

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2022-001

DATE:

From: 1 MARCH 2022

To: 20 MARCH 2022

VESSEL:

JOHN P TULLY

PROJECT(S):

LINE P

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

WaterProperties.ca

Captain: KENT REID First Officer: CHASE BURDETT
Second Officer: ALISTAIR BUTT Third Officer: STEPHEN LOWDON
Fishing Master: _____ Chief Engineer: SCOTT WARE

Mission Participants / Agencies:

IOS, UVIC

**** Chief Scientist to tape Scientific Personnel section of their cruise plan here ****

This is accessed from your WaterProperties.ca Dashboard or from here:
<https://www.waterproperties.ca/requests/cruiseplanview.php?cruiseid=YYYY-NNN>

NAME	CABIN	WATCH
MARIE ROBERT	A	06-18
MARK BELTON	D	12-24
GLENN COOPER	E	00-12
JULIAN SMITH	E	12-24
MOIRA GALBRAITH	F	00-12
ROWAN FOX	G	00-12
JODY KLYMAK	G	12-24
OLIVIA MELVILLE	H	00-12
DANIELLE CALEB	H	12-00

**** 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: Water properties #102

Data acquisition program: Seasave 726.7.121

CTD deck unit make: SBE model: 11 serial number: 425

Primary CTD

Make: SBE model: 9+ serial number: 550

Primary temperature serial number: 2106

Primary conductivity serial number: 2280

Secondary temperature serial number: 2663

Secondary conductivity serial number: 2754

Transmissometer: Wellabs Model: CSTAR serial: 1185DR

Transmissometer: " Model: " serial: 1883DG

Fluorometer: Model Seapoint Cable gain: 10x serial: 3949 P, S or NO pump?

Fluorometer: Model " Cable gain: " serial: " P, S or NO pump?

Oxygen sensor: SBE Model: 43 serial: 0997 P S or NO pump?

PAR sensor: Biospherical Model: " serial: 70613 Surface PAR? Y/N (N)

Other sensors: Valeport VA500 altimeter serial: 76341 P, S or NO pump?

Other sensors: SBE ST pump serial: 5183 P S or NO pump?

Other sensors: " serial: 4547 P S or NO pump?

Other sensors: " serial: " 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: " serial: "

Transmissometer: " Model: " serial: "

Fluorometer: Model " Cable gain: " serial: " P, S or NO pump?

Fluorometer: Model " Cable gain: " serial: " P, S or NO pump?

Oxygen sensor: SBE Model: 43 serial: 1119 P S or NO pump?

PAR sensor: " Model: " serial: " Surface PAR? Y/N "

Other sensors: " serial: " P, S or NO pump?

Other sensors: " serial: " P, S or NO pump?

Other sensors: " serial: " P, S or NO pump?

Other sensors: " serial: " 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 (typical on small launches).

Swapped,
see event 19.

Rosette Setup:Number of bottles: 24Manufacturer: 105Volume of bottles (litres): 10**Rosette/Niskin Bottle Serial Numbers:**

1: <u>2016-10-04</u>	2: <u>2016-10-05</u>	3: <u>2016-10-06</u>	4: <u>2016-10-07</u>	5: <u>2016-10-08</u>
6: <u>2018-10-02</u>	7: <u>2000-10-29</u>	8: <u>2016-10-09</u>	9: <u>unassigned</u>	10: <u>2000-10-30</u>
11: <u>2018-10-04</u>	12: <u>2016-10-10</u>	13: <u>2016-10-11</u>	14: <u>unassigned</u>	15: <u>2000-10-24</u>
16: <u>2016-10-12</u>	17: <u>2000-10-23</u>	18: <u>2016-10-13</u>	19: <u>2016-10-14</u>	20: <u>2016-10-15</u>
21: <u>2018-10-03</u>	22: <u>2016-10-16</u>	23: <u>2016-10-17</u>	24: <u>2016-10-18</u>	

Make sure to note any bottle changes or repairs during your cruise in this log book.**Winches:**

1. Make: <u>HAWBOLT</u>	Model: <u>HAW</u>	Serial #: <u>17026</u>	Used for: <u>LARS</u>
2. Make: <u>SWANN</u>	Model: <u>324</u>	Serial #: <u>1482</u>	Used for: <u>Bongo</u>
3. Make: <u>SWANN</u>	Model: <u></u>	Serial #: <u>107601</u>	Used for: <u>GoFlos</u>

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):

_____**Label Printers:**

Primary Printer Kit #: _____

Secondary Printer Kit #: _____

Software Version: _____

Thermosalinograph System (SBE21(45)):Program: SCS Version: _____

Sampling interval (seconds): _____

TSG serial number: 0620Fluorometer sensor serial number: 1656**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)

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

Additional Comments:

OK KIT #2

Scientific Equipment Used During Cruise

This sheet allows you to enter all of the equipment used while on board. Please use the separate CTD sheet for entry for SBE 9/16/19/25.

Other CTD units:

RBR Serial Number: Sensors:

Others:

Plankton Nets:

Bongo/SCOR #1	Frame Size: 50 cm	Mesh: 236 μ m	Flowmeter: 7129
Bongo/SCOR #2	Frame Size: 30 cm	Mesh: 64 μ m	Flowmeter: 5333
	Frame Size: cm	Mesh: μ m	Flowmeter:
	Frame Size: cm	Mesh: μ m	Flowmeter:

Multinet ☐ BIONESS ☐ Neuston ☐ Others:

RBR 78976

Trawl Gear:

Midwater Trawls: SOG ☐ Highseas ☐ Pelagic ☐ Other:

Bottom Trawls: Atlantic Western IIA ☐ Yankee 36 Hard & Soft Bottom ☐ Other:

American Shrimp Trawl ☐

Notes:

Trawl Doors: USA Jet ☐ Tyburon ☐

Sounders : Wesmar 380 ☐ Others:

Acoustics:

Echosounder #1 Frequencies (KHz): 12 ☐ 18 ☐ 38 ☐ 70 ☐ 120 ☐ 200 ☐

Others:

Echosounder #2 Frequencies (KHz): 12 ☐ 18 ☐ 38 ☐ 70 ☐ 120 ☐ 200 ☐

Others:

Software & Notes:

Other Gear in Operation:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>March</u>				Year <u>2022</u>		Vessel <u>Tully</u>		Cruise ID <u>2022-001</u>							
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments
							Latitude	Longitude							
1	SI 01	03	19:08	BE	ROS	US	48° 39.688	123° 30.025	176		/	24	RF/GC	☒	Test cast
			19:12	BO			48° 39.688	123° 30.025		75	-			☐	#19 Niskin top cap leaking
			19:14	EN			48° 39.689	123° 30.028			-			☐	
2	SI 01	03	19:30	BE	CTD/MVP		48° 39.688	123° 30.026	177	50	-		JK/RF	☐	
			19:36	EN			48° 39.688	123° 30.027			-			☐	
3	149059	03	22:04	BE	ROS	-	48° 36.871	123° 14.855	237		1 - 15	15	MB	☒	
			22:09	BO			48° 36.934	123° 14.878		2	-			☐	
			22:32	EN			48° 36.442	123° 15.674			-			☐	
4	Harv 59	03	:	BE	Net	US	.	.			-			☐	A-frame issue cast skipped
			:	BO			.	.			-			☐	
			:	EN			.	.			-			☐	
5	Harv 59	03	22:57	BE	CTD/MVP		48° 37.409	123° 15.005	204		-			☐	
			:	BO			.	.		5	-			☐	
			23:07	EN			.	.			-			☐	→ No end recorded
6	JF2	4	01:38	B	loop	-	48° 16.024	123° 21.988	160	0	5066	1	MB	☐	1st + 2nd + 1st underway
7	JF2	4	03:21	BE	ROS	US	48° 18.060	124° 0.140	190		16 - 28	13	MB	☒	
			03:32	BO			48° 18.080	124° 0.210		176	-			☐	
			03:52	EN			48° 18.220	124° 0.650			-			☐	
			:				.	.			-			☐	

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
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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

Produced by the Water Properties Group, IOS

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 Version: 17 Feb 2020

Adjusted + leak stopped + keep an eye on #A. Replaced O-ring on #24 vent due to leak. Solved issue.

p1.5/21

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Month <u>MARCH</u>			Year <u>2022</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2022-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
8	JF2	4	04:07	BE	Net	-	48° 16.119	124° 00.674	K9		-	-	JS	☐	BONGO
			04:16	BO			48° 16.092	124° 00.559		179	-	-		☐	
			04:20	EN			48° 18.061	124° 00.559			-	-		☐	
9	JF3	4	06:17		LOOP	-	48° 26.746	124° 30.954	237	0	5009-			☐	INVT+ZCHL+1SAL
10	JF4	4	08:13	BE	Loop	UN	48° 32.40	124° 00.67	70	4.5	5010		GC	☐	UNDERWAY
11	P1	4	10:11	BE	ROS	VS	48° 34.520	125° 29.772	118		29-31	3	RF/GC	☒	INVT 2CHL 1SAL
			10:14	BO			48° 34.540	125° 29.772			-			☐	
			10:20	EN			48° 34.600	125° 29.650			-			☐	
12	P2	4	13:15	BE	ROS	VS	48° 36.080	125° 59.920	118		32-48	17	RF	☒	
			13:18	BO			48° 36.080	125° 59.930		106	-			☐	
			13:31	EN			48° 36.080	125° 59.980			-			☐	
13	P2	4	13:57	BE	NET		48° 36.09	126° 00.03	118		-		MG	☐	BONGO
			14:00				48° 36.09	126° 00.04		110	-			☐	
			14:02				48° 36.09	126° 00.05			-			☐	
14	P3	4	15:47	BE	ROS	VS	48° 37.600	126° 19.963	826754		49-	1	RF	☒	
			16:01	BO			48° 37.640	126° 20.041		743	-			☐	
			16:15	EN			48° 37.626	126° 20.089			-			☐	
15	P4	4	17:				.	.			-			☐	
			:				.	.			-			☐	
			:				.	.			-			☐	

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After JF4, before P1:

Fixed a minor plumbing issue on primary channel of CTD. Might solve DO issues. -RF

0030 PST Friday
0830 UTC

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Month <u>March</u>			Year <u>2022</u>			Vessel <u>JP Tully</u>			Cruise ID <u>2022-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
16	P4	4	18:01	BE	NET	-	48° 39.027	126° 40.027	1326		-		MG/OM	☐	Bongo
			18:12	BO			48° 39.112	126° 39.934		250	-			☐	
			18:17	EN			48° 39.108	126° 39.991			-			☐	
17	P4	4	18:25	BE	NET	-	48° 39.086	126° 40.022	1311		-		MG/OM	☐	Bongo
			19:11	BO			48° 39.132	126° 40.114		1200	-			☐	
			19:31	EN			48° 39.157	126° 40.124			-			☐	
18	P4	4	19:37	BE	NET	-	48° 39.190	126° 46.077	1320		-		MG/OM	☐	Mini
			19:39	BO			48° 39.172	126° 40.050		50	-			☐	
			19:41	EN			48° 39.173	126° 40.051			-			☐	
19	P4	4	20:03	BE	ROS	US	48° 39.110	126° 39.960	1320		50 - 61	12	MB	☒	11AC + 11R
			20:20	BO			48° 39.080	126° 39.990		1000	-			☐	
			20:47	EN			48° 39.020	126° 39.936			-			☐	
20	P4	4	21:05	BE	BOT	MAG	48° 38.99	126° 39.98	1320		62 - 67	6	DC	☐	GO-FLOW (DEEP)
			21:31	BO			48° 38.983	126° 40.017		800	-			☐	
			22:08	EN			48° 38.967	126° 40.069			-			☐	
21	P4	4	22:15	BE	ROS	US	48° 38.980	126° 40.050	1350		68 - 86	19	MB	☒	P=1322 S=1842 D=1307 A=10
			22:38	BO			48° 38.980	126° 40.120		1323	-			☐	DEEP CAR
			23:16	EN			48° 38.980	126° 40.120			-			☐	
			:				.	.			-			☐	

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Produced by the Water Properties Group, IOS

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- Before P4 rosette cast, DO sensor SN 1119 was installed, SN 0997 was removed, due to bad data, Germane recommended. - RF.

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Month <u>Mar</u>			Year <u>2022</u>			Vessel <u>Tully</u>			Cruise ID <u>22-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments
22	P4	4	23:34	BE	BOT	MOR	48° 38.974	126° 40.102	1320		87-90	4	DC	☐	Go flo. shallow
			23:39	BO			48° 38.969	126° 40.139		75	-			☐	
			23:52	EN			48° 38.979	126° 40.201			-			☐	
23	Underway	5	02:40		LOOP	-	48° 40.868	127° 02.311			5023-		JS	☐	underway loop
24	P5	5	03:51	BE	ROS	VS	48° 41.455	127° 09.938	2110		91-91	1	JS	☒	loop sampled on station
			04:25	BO			48° 41.472	127° 09.984		2005	-			☐	
			05:00	EN			48° 41.492	127° 09.983			-			☐	
25	LOOP 25	5	10:35	BE	LOOP	UN	48° 45.05	127° 48.92	2382	4.5	5025	-	GC	☐	1'SAL 2'CHL →
26	DRF	5	13:53	DE	DRF	-	48° 48.82	128° 15.40	2461	0	-	-	GC	☐	300534061453790
27	P8	5	18:41	BE	ROS	VS	48° 48.960	128° 40.000	2393		-			☐	
			18:45	BO			48° 48.970	128° 40.000		150	-		GC/MS	☐	* → notes *
			18:50	EN			48° 48.990	128° 40.010			-			☐	c cable sample
28	P8	5	18:57	BE	ROS	VS	48° 48.990	128° 40.000	2556		-			☐	COMBINED
			19:25	BO			48° 49.070	128° 40.070		2005	92-115	24	GC/MS	☐	CASIS (DEEP, 1100)
			20:19	EN			48° 49.070	128° 40.070			-			☐	(VAR)
29	Underway	5	23:16		Loop	-	48° 50.695	129° 02.152	2739		5029-		DC	☐	Underway loop
30	P9	6	00:13	BE	ROS	VS	48° 51.356	129° 09.960	2593		116-116			☒	loop sampled on station
			00:48	BO			48° 51.360	129° 09.920		2005	-			☐	
			01:20	EN			48° 51.367	129° 9.977			-			☐	

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CML FILTERING DEGASING AND FILTERS BUBBLED APPROX 5x LONGER THAN NORMAL
NO COLOUR

1638 WATER IN LOOP SYSTEM STOPS TSG ZERO FLOW RUNNING AGAIN 1650
PUMP OR BLOCKAGE? VERY RUSTY ON START UP

- * Replaced y cable to Oxygen sensor + Fluorometer to improve DO_2 trace. 150 meter cast to send to Gernie for analysis.
- DO sensor data looks better after cable swap out

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- Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
31	P10	6	04:51	BE	Ros	US	48° 53.560	129° 39.990	2663		117	1	MB	☒ ☐	
			05:26	BO			48° 53.560	129° 40.040		2005	-			☐ ☐	
			06:00	EN			48° 53.570	129° 39.990			-			☐ ☐	
32	DRF	6	08:00	DR	DRF		48° 55.205	129° 59.818	2801		-	-	GC/RF	☐ ☐	61453800
33	P11	6	09:04	BE	Rus	US	48° 56.062	130° 10.058	2779		118	1	RF	☒ ☐	Near-tube lock Rosette brought out of the water by mistake.
			09:43	BO			48° 56.066	130° 9.991		2005	-			☐ ☐	
			10:22	EN			48° 56.183	130° 10.122			-			☐ ☐	
34	P12	6	13:27	BE	Rus	US	48° 58.180	130° 40.010	3089		119 - 130	12	RF	☒ ☐	
			13:44	BO			48° 58.153	130° 40.033		1005	-			☐ ☐	
			14:10	EN			48° 58.140	130° 40.000			-			☐ ☐	left data on at end of cast for P data.
35	P12	6	15:09	BE	NET	/	48° 58.178	130° 40.030	3058		/	/	MG/RF	☐ ☐	
			15:21	BO			48° 58.228	130° 40.019		250	-			☐ ☐	
			15:28	EN			48° 58.285	130° 40.032			-			☐ ☐	
36	P12	6	15:40	BE	NET	/	48° 58.320	130° 39.955	3082		/	/	MG/RF	☐ ☐	
			16:28	BO			48° 58.728	130° 39.952		1200	-			☐ ☐	
			16:46	EN			48° 58.893	130° 39.918			-			☐ ☐	
37	P12	6	17:15	BE	BOT		48° 58.537	130° 39.716	3236		131 - 134		DC/GC/RF	☐ ☐	G. Flo 75m
			17:27			MSG	48° 58.480	130° 39.757		75	-			☐ ☐	
			17:38				48° 58.488	130° 39.720			-			☐ ☐	

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Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments
							Latitude	Longitude							
38	P12	6	17:58	BE	ROS	US	48° 58.502	130° 39.758	3196		135-157	23	RF/MB	☒	PAR off
			18:53	BO			48° 58.494	130° 39.912		3274	-			☐	
			20:05	EN			48° 58.523	130° 39.781			-			☐	
39	P12	6	20:13	BE	BOT	MSG	48° 58.553	130° 39.740	3218		158-163	6	DC	☐	
			20:35	BO			48° 58.581	130° 39.750		800	-			☐	messenger didn't trigger sent go-bags back down
			21:33	EN			48° 58.668	130° 39.757			-			☐	
40	Underway	6	23:59	BE	LOOP	-	49° 00.280	131° 07.640	3224	Ø	5040	-	MB	☐	Underway loop.
41	P13	7	02:38	BE	ROS	US	49° 02.580	131° 40.070	3035		164-185	22	JS	☒	+ Loop 5041
			03:12	BO			49° 02.600	131° 40.210		2005	-			☐	
			03:48	EN			49° 02.620	131° 40.240			-			☐	
42	DRF	7	04:17	BE	DRF		49° 03.080	131° 45.109	3120	Ø	-	-	MB/S	☐	6455880
43	P14	7	08:28	BE	ROS	US	49° 7.480	132° 40.040	3315		186-209	24	RF	☒	
			09:24	BO			49° 7.490	132° 40.020		3360	-			☐	
			10:35	EN			49° 7.470	132° 40.020			-			☐	
44	DRF	7	14:36	DE	DRF		49° 11.270	133° 30.065	3014		-			☐	61452810
45	P15	7	15:33	BE	ROS	US	49° 11.923	133° 39.844	3400		210-231	22	RF	☒	PAR ON
			16:07	BO			49° 11.854	133° 39.880		2005	-			☐	barrel fill
			16:40	EN			49° 11.766	133° 39.924			-			☐	
			:				°	°			-			☐	

Event Type:

BOT = Bottle cast (no CTD)
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 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
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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

P6.5/21

Trans cal for SN 1185DR changed before event 45. RF

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Month <u>MARCH</u>			Year <u>2022</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2022-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
46	P16	7	21:35	BE	ROS	US	49° 17.000	134° 49.985	3638		232-243	12	MB	☒	1PLC + VAR
			21:52	BO			49° 17.018	134° 39.986		1000	-			☐	
			22:17	EW			49° 17.015	134° 39.990			-			☐	
47	P16	7	22:29	BE	NET		49° 17.00	134° 39.99	3630		-		SS	☐	BANCO 250
			22:43	BO			49° 17.00	134° 39.98		1250	-	-		☐	
			22:49	EW			49° 16.98	134° 39.98			-			☐	
48	P16	7	22:56	BE	NET		49° 16.98	134° 40.00			-		JS	☐	BANCO 200
			23:57	BO			49° 16.98	134° 40.14		1200	-	-		☐	
			00:20	EW			49° 17.00	134° 40.07			-			☐	
49	P16	8	00:32	BE	BOT		49° 16.98	134° 40.07	3632		244-247	4	DC	☐	SHALLOW GO-ROD
			00:41	BO		MSR	49° 16.98	134° 40.30		125(75)	-			☐	
			00:55	EW			49° 16.97	134° 40.03			-			☐	
50	P16	8	01:02	BE	ROS		49° 16.98	134° 40.03	3632		248-271	24	MB	☒	D=3620 P=3683 A=10 S=3635
			02:04	BO		US	49° 16.97	134° 40.02		3683	-			☐	DEEP CAST
			03:25	EW			49° 17.000	134° 40.000			-			☐	PAR OFF
51	P16	8	03:31	BE			49° 16.970	134° 40.016	3262		272-277		DC	☐	+247
			03:58	BO	BOT	MSR	49° 16.970	134° 40.016		850(800)	-			☐	MSR FAILED 1 st
			04:50	EW			49° 16.974	134° 39.970			-			☐	ATTEMPT TRIED
			:				.	.			-			☐	AGAIN ~ 10min LATER

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Notes:

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Month <u>MARCH</u>			Year <u>2022</u>			Vessel <u>SP TULLY</u>			Cruise ID <u>2022-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments
52	Loop 52	8	05:05	BE	LOOP	-	49°17.16	134°42.43	3635	5	5052-	-	JS	☐ ☐	1 SAL 2 CHL
53	DRF	8	07:36	DE	DRF	-	49°19.37	135°14.82			-			☐ ☐	61454910
54	Loop 54	8	09:01	BE	LOOP	-	49°20.61	135°33.08	3187	4.5	5054		GC	☐ ☐	1 SAL 2 CHL
55	P17	8	09:37	BE	ROS	US	49°21.030	135°39.940	3476		278-299	22	RF	☒ ☐	PAR off (nighttime)
			10:11	BO			49°21.010	135°39.970		2005	-			☐ ☐	
			10:43	EN			49°21.000	135°39.970			-			☐ ☐	
56	P18	8	15:44	BE	ROS	US	49°25.964	136°40.054	3826		300-319	20	RF	☒ ☐	
			16:18	BO			49°25.943	136°39.973		2005	-			☐ ☐	
			17:07	EN			49°25.942	136°39.977			-			☐ ☐	
57	DRF	8	18:47	DE	DRF	-	49°27.31	137°00.00	3644	0	-		RF	☐ ☐	61453840
58	P19	8	22:07	BE	ROS	US	49°30.014	137°39.992	3899		320-341		JS	☒ ☐	Loop on station
			22:40	BO			49°30.026	137°40.004		2005	320-			☐ ☐	stopped shortly @ 500m
			23:14	EN			49°29.975	137°40.002			-			☐ ☐	
59	Loop 59	9	03:03		LOOP	-	49°33.203	138°32.280	3960		5059		JS	☐ ☐	Underway loop.
60	P20	9	03:40	BE	BOT	MSG	49°33.960	138°39.980	3955		-		DC/JK	☐ ☐	
			04:05	BO			49°33.958	138°40.026		800	342-347			☐ ☐	
			04:39	EN			49°33.938	138°40.136			-			☐ ☐	
			:				°	.			-			☐ ☐	
			:				°	.			-			☐ ☐	

Event Type:

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Time Code:

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Notes:

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Month			Year			Vessel			Cruise ID						
MARCH			2022			SP TULLY			2022-001						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
61	P20	9	04:47	BE	ROS	US	49° 33.940	138° 40.130	3955		348-371	24	MP/S	☒	DEP CAS
			05:56	BO			49° 33.960	138° 39.970		4025	-			☐	P=425 S=3955 D=3750 A=10
			07:26	EN			49° 33.940	138° 39.940			-			☐	
62	P20	9	07:35	BE	TM	BOT	49° 33.921	138° 40.038			-			☐	
			07:47	BO			49° 33.921	138° 40.038	3955	75	372-375	4	DL	☐	SHALLOW TM
			:	EN			.	.			-			☐	
63	P20	9	08:15	BE	NET		49° 33.923	138° 40.123	3954		-		MG	☐	BONGO UNH
			08:27	BO			49° 33.893	138° 40.240		250	-			☐	
			08:32	EN			49° 33.890	138° 40.273			-			☐	
64	P20	9	08:41	BE	NET		49° 33.976	138° 40.189	3954		-		MG	☐	BONGO UNH
			09:29	BO			49° 33.948	138° 40.228		1200	-			☐	
			09:51	EN			49° 33.926	138° 40.226			-			☐	
65	P20	9	10:04	BE	ROS	US	49° 33.950	138° 40.170	3954		376-387	12	RF	☒	
			10:21	BO			49° 33.950	138° 40.120		1005	-			☐	
			10:47	EN			49° 33.960	138° 40.100			-			☐	
66	ARGO/P20	9	11:23	DE	DRF		49° 33.811	138° 40.870	3954		-		RF	☐	S/N A1260021 CA007
67	DRF SUBP7	9	11:41	DE	DRF		49° 34.296	138° 40.856	3312		-		RF	☐	614559007 SUBP7
			:				.	.			-			☐	
			:				.	.			-			☐	
			:				.	.			-			☐	
Event Type: LOOP = Sea Water Loop BOT = Bottle cast (no CTD) Bottle Firing Method: Time Code: CTD Transmittometer and Fluorometer															

Event Type:

BOT = Bottle cast (no CTD)
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Bottle Firing Method:

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Notes:

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Month <u>March</u>				Year <u>2022</u>			Vessel <u>Tully</u>			Cruise ID <u>2022-001</u>					
-Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
68	P21	9	15:06	BE	ROS	US	49° 38.000	139° 39.920	3948		388-393	6	RF	☒	PAR on
			15:40	BO			49° 37.870	139° 39.780		2005	-			☐	
			16:13	EN			49° 37.850	139° 39.680			-			☐	
69	DRF	9	19:11	DE	DRF	—	49° 41.293	140° 30.121	3951	0	—	—	GC/MG	☐	61455890
70	LOOP70	9	19:23	BE	LOOP	UN	49° 41.596	140° 33.655	3842	4.5	50760	1	" "	☐	2xCHL / 1Sal
71	P22	9	19:55	BE	ROS	US	49° 42.014	140° 40.000	3869		354-413	20	MS	☒	
			20:28	BO			49° 42.010	140° 39.920		2005	-			☐	
			21:19	EN			49° 41.992	140° 39.804			-			☐	
72	P22	9	21:29	BE	DRF	-	49° 41.749	140° 39.824	3939	0	-	-	MS	☐	ALCO 21CA-008
73	LOOP73	9	22:09	BE	LOOP	-	49° 42.775	140° 50.874		5	5073	-	JS	☐	Loop UNDERWAY
74	P23	10	01:02	BE	ROS	US	49° 46.010	141° 46.020	4038		414-	1	MSJS	☒	Loop on station
			01:32	BO			49° 46.030	141° 39.996		2005	-			☐	
			02:00	EN			49° 45.980	141° 39.940			-			☐	
75	P23-P24	10	04:05	BE	DRF	-	49° 48.85	142° 16.69	—	—	-	-	MS	☐	EVA-B 61456880
76	P24	10	05:35	BE	ROS	US	49° 50.200	142° 40.001	3475		415-434	20	MSJS	☒	
			06:03	BO			49° 50.203	142° 39.976		2005	-			☐	
			06:47	EN			49° 50.108	142° 39.976			-			☐	
			:				.	.			-			☐	
			:				.	.			-			☐	

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Notes:

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Month <u>March</u>			Year <u>2022</u>			Vessel <u>Tully</u>			Cruise ID <u>2022-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments
77	P25	10	10:17	BE	ROS	VS	49°59.980	143°36.377	4133		435-	1	RF	☒	PAR on
			10:48	BO			49°59.963	143°36.383		2005	-			☐	
			11:15	EN			49°59.942	143°36.307			-			☐	
78	DRF	10	12:44	DE	DRF		49°59.999	144°00.000	4111		-			☐	61455910
79	loop 79	10	12:46	BE	loop		49°59.999	144°00.719	4112		-			☐	
80	P26	10	17:27	BE	ROS	VS	49°59.970	144°59.900	4235		437-448	12	RF	☒	
			17:40	BO			49°59.960	144°59.880		1005	-			☐	
			18:04	EN			49°59.960	144°59.980			-			☐	
81	P26	10	18:15	BE	NET		49°59.95	144°59.88	4250		-		MG	☐	BONGO
			18:26	BO			49°59.93	144°59.91		250	-			☐	
			18:32	EN			49°59.93	144°59.92			-			☐	
82	P26	10	18:50	BE	ROS	VS	49°59.916	144°59.929	4233		449-472	24	RF	☒	PAR off
			20:03	BO			49°59.917	144°59.929		4316	-			☐	P=4316 S=5232 (EKG) D=4236 A=10
			21:31	EN			49°59.920	144°59.930			-			☐	
83	P26	10	21:41	BE	BOT		49°59.908	144°59.941	4233		-		DC	☐	Go-Flow SIGNAL
			21:56	BO		MSG	49°59.906	144°59.941		150	473-479			☐	
			22:13	EN			49°59.905	144°59.941			-			☐	
			:				.	.			-			☐	
			:				.	.			-			☐	

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Notes:

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Month <i>MARCH</i>				Year <i>2022</i>		Vessel <i>JP TULLY</i>			Cruise ID <i>2022-001</i>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
84	P26	10	23:23	BE	NET	MSG	49° 59.92	144° 59.93	4232		-		JS	☐	BONG 1200
			00:05	BO			49° 59.906	144° 59.400		1200	-			☐	
			00:25	EN			49° 59.907	144° 59.939			-			☐	
85	P26	10	00:40	BE	BOT		49° 59.907	144° 59.938	4232		480 - 486		JK	☐	Go-Flow 12m
			01:18	BO		MSG	49° 59.908	144° 59.935		~1700	-			☐	1200m TO HELP
			02:19	EN			49° 59.892	144° 59.968			-			☐	WASH LONG LONG
86	P26	10	02:26	DE	DRF		50° 00.09	144° 59.83	4250		-		MB	☐	Flout #30
87	P26	11	02:31	DE	DRF		50° 00.37	144° 59.48	4250		-		MB	☐	04 ALGO
88	PA-015	11	03:29	BE	ROS	US	50° 6.920	144° 49.040	4202		487-490	4	MB	☒	
			03:36	BO			50° 6.910	144° 49.000		350	-			☐	
			03:44	EN			50° 6.920	144° 49.000			-			☐	
89	P35	11	05:50	BE	ROS	US	50° 0.020	144° 18.210	4135		436-	1	DC	☒	
			06:20	BO			50° 0.010	144° 18.220		2005	-			☐	
			06:50	EN			50° 0.010	144° 18.150			-			☐	
90	P35-Sub	11	07:02	BE	MVP	-	50° 0.121	144° 17.000	4128	-	-	-	JK	☐	MVP DEPLOYMENT START
91	Loop 91	11	07:30	BE	LOOP	-	50° 00.591	144° 11.185	3239		5091-	-	DC	☐	Underway
92	Loop 92	11	19:00	BE	Loop	-	50° 09.119	141° 37.641	3962		5092-	-	GC	☐	"
93	Loop 93	12	15:18		Loop	-	50° 24.220	137° 11.086	3757		5093	-	GC	☐	" Loch, Sol
94	Loop 94	17	20:51	BE	Loop	-	50° 29.16	136° 1.09	3275	5	5094	-	MB	☐	UNDERWAY Loop

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Month <u>March</u>			Year <u>2022</u>			Vessel <u>Tully</u>			Cruise ID <u>2022-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
95	Loop 95	13	16:38	BE	loop	UN	50°42.937	132°03.0522	2808	4.5	5095-	1	OM+MG	☐	Chl(x2), Sal(1)
96	Scott 3	14	06:05	BE	MVP	-	50°50.5115	129°29.6271	244		-			☐	Moving vessel profiler
97	Scott 3	14	06:16	BE	ROS	-	50°50.756	129°29.200	239		-	-	MS	☒	
			06:19	BO			50°50.766	129°29.210		225	-			☐	
			06:23	EN			50°50.770	129°29.220			-			☐	
98	Loop 98	14	06:37	R	Loop	-	50°51.7549	129°29.1909	204	Q	5098	-	JJ	☐	
99	Scott 2	14	08:27	BE	ROS	US	51°7.420	129°27.700	289		501-	1	RF	☐	
			08:32	BO			51°7.410	129°27.700	1	279	-			☐	
			08:39	EN			51°7.390	129°27.720			-			☐	
100	Scott 2	14	08:54	BE	NET	-	51°7.378	129°27.725	290		-		MG	☐	Bongo
			09:15	BO			51°7.376	129°27.739		280	-			☐	
			09:21	EN			51°7.371	129°27.709			-			☐	
101	Loop 101	14	11:11	BE	loop	UN	51°16.3327	129°09.4307	268	4.5	5101-	1	OM+MG	☐	2 Chl, 1 Sal
102	HAK1	14	16:30	BE	NET		51°42.656	128°13.809	145		-		MG/OM	☐	
			16:37	BO			51°42.638	128°13.736		135	-			☐	
			16:39	EN			51°42.637	128°13.720			-			☐	
103	HAK1	14	16:51	BE	ROS	US	51°42.600	128°13.660	143		-			☐	
			16:54	BO			51°42.587	128°13.649		132	-			☐	
			17:09	EN			51°42.570	128°13.680			-			☐	

Event Type:

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SET = Fish Set

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Bottle Firing Method:

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Notes:

Time Code:

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Produced by the Water Properties Group, IOS

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Month <u>MARCH</u>			Year <u>2022</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2022-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments
104	Bur1	14	19:22	BB	ROD	-	51°54.200	127°56.790	350		-		JS	☒	
			19:29	Bo			51°54.200	127°56.810		340	-			☐	
			19:35	EN			51°54.210	127°56.820			-			☐	
105	BuDe1	14	21:03	BE	ROS	-	52°6.630	127°53.980	350		-		MB	☒	STOP @ 50 DOWN
			21:09	Bo			52°6.614	127°53.980		351	-			☐	TO STRAIGHTEN WIRE
			21:18	EN			52°6.594	127°53.996			-			☐	
106	De01	14	22:24	BE	ROS	-	52°14.990	127°46.800	429		-		DL	☒	1 MINUTE @ SELF
			22:31	Bo			52°14.950	127°46.800		425	-			☐	FOR FLUSH, NO
			22:38	EN			52°14.940	127°46.790			-			☐	DOWN 10 + BACK
107	De02	14	23:22	BE	ROS	-	52°16.890	127°39.380	360		-		MB	☒	
			23:28	Bo			52°16.870	127°39.400		349	-			☐	
			23:34	EN			52°16.870	127°39.400			-			☐	
108	De02	14	23:40	BE	NET	-	52°16.878	127°39.385	360		-		JS	☐	Benfo
			23:54	Bo			52°16.882	127°39.347		350	-			☐	
			23:59	EN			52°16.856	127°39.350			-			☐	
109	De03	15	00:53	BE	ROS	-	52°19.090	127°31.940	280		-		MB	☒	
			00:57	Bo			52°19.090	127°31.950		270	-			☐	
			01:02	EN			52°19.100	127°31.950			-			☐	
			:				.	.			-			☐	

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Notes:

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Month			Year			Vessel			Cruise ID			Page			of	
MARCH			2022			JP TULLY			2022-001			15			21	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments	
110	DE04	15	01:44	BE	ROS	—	52°22.064	127°27.515	443		-		JS	☒		
			01:52	BO			52°22.062	127°27.511		433	-			☐		
			02:00	EN			52°22.067	127°27.515			-		DC	☒		
111	DE05	15	02:42	BE	ROS	—	52°24.590	127°20.810	483		-		DC	☒		
			02:50	BO			52°24.590	127°20.780		476	-			☐		
			02:58	EN			52°24.610	127°20.760			-			☐		
112	DE06	15	03:49	BE	ROS	—	52°29.340	127°14.680	496		-		MB	☒		
			03:57	BO			52°29.340	127°14.670		487	-			☐		
			04:05	EN			52°29.340	127°14.650			-			☐		
113	DE06	15	04:12	BE	NET	-	52°29.348	127°14.638	498		-		JS	☐		
			04:28	BO			52°29.373	127°14.614		488	-			☐		
			04:36	EN			52°29.349	127°14.631			-			☐		
114	DE07	15	05:41	BE	ROS	—	52°35.000	127°08.320	450		-		DC	☒		
			05:48	BO			52°35.020	127°08.350		431	-			☐		
			05:55	EN			52°34.990	127°08.340			-			☐		
115	Loop115	15	06:28	BE	LOOP	—	52°37.8348	127°03.1384	474		-		MB	☐	Underway	
116	DE08	15	06:49	BE	ROS	—	52°38.280	127°00.810	485		-		JS	☒	Forgot to hit 'start	
			06:57	BO			52°38.27	127°00.620		476	-		MG	☐	archive' => sent back to	
			07:05	EN			52°38.29	127°00.61			-			☐	surface 3 Restarted cast ~160m	
Event Type: LOOP = Sea Water Loop (Bottle Firing Method: Time Code:																

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Notes:

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Month <u>MARCH</u>			Year <u>2022</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2022001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments
117	DE09	15	08:01	BE	NET	/	52°43.980	126°57.336	457		-		MG	☐	BON60
			08:18	BO			52°43.916	126°57.306		447	-			☐	
			08:26	EN			52°43.919	126°57.261			-			☐	
118	DE09	15	08:36	BE	ROS	US	52°43.930	126°57.330	457		502-519	18	RF	☐	
			08:44	BO			52°43.900	126°57.300		446	-			☐	
			09:10	EN			52°43.840	126°57.270			-			☐	
119	DE10	15	14:50	BE	ROS	US	52°49.800	127°0.210	166		/	0	RF	☒	Started archiving while on deck. For Pressure reference.
			14:53	BO			52°49.790	127°0.220		156	-			☐	
			14:56	EN			52°49.790	127°0.230			-			☐	
120	DE11	15	15:36	BE	ROS	/	52°52.000	127°08.800	112		/	0	GC	☒	Surface sample for 1 min
			15:39	BO			52°52.090	127°08.820		108	-			☐	
			15:41	EN			52°52.100	127°08.820			-			☐	
121	LOOP121	15	16:26	BE	LOOP	UN	52°46.26	126°58.28	378	4.5	5421	/	MG	☐	1 SAL, 2 CHL
122	BUT2	15	19:41	BE	ROS	.	52°22.900	127°13.710	508		-	-	BC	☒	
			19:49	BO			52°22.802	127°13.720		500	-			☐	
			19:57	EN			52°22.853	127°13.735			-			☐	
123	BUR8	15	20:29		ROS	-	52°19.840	127°10.830	570		-	-	MB	☒	
			20:39				52°19.840	127°10.820		558	-			☐	
			20:48				52°19.840	127°10.790			-			☐	

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Month <u>MARCH</u>			Year <u>2022</u>			Vessel <u>SP TULLY</u>			Cruise ID <u>2022-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments
124	BUR8	15	20:54	BE	NET	-	52° 19.834	127° 10.789	564		-	-	JS	☐	Bottle
			21:16	BO			52° 19.827	127° 10.767		556	-			☐	
			21:26	EN			52° 18.827	127° 10.767			-			☐	
125	BUR16	16	00:22	BE	ROS	-	52° 00.25	126° 41.30	526		-	0	MB	☒	
			00:23	BO			52° 00.25	126° 41.30		51	-		MR	☐	
			00:24	EN			52° 00.25	126° 41.30			-			☐	
126	BUR15	16	00:57	BE	ROS	-	52° 3.170	126° 42.390	217		-	-	MB	☒	
			01:01	BO			52° 3.170	126° 42.380		207	-			☐	
			01:05	EN			52° 3.180	126° 42.350			-			☐	
127	BUR14	16	01:51	BE	ROS	-	52° 7.400	126° 47.120	290		-	-	MB	☒	BOT-5
			01:56	BO			52° 7.400	126° 47.140		283	-			☐	
			02:01	EN			52° 7.402	126° 47.168			-			☐	
128	BUR13	16	02:54	BE	ROS	-	52° 11.502	126° 54.431	281		-		DL	☒	
			02:59	BO			52° 11.503	126° 54.439		264	-			☐	
			03:04	EN			52° 11.507	126° 54.440			-			☐	
129	BUR12	16	03:58	BE	ROS	-	52° 17.172	126° 57.886	451		-		SS	☒	
			04:05	BO			52° 17.174	126° 57.870		442	-			☐	
			04:12	EN			52° 17.179	126° 57.869			-			☐	
			:				.	.			-			☐	

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Month <u>MARCH</u>			Year <u>2022</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2022-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments
130	Bur 11	16	05:12	BE	ROS	-	52° 22.811	126° 49.997	263		-	-	MB	☒	Bot - 5
			05:17	BO			52° 22.810	126° 49.997		259	-			☐	
			05:21	EN			52° 22.800	126° 49.990			-			☐	
131	Bur 10	16	06:00	BE	ROS	-	52° 20.790	126° 59.060	436		-		DL	☐	
			06:07	BO			52° 20.770	126° 57.010		427	-			☐	
			06:19	EN			52° 20.750	126° 56.990			-			☐	
132	loop B1	16	06:24	BE	LOOP	UN	52° 19.4800	126° 57.0999	427	4.5	5132	-	JS, MB DC	☐	underway in style
133	Bur 9	16	06:50	BE	ROS		52° 19.300	127° 2.710	510		-	-	JS/RF	☒	
			07:00	BO			52° 19.280	127° 2.680		500	-			☐	
			07:09	EN			52° 19.300	127° 2.650			-			☐	
134	Bur 8	16	07:56	BE	ROS	-	52° 19.710	127° 10.770	562		-	-	DM/MG/RF	☒	
			08:06	BO			52° 19.750	127° 10.760		553	-			☐	
			08:16	EN			52° 19.710	127° 10.760	580		-			☐	
135	Bur 7	16	08:59	BE	ROS	-	52° 18.578	127° 15.394	580		-	-	DM/MG	☒	
			09:08	BO			52° 18.564	127° 15.329		571	-			☐	
			09:18	EN			52° 18.534	127° 15.349			-			☐	
136	Bur 6	16	10:02	BE	ROS	-	52° 14.320	127° 22.500	591		-	-	RF	☒	
			10:12	BO			52° 14.300	127° 22.580		583	-			☐	
			10:22	EN			52° 14.270	127° 22.650			-			☐	

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P18.5/21

Discovered the TSG wasn't logging on SCS. Closed and opened the TSG instance on GpsGate to solve the problem.

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Month <u>MARCH</u>			Year <u>2022</u>			Vessel <u>IP TULLY</u>			Cruise ID <u>2022001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments
137	Loop137	16	10:34	BE	LOOP	UN	52°13.7024	127°24.8251	520	4.5	5137-		MG	☐	2 CHL 1 SAL
138	Bur 5	16	10:59	BE	ROS		52°12.050	127°28.770	591		/		RF	☒	
			11:10	BO			52°12.030	127°28.850		582	-			☐	
			11:20	EN			52°12.010	127°28.900			-			☐	
138	Bur 5	16	11:31	BE	NET	/	52°12.000	127°28.879	591		/		MG	☐	
			11:50	BO			52°11.491	127°28.767		581	-			☐	
			11:59	EN			52°11.482	127°28.741			-			☐	
140	Bur 4	16	12:51	BE	ROS	/	52°8.180	127°35.150	437		/		RF	☒	
			13:00	BO			52°8.180	127°35.140		427	-			☐	
			13:08	EN			52°8.160	127°35.140			-			☐	
141	Bur 3	16	13:56	BE	ROS	/	52°03.726	127°39.392	343		-		GC	☒	
			14:03	BO			52°03.710	127°39.396		332	-			☐	
			14:09	EN			52°03.718	127°39.408			-			☐	
142	Bur 2	16	14:45	BE	ROS	/	51°58.740	127°40.760	241		-		GC	☒	
			14:50	BO			51°58.710	127°40.730		231	-			☐	
			14:55	EN			51°58.690	127°40.70			-			☐	
143	Bur 3	16	16:23	BE	ROS	/	51°58.184	127°56.718	355		/		DM	☒	
			16:29	BO			51°58.170	127°56.690		342	-			☐	
			16:35	EN			51°58.170	127°56.680			-			☐	

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Month <u>MARCH</u>			Year <u>2022</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2022-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
144	KC10	16	18:28	BE	NET	—	51°39.134	127°57.142	320		—	—		☐	
			18:39	BO			51°39.037	127°57.116		310	-			☐	
			18:45	EN			51°39.026	127°57.075			-			☐	
145	KC10	16	18:59	BE	ROS	US	51°39.013	127°57.130	365		S20-S33	14	MS	☒	
			19:05	BO			51°39.018	127°57.114		360	-			☐	
			19:28	EN			51°38.974	127°57.134			-			☐	
146	BULL HARBOR	17	00:54	BE	BOAT		50°54.6410	127°46.9761	65		-		DL	☐	DROP ANDERSON OFF BULL HARBOR
			02:49	EN			50°53.3634	127°56.5050			-			☐	WX STN SERVICING
147	CPE1	17	04:33	BE	ROS	US	50°59.958	127°50.010	146		-		DL	☒	
			04:36	BO			50°59.940	127°50.980		145	—	Ø		☐	
			04:38	EN			50°59.920	127°50.960			-			☐	
148	CPE1	17	04:45	BE	NET	-	50°59.898	127°49.897	155		-	-	JS	☐	
			04:50	BO			50°59.814	127°49.817		147	-			☐	
			04:53	EN			50°59.783	127°49.782			-			☐	
150	BROWNING ISLAND	17	14:36	BE	BOAT	—	50°54.57	127°22.15	75		-			☐	BROWNING ISLAND SHEPHERD BAY
			01:32	EN			50°51.6406	127°32.8720			-			☐	WX STN
151	Godthaab	17	15:07	BE	MVP	—	50°52.3371	127°22.9400	152		-			☐	
			01:25	EN			50°51.6567	127°32.9292			-			☐	
			:				°	°			-			☐	

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P20.5 / 21

ON THE WAY TO CPE1 51.306 -127.88 @ 1458

TSG ON STANDBY AS SALTWATER SYSTEM IS SHUT DOWN TO REPAIR ^{FAUCET} HOSE BIB ON AFT DECK SALTWATER HOSE
START UP @ 1525 51.243 -127.875

21:08 UTC March 19, Fluorometer (on the flow-through system) got a cleaning using kimwipes and a swab.
-RF

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>MARS</u>			Year <u>2022</u>			Vessel <u>TULLY</u>			Cruise ID <u>2022-001</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
152	SHELTER WK STN	18	14:25	RE	BOAT	—	50° 43.40	127° 28.89			-			☐ ☐	WX STN SERVICE
			20:00	EN			50° 43.30	127° 27.59			-			☐ ☐	
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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
 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

Notes:

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 17 Feb 2020

ANDERSON GLENN COOPER, MARK BELTON, JULIAN SMITH → GORTON ISLANDS

FUELING IN HARDY BAY ~ 0800 TO ~ 1400 LOCAL TIME, 18 MARCH.