

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2024-002

DATE:

From: 23 JANUARY

To: 09 FEBRUARY 2024

VESSEL:

JOHN P TULLY

PROJECT(S):

LINE P AND SOG.

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

WaterProperties.ca

Captain: VICTOR GRONMYR First Officer: RYAN HULL
Second Officer: JOSEPH VANDER SANDE Third Officer: DAVID BOLTON
Fishing Master: _____ Chief Engineer: ROBIN HIELSCHER

Mission Participants / Agencies:

**** 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	WATCH	CABIN
MARIE ROBERT	06-18	A
MORGAN GRIFFITH	06-18	C
MICHAEL ARYCHUK	06-18	D
MOIRA GALBRAITH	12-24	E
CINDY WRIGHT	00-12	G
LAURYN TALBOT	00-12	F
KAILOR CLARKE	12-24	F
MARK BELTON	00-12	G
JODY KLYMAK	12-24	G
CHLOE IMMONEN	00-12	H
MATASHA BUCKIEWICZ	12-24	H

**** 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: Think Centre #104

Data acquisition program: Seasave

CTD deck unit make: SBE model: 11+ serial number: 0508

Primary CTD

Make: SBE model: 9p serial number: 1515 used from ~~1-32~~ events

Primary temperature serial number: 3-6754

Primary conductivity serial number: 4-6141

Secondary temperature serial number: 3-6736

Secondary conductivity serial number: 4-6146

Transmissometer: Wetlabs Model: C-star serial: 1185DR

Transmissometer: Wetlabs Model: C-star serial: 1883DG

Fluorometer: Model Seapoint Cable gain: 3x serial: 3950 P, ☒ S or ☐ NO pump?

Fluorometer: Model Wetlabs ECO Cable gain: - serial: 2216 P, S or ☒ NO pump?

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

PAR sensor: Biospherical Model: Licor (Chelsea) ^{OSP} serial: 70613 Surface PAR? Y/☒ N

Other sensors: Valeport Altimeter serial: 79487 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: SBE model: 9p serial number: 0506 used from events 48-

Primary temperature serial number: 3-2374

Primary conductivity serial number: 4-3184

Secondary temperature serial number: 3-4883

Secondary conductivity serial number: 4-4395

Transmissometer: Wetlabs Model: C-star serial: 1185DR

Transmissometer: Wetlabs Model: C-star serial: 1883DG

Fluorometer: Model Seapoint SCF Cable gain: 3x serial: 3945 P, ☒ S or ☐ NO pump?

Fluorometer: Model Wetlabs ECO Cable gain: - serial: 2216 P, S or ☒ NO pump?

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

PAR sensor: Biospherical Chelcor Model: OSP serial: 70613 Surface PAR? Y/☒ N

Other sensors: Valeport altimeter serial: 79487 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: _____
 Manufacturer: _____
 Volume of bottles (litres): _____

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 #: 18027 Used for: CTD
 2. Make: HAWBOLDT Model: _____ Serial #: _____ Used for: TM
 3. Make: SWANN Model: 329 Serial #: 1452 Used for: BOMBOOS

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

Salinometer:

Make: _____ Model: _____ Serial Number: _____

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

Label Printers:

Primary Printer Kit #: _____
 Secondary Printer Kit #: _____
 Software Version: _____

Thermosalinograph System (SBE21/45):

Program: logger Net Version: _____

Sampling interval (seconds): _____

TSG serial number: 45-0620

Fluorometer sensor serial number: W5C116-1656 + SBE 38-0603

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

missing data from ~1500 on 26 Jan to ~1500 on 28 Jan

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)

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month January			Year 2024			Vessel John P Tully			Cruise ID 2024-002						
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
0001	SI	25	00:22	BE	CTD	VS	48° 39.542	123° 29.933	171		-	-	CI/MB	☒ ☒	-7
			00:32	BO			48° 39.543	123° 29.931		162	-			☐ ☐	
			00:41	EN			48° 39.542	123° 29.931			-	-		☐ ☐	
0002	HAR059	25	04:41	BE	NET	/	48° 35.896	123° 14.889	206		-	-	M ₆	☐ ☐	Bongo
			04:47	BO			48° 35.914	123° 14.906		196	-			☐ ☐	
			04:52	EN			48° 35.930	123° 14.914			-			☐ ☐	
0003	HAR059	25	05:18	BE	ROS		48° 35.902	123° 14.993	199		1 - 14	14	M ₆	☒ ☒	
			05:24	BO			48° 35.942	123° 14.963		198	-			☐ ☐	
			05:44	EN			48° 35.756	123° 14.904			-			☐ ☐	
0004	JF1	25	08:13	BE	LOOP	-	48° 16.276	123° 30.65	170	5	5001-5004	1	M _B	☐ ☐	ISAL 2CHL 1NUT
5	JF2	25	10:17	BE	NET	-	48° 18.007	123° 59.904	186		-		M _B	☐ ☐	Bongo
			10:24	BO			48° 18.005	123° 59.902		176	-			☐ ☐	
			10:27	EN			48° 18.004	123° 59.896			-			☐ ☐	
6	JF2	25	10:56	BE	ROS	VS	48° 17.986	123° 59.895	186		15 - 30	16	CI	☒ ☒	lots of current at
			11:01	BO			48° 17.979	123° 59.831		183	-			☐ ☐	bottom ∴ had to
			11:26	EN			48° 18.075	123° 59.598			-			☐ ☐	correct →
7	JF3	25	13:34	EN	Loop	-	48° 26.864	124° 29.902	226	5	5007	1	M _B	☐ ☐	ISAL 2CHL 1NUT
8	JF4	25	15:28	EN	LOOP	-	48° 31.82	125° 0.144	49	5	5008	1	CI/MB	☐ ☐	ISAL 2CHL 1NUT
			:				.	.			-			☐ ☐	

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
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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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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

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 17 Feb 2020

This page is for any notes or observations

event 1: started archive while rosette was being hoisted out via LARS (hoisting over water), hit "BE" sat w just CTD under for 10 seconds, down 10 m for 30 sec soak, down to 10m off bottom, stayed at 10m off bottom for 30 seconds, ^{"BO"} came up to 40 m to trip all bottles (for integrity checks only, no samples taken!!), back up to surface, turned off pump, just CTD under, waited 30 sec., kept archiving until rosette was out of water, hoisting, then hit "EN"

CREW CONTINUED PICK UP + DEPLOY TO DINNER, JOBY DID TEST CAST FOR MVP

event 6: Scapoint fluorescence spikes χ at ~105, 62,
(small)

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Month <u>January</u>			Year <u>2024</u>			Vessel <u>John P Tully</u>			Cruise ID <u>2024-002</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							
9	P1	25	17:35	BE	ROS	US	48° 34.496	125° 30.017	135		31 - 36	6	CI, MB	☒ ☒	changed the depth after filling the seawater loader
			17:38	BO			48° 34.492	125° 29.997		124	-			☐ ☐	
			17:45	EN			48° 34.516	125° 29.94			-			☐ ☐	
10	P2	25	19:55	BE	ROS	US	48° 36.105	125° 59.996	118		37 - 50	14	MG	☒ ☒	DMS
			19:58	BO			48° 36.099	126° 0.027		166	-			☐ ☐	
			20:23	EN			48° 36.208	126° 0.171			-			☐ ☐	
11	P2	25	20:41	BE	NET		48° 36.083	126° 0.088	118		-		MG	☐ ☐	Bongo
			20:48	BO			48° 36.006	126° 0.134		110	-			☐ ☐	
			20:52	EN			48° 36.013	126° 0.17			-			☐ ☐	
12	P2	25	21:12	BE	ROS	US	48° 36.03	126° 00.25	121		51 - 58	8	MR	☒ ☒	Deep
			21:15	BO			48° 36.04	126° 00.26		107	-			☐ ☐	
			21:29	EN			48° 36.09	126° 00.31			-			☐ ☐	
13	P3	25	23:27	BE	ROS	US	48° 37.55	126° 20.029	755	822	59 - 61		JMR	☒ ☒	Desert quite hot
			23:36	BO			48° 37.526	126° 20.007	822	810	-			☐ ☐	
			23:45	EN			48° 37.546	126° 19.999			-			☐ ☐	
14	P4	26	02:57	BE	ROS	US	48° 39.045	126° 40.033	1351		62 - 80	19	MG	☒ ☒	DMS
			03:09	BO			48° 39.04	126° 40.044		600	-			☐ ☐	
			03:44	EN			48° 39.074	126° 40.016			-			☐ ☐	
			:				.	.			-			☐ ☐	

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Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 17 Feb 2020

event 9: 10m soak for a long time while LARS operators hooked up accumulators to account for ~2m swell sea state. ~30m mixed layer!

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Event 13: Delay in Engine Room ~23:58 (~20 minutes)
 26 Jun 2024 00:47 another ~60 minutes
 26 Jun 2024 0152 underway after engine room repairs

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Month				Year			Vessel			Cruise ID					
JANUARY				2024			APTOLLY			2024-002					
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
15	P4	26	04:16	BE	BOT	MR	48° 39.056	126° 39.986	1325		81-90	10	MGJK	☐ ☐	TM
			05:01	BO			48° 39.073	126° 40.025		850	-			☐ ☐	
			06:13	EN			48° 39.096	126° 40.017			-			☐ ☐	
16	P4	26	06:28	BE	NET	✓	48° 39.089	126° 40.034	1314		-		MG	☐ ☐	BONGOB
			06:39	BO	r		48° 39.065	126° 40.054		250	-			☐ ☐	
			06:43	EN			48° 39.063	126° 40.058			-			☐ ☐	
17	P4	26	06:58	BE	NET	✓	48° 39.056	126° 40.048	1328		-		MG	☐ ☐	BONGOB (deep)
			07:37	BO			48° 39.022	126° 39.996		1200	-			☐ ☐	
			07:55	EN			48° 39.028	126° 40.037			-			☐ ☐	
18	P4	26	08:52	BE	ROS	US	48° 39.023	126° 39.994	1330		91-110	20	CI	☒ ☒	deep rosette
			09:06	BO			48° 39.032	126° 39.996		1327	-			☐ ☐	
			09:49	EN			48° 39.044	126° 40.026			-			☐ ☐	
19	P5	26	12:17	BE	ROS	US	48° 41.517	127° 10.019	2111		111-111	1	CI	☒ ☒	took loop @ 5m
			12:53	BO			48° 41.46	127° 9.939		2005	-			☐ ☐	(rosette depth).
			13:27	EN			48° 41.416	127° 9.738			-			☐ ☐	removed PAR before cast.
20	P6	26	15:50	BE	ROS	US	48° 44.552	127° 39.888	3005		112-132	21	MB	☒ ☐	PAR on
			16:24	BO			48° 44.389	127° 39.896		2005	-			☐ ☐	
			17:00	EN			48° 44.437	127° 39.725			-			☐ ☐	
21	P6-P7	26	18:53	EN	DRF	-	48° 44.564	128° 0.047	2537	Ø	-	-	MB	☐ ☐	Float 64907220

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Produced by the Water Properties Group, IOS

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event 19: small sal/cond spike on upcast at ~400m

This page is for any notes or observations

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Month <u>JANUARY</u>			Year <u>2024</u>			Vessel <u>JP Tully</u>			Cruise ID <u>2024002</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
22	P7	26	20:15	BE	ROS	US	48° 46.61	128° 10.037	2533		133	1	MG	☒ ☒	5M LOOP 2CHL/SAL
			20:49	BO			48° 46.63	128° 10.669		2005	-			☐ ☐	200M WATER BARREL
			21:26	EN			48° 46.65	128° 10.05			-			☐ ☐	DMS 8L
23	P8	26	23:33	BE	ROS	US	48° 48.997	128° 40.25	2545		134 - 157	24	MG	☒ ☒	
		27	60:08	BO			48° 49.067	128° 40.061		2000	-			☐ ☐	
			01:16	EN			48° 49.03	128° 39.962			-			☐ ☐	
24	P8	27	01:29	BE	NET	-	48° 48.99	128° 40.05	2544		-		MG	☐ ☐	DRIFTER 64906970
			01:38	BO			48° 48.98	128° 40.07		256	-			☐ ☐	BOWTOW
			01:47	EN			48° 48.98	128° 40.09			-			☐ ☐	
25	P8	27	02:09	DE	DRF	-	48° 47.92	128° 39.95	2550	0	-	-	JK	☐ ☐	64906970
26	P80	27	05:45	BE	ROS	US	48° 53.642	129° 39.995	2667		158-	1	MG	☒ ☒	WATER FOR BARREL
			06:30	BO			48° 53.628	129° 39.963		2000	-			☐ ☐	
			07:07	EN			48° 53.612	129° 39.992			-			☐ ☐	
27	P10	27	07:24	DE	DRF	-	48° 53.638	129° 40.277	2636	0	-	-	MG	☐ ☐	64907300
28	P12	27	10:46	BE	ROS	US	48° 58.21	130° 40.008	3261		159-182	24	CI	☒ ☒	PAP removed
			11:43	BO			48° 58.242	130° 40.005		3276	-			☐ ☐	
			13:07	EN			48° 58.267	130° 39.961			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Produced by the Water Properties Group, IOS

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event 28: forgot second bottle @ 3000m (samples 161), was @ 2940m when I noticed,
wire went back out to 3000m, 30 sec soak, fired bottle 3, then ascended again. SORRY!

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Month <u>January</u>			Year <u>2024</u>			Vessel <u>Tully</u>			Cruise ID <u>2024-002</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
29	P12	27	13:50	BE	NET	/	48° 58.247	130° 40.066	3259		/	/	MB	☐ ☐	Bonga 250
			14:00	BO			48° 58.23	130° 40.044		250	-			☐ ☐	
			14:05	EN			48° 58.22	130° 40.002			-			☐ ☐	
30	P12	27	14:18	BE	NET	/	48° 58.222	130° 40.024	3261		-		CI	☐ ☐	BONGO 1200
			15:04	BO			48° 58.186	130° 39.845		1200	-			☐ ☐	
			15:25	EN			48° 58.197	130° 39.892			-			☐ ☐	
31	P12	27	15:43	BE	BOT	MR	48° 58.198	130° 40.066	3227		-			☐ ☐	
			16:32	BO			48° 58.327	130° 39.902		800	183-192	11	MB/MB	☐ ☐	* MR ~ 1 min after 80
			17:13	EN			48° 58.454	130° 39.753			-			☐ ☐	
32	P12	27	17:34	BE	ROS	VS	48° 58.163	130° 40.061	3255		193-210	18	CI	☒ ☒	DMS, PAR on
			17:45	BO			48° 58.197	130° 40.030		601	-			☐ ☐	
			18:08	EN			48° 58.242	130° 39.973	3262		-		MB/MB	☐ ☐	
33	P12	27	18:15	DE	DRF	/	48° 58.165	130° 39.921	3263	/	/	/	MB/CN	☐ ☐	Scripps: 64907410
34	LOOP34	27	21:26	BE	LOOP	/	49° 5.837	131° 34.642	3304	4.5	5034	/	MG	☐ ☐	1 sal 2 chl
35	LOOP35	28	02:18	BE	LOOP	/	49° 29.956	132° 57.593	3170	4.5	5035	/	MG	☐ ☐	1 sal 2 chl
36	LOOP36	28	08:22	BE	LOOP	/	49° 37.913	134° 52.355	3062	5	5036	/	CI/CN	☐ ☐	1 sal 2 chl
37	LOOP37	28	12:06	BE	LOOP	/	49° 43.96	136° 4.345	3005	5	5037	/	CI	☐ ☐	1 sal 2 chl) depth may not be right
38	LOOP38	28	16:07	BE	LOOP	/	49° 51.671	137° 20.57	3005	5	5038	/	CI	☐ ☐	sal 2ch
39	LOOP39	29	01:59	BE	LOOP	/	49° 54.733	140° 03.294	4203	4.5	5039	/		☐ ☐	1 sal 2 chl

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* TM Cast

lost a bit of time due to issues with the counter.

* after bottle 2 was put to depth the ship's grey water alarm sounded. It was agreed that since bottles were 750m they could release on site and we would commence after flush. This will increase time between BE : BO

- recommencing Cast at 1624

- decision was made to put fewer bottles on the line likely due to impending weather

DAILY SCIENCE LOG

Month JANUARY			Year 2024			Vessel JPTULLY			Cruise ID 0024-002						
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							
40	LOOP 40	29	08:53	BE	LOOP	—	49° 13.774	141° 17.277	2955	5	50-40	—	MB	☐ ☐	1 sal, 2chl
41	LOOP 41	29	14:57	BE	LOOP	—	49° 38.455	142° 29.657	4028	5	50-41	—	CI	☐ ☐	1 sal, 2chl
42	LOOP 42	29	21:43	BE	LOOP	—	49° 53.295	144° 13.859	4176	4.5	5042	—	MG	☐ ☐	1 SAL 2CHL 1 FLK
43		29	23:24	BE	MVP	✓	49° 55.666	144° 30.318	4200	0	—	—	JK	☐ ☐	UNWIND CABLE
			23:33	RE			49° 55.902	144° 31.882			-			☐ ☐	DEPAOY LINE @ 5KNGT
44	P26	30	02:39	BE	NET	✓	49° 59.957	144° 59.987	4226		-		MG	☐ ☐	BONGO
			02:45	BO			49° 59.991	145° 00.048		250	-			☐ ☐	
			02:53	EN			49° 59.951	145° 00.016			-			☐ ☐	
45	P26	30	02:59	BE	NET	✓	49° 59.964	144° 59.998	4260		-		MG	☐ ☐	BONGO
			03:41	BO			50° 00.046	145° 00.154		1200	-			☐ ☐	
			04:04	EN			50° 00.085	144° 59.999			-			☐ ☐	
46	P26	30	06:41	BE	BOT	MR	49° 59.948	144° 59.948	4266		235-240	6	MG	☐ ☐	TM DEEP PAR OFF
			07:31	BO			49° 59.996	144° 59.974		1500	-			☐ ☐	
			08:40	EN			49° 59.829	145° 0.026	4267		-			☐ ☐	
47	P26	30	10:44	BE	BOT	MR	49° 59.983	144° 59.968	4267		241-247	7	MG	☐ ☐	TM She 160w
			11:20	BO			49° 59.974	145° 0.026		200	-			☐ ☐	MR = 1121
			:	EN			49° 59.995	145° 0.154			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	

This page is for any notes or observations

p6.5/19

→ EVENT 45/46 CABLE BROKE ON LARS WHEN RETRIEVING ROSETTE TO REMOVE PAR FOR DEEP CAST
CHDGE + MARK UP AT 2200 TO BEGIN RETERMINATION

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>January</u>			Year <u>2024</u>			Vessel <u>JP Tully</u>			Cruise ID <u>2024-002</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
48	P26	30	12:22	BE	ROS	US	49°59.987	145°0.082	4267		NONE	24	CI/MB	☒	test cast to make
			12:24	BO			49°59.995	145°0.072		150	-			☐	sure 9p-9506 is happy
			12:34	EN			50°0.001	145°0.060			-			☐	→
49	P26	30	13:18	BE	ROS	US	49°59.981	145°0.010	4267		211-234		CI	☒	winch test, archive
			13:35	BO			49°59.998	145°0.012		480	-			☐	after pump on, operator
			13:43	EN			50°0.018	145°0.051			-			☐	data probably
50	P26	30	13:45	BE	ROS	US	50°0.017	145°0.060	4268		211-234	24	CI	☐	did not pull rosette
			15:01	BO			49°59.962	144°59.957		4319	-			☐	it after
			17:09	EN			49°59.977	144°59.907			-			☐	event 49. →
51	P26	30	19:11	BE	ROS	US	49°59.982	144°59.914	4266		248-266	19	CI	☒	PARON!
			19:30	BO			49°59.998	145°0.038		600	-			☐	small salt spike
			20:02	EN			50°0.035	145°0.248			-			☐	on up cast at 360m
52	P26	30	20:15	DE	DRF	—	50°0.012	145°0.489	4267	0	✓	✓	MG	☐	64907360
53	P26	30	20:18	DE	MVP	✓	50°0.212	145°0.74	4265	200	✓	✓	JK	☐	
54	P26	31	22:13	RE			52°31.26	148°53.00	4354	200	-		JK	☐	
54	LOOP 54	31	08:04	BE	LOOP	—	51°08.3107	146°43.557	4216	5	5054-5054	—	MB	☐	
55	LOOP 55	31	14:21	BE	LOOP	—	51°45.830	147°43.199	4176	5	5055	—	CI	☐	sal 2chl
56	LOOP 56	31	20:39	BE	LOOP	—	52°22.568	148°39.606	3652	4.5	5056	—	MG	☐	SAL 2chl
			:				.	.			-			☐	

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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events 48 & 49: please refer to e-log & "P26 CTD failure.docx" for more details on wire failure, retermination,
9 p swap, possible issues & causes.

event 50: had to stop at 1526_y to assess winch wire on drum spooling poorly & crossing over itself.

started showing at 29m. ^{on ascent} calm seas overall for duration of cast

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month		Year		Vessel		Cruise ID									
January		2024		J P Tully		2024-002									
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
57	SEAMOUNT	31	22:38	BE	ROS	US	52° 31.365	148° 53.065	4336		267-267	1	MG	☒ ☒	1/2M/SEC ↓
		01	01:05	BO			52° 31.486	148° 53.18		4368	-			☐ ☐	NO 10M TUP FLUSH
			02:15	EN			53° 31.48	148° 53.139			-			☐ ☐	ARCHIVE 1 FLC @ 50M
58	SEAMOUNT	01	02:31	DE	MVP	/	52° 31.623	148° 52.976	4337	200	-	/	MG	☐ ☐	1 FLC @ 50M
			22:48	RE			51° 07.547	145° 27.204	3054	200	-		JK	☐ ☐	Tangled winch
59	LOOP 59	01	04:31	BE	Loop	/	52° 21.61	148° 33.136	3920	4.5	5059	/	MG	☐ ☐	1 SAC 2CHL
60	LOOP 60	01	11:13	BE	Loop		51° 48.908	147° 22.655	3005	5	5060	-	MB	☐ ☐	1 SAC 2CHL
61	LOOP 61	01	18:21	BE	Loop	/	51° 12.773	146° 6.965	3004	5	5061	/	MG	☐ ☐	DEPTH inaccurate
62	LOOP 62	01	21:48	BE	Loop	/	51° 02.589	145° 34.057	4350	4.5	5062	/	MG	☐ ☐	1 SAC 2CHL
63	LOOP 63	01	02:09	BE	Loop	/	50° 51.468	144° 59.994	4259	4.5	5063	/	MG	☐ ☐	1 SAC 2CHL
64	P25	02	11:14	BE	ROS	US	49° 59.952	143° 36.280	3727		268-268	1	CI	☒ ☒	PAR 64 off - very dark out
			12:09	BO			50° 0.084	143° 36.676		2005	-			☐ ☐	
			13:21	EN			50° 0.131	143° 36.56			-			☐ ☐	
65	P25	02	13:40	DE	DRF	/	50° 0.065	143° 36.638	4000 SM	/	/	/	MB/CW/CI	☐ ☐	Scripps 64908910
66	P24	02	17:23	BE	ROS	US	49° 50.182	142° 39.976	4606		269-292	24	CI	☒ ☒	Toc Doc PDOM Profile
			18:34	BO			49° 50.193	142° 39.957		4044	-			☐ ☐	
			20:17	EN			49° 50.19	142° 40.04			-			☐ ☐	SHANE LOW BINGO
67	P24	02	20:22	DE	DFT	-	49° 50.284	142° 39.874	4000	0	-			☐ ☐	# 64908890
			:				.	.			-			☐ ☐	Scripps

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month February			Year 2024			Vessel JP Tully			Cruise ID 2024-002						
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	P23	02	23:53	BE	ROS	US	49° 45.99	141° 39.934	4070		293-299	7	MG	☒ ☒	SAUNTY COMPARE
		03	00:28	BO			49° 45.994	141° 39.897		2005	-			☐ ☐	PAR ON
		03	01:08	EN			49° 45.906	141° 40.042			-			☐ ☐	5m Loop 1sal 2chl
69	P23	02	01:23	DE	DRF	✓	49° 45.896	141° 39.802	4070	0	✓	✓	MG	☐ ☐	64906880
70	P22	03	04:48	BE	ROS	US	49° 41.958	140° 39.979	3920		300-323	24	MG	☒ ☒	PAR OFF
		03	05:57	BO			49° 41.972	140° 39.995		3982	-			☐ ☐	3982 P 7 3923 9.9 A
		03	07:28	EN			49° 42.001	140° 40.064			-			☐ ☐	
71	P22	03	07:40	DE	DRF	✓	49° 42.110	140° 40.099	3881	0	✓	✓	MG	☐ ☐	64907450
72	P21	03	11:18	BE	ROS	US	49° 38.030	139° 40.036	3979		324-	1	CI	☒ ☒	Loop 5072 together
			11:54	BO			49° 38.070	139° 40.092		2005	-			☐ ☐	5m 1sal, 2chl
			12:29	EN			49° 38.051	139° 40.053			-			☐ ☐	PAR off (dark)
73	P21	03	12:49	DE	DRF	—	49° 38.096	139° 39.879	3979	0	—	—	CI/MB	☐ ☐	Scripts 64906930
74	P20	03	16:20	BE	ROS	US	49° 33.981	138° 39.932	3986		325-348	24	CI	☒ ☒	PAR off (deep)
			17:30	BO			49° 33.996	138° 39.914		4025	-			☐ ☐	P: 4025 D: 3959 A: 10 S: 3985
			19:11	EN			49° 33.977	138° 39.940			-			☐ ☐	
75	P20	03	20:14	BE	BOT	MR	49° 33.956	138° 39.989	3956		-			☐ ☐	
			21:00	BO			49° 33.954	138° 39.96		800	349-358	10	MG	☐ ☐	TM
			21:02	MR			49° 33.952	138° 39.968			-			☐ ☐	
			21:56				49° 33.942	138° 39.981			-			☐ ☐	

DAILY SCIENCE LOG

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Month <u>FEBRUARY</u>			Year <u>2024</u>			Vessel <u>PTULLY</u>			Cruise ID <u>2024-002</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	P20	03	22:12	BE	ROS	US	49° 33.983	138° 39.975	3985		359-376	18	MG	☒	DMS PAR ON
			22:23	BO			49° 33.97	138° 39.994		600	-			☐	
			22:50	EN			49° 33.962	138° 39.968			-			☐	
77	P20	03	23:07	BE	NET	✓	49° 33.961	138° 39.971	3985		-	✓	MG	☐	BONGO
			23:19	BO			49° 33.963	138° 40.044		250	-			☐	
			23:23	EN			49° 33.95	138° 40.04			-			☐	
78	P20	03	23:33	BE	NET	✓	49° 33.954	138° 40.032	3985		-	-	MG	☐	BONGO
			00:19	BO			49° 33.986	138° 40.005		1200	-			☐	
		04	00:39	EN			49° 34.011	138° 40.079			-			☐	
79	P20	04	00:48	DE	DRF	✓	49° 34.046	138° 40.054	3984	0	-	-	MG	☐	64906900
80	P20	04	00:53	DE	MVP		49° 33.97	138° 39.682	3984	200	-	✓	JK	☐	
			01:21	RE			49° 33.64	138° 35.267			-			☐	
81	P19	04	04:46	BE	ROS	US	49° 30.007	137° 39.995	3949		377	1	MG	☒	5m Loop 1 Sal 2 Chl
			05:21	BO			49° 30.018	137° 40.062		2005	-			☐	
			05:58	EN			49° 30.066	137° 40.087			-			☐	
82	P19	04	06:07	DE	DRF	✓	49° 30.121	137° 39.987	3948	0	-	✓	MG	☐	64906890
83	P18	04	09:38	BE	ROS	US	49° 26.006	136° 39.920	3856		378-401	24		☒	PAR off (deep)
			10:47	BO			49° 25.937	136° 39.878		3889	-			☐	
			12:11	EN			49° 25.923	136° 39.946			-			☐	

Event Type:

BOT = Bottle cast (no CTD)
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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

Produced by the Water Properties Group, IOS

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>FEBRUARY</u>				Year <u>2024</u>			Vessel <u>John P Tully</u>			Cruise ID <u>2024-002</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
84	P18	04	12:25	DE	DRF	—	49° 25.954	136° 39.707	3858	0	—	—	CI/MB	☐ ☐	64906430
85	P17	04	15:56	BE	ROS	US	49° 20.979	135° 39.995	3662		402-404	3	CI	☒ ☒	PAR on.
			16:32	BO			49° 20.974	135° 40.000		2005	-			☐ ☐	surface bottle is
			17:07	EN			49° 20.974	135° 40.007			-			☐ ☐	now 3
86	P17	04	17:18	DE	DRF	—	49° 20.977	135° 39.743	3690	0	—	—		☐ ☐	64906940
87	P17 →	04	17:34	BE	Loop	-	49° 20.625	135° 35.008	3752	0	5087			☐ ☐	MISSED Loop DURING CAST. Took AFTER DEPARTURE
88	P16	04	20:46	BE	ROS	US	49° 16.963	134° 40.078	3658		405-422	18	MG	☒ ☒	DMS
			20:57	BO			49° 16.976	134° 40.015		600	-			☐ ☐	
			21:24	EN			49° 17.011	134° 40.006			-			☐ ☐	
89	P16	04	21:37	BE	BOT	MR	49° 16.998	134° 40.037	3658		423-432	10	MG	☐ ☐	TM MR 2222
			22:20	BO			49° 16.999	134° 39.961		800	-			☐ ☐	KEVLAR LINE FRAY
			23:09	EN			49° 17.01	134° 40.59			-			☐ ☐	@ 940
90	P16	04	23:52	BE	ROS	US	49° 16.989	134° 40.055	3664		433-456	24	MG	☒ ☒	DEEP PAR OFF
		05	00:58	BO			49° 16.962	134° 39.958		3684	-			☐ ☐	D 3620 S 3658 P 3683 A 10.4
			02:28	EN			49° 16.995	134° 40.037			-			☐ ☐	
91	P16	05	02:43	BE	NET	—	49° 16.964	134° 40.058	3658		—	—	MG	☐ ☐	BONGO
			02:52	BO			49° 16.966	134° 40.002		250	-			☐ ☐	
			02:59	EN			49° 16.967	134° 40.016			-			☐ ☐	
			:				°	°			-			☐ ☐	

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This page is for any notes or observations

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EVENT 90 LARGE SPIKE IN FLUOR @ 2260 + SMALL ONE IN SAUNTY
BOT 12 TRIPPED @ 2570 NO 1250 WATER

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month			FEBRUARY		Year		2024		Vessel		LP Tully		Cruise ID		2024-002	
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	P16	05	03:06	BE	NET	—	49° 16.966	134° 39.967	3659		—	✓	MG	☐	Banjo	
			03:51	BO			49° 16.998	134° 40.004		1200	-			☐		
			04:11	EN			49° 17.048	134° 39.919			-			☐		
93	P16	05	04:21	DE	DRF	✓	49° 17.076	134° 39.876	3659	0	-		MG	☐	64906470	
94	P15	05	08:00	BE	ROS	US	49° 11.988	133° 39.984	3534		457-457	1	CI/MG	☒	loop 50 m, PAR #1	
			08:36	BO			49° 11.981	133° 39.956		2005	-			☐	had to restart cast	
			09:09	EN			49° 11.980	133° 39.948			-			☐	at 40m → seaward	
95	P15	05	09:23	DE	DRF	✓	49° 12.038	133° 39.759	4028	0	—	—	CI/MB	☐	Scripps 64906890	
96	P14	05	13:00	BE	ROS	US	49° 7.381	132° 39.914	3833		458-481	24	CI	☒	PAR on (deep).	
			14:06	BO			49° 7.516	132° 39.894		3359	-			☐	depth sounder acting up.	
			15:31	EN			49° 7.416	132° 39.948			-			☐		
97	P14	05	15:43	DE	DRF	✓	49° 7.418	132° 39.646	3532	—	—	—	CI/MB	☐	Scripps 64906860	
98	P13	05	19:18	BE	ROS	US	49° 2.598	131° 39.949	3830		482-482	1	CI	☒	PAR on	
			19:54	BO			49° 02.564	131° 39.992		2005	-			☐	loop 5m 2chl 1sal.	
			20:31	EN			49° 02.604	131° 39.896			-			☐	64906520	
99	P13	05	20:42	DE	DRF	✓	49° 02.731	131° 39.889	3624	0	—	—	MG	☐	64906520	
100	P13	05	20:45	DE	MVP	✓	49° 02.819	131° 39.726	3642	870	—	—	LT	☐		
102	Scott3	06	13:03	RE	MVP	✓	50° 49.315	129° 30.201	1?	170	—	—	LT	☐		
101	Loop P16	06	04:48	BE	LOOP	✓	49° 55.714	136° 36.091	2254	-4.5	—	—	MG	☐	1 sal 2 chl	

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BE = Beginning Time of Cast
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Produced by the Water Properties Group, IOS

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Notes:

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event 94: had issues archiving data in seasave on first attempt, had to stop cast @ 40m & return to surface to reboot seasave & restart cast. Took ~5 minutes.

Event 102 Recovery of MVD
13:03 50.49.315 / 129 30.201

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Month FEBRUARY			Year 2024			Vessel JPTULLY			Cruise ID 2024002						
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
103	Scott 3	06	13:46	BE	ROS	+	50°50.712	129°29.432	240		—	—	CI	☒ ☒	PAR on, had to
			13:51	BO			50°50.731	129°29.618		227	-			☐ ☐	stop to adjust wire
			13:57	EN			50°50.748	129°29.805			-			☐ ☐	angle at surface
104	Scott 3	06	14:19	BE	NET	—	50°50.714	129°29.128	238		—	—	MB	☐ ☐	bongo
			14:32	BO			50°50.690	129°29.075		228	-			☐ ☐	
			14:36	EN			50°50.672	129°29.066			-			☐ ☐	
105	Scott 2	06	16:24	BE	ROS	—	51°7.37	129°27.662	290		—	—	CI	☒ ☒	PAR on, cleared
			16:30	BO			51°7.358	129°27.614		280	-			☐ ☐	attimeter connector
			16:35	EN			51°7.364	129°27.585			-			☐ ☐	prior to cast
106	CPE1	06	22:10	BE	ROS	—	50°59.994	127°50.013	150		—		JMK	☒ ☒	Soft bottom
			22:13	BO		—	50°59.978	127°50.057		143	-			☐ ☐	
			22:16	EN		—	50°59.997	127°50.06			-			☐ ☐	
107	CPE1	06	22:25	BE	NET	-	51°00.020	127°50.003	146.1		-			☐ ☐	Bongo
			22:30	BO			51°00.039	127°50.003		135	—	—	MG	☐ ☐	
			22:35	EN			51°00.034	127°50.012			-			☐ ☐	
108	LBA-1	06	23:39	BE	ROS	-	50°54.021	127°38.545	448		-		JMK	☒ ☒	Sm off bottom
			23:47	BO			50°54.06	127°38.515		444	-			☐ ☐	
			23:55	EN			50°54.036	127°38.515			-			☐ ☐	Target deck un. + dt w/o pump
			:				°	°			-			☐ ☐	

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
 EN = End Time of Cast

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

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

Produced by the Water Properties Group, IOS

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 Version: 17 Feb 2020

event 103: altimeter flashing to ~80 m at surface → will keep close eye on descent
& clean the connection before the next cast

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SEAWATER SPIKE

EVENT 106 MIKE'S CO₂ BLEW WATER HOSE AT MANIFOLD RAN DOWN + RECONNECTED 1255
TSG PUMP 2 WENT TO ZERO BUT WATER STILL FLOWING THROUGH, ~~GOING~~ STOPPED FLOW, CLEANED OUT CHUNKS
PUMP 1 + 2 WERE AT 1.1 + 0.8 AND THEN WENT TO ZERO, GOT THEM UP TO 0.4 + 0.6 AND BACK TO
ZERO GOT PUMP 1 TO 1.1, SET 2 TO SAME FLOW VIA TOGGLES

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>FEBRUARY</u>			Year <u>2024</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2024-002</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
109	QCS3	7	01:45	BE	ROS	—	50°43.754	127°14.974	212		—	—	SMK	☒ ☒	
			:	BO			50°43.785	127°14.942		204.5	-			☐ ☐	
			:	EN			50°43.811	127°14.933			-			☐ ☐	
110	QCS1	07	03:44	BE	ROS	—	50°40.184	126°46.246	152		—	—	MB	☒ ☒	
			03:47	BO			50°40.214	126°46.232		145	-			☐ ☐	
			03:50	EN			50°40.257	126°46.234			-			☐ ☐	
111	16	07	12:42	BE	ROS	—	49°57.676	125°8.901	158		—	—	CI	☒ ☒	PAR on
			12:46	BO			49°57.673	125°8.935		154	-			☐ ☐	
			12:49	EN			49°57.680	125°8.949			-			☐ ☐	
112	14	07	13:55	BE	NET	—	49°52.979	124°59.544	318		—	—	MB	☐ ☐	Bongo
			14:07	BO			49°53.006	124°59.530		313	-		MB	☐ ☐	
			14:13	EN			49°53.058	124°59.578			-			☐ ☐	
113	14	07	14:32	BE	ROS	US	49°53.007	124°59.472	319		483-487	5	MB	☒ ☒	PAR on
			14:39	BO			49°52.992	124°59.520		312	-			☐ ☐	
			14:49	EN			49°52.974	124°59.578			-			☐ ☐	
114	12	07	16:27	BE	NET	—	49°43.323	124°40.166	358		—	—	MS	☐ ☐	bongo
			16:40	BO			49°43.41	124°40.21		353	-			☐ ☐	
			16:46	EN			49°43.48	124°40.197			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Month				Year			Vessel			Cruise ID					
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
115	12	07	17:01	BE	ROS	US	49° 43.333	124° 40.160	359		488 - 505	18	CI	☒ ☒	altimeter readings
			17:08	BO			49° 43.344	124° 40.104		350	-			☐ ☐	~60-50 on descent.
			17:33	EN			49° 43.340	124° 40.169			-			☐ ☐	bottom might need torch
116	9	07	18:39	BE	ROS	US	49° 35.516	124° 38.250	171		506 - 508	3	CI	☐ ☐	new altimeter
			18:43	BO			49° 35.5	124° 38.247		160	-			☐ ☐	
			18:48	EN			49° 35.504	124° 38.218			-			☐ ☐	
117	6	07	19:51	BE	ROS	US	49° 30.609	124° 24.784	195		509 - 511	3	CI	☒ ☒	cleaned all connectors
			19:55	BO			49° 30.634	124° 27.751		189	-			☐ ☐	on altimeter cable
			20:02	EN			49° 30.612	124° 27.75			-			☐ ☐	+ y-cable
118	CPF2	07	20:41	BE	ROS	/	49° 27.938	124° 29.963	354		-			☒ ☒	
			20:47	BO			49° 27.93	124° 29.942		324	-			☐ ☐	Bottom pressure 320 and 330.
			20:53	EN			49° 27.93	124° 29.923			-			☐ ☐	
119	CPF2	07	21:00	BE	Net	/	49° 27.933	124° 29.985	331		-		MG	☐ ☐	Bongo
			21:12	BO			49° 27.980	124° 29.995		325	-			☐ ☐	
			21:19	EN			49° 28.008	124° 30.005			-			☐ ☐	
120	3	07	22:09	BE	ROS	US	49° 26.613	124° 20.139	323		-		MG	☒ ☒	SALINITY 1 < 0.01 - 0.02
			22:15	BO			49° 26.585	124° 20.155			-			☐ ☐	LESS THAN SALINITY 2
			22:25	EN			49° 26.559	124° 20.16			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Notes:

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Produced by the Water Properties Group, IOS

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event 116: new altimeter off vector rosette (76341). Still fluctuated a bit at the surface but kicked in properly at 100m off bottom & descended nicely w/o spikes. Will try cleaning both ends of the cable at the next transit

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month 02			Year 2024			Vessel Tully			Cruise ID 2024-002						
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/Fl Cleaned	Comments
121	2.	7	23:20	BE	ROS	US	49° 24.109	124° 9.267	280		515 - 519	5	Jmk	☒ ☒	
			23:26	BO			49° 24.09	124° 9.28		274	-			☐ ☐	
			23:34	EN			49° 24.127	124° 9.241			-			☐ ☐	
122	24	8	00:25	BE	ROS	US	49° 30.23	124° 5.944	429		520 - 522	3	Jmk	☒ ☒	Acquired before 12m
			00:35	BO			49° 30.225	124° 5.995		422	-			☐ ☐	
			00:45	EN			49° 30.255	124° 6.026			-			☐ ☐	
123	24	8	00:52	BE	NET	/	49° 30.248	124° 6.049	430		/	/		☐ ☐	Bongo
			01:08	BO			49° 30.262	124° 6.033		425	/	/	MG	☐ ☐	
			01:16	EN			49° 30.305	124° 6.039			-			☐ ☐	
124	CPF1	8	02:16	BE	ROS	/	49° 21.959	124° 4.95	245		/		Jmk	☒ ☒	
			02:23	BO			49° 21.957	124° 4.965	244	238.3	-			☐ ☐	
			02:28	EN			49° 21.957	124° 4.954			-			☐ ☐	
125	CPF1	8	02:39	BE	NET	/	49° 21.972	124° 4.972	245		/	/		☐ ☐	Bongo
			02:48	BO			49° 21.974	124° 4.958		240	-		MG	☐ ☐	
			02:53	EN			49° 21.97	124° 4.944			-			☐ ☐	
126	27	8	04:10	BE	ROS	US	49° 19.081	123° 47.943	345		523 - 530	8	Jmk	☒ ☒	
			04:17	BO			49° 19.087	123° 47.961		337	-			☐ ☐	
			04:31	EN			49° 19.089	123° 47.964			-			☐ ☐	
			:				.	.			-			☐ ☐	

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month 02			Year 2024			Vessel Tully			Cruise ID 2024002						
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/Fl Cleaned	Comments
127	GEOL	8	05:10	BE	ROS	US	49°14.934	123°44.998	402		531-533	8	JMK	☒ ☒	
			05:18	BO			49°14.53	123°45.018		396	-			☐ ☐	
			05:32	EN			45°14.946	123°45.019			-			☐ ☐	
128	GEOL	8	05:41	BE	NET	/	49°14.933	123°45.022	403		-	-	MG	☐ ☐	Bongo
			05:56	BO			49°14.941	123°45.014		395	-			☐ ☐	
			06:03	EN			49°14.941	123°45.011			-			☐ ☐	
129	39	8	07:13	BE	ROS	US	49°9.781	123°32.918	378		539-543		JMK	☒ ☒	
			07:20	BO			49°9.785	123°32.964		370	-			☐ ☐	
			07:29	EN			49°9.806	123°32.989			-			☐ ☐	
130	39	8	07:37	BE	NET	-	49°9.812	123°33.017	377		-	-	MG	☐ ☐	Bongo
			07:50	BO			49°9.822	123°33.048		370	-			☐ ☐	
			07:57	EN			49°9.862	123°33.034			-			☐ ☐	
131	40	8	08:36	BE	ROS	/	49°8.611	123°36.682	146		-	-	CF	☒ ☒	
			08:41	BO			49°8.612	123°36.673		140	-			☐ ☐	
			08:44	EN			49°8.611	123°36.662			-			☐ ☐	
132	40	8	08:51	BE	NET	-	49°8.598	123°36.668	150		-	-	MB	☐ ☐	Bongo
			08:59	BO			49°8.597	123°36.741		140	-			☐ ☐	
			09:01	EN			49°8.62	123°36.746			-			☐ ☐	
			:				°	°			-			☐ ☐	

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month 02			Year 2024			Vessel Tully			Cruise ID 2024-002						
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/Fl Cleaned	Comments
133	42	08	10:10	BE	NET	/	49° 1.907	123° 26.379	323.		/	/	MR	☐ ☐	had to move a bit NW of station coordinates to avoid a subsurface mooring
			10:22	BO			49° 1.932	123° 26.557		318	-			☐ ☐	
			10:28	EN			49° 1.958	123° 26.648			-			☐ ☐	Bongo
134	42	08	10:44	BE	ROS	US	49° 1.932	123° 26.365	322		544-558	15	CI	☒ ☒	
			10:51	BO			49° 1.925	123° 26.424		316	-			☐ ☐	
			11:14	EN			49° 1.957	123° 26.512			-			☐ ☐	
135	46	08	:	BE	NET	/	° .	° .			/	/	CW	☐ ☐	Bongo, forgot to punch BE
			13:00	BO			48° 51.395	123° 10.804	182	177	-			☐ ☐	wood chunks @ depth
1			13:04	EN			48° 51.415	123° 10.810			-			☒ ☐	
136	46	08	13:17	BE	ROS	US	48° 51.393	123° 10.73	180		559-561	3	CI	☒ ☒	
			13:21	BO			48° 51.390	123° 10.738		173	-			☐ ☐	
			13:25	EN			48° 51.373	123° 10.75			-			☐ ☐	
137	58	08	15:29	BE	ROS	/	48° 42.999	123° 14.274	337		/	/	CI	☒ ☒	weird sound coming from winch motor
			15:35	BO			48° 43.004	123° 14.260		333	-			☐ ☐	on ascent
			15:42	EN			48° 43.019	123° 14.254			-			☐ ☐	
138	GI01	08	16:24	BE	NET		48° 45.825	123° 20.496			-		CI	☐ ☐	
			16:27	BO			48° 45.827	123° 20.509			-			☐ ☐	
			16:28	EN			48° 45.828	123° 20.518			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

This page is for any notes or observations

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Station 42 slightly off original coordinates to avoid a subsurface mooring

DAILY SCIENCE LOG

Month February				Year 2024			Vessel John P Tully			Cruise ID 2024-002					
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
139	GI01	08	16:40	BE	ROS	—	48° 45. 812	123 ° 20 . 506	68		—	—	CI	☒ ☒	
			16:41	BO			48° 45. 808	123 ° 20 . 498		63	-			☐ ☐	
			16:43	EN			48° 45. 810	123 ° 20 . 497			-			☐ ☐	
140	SC-04	08	17:16	BE	ROS	VS	48° 43. 467	123 ° 24. 952	96		562-562	1	CI	☒ ☒	
			17:19	BO			48° 43. 468	123 ° 24 . 970		90	-			☐ ☐	
			17:21	EN			48° 43. 475	123 ° 24 . 976			-			☐ ☐	
141	SC-04	08	17:27	BE	NET	—	48° 43. 500	123 ° 24 . 991	97		—	—	MB	☐ ☐	Bongo
			17:30	BO			48° 43. 512	123 ° 25 . 052		92	-			☐ ☐	1
			17:32	EN			48° 43 . 512	123 ° 25 . 081			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
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