

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2021-008

DATE:

²⁴
From: ~~21~~ Aug 2021

To: 08 Sept 2021

VESSEL:

J. 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: MICHAEL SHUCKBURGH First Officer: DALE UNRUH
Second Officer: ADAM WATHIER Third Officer: EMILY MOUNT
Fishing Master: N/A Chief Engineer: ANDREW WEAVER

Mission Participants / Agencies:

DFO-IOS, UVIC, UBC

**** 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>

	CABIN	WATCH
MARIE ROBERT	A	06-18
ROWAN FOX	B	12-24
DANIELLE CALEB	C	12-24 (DMS)
RACQUELLE MANGAHAS	D	00-12 (TM)
GLENN COOPER	E	00-12
STEVE ROMAINE	F	00-12
MICHAEL LIVINGSTON	G	00-12
WYLIE FITZ-GERALD	G	12-24
KENNY SCOZZAFAVA	H	12-24

**** 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: Sea Save 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: Wet labs Model: CSTAR serial: 1183 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: 3791 P S or NO pump?

PAR sensor: Biospherical Model: QSP2350 serial: 70613 Surface PAR? Y/N

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

Other sensors: SBE ST Pump 3K RPM serial: 3164 P S or NO pump?

Other sensors: " 3K RPM serial: 1602 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: 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>2016-10-02</u>	7: <u>2016-10-29</u>	8: <u>2016-10-09</u>	9: <u>2016-10-01</u>	10: <u>2000-10-30</u>
11: <u>2018-10-01</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>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>HAW</u>	Model: _____	Serial #: <u>1026</u>	Used for: <u>CTD/Rosette</u>
2. Make: <u>Swain</u>	Model: <u>329</u>	Serial #: <u>1482</u>	Used for: <u>Bongo</u>
3. Make: <u>HAW</u>	Model: _____	Serial #: <u>17027</u>	Used for: <u>Backup Rosette</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: 1**Thermosalinograph System (SBE21/45):**

Program: _____ Version: _____

Sampling interval (seconds): _____

TSG serial number: SBE 45 SN 620Fluorometer sensor serial number: Wetstar CHL SN 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: 1.4 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)

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>Aug</u>				Year <u>2021</u>		Vessel <u>IP Tully</u>				Cruise ID <u>2021-008</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							
1	SI	25	07:10	BE	ROS	US	48° 39'	123° 30'	184		-	24	GC/SR	☒ ☐	Test cast. Bottle test.
			:	BO			48° 39'	123° 30'			-			☐ ☐	Proceeded to Haro
			:	EN			48°	123°			-			☐ ☐	while pylon replaced.
2	Haro 59	25	10:23	BE	NET	UN	48° 37' .0067	123° 14' .7205	220	210-	-		SR	☐ ☐	BONCO
			10:31	BO			48° 37' .9958	123° 14' .6382			-			☐ ☐	
			10:35	EN			48° 37' .0050	123° 14' .5812			-			☐ ☐	
3	Haro 59	25	10:46	BE	ROS	US	48° 36' .960	123° 14' .700	226		1 -	24*	GC	☒ ☐	* Bottle integrity test
			10:50	BO			48° 36' .920	123° 14' .680		217	-			☐ ☐	(as not done @ Sta SI)
			10:54	EN			48° 37' .020	123° 14' .700			-			☐ ☐	SI
4	IF2	25	14:06	BE	LOOP		48° 15' .998	123° 29' .962		Loop	5004		GC/	☐ ☐	1 sal, 1 aut, 2 chl.
5	IF2	25	16:16	BE	ROS	US	48° 18' .050	124° 00' .340	171		2-3	2	GC	☒ ☐	
			16:20	BO			48° 18' .060	124° 00' .454		178	-			☐ ☐	
			16:25	EN			48° 18' .074	124° 00' .632			-			☐ ☐	
6	IF3	25	18:21	BE	LOOP		48° 27' .017	124° 30' .091		Loop	5006		GC/ML	☐ ☐	1 Sal, 1 aut, 2 chl
7	IF4	25	20:16	BE	LOOP		48° 31' .644	124° 59' .778		Loop	500-7		RF/WF	☐ ☐	Fire dr: 11:51 in fridge.
8	PI	25	22:43	BE	ROS	US	48° 34' .466	125° 30' .011	135		4-7	4	RF	☒ ☐	Chl filtered 13:26 PDT
			22:47	BO			48° 34' .463	125° 30' .005		128.8	-			☐ ☐	
			22:54	EN			48° 34' .457	125° 29' .989			-			☐ ☐	
			:				°	°			-			☐ ☐	

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

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

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Confile used: 443 Aug 2021 - main.xml con.

(Water Sampler on Com 2 switched to Com 4) getting an error.

Unable to initialize water sampler. Grabbed spare pylon, connected to CTD. No error message.

Pylon: syn 137 placed in unit + tested. No error message swapped out. Removed pylon syn 0269.

All bottles past integrity test.

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9	P2	26	01:11	BE	ROS	US	48° 36.020	125° 59.950	116		8 - 19	12	RF	☒ ☐	DMS cast
			01:14	BO			48° 36.020	125° 59.930		100.3	-			☐ ☐	
			01:26	EN			48° 36.040	125° 59.890			-			☐ ☐	
10	P2	26	01:41	BE	Net		48° 35.984	125° 59.729	116		-			☐ ☐	Bongo. Like pea soup!
			01:45	BO	0145		48° 35.974	125° 59.700		106	-		RF	☐ ☐	
			01:47	EN	0147		48° 35.932	125° 59.673			-			☐ ☐	
11	P2	26	02:18	BE	ROS	US	48° 35.99	125° 59.86	116		20 - 27	8	ML	☒ ☐	Mini-bongo
			02:20	BO			48° 35.99	125° 59.84	1	108	-			☐ ☐	DEEP CAST
			02:31	EN			48° 36.01	125° 59.75			-			☐ ☐	
12	P3	26	04:13	BE	ROS	US	48° 37.471	126° 19.824	817		28 -	1	RF	☒ ☐	Deepest Mini Bongo cancelled
			04:28	BO			48° 37.446	126° 19.801		805	28 -	1	RF	☒ ☐	
			04:44	EN			48° 37.424	126° 19.825			-			☐ ☐	
13	P4	26	07:08	BE	BOT		48° 39.048	126° 39.974	1318		-		SM/RH	☐ ☐	Tm cast
			07:34	MR			48° 39.099	126° 39.966	1312	50	29 - 32	4		☐ ☐	
			07:47	EN			48° 39.162	126° 39.973		75	-			☐ ☐	
14	P4	26	07:54	BE	NET		48° 39.035	126° 40.005	1322		-		SR/RL	☐ ☐	Bongo JNH
			08:04	BO			48° 39.057	126° 39.940		250	-			☐ ☐	
			08:08	EN			48° 39.057	126° 39.929			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Month <u>August</u>			Year <u>2021</u>			Vessel <u>IP T16</u>			Cruise ID <u>2021-008</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
15	P4	26	08:16	BE	NET		48° 39.0490	126° 39.929	1318		-		ML/SR	☐	Lost depth counter
16	P4	26	08:45	BE	ROS	US	48° 39.040	126° 39.940	1818	1200	33 - 41	9	Gc/ML	☒	
			08:49	BO			48° 39.050	126° 39.940		150	-			☐	UVic cast
			08:54	EN			48° 39.070	126° 39.960			-			☐	
17	P4	26	10:01	BE	30T	MR	48° 39.071	126° 40.019	1317		42 - 47	6		☐	TM 800 cast
			10:32	MR			48° 39.244	126° 40.071		800	-			☐	
			10:53	EN			48° 39.369	126° 40.132	1304		-			☐	
18	P4	26	11: /	BE	NET	/	/	/	/	/	/	/	/	☐	Winch counter not fixed in time. Had
			11: /	BO	/	/	/	/	/	1200	/	/	/	☐	to proceed to next event
			/	EN	/	/	/	/	/	/	/	/	/	☐	
19	P4	26	11:35	BE	ROS	US	48° 39.070	126° 40.070	1321		48 - 66	19	Gc/SR	☒	Deep Cast
			11:59	BO			48° 39.210	126° 40.160		1309	-			☐	
			12:41	EN			48° 39.480	126° 40.300			-			☐	
20	P4	26	13:36	BE	ROS	US	48° 39.035	126° 39.962	1319		67 - 83	17	SR	☒	DMS Cast
			13:45	BO			48° 39.019	126° 39.924		400	-			☐	60sec soak
			14:12	EN			48° 39.030	126° 39.940			-			☐	
21	P5	26	16:36	BE	ROS	US	48° 41.409	127° 09.940	2097		84-	1	Gc	☒	+400P SO21
			17:11	BO			48° 41.330	127° 09.840		2005	-			☐	
			17:44	EN			48° 41.150	127° 09.770			-			☐	

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UN = Up / No stop
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@ around ~ 180 meters. Abandoned ^{1200m net} cast until counter could be fixed. Had to abandon cast variable to repair wire counter. Most likely display dead.

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Month <u>Aug</u>				Year <u>2021</u>		Vessel <u>Tully</u>				Cruise ID <u>2021-008</u>					
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							Latitude	Longitude							
22	P6	26	20:25	BE	ROS	US	48°44.530	127°40.030	2551		85-	1	RF	☒	Bottle didn't close
			20:59	BO			48°44.460	127°40.020		2005	-			☐	
			20:	EN			.	.			✓-			☐	
23	P6	26	21:38	BE	ROS	US	48°44.550	127°39.880	2551		85-			☐	Rosette put back in right after event 22
			21:39	BO			48°44.560	127°39.880		50	-	1		☐	Sample collected on bottle #2
			21:42	EN			48°44.560	127°39.880			-			☐	
24	P7	27	00:13	BE	ROS	US	48°46.660	128°9.920	2512		86-	1	RF	☒	
			00:46	BO			48°46.590	128°9.890		2005	-			☐	
			01:17	EN			48°46.620	128°9.890			-			☐	
25	SVPB-1	27	01:50	BE	DRF	✓	48°47.008	128°15.417			-		RF/WF	☐	61651030
26	P8	27	04:00	BE	Net	✓	48°49.009	128°40.036	2525		-		RF	☐	Bongo
			04:21	BO			48°49.033	128°40.1593		250	✓	✓		☐	
			04:30	EN			48°48.977	128°40.134			-			☐	
27	P8	27	04:39	BE	Net	✓	48°48.9626	128°40.1205	2525		✓	✓	RF/WF/RS	☐	
			05:29	BO			48°48.9318	128°40.6167		1200	-			☐	Bongo →
			06:16	EN			48°48.9822	128°40.869			-			☐	see notes
28	P8	27	07:05	BE	ROS	US	48°48.960	128°40.060	2526		87-110	24		☒	
			07:40	BO			48°48.839	128°40.102		2005	-			☐	
			08:39	EN			48°48.570	128°37.970			-			☐	

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Event 27 - Bongo

Winch brake failure on upcast. Bongo paused for ~10-15 minutes for diagnosis. Rest of upcast was slow as to prevent further damage to brake. Zooplankton tows suspended for rest of program.

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Month August				Year 2021			Vessel John P. Tully			Cruise ID 2021-008					
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
29	P9	27	11:18	BE	ROS	US	48° 51.400	129° 09.900	2349		111 -	1	GC	☒	5029 Loop sample
			11:53	BO			48° 51.430	129° 09.740		2005	-			☐	2x chl, 1 Sal
			12:27	EN			48° 51.430	129° 09.590			-			☐	
30	Loop	27	13:46	EN	LOOP		48° 52.44	129° 25.34	2656	4.5	5030			☐	Underway 2chl, 1 loop Sal
31	P10	27	15:04	BE	ROS	US	48° 53.530	129° 39.980	2648		112-113	2	GC	☒	
			15:23	BO			48° 53.480	129° 39.910		1005	-			☐	
			15:41	EN			48° 53.460	129° 39.870			-			☐	
32	DUSB-1	27	17:15		DRF	/	48° 55.201	130° 00.041	2779	/	-	/	GC/SR	☐	# 300534061411920
33	P11	27	18:09	BE	ROS	US	48° 55.970	130° 09.890	2758		114-117		GC/SR	☒	
			18:26	BO			48° 55.900	130° 09.870		1005	-	4		☐	
			18:46	EN			48° 55.900	130° 09.820			-			☐	
34	EXPLORE	27	22:17	BE	MOR		48° 59.58	130° 53.59			-		GC	☐	TRANSDUCER IN WATER
		28	01:25	EN			48° 59.77	130° 54.37			-		RF	☐	Mooring on deck
35	P12	28	02:59	BE	ROS	US	48° 58.190	130° 40.054	3235		118-133	16		☐	DMS
			03:07	BO			48° 58.19	130° 40.05		400	-			☐	
			03:30	EN			48° 58.19	130° 40.05			-			☐	
36	P12	28	03:47	BE	BOT		48° 58.19	130° 40.05	3230		134-137		RM	☐	SHALLOW TM
			04:04	MR			48° 58.190	130° 40.052		75	-			☐	
			:				.	.			-			☐	

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37	P12	28	05:06	BE	ROS	US	48° 58.260	130° 40.030	3228		138-160	23	RF	☐ ☐	PAR off
			06:07	BO			48° 58.210	130° 39.980		3274	-			☐ ☐	add salinity trace
			07:21	EN			48° 58.210	130° 39.980			-			☐ ☐	
38	P12	28	08:07	MR	BOT		48° 48.210	130° 39.980	3234	800	161-166	6	RF/RM	☐ ☐	Go-Flow TM800
39	P12	28	09:13	DE	ROS	US	48° 58.158	130° 39.959	3234		-	9	SR	☒ ☐	→
			09:16	BO			48° 58.198	130° 39.959		150	167-175			☐ ☐	UVic Sample
			09:21	EN			48° 58.198	130° 39.959			-			☐ ☐	
40	P13	28	14:00	BE	ROS	US	49° 02.611	131° 39.886	3014		176-177	2	GC	☒ ☐	Loop samples 5040 2xchl + 4 Sal
			14:35	BO			49° 02.552	131° 39.816		2005	-			☐ ☐	
			15:07	EN			49° 02.531	131° 39.800			-			☐ ☐	
41	SVPB-2	28	16:39	DE	DRF		49° 02.9835	131° 45.0692			-		GC/SA	☐ ☐	61651100
42	P14	28	20:19	BE	ROS	US	49° 7.450	132° 39.900	3316		178-201	24	RF/DC	☒ ☐	
			21:21	BO			49° 7.390	132° 40.030	3316	3359	-			☐ ☐	03305 P 3360 A 10 S 3317
			22:37	EN			49° 7.400	132° 39.990		33	-			☐ ☐	Bottle 9 replaced.
43	DWSB2	29	02:33	DE	DRF		49° 11.2063	133° 29.2280			-		RF/WF/DC	☐ ☐	DWSB 61410930
44	P15	29	03:38	BE	ROS	US	49° 12.048	133° 39.881	3398		202, 5044	2	RF	☒ ☐	LOOP 5044
			04:16	BO			49° 12.034	133° 39.766		2005	-			☐ ☐	BOTTLES CLOSED
			04:50	EN			49° 11.960	133° 39.750			-			☐ ☐	@ 2000 + 5
			:				.	.			-			☐ ☐	

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Event 37

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This page is for any notes or observations

Noticed poor T/C pair agreement. Funny ~~Salt~~ on primary, during downcast at 1200m.

~ 2650 m sensor agreement steadily improved with pressure. Agreement remained as expected on upcast. ^{very good} ≤ 0.006

~ 3100 m, upcast, oxygen sensor shifting to what seemed like expected concentrations. DO may have been depressed on downcast as if began the sensor measured the same water on the way down. Perhaps there was a blockage in the lines to the sensors?

~ Blockage of primary T/C, DO, and pump ^{plumbing} is the likely cause. Secondary T/C may be unaffected.

Event 39 → SBE Error on deck unit → checked fuses and seems to have disappeared THEN Depth Freeze → rebooted computer. Seems okay now, but sign of bigger issues??

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>Aug</u>			Year <u>2021</u>			Vessel <u>Tully</u>			Cruise ID <u>2021-008</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
45	P16	29	10:00	BE	BOT		49° 16.996	134° 40.009	3627		203-206	4	GC/RM	☐ ☐	TM 75m cast
			10:16	MR			49° 17.000	134° 40.009		75	-			☐ ☐	
			10:30	EN			49° 16.997	134° 40.008			-			☐ ☐	
46	P16	29	10:38	BE	ROS	US	49° 16.993	134° 39.990	3629		207-230	24	GC/SR	☒ ☐	Oxygen sensor
			11:40	BO			49° 16.990	134° 39.990		3685	-			☐ ☐	
			13:04	EN			49° 16.990	134° 39.990			-			☐ ☐	
47	P16	29	14:05	BE	BOT		49° 16.99	134° 39.99	3630		231-236	6		☐ ☐	800m TM cast
			14:39	MR			49° 16.99	134° 39.99		800	-			☐ ☐	
			15:16	EN			49° 16.996	134° 39.99			-			☐ ☐	
48	P16	29	15:24	BE	ROS	US	49° 16.99	134° 39.99	3630		237-245	9	GC	☒ ☐	PARR ON
			15:22	BO			49° 16.99	134° 39.99		150	-			☐ ☐	Var cast
			15:33	EN			49° 16.99	134° 39.99			-			☐ ☐	
49	P16	29	16:21	BE	ROS	US	49° 17.05	134° 39.94	3630		246-261	16	GC	☒ ☐	DMS Cast
			16:29	BO			49° 17.07	134° 39.95		400	-	(17)		☐ ☐	SEE SAMPLING NOTES
			16:54	EN			49° 17.06	134° 39.97			-			☐ ☐	
50	SVPB-3	29	19:43	DE	DRF		49° 19.376	135° 15.309	3622		-			☐ ☐	61651120
51	P17	29	21:46	BE	ROS	US	49° 20.990	135° 39.890	3740		262-282	21	RF	☐ ☐	
			22:19	BO			49° 20.920	135° 40.030		2005	+9283	22		☐ ☐	
			22:56	EN			49° 20.870	135° 40.100			-			☐ ☐	

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Notes:

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(SBE43) looks noisy from 800m onward on down cast. Cleaned connectors on both side. Some water intrusion. Dried, contact cleaner, dried, silicon fluid + re connected

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Month <u>Aug</u>			Year <u>2021</u>			Vessel <u>Tully</u>			Cruise ID <u>2021-008</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
52	P18	30	04:07	BE	ROS	US	49° 26.004	136° 40.007	3827		283-306	24	RF/KS	☒	PAR OFF?
			05:21	BO			49° 25.997	136° 40.104		3890	-			☐	
			06:53	EN			49° 25.985	136° 40.072			-			☐	
53	DWSB-3	30	8:28	DE	DRF		49° 27.2848	137° 00.1251			-		RM/GC/SR	☐	61410890, 9.2 knots
54	P19	30	11:38	BE	ROS	US	49° 29.950	137° 39.97	3917		307-309	8	GC/SR	☒	PAR-on
			12:13	BO			49° 29.920	137° 39.940		2005	-308	2		☐	LOOP 5054
			12:48	EN			49° 29.910	137° 39.910			-			☐	
55	P20	30	17:15	BE	ROS	US	49° 33.980	138° 39.990	3754		310-318	9	GC/ML	☒	Wic Cast.
			17:18	BO			49° 33.980	138° 39.990		150	-317	8		☐	Bot 9 NOT closed
			17:24	EN			49° 33.980	138° 39.990			-			☐	
56	P20	30	17:30	BE	BOT		49° 33.987	138° 39.999	3754		319-323	5	RM/SR/GC	☐	75m BioFlo TM
			17:46	MR			49° 33.990	138° 39.998		75	-			☐	
			18:00	EN			49° 33.991	138° 39.997			-			☐	
57	P20	30	18:10	BE	ROS	US	49° 33.990	138° 39.997	3954		324-347	24	SR/GC/RF	☒	Deep Cast.
			19:20	BO			49° 33.988	138° 39.996		4024.5	-			☐	PAR OFF
			20:49	EN			49° 33.986	138° 39.995			-			☐	
58	P20	30	21:43	DE	BOT		49° 34.02	138° 39.88	3954		348-353	6	RM	☐	DEEP TM
			22:16	MR			49° 34.020	138° 39.883		800	-			☐	
			23:02	EN			49° 34.014	138° 39.883			-			☐	

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Month			Year			Vessel			Cruise ID						
Aug/Sept			2021			Tully			2021-008						
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
59	P20	30	23:10	BE	ROS	US	49° 34.020	138° 39.883	3955		354-369	16	RF	☒ ☐	PAR on
			:	BO			.	.		400	-			☐ ☐	DMS cast
			23:41	EN			49° 34.009	138° 39.889			-			☐ ☐	
60	SVPB-4	31	00:09	DE	DRF		49° 34.31	138° 44.82	3949		-		RF/KS	☐ ☐	DRIFTER 61651110
61	P21	31	04:18	BE	ROS	US	49° 37.980	139° 39.980	3948		370-371	2	RF	☒ ☐	LOOP 5061
			04:56	BO			49° 38.040	139° 40.070		2005	5061			☐ ☐	
			05:28	EN			49° 38.060	139° 40.160			-			☐ ☐	
62	DUSB-4	31	08:56	DE	DRF		49° 41.298	140° 30.118	3952		-		GC	☐ ☐	Drifter 300534061412920
63	P22	31	09:47	BE	ROS	US	49° 41.990	140° 39.930	3887		372-395	24	RF	☒ ☐	PAR OFF
			10:54	BO			49° 41.990	140° 39.890		4000	-			☐ ☐	
			12:22	EN			49° 41.770	140° 39.920			-			☐ ☐	
64	Loop	31	14:52	BE	LOOP		49° 44.33	141° 14.83	3574	4.5	5064	1	GC	☐ ☐	2xchl, 1 sal
65	P23	31	16:44	BE	ROS	US	49° 45.960	141° 40.100	4037		396-397	2		☒ ☐	
			17:18	BO			49° 45.990	141° 40.130		2005	-			☐ ☐	
			17:51	EN			49° 45.990	141° 40.130			-			☐ ☐	
66	PUMP	31	19:14	BE	PUMP		49° 47.09	141° 55.40	4022	10	-		RM/KS	☐ ☐	U.B.C. PUMPING
			23:48	EN			49° 47.10	141° 55.40			-			☐ ☐	
67	SVPB-5	Sept	01:31	DE	DRF		49° 48.348	142° 15.056			-		RF/KS	☐ ☐	SVPB5 SN61651130
			:				.	.			-			☐ ☐	

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Month <u>Sept</u>			Year <u>2021</u>			Vessel <u>Tully</u>			Cruise ID <u>2021-008</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
68	P24	1	03:33	BE	ROS	US	49° 50.030	142° 39.880	3975		398 - 421	24	RF	☒ ☐	PAR off ✓
			04:49	BO			49° 50.020	142° 39.880	4048	4048	-			☐ ☐	
			06:28	EN			49° 50.030	142° 39.890			-			☐ ☐	
69	Loop	1	08:00	BE	Loop		49° 53.83	143° 01.37		4.5	5069	1	GC	☐ ☐	2echl 1 Set
70	P25	1	10:25	BE	ROS	US	50° 00.054	143° 36.295	4127		-			☐ ☐	
			10:59	BO			50° 00.026	143° 36.308		2005	422	1	GC	☐ ☐	Loop 2echl x 1 Set
			11:32	BN			50° 00.042	143° 36.298			-			☐ ☐	5070
71	DWSB-5	1	13:08	DE	DRF		50° 00.02	143° 57.64	4108		-		GC/ML	☐ ☐	61411980
72	P35	1	14:48	BE	ROS	US	50° 00.020	144° 18.101	4134		423-424	2	GC	☒ ☐	
			15:22	BO			49° 59.960	144° 18.020		2005	-			☐ ☐	
			15:56	EN			49° 59.900	144° 17.990			-			☐ ☐	
73	P35	1	16:06	BE	BOT		49° 59.8686	144° 18.034	4134	120	425 - 428	4	RM/BR	☐ ☐	GoFlow 10m > 120
			16:19	MR			49° 59.851	144° 18.022		120	-			☐ ☐	TMR
			16:33	EN			49° 59.835	144° 18.030			-			☐ ☐	
74	Loop	1	17:28	BE			50° 00.038	144° 30.057	4117	4.5	5074	1	GC/SR	☐ ☐	Underway Loop 2echl 1 Set
75	P26	1	19:56	BE	ROS	US	50° 00.010	144° 59.920	4233		430 - 446	17	RF	☒ ☐	DMS Cast PAR on ✓
			19:56	BO			50° 00.020	144° 59.920		400	-			☐ ☐	
			20:18	EN			50° 00.020	144° 59.920			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Month <u>Sept</u>			Year <u>2021</u>			Vessel <u>Tully</u>			Cruise ID <u>2021-008</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
76	P26	1	20:38	BE	BOT		50°00.02	144°59.94	4250		-		RM/RF	☐	SHALLOW TM
			20:58	MR			50°00.01	144°59.94		200 ¹⁵⁰	448-453	6		☐	
			21:22	EN			50°00.00	144°59.94			-			☐	
77	P26	1	22:03	BE	ROS	US	50°0.010	144°59.940	4233		454-477	24	RF	☒	PAROFF ✓
			23:21	BO			50°0.010	144°59.940		4318	-			☐	styrofoam cups!!
		2	00:53	EN			50°6.010	144°59.940			-			☐	Deep Cast!
78	P26	2	01:45	BE	BOT		50°00.01	144°59.98	4250		478-484	7	RM/RF	☐	DEEP TM
			02:52	MR			50°00.0113	144°59.9806		1500	-			☐	1 bottle broke
			04:07	EN			50°00.015	144°59.979			-			☐	
79	P26	2	04:22	BE	ROS	US	50°01.010	144°59.980	4250		485-493	9	RF	☐	UNIC CAST
			04:26	BO			50°0.010	144°59.980		150	-			☐	
			04:31	EN			50°0.010	144°59.980			-			☐	
80	P26	2	04:36	BE	BOT		°	°	4249		494-500	5	RF/RM	☐	Another bottle broke
			04:58	MR			50°0.011	144°59.9805		125	-			☐	
			05:25	EN			°	°			-			☐	
81	PA-015	2	06:32	BE	ROS	US	50°6.890	144°48.960	4217		501-503	3	RF	☒	
			06:39	BO			50°6.870	144°48.910		351	-			☐	
			06:49	EN			50°06.860	144°48.870			-			☐	
82	Loop	2	10:55				50°06.71	143°48.52	4113		5082		GC	☐	2xchl, 1 Sal

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Notes:

This page is for any notes or observations

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S: 4233

D: 4238

P: 4318

A: 10

} ADJUSTED SOUNDING

DAILY SCIENCE LOG

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Month <u>SEPTEMBER</u>			Year <u>2021</u>			Vessel <u>J.P. TULLY</u>			Cruise ID <u>2021-008</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							
83	Loop	2	18:21	BE	Loop		50° 05.2727	141° 57.8153	4017m	4.5	5083	1	GC	☐	2chl 1Sal
84	Loop	3	02:21	BE	Loop		50° 01.1597	139° 49.3631	3931m	4.5	5084	1	RF	☐	2chl 1Sal
85	Loop	3	15:02	BE	Loop		49° 50.29	134° 32.70	3835	4.5	5085	1	GC	☐	2chl 1Sal
86	Loop	4	00:34	BE	Loop		49° 38.603	134° 6.880	3401	4.5	5086	1	RF/DC	☐	2chl 1Sal
87	Loop	4	14:15	BE	Loop		49° 17.82	130° 50.61	2592	4.5	5087	1	GC	☐	2chl 1Sal
88	Loop	5	01:02	BE	Loop		48° 55.379	128° 3.846	2491	4.5	5088	1	RF/DC	☐	
89	P2	5	09:36	BE	ROS		48° 35.970	126° 0.070	117	108	/	/	SR/DC	☒	
			09:39	BO			48° 35.960	126° 0.090	1	108	-			☐	
			09:41	EN			48° 35.960	126° 0.100			-			☐	
90	P1	5	12:01	BE	ROS		48° 34.524	125° 30.049	116		/	/	SR/DC	☒	
			12:04	BO			48° 34.535	125° 30.061		106	-			☐	
			12:06	EN			48° 34.540	125° 30.073			-			☐	
			:				°	°			-			☐	
			:				°	°			-			☐	
			:				°	°			-			☐	
			:				°	°			-			☐	
			:				°	°			-			☐	
			:				°	°			-			☐	
			:				°	°			-			☐	
			:				°	°			-			☐	

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