

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2023-088

DATE:

From: 8th Aug 2023

To: 24 AUG 2023

VESSEL:

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: FREDERIC HAMILTON First Officer: RYAN HULL
Second Officer: MELISSA KNIGHT Third Officer: DAVID BOLTON
Fishing Master: — Chief Engineer: ROBIN HIELSCHER

Mission Participants / Agencies:
DFO - IOS ; UVIC ; UBC ; MUN ; BIGBOW LABS ; U LAUSANNE

**** 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	DUTIES
MARIE ROBERT	A	06-18	CS, DATA, SAMPLING
MICHAEL ARYCHUK	B	06-18	DMS/P, WATCH
MOIRA GALBRAITH	C	00-12	WATCH LEADER, BONDS, OXY
IAN FINKE	D	00-12	WATCH
IAN TOMPKINS	D	12-24	WATCH, DOC, TOC, CDDM
TJ GUERCIO	E	00-12	WATCH, INCUBATIONS
JODY KLYMAK	E	12-24	WATCH, MVP
MORGAN GRIFFITH	F	00-12	WATCH, LVP
STEPHEN ROMAINE	F	12-24	WATCH LEADER TSG, MVP
DANIELLE CALEB	G	00-12	TM, WATCH
ISABELLE BACONNAIS	G	12-24	WATCH, LVP
LYNN WHARRAM	H	00-12	WATCH, MVP
LAURA SOFEN	H	12-24	WATCH, INCUBATIONS

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**** 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: TJL

Data acquisition program: SBE

CTD deck unit make: 11T model: _____ serial number: 0503

Primary CTD

Make: SBE model: 9 serial number: 1515

Primary temperature serial number: 6754

Primary conductivity serial number: 04-6141

Secondary temperature serial number: 6736

Secondary conductivity serial number: 04-6146

Transmissometer: _____ Model: _____ serial: 1883 DG

Transmissometer: _____ Model: _____ serial: 1185 DR

Fluorometer: Model SEAPoint Cable gain: 3x serial: 3950 **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: RSP Model: 2350 serial: 90613 **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?**

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: _____ Model: _____ serial: _____ **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).

Rosette Setup:Number of bottles: 24

Manufacturer: _____

Volume of bottles (litres): 10**Rosette/Niskin Bottle Serial Numbers:**

1: <u>2019-10-01</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>2013-10-02</u>	7: <u>2000-10-29</u>	8: <u>2016-10-09</u>	9: _____	10: <u>2000-10-30</u>
11: <u>2013-10-04</u>	12: <u>2016-10-10</u>	13: <u>2016-10-11</u>	14: _____	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>2013-10-03</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: HAWBOLDT Model: HAN Serial #: 17027 Used for: CTD/ROSETTES
2. Make: HAWBOLDT Model: 325237 Serial #: 1076-01 Used for: TM
3. Make: SWANN Model: 329 Serial #: 1482 Used for: BONGO, LVP

Comments on performance during cruise (comments should also be reflected in the post-cruise report):TM WINCH IS BACK TO HAVING SPOOLING ISSUES
HAW 17027 HAD A FEW ISSUES + 1 INCIDENT OF "BIRD CAGE"**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 #: _____ LAPTOP - 6VLA50BP
Secondary Printer Kit #: _____
Software Version: _____**Thermosalinograph System (SBE21/45):**

Program: _____ Version: _____

Sampling interval (seconds): 105TSG serial number: 45-0789Fluorometer sensor serial number: WSCHL-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** MANY COMMS ISSUE BUT CAST ITSELF WAS GOOD

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)

101248.237.222.1025 4810
1024 19200.

1238

19-885

10,1920

7.26.7.121

3 2 15 16 1

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month August				Year 2023			Vessel Tully			Cruise ID 2023-088					
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
1	SI	09.08	21:35	BE	MVP	UN	48° 39.6694	123° 29.9954	170.3		/	/	SR	☐	test cast
	SI	09.08	21:37	BO	MVP		48° 39.66	123° 29.98		10	/	/	SR	☐	test cast
	SI	09.08	21:38	EN	MVP		48° 39.69	123° 29.99	170.9		/	/	SR	☐	test cast
2	SI	09	22:51	BE	ROS	US	48° 39.45	123° 30.573	174		-		SR	☒	} Not logged
			22:56	BO			48° 39.45	123° 30.552		167	-			☐	
			:	EN			.	.			-			☐	
3	SI	09	23:04	BE	ROS	US	48° 39.442	123° 30.513	176		-		SR	☒	
			23:07	BO			48° 39.438	123° 30.489		169	-			☐	24 bottles fired
		10	23:12	EN			48° 39.43	123° 30.478			-			☐	at surface test
4	Hwo	09	01:41	BE	ROS	US	48° 36.855	123° 14.813	232		-		SR	☒	
			01:46	BO			48° 36.84	123° 14.808		225	-			☐	
			02:09	EN			48° 36.87	123° 14.834			-			☐	
5	JF1	10	05:03	BE	Loop	-	48° 16.29	123° 30.10	162	4.5	5005		SR	☐	2 CHL 1 SAL
6	JF2	10	07:25	BE	ROS	US	48° 18.042	124° 00.102	186		13-18	6	MG	☒	
			07:33	BO			48° 18.059	124° 00.11		176	-			☐	
			07:50	EN			48° 18.065	124° 00.234			-			☐	
7	JF3	10	10:09	BE	LOOP	-	48° 27.089	124° 30.29	208	4.5	5007		MG	☐	2 CHL 1 SAL
8	JF4	10	12:22		LOOP	-	48° 32.288	124° 59.97	58	4.5	5008		MG	☐	2 CHL 1 SAL
			:				.	.			-			☐	

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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15 GPS

16 Pump

17 GPS

18

22

13

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104

15-GPS (1)

16-GPS (4)

17

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month			AUGUST		Year		2023		Vessel		P. TULLY		Cruise ID		2023-088	
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	
9	P1	10	14:58	BE	ROS	US	48° 34.492	125° 30.035	124		19 - 22	4	MG	☐ ☐	Stop up 15 min for ship	
			15:02	BO			48° 34.492	125° 30.036		111	-			☐ ☐		
			15:15	EN			48° 34.477	125° 30.022			-			☐ ☐		
10	P2	10	17:42	BE	ROS	US	48° 35.97	125° 59.89	116		23 - 31	9	MG	☐ ☐	WENT PAST 100 ON ↑	
			17:45	BO			48° 35.995	125° 59.912		107	-			☐ ☐		
			18:05	EN			48° 35.996	125° 59.952			-			☐ ☐		
11	P2	10	18:14	BE	NET	UN	48° 36.00	126° 00.09	116		-	-	MG	☐ ☐	BONGO	
			18:19	BO			48° 35.96	126° 00.03		106	-			☐ ☐	NOT IN G-LOG	
			18:23	EN			48° 35.93	125° 59.97			-			☐ ☐		
12	P2	10	18:51	BE	ROS	US	48° 35.952	125° 59.931	115		32 - 43	12	SL	☒ ☐	DMS Cast	
			18:54	BO			48° 35.98	125° 59.91		100	-			☐ ☐		
			19:14	EN			48° 35.999	125° 59.832			-			☐ ☐		
13	P3	10	21:28	BE	ROS	US	48° 37.478	126° 19.937	817		44 -	1	SL	☒ ☐		
			21:43	BO			48° 37.503	126° 19.933		810	-	1		☐ ☐		
			21:58	EN			48° 37.523	126° 19.956			-			☐ ☐	TSG →	
14	P4	10	23:47		DRF		48° 38.974	126° 38.967			-		JK	☐ ☐	Glider Deploy	
15	P4	11	00:49	BE	ROS	US	48° 38.999	126° 39.917	1313		45 - 61	17	SL	☒ ☐		
			01:03	BO			48° 38.977	126° 39.922		600	-			☐ ☐		
			01:40	EN			48° 38.968	126° 39.931			-			☐ ☐		

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Bottle Firing Method:

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Notes:

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This page is for any notes or observations

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EVENT 13

TSG PUMP 2 NOT FLOWING, READING 0, CLEANED FLUOROMETER, DISLODGED BIOLOGY

DAILY SCIENCE LOG

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Month <u>August</u>				Year <u>2023</u>		Vessel <u>Tully</u>				Cruise ID <u>2023-083</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							
16	P4	11	01:50	BE	LVP	US	48°38.97	126°39.90	1315	500	62-64	/	SR	☐	3 filters/pumps (isa)
			02:12	BO	LVP	US	48°38.98	126°39.95	1316	500	-	/	SR	☐	
			05:31	EN	LVP	US	48°39.00	126°39.97			-	/	SR	☐	
17	P4	11	06:09	BE	ROS	US	48°39.014	126°39.935	1314		65-86	22	8M	☒	
			06:35	BO			48°39.022	126°39.977		1321	-			☐	
			07:37	EN			48°39.004	126°39.984			-			☐	
18	P4	11	08:00	BE	LVP	US	48°38.97	126°39.98	1315		87-89	/	Moira	☐	NOTES TSG →
		11	08:24	BO	LVP	US	48°39.00	126°39.94		105	-		Moira	☐	
			11:51	EN	LVP	US	48°39.97	126°39.978	1315	105	-	/	Moira	☐	
19	P4	11	12:20	BE	NET	/	48°38.992	126°39.967	1313		/	/	MG	☐	250 BONGO
			12:36	BO			48°38.981	126°39.993		250	-			☐	
			12:34	EN			48°39.004	126°39.986			-			☐	
20	P4	11	12:46	BE	NET	/	48°38.994	126°39.968	1313		/	/	MG	☐	BONGO
			13:31	BO			48°38.970	126°39.982		1200	-			☐	
			13:52	EN			48°38.963	126°39.99			-			☐	
21	P4	11	15:35	BE	PUMP	/	48°38.961	126°40.046	1319		90-92		DC	☐	DEEP
			16:03	BO			48°39.005	126°40.046		1290	-			☐	
			19:45	EN			48°39.965	126°39.982			-			☐	
			:				.	.			-			☐	

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Bottle Firing Method:

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Notes:

Time Code:

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

DE = Deployment Time
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 RE = Recover Mooring Time

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EVENT 18 TSC PUMP #2 FLOW RATE 0.2-0.3 WON'T CHANGE

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month Aug			Year 2023			Vessel Tully			Cruise ID 2023-088						
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
22	P4	11	21:05	MR	BOT		48° 39.938	126° 31.958	1320	800	90-99	10	DC	☐	60-flo DEEP →
			20:05	BE			° .	° .			93-102			☐	begin 50-flo
			22:05	EN			° .	° .			-			☐	end 50-flo
23	P5	12	02:22	BE	ROS	US	48° 41.475	127° 9.944	2035	1005	100-101	2	SL	☒	+loop 5023
			02:40	BO			48° 41.495	127° 9.971		1005	103-104			☐	
			02:59	EN			48° 41.508	127° 9.963			-			☐	
24	P6	12	05:23	BE	ROS	US	48° 44.619	127° 39.905	2055		102-103	2	SL	☒	TSG →
			06:02	BO			48° 44.612	127° 39.933	2540	2005	105-106			☐	
			06:36	EN			48° 44.620	127° 39.929			-			☐	
25	P7	12	09:12	BE	ROS	US	48° 46.633	128° 09.925	2560		104-105	2	MG	☒	Loop 5025 2CHL SAL
			09:32	BO			48° 46.601	128° 09.906		1005	107-108			☐	
			09:55	EN			48° 46.55	128° 09.931			-			☐	
26	P8	12	12:34	BE	NET	/	48° 48.991	128° 39.938	2516		-	-	MG	☐	BONGO
			12:41	BO			48° 48.996	128° 39.969		250	-			☐	
			12:47	EN			48° 48.984	128° 39.95			-			☐	
27	P8	12	12:57	BE	NET	/	48° 48.998	128° 39.931	2514		-	-	MG	☐	BONGO
			13:40	BO			48° 49.008	128° 39.929		1200	-			☐	
			14:03	EN			48° 48.972	128° 39.957			-			☐	
			:				° .	° .			-			☐	

Event Type:

BOT = Bottle cast (no CTD)

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ROS = CTD in Rosette

SET = Fish Set

Loop = Sea Water Loop

MOR = Mooring

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=

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:

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EVENT 22 SAMPLE NUMBERS WRONG IN LOG CORRECT ON LABELS
HAD TO THEN CHANGE ALL EVENT NUMBERS - ON SAMPLES, CRUISE LOG, E-LOG, ROSETTE SHEETS

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EVENT 24 TSG PUMP 2 AIR BUBBLES + SOLIDIDS (CLEARED) OUT

Tide / Location Date / Time

Month				Year		Vessel		Cruise ID							
AUGUST				2023		P TULLY		2023-088							
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
28	P8	12	14:24	BE	ROS	US	48°49.002	128°39.955	2514		109-132	24	DC/MG	☒ ☐	DEEP
			15:00	BO			48°48.96	128°40.002		2005	-			☐ ☐	
			16:28	EN			48°49.016	128°39.968			-			☐ ☐	
29	P8	12	17:23	BE	DRF	/	48°49.733	128°47.581	2555	0	/	/	MR/MG	☐ ☐	NKE CADDIS
30	P9	12	19:16	BE	ROS	US	48°51.365	129°09.964	2339		133-134	2	SR/IB	☒ ☐	5030 loop
			19:35	BO			48°51.342	129°9.969		1005	-			☐ ☐	
			19:54	EN			48°51.381	129°9.954			-			☐ ☐	
31	P10	12	22:22	BE	ROS	US	48°53.555	129°40.011	2635		135-137	3	SR/IB	☒ ☐	
			23:02	BO			48°53.591	129°39.979		2005	-			☐ ☐	
			23:39	EN			48°53.588	129°39.973			-			☐ ☐	
32	P11	13	02:00	BE	ROS	US	48°55.998	130°09.963	2747		138-139	2	IB	☒ ☐	
			02:18	BO			48°55.971	130°10.009		1005	-			☐ ☐	
			02:41	EN			48°55.973	130°10.028			-			☐ ☐	
33	P12	13	05:01	BE	ROS	US	48°58.184	130°40.003	3222		140-163	24	SR	☒ ☐	PAL removed Deep Cast
			05:59	BO			48°58.239	130°39.953		3276	-			☐ ☐	
			07:45	EN			48°58.216	130°39.972			-			☐ ☐	
34	P12	13	07:51	BE	PUMP	/	48°58.206	130°39.981	3237		164-166	3	TIG	☐ ☐	filters
			08:17	BO			48°58.195	130°39.986		750	-			☐ ☐	
			11:52	EN			48°58.201	130°39.971			-			☐ ☐	

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

This page is for any notes or observations

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Event #33-1 Bottle 18 misfired @ 125m

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>AUGUST</u>			Year <u>2023</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2023088</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
35	P12	13	12:07	BE	NET	/	48° 58.178	130° 40.00	3223		/	/	MG	☐ ☐	BONGO
			12:19	BO			° 58.197	° 39.994		250	-			☐ ☐	
			12:25	EN			° 58.208	° 39.969			-			☐ ☐	
36	P12	13	12:37	BE	NET	/	48° 58.202	130° 39.985	3222		/	/	MG	☐ ☐	BONGO
			13:23	BO			° 58.179	° 40.00		1200	-			☐ ☐	
			13:44	EN			° 58.178	° 39.994			-			☐ ☐	
37	P12	13	14:18	BE	BOT	/	48° 58.182	130° 39.995	3224		167-171	5	MG	☐ ☐	TM SHALLOW
			14:38	MR			° 58.178	° 40.022		100	-			☐ ☐	
			14:58	EN			° 58.191	° 39.946			-			☐ ☐	
38	P12	13	15:53	BE	PUMPS	/	48° 58.16	130° 39.989	3222		172-174	3	1B/MG	☐ ☐	PUMP SHALLOW
			16:01	BO			° 58.166	° 40.005		100	-			☐ ☐	
			19:26	EN			48° 58.243	130° 39.982			-			☐ ☐	
39	P12	13	20:05	BE	BOT	/	48° 58.199	130° 40.025	3223	800	175-179	5	DC	☐ ☐	TM deep
			20:37	MR			48° 58.177	130° 40.051		800	-			☐ ☐	
			21:22	EN			48° 58.207	130° 39.950			-			☐ ☐	
40	P12	13	21:38	BE	ROS	US	48° 58.19	130° 39.979	3223	600	180-196	17	SN	☒ ☐	PART ON
			21:49	BO			48° 58.193	130° 39.950		600	-			☐ ☐	
			22:24	EN			48° 58.205	130° 39.995			-			☐ ☐	
			:				°	°			-			☐ ☐	

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LOOP = Sea Water Loop

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 NET = Plankton Net Haul
 DRF = Drifter
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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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CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

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 RE = Recover Mooring Time

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DAILY SCIENCE LOG

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Month <u>08</u>				Year <u>2023</u>			Vessel <u>C165 Tully</u>			Cruise ID <u>2023-089</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
41	P12	13	22:51	BE	PUMP	MR	48° 58.17	130° 39.968	3222	2000	197-199	3	IR	☐ ☐	filters/pumps deep
			23:41	BO			48° 58.211	130° 39.972			-			☐ ☐	
			03:42	EN			48° 58.202	130° 40.027			-			☐ ☐	
42	P13	14	08:30	BE	ROS	US	49° 02.543	131° 39.912	3018		200-223	23	MG	☐ ☐	5K loop 2CHL / SAL
			09:12	BO			49° 02.542	131° 39.875		2005	-			☐ ☐	5042 loop
			10:05	EN			49° 02.551	131° 39.890			-			☐ ☐	
43	Loop 43	14	04:50	BE	Loop	UN	48° 59.452	130° 56.324	1499	4.5	5043-	1	SK	☐ ☐	before 42
44	P14	14	14:57	BE	ROS	US	49° 07.387	132° 39.924	3303		204-247	24	MG	☒ ☐	PWR ON BULK WATER DMS
			16:06	BO			49° 07.371	132° 39.93		3361	-			☐ ☐	P3360 S 3303 D3305 A 9.1
			17:57	EN			49° 07.38	132° 39.93			-			☐ ☐	
45	P15	14	22:35	BE	ROS	US	49° 12.049	133° 39.92	3393		248-270	23	I.B.	☒ ☐	5044 loop sp (X3) 248 down loop fill
			23:12	BO			49° 11.988	133° 39.951		2005	-			☐ ☐	
			23:53	EN			49° 11.997	133° 39.996			-			☐ ☐	
46	P16	15	04:23	BE	BOT	✓	49° 17.04	134° 40.025	3615	405	271-	1	JK	☒ ☐	TM SHALLOW →
			05:53	MR			49° 17.04	134° 40.029			-			☐ ☐	BIGROW
			06:19	EN			49° 17.067	134° 40.048			-			☐ ☐	
47	P16	15	06:36	BE	ROS	US	49° 17.008	134° 39.978	3615		272-295	24	SR/MG	☐ ☐	PAL off DEEP
			07:44	BO			49° 17.019	134° 40.016		3685	-			☐ ☐	
			09:34	EN			49° 17.030	134° 39.986			-			☐ ☐	

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EVENT 46

Electrical issues with wind spooling led to delays $\approx$ 1 hour. Will carry on and have C/E look at it in the morning

LOOP 5044 SHOULD BE 5045

DAILY SCIENCE LOG

Month			Year			Vessel			Cruise ID						
AUGUST			2023			JP TOLL			2023-088						
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
							Latitude	Longitude							
48	P16	15	9:58	BE	NET	/	49°17.004N	134°40.003W	3615		-	-	PL	☐ ☐	BONGO
			10:07	BO			°17.008	°40.012		250	-			☐ ☐	
			10:12	EN			°17.032	°40.004			-			☐ ☐	
49	P16	15	10:26	BE	NET	/	49°17.005	134°39.994	3615		-	-	DC	☐ ☐	BONGO
			11:09	BO			°17.005	°40.008	3614	1200	-			☐ ☐	
			11:30	EN			°17.001	°40.03			-			☐ ☐	
50	P16	15	11:50	BE	BOT		49°17.041	134°39.94	3615		296-300	5	DC	☐ ☐	TM DEEP
			12:26	BR			°16.990	°39.983		800	-			☐ ☐	
			13:24	EN			°16.974	°39.929			-			☐ ☐	
51	P16	15	14:18	BE	ROS	US	49°16.994	134°39.98	3613		306-322	17	MC	☒ ☐	DMS
			14:30	BO			°17.0	°39.981		600	-			☐ ☐	
			15:11	EN			°16.975	°39.995			-			☐ ☐	
52	P16	15	15:21	BE	BOT	/	49°16.999	134°39.965	3614		306-305	5	DC	☐ ☐	TM SWALLOW
			15:36	BR			°16.981	°39.966		100	-			☐ ☐	
			15:54	BO			°16.973	°39.970			-			☐ ☐	
53	P17	15	20:31	BE	ROS	US	49°20.988	135°39.983	3616	2005	323-345	23	IB	☒ ☐	+100 S053
			21:08	BO			49°20.981	135°39.963	3614	2005	-			☐ ☐	(the bottom pressure keeps jumping between 3616 and ~3622)
			21:47	EN			49°20.992	135°39.385			-			☐ ☐	
	P18		:				°	°			-			☐ ☐	

DAILY SCIENCE LOG

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Month				Year		Vessel		Cruise ID							
AUGUST				2023		J P TULLY		2023							
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
54	P18	16	02:27	BE	ROS	US	49° 25.985	136° 39.965	3835		346-369	24	IB	☒	
			03:37	BO			49° 26.040	136° 39.989	3833	3823	-			☐	
			05:22	EN			49° 26.006	136° 40.019			-			☐	
55	LOOP55	16	08:27	BE	LOOP	/	49° 28.74	138° 22.22	3882	4.5	5055	/	/	☐	PAL on 1 SAL 2CHL
56	P19	16	10:54	BE	ROS	US	49° 30.018	137° 39.946	3926		370-371	2	MG	☐	WAIT FOR WARS COUNTER FIX
			11:30	BO			° 29.291	° 39.942		2005	-			☐	LOOP5056 1 SAL 2CHL
			12:06	EN			° 29.949	° 39.895			-			☐	
57	P20	16	16:48	BE	BOT	/	49° 33.986	138° 39.898	3960		372-376	5	DC	☐	TH SHALLOW
			17:08	MR			° 33.978	° 39.883		100	-			☐	
			17:30	EN			° 34.011	° 39.921			-			☐	
58	P20	16	17:37	BE	NET	/	49° 33.994	138° 39.966	3931		/	/	MG	☐	BOWGO
			17:48	BO			° 33.995	° 39.955		250	-			☐	
			17:54	EN			° 34.0	° 39.948			-			☐	
59	P20	16	18:01	BE	NET	/	49° 33.987	138° 39.95	3962		/	/	MG	☐	BOWGO
			18:47	BO			49° 34.001	139° 39.95		1200	-			☐	
			19:07	EN			49° 34.021	139° 39.971			-			☐	
60	P20	16	20:01	BE	ROS		49° 34.021	139° 39.969	3935		377-394	18	SL	☒	DMS Cast
			20:11	BO			49° 33.992	139° 39.973	3937	600	-			☐	
			20:43	EN			49° 33.993	139° 39.943			-			☐	

Event Type:

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 NET = Plankton Net Haul
 DRF = Drifter
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Bottle Firing Method:

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 DN = Down / No stop

Notes:

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

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EVENT 56 STOP DUE TO ELECTRONICS WITH WINCH 1009 UTC — 1054 UTC
STOP ACQUISITION AND OVERWRITE RELAUNCH EXCEL PROGRAM

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>August</u>				Year <u>2023</u>			Vessel <u>Tell</u>			Cruise ID <u>2023-088</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							
61	P20	16	20:30	BE	BOT		49° 33.994	138° 39.949	3958	800	395-399	5	DLJK	☐	TM DEEP
			21:34	MR			49° 33.973	138° 39.963			-			☐	
			22:18	EN			49° 33.974	138° 39.987			-			☐	
62	P20	16	22:56	BE	ROS	US	49° 33.932	138° 40.036	3939		400-423	24	IB/SR	☒	PAR OFF DEEP
			00:08	BO			49° 33.983	138° 39.974		4025	-			☐	
			01:56	EN			49° 33.989	138° 39.958			-			☐	
63	P21	17	06:33	BE	ROS	US	49° 37.989	139° 39.999	3932	2005	424-425	2	TIG/IB	☒	PAR 6.1 + loop 5063
			07:12	BO			49° 38.031	139° 39.954			-			☐	1 SAL 2 CHL
			08:01	EN			49° 38.058	139° 39.903			-			☐	
64	P22	17	13:24	BE	ROS	US	49° 41.943	140° 39.928	3875		426-449	24	MG	☒	SPPOOLING ISSUE →
			14:36	BO			49° 41.962	140° 39.916		3996	-			☐	3996 P 10.5 A
			16:45	EN			49° 41.968	140° 39.948			-			☐	3994 D 3869 S SURFACE HOSE COLLECTOR NL DRUM
65	Loop 65	17	17:40	BE	Loop	UN	49° 42.704	140° 51.453	3847	4.5	5065	-	MG	☐	1 SAL 2 CHL
66	P23	17	20:31	BE	ROS	US	49° 46.028	141° 39.959	4022	2005	450-459	10	IB	☒	5066 loop
			21:08	BO			49° 46.028	141° 40.029		2005	-			☐	
			21:47	EN			49° 46.045	141° 40.064			-			☐	→
67	P24	18	01:33	BE	ROS	US	49° 50.193	142° 40.009	3958		460-483	24	SR	☐	PAR OFF →
			02:44	BO			49° 50.187	142° 39.963		4046	-			☐	→
			04:17	EN			49° 50.168	142° 39.943			-			☐	

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EVENT 64 SMALL BIRD'S NEST 1235 RESPOOLING STARTED CAST @ 1304 EVERYTHING LOOKS GOOD

EVENT 66

Bottle 9 cracked on bottom, failed integrity test. Swapped out after cast with new bottle.

30 sec ^{EVENT 67} wait on all bottles, including those $\leq 400m$ to save time.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month AUGUST				Year 2023		Vessel J P TULLY				Cruise ID 2023088					
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							
68	P25	18	08:03	BE	ROS	US	49° 59.972	143° 36.264	4113		484-485	2	MG	☒	1 SAL 2 CHL 5m Loop 5068
			08:45	BO			50° 0.014	143° 36.215		2005	-			☐	
			09:29	EN			50° 0.041	143° 36.168			-			☐	
69	LOOP 69	18	09:58	BE	LOOP	UN	50° 0.025	143° 40.428	4103	4.5	5069	—	MG	☐	1 SAL 2 CHL
70	P35	18	12:16	BE	ROS	US	49° 56.973	144° 18.187	4119		486-487	2	MG	☒	
			12:35	BO			49° 59.999	144° 18.16			-			☐	
			12:59	EN			50° 0.019	144° 18.136			-			☐	
71	P26	18	15:34	BE	BOT	MR	49° 59.942	144° 59.923	4240		488-	1	MG	☐	Bigelow Gp-Flows
			15:59	BO			49° 59.979	144° 59.944		20	-			☐	WEIGHTS 450M
			16:29	EN			49° 59.993	144° 59.927			-			☐	
72	P26	18	16:37	BE	NET	—	49° 59.998	144° 59.955	4240		—	—	MG	☐	Bongo
			16:48	BO			49° 59.999	144° 59.977		250	-			☐	
			16:53	EN			50° 0.008	144° 59.944	4240		-			☐	
73	P26	18	17:04	BE	NET	—	49° 59.984	144° 59.951	4241		-			☐	
			17:50	BO			50° 0.011	145° 0.037		1200	—	—	MG	☐	BONGO
			18:14	EN			49° 59.937	144° 59.948			-			☐	
74	P26	18	19:07	BE	ROS	US	49° 59.972	145° 0.001	4246		489-507	19	SR	☒	DMS Cast
			19:19	BO			49° 59.959	145° 0.003		600	-			☐	
			19:55	EN			49° 59.974	145° 0.015			-			☐	

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Notes:

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month A00T				Year 2023			Vessel JP TULLY			Cruise ID 2023-088					
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
75	P26	18	20:04	BE	PUMPS	MR	49° 59.966	145° 59.966	4243		508-510	3	IB	☐ ☐	BE NEEDS EDITING IN LOG
			20:52	BO			49° 59.988	145° 0.031		2300	-			☐ ☐	DEEP PUMPS
			00:49	EN			50° 0.034	145° 0.019			-			☐ ☐	
76	P26	19	01:01	BE	ROS	US	50° 0.035	144° 59.96	4216		511-534	24	SR	☒ ☐	Deep Cast
			02:17	BO			50° 0.002	144° 59.92		4319	-			☐ ☐	#2 didn't fire
			03:58	EN			49° 59.993	144° 59.98			-			☐ ☐	
77	P26	19	04:31	BE	pumps	MR	49° 59.993	144° 59.978	4242		535-537	3	IB	☐ ☐	PUMPS SHALLOW
			04:42	BO			49° 59.993	144° 59.978		105	-			☐ ☐	
			08:07	EN			49° 59.965	145° 0.036			-			☐ ☐	
78	P26	19	08:50	BE	BOT	MR	50° 0.024	144° 59.902	4242		538-543	5	DC	☐ ☐	TN DEEP
			09:35	BO			50° 0.040	144° 59.934		1560	-			☐ ☐	
			10:43	EN			50° 0.068	144° 59.821			-			☐ ☐	
79	P26	19	10:52	BE	PUMPS	MR	50° 0.007	144° 59.942	4236		544-546	3	IB	☐ ☐	PUMP MEDIUM
			11:18	BO			50° 0.003	144° 59.979		800	-			☐ ☐	
			14:56	EN			49° 59.983	145° 0.027			-			☐ ☐	
80	P26	19	15:51	BE	BOT	MR	50° 0.040	144° 59.861	4230		547-553	7	DC	☐ ☐	TN SHALLOW
			16:13	BO			50° 0.108	144° 59.92		200	-			☐ ☐	
			16:33	EN			50° 0.144	144° 59.93			-			☐ ☐	
81	P26 WAA	20	21:17	RE	MOR		50° 32.705	145° 13.665	4238	0	-		SR	☐ ☐	WAA MORNING recovery

Event Type:

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Notes:

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* Wave rider Mooring *

→ arrived ~1245* tender in water to recover mooring on surface

→ Back onto line. 1435* LOCAL TIME

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month August			Year 2023			Vessel Tully			Cruise ID 2023-089						
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
82	Loop 82	20	03:15	BE	LOOP	UN	50° 21.07	143° 17.147	3870	4.5	5082	X	SK	☐ ☐	Loop 82 1SAL 2CHL
83	MVP	20	04:24	BE	CTD	/	50° 18.963	142° 56.406	4180		-		JK	☐ ☐	MVP launch
84	Loop 84	20	08:23	BE	LOOP	UN	50° 13.592	142° 0.8	4191	4.5	5084	/	MG	☐ ☐	1SAL 2CHL
85	Loop 85	20	14:43	BE	LOOP	UN	50° 03.881	140° 31.271	3919	4.5	5085	/	MG	☐ ☐	1SAL 2CHL
86	Loop 86	21	01:43	BE	Loop	UN	49° 48.774	137° 55.253	3930	4.5	5086		SR	☐ ☐	1SAL 2CHL
87	Loop 87	21	08:45	BE	LOOP	UN	49° 38.854	136° 23.006	3780	4.5	5087	/	MG	☐ ☐	1SAL 2CHL
88	Loop 88	21	14:01	BE	LOOP	UN	49° 39.912	135° 12.094	3678	4.5	5088	/	MG	☐ ☐	1SAL 2CHL
89	Loop 89	21	23:31	BE	Loop	UN	49° 18.987	133° 5.419	2874	4.5	5089	/	SK	☐ ☐	1SAL 2CHL
90	Loop 90	22	05:37	BE	Loop	UN	49° 11.455	131° 43.88	3591	4.5	5090	/	SK	☐ ☐	1SAL 2CHL
91	Loop 91	22	10:47	BE	LOOP	UN	49° 04.08	130° 33.20	3604	4.5	5091	/	MG	☐ ☐	1SAL 2CHL
92	Loop 92	22	14:42	BE	LOOP	UN	48° 58.329	129° 38.997	2506	4.5	5092	/	MG	☐ ☐	1SAL 2CHL
93	Loop 93	23	03:47	BE	Loop	UN	48° 39.324	126° 41.754	1347	4.5	5093	/	SK	☐ ☐	1SAL 2CHL
83	MVP	23	09:45	EN	MVP		° . .	° . .			-			☐ ☐	
94	MVP	23	11:18	BE	MVP		48° 45.36	127° 41.37	2532		-			☐ ☐	
	MVP	24	04:00	EN	MVP		48° 40.69	126° 51.38	1248		-			☐ ☐	
			:				° . .	° . .			-			☐ ☐	
			:				° . .	° . .			-			☐ ☐	
			:				° . .	° . .			-			☐ ☐	
			:				° . .	° . .			-			☐ ☐	

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
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