

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2016 - 10

DATE:

From: SEP 22 2016 To: SEP 26 2016

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>SEP</u>				Year <u>2016</u>		Vessel <u>VECTOR</u>				Cruise ID <u>2016-10</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude $\checkmark$	Information Longitude $\checkmark$	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
1	SI	22	23:33	BE	NET		48°39.11	123°30.02	180		-		RE	☐ ☐	1/2 m 5' down
			23:38	BO			°39.10	°30.01		170	-		NI	☐ ☐	1 m 5' up
			23:41	EN			°39.10	°30.01			-			☐ ☐	
			:				°	°			-			☒ ☐	
2	SI	22	23:59	BE	ROS	US	48°39.11	123°30.01	180		1 - 9		RE	☐ ☐	test station
			24:02	BO			°39.11	°29.99		100	-			☐ ☐	100 m
			24:10	EN			°39.12	°30.03			-			☐ ☐	
			:				°	°			-			☐ ☐	
3	58	23	01:56	BE	ROS		48°43.00	123°14.35	336		-		RE	☒ ☐	
			02:04	BO			°43.01	°14.35		336	-			☐ ☐	
			02:10	EN			°42.95	°14.30			-			☐ ☐	
			:				°	°			-			☐ ☐	
4	57	23	02:50	BE	ROS		48°44.03	123°8.10	157		-		RE	☒ ☐	
			02:54	BO			°44.05	°8.15		153	-			☐ ☐	
			02:57	EN			°44.05	°8.16			-			☐ ☐	
			:				°	°			-			☐ ☐	
5	56	23	03:54	BE	ROS	US	48°46.45	123°1.60	207		-		RE	☒ ☐	
			03:59	BO			°46.48	°1.52		205	-			☐ ☐	
			04:11	EN			°46.51	°1.55			-			☐ ☐	

Event Type:

BOT = Bottle cast (no CTD)
 CTD = Standalone CTD
 ROS = CTD in Rosette
 SET = Fish Set

LOOP = Sea Water Loop
 MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter
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Bottle Firing Method:

US = Up / Stop (default)
 UN = Up / No stop
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Notes:

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BE = Beginning Time of Cast
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CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

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Produced by the Water Properties Group, IOS

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depart july 1600 , test station in Spanish Ledge , 1st red cast to bottom - 10 m
2nd rosette cast to 100 m (9 bottles)

- weather front expected at entrance to JLF Friday morning - set course for
these stations in Boundary Pass (58, 57, 56) + head north to Malaspina Strait
station 22 - eta 0500 Friday morning

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Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
<u>6</u>	<u>22</u>	<u>23</u>	<u>12:11</u>	<u>BE</u>	<u>ROS</u>	<u>US</u>	<u>49° 40.20</u>	<u>124° 16.28</u>	<u>355</u>	<u>347</u>	<u>25-27</u>	<u>3</u>	<u>SR</u>	☒	
			<u>12:18</u>	<u>BO</u>			<u>° 40.20</u>	<u>° 16.33</u>			<u>-</u>			☐	
			<u>12:27</u>	<u>EN</u>			<u>° 40.21</u>	<u>° 16.31</u>			<u>-</u>			☐	
<u>7</u>	<u>22</u>	<u>23</u>	<u>12:46</u>	<u>BE</u>	<u>NET</u>		<u>49° 40.19</u>	<u>124° 16.32</u>	<u>350</u>		<u>-</u>		<u>NN</u>	☐	
			<u>12:57</u>	<u>BO</u>			<u>° 40.140</u>	<u>° 16.358</u>		<u>340</u>	<u>-</u>			☐	
			<u>13:03</u>	<u>EN</u>			<u>° 40.130</u>	<u>° 16.367</u>			<u>-</u>			☐	
<u>8</u>	<u>20</u>	<u>23</u>	<u>14:22</u>	<u>BE</u>	<u>ROS</u>		<u>49° 47.19</u>	<u>124° 32.32</u>	<u>312</u>		<u>/</u>	<u>/</u>	<u>SR</u>	☒	
			<u>14:28</u>	<u>BO</u>			<u>° 47.19</u>	<u>° 32.32</u>		<u>309</u>	<u>-</u>			☐	
			<u>14:33</u>	<u>EN</u>			<u>° 47.18</u>	<u>° 32.30</u>			<u>-</u>			☐	
<u>9</u>	<u>19</u>	<u>23</u>	<u>16:32</u>	<u>BE</u>	<u>ROS</u>		<u>50° 1.17</u>	<u>124° 52.92</u>	<u>272</u>		<u>/</u>	<u>/</u>	<u>SR</u>	☒	
			<u>16:37</u>	<u>BO</u>			<u>° 1.15</u>	<u>° 52.94</u>		<u>271</u>	<u>-</u>			☐	
			<u>16:42</u>	<u>EN</u>			<u>° 1.15</u>	<u>° 52.96</u>			<u>-</u>			☐	
<u>10</u>	<u>18</u>	<u>23</u>	<u>17:18</u>	<u>BE</u>	<u>ROS</u>		<u>49° 59.23</u>	<u>124° 58.92</u>	<u>147</u>		<u>/</u>	<u>/</u>	<u>SR</u>	☒	
			<u>17:22</u>	<u>BO</u>			<u>° 59.22</u>	<u>° 58.92</u>		<u>143</u>	<u>-</u>			☐	
			<u>17:24</u>	<u>EN</u>			<u>° 59.22</u>	<u>° 58.91</u>			<u>-</u>			☐	
<u>11</u>	<u>QU39</u>	<u>23</u>	<u>18:05</u>	<u>BE</u>	<u>ROS</u>		<u>50° 1.86</u>	<u>125° 5.56</u>	<u>273</u>		<u>/</u>	<u>/</u>	<u>SR</u>	☒	
			<u>18:10</u>	<u>BO</u>			<u>° 1.86</u>	<u>° 5.60</u>		<u>267</u>	<u>-</u>			☐	
			<u>18:14</u>	<u>EN</u>			<u>° 1.85</u>	<u>° 5.63</u>			<u>-</u>			☐	
			<u>:</u>				<u>°</u>	<u>°</u>			<u>-</u>			☐	

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→ no headspace provided for DIC - used a stopper.

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12	17	23	18:39	BE	ROS		49° 58.78	125° 4.41	269				SR	☒	
			18:45	BO			° 58.77	° 4.50		267	-			☐	
			18:51	EN			° 58.77	° 4.65			-			☐	
			:				° .	° .			-			☐	
13	21	23	19:45	BE	ROS		50° 2.03	125° 13.62	78		-		RC	☒	
			19:46	BO			° 2.03	° 13.62		78	-			☐	
			19:48	EN			° 2.03	° 13.62			-			☐	
			:				° .	° .			-			☐	
14	16	23	20:38	BE	ROS	US	49° 57.69	125° 8.83	157		28 - 309	12	RC	☒	
			20:41	BO			° 57.69	° 8.85		153	-			☐	
			20:51	EN			° 57.70	° 8.86			-			☐	
			:				° .	° .			-			☐	
15	15	23	21:46	BE	ROS		49° 51.63	125° 1.59	129		-		RC	☒	
			21:49	BO			° 51.64	° 1.59		127	-			☐	
			21:51	EN			° 51.63	° 1.52			-			☐	
			:				° .	° .			-			☐	
16	14	23	22:17	BE	NET		49° 53.00	124° 59.66	315		-		KS	☐	
			22:19	BO			° 52.99	° 59.66		305	-		1	☐	
			22:22	EN			° 52.98	° 59.64			-			☐	

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Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
17	14	23	22:34	BE	ROS	US	49° 53.04	124° 59.64	315		40 - 55	16	PC	☒ ☐	
			22:43	BO			° 53.03	° 59.64		305	-			☐ ☐	
			22:58	EN			° 53.01	° 59.48			-			☐ ☐	
			:				°	°			-			☐ ☐	
18	13	23	23:26	BE	ROS		49° 55.27	124° 55.23	235		-		PC	☒ ☐	
			23:31	BO			° 55.32	° 55.21		230	-			☐ ☐	
			23:35	EN			° 55.34	° 55.18			-			☐ ☐	
			:				°	°			-			☐ ☐	
19	10	24	01:14	BE	ROS		49° 40.68	124° 47.29	94		-		PC	☒ ☐	
			01:15	BO			° 40.68	° 47.29		88	-			☐ ☐	
			01:17	EN			° 40.68	° 47.31			-			☐ ☐	
			:				°	°			-			☐ ☐	
20	11	24	01:45	BE	ROS		49° 42.40	124° 43.45	269		-		PC	☒ ☐	depth report
			01:52	BO			° 42.43	° 43.60	296	296	-			☐ ☐	from Sledge
			01:57	EN			° 42.43	° 43.63			-			☐ ☐	in error 269-296
			:				°	°			-			☐ ☐	
21	11	24	02:01	BE	NET		49° 42.41	124° 43.64	296		-		KS	☐ ☐	1901 Inval time
			02:08	BO			° 42.40	° 43.64		286	-			☐ ☐	1908
			02:12	EN			° 42.40	° 43.64			-			☐ ☐	1902

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Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
22	12	24	02:34	BE	ROS	US	49° 43.60	124° 40.88	357		56-72	17	R	☒ ☐	bottle 12 fine
			02:40	BO			° 43.60	° 40.87		351	-			☐ ☐	but no water
			02:57	EN			° 43.63	° 40.81			-			☐ ☐	
			:				°	°			-			☐ ☐	
23	8	24	03:46	BE	ROS		49° 39.33	124° 33.05	337		-		R	☒ ☐	
			03:54	BO			° 39.33	° 33.06		335	-			☐ ☐	
			03:58	EN			° 39.32	° 33.01			-			☐ ☐	
			:				°	°			-			☐ ☐	
24	9	24	04:36	BE	ROS	US	49° 35.53	124° 38.31	165		73-85	13	R	☒ ☐	no oxygen
			04:39	BO			° 35.52	° 38.32		164	-			☐ ☐	samples required
			04:48	EN			° 35.51	° 38.32			-			☐ ☐	
			:				°	°			-			☐ ☐	
25	BS17	24	06:28	BE	NET		49° 29.03	124° 45.98	60		-		RS	☐ ☐	23:28 dial time
			06:29	BO			° 29.03	° 45.98		50	-			☐ ☐	23:29
			06:30	EN			° 29.03	° 45.98			-			☐ ☐	23:30
			:				°	°			-			☐ ☐	
26	BS17	24	06:40	BE	ROS	US	49° 29.03	124° 46.01	60		-			☒ ☐	
			06:47	BO			° 29.03	° 45.99		57	-			☐ ☐	
			06:49	EN			° 29.03	° 45.98			-			☐ ☐	

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27	5	24	07:57	BE	ROS		49°27.41	124°30.85	321		-		SR	☒ ☐	
			08:03	BO			°27.43	°30.86		311	-			☐ ☐	
			08:08	EN			°27.46	°30.87			-			☐ ☐	
			:				°	°			-			☐ ☐	
28	CPF2	24	08:18	BE	NET		49°27.475	124°30.875	315		-		NN	☐ ☐	lots of fish
			08:28	BO			°27.514	°30.899			-			☐ ☐	feeding
			08:34	EN			°27.530	°30.910			-			☐ ☐	
			:				°	°			-			☐ ☐	
29	6	24	08:57	BE	ROS	US	49°30.61	124°27.81	192		-		SR	☒ ☐	still lots of
			09:02	BO			°30.62	°27.80		189	95-108	14		☐ ☐	fish @ surface
			09:15	EN			°30.62	°27.80			-			☐ ☐	
			:				°	°			-			☐ ☐	
30	7	24	09:49	BE			49°34.40	124°24.16	352		-		SR	☒ ☐	
			09:56	BO			°34.42	°24.11		348	-			☐ ☐	
			10:02	EN			°34.44	°24.08			-			☐ ☐	
			:				°	°			-			☐ ☐	
31	3	24	11:06	BE			49°26.60	124°20.16	317		109-125	17	SR	☒ ☐	bottle 12 didn't
			11:13	BO			°26.60	°20.15			-			☐ ☐	trip, the mech-
			11:32	EN			°26.60	°20.15			-			☐ ☐	anism was changed

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Month				Year		Vessel				Cruise ID					Comments
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	
							Latitude	Longitude							
32	4	24	11:57	BE	ROS		49°24.54	124°22.10	344				SR	☒	
			12:04	BO			°24.56	°22.10		341	-			☐	
			12:10	EN			°24.57	°22.09			-			☐	
			:				°	°			-			☐	
33	1	24	13:04	BE	ROS		49°20.32	124°12.17	245				SR	☒	
			13:09	BO			°20.33	°12.17		242	-			☐	
			13:13	EN			°20.34	°12.15			-			☐	
			:				°	°			-			☐	
34	CPF1	24	13:55	BE	NET		49°21.996	124°5.139	245				NN	☐	
			14:03	BO			°21.983	°5.138		235	-			☐	
			14:07	EN			°21.980	°5.124			-			☐	
			:				°	°			-			☐	
35	CPF1	24	14:13	BE	ROS		49°21.98	124°5.08	242		126-128		SR	☒	
			14:17	BO			°21.98	°5.07		239	-			☐	
			14:24	EN			°21.98	°5.04			-			☐	
			:				°	°			-			☐	
36	2	24	14:54	BE	ROS	US	49°24.13	124°4.29	279		129-144		SR	☒	
			15:00	BO			°24.15	°4.33		273	-			☐	
			15:16	EN			°24.13	°4.34			-			☐	

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37	25	24	15:53	BE	ROS		49° 27.68	124° 7.50	295		-	-	SR	☒ ☐	
			15:59	BO			° 27.68	° 7.45		294	-			☐ ☐	
			16:04	EN			° 27.73	° 7.42			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
38	24	24	16:32	BE	ROS	US	49° 30.31	124° 6.04	427		145-146		SR	☒ ☐	
			16:39				° 30.33	° 6.05			-			☐ ☐	
			16:49				° 30.34	° 6.12			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
39	24	24	16:51	EN	ROS		49° 30.34	124° 6.12	427		147-147			☐ ☐	Just to trip
			:				° .	° .			-			☐ ☐	bot 3 from
40	24	24	17:10		NET		49° 30.34	124° 06.145	427		-			☐ ☐	event 38
			17:22				° 30.317	° 06.173		417	-			☐ ☐	
			17:27				° 30.300	° 06.190			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
41	28	24	19:04	BE	NET		49° 24.14	123° 45.36	133		-			☐ ☐	1204 local
			19:07	BO			° 24.15	° 45.36		123	-			☐ ☐	
			:09	EN			° .15	° .35			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

Event Type:

BOT = Bottle cast (no CTD)
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LOOP = Sea Water Loop

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

Bottle Firing Method:

US = Up / Stop (default)
UN = Up / No stop
DN = Down / No stop

Notes:

Time Code:

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

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

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

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This page is for any notes or observations

Event 39 was created to trip bottle 3 of Event 38 as it was missed. *SR*

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Month				Year			Vessel			Cruise ID					
SEP				2016			VECTOR			2016-10					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
42	28	24	19:19	BE	ROS	US	49° 24.17	123° 45.31	133		165 - 167	3	R	☒	bottle data
			19:22	BO			° 24.18	° 45.31		132	-			☐	discarded - vents
			19:26	EN			° 24.19	° 45.32			-			☐	left open
			:				° .	° .			-			☐	
43	275	24	19:50	BE	ROS		49° 21.84	123° 46.55	105		-		R	☒	
			19:53	BO			° 21.88	° 46.52		103	-			☐	
			19:55	EN			° 21.89	° 46.51			-			☐	
			:				° .	° .			-			☐	
44	27	24	20:22	BE	ROS	US	49° 19.13	123° 48.06	347		148 - 164	17	PC	☒	
			20:29	BO			° 19.16	° 48.02		343	-			☐	
			20:44	EN			° 19.17	° 48.01			-			☐	
			:				° .	° .			-			☐	
45	265	24	21:27	BE	ROS		49° 16.67	123° 49.48	412		-			☒	
			21:34	BO			° 16.70	° 49.60		409	-			☐	
			21:40	EN			° 16.73	° 49.42			-			☐	
			:				° .	° .			-			☐	
46	26	24	22:01	BE	ROS		49° 14.28	123° 50.23	245		-			☒	
			22:05	BO			° 14.30	° 50.21		243	-			☐	
			22:09	EN			° 14.31	° 50.76			-			☐	

CTD, Temperature and Fluorometer to be cleaned before each cast -- do not use Ammonia products

Event Type:

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Bottle Firing Method:

US = Up / Stop (default)

UN = Up / No stop

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Month <u>SEP</u>				Year <u>2016</u>		Vessel <u>VECTOR</u>		Cruise ID <u>2016-10</u>							
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
47	GEO 1	24	22:38	BE	ROS	US	49° 15.03	123° 44.93	404		168 - 170	3		☒ ☐	
			22:45	BO			° 14.99	° 44.83		399	-			☐ ☐	
			22:53	EN			° 15.00	° 44.70			-			☐ ☐	
			:				°	°			-			☐ ☐	
48	GEO 1	24	22:57	BE	NET		49° 15.02	123° 44.69	403		-			☒ ☐	1557 local
			23:05	BO			° 15.05	° 44.60		393	-			☐ ☐	1611 local
			23:11	EN			° 15.06	° 44.53			-			☐ ☐	
			:				°	°			-			☐ ☐	
49	40	25	00:30	BE	NET		49° 08.61	123° 36.84	141		-			☒ ☐	1730 local
			00:33	BO			° 08.63	° 36.84		131	-			☐ ☐	
			00:36	EN			° 08.63	° 36.83			-			☐ ☐	
			:				°	°			-			☐ ☐	
50	40	25	00:43	BE	ROS		49° 08.63	123° 36.82	137		-			☒ ☐	
			00:46	BO			° 08.63	° 36.82		135	-			☐ ☐	
			00:48	EN			° 08.63	° 36.82			-			☐ ☐	
			:				°	°			-			☐ ☐	
51	39	25	01:11	BE	ROS	US	49° 09.81	123° 33.01	366		171 - 192	22		☒ ☐	replace gear
			01:17	BO			° 09.83	° 32.97		371	-			☐ ☐	rest on main
			01:34	EN			° 09.87	° 32.85			-			☐ ☐	sheave

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Bottle Firing Method:

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Notes: _____

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lower bracket of altimeter missing fastener - Kenney repaired with nut/bolt

5 depths - particle sampling deduced 10.2 Niskin

6-5

100

50

20

5.0

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Month <u>SEP</u>				Year <u>2016</u>		Vessel <u>VECTOR</u>		Cruise ID <u>2016-10</u>							
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
52	38	25	02:23	BE	ROS		49° 11.98	123° 26.45	306		-		R	☒	
			02:29	BO			° 11.98	° 26.45		304	-			☐	
			02:34	EN			° 11.98	° 26.45			-			☐	
			:				°	°			-			☐	
53	38	25	02:39	BE	NET		49° 11.98	123° 26.43	310		-		JW	☐	1938 level
			02:45	BO			° 11.97	° 26.42		300	-			☐	
			02:49	EN			° 11.97	° 26.42			-			☐	
			:				°	°			-			☐	
54	37	25	03:27	BE	ROS		49° 13.57	123° 20.71	210		-		R	☒	
			03:31	BO			° 13.58	° 20.70		208	-			☐	
			03:35	EN			° 13.59	° 20.70			-			☐	
			:				°	°			-			☐	
55	108	25	04:40	BE	ROS		49° 4.41	123° 19.11	87		-		R	☒	
			04:42	BO			° 4.39	° 19.13		90	-			☐	
			04:44	EN			° 4.38	° 19.15			-			☐	
			:				°	°			-			☐	
56	41	25	05:04	BE	ROS		49° 3.29	123° 22.31	241		-		R	☒	
			05:09	BO			° 3.31	° 22.31		240	-			☐	
			05:13	EN			° 3.31	° 22.32			-			☐	

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Notes:

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Month				Year			Vessel			Cruise ID					
SEP				2016			VECTOR			2016-10					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
57	41	25	05:17	BE	NET		49 ° 03.31	123 ° 22.31	241		-		KS	☐ ☐	2217 local start
			05:22	BO			° 03.30	° 22.31		231	-			☐ ☐	time
			05:26	EN			° 03.31	° 22.31			-			☐ ☐	
			:				°	°			-			☐ ☐	
58	42	25	05:55	BE	ROS	US	49 ° 1.80	123 ° 26.22	315		193-209	17	PC	☒ ☐	
			06:00	BO			° 1.75	° 26.14		317	-			☐ ☐	
			06:15	EN			° 1.81	° 26.05			-			☐ ☐	
			:				°	°			-			☐ ☐	
59	43	25	07:03	BE	ROS		49 ° 0.27	123 ° 30.09	207		-	-	SR	☒ ☐	
			07:07	BO			° 0.28	° 30.08			-			☐ ☐	
			07:11	EN			° 0.28	° 30.07			-			☐ ☐	
			:				°	°			-			☐ ☐	
60	106	25	08:23	BE			49 ° 0.99	123 ° 13.19	79		-		SR	☒ ☐	
			08:24	BO			° 0.99	° 13.19		74	-			☐ ☐	
			08:26	EN			° 0.99	° 13.19			-			☐ ☐	
			:				°	°			-			☐ ☐	
61	107		09:02	BE			48 ° 58.42	123 ° 18.00	182		-			☐ ☐	
			09:05	BO			° 58.42	° 18.00		178	-			☐ ☐	
			09:08	EN			° 58.42	° 18.00			-			☐ ☐	

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Month			Year			Vessel			Cruise ID						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
62	46	25	10:10	BE	NET		48° 51.393	123° 10.775	175		-		NN	☐	
			10:17	BO			° 51.388	123° 10.789			-			☐	
			10:20	EN			° 51.392	123° 10.791			-			☐	
			:				°	°			-			☐	
63	46	25	10:23	BE	ROS	us	48° 51.40	123° 10.78	178		210-222	13	SR	☒	
			10:27	BO			° 51.39	° 10.78		175	-			☐	
			10:40	EN			° 51.40	° 10.79			-			☐	
			:				°	°			-			☐	
64	45	25	11:12	BE	ROS		48° 53.91	123° 8.40	127		-		SR	☒	
			11:15	BO			° 53.90	° 8.39		124	-			☐	
			11:17	EN			° 53.88	° 8.39			-			☐	
			:				°	°			-			☐	
65	44	25	11:44	BE	ROS		48° 56.82	123° 5.99	120		-		SR	☒	
			11:46	BO			° 56.82	° 5.99		117	-			☐	
			11:48	EN			° 56.82	° 5.996			-			☐	
			:				°	°			-			☐	
66	50	25	12:33	BE	ROS		48° 57.70	122° 56.10	27		-		SR	☒	
			12:33	BO			° 57.70	° 56.11		23	-			☐	
			12:33	EN			° 57.70	° 56.11			-			☐	

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Month				Year		Vessel				Cruise ID					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
67	49	25	13:02	BE	ROS		48° 55.01	122° 59.59	131				SR	☒	
			13:05	BO			° 54.99	° 59.57		127	-			☐	
			13:07	EN			° 54.98	° 59.56			-			☐	
			:				°	°			-			☐	
68	48	25	13:45	BE	ROS		48° 51.68	123° 3.18	220		-		SR	☒	
			13:49	BO			° 51.67	° 3.19		216	-			☐	
			13:52	EN			° 51.65	° 3.21			-			☐	
			:				°	°			-			☐	
69	47	25	14:17	BE	ROS		48° 49.29	123° 6.24	182		-		SR	☒	
			14:20	BO			° 49.30	° 6.27		177	-			☐	
			14:23	EN			° 49.29	° 6.28			-			☐	
			:				°	°			-			☐	
70	51	25	15:30	BE	ROS		48° 46.70	122° 51.68	163		-		SR	☒	
			15:33	BO			° 46.70	° 51.70		160	-			☐	
			15:36	EN			° 46.72	° 51.73			-			☐	
			:				°	°			-			☐	
71	52	25	16:44	BE	ROS		48° 38.92	121° 43.26	84		-		SR	☒	
			16:46	BO			48° 38.92	° 43.26		81	-			☐	
			16:47	EN			° 38.92	° 43.25			-			☐	

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Month			Year		Vessel		Cruise ID								
SEP			2016		VECTOR		2016-10								
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
72	53	25	17:34	BE	ROS		48° 33.23	122° 45.01	63		-		SR	☒	
			17:35	BO			° 33.24	° 45.01		59	-			☐	
			17:36	EN			° 33.24	° 45.01			-			☐	
			:				°	°			-			☐	
73	54	25	18:29	BE	ROS		48° 26.64	122° 44.35	81		-		SR	☒	
			18:30	BO			° 26.65	° 44.36		77	-			☐	
			18:32	EN			° 26.66	° 44.37			-			☐	
			:				°	°			-			☐	
74	62	25	20:10	BE	ROS	US	48° 22.84	123° 2.63	147		225-234	12	RE	☒	
			20:14	BO			° 22.84	° 2.64		146	-			☐	
			20:23	EN			° 22.86	° 2.65			-			☐	
			:				°	°			-			☐	
75	63	25	21:21	BE	ROS	US	48° 14.61	122° 58.53	152		235-237	3	RE	☐	
			21:23	BO			° 14.60	° 58.54		150	-			☐	
			21:27	EN			° 14.60	° 58.53			-			☐	
			:				°	°			-			☐	
76	63	25	21:31	BE	NET		48° 14.61	122° 58.52	152		-			☐	1431 level line
			21:33	BO			° 14.59	° 58.52			-			☐	
			21:35	EN			° 14.58	° 58.51			-			☐	

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Month				Year		Vessel		Cruise ID							
SEP				2016		VECTOR		2016-10							
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
77	64	25	22:16	BE	ROS		48° 12.81	123° 5.75	106		-		RC	☒ ☐	
			22:20	BO			° 12.81	° 5.76		104	-			☐ ☐	
			22:21	EN			° 12.82	° 5.76			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
78	65	25	22:51	BE	ROS	US	48° 15.93	123° 9.85	124		238-248	11	RC	☒ ☐	bottle 11 has
			22:55	BO			° 15.94	° 9.84		120	-			☐ ☐	chip w/seal
			23:05	EN			° 15.94	° 9.84			-			☐ ☐	bottom
			:				° .	° .			-			☐ ☐	
79	66	25	23:42	BE	ROS		48° 19.26	123° 14.15	102		-		RC	☒ ☐	
			23:44	BO			° 19.26	° 14.17		99	-			☐ ☐	
			23:45	EN			° 19.25	° 14.20			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
80	67	26	00:40	BE	ROS		48° 22.84	123° 18.16	104		-		RC	☒ ☐	
			00:42	BO			° 22.82	° 18.17		102	-			☐ ☐	
			00:43	EN			° 22.81	° 18.17			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
81	104	26	1:07	BE	ROS		43° 20.008	123° 18.121	83		-		UW	☒ ☐	
			1:09	BO			° 20.012	123° 18.222		81	-			☐ ☐	
			:	EN			° 20.014	123° 18.228			-			☐ ☐	

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This page is for any notes or observations

- bottle is out of service until Scott examines it

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>SEP</u>				Year <u>2016</u>			Vessel <u>Vector</u>			Cruise ID <u>2016-10</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
82	adcp	26	1:55	BE	ROS	OS	48° 14.042	123° 18.101	119		247-259	11	JW	☒	
			1:57	BO			° 14.06	° 18.18		116	-			☐	
			2:07	EN			° 14.03	° 18.36			-			☐	
			:				° .	° .			-			☐	
83	105	26	02:31	BE	ROS		48° 10.94	123° 19.01	81		-		PC	☒	
			02:33	BO			° 10.94	° 19.01			-			☐	
			02:34	EN			° 10.94	° 19.01			-			☐	
			:				° .	° .			-			☐	
84	68	26	04:02	BE	ROS		48° 12.19	123° 43.06	132		-		PC	☒	
			04:10	BO			° 12.20	° 43.05		136	-			☐	
			04:12	EN			° 12.20	° 43.03			-			☐	
			:				° .	° .			-			☐	
85	69	26	04:41	BE	ROS	US	48° 15.64	123° 43.20	178		-		PC	☒	no bottle 11
			04:43	BO			° 15.64	° 43.20		176	-			☐	
			04:54	EN			° 15.64	° 43.18			-			☐	
			:				° .	° .			-			☐	
86	70	26	05:29	BE	ROS		48° 19.18	123° 43.23	150		-		PC	☒	
			05:33	BO			° 19.16	° 43.25		149	-			☐	
			05:36	EN			° 19.15	° 43.24			-			☐	

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Month <u>SEP</u>				Year <u>2016</u>		Vessel <u>VECTOR</u>		Cruise ID <u>2016-10</u>							
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
87	71	26	06:49	BE	ROS		48° 22.18	123° 59.46	108		-			☒	
			06:51	BO			° 22.19	° 59.49		107	-			☐	
			06:53	EN			° 22.19	° 59.50			-			☐	
			:				°	°			-			☐	
88	72	26	07:28	BE	NET		48° 18.611	124° 4.042	189		-		NW	☐	
			07:35	BO			° 18.621	° 4.046		177	-			☐	
			07:38	EN			° 18.645	° 4.049			-			☐	
			:				°	°			-			☐	
89	72	26	07:46	BE	ROS		48° 18.67	124° 4.09	189		-		SR	☒	
			07:50	BO			° 18.68	° 4.12		184	-			☐	
			08:09	EN			° 18.71	° 4.13			-			☐	
			:				°	°			-			☐	
90	73	26	08:54	BE	ROS		48° 15.03	124° 6.67	162		-		SR	☒	
			08:57	BO			° 15.04	° 6.68		158	-			☐	
			08:59	EN			° 15.05	° 6.69			-			☐	
			:				°	°			-			☐	
91	74	26	11:07	BE	ROS	US	48° 25.17	124° 35.69	186		-		SR	☒	
			11:10	BO			° 25.19	° 35.80		182	-			☐	
			11:14	EN			° 25.19	° 35.91			-			☐	

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Month				Year		Vessel				Cruise ID					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
92	75	26	11:44	BE	ROS	US	48°28.24	124°32.89	223		290-305	16	SR	☒	
			11:49	BO			°28.25	°32.96		220	-			☐	
			12:05	EN			°28.31	°32.99			-			☐	
			:				°	°			-			☐	
93	76	26	12:46	BE	ROS		48°31.43	124°30.02	88		-		SR	☒	
			12:47	BO			°31.43	°30.03		84	-			☐	
			12:49	EN			°31.44	°30.03			-			☐	
			:				°	°			-			☐	
94	103	26	13:45	BE	ROS		48°33.05	124°43.10	120		-		SR	☒	
			13:47	BO			°33.07	°43.21		117	-			☐	
			13:49	EN			°33.09	°43.29			-			☐	
			:				°	°			-			☐	
95	102	26	14:16	BE	ROS	US	48°30.02	124°44.08	257		306-321	16	SR	☒	
			14:21	BO			°30.08	°44.35			-			☐	
			14:33	EN			°30.10	°44.59			-			☐	
			:				°	°			-			☐	
96	101	26	15:20	BE	ROS		48°25.36	124°45.27	212		-		SR	☒	
			15:25	BO			°25.32	°45.50		207	-			☐	
			15:29	EN			°25.28	°45.64			-			☐	

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97	61	26	22:24	BE	ROS		48° 29.22	123° 9.30	285		-		R	☒	high pH
			22:28	BO			° 29.20	° 9.31		275	-			☐	
			22:33	EN			° 29.13	° 9.42			-			☐	
			:				° .	° .			-			☐	
98	60	26	23:08	BE	ROS		48° 33.89	123° 12.77	293		-		R	☒	
			23:13	BO			° 33.92	° 12.82		290	-			☐	
			23:17	EN			° 33.92	° 12.80			-			☐	
			:				° .	° .			-			☐	
99	59	26	23:46	BE	NET		48° 37.79	123° 13.98	250		-			☐	local 1646
			23:49	BO			° 37.70	° 13.96		240	-			☐	
			23:52	EN			° 37.62	° 13.98			-			☐	
			:				° .	° .			-			☐	
100	59	27	00:02	BE	ROS	US	48° 37.62	123° 14.02	245		322-337	16		☒	bottle 11 not
			00:06	BO			° 37.79	° 14.00		244	-			☐	used
			00:18	EN			° 37.86	° 13.94			-			☐	
			:				° .	° .			-			☐	
101	G101	27	01:25	BE	ROS		48° 45.83	123° 20.51	65		-			☒	1825 local
			01:26	BO			° 45.84	° 20.51		64	-			☐	
			01:27	EN			° 45.84	° 20.51			-			☐	

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EVENT #	STN NAME	DAY	TIME	TIME CODE	EVENT TYPE	LAT	LONG	Bottom Depth	Max Pressure	Watch keepers
102	G101	27	01 30	BE	NET	48 45.84	123 20.48	65	55	KS JW
			01 31	BO		45.84	20.48			
			01 32	EN		45.84	20.48			
103	SC-04	27	02 03	BE	NET	48 43.51	123 24.98	92	82	KS JW
			02 04	BO		43.51	24.99			
			02 05	EN		43.50	24.99			
104	SC04	27	02 13	BE	POS	48 43.51	123 25.00	92	29	pe
			02 15	BO		43.51	25.00			
			02 17	EN		43.52	25.00			