

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2013-38

DATE:

From: 28 MAY

To: 7 JUNE 2013

VESSEL:

JOHN P. TULLY

PROJECT(S):

LA PEROUSE, WCVI

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

WaterProperties.ca

Captain: Victor Goodwin First Officer: Al Young / Jody

Second Officer: Jody / Ryan Third Officer: Ryan

Fishing Master: _____ Chief Engineer: Ryan

Mission Participants / Agencies:

105/03C/01C

**** Chief Scientist to complete section below OR cut and tape from cruise plan ****

1st Leg Scientific Personnel: Chief Scientist: Doug Zelland

Name	Watch	Cabin
Marie Robert	X-M	A
Maira Galbraith	00-12	B
Scott Rose	00-12	C
Dave Capelle	12-24	D
Kenny Sciozafava	DX4	E
Doug Yelland	Days	F
Glenn Cooper	12-24	G
Melissa Hennekes	Days	H
Liauna Teeter	00-12	H

2nd Leg Scientific Personnel: _____ **Chief Scientist:** _____

[illegible]

**** The following 3 pages are VERY IMPORTANT as they document equipment and settings used on board ****

These pages are to be completed by the CTD Technician setting up the equipment, the Watch Leader on board, and the Chief Scientist **MUST** verify that all relevant sections are completed prior to leaving the vessel. Any mid-cruise changes to be noted by watch leader in the notes.

Data logging computer: #3

Data acquisition program: Seasave

CTD deck unit make: SBE model: 11+ serial number: 0471

Primary CTD

Make: SBE model: 9+ serial number: 404

Primary temperature serial number: 2023

Primary conductivity serial number: 2280

Secondary temperature serial number: 2668

Secondary conductivity serial number: 2754

Transmissometer: Wetlabs Model: C-840r s/n: 1316 DR

Transmissometer: _____ Model: _____ s/n: _____

Fluorometer: Model Sapoint Cable gain: 3x s/n: 2228 (P) S or NO pump?

Fluorometer: Model _____ Cable gain: _____ s/n: _____ P, S or NO pump?

Oxygen sensor: SBE Model: 43 s/n: 0997 (P) S or NO pump?

PAR sensor: Bio-Sparker Model: 200 s/n: 4601 Surface PAR? Y (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: _____

Transmissometer: _____ Model: _____ s/n: _____

Fluorometer: Model _____ Cable gain: _____ s/n: _____ P, S or NO pump?

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: _____ Surface PAR? Y (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): _____

This also includes the bottle location above the CTD on non-rosette casts (e.g., W.E. Ricker)

DAILY SCIENCE LOG

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Page 1 of

Month <u>MAY</u>				Year <u>2013</u>		Vessel <u>TULLY</u>		Cruise ID <u>2013 38</u>							
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							
1	SI	29	02:20	BE	ROS		48° 39.17	123° 30.62	183		-	✓	MR	☒	all bottles closed at surface, no sample
			02:30	BO			48° 39.17	123° 30.62		174	-			☐	
			02:35	EN			48° 39.17	123° 30.62			-			☐	PAR ON
2	LBO1	29	15:40	BE	ROS	US	48° 40.41	124° 59.60	34		1-3	3	SR	☒	
			15:41	BO			° 40.40	° 59.62		30	-			☐	
			15:48	EN			° 40.38	° 59.65			-			☐	
3	LBO2	29	16:17	BE	ROS	US	48° 39.01	125° 2.47	55		4-9	6	SR	☒	
			16:19	BO			° 39.02	° 2.46		50	-			☐	
			16:25	EN			° 39.03	° 2.47			-			☐	
4	LBO3	29	17:05	BE	ROS		48° 37.47	125° 5.81	87		-			☒	
			17:07	BO			° 37.57	° 5.88		92	10-11	2	SR	☐	
			17:11	EN			° 37.61	° 5.92			-			☐	
5	LBO4	29	17:51	BE	ROS		48° 35.76	125° 8.96	105		12-19	4	SR	☒	
			17:54	BO			° 35.77	° 9.00		110	-			☐	
			18:02	EN			° 35.80	° 9.09			-			☐	
6	E1	29	18:58	BE	ROS		48° 31.61	125° 03.92	119		/ - /	/	MR	☒	
			19:01	BO			48° 31.62	125° 03.93		111	-			☐	
			19:03	EN			48° 31.63	125° 03.93			-			☐	
			:				°	°			-			☐	

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

Bottle Firing Method:

US = Up / Stop (default)
 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

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

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DAILY SCIENCE LOG

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Page 2 of

Month <u>MAI</u>				Year <u>2013</u>		Vessel <u>TULLY</u>				Cruise ID <u>2013-38</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
7	E1	29	19:26	BE	NET		48° 31.72	125° 03.93	117		-		GC	☐ ☐	Slight delay to the bougies
			19:32	BO			48° 31.75	125° 03.91		107	-			☐ ☐	
			19:34	EN			48° 31.77	125° 03.90			-			☐ ☐	
8	LB05	29	20:22	BE	ROS	US	48° 34.05	125° 12.08	101		20-21	2	MR	☒ ☐	
			20:25	BO			48° 34.06	125° 12.07		95	-			☐ ☐	
			20:30	EN			48° 34.07	125° 12.05			-			☐ ☐	
9	LB06	29	21:03	BE	ROS		48° 32.23	125° 15.43	115		22-28	7	MR	☒ ☐	
			21:06	BO			48° 32.23	125° 15.39		105	-			☐ ☐	
			21:14	EN			48° 32.25	125° 15.32			-			☐ ☐	
10	C1	29	21:47	BE	ROS		48° 28.95	125° 15.30	152		-			☐ ☐	
			21:51	BO			48° 28.95	125° 15.30		142	-	Ø	MR	☒ ☐	
			21:53	EN			48° 28.94	125° 15.28			-			☐ ☐	
11	C1	29	21:59	BE	NET		48° 28.96	125° 15.18	152		-		GC	☐ ☐	
			22:05	BO			48° 28.94	125° 15.15		142	-			☐ ☐	
			22:08	EN			48° 28.94	125° 15.12			-			☐ ☐	
12	C2	29	22:52	BE	ROS		48° 26.21	125° 09.25	160		-	Ø	MR	☒ ☐	ONE NBF IN
			22:56	BO			48° 26.21	125° 09.24		151	-	(1)		☐ ☐	CLOSED FOR BACK WATER NO SAMPLE
			22:59	EN			48° 26.21	125° 09.23			-			☐ ☐	FWD: 0.43
			:				°	°			-			☐ ☐	

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Notes:

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This page is for any notes or observations

New TSG file started @ the end of E1 station

DAILY SCIENCE LOG

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Page 3 of

Month <u>MAY</u>			Year <u>2013</u>		Vessel <u>TULLY</u>			Cruise ID <u>2013-38</u>							
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							
13	C2	29	23:04	BE	NET		48° 26.22	125° 09.20	162		-		GC	☐	
			23:10	BO			48° 26.22	125° 09.18		151	-			☐	
			23:13	EN			48° 26.21	125° 09.17			-			☐	
14	C3	30	00:35	BE	ROS		48° 23.37	125° 20.54	123		-	Ø	MR	☒	
			00:38	BO			48° 23.34	125° 20.47		114	-			☐	
			00:40	EN			48° 23.29	125° 20.42			-			☐	
15	C3	30	00:48	BE	NET		48° 23.	125° 20.	123		-		GC	☐	
			00:52	BO			48° 23.13	125° 20.31		113	-			☐	
			00:54	EN			48° 23.11	125° 20.30			-			☐	
16	LB07	30	0 :	BE	ROS	US	48° .	125° .	157		30 -		MR	☒	Cancelled →
			:	BO			° .	° .			-			☐	
			:	EN			° .	° .			-			☐	
17	LB07	30	02:03	BE	NET		48° 28.63	125° 22.06	157		-			☐	Bongo done before
			02:09	BO			48° 28.62	125° 22.07		148	-			☐	CTD →
			02:12	EN			48° 28.62	125° 22.07			-			☐	
18	LB08	30	04:00	BE	CAM		48° 25.27	125° 28.48	135		-			☐	
			04:07	BO			48° 25.26	125° 28.43			-			☐	
			04:11	EN			48° 25.25	125° 28.38			-			☐	
			:				° .	° .			-			☐	

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 CAM = CAMERA

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Wanda issues. No cast 0016

Bongo done before CTD while trouble shooting the LARS, Rosette didn't release #0016

DAILY SCIENCE LOG

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Page 7 of

Month <u>MAY</u>				Year <u>2013</u>		Vessel <u>TULLY</u>				Cruise ID <u>2013-38</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
19	LBO8	30	04:20	BE	CAM		48° 25.26	125° 28.65			-		GC	☐	
			04:23	BO			48° 25.25	125° 28.61			-			☐	
			04:27	EN			48° 25.24	125° 28.55			-			☐	
20	LBO8	30	04:34	BE	NET		48° 25.24	125° 28.54	134		-		GC	☐	
			04:40	BO			48° 25.24	125° 28.54		124	-			☐	
			04:42	EN			48° 25.24	125° 28.54			-			☐	
21	LBO8	30	05:00	BE	ROS	US	48° 25.24	125° 28.54	133		-		DT/MR	☒	in D.P.
			05:03	BO			48° 25.24	125° 28.54		127	32-41	1		☐	no chl Max
			05:15	EN			48° 25.24	125° 28.54			-			☐	
22	LBO7	30	06:04	BE	ROS	US	48° 28.69	125° 22.10	157		30-X	1	MR	☒	
			06:08	BO			48° 28.69	125° 22.08		146	-			☐	
			06:12	EN			48° 28.69	125° 22.10			-			☐	
23	B8		07:15	BE	ROS		48° 34.33	125° 30.06	135		-		SR	☒	
			07:17	BO			° 34.32	° 30.06		128	-			☐	
			07:20	EN			° 34.31	° 30.06			-			☐	
24	B8		07:27	BE	NET		48° 34.21	125° 30.03	132		-		MG	☐	
			07:32	BO			° 34.12	° 30.00		125	-			☐	
			07:35	EN			° 34.09	° 29.98			-			☐	
			:				°	°			-			☐	

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Bottle Firing Method:

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Notes:

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DAILY SCIENCE LOG

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Page 5 of

Month <u>May</u>				Year <u>2013</u>		Vessel <u>Tully</u>				Cruise ID <u>2013-38</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/ Re Cleaned	Comments
25	B7	30	08:17	BE	ROS		48° 32.00	125° 35.46	79		-		SR	☒	
			08:19	BO			° 32.00	° 35.47		73	-			☐	
			08:20	EN			° 32.00	° 35.47			-			☐	
26	B7	30	08:28	BE	NET		48° 31.89	125° 35.47	79		-		SR	☐	
			08:30	BO			° 31.88	° 35.47		69	-			☐	
			08:31	EN			° 31.87	° 35.48			-			☐	
27	LB09	30	09:53	BE	ROS		48° 22.09	125° 34.93	151		43-52		SR	☒	
			09:56	BO			° 22.09	° 34.93		147	-			☐	
			10:07	EN			° 22.12	° 34.83			-			☐	
28	LB10	30	11:03	BE	ROS		48° 18.70	125° 41.27	153		-			☐	
			11:05	BO			° 18.71	° 41.23		148	53-54	1	SR	☒	
			11:08	EN			° 18.73	° 41.27			-			☐	
29	LB11	30	12:01	BE	ROS	US	48° 15.26	125° 47.66	207		-			☐	
			12:05	BO			° 15.25	° 47.65		201	55-66	12	SR	☒	
			12:14	EN			° 15.22	° 47.57			-			☐	
30	LB11	30	12:28	BE	NET		48° 15.267	125° 47.649			-			☐	
			12:35	BO			° 15.260	° 47.615			-		MG	☐	
			:				° .	° .			-			☐	
			:				° .	° .			-			☐	

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 =

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After the LB11 cast, checked the con file and noticed the Seapoint gain was @ 30x and we have a 3x cable in place. changed the con file to match.

DAILY SCIENCE LOG

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Page 6 of

Month <u>May</u>				Year <u>2013</u>			Vessel <u>Tolly</u>			Cruise ID <u>2013-38</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
31	LB12	30	13:23	BE	ROS	US	48° 13.06	125° 51.75	494		67-83	17	SR	☒	
			13:31	BO			° 13.02	° 51.65		489	-			☐	
			13:54	EN			° 13.01	° 51.58			-			☐	
32	LB13	30	14:33	BE	ROS		48° 10.633	125° 56.045	911		84 -	15	SR	☒	cd only →
			14:49	BO			48° 10.675	125° 56.022		905	-			☐	
			15:07	EN			48° 10.72	125° 56.06			-			☐	
33	LB14	30	15:44	BE	ROS		48° 8.52	125° 59.84	1163		-104		SR	☒	See rosette sheet
			16:01	BO			° 8.48	° 59.79		1165	-			☐	for Nut info!
			16:38	EN			° 8.46	° 59.70			-			☐	
34	LB15	30	17:40	BE	ROS		48° 4.35	126° 8.28	1537		105-106	2	SR	☒	
			18:03	BO			° 4.28	° 8.24		1545	-			☐	
			18:30	EN			° 4.24	° 8.20			-			☐	
35	LB16	30	19:27	BE	ROS	US	48° 00.51	126° 16.87	1800		107-108	2	MR	☒	PAR OFF
			19:58	BO			48° 00.55	126° 16.99	1789	1820	-			☐	
			20:30	EN			48° 00.54	126° 17.03			-			☐	
36	LB16	30	20:50	BE	NET	US	48° 00.57	126° 17.28	1772		-		GC	☐	Mult net.
			21:43	BO			48° 00.57	126° 17.56			-			☐	
			21:12	EN			48° 00.50	126° 17.47			-			☐	
			:				°	°			-			☐	

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Started archiving early, during 10m down and up. (Kenny) Tripping two bottles @ 250m for *Amonia* standards

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Page 7 of

Month <u>MAI</u>				Year <u>2013</u>		Vessel <u>TULLY</u>			Cruise ID <u>2013-38</u>						
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							
37	LC12/A4	31	00:34	BE	ROS	—	48° 15.04	126° 40.00	2522		-		MR	☒	Syringes on between LC16 and LC12
			01:07	Bo			48° 15.01	126° 40.12		2005	/ - /	φ		☐	
			01:40	EN			48° 15.02	126° 40.13			-			☐	
38	LC12/A4	31	01:48	BE	NET	—	48° 15.01	126° 40.14	2518		-		GC	☐	Bore to 250
			01:57	Bo			48° 14.97	126° 40.15		250	-			☐	
			02:02	EN			48° 14.96	126° 40.15			-			☐	
39	LC11	31	03:15	BE	ROS	US	48° 19.07	126° 26.78	1427		-		MR	☒	S = 1434
			03:45	Bo			48° 19.00	126° 26.70		1464	112-130	19		☐	Depth = 1445
			04:26	EN			48° 18.95	126° 26.68			-			☐	
40	LC10	31	05:17	BE	ROS	US	48° 22.43	126° 20.30	1245		-		MR	☒	
			05:38	Bo			48° 22.42	126° 20.26		1243	/ - /	φ		☐	
			05:56	EN			48° 22.41	126° 20.24			-			☐	
41	LC02/A3	31	06:45	BE	ROS	US	48° 25.90	126° 13.66	613		132-149	18	MR/SR	☒	
			06:57	Bo			° 25.87	° 13.59		606	-			☐	
			:	EN			° 25.86	° 13.36			-			☐	
42	LC02/A3	31	07:35	BE	NET		48° 25.874	126° 13.372	590		-		MG	☒	
			07:44	Bo			° 25.883	° 13.374		250	-			☐	
			07:49	EN			° 25.875	° 13.373			-			☐	
			:				° .	° .			-			☐	

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Bottle Firing Method:

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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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Notes:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 8 of

Month <u>May</u>				Year <u>2013</u>		Vessel <u>Tully</u>		Cruise ID <u>2013-38</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
43	LC08	31	08:40	BE	ROS	US	48° 29.47	126° 7.04	198		150-161	12	SR	☒	
			08:43	BO			° 29.45	° 7.03		192	-			☐	
			08:58	EN			° 29.47	° 7.03			-			☐	
44	LC08	31	09:07	BE	NET		48° 29.47	126° 7.066	198		-		MG	☐	
			09:14	BO			° 29.47	° 7.055		188	-			☐	
			09:18	EN			° 29.47	° 7.058			-			☐	
45	A2	31	10:11	BE	ROS		48° 22.77	126° 3.82			-		SR	☒	
			10:16	BO			° 22.77	° 3.82			-			☐	
			10:20	EN			° 22.75	° 3.84			-			☐	
46	A2	31	10:27	BE	NET		48° 22.75	126° 3.86			-		MG	☐	
			10:35	BO			° 22.75	° 3.88			-			☐	
			10:40	EN			° 22.76	° 3.92			-			☐	
47	LC01	31	17:03	BE	ROS		48° 50.43	125° 27.95	96		162-168		SR	☒	
			17:05	BO			° 50.43	° 27.94			-			☐	
			17:15	EN			° 50.42	° 27.84			-			☐	
48	LC02	31	17:50	BE			48° 48.76	125° 30.99	109		-		SR	☒	Didn't trip bot
			17:52	BO			° 48.68	° 30.97		102	169-176	8(6)		☐	9 as the water
			18:00	EN			° 48.66	° 30.93			-			☐	2 max. more
			:				° .	° .			-			☐	→

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
=

Bottle Firing Method:

US = Up / Stop (default)
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:

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Bot 2 wasn't tripped as we were only in 178m of water

→ Bot 8 didn't get fired, I didn't see that there were 2 @ 5m, SR

— LCO2 comment up here —

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 9 of

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
49	LC03	31	18:33	BE	ROS		48° 46.92	125° 34.21	140				SR	☒	
			18:36	BO			° 46.93	° 34.21		134	-			☐	
			18:38	EN			° 46.93	° 34.22			-			☐	
50	LC04	31	19:24	BE	ROS	US	48° 43.44	125° 40.82	165		178-187	10	MR	☒	
			19:27	BO			48° 43.42	125° 40.80		156	-			☐	
			19:39	EN			48° 43.36	125° 40.79			-			☐	
51	LC05/BS	31	20:30	BE	ROS		48° 40.00	125° 47.36	63		-	φ	MR	☒	PAR ON
			20:31	BO			48° 40.01	125° 47.34		53	/ - /			☐	
			20:33	EN			48° 40.00	125° 47.33			-			☐	
52	LC05/BS	31	20:40	BE	NET		48° 39.96	125° 47.30	63		-		GC	☐	
			20:42	BO			48° 39.96	125° 47.29		54	-			☐	
			20:43	EN			48° 39.95	125° 47.29			-			☐	
53	LC06/BS	31	21:28	BE	NET		48° 36.48	125° 53.89	91		-		GC	☐	
			21:31	BO			48° 36.47	125° 53.88		82	-			☐	
			21:32	EN			48° 36.47	125° 53.88			-			☐	
54	LC06/BS	31	21:41	BE	ROS		48° 36.48	125° 53.87	91		-		MR	☒	
			21:43	BO			48° 36.47	125° 53.86		52	189-195	7		☐	
			21:51	EN			48° 36.45	125° 53.82			-			☐	
			:				°	°			-			☐	

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Notes:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 10 of

Month <u>MAY / JUNE</u>				Year <u>2013</u>			Vessel <u>TULLY</u>			Cruise ID <u>2013-38</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
55	LC07	31	22:34	BE	ROS	US	48°33.00	126°00.64	129		196 - X	1	MR	☒ ☐	
			22:37	BO			48°33.01	126°00.64		120	-			☐ ☐	
			22:41	EN			48°33.01	126°00.58			-			☐ ☐	
56	LD11	1	01:49	BE	NET		48°28.69	126°42.79	1603		-		GC	☐ ☐	PAR OFF SPRINGER ON LC7 → LD11
			01:57	BO			48°28.68	126°42.81		250	-			☐ ☐	Bouye to 250
			02:02	EN			48°28.69	126°42.81			-			☐ ☐	
57	LD11	1	06:22	BE	ROS	US	48°28.72	126°43.11	1594		-		MR	☒ ☐	Cable snapped.
			06:49	BO			48°28.70	126°43.05		1611	X - X	Ø		☐ ☐	
			07:15	EN			°28.75	°42.93			-			☐ ☐	
58	LD10	1	08:02	BE	ROS	✓	48°32.184	126°36.624	1475		-		MG	☒ ☐	
			08:23	BO			°32.208	°36.462		1470	-			☐ ☐	
			08:43	EN			°32.24	°36.44			-			☐ ☐	
59	LD09	1	09:29	BE	ROS	✓	48°35.69	126°30.032	1052		-		MG	☒ ☐	
			09:46	BO			°35.76	°30.042		1047	-			☐ ☐	
			10:03	EN			°35.71	°30.065			-			☐ ☐	
60	LD09	1	10:14	BE	NET		48°35.723	126°30.035	1050		-		MG	☐ ☐	
			10:20	BO			48°35.725	126°30.036		250	-			☐ ☐	
			10:24	EN			48°35.728	126°30.049			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Re-terminated the wire, the fuse blew during the snap, replaced it and all was fine. SR

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 11 of

Month <u>June</u>				Year <u>2013</u>			Vessel <u>Tully</u>			Cruise ID <u>2013-38</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
61	LD08	1	11:16	BE	ROS		48°39.15	126°23.50	779		-		SR	☒	
			11:28	BO			°39.14	°23.52		778	-			☐	
			11:37	EN			°39.13	°23.58			-			☐	
62	LD07	1	12:20	BE	ROS		48°42.54	126°16.89	439		-		SR	☒	
			12:27	BO			°42.53	°16.89			-			☐	
			12:32	EN			°42.57	°16.90			-			☐	
63	LD06	1	13:17	BE	ROS		48°46.12	126°10.26	138		-		SR	☒	
			13:19	BO			°46.11	°10.25		132	-			☐	
			13:22	EN			°46.10	°10.24			-			☒	
64	LD05	1	14:08	BE	ROS		48°49.63	126°3.69	92		-		SR	☒	
			14:10	BO			°49.66	°3.66			-			☐	
			14:11	EN			°49.68	°3.66			-			☐	
65	LD04	1	14:55	BE	ROS		48°53.15	125°57.04	64		-		SR	☒	
			14:56	BO			°53.14	°57.05		58	-			☐	
			14:57	EN			°53.14	°57.06			-			☐	
66	LD04	1	15:05	BE	NET		48°53.10	125°57.06			-		MG	☐	
			15:07	BO			°53.10	°57.06			-			☐	
			15:09	EN			°53.10	°57.03			-			☐	
			:				°	°			-			☐	

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 Version: 14 February 2013

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 12 of

Month <u>June</u>				Year <u>2013</u>			Vessel <u>Tully</u>			Cruise ID <u>2013-38</u>					
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							
67	LD03	1	15:59	BE	ROS		48° 56.64	125° 50.47	47				SR	☒	
			15:59	BO			° 56.63	° 50.47		41	-			☐	
			16:00	EN			° 56.62	° 50.47			-			☐	
68	LD02	1	16:31	BE	ROS	US	48° 57.94	125° 48.33	47		197-202	6	SR	☒	2 miles off
			16:32	BO			° 57.94	° 48.32		41	-			☐	Station due to
			16:40	EN			° 57.95	° 48.34			-			☐	fishing.
69	LD02	1	16:45	BE	NET		48° 57.93	125° 48.37	47				MG	☐	
			16:48	BO			° 57.92	° 48.38		37	-			☐	
			16:56	EN			° 57.91	° 48.40			-			☐	
70	LD01	1	17:28	BE	ROS		49° 0.15	125° 43.75	35				SR	☒	
			17:29	BO			° 0.15	° 43.75		29	-			☐	
			17:30	EN			49° 0.15	125° 43.74			-			☐	
71	LG01	1	21:29	BE	ROS		49° 20.47	126° 35.18	53		203-207	5	MR	☒	PAR ON
			21:31	BO			49° 20.47	126° 35.18		45	-			☐	No syringes on during
			21:37	EN			49° 20.46	126° 35.23			-			☐	steaming.
72	LG02	1	22:03	BE	NET		49° 18.76	126° 38.01	99				GC	☐	
			22:07	BO			49° 18.75	126° 37.98		89	-			☐	
			22:09	EN			49° 18.73	126° 38.02			-			☐	
			:				°	°			-			☐	

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 13 of

Month <u>JUN</u>				Year <u>2013</u>			Vessel <u>TULLY</u>			Cruise ID <u>2013-38</u>					
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							
73	LG02	1	22:19	BE	ROS	US	49°18.68	126°38.28	100		-		MR	☒	
			22:21	BO			49°18.65	126°38.29		92	209-215	7		☐	
			22:30	EN			49°18.63	126°38.28			-			☐	
74	LG03	1	23:10	BE	ROS	/	49°15.01	126°43.58	122		-		MR	☒	
			23:13	BO			49°15.02	126°43.56		110	/ - /	Ø		☐	
			23:16	EN			49°15.04	126°43.55			-			☐	
75	LG04	1	23:55	BE	NET		49°11.33	126°49.34	146		-		GC	☐	
		2	00:00	BO			49°11.34	126°49.32		135	-			☐	
			00:02	EN			49°11.35	126°49.31			-			☐	
76	LG04	2	00:10	BE	ROS	US	49°11.37	126°49.28	146		216-225	10	MR	☒	
			00:13	BO			49°11.37	126°49.25		136	-			☐	
			00:23	EN			49°11.38	126°49.15			-			☐	
77	LG05	2	01:07	BE	ROS	/	49°07.46	126°55.35	275		/ - /	Ø	MR	☒	
			01:13	BO			49°07.48	126°55.37		267	-			☐	
			01:18	EN			49°07.46	126°55.42			-			☐	
78	LG06	2	01:58	BE	ROS	US	49°03.53	127°01.25	968		-		MR	☒	
			02:19	BO			49°03.56	127°01.30		986	226-242	17		☐	
			02:53	EN			49°03.64	127°01.24			-			☐	
			:				°	°			-			☐	

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 Version: 14 February 2013

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 14 of

Month <u>JUN</u>				Year <u>2013</u>			Vessel <u>TULLY</u>			Cruise ID <u>2013-38</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
79	LG07	2	03:35	Bo	NET		48°59.42	127°07.17	1760		-		GC	☐ ☐	PAR OFF
			03:42	Bo			48°59.45	127°07.24		250	-			☐ ☐	
			03:46	EN			48°59.49	127°07.19			-			☐ ☐	
80	LG07	2	03:		ROS	—	48°59.	127°07.	1755		-		MR	☒ ☐	WIRE BROKE AGAIN.
			:				°	°			-			☐ ☐	Syringes on
			:				°	°			-			☐ ☐	between LG-LBP lines.
80	LBP08	2	13:09		ROS	—	49°48.53	128°16.71	2074		-		SR	☒ ☐	Re-termination
			13:39				°48.51	°16.75		2086	-			☐ ☐	details →
			14:06				°48.50	°16.77			-			☐ ☐	
81	LBP7	2	15:11		ROS	us	49°52.38	128°11.26	2174		243-263	21	SR	☒ ☐	Winch operator changed
			15:50				°52.41	°11.31		2201	-			☐ ☐	@ ~1850m on
			16:48				°52.55	°11.59			-			☐ ☐	up cast
82	LBP7	2	16:59		NET		49°52.47	128°11.43	2148		-		MC	☐ ☐	
			17:09				°52.52	°11.63		250	-			☐ ☐	
			17:14				°11.51	°11.37			-			☐ ☐	
83	LBP6	2	18:03		ROS		49°56.06	128°05.69	856		-		SR	☒ ☐	PAR on!
			18:17				°56.05	°05.82		881	-			☐ ☐	
			18:29				°56.08	°05.98			-			☐ ☐	
			:				°	°			-			☐ ☐	PAR OFF

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Strands were snapping and Birdcaging in the crane. Had to cut back 200 m to better wire.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 15 of

Month <u>JUN</u>			Year <u>2013</u>			Vessel <u>TULLY</u>			Cruise ID <u>2013-38</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
84	LBP5	2	19:18	BE	ROS	US	49° 59.97	128° 00.22	1290		-		MR	☒ ☐	
			19:45	BO			50° 00.02	128° 00.36		1287	264-282	19		☐ ☐	
			20:30	EN			49° 59.99	128° 00.61			-			☐ ☐	
85	LBP5	2	20:36	BE	Net		50° 0.03	128° 0.66	1290		-		GC	☐ ☐	Bongo
			20:48	BO			50° 0.07	128° 0.77		250	-			☐ ☐	
			20:52	EN			50° 0.09	128° 0.70			-			☐ ☐	
86	LBP4	2	21:18	BE	ROS	/	50° 01.40	127° 58.15	1015		-		MR	☒ ☐	
			21:38	BO			50° 01.40	127° 58.15		1050	-	Ø		☐ ☐	
			21:57	EN			50° 01.37	127° 58.18			-			☐ ☐	
87	LBP3	2	22:26	BE	ROS	US	50° 03.20	127° 55.22	164		-		MR	☒ ☐	PAR ON
			22:30	BO			50° 03.24	127° 55.24		152	283-292	10		☐ ☐	→
			22:42	EN			50° 03.27	127° 55.30			-			☐ ☐	
88	LBP3	2	22:48	BE	Net		50° 03.25	127° 55.29	162		-		GC	☐ ☐	
			22:54	BO			50° 3.26	127° 55.35		152	-			☐ ☐	Bongo
			22:57	EN			50° 3.29	127° 55.37			-			☐ ☐	
89	LBP2	2	23:18	BE	ROS	/	50° 03.99	127° 54.16	99		-		MR	☒ ☐	
			23:20	BO			50° 04.00	127° 54.15		87	-	Ø		☐ ☐	
			23:23	EN			50° 03.99	127° 54.15			-			☐ ☐	
			:				°	°			-			☐ ☐	

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

Notes:

Time Code:

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

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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Computer turned itself off before LBP3, #87

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 16 of

Month <u>JUN</u>			Year <u>2013</u>			Vessel <u>TULLY</u>			Cruise ID <u>2013-38</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
90	LBP2	2	23:28	BE	NET		50° 4.00	127° 54.16	98		-		GC	☐ ☐	
			23:31	BO			50° 4.01	127° 54.18		88	-			☐ ☐	Bong
			23:33	EN			50° 4.01	127° 54.17			-			☐ ☐	
91	LBP1	2	23:49	BE	ROS	✓	50° 04.79	127° 52.76	52		-		MR	☒ ☐	
			23:51	BO			50° 04.79	127° 52.78		42	-	Ø		☐ ☐	
			23:53	EN			50° 04.78	127° 52.79			-			☐ ☐	
92	Loop 92	3	01:05	BE	Loop	✓	50° 06.99	128° 02.99	644		-			☐ ☐	Loop CHL X2 SAC
93	Loop 93	3	05:22	BE	Loop		50° 35.08	128° 33.17	184		-			☐ ☐	Loop CHL X2 SAC
94	CPE2	3	06:29	BE	ROS	✓	50° 42.93	128° 39.77	128		-		MR	☒ ☐	Syringes on between lines
			06:32	BO			50° 42.92	128° 39.78		119	-	Ø		☐ ☐	PAR OFF by 94
			06:34	EN			50° 42.93	128° 39.77			-			☐ ☐	
95	CPE2	3	06:38	BE	NET	✓	50° 42.93	128° 39.78	128		-		GC	☐ ☐	
			06:43	BO			50° 42.95	128° 39.80		113	-			☐ ☐	
			06:45	EN			50° 42.95	128° 39.81			-			☐ ☐	
96	LQ03	3	08:31	BE	ROS		50° 39.67	129° 1.93	1241		-		SR	☒ ☐	Stopped short
			08:49	BO			° 39.71	° 1.90		1282	-			☐ ☐	of the bottom
			09:04	EN			° 39.70	° 1.85			-			☐ ☐	before dialing
			:				° .	° .			-			☐ ☐	in with the altimeter
			:				° .	° .			-			☐ ☐	

Event Type:

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 ROS = CTD in Rosette
 SET = Fish Set

LOOP = Sea Water Loop

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 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

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Notes:

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This page is for any notes or observations

LQ03 - The sounder was giving erratic readings, the altimeter wasn't kicking in, so I stopped at 1240 db, went up 10m to ensure I wasn't on the bottom, then proceeded slowly down to 1281 db.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 17 of

Month <u>June</u>			Year <u>2013</u>			Vessel <u>Tully</u>			Cruise ID <u>2013-38</u>						
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							
97	LQ03	3	09:08	BE	NET		50°39.71	129° 1.85	1209				MG	☐	
			09:17	BO			°39.74	° 1.87		250	-			☐	
			09:21	EN			°39.77	° 1.91			-			☐	
98	J122	3	10:55	BE	NET		50°39.849	129° 17.342	1383		-		SR	☐	
			11:04	BO			°39.889	° 17.370		250	-			☐	
			11:08	EN			°39.904	° 17.380			-			☐	
99	J122	3	11:22	BE	ROS		50°39.86	129° 17.38	1374		-		SR	☒	
			11:43	BO			°39.89	° 17.33		1411	-			☐	
			12:04	EN			°39.84	° 17.33			-			☐	
100	CS00	3	14:53	BE	ROS	US	50°27.70	129° 54.92	2175		293 - 313	21	SR	☒	Bottle service
			15:21	BO			°27.73	° 54.95		2005	-			☐	
			16:13	EN			°27.70	° 55.03			-			☐	
101	CS00	3	16:19	BE	Net		50°27.69	129° 55.00	2178		-		MG	☐	Bougo
			16:27	BO			50°27.75	129° 55.10		250	-			☐	
			16:31	EN			50°27.77	129° 55.14			-			☐	
102	CS00	3	16:52	BE	Net		50°27.64	129° 55.05	2178		-		MG	☐	WPS
			17:50	BO			50°27.77	129° 55.05		2000	-			☐	
			18:33	EN			°	°			-			☐	
			:				°	°			-			☐	

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I replaced about 25% of the spigot o-rings for ease of use, not to fix an integrity issue.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 18 of

Month <u>JUN</u>			Year <u>2013</u>			Vessel <u>TULLY</u>			Cruise ID <u>2013-38</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
103	CS01	3	19:52	BE	ROS	-	50°34.94	129°41.60	2107		-		MR	☒ ☐	Syringes were on between CS00-CS01
			20:34	Bo			50°34.94	129°41.51		2113	---	Ø		☐ ☐	S: 2104 D: 2086
			21:13	EN			50°34.92	129°41.48			-			☐ ☐	P: 2113 A: 10
104	CS01	3	21:19	BE	NET		50°34.94	129°41.48	2105		-		GC	☐ ☐	
			21:27	Bo			50°34.94	129°41.49		250	-			☐ ☐	
			21:31	EN			50°34.94	129°41.50			-			☐ ☐	
105	CS02	3	22:46	BE	NET		50°41.26	129°28.03	1902		-		GC	☐ ☐	
			22:55	Bo			50°41.25	129°28.04		250	-			☐ ☐	
			22:59	EN			50°41.25	129°28.04			-			☐ ☐	
106	CS02	3	23:05	BE	ROS	US	50°41.23	129°28.02	1902		-		MR	☒ ☐	P: 1910 D: 1885
			23:42	Bo			50°41.22	129°28.01		1910	314-333	20		☐ ☐	S: 1903 A: 94
		4	00:39	EN			50°41.30	129°27.95			-			☐ ☐	
107	CS03	4	01:30	BE	NET		50°45.70	129°20.14	237		-		GC	☐ ☐	
			01:38	Bo			50°45.76	129°20.12		228	-			☐ ☐	
			01:42	EN			50°45.79	129°20.11			-			☐ ☐	
108	CS03	4	01:51	BE	ROS	-	50°45.81	129°20.11	216?		-		MR	☒ ☐	PAR ON
			01:57	Bo			50°45.77	129°20.08		223	---	(4)		☐ ☐	→
			02:01	EN			50°45.75	129°20.07			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Cast 0108, CS04. Niskin 8, 9, 11, 12 closed on the way up just to test
the new spigots. nk

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 19 of

Month <u>JUN</u>			Year <u>2013</u>			Vessel <u>TULLY</u>			Cruise ID <u>2013-38</u>						
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							
109	CS04	04	02:50	BE	ROS	US	50°49.46	129°13.01	98		334 - 340	7	MR	☒	
			02:52	BO			50°49.46	129°13.01		88	-			☐	
			03:00	EN			50°49.47	129°13.04			-			☐	
110	CS04	04	03:06	DE	Net		50°49.47	129°13.07	98		-		GC	☐	Bongo
			03:09	BO			50°49.47	129°13.08		87	-			☐	
			03:11	EN			50°49.48	129°13.08			-			☐	
111	ODAS	4	06:35	BE	ROS	—	50°53.33	129°48.49	1964		-		MR	☒	PAR OFF
			07:12	BO			°53.23	°48.57		1970	—	Ø		☐	
			07:43	EN			°53.26	°48.53			-			☐	
112	ODAS	4	07:52	BE	NET		50°53.26	129°48.59	1963		-		MG	☐	
			08:01	BO			50°53.22	129°48.67		230	-			☐	
			08:05	EN			50°53.20	129°48.72			-			☐	
113	CS3B	4	09:50	BE	ROS	—	51°0.06	129°26.92	220		—	—	SR	☒	
			09:54	BO			°0.05	°26.96		215	-			☐	
			09:	EN			°0.05	°26.99			-			☐	
114	CS3B	04	10:02	BE	NET		51°00.01	129°27.01	220		-		MG	☐	
			10:09	BO			51°00.03	129°26.92		220	-			☐	
			10:13	EN			50°59.997	129°26.88			-			☐	
			:				°	°			-			☐	

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Notes:

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Version: 14 February 2013

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 20 of

Month			Year				Vessel				Cruise ID				Comments
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	
115	CS05	4	12:16	BE	ROS		50°56.01	129° 0.33	64		-	-	SR	☒ ☐	PAR ON
			12:17	BO			°56.01	° 0.33		58	-			☐ ☐	
			12:21	EN			°56.01	° 0.31			-			☐ ☐	
116	CS05	4	12:25	BE	NET		50°56.02	129° 0.31	64		-			☐ ☐	
			12:26	BO			50°56.02	129° 0.33		55	-		MG	☐ ☐	
			12:27	EN			50°56.03	129° 0.33			-			☐ ☐	
117	CS1B	4	14:04	BE	ROS		50°53.05	128°39.96	73		-		SR	☒ ☐	
			14:06	BO			°53.04	°39.94		67	-			☐ ☐	
			14:07	EN			°53.04	°39.92			-			☐ ☐	
118	CS1B	4	14:13	BE	NET		50°53.02	128°39.94	73		-		MG	☐ ☐	
			14:15	BO			50°53.01	128°39.94		65	-			☐ ☐	
			14:17	EN			50°53.01	128°39.94			-			☐ ☐	
119	CS06	4	15:37	BE	ROS	US	50°59.94	128°51.46	65		341-347	6	SR	☒ ☐	no max
			15:39	BO			°59.94	°51.46		58	-			☐ ☐	
			15:45	EN			°59.94	°51.54			-			☐ ☐	
120	CS06	4	15:52	BE	NET		50°59.94	128°51.45	65		-			☐ ☐	bang
			15:55	BO			50°59.93	128°51.45		55	-			☐ ☐	
			15:56	EN			50°59.93	128°51.45			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Version: 14 February 2013

Notes:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 21 of

Month <u>JUNE</u>			Year <u>2013</u>			Vessel <u>TULLY</u>			Cruise ID <u>2013-38</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
121	CS07	4	16:50	BE	NET		51° 4.44	128° 44.15			-			☐ ☐	
			16:52	BO			° 4.44	° 44.14			-			☐ ☐	
			16:53	EN			° 4.44	° 44.14			-			☐ ☐	RETERMINATION →
122	CS07	4	20:04	BE	ROS	-	51° 04.50	128° 44.14	65		-		MR	☒ ☐	
			20:06	BO			51° 04.50	128° 44.10		55	 	Ø		☐ ☐	
			20:08	EN			51° 04.51	128° 44.08			-			☐ ☐	
123	CS08	4	20:56	BE	ROS	-	51° 08.40	128° 35.93	143		-		MR	☒ ☐	
			21:00	BO			51° 08.39	128° 35.96		133	 	Ø		☐ ☐	
			21:02	EN			51° 08.39	128° 36.00			-			☐ ☐	
124	CS08	4	21:08	BE	NET		51° 08.39	128° 36.09	142		-		GC	☐ ☐	
			21:13	BO			51° 08.35	128° 36.10		133	-			☐ ☐	
			21:16	EN			51° 08.34	128° 36.07			-			☐ ☐	
125	CS09	4	22:12	BE	ROS	US	51° 12.49	128° 28.04	195		-		MR	☒ ☐	
			22:16	BO			51° 12.47	128° 28.07		185	348 - 358	11		☐ ☐	
			22:29	EN			51° 12.39	128° 28.05			-			☐ ☐	
126	CS09	4	22:35	BE	NET		51° 12.36	128° 28.03	195		-		GC	☐ ☐	
			22:42	BO			51° 12.26	128° 28.04		185	-			☐ ☐	
			22:45	EN			51° 12.23	128° 28.01			-			☐ ☐	
			:				°	°			-			☐ ☐	

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415M REMOVED TO GET TO THE GOOD STUFF

0.309 IN PLACES

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 22 of

Month <u>JUN</u>			Year <u>2013</u>			Vessel <u>TULLY</u>			Cruise ID <u>2013-38</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
127	CS10	4	23:38	BE	NET		51° 16.50	128° 20.09	80		-		GC	☐ ☐	
			23:41	BO			51° 16.49	128° 20.09		70	-			☐ ☐	
			23:42	EN			51° 16.47	128° 20.07			-			☐ ☐	
128	CS10	4	23:48	BE	ROS	✓	51° 16.43	128° 19.97	80		-		MR	☒ ☐	
			23:50	BO			51° 16.44	128° 20.00		70	—	Ø		☐ ☐	
			23:51	EN			51° 16.45	128° 20.01			-			☐ ☐	
129	UBC7	5	02:43	BE	ROS	✓	51° 30.00	127° 49.12	152		-		MR	☒ ☐	
			02:47	BO			51° 30.00	127° 49.13		142	—	Ø		☐ ☐	
			02:51	EN			51° 30.01	127° 49.14			-			☐ ☐	
130	UBC7	5	02:50	BE	NET		51° 30.00	127° 49.13	152		-		GC	☐ ☐	Bongo
			03:00	BO			51° 30.00	127° 49.12		142	-			☐ ☐	
			03:03	EN			51° 30.00	127° 49.11			-			☐ ☐	
131	UBC7	5	03:16	BE	NET		51° 30.00	127° 49.09	155		-			☐ ☐	MPS
			03:22	BO			51° 29.99	127° 49.09			-			☐ ☐	
			:	EN			°	°			-			☐ ☐	
132	Rc1	5	04:37	BE	ROS	✓	51° 26.45	127° 38.28	317		-		MR	☒ ☐	
			04:45	BO			51° 26.44	127° 38.30		307	—	Ø		☐ ☐	
			04:51	EN			51° 26.43	127° 38.31			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Version: 14 February 2013

Notes:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 23 of

Month			Year		Vessel		Cruise ID								
JUN			2013		TULLY		2013-38								
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							
133	Ri 1	5	04:57	BE	NET		51°26.43	127°38.33	316		-		GC	☐	
			05:07	BO			51°26.42	127°38.37		307	-			☐	
			05:12	EN			51°26.42	127°38.39			-			☐	
134	Ri 2	5	06:00	BE	ROS	/	51°31.25	127°33.69	333		-		MR	☒	Huge # of w. sensous 0-25 dbar.
			06:06	BO			51°31.23	127°33.72		323	-	Ø		☐	
			06:12	EN			51°31.21	127°33.73			-			☐	
135	Ri 2	5	06:20	BE	NET		51°31.19	127°33.75	331		-		GC	☐	
			06:29	BO			51°31.14	127°33.81		323	-			☐	
			06:35	EN			51°31.12	127°33.84			-			☐	
136	Ri 3	5	07:18	BE	ROS		51°35.79	127°32.17	328		-		SR	☒	
			07:22	BO			°35.79	°32.17		320	-			☐	
			07:29	EN			°35.79	°32.17			-			☐	
137	Ri 3	5	07:33	BE	NET		51°35.80	127°32.17	328		-		MG	☐	
			07:40	BO			51°35.81	127°32.21		320	-			☐	
			07:45	EN			51°35.81	127°32.25			-			☐	
138	Ri 4	5	08:26	BE	ROS		51°38.90	127°26.87	301		-		SR	☒	
			08:31	BO			°38.89	°26.83		296	-			☐	
			08:37	EN			°38.92	°26.79			-			☐	
			:				°	°			-			☐	

Event Type:

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DRF = Drifter

Bottle Firing Method:

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Time Code:

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Notes:

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Ocean Sciences Division, Institute of Ocean Sciences

Page 24 of

Month <u>June</u>			Year <u>2013</u>			Vessel <u>Tully</u>			Cruise ID <u>2013-32</u>						
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
139	Ri4	5	08:42	BE	NET		51° 38.92	127° 26.77	300		-		MG	☐	
			08:49	BO			° 38.93	° 26.75		295	-			☐	
			08:54	EN			° 38.94	° 26.73			-			☐	
140	Ri5	5	09:37	BE	ROS	/	51° 40.65	127° 19.99	202		-		SR	☒	
			09:40	BO			° 40.63	° 19.99		196	-			☐	
			09:43	EN			° 40.62	° 19.98			-			☐	
141	Ri5	5	09:48	BE	NET		51° 40.63	127° 20.01	202		-		MG	☐	
			09:52	BO			° 40.65	° 20.03		192	-			☐	
			09:55	FN			° 40.66	° 20.04			-			☐	
142	Ri6	5	10:18	BE	ROS	/	51° 40.54	127° 17.05	147		-		SR	☒	
			:	BO			° 40.56	° 17.04		141	-			☐	
			10:24	EN			° 40.58	° 17.07			-			☐	
143	Ri6	5	10:27	BE	NET		51° 40.60	127° 17.09	148		-			☐	
			10:31	BO			° 40.61	° 17.11		143	-			☐	
			10:33	EN			° 40.62	° 17.12			-			☐	
144	CPE1	5	16:23	BE	NET		51° 00.02	127° 49.89	150		-		OMG	☒	
			16:28	BO			50° 59.99	° 49.90		140	-			☐	
			16:30	EN			51° 00.01	° 49.91			-			☐	
			:				°	°			-			☐	

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This page is for any notes or observations

Event #	Str	Day	Time	Be	ROS	Lat	Long	Bot D	Max P	# bot	Remarks
151	GEOI	6	2049	Be	ROS	49.15.10	123 44 90	401		0	MR ✓
			2056	Bo		49.15.10	123 44 90		392		
			2103	EN		49.15.10	123 44 91				
152	GEOI	6	2108	Be	NET	49.15.10	123 44 90	401			GC Bongo
			2121	Bo		49.15.12	123 44 94		390		
			2128	EN		49.15.13	123 44 95				

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 25 of

Month <u>JUN</u>			Year <u>2013</u>		Vessel <u>TULLY</u>		Cruise ID <u>2013-3P</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/Fl Cleaned	Comments
145	CPE1	5	17:04	BE	ROS	✓	51° 0.02	127° 49.88	152		-	-	SR	☒	
			17:07	BO			51° 0.02	° 49.87		147	-			☐	
			17:10	EN			50° 59.98	° 49.86			-			☐	
146	CPF2	6	15:26	BE	NET		49° 27.99	124° 29.77	325		-		MG	☐	
			15:39	BO			° 27.99	° 29.77		315	-			☐	
			15:47	EN			° 27.99	° 29.79			-			☐	
147	CPF2	6	16:02	BE	ROS	✓	49° 28.01	124° 29.83	325		-	-	SR	☒	10.7m down then up
			16:07	BO			° 2.01	° 29.84		319	-			☐	
			16:11	EN			° 2.02	° 29.85			-			☐	
148	CPF1	6	18:11	BE	NET		49° 21.91	124° 05.09	238		-		MG	☐	
			18:18	BO			° 21.94	° 04.96		230	-			☐	
			18:24	EN			° 21.95	° 04.96			-			☐	
149	CPF1	6	18:33	BE	ROS	✓	49° 21.98	124° 4.93	244		-	-	SR	☒	
			18:38	BO			° 21.99	° 4.91		237	-			☐	
			18:41	EN			° 21.99	° 4.90			-			☐	
150	GE01	6	20:20	BE	NET		49° 15.10	123° 44.89	401		-			☐	MPS
			20:33	BO			49° 15.10	123° 44.90		390	-			☐	
			20:43	EN			44° 15.09	123° 44.90			-			☐	
			:				°	°			-			☐	

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