelagicus

- bottle 11 empty, presumed cause spigot valve not closed prior to deployment

- need to use tag lines
- no damage

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							Latitude	Longitude							
26	69	01:08	BE	ROS	US	19	48 15.59	123 43.26	178		66-77	12	PC	✓	
		01:13	BO				15.60	43.28		174					
		01:24	EN				15.64	43.35							
26	68	01:53	BE	ROS		20	48 12.19	123 43.00	138				PC	✓	
		01:55	BO				12.20	42.97		135					
		01:58	EN				12.20	42.91							
26	105	03:49	BE	ROS		21	48 10.99	123 18.97	84				PC	✓	
		03:51	BO				11.00	18.96		82					
		03:53	EN				11.00	18.95							
26	000P	04:19	BE	ROS	US	22	48 13.95	123 18.00	119		78-87	10	PC	✓	
		04:23	BO				13.97	17.98		117					
		04:31	EN				13.97	17.99							
26	104	05:13	BE	ROS		23	48 20.01	123 17.96	83				PC	✓	
		05:17	BO				20.00	17.95		80					
		05:18	EN				20.00	17.94							
26	67	05:43	BE	ROS		24	48 22.79	123 18.07	106				PC	✓	
		05:46	BO				22.79	18.07		103					
		05:48	EN				22.79	18.07							

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							Latitude	Longitude							
26	66	0617	BE	ROS		25	48° 19.30	123° 14.10	101				PC	✓	
		0621	BO				19.29	14.12		98					
		0622	EN				19.30	14.13							
26	65	0702	BE	ROS	US	26	48° 15.78	123° 9.77	131		88-97		SR	✓	
		0705	BO				15.77	9.78		126		10			
		0716	EN				15.82	9.78							
26	64	0753	BE	ROS		27	48° 12.81	123° 5.82	108				SR	✓	
		0756	BO				12.83	5.83							
		0758	EN				12.84	5.84							
26	63	0843	BE	NET		28	48° 14.60	122° 58.54	152				MG		
		0846	BO				14.62	58.54		145					
		0849	EN				14.67	58.56							
26	63	0900	BE	ROS	US	29	48° 14.68	122° 58.61	152		98-101	4	SR	✓	
		0902	BO				14.69	58.61							
		0909	EN				14.68	58.66							
26	62	1016	BE	ROS	US	30	48° 22.79	123° 2.60	149		102-112	11	SR	✓	
		1019					22.78	2.63		144					
		1029					22.76	2.66							

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							Latitude	Longitude							
26	54	1214	BE	ROS		31	48° 26.57	122° 44.31	78				SR	✓	
		1215	BO				26.56	44.31		74					
		1217	EN				26.55	44.31							
26	53	1338	BE	ROS		32	48° 33.17	122° 45.00	60				SR	✓	
		1339	BO				33.18	45.01		55					
		1340	EN				33.18	45.01							
26	52	1437	BE	ROS		33	48° 38.89	122° 43.29	81				SR	✓	
		1439	BO				38.89	43.29		77					
		1440	EN				38.88	43.28							
26	51	1600	BE	ROS		34	48° 46.72	122° 51.59	162				SR	✓	
		1603	BO				46.73	51.59		157					
		1606	EN				46.73	51.60							
26	56	1703	BE	NET	UP	35	48° 46.39	123° 1.51	217				MG		
		1708	BO				46.39	1.50		215					
		1713	EN				46.38	1.50							
26	56	1720	BE	ROS	US	36	48° 46.39	123° 1.54	218		113-126	14	SR	✓	
		1724	BO				46.39	1.55		214					
		1741	EN				46.40	1.61							

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							Latitude	Longitude							
26	57	1820	BE	ROS		37	48° 44.02	123° 8.10	157				SR	✓	
		1823	BO				44.03	8.11		153					
		1825	EN				44.04	8.11							
26	47	1948	BE	ROS		38	48 49.30	123 6.21	185				R	✓	hex file number to
		1951	BO				49.30	6.21		180					corroded with event
		1954	EN				49.30	6.19							number
26	48	2020	BE	ROS		39	48 51.70	123 3.18	226				R	✓	
		2024	BO				51.65	3.20		223					
		2029	EN				51.62	3.20							
26	49	2100	BE	ROS		40	48 55.04	122 59.59	130				R	✓	
		2104	BO				55.04	59.59		126					
		2106	EN				55.05	59.60							
26	50	2130	BE	ROS		41	48 57.68	122 56.12	28				R	✓	on top 21°C
		2133	BO				57.70	56.12		23					
		2134	EN				57.70	56.12							
26	44	2220	BE	ROS		42	48 56.78	126 6.10	118				R	✓	
		2224	BO				56.80	6.05		115					
		2225	EN				56.80	6.06							

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Notes:

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Scott replaced the macromer because batch #1 was sticky, tested okay

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							Latitude	Longitude							
26	45	22 49	BE	ROS		43	48 53.91	123 8.40	126				R	✓	
		22 51	BO				53.89	8.39		124					
		22 54	EN				53.89	8.38							
26	46	23 14	BE	ROS	US	44	48 51.410	123 10.795	177		127-138	12	SN	✓	
		23 19	BO				51.397	10.799		173					Alt not working?
		23 31	EN				51.395	10.813							Just says "68.0"
27	106	00 37	BE	ROS		45	49 0.978	123 13.205	75		—	—	SN	✓	Alt back working
		00 40	BO				49 0.980	123 13.208		72					✓
		00 42	EN				49 0.977	123 13.213							(20.8° at surface)
27	107	01 03	BE	ROS		46	48 58.353	123 17.976	179				SN	✓	
		01 14	BO				58.356	18.004		175					
		01 18	EN				58.364	18.018							
27	43	02 10	BE	ROS		47	49 0.204	123 30.138	193		—		SN	✓	
		02 15	BO				0.204	30.169		187					
		02 18	EN				0.227	30.221							
	42	02 46	BE	NET		48	49 01.82	123 26.195							Scan UNH
		02 50	BO				01.816	26.209							not filtered
			EN												clean + released

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5	20	5	1
20	34	7	2
0	15	3	5
0	10	5	5

ph looks good, PAR looks good

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							Latitude	Longitude							
27	42	0257	BE	NET		50	49 1.811	123 26.214	318				SR		
		0302	BO				1.817	26.202							
		0305	EN				1.796	26.203							
27	42	0312	BE	ROS	US	51	49 1.794	123 26.206	318		139-154	16	PC	✓	
		0319	BO				1.790	26.218							
		0335	EN				1.787	26.226							
27	41	0420	BE	ROS		52	49 3.296	123 22.291	240				PC	✓	
		0425	BO				3.301	22.295		238					
		0429	EN				3.302	22.297							
27	108	0447	BE	ROS		53	49 4.375	123 19.105	90				PC	✓	
		0450	BO				4.373	19.108		89					
		0452	EN				4.372	19.117							
27	37	0556	BE	ROS		54	49 13.591	123 20.724	214				PC	✓	
		0600	BO				13.597	20.696							
		0604	EN				13.598	20.689							
27	38	0634	BE	ROS		55	49 11.990	123 26.352	305				PC	✓	
		0641	BO				12.085	26.381		303					
		0646	EN				12.202	26.351							

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							Latitude	Longitude							
27	39	0732	BE	ROS	US	56	49° 9.41	123° 32.95	384		155-171		SR	✓	
		0740	BO				9.40	32.93		379		17			
		0802	EN				9.36	32.91							
27	40	0830	BE	ROS		57	49° 8.59	123° 36.81	154				SR	✓	
		0833	BO				8.60	36.80		149					
		0836	EN				8.59	36.80							
27	GEØ1	0946	BE	NET		58	49° 14.99	123° 44.89	403				Me		
		0954	BO				15.00	44.90		398					
			EN				15.00	44.90							
27	GEØ1	1009	BE	ROS		59	49° 15.00	123° 44.93	403				SR	✓	
		1016	BO				14.98	44.92		398					
		1024	EN				14.96	44.93							
27	26	1101	BE	ROS		60	49° 14.28	123° 50.78	250				SR	✓	
		1105	BO				14.28	50.76		245					
		1110	EN				14.28	50.76							
27	26.5	1135	BE	ROS		61	49° 16.68	123° 49.49	411				SR	✓	
		1143	BO				16.66	49.48		406					
		1150	EN				16.64	49.48							

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Bottle Firing Method:

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Time Code:

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Notes:

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Month <u>June</u>				Year <u>2015</u>			Ship <u>Vector</u>				Cruise ID <u>2015-18</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
27	27	1213	BE	ROS	US	62	49° 19.08	123° 47.97	345		172-187	16	SR	✓	
		1220	BO				19.04	47.96		339					
		1244	EN				18.98	47.98							
27	27.5	1321	BE	ROS		63	49° 21.78	123° 46.59	108				SR	✓	
		1322	BO				21.79	46.58		104					
		1324	EN				21.79	46.57							
27	26	1404	BE	ROS		64	49° 24.10	123° 45.30	136				SR	✓	
		1406	BO				24.10	45.30		130					
		1409	EN				24.11	45.30							
27	24	1557	BE	ROS		65	49° 30.29	124° 6.00	426				SR	✓	
		1605	BO				30.29	124° 6.00		421					
		1613	EN				30.30	6.02							
27	25	1638	BE	ROS		66	49° 27.70	124° 7.50	286				SR	✓	
		1644	BO				27.72	7.48		282					
		1649	EN				27.71	7.45							
27	2	1718	BE	ROS	US	67	49° 24.07	124° 9.29	278		188-202	15	SR	✓	
		1724	BO				24.07	9.32		273					
		1742	EN				24.12	9.39							

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Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
27	CPF1	1813	BE	ROS		68	49° 21.95	124° 5.11	243						
		1818	BO				21.94	5.13		238			SR	✓	
		1822	EN				21.93	5.15							
27	CPF1	1827	BE	NET		69	49° 21.97	124° 5.14	244						
		1833	BO				21.99	5.14					MG	✓	
		1836	EN				22.01	5.17							
27	1	1913	BE	ROS		70	49 20.321	124 12.082	245				R	✓	
		1918	BO				20.321	12.083		242					
		1922	EN				20.320	12.091							
27	4	2013	BE	ROS		71	49 24.510	124 22.118	340				R	✓	
		2021	BO				24.514	22.099		339					
		2027	EN				24.499	22.122							
27	3	2049	BE	ROS	US	72	49 26.609	124 20.201	324		203-218	16	SR	✓	
		2056	BO				49 26.612	124 20.195		318					no oxygen sampling
		2113	EN				49 26.602	124 20.213							
28	CPF2	2153	BE	ROS		73	49 27.972	124 29.976	330						
		2205	BO				49 27.980	124 29.984		326			SR	✓	
		2211	EN				49 27.992	124 29.987							Bottom varies 350-330m

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Notes:

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Month <u>June</u>				Year <u>2015</u>			Ship <u>Vector</u>				Cruise ID <u>2015-18</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
27	CPF2	22:17	BE	NET		74	49 28.003	124 29.998	329				SR	✓	SCOR VNH
		22:21	BO				28.007	30.001							
		22:27	EN				28.001	30.007							
27	BS17	23:36	BE	NET		75	49 28.798	124 45.791	65					✓	
		23:37	BO				28.799	45.796							
		23:39	EN				28.802	45.803							
27	BS17	23:46	BE	ROS		76	49 28.795	124 45.791	65					✓	
		23:47	BO				28.792	45.786		62					
		23:48	EN				28.794	45.786							
27	BS17	00:03	BE	ROS	US	77	49 28.800	124 45.781	66					✓	
		00:05	BO				28.799	45.778		61					
		00:11	EN				28.797	45.785							
28	6	01:31	BE	ROS	US	78	49 30.646	124 27.796	195		237-249	13	SR	✓	
		01:36	BO				30.641	27.794		190					
		01:49	EN				30.634	27.805							
28	7	02:23	BE	ROS		79	49 34.390	124 24.270	353				PC	✓	
		02:29	BO				34.404	24.266		350					
		02:35	EN				34.414	24.248							

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Month <u>JUNE</u>				Year <u>2015</u>			Ship <u>VECTOR</u>			Cruise ID <u>2015-18</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
28	8	0329	BE	ROS		80	49 39.296	124 32.970	344				PC	✓	
		0335	BO				39.287	32.974		341					
		0341	EN				39.295	32.973							
28	9	0419	BE	ROS	US	81	49 35.509	124 38.287	171		250-261	12	PC	✓	no oxygen sampled
		0422	BO				35.497	38.286		165					
		0433	EN				35.503	38.292							
28	10	0507	BE	ROS		82	40.709	47.309	95				PC	✓	
		0531	BO				40.708	47.314		92					
		0533	EN												
28	11	0555	BE	ROS		83	49 42.377	124 43.426	303				PC	✓	
		0601	BO				42.373	43.410		298					
		0607	EN				42.383	43.408							
28	11	0710	BE	NET		84	49 42.390	124 43.404	303				SR		SCOR UNH
		0716	BO				42.390	43.407		298					
		0721	EN				42.393	43.405							
28	12	0652	BE	ROS	US	85	49 43.577	124 40.782	358		262-277	16	PC	✓	
		0702	BO				43.57	40.77							
		0723	EN				43.56	40.80							

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Notes:

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Month <u>June</u>				Year <u>2015</u>			Ship <u>Vector</u>				Cruise ID <u>2015-18</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
<u>28</u>	<u>13</u>	<u>0912</u>	<u>BE</u>	<u>ROS</u>		<u>86</u>	<u>49° 55.29</u>	<u>124° 55.22</u>	<u>235</u>				<u>SR</u>	<u>✓</u>	
		<u>0917</u>	<u>BO</u>				<u>55.27</u>	<u>55.22</u>		<u>230</u>					
		<u>0921</u>	<u>EN</u>				<u>55.28</u>	<u>55.19</u>							
<u>28</u>	<u>14</u>	<u>0951</u>	<u>BE</u>	<u>NET</u>		<u>87</u>	<u>49° 53.03</u>	<u>124° 59.59</u>	<u>318</u>				<u>MG</u>		
		<u>0957</u>	<u>BO</u>				<u>53.04</u>	<u>59.62</u>		<u>313</u>					
		<u>1002</u>	<u>EN</u>				<u>53.04</u>	<u>59.64</u>							
<u>28</u>	<u>14</u>	<u>1008</u>	<u>BE</u>	<u>ROS</u>	<u>US</u>	<u>88</u>	<u>49° 53.07</u>	<u>124° 59.64</u>	<u>318</u>		<u>278-292</u>	<u>15</u>	<u>SR</u>	<u>✓</u>	<u>May have been</u>
		<u>1014</u>	<u>BO</u>				<u>53.10</u>	<u>59.66</u>		<u>313</u>					<u>called cast 13</u>
		<u>1032</u>	<u>EN</u>				<u>53.12</u>	<u>59.76</u>							<u>in header</u>
<u>28</u>	<u>15</u>	<u>1103</u>	<u>BE</u>	<u>ROS</u>		<u>89</u>	<u>49° 51.63</u>	<u>125° 1.63</u>	<u>128</u>				<u>SR</u>	<u>✓</u>	
		<u>1105</u>	<u>BO</u>				<u>51.62</u>	<u>1.65</u>		<u>124</u>					
		<u>1107</u>	<u>EN</u>				<u>51.62</u>	<u>1.67</u>							
<u>28</u>	<u>16</u>	<u>1201</u>	<u>BE</u>	<u>ROS</u>	<u>US</u>	<u>90</u>	<u>49° 57.70</u>	<u>125° 8.83</u>	<u>159</u>		<u>293-303</u>	<u>11</u>	<u>SR</u>	<u>✓</u>	
		<u>1204</u>	<u>BO</u>				<u>57.70</u>	<u>8.82</u>							
		<u>1216</u>	<u>EN</u>				<u>57.71</u>	<u>8.82</u>							
<u>28</u>	<u>17</u>	<u>1244</u>	<u>BE</u>	<u>ROS</u>		<u>91</u>	<u>49° 58.79</u>	<u>125° 4.31</u>	<u>268</u>				<u>SR</u>	<u>✓</u>	
		<u>1249</u>	<u>BO</u>				<u>58.79</u>	<u>4.32</u>		<u>263</u>					
		<u>1254</u>	<u>EN</u>				<u>58.79</u>	<u>4.32</u>							

Cast Type: USW = Sea Water Loop

Cast Type:

BOT = Bottle cast, no CTD
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=

Bottle Firing Method:

US = Up / Stop
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Notes:

Time Code:

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Month <u>June</u>				Year <u>2015</u>			Ship <u>Vector</u>			Cruise ID <u>2015-18</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
28	18	1340	BE	ROS		92	49° 59.17	124° 58.90	149						
		1343	BO				59.17	58.90		144			SR	✓	
		1345	EN				59.17	58.90							
28	19	1436	BE	ROS		93	50° 1.17	124° 52.96	276						
		1441	BO				1.18	52.96		271	#304	1	SR	✓	
		1446	EN				1.16	52.95							
28	19	14:55	DE	BOAT		94	50 1.100	124 52.958							
		15:15	RE				49 57.106	124 46.728							
28	Sandy Id	2117	DE	BOAT		95	49 57.106	124 46.728							
		2230		Drifter											
		2230		Drifter		96	50 02.343	124 52.172							
29	20	0057	BE	ROS		97	49 47.213	124 32.297	310						
		0104	BO				47.209	32.287		305					
		0108	EN												
29	22	0227	BE	ROS		98	49 40.175	124 16.303	352						
		0237	BO				40.181	16.282		347					
		0243	EN				40.212	16.286							

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Notes:

Communications
one phys sample
from the bottle

Deploy at 08:30

to Hoxby Channel

Deploy at 15:30

- Hoxby Channel

Deploy at 15:30

- Sarah Point

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Month		Year		Ship		Cruise ID								
JUNE		2015		VECTOR		2015-18								
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	22	0254	BE	NET			49 40.200	124 16.268	352			SR		
		0300	BO				40.171	16.244		347				
		0306	EN				40.153	16.270						
DONE ! !														

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