

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2022-008

DATE:

From: 9 AUGUST 2022

To: 25 AUGUST 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: RHONA LETTAU First Officer: CHASE BURDETT
 Second Officer: STEPHEN LOWDON Third Officer: SEBASTIEN DURRIEU DE MADRON
 Fishing Master: NIA Chief Engineer: MARTIN LEMOINE

Mission Participants / Agencies:

DFO-IOB ; UBC ; UVIC ; BIGELOW LABS

**** 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>

MARIE ROBERT	A	0600-1800
SARA RAUSCHENBERG	C	1200-2400
ROSS McCULLOCH	D	0000-1200
BRANDON McNABB	D	1200-2400
MOIRA GALBRAITH	E	0000-1200
ALASTAIR ROBERTS	F	0000-1200
DAVID DRAPEAU	F	1200-2400
BERNARD YANG	G	0000-1200
ROWAN FOX	G	1200-2400
OLIVIA MELVILLE	H	0000-1200
DANIELLE CALEB	H	1200-2400

**** 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: WP # 102

Data acquisition program: SeaSave 7.26.7.121

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

Primary CTD

Make: SBE model: 9+ serial number: 443

Primary temperature serial number: 4700

Primary conductivity serial number: 3531

Secondary temperature serial number: 4888

Secondary conductivity serial number: 4513

Transmissometer: Wetlabs Model: CSTAR serial: 1185 DR

Transmissometer: " Model: " serial: 1883 DG

Fluorometer: Model Seapoint Cable gain: 3X serial: 3982 P, S or NO pump?

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

Oxygen sensor: SBE Model: 43 serial: 3791 P, S or NO pump?

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

Other sensors: Valeport VASCO altimeter serial: 76341 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: 105
Volume of bottles (litres): 10

Rosette/Niskin Bottle Serial Numbers:

1: _____	2: _____	3: _____	4: _____	5: _____
6: _____	7: _____	8: _____	9: _____	10: _____
11: _____	12: _____	13: _____	14: _____	15: _____
16: _____	17: _____	18: _____	19: _____	20: _____
21: _____	22: _____	23: _____	24: _____	

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

Winches:

1. Make: HAWBOLDT Model: HAW Serial #: 17026 Used for: CTD
2. Make: SWANN Model: _____ Serial #: _____ Used for: TRACE METAL
3. Make: SWANN Model: 329 Serial #: 1482 Used for: BONGO

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

4 HAWBOLDT HAW 17027 MPS

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 (SBE211/45):

Program: DATA LOG ? Version: _____
Sampling interval (seconds): 5
TSG serial number: 0620
Fluorometer sensor serial number: 1656

Comments on performance during cruise (comments should also be reflected in the post-cruise report):

LOST ~ 3.5 DAYS OF DATA

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)

ROSETTE CASTS:

WAIT TIMES BEFORE CLOSING NISKIN BOTTLES:

0 TO 400 dbar INCL: 60 SECONDS.

401 dbar AND DEEPER: 30 SECONDS.

ALL CASTS HAD THE "GO DOWN 10 m, WAIT 30 SECS,
BACK TO SURFACE THEN ARCHIVE" AT BEGINNING OF CASTS.

DAILY SCIENCE LOG

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Page 1 of 16

Month <u>Aug</u>				Year <u>2022</u>		Vessel <u>Tully</u>				Cruise ID <u>2022-008</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
1	SI-01	11	01:55	BE	ROS	US	48°37.880	123°30.000	205		—	24	RF	☒	PAR ON
			01:59	BO			48°37.880	123°29.990		194	—	24	RF	☒	
			02:16	EN			48°37.890	123°29.960			-			☐	
2	Har059	11	05:22	BE	ROS	US	48°36.830	123°14.809	232		1-15	15	RF	☒	
			05:26	BO			48°36.830	123°14.795		229	-			☐	
			05:46	EN			48°36.83	123°14.79			-			☐	
3	Har059	11	08:07	BE	NET	✓	48°36.828	123°14.90	234		-		MG	☐	BONGO
			08:17	BO			48°36.814	123°15.115	218	224	-			☐	
			08:23	EN			48°36.893	123°15.284	1527		-			☐	
4	JF1	11	11:18	BE	LOOP	UN	48°16.01	123°30.11	161	4.5	5004	+	MG	☐	ISAL 2CHL INVT
5	JF2	11	13:22	BE	NET	US	48°18.01	124°00.27	185		-			☐	BONGO
			13:28	BO			48°18.04	124°00.10		175	-			☐	
			13:32	EN			48°18.07	124°00.18			-			☐	
6	JF2	11	13:51	BE	ROS	US	48°18.09	124°00.24	185		16-31	16	MR	☒	
			13:56	BO			48°18.13	124°00.45		176	-			☐	
			14:16	EN			48°18.30	124°01.42			-			☐	
7	JF3	11	16:07	BE	LOOP	UN	48°27.00	124°30.05	221	4.5	5007	-	MG	☐	ISAL 2CHL INVT
8	JF4	11	18:04	BE	LOOP	UN	48°32.30	125°00.1	65	4.5	5008	-	MG	☐	ISAL, 2CHL, INVT
			:				°	°			-			☐	

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 SET = Fish Set

LOOP = Sea Water Loop

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

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

Time Code:

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DAILY SCIENCE LOG

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Page 2 of 16

Month <u>AUGUST</u>			Year <u>2022</u>			Vessel <u>JP Tully</u>			Cruise ID <u>2022 008</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							
9	P1	11	20:20	BE	ROS	US	48° 34.530	125° 29.910	112		32 - 34	3	RF	☒ ☐	PARR on
			20:23	BO			48° 34.540	125° 29.880		103	-			☐ ☐	
			20:30	EN			48° 34.540	124° 29.830			-			☐ ☐	
10	LA PORPOISE MOORING	11	22:38		MOR		48° 23.13	125° 48.11	149		-			☐ ☐	ARRIVE SITE
			23:07				48° 23.14	125° 48.30			-			☐ ☐	"ON IT" 228 m
			23:15				48° 23.13	125° 48.21			-			☐ ☐	211 m
			23:23				48° 23.08	125° 48.42			-			☐ ☐	To close
			23:43				48° 23.07	125° 48.50			-			☐ ☐	275 Release
			23:51				48° 23.04	125° 48.43			-			☐ ☐	Release
		12	00:10	RE	MOR		48° 22.89	125° 47.92			-			☐ ☐	ON DECK
11	LA PORPOISE MOORING	12	00:22	DE	MOR		48° 23.0515	125° 48.2839			-			☐ ☐	MOORING RELEASED
12	LAP MOORING	12	00:31	BE	ROS	-	48° 23.07	125° 48.33	148			Ø	MR	☒ ☐	
			00:34	BO			48° 23.05	125° 48.33		139	-			☐ ☐	
			00:36	EN			48° 23.06	125° 48.33			-			☐ ☐	
13	P2	12	02:39	BE	ROS	US	48° 35.960	125° 59.870	116		35 - 49	15	RF	☒ ☐	DMS
			02:41	BO			48° 35.950	125° 59.850		100	-			☐ ☐	
			02:58	EN			48° 35.940	125° 59.860			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	

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DAILY SCIENCE LOG

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Page 3 of 16

Month <u>Aug</u>			Year <u>2022</u>			Vessel <u>Tully</u>			Cruise ID <u>2022-008</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							
14	P2	12	03:25	BE	NET	✓	48° 35.971	125° 59.970	116		✓	✓	RF/DD	☐ ☐	Bongard
			03:28	BO			48° 35.971	125° 59.970	116	106	-			☐ ☐	
			03:30	EN			48° 35.972	125° 59.974		106	-			☐ ☐	
15	P2	12	04:07	BE	ROS	US	48° 35.990	125° 59.980	116		50-57	8	RF	☒ ☐	
			04:09	BO			48° 35.980	125° 59.980		108	-			☐ ☐	
			04:20	EN			48° 35.990	126° 0.020			-			☐ ☐	
16	P3 P3	12	06:02	BE	ROS	US	48° 37.532	126° 19.966	811		58-	1	RF/DD	☒ ☐	
			06:19	BO			48° 37.522	126° 19.982		408	-			☐ ☐	
			06:35	EN			48° 37.528	126° 19.976			-			☐ ☐	
17	P4	12	08:20	BE	ROS	US	48° 38.965	126° 40.25	1324		59-67	9	MG	☒ ☒	VAR
			08:38	BO			° 39.00	° 40.34		1000	-			☐ ☐	FLUOR SCREWY →
			09:07	EN			° 39.04	° 40.25	1341		-			☐ ☐	
18	P4	12	09:48	BE	ROS	US	48° 39.02	126° 40.01	1311		69-86	19	MG	☐ ☐	DEEP
			10:12	BO			° 39.02	° 40.00		1323	-			☐ ☐	
			11:06	EN			° 39.01	° 40.02			-			☐ ☐	
19	P4	12	11:27	BE	NET	✓	48° 39.01	126° 39.01	1312		✓	✓	MG/DM	☐ ☐	Bongard
			11:38	BO			° 39.02	° 39.98		250	-			☐ ☐	
			11:46	EN			° 39.02	° 39.99			-			☐ ☐	
			:				°	°			-			☐ ☐	

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P35 / 16

TRACE DOWN DIFFERENT FROM TRACE UP BIG WOW @ 750
EVENT 17 TOOK APART FWOR - CLEANED, DRIED ALL CONNECTIONS
18 NO RESPONSE NOW

DAILY SCIENCE LOG

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Page 4 of 16

Month <u>AUG</u>			Year <u>2022</u>			Vessel <u>JP Tully</u>			Cruise ID <u>2022008</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
20	P4	12	12:12	BE	NET	✓	48° 39.03	126° 39.99	1309	1200	✓	✓	MG/RM	☐	Don Go
			12:55	BO			° 39.01	° 39.98		1200	-			☐	
			13:20	EN			° 39.01	° 39.99			-			☐	A FRAME →
21	P4	12	14:29	BE	BOT	✓	48° 39.00	126° 39.97	1312	50	87-87	2	MR	☐	UBC GoFlo
			14:38	BO		US	48° 39.01	126° 39.97		50	-			☐	
			14:39	RAK			48° 39.00	126° 39.98			-			☐	
			14:47	EN			48° 39.01	126° 39.96			-			☐	
22	P4	12	15:34	BE	BOT	✓	48° 38.96	126° 39.91	1313		88-92	5	D	☐	GoFlo 100m
			15:38	BR			° 38.96	° 39.91		100	-			☐	→
			16:12	EN			° 38.90	° 39.92			-			☐	WEIGHT ON DECK
23	P4	12	16:50	BE	NET	UN	48° 38.92	126° 40.04	1319		✓	✓	MG	☐	MPS
			17:28	BO			48° 39.07	126° 40.059		1205	-			☐	
			17:50	EN			48° 39.12	126° 39.97			-			☐	
24	P4	12	18:12	BE	BOT	✓	48° 39.14	126° 39.99	1298		93-97	5	D	☐	TM-OPP
			18:42	MR			48° 39.174	126° 40.020		800	-			☐	
			19:22	EN			48° 39.23	126° 40.42			-			☐	
25	P4	12	20:21	BE	ROS	US	48° 39.080	126° 40.153	1311		98-110	13		☐	DMS
			20:28	BO			48° 39.065	126° 40.170		405	-			☐	
			20:53	EN			48° 39.076	126° 40.274			-			☐	

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p 4.5/16

EVENT 20 A-FRAME STOPPED FOR APPROX 20 MIN BARGE WAS PULLED BACK IN AND REDLOYED

Go Flo
EVENT 22 WINCH STUCK FOR 10 MINUTES BETWEEN 4 + 5 BOTTLE ON RETRIEVAL
≈ 30 min spooling PROBS HYDRO WINCH

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 5 of 16

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26	^{LOOP 266} underway	12	22:14	BE	loop	UN	48°40.508	126°58.301			5026	✓	RF	☐ ☐	2 CHL 1 SAL
27	P5	12	23:13	BE	ROS	US	48°41.418	127°9.890	2085		111 - 112	12	RF	☒ ☐	Flu. still producing garbage data
		12	23:48	BO			48°41.438	127°9.889		2005	-			☐ ☐	
		13	00:24	EN			48°41.425	127°9.889			-			☐ ☐	
28	P6	13	02:36	BE	ROS	US	48°44.550	127°39.690	2537		112 -	1	RF	☒ ☐	Flu data OK →
			03:08	BO			48°44.520	127°39.680		2010	-			☐ ☐	
			03:41	EN			48°44.510	127°39.680			-			☐ ☐	
29	P7	13	05:59	BE	ROS	US	48°46.590	128°9.920	2500	2005	113 -	1	R / M	☒ ☐	Loop 2 CHL 1 SAL
			06:30	BO			48°46.561	128°10.030		2005	-			☐ ☐	
			07:06	EN			48°46.55	128°9.995			-			☐ ☐	
30	P8	13	09:21	BE	ROS	US	48°48.98	128°40.01	2514		138 - 161	24	MG	☐ ☐	UBC low Oxy CAST
			09:42	BO			°48.99	°39.95		1200	-			☐ ☐	→
			10:37	EN			°49.01	°39.99			-			☐ ☐	
31	P8	13	10:54	BE	NET	✓	48°48.997	128°39.99	2513		-		MG	☐ ☐	BONGO
			11:01	BO			°48.97	°39.95		250	-			☐ ☐	
			11:06	EN			°48.96	°39.96			-			☐ ☐	
32	P8	13	11:16	BE	NET	✓	48°48.97	128°39.97	2513		-		MG	☐ ☐	BONGO
			12:00	BO			°48.96	°40.04		1200	-			☐ ☐	
			12:20	EN			°48.94	°40.04			-			☐ ☐	

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p 5.5 / 16

EVENT 28

- After P5 complete, Fluorometer swap SN 3641 installed.
SN 3982 removed.

Note Con File was incorrect; SN 3982 was on, but con file had 3641 in it. To be corrected. -RF.

EVENT 30 FLUOR MAX @ 28 AROUND 45? RIGHT CABLE? CON FILE? SEE NOTE ABOVE

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 6 of 16

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33	P8	13	12:39	BE	ROS	US	48° 49.00	128° 39.93	2513		114-137	24	MG	☒ ☒	FLUOR MAX 30m L 45
			13:14	BO			° 48.93	° 39.99		2005	-			☐ ☐	
			14:25	EN			48° 48.92	128° 39.97			-			☐ ☐	
34	P9	13	16:43	BE	ROS	US	48° 51.44	129° 09.94	2333		162-	1	MR	☒ ☐	202905 OFF RBR ON 93134 ON
			17:19	BO			48° 51.41	129° 09.92		2005	-			☐ ☐	+LOOP
			17:54	EN			48° 51.41	129° 09.95			-			☐ ☐	SPIKE IN TRANS ? ↳ PRESSURE
35	P10	13	20:19	BE	ROS	US	48° 53.610	129° 39.880	2637		163-164	#2	RF	☒ ☐	
			20:52	BO			48° 53.610	129° 39.940		2005	-			☐ ☐	
			21:26	EN			48° 53.620	129° 39.940			-			☐ ☐	
36	P11	13	23:43	BE	ROS	US	48° 56.010	130° 10.060	2746		165-	1	RF	☐ ☐	
		14	00:17	BO			48° 56.020	130° 10.050		2005	-			☐ ☐	
			00:50	EN			48° 56.03	130° 10.061			-			☐ ☐	
37	P12	14	03:13	BE	ROS	US	48° 58.220	130° 39.890	3218		166-178	13	RF	☒ ☐	DMS
			03:20	BO			48° 58.230	130° 39.880		401	-			☐ ☐	
			03:43	EN			48° 58.230	130° 39.880			-			☐ ☐	
38	P12	14	04:18	BE	ROS	US	48° 58.207	130° 39.976	3218m		179-201	23	RF	☒ ☐	PAR off
			05:14	BO			48° 58.190	130° 39.954		32746	-			☐ ☐	DEEPCAST
			06:42	EN			48° 58.182	130° 39.972			-			☐ ☐	
			:				°	°			-			☐ ☐	

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

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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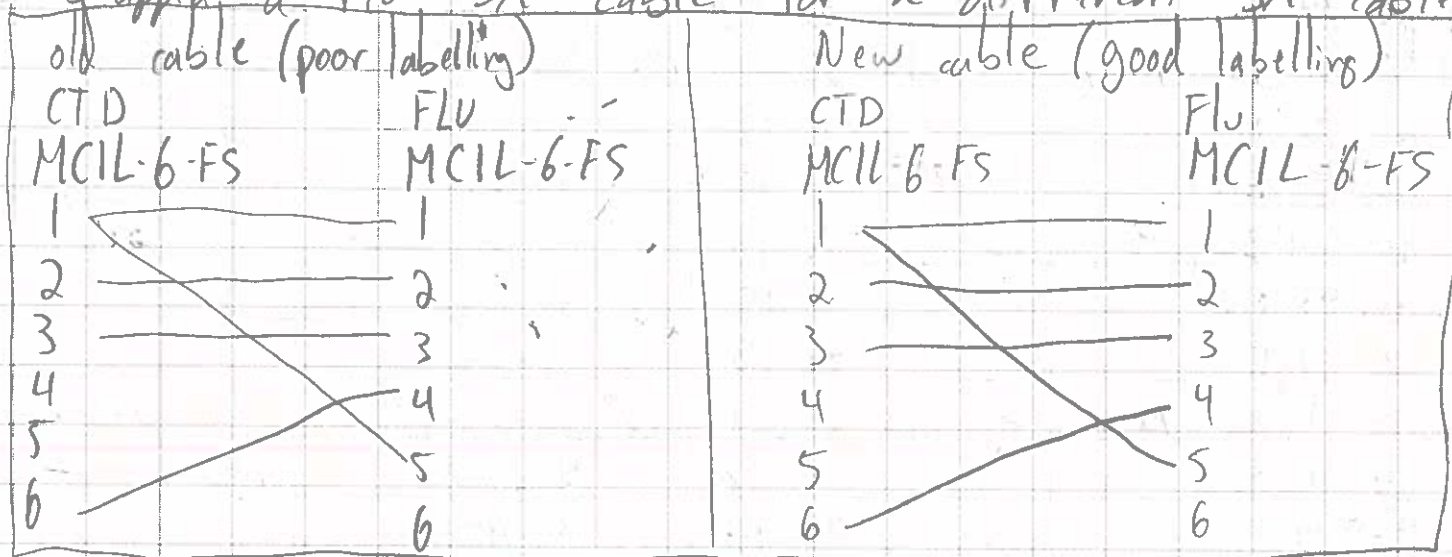
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Notes:

p6.5 /16

CAST 34, PR. IT LOOKS LIKE THE WAS A PRESSURE SPIKE DURING THE "DOWN 10 AND BACK" BEFORE ARCHIVING

- Regarding concerns of flu data: Fluorometer configured with 3X in con file, and 3X cable. Range 0-50.
- Between events 34 & 35 swapped a flu 3X cable for a different 3X cable. Ringed them both out. they were identical.
- Conclusion: can't show any issue with fluorometer setup/cabling



DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 7 of 16

Month <u>AUGUST</u>			Year <u>2022</u>			Vessel <u>IP Tully</u>			Cruise ID <u>2022008</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
39	P12	14	07:51	BE	ROS	US	48° 58.21	130° 39.94	3220		202-210	9	MG	☒ ☒	UVIC OUT OF ORDER
			08:09	BO			° 58.21	° 39.95		1000	-			☐ ☐	
			08:37	EN			° 58.21	° 39.99			-			☐ ☐	
40	P12	14	08:49	BE	NET	US	48° 58.18	130° 39.99	3219		-	-	MG	☐ ☐	BONGO
			08:59	BO			° 58.19	° 39.98		250	-			☐ ☐	
			09:04	EN			° 58.18	° 39.98			-			☐ ☐	
41	P12	14	09:13	BE	NET	US	48° 58.17	130° 39.98	3219		-	-	MG	☐ ☐	BONGO
			09:44	BO			° 58.18	° 39.98		1200	-			☐ ☐	
			10:14	EN			° 58.17	° 39.98			-			☐ ☐	
42	P12	14	10:38	BE	BOT	/	48° 58.17	130° 40.04	3221		211-	1	MG	☐ ☐	UBC SRF TM
			10:39	MR			° 58.18	° 40.04		5	-			☐ ☐	
			10:41	EN			° 58.18	° 40.06			-			☐ ☐	
43	P12	14	10:44	BE	BOT	/	48° 58.18	130° 40.07	3219		212-	1	MG	☐ ☐	UBC SRF TM
			10:48	MR			° 58.17	° 40.05		5	-			☐ ☐	
			10:51	EN			° 58.18	° 40.04			-			☐ ☐	
44	P12	14	14:11	BE	BOT	/	48° 58.21	130° 40.04	3217		213-217	5	MG	☐ ☐	TM SHALLOW
			14:28	MR			° 58.18	° 40.01		100	-			☐ ☐	
			14:45	EN			° 58.14	° 39.97			-			☐ ☐	
			:				°	°			-			☐ ☐	

Event Type:

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 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
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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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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 8 of 16

Month				Year		Vessel			Cruise ID						
AUGUST				2022		IP TULLY			2022008						
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
45	P12	14	15:05	BE	NET	UN	48° 58.12	130° 39.98	3217		—	—	MG	☐ ☐	MPS
			16:15	BO			° 58.14	° 40.03		2005	-			☐ ☐	
			16:50	EN			° 58.16	° 39.98			-			☐ ☐	
46	P12	14	17:28	BE	BOT	—	48° 58.20	130° 39.98	3218		218-222	5	MG	☐ ☐	THS DEEP →
			17:52	MR			° 58.21	° 39.97		800	-			☐ ☐	MR DID NOT TRIP
			18:15	MR			° 58.21	° 39.95			-			☐ ☐	REDO
			18:48	EN			° 58.191	° 39.969			-			☐ ☐	
47	Loop 47 Underway	14	21:00	BE	loop	—	49° 00.31	131° 39.38			5047	1	RF	☐ ☐	?
48	P13	14	23:18	BE	ROS	US	49° 2.570	131° 39.900	3000		223, 5048	1	DTD	☒ ☐	PAR on
		14	23:52	BO			49° 2.600	131° 40.030		2004.1	-			☐ ☐	Loop 1 SAL 2 CHL
		15	00:26	EN			49° 2.600	131° 40.030			-			☐ ☐	
49	P14	15	04:34	BE	ROS	US	49° 7.450	132° 39.800	3297		224-247	24		☒ ☐	PAR OFF
			05:30	BO			49° 7.460	132° 40.030		3359	-			☐ ☐	B 3319 A 10 B 3359 D 3304
			07:01	EN			49° 7.468	132° 39.979			-			☐ ☐	
50	Loop 50	15	08:35	BE	LOOP	UN	49° 09.08	133° 01.92	3063	4.5	5050	—	MG	☐ ☐	1 SAL 2 CHL
51	P15	15	11:19	BE	ROS	US	49° 11.99	133° 39.97	3391		248+5051		MG	☐ ☐	Loop 1 SAL 2 CHL
			11:53	BO			49° 11.96	133° 39.93		2005	-			☐ ☐	
			12:28	EN			49° 11.98	133° 39.97			-			☐ ☐	
			:				°	°			-			☐ ☐	

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

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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p 8.5 / 16

EVENT 46 TM WINCH NOT COMMUNICATING USING DRILL LOST TIME ~ 30 MIN

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 9 of 16

Month <u>AUGUST</u>			Year <u>2022</u>			Vessel <u>JPTULLY</u>			Cruise ID <u>2022008</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	P16	15	16:43	BE	BOT	/	49°17.03	134°40.01	3609		249 -	1	MG	☐	UBC SRF TM
			16:47	MR			49°17.03	134°40.00		5	-			☐	
			16:53	EN			49°17.03	134°39.96			-			☐	
53	P16	15	17:04	BE	ROS	US	49°17.02	134°39.99	3609		250 - 270	21	MG	☐	UNK + DMS PAR ON
			17:21	BO			49°17.03	134°39.97		1000	-			☐	OUT OF ORDER
			18:06	EN			49°17.02	134°40.02			-			☐	93146 RBR OXY
54	P16	15	18:19	BE	NET	/	49°17.02	134°39.99	3609		-	/	MG	☐	BONGO
			18:28	BO			°17.03	°40.00		250	-			☐	
			18:35	EN			°17.02	°39.98			-			☐	
55	P16	15	18:40	BE	NET	/	49°17.02	134°39.98	3609		-	/	MG	☐	BONGO
			19:25	BO			°17.01	°39.99		1200	-			☐	
			19:47	EN			°17.02	°39.98			-			☐	
56	P16	15	19:59	BE	BOT		49°17.02	134°39.99	3610		271 -	1	SA DD	☐	BIGelow
			20:21	MR			49°17.03	134°39.98		5	-			☐	
			20:40	EN			49°17.04	134°39.97			-			☐	
57	P16	15	20:58	BE	ROS	US	49°17.020	134°40.000	3610		272 - 295	24	RF	☒	PAR off
			21:58	BO			49°17.010	134°40.020		3685	-			☐	A 10.4 P3685 B 3632 P.3623
			23:25	EN			49°17.030	134°40.000			-			☐	
			:				°	°			-			☐	

Event Type:

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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
 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
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 RE = Recover Mooring Time

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1414

DAILY SCIENCE LOG

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Page 10 of 16

Month			AUGUST		Year		2022		Vessel		TULLY		Cruise ID		2022-008	
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	
58	P16	16	00:37	BE	BOT	/	49°17.027	134°40.008	3611		296 - 300	5	DC	☐	Deep TM Cast	
			01:23	MR			49°17.123	134°39.745		800	-			☐		
			02:14	EN			49°17.1	134°39.5			-			☐		
59	P16	16	02:55	BE	BOT	/	49°17.01	134°39.97	3610		301 - 305	5	DC	☐	Shallow TM cast	
			03:09	MR			49°17.045	134°39.874		250	301 -			☐		
			03:26	EN			49°17.067	134°39.792			-			☐		
60	Loop Underway	16	05:01	BE	loop	/	49°18.729	135°02.237	3205		5060	1	RF	☐	1 SAL 2 CHL	
61	P17	16	07:52	BE	ROS	US	49°21.03	135°40.01	3602		306 + 5061	1	MG	☐	Loop 1 SAL 2 CHL	
			08:26	BO			°21.03	°39.97		2005	-			☐	PAR OFF	
			09:01	EN			°21.02	°40.00			-			☐	dropped 70C bottle 10	
62	P18	16	13:34	BE	ROS	US	49°26.04	136°39.99	3806		307 - 330	24	MG	☐	TOC PROFILE	
			14:41	BO			°26.04	°40.01			-			☐	PAR OFF	
			16:17	EN			°26.03	°40.00			-			☐	A 10 P 3890 B 3821 D 3806	
63	Loop 63	16	17:41	BE	LOOP	UN	49°27.19	136°58.24	3129	4.5	5063	/	MG	☐	1 SAL 2 CHL	
64	P19	16	20:52	BE	ROS	US	49°30.090	137°40.040	3897		331 - 332 5064	2	RF	☐	PAR ON	
			21:24	BO			49°30.090	137°40.100		2006	-			☐		
			21:58	EN			49°30.090	137°40.060			-			☐		
65	underway	17	01:06	BE	LOOP		49°32.566	138°19.432	3952	45	5065	/	RF/DD	☐		
			:				°	°			-			☐		

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
 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

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 RE = Recover Mooring Time

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EVENT 58 CABLE STRETCHING UNDER WEIGHT OF FULL BOTTLES WHICH THEN SLIDE DOWN THE CABLE
LOST TIME ~ 1 HR

P10.5/16

-After event 64, DO sensor SN 202901 installed onto the RBR

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 11 of 16

Month <u>August</u>				Year <u>2022</u>			Vessel <u>JP Tully</u>			Cruise ID <u>2022-008</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
66	P20	17	02:44	BE	ROS	US	49°33.970	138°40.010	3393		333-345	13		☒ ☐	DMS
			02:51	BO			49°33.950	138°40.000		405	-			☐ ☐	PARON
			03:15	EN			49°33.790	138°39.840			-			☐ ☐	
67	P20	17	03:52	BE	ROS	US	49°33.980	138°40.110	3934		346-369	24		☐ ☐	PAROFF
			05:06	BO			49°33.940	138°40.560		4023	-			☐ ☐	DEEP
			06:43	EN			49°34.060	138°40.010			-			☐ ☐	P4023 A9.5 D3951 B3961
68	P20	17	07:49	BE	ROS	US	49°34.08	138°39.98	3932		370-378	9	MG	☒ ☐	UVIC
			08:07	BO			°34.05	°39.99		1000	-			☐ ☐	
			08:34	EN			°34.06	°39.97			-			☐ ☐	
69	P20	17	08:49	BE	NET	/	49°34.03	138°39.99	3932		/	/	MG	☐ ☐	BONGO
			08:59	BO			°34.02	°39.96		250	-			☐ ☐	
			09:04	EN			°34.04	°39.97			-			☐ ☐	
70	P20	17	09:12	BE	NET	/	49°34.02	138°39.98	3932		/	/	MG	☐ ☐	BONGO
			09:51	BO			49°34.04	138°39.98		1200	-			☐ ☐	
			10:12	EN			49°34.02	138°39.97			-			☐ ☐	
71	P20	17	12:29	BE	BOT	/	49°33.98	138°39.90	3934		379	1	MG	☐ ☐	USC SEC TM
			12:36	MR			°33.97	°39.89		5	-			☐ ☐	
			12:40	MR			°33.97	°39.86			-			☐ ☐	
			12:43	EN			°33.98	°39.85			-			☐ ☐	

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 DRF = Drifter
 =

Bottle Firing Method:

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Notes:

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 12 of 16

Month AUGUST				Year 2022		Vessel J P TULLY				Cruise ID 2022008					
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
72	P20	17	14:32	BE	BOT	/	49° 33.95	138° 39.95	3934		380 - 384	5	MG	☐	TM 100
			14:54	MR			49° 33.95	138° 39.99		100	-			☐	
			15:13	BO			49° 33.94	138° 40.06			-			☐	
73	P20	17	15:22	BE	NET	UN	49° 33.97	138° 40.06	3932		-	/	MG	☐	MPS
			16:34	BO			° 33.73	° 39.89		2000	-			☐	
			17:08	EN			° 33.66	° 39.87			-			☐	
74	P20	17	17:18	BE	BOT	/	49° 33.24	138° 39.92	3934		385 - 389	5	MG	☐	TM 800 →
			18:38	MR			° 34.24	° 40.07		800	-			☐	
			19:17	EN			49° 34.14	° 39.89			-			☐	
75	P21	17	23:22	BE	ROS	US	49° 38.03	139° 40.00	3927		3890, -5075	1	RF	☒	PAR ON
			23:56	BO			49° 38.04	139° 40.02		2006	-			☐	
		18	00:28	EN			49° 38.06	139° 40.03			-			☐	
76	Underway	18	02:34	BE	loop	/	49° 40.15	140° 12.05			5076-			☐	
77	P22	18	04:33	BE	RUS	US	49° 42.07	140° 40.06	3861		391 - 414	24	RF	☒	PAR OFF
			05:38	BO			49° 42.04	140° 39.97		3961	-			☐	A10 P3961 B3901 D3891
			07:17	EN			49° 42.21	140° 39.76			-			☐	
78	P23	18	01:43	BE	ROS	US	49° 45.96	141° 40.11	4016		415 - 418	4	MG	☒	DEEP WATER SALINITY
			12:18	BO			° 46.00	° 40.03		2005	-			☐	WATER LINBY
			12:54	EN			° 46.01	° 40.02			-			☐	

Event Type:

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SET = Fish Set

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DRF = Drifter

Bottle Firing Method:

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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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P 12.5 / 16

EVENT 74
GREY WATER ALARM GO FLO'S BROUGHT BACK ON BOARD ~ 15⁻²⁰ MIN SPARE + TRAVEL 1 HOUR LOST

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 13 of 16

Month <u>AUGUST</u>			Year <u>2022</u>			Vessel <u>LP TULU</u>			Cruise ID <u>2022-008</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
79	LOOP 79	18	14:09	BE	LOOP	/	49° 47.12	141° 57.14	4000	4.5	5079	/	MG	☐	1 SAL 2 CHL
80	P24	18	17:18	BE	ROS	US	49° 50.07	142° 40.00	3953		419-442	24	MG	☐	PAR OFF
			18:29	BO			° 50.00	° 39.99		4044	-			☐	AMONIA WATER
			19:54	EN			49° 50.041	142° 40.063			-			☐	RBR OXY
81	P25	19	00:02	BE	ROS	US	50° 00.02	143° 36.29	4111		443-	1	MR/DD	☒	202901 OFF 202905 ON
			00:35	BO			50° 00.042	143° 36.302		2005	-			☐	A 11 P 4044
			01:08	EN			50° 0.036	143° 36.283			-			☐	B 3953 D 3972
82	P35	19	04:10	BE	ROS	US	50° 0.020	144° 18.210	4112		444-	1	RF	☒	+LOOP 5081
			04:43	BO			50° 0.080	144° 18.230		2005	-			☐	PAR ON
			05:15	EN			50° 0.050	144° 18.250			-			☐	
5083	underway	19	06:30	BE	loop	/	49° 59.999	144° 35.592	4128	4.5	5083		RF/SR	☐	
84	P26	19	08:18	BE	ROS	US	49° 59.99	144° 59.90	4209		445-453	9	MG	☒	
			08:36	BO			49° 59.99	144° 59.90		1000	-			☐	PAR ON
			09:04	EN			49° 59.99	145° 00.01			-			☐	UVIC OUT OF ORDER
85	P26	19	09:30	BE	NET	/	49° 59.97	145° 00.06	420		-	/	MG	☐	
			09:30	BO			49° 59.97	145° 00.08		250	-			☐	BONZO
			09:38	EN			49° 59.97	145° 00.09			-			☐	
			09:41	BE	NET	/	49° 59.96	145° 00.09	4209		-			☐	
			:				°	°		1202	-			☐	

Event Type:

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US = Up / Stop (default)
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Notes:

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

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Version: 17 Feb 2020

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 14 of 16

Month <u>AUGUST</u>				Year <u>2022</u>		Vessel <u>J P Tully</u>				Cruise ID <u>2022-008</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
86	P26	19	09:44	BE	NET	—	49° 59.96	145° 00.09	4209		—	—	MG	☐ ☐	Bowto
			10:27	BO			50° 00.01	145° 00.12		1200	-			☐ ☐	
			10:48	EN			50° 00.01	145° 00.12			-			☐ ☐	
87	P26	19	14:08	BE	BOT	—	49° 59.99	145° 00.08	4210		454-	1	MG	☐ ☐	GoFlo UBC SEC
			14:14	MR			50° 00.04	145° 00.14		10	-			☐ ☐	
			14:21	EN			50° 00.05	145° 00.12			-			☐ ☐	
88	P26	19	14:29	BE	NET	UN	50° 00.05	145° 00.11	4210		—	—	MG	☐ ☐	MPS
			16:13	BO			50° 00.03	144° 59.93		3005	-			☐ ☐	
			17:03	EN			50° 00.07	144° 59.81			-			☐ ☐	
89	P26	19	17:53	BE	BOT	—	49° 59.61	144° 59.91	4209		455	1	MG	☐ ☐	GoFlo BIGELOW
			18:06	MR			49° 59.61	144° 59.85		15	-			☐ ☐	
			18:24	BO			49° 59.61	144° 59.79			-			☐ ☐	
90	P26	19	21:05	BE	ROS	US	50° 00.000	144° 59.910	4209		456-471	16		☒ ☐	DM S
			21:13	BO			50° 00.010	144° 59.910		400	-			☐ ☐	PAR on
			21:40	EN			50° 00.020	144° 59.930			-			☐ ☐	
91	P26	19	22:45	BE	BOT		49° 59.688	144° 59.795	4210		472-	9	SR/DD	☐ ☐	GoFlo BIGELOW
			23:05	BOMR			49° 59.647	144° 59.711			-			☐ ☐	Tripping them 1 at a time, each at
			23:24	EN			49° 59.629	144° 59.672			-			☐ ☐	20m
			:				.	.			-			☐ ☐	

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 Version: 17 Feb 2020

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 15 of 16

Month				Year		Vessel		Cruise ID							
AUGUST				2022		NPTULLY		2022-008							
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
92	P26	20	04:22	BE	ROS	US	50° 0.070	145° 0.040	4222		473-496	24	RF	☒	Deep cast
			05:32	BO			50° 0.020	145° 0.080		4316	-			☐	PAR DP.
			07:16	EN			50° 00.07	145° 00.04			-			☐	P4316 A10 D4217 3B 4247
93	PA-016	20	08:26	BE	ROS	US	50° 04.60	144° 53.26	4202		497-499	3	MG	☒	
			09:39	BO			° 04.61	° 53.28		4296	-			☐	P4296 A10 D 4217 S 4202
			10:50	EN			° 04.56	° 53.30			-			☐	
94	P26	20	14:07	BE	BOT	/	49° 59.99	145° 00.04	4221		500-504	5	MG	☐	GoFLO TM
			14:49	MR			° 59.96	° 00.05		1500	-			☐	
			15:58	BO			50° 00.01	145° 00.27			-			☐	
95	P26	20	16:10	BE	NET	/	50° 00.01	145° 00.21	4221		/	/	MG	☐	BONGO
			16:24	BO			° 00.04	° 00.18		400	-			☐	
			16:30	EN			° 00.05	° 00.21			-			☐	
96	P26	20	16:43	BE	BOT	/	50° 00.03	145° 00.15	4222		505-507	3	MG	☐	GoFLO TM
			17:02	MR			° 00.01	° 00.19		400	-			☐	
			17:29	BO			° 00.05	° 00.16			-			☐	
97	P26	20	17:51	BE	BOT	/	50° 00.05	145° 00.14	4222		508-512	5	MG	☐	GoFLO TM
			18:09	MR			° 00.06	° 00.14		100	-			☐	
			18:26	BO			° 00.06	° 00.19			-			☐	
			:				°	°			-			☐	

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- Modified sound speed for EK80 From 1480.0 m/s, to 1484.3 m/s, From Line P (2021-008-037.asvp).
RF, 23:43 Z, Aug 19.

P 15.5/16

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month <u>Aug</u>				Year <u>2022</u>				Vessel <u>JP TULLY</u>				Cruise ID <u>2022-008</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							
98	~ P26	20	19:20	BE	MVP	/	50°00.22	144°56.67	4212		-		RF	☐	START MVP LING
99	Loop 99	21	09:39	BE	LOOP	/	50°12.63	141°53.54	2929	4.5	5099	/	MG	☐	1 SAL 2 CHL
100	Loop 100	22	07:06	BE	LOOP	/	50°31.08	137°14.50	2592	4.5	5100	/	MG	☐	1 SAL 2 CHL
101	Hal	22	16:21	EN	MVP	/	50°59.72	136°03.18	2027	/	513-148	/	DB	☐	ON DECK
102	Hal	23	16:46	BE	ROS	US	51°00.07	130°00.33	2018		513-523	11	MG	☐	5102 PAR ON 5m loop 1 SAL 2 CHL
			17:22	BO			51°00.04	130°00.16		2005	-			☐	A 33 5 2015 P 2006 D 2012
			18:13	EN			50°59.91	130°00.19			-			☐	
103	HAL	23	18:24	BE	NET	/	50°59.91	130°00.17	2020		-	/	MG	☐	BONGO
			18:38	BO			°59.88	°00.20		400	-	/		☐	
			18:51	EN			50°59.853	130°00.145			-			☐	
104		23	19:14	BE	MVP		50°58.8713	129°59.2453			-			☐	
105		23	20:58	EN	MVP		50°52.942	129°37.778	~300		-			☐	
106	Scott 3	23	21:51	BE	ROS	US	50°50.570	129°29.350	236		-	0	RF/BY	☐	
			21:55	BO			50°50.560	129°29.360		226	-		RF	☒	PAR on
			22:00	EN			50°50.570	129°29.360			-			☐	
107	Scott 2	24	00:09	BE	ROS	US	51°7.540	129°28.530	288		-	0	RF	☐	
			00:14	BO			51°7.560	129°48.480		280	-			☐	
			00:19	EN			51°7.560	129°48.510			-			☐	
			:				°	°			-			☐	

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This page is for any notes or observations

~ 20:05 Z Aug 22. Cleaned the TSG Fluorometer using foam swabs. RF

p16.5/16