

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2023-026

DATE:

Aug 24th 2023

To:

VESSEL:

J.P. Tully

PROJECT(S):

Water Properties Group
Fisheries and Oceans Canada
Institute of Ocean Sciences
Canadian Sciences Division
19700 St. John's Road, Delta, BC, Canada

WaterProperties.ca

Treat this daily science log as an invaluable source of information of what happened on your research mission. Months, years, or even decades after your research has been completed, people will still consult this logbook for information and as such, one should make all efforts to complete this logbook (and any associated sheets for rosettes, chemical analyses, fish sets, plankton tows, etc) as events unfold on a daily basis. This logbook has been supplied with extra sheets of paper for you to record any additional information.

★★ This logbook should also be digitized following the cruise and placed on the WaterProperties.ca site ★★

Please remember to record such events as:

CTD Notes: an observed failure or strange sensor reading, a computer crash or software issue, switching of a CTD or sensor unit (including the removal or replacement of a PAR or pH sensor), a bottle that fails to trip or bottles that are tripped without commands being sent to the pylon during the cast, a syringe that is left on a cell during a cast, the cleaning (or lack thereof) of a transmissometer or fluorometer, a nutrient sample from the seawater loop, a failure of a NMEA string input into the deck unit, failure of the CTD pump to turn on or failure to turn on the CTD pump during a cast, a CTD or rosette that is recovered with mud or jellyfish attached to it, a sample bottle is removed or switched or weights are added or removed from the rosette or CTD unit, etc.

Biological Notes: any unusual biological observations (e.g., large numbers of squid, jellyfish, birds, zooplankton swarms, thick waters due to phytoplankton)

Sampling Notes: any change in sampling protocols that either do not follow standard procedures or are using different standard procedures

► If there are no unusual occurrences at a station, then please make a note in the comments line, such as “Nothing to Report”, “NTR”, or even just a “☺”

Please ensure that you have reviewed the required standardized sampling protocols prior to taking any samples and current copies of sampling protocols may be found on the [Water Properties website at WaterProperties.ca](http://WaterProperties.ca).

The format for sample labels is:

Sample Number	124
Sample Type	HPLC
Station Name	CPF02
Cruise ID	2021-032
Bottle Number	Bot 12

Water Properties Group Contacts:

CTD’s, Rosettes, Sensors, and Salinities	Scott Rose, 250.363.6399 Rowan Fox, 250.363.6598 Germaine Gatien (Data), 250.363.6560
Nutrients and Chlorophylls	Mark Belton, 250.363.6544
Dissolved Oxygen:	Kenny Scozzafava, 250.363.6566
Other Questions:	Steve Romaine, 250.363.6868

Loop samples typically include a single salinity sample and a CHL α sample if there is a fluorometer on the TSG. Nutrients and dissolved oxygen samples are sometimes taken. Samples collected follow the same collection protocols as rosettes or niskin bottles

Salinity Calibration Samples on CTD Casts: When not regularly taking them on a Rosette

Salinities taken at depth allow us to confirm what is seen on the CTD. There are no fixed rules for how many samples should be taken for a particular cruise, so it is up to the Chief Scientist or CTD watch leader to pick locations for samples. If anything, some randomness is desired, provided you do plan to take at least a few samples during your cruise!

Typically try to pick deeper stations (>250m) where salinity gradients are low for salinity samples. It is preferable to take samples at least 10m above the bottom. A cruise of 20 CTD stations may aim for 3-5 calibration samples at different locations. A cruise of 60 samples may try and take 6-10 samples. If there is a very well-mixed surface layer, some of the calibration sampling could come from the surface.

Chemistry Sequential Sample Numbers

Sequential Sample Numbers (or sample serial numbers) are used where several water samples are taken during a cruise. This allows reliable tracking and processing of the samples. These numbers are recorded under the "Sample Numbers" column in the log book.

If you plan to take 19 samples on a rosette cast, then you assign the next 19 sample numbers to the samples. All samples taken out of the first bottle (e.g., salinity, nutrients, oxygen, etc) all have the same sample number. All samples out of the second bottle have the next sequential number, etc. You then note this as XX-XX+19 in the sample number column, e.g., 30-48. Record the sample number range in the CTD Daily Science Log Book in the line for that event, as well as on the rosette sheet. Use a yellow rosette sheet even if there is only 1 bottle fired.

Don't forget that loop samples and single Niskins also receive sample numbers.

Sample numbers are only used for water chemistry, not for plankton tows, fish sets, etc.

Captain: _____
Second Officer: _____
Fishing Master: _____
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>

**** 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 ThinkCentre #104
Data acquisition program: Seasave

CTD deck unit make: SBE model: 11+ serial number: 508

Primary CTD

Make: SBE model: 9+ serial number: 1515
Primary temperature serial number: 6754
Primary conductivity serial number: 6141
Secondary temperature serial number: 6736
Secondary conductivity serial number: 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 SBE Cable gain: serial: P, S or NO pump?
Oxygen sensor: SBE Model: SBE-43 serial: 1119 P, S or NO pump?
PAR sensor: Rosetta Model: 050250 serial: 70613 Surface PAR? Y/N
Other sensors: Altimeter serial: 99487 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: _____

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:	_____	Model:	_____	Serial #:	_____	Used for:	_____
2. Make:	_____	Model:	_____	Serial #:	_____	Used for:	_____
3. Make:	_____	Model:	_____	Serial #:	_____	Used for:	_____

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: _____

Version: _____

Sampling interval (seconds): _____

TSG serial number: _____

Fluorometer sensor serial number: _____

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

ADCP Setup:

Computer time zone: _____

Sampling interval (sec): _____

Bin Length: (2^{nx}): _____

Pulse Length: _____

Buffer (bytes): _____

Gyro Offset: _____

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

CTD Test Cast Information

Test Cast along side? Yes No

Comments

Test Cast in Saanich Inlet or other location? Yes No

Comments

CTD pressure reading on deck (db), before cast: _____ after cast: _____

Pumps working?

Yes (0011)

No (0010)

Secondary Temp - Primary Temp:

(Average from the mixed region)

Secondary Salinity - Primary Salinity:

(Average from the mixed region)

Additional Comments:

Scientific Equipment Used During Cruise

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

Other CTD units:

RBR Serial Number:

Sensors:

Others:

Plankton Nets:

Bongo/SCOR #1	Frame Size:	cm	Mesh:	µm	Flowmeter:
Bongo/SCOR #2	Frame Size:	cm	Mesh:	µm	Flowmeter:
	Frame Size:	cm	Mesh:	µm	Flowmeter:
	Frame Size:	cm	Mesh:	µm	Flowmeter:

Multinet ☐ BIONESS ☐ Neuston ☐ Others:

Trawl Gear:

Midwater Trawls:

SOG ☐

Highseas ☐

Pelagic ☐

Other:

Bottom Trawls:

Atlantic Western IIA ☐ Yankee 36 Hard & Soft Bottom ☐

Other:

American Shrimp Trawl ☐

Notes:

Trawl Doors: USA Jet ☐ Tyburon ☐

Sounders :

Wesmar 380 ☐ Others:

Acoustics:

Echosounder #1

Frequencies (KHz):

12 ☐ 18 ☐ 38 ☐ 70 ☐ 120 ☐ 200 ☐

Others:

Echosounder #2

Frequencies (KHz):

12 ☐ 18 ☐ 38 ☐ 70 ☐ 120 ☐ 200 ☐

Others:

Software & Notes:

Other Gear in Operation:

This page is for any notes or observations

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month			August			Year		2023		Vessel		JP TULLY		Cruise ID		2023-026	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments		
1	SI	25	01:54	BE	BOB	/	48° 39.189	123° 29.979	180		-		MG	☒	Test		
			01:58	BO			° 39.19	° 29.974		174	-			☐			
			02:01	EN			° 39.194	° 29.969			-			☐			
2	SI	25	02:12	BE	UVP	/	48° 39.197	123° 29.968	180		-		JS	☐			
			02:15	BO			° 39.202	° 29.973		169	-			☐			
			02:19	EN			° 39.203	° 29.979			-			☐			
3	HAROS9	26	05:53	BE	ROS	/	48° 36.826	123° 14.883	235		-			☐			
			05:58	BO			° 36.828	° 14.834		232	-		SRZ	☒			
			06:02	EN			° 36.825	° 14.836			-			☐			
4	HAROS9	25	06:13	BE	NET	/	48° 36.818	123° 14.826	235		-		JD	☐	BONGO		
			06:22	BO			° 36.829	° 14.862		228	-			☐			
			06:26	EN			° 36.823	° 14.867			-			☐			
5	HAROS9	25	06:43	BE	UVP	/	48° 36.809	123° 14.866	236		-		HH	☐			
			06:47	BO			° 36.806	° 14.868		226	-			☐			
			06:51	EN			° 36.827	° 14.870			-			☐			
6	LOOP6	25	07:40	BE	LOOP	/	44° 30.703	123° 12.678	210	4.5	5006		SS	☐	15AL 20HL		
7	SFL	25	11:21	BE	ROS	/	48° 18.032	124° 00.105	186		-		SS	☒			
			11:24	BO			48° 18.032	124° 00.110		178	-			☐			
			11:28	EN			48° 18.033	124° 00.103			-			☐			

Event Type: BOT = Bottle cast (no CTD) CTD = Standalone CTD ROS = CTD in Rosette SET = Fish Set

Loop = Sea Water Loop MOR = Mooring NET = Plankton Net Haul DRF = Drifter

Bottle Firing Method: US = Up / Stop (default) UN = Up / No stop DN = Down / No stop

Time Code: BE = Beginning Time of Cast BO = Bottom Time of Cast EN = End Time of Cast

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products DE = Deployment Time MR = Messenger Release Time RE = Recover Mooring Time

Notes:

DAILY SCIENCE LOG

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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/Fl Cleaned	Comments
8	5F2	25	11:53	BE	NET	✓	48° 18.027	124° 00.048	146		-		SK	☐	bottom 05087
			12:01	BO			48° 18.024	124° 00.047		176	-			☐	
			12:04	EN			48° 18.029	124° 00.033			-			☐	
9	LBØ1	25	16:41	BE	ROS	US	48° 40.388	124° 59.468	35		1-5	5	SS	☒	Had 3-net with sequential
			16:42	BO			48° 40.384	124° 59.477		26	-			☐	
			17:00	EN			48° 40.370	124° 59.483			-			☐	
10	LBØ2	25	17:45	BO	ROS	US	48° 39.01	125° 02.458	516		6-10	5	SS	☒	
			17:46	BO			48° 39.004	125° 02.457		47	-			☐	
			17:55	EN			48° 38.993	125° 02.452			-			☐	
11	LBØ3	25	18:33	BE	ROS	US	48° 37.307	125° 05.665	94		11-11	1	JS	☒	
			18:35	BO			48° 37.316	125° 05.663		85	-			☐	
			18:39	EN			48° 37.323	125° 05.663	112		12-18	7	SR	☐	
12	LBØ4	25	19:18	BE	ROS	US	48° 35.652	125° 08.718	112		12-18	7	SR	☒	
			19:21	BO			° 35.664	° 08.768		108	-			☐	
			19:37	EN			° 35.657	° 08.763			-			☐	
13	LBØ5	25	20:50	BE	ROS		48° 33.984	125° 12.016			-		SR	☐	
			20:53	BO			° 33.973	° 12.035			-			☐	
			20:55	EN			° 33.975	° 12.028			-			☐	
			:				°	°			-			☐	

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Notes:

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Month			Year		Vessel		Cruise ID		Comments					
Aug			2023		JP. Tully		2023-026							
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
14	LB05	25	21:02	BE	ROS	US	48° 33.960 ° 33.96	103	5	19-19	1	SR	☐	
			21:04	BO			° 12.024						☐	
			21:05	EN			° 33.959						☐	
15	E1	25	21:58	BE	ROS	/	48° 31.682 ° 31.682	118	113	-		SR	☒	
			22:01	BO			° 3.824						☐	
			22:03	EN			° 3.835						☐	
16	E1	25	22:11	BE	NET		48° 31.661 ° 31.628	116	106	-		FL	☐	Bong. VNH
			22:15	BO			48° 31.634 ° 3.756						☐	
			22:18	EN			° 15.51						☐	
17	LB06	25	23:19	BE	ROS	US	48° 32.177 ° 32.187	115		20-27		SR	☒	
			23:21	BO			° 15.494		111				☐	
			23:40	EN			° 15.322						☐	
18	C1	26	00:12	BE	ROS	/	48° 28.932 ° 28.938	153		/		SR	☒	
			00:14	BO			° 15.307						☐	
			00:18	EN			° 15.309						☐	
19	C1	26	00:28	BE	NET	/	48° 28.918 ° 28.927	153		/		FL	☐	Bong. VNH
			00:33	BO			° 15.286		143				☐	
			00:35	EN			° 15.278						☐	
							°						☐	

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Month Aug			Year 2023			Vessel J.P. Tully			Cruise ID 2023-026						
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	C2	26	01:19	BE	ROS		48° 26.187	125° 9.314	162		-	-	SR	☒	
			01:22	BO			° 26.198	° 9.294		157	-	-		☐	
			01:25	EN			° 26.197	° 9.288			-	-		☐	
21	C2	26	01:33	BE	NET	/	48° 26.184	125° 9.338	161		-	-	FL	☐	Borgo VNH
			01:39	BO			° 26.148	° 9.225		151	-	-		☐	
			01:42	EN			° 26.135	° 9.194			-	-		☐	
22	LOOP22	26	02:18	BE	LOOP	/	48° 24.677	125° 16.367	177	4.5	5023	-	MG	☐	1 SAL 2CHL
23	C3	26	02:51	BE	ROS	/	48° 23.415	125° 22.037	132		-	-	SR	☒	
			02:54	BO			° 23.417	° 22.057		128	-	-		☐	
			02:57	EN			° 23.407	° 22.072			-	-		☐	
24	CB07	26	03:05	BE	NET	/	48° 23.419	125° 22.079	132		-	-	FL	☐	Borgo VNH
			03:10	BO			° 23.37	° 22.086		122	-	-		☐	
			03:12	EN			° 23.335	° 22.078			-	-		☐	
25	LB07	26	04:03	BE	ROS	US	48° 28.673	125° 22.116	158		28-28	1	SR	☒	
			04:06	BO			° 28.678	° 22.109		153	-	-		☐	
			04:12	EN			° 28.675	° 22.108			-	-		☐	
26	LB07	26	04:20	BE	NET	/	48° 28.683	125° 22.106	156	1	-	-	MG	☐	Borgo
			04:26	BO			° 28.69	° 22.109		146	-	-		☐	
			04:29	EN			° 28.697	° 22.118			-	-		☐	

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Month		August		Year		2023		Vessel		JP Tubby		Cruise ID		2023-026		
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information	Latitude	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/Fl Cleaned	Comments
27	LB08	26	05:19	BE	ROS	US	48° 25.257	125° 28.693	142			-		SR	☐	bot 6 replaced
			05:23	BO			° 25.266	° 28.694			138	-			☐	
			05:44	EN			° 25.326	° 28.711				-			☐	
28	LB08	26	05:56	BE	NET	/	48° 25.329	125° 28.725	156			/	/	MG	☐	Bongo VNH
			06:01	BO			° 25.349	° 28.774			146	-			☐	cloud of plankton at surface
			06:04	EN			° 25.378	° 28.795				-			☐	
29	LB08	26	06:15	BE	NET	/	48° 25.298	125° 28.757	154			/	/	MG	☐	Bongo
			06:20	BO			° 25.304	° 28.716	147		140	VMS - VMS			☐	
			06:23	EN			° 25.313	° 28.684				-			☐	
30	LB09	26	07:24	BE	ROS	US	48° 22.007	125° 34.825	150			43-53	9	JS	☒	
			07:29	BO			48° 22.009	125° 34.812			145	-			☐	
			07:47	EN			48° 22.086	125° 34.774				-			☐	
31	LB10	26	08:46	BE	ROS	US	48° 18.567	125° 41.362	152			54-54	1	JS	☒	
			08:49	BO			48° 18.569	125° 41.360				-			☐	
			08:55	EN			48° 18.582	125° 41.356				-			☐	
32	LB11	26	09:50	BE	NET		48° 15.225	125° 47.743	1073			/	/	JS	☐	bongo
			09:57	BO	.		48° 15.241	125° 47.743			193	-			☐	
			10:01	EN			48° 15.220	125° 47.735				-			☐	
			:				°	°				-			☐	

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Year 2023

Vessel JP Tully

Cruise ID 2023-026

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
B11	26	10:17	BE	ROS	US	48° 15' 205 125° 47' 786	202		55-55	1		☒	
		10:21	BO			48° 15' 202 125° 47' 780		2				☐	Want 3-off bottom
		10:48	EN			48° 15' 230 125° 47' 723						☐	
212	26	11:37	BE	ROS	US	48° 12' 910 125° 51' 787	506		67-81	15	JS	☒	
		11:45	BO			48° 12' 900 125° 51' 825		505				☐	
		12:21	EN			48° 12' 897 125° 51' 882						☐	
13	26	13:06	BE	ROS	US	48° 10' 579 125° 56' 111	919		82-82	1	JS	☒	
		13:21	BO			48° 10' 579 125° 56' 094	916				AS	☐	
		13:47	EN			48° 10' 612 125° 56' 082					AS	☐	
214	26	14:24	BE	ROS	US	48° 08' 474 125° 59' 952	1174		83-100	18	JS	☒	
		14:47	BO			48° 08' 466 125° 59' 970		1178				☐	
		15:39	EN			48° 08' 460 125° 60' 038						☐	
15	26	16:46	BE	ROS	US	48° 04' 381 126° 08' 481	1551		100-100	3	JS	☒	
		17:14	BO			48° 04' 349 126° 08' 5		1566				☐	
		17:45	EN			48° 04' 359 126° 08' 515						☐	
15	26	18:06	BE	NET		48° 04' 364 126° 08' 497	2556				SK	☐	Bongo VNH
		18:16	BO			48° 04' 35 126° 08' 48	250					☐	
		18:32	EN			48° 04' 364 126° 08' 496						☐	
		:				° ° °						☐	

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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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month			August			Year		2023		Vessel		JRT Wavy		Cruise ID		2023-026		Page		4 of	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Latitude	Positional Information	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/FI Cleaned	Comments					
39	LB15	26	18:32	BE	NET	/	48° 4.365	126° 8.494	1553		1200			JD		Deep Bongo VNH					
			19:15	BO			48° 4.366	126° 8.509													
			19:34	EN			48° 4.344	126° 8.54													
40	MOORING	26	23:19	DE	MOR	/	48° 23.098	125° 48.246	149.4	149.4				SK		DEPLOY HMM					
41	MOORING	26	23:33	BE	ROS	US	48° 23.082	125° 48.20	150	150				MS		HMM - CAST FOR MOORING					
			23:37	BO			° 23.071	° 48.158			146										
			23:39	EN			° 23.045	° 48.155													
42	B7	27	01:07	BE	ROS	/	48° 31.985	125° 35.502	80	80				SR							
			01:09	BO			° 31.985	° 35.495			76										
			01:11	EN			° 31.990	° 35.481													
43	B7	27	01:20	BE	NET	/	48° 31.993	125° 35.466	80	80				FL		Bongo VNH					
			01:23	BO			° 31.991	° 35.448			75										
			01:24	EN			° 31.992	° 35.452													
44	B8	27	02:04	BE	ROS	US	48° 34.489	125° 29.941	114	114		102-102	1	SR							
			02:07	BO			° 34.483	° 29.945			112										
			02:12	EN			° 34.468	° 29.932													
45	B8	27	02:18	BE	NET		48° 34.487	125° 29.954	117	117				FL		Bongo VNH					
			02:23	BO			° 34.489	° 29.987			107										
			02:24	EN			° 34.495	° 30.009													

Event Type: BOT = Bottle cast (no CTG)

LOOP = Sea Water Loop

Bottle Firing Method: Time Code:

Event Type:
BOT = Bottle cast (no CTD)
CTD = Standalone CTD
ROS = CTD in Rosette
SET = Fish Set

LOOP = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:
US = Up / Stop (default)
UN = Up / No stop
DN = Down / No stop

Time Code:
BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products
DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month		Aug		Year		2023		Vessel		SP Tully		Cruise ID		2023-026	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
46	LCØ1	27	04:17	BE	ROS	US	48°50.430	125°27.680	96		103-109	7	SK	☒	
			04:19	BO			°50.437	°27.668		92.3	-			☐	
			04:34	EN			°50.465	°27.631			-			☐	
47	LCØ2	27	05:08	BE	ROS	US	48°48.646	125°30.986	111		110-118	9	SK	☒	
			05:08	BO			°48.643	°30.996		107	-			☐	
			05:08	EN			°48.658	°30.964			-			☐	
48	LCØ3	27	05:54	BE	ROS	Y	48°46.914	125°34.349	136		-		SK	☒	
			05:57	BO			°46.926	°34.381		132	-			☐	
			06:00	EN			°46.923	°34.395			-			☐	
49	LCØ4	27	07:02	BE	NET	/	48°43.433	125°40.81	166		-		SK	☐	Bongo VNH
			07:08	BO			48°43.437	125°40.782		156	-			☐	
			07:12	EN			48°43.437	125°40.769			-			☐	
50	LCØ4	27	07:22	BE	NET		48°43.441	125°40.749	167		-		SK	☐	Bongo VNH
			07:28	BO			48°43.447	125°40.701		157	-			☐	
			07:31	EN			48°43.446	125°40.695			-			☐	
51	LCØ4	27	07:44	BE	ROS	US	48°43.444	125°40.806	166		119-135		SS	☒	
			07:51	BO			48°43.438	125°40.831		163	-			☐	
			08:17	EN			48°43.464	125°40.800			-			☐	
			:				°	°			-			☐	

Event Type: BOT = Bottle cast (no CTD) CTD = Standalone CTD ROS = CTD in Rosette SET = Fish Set
LOOP = Sea Water Loop MOR = Mooring NET = Plankton Net Haul DRF = Drifter
Bottle Firing Method: US = Up / Stop (default) UN = Up / No stop DN = Down / No stop
Time Code: BE = Beginning Time of Cast BO = Bottom Time of Cast EN = End Time of Cast
CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products
DE = Deployment Time MR = Messenger Release Time RE = Recover Mooring Time
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Month		Year		Vessel		Cruise ID		Page						
Aug		2023		JP Tully		2023-026		1 of 1						
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/Fls Cleaned	Comments
52	LC05	27	09:15	BE	ROS	-	48° 39.983 125° 47.446	63		-	0	11	☐	
			09:17	BO			48° 39.983 125° 47.444		60	-		11	☐	
			09:19	EN			48° 39.984 125° 47.441			-			☐	
53	LC05	27	09:27	BE	NET	-	48° 39.980 125° 47.415	63		-		NF	☐	Bongo
			09:30	BO			48° 39.970 125° 47.399		53	-			☐	
			09:31	EN			48° 39.969 125° 47.399			-			☐	
54	LC06	27	10:34	BE	ROS	US	48° 36.468 125° 54.008	91		136-142		SS	☒	
			10:36	BO			48° 36.487 125° 54.002		87	-			☐	
			10:50	EN			48° 36.495 125° 53.978			-			☐	
55	LC06	27	10:57	BE	NET	-	48° 36.494 125° 53.978	91		-			☐	Bongo
			11:00	BO			48° 36.494 125° 53.962		81	-			☐	
			11:02	EN			48° 36.496 125° 53.948			-			☐	
56	LC07	27	11:59	BE	ROS	US	48° 32.971 126° 00.378	124		-		SS	☒	collected water for
			12:03	BO			48° 32.978 126° 00.389		124	-			☐	UCL in b+1+2.
			12:11	EN			48° 32.984 126° 00.415			-			☐	
57	LC08	27	13:26	BE	NET	-	48° 29.494 126° 07.099	198		-		SKIFF	☐	bongo
			13:33	BO			48° 29.477 126° 07.114		188	-			☐	
			13:37	EN			48° 29.473 126° 07.097			-			☐	
			.	.			.			-			☐	
Event Type:		LOOP = Sea Water Loop		Bottle Firing Method:		Time Code:								

Event Type:
 BOT = Bottle cast (no CTD)
 CTD = Standalone CTD
 ROS = CTD in Rosette
 SET = Fish Set
 LOOP = Sea Water Loop
 MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:
 US = Up / Stop (default)
 UN = Up / No stop
 DN = Down / No stop

Time Code:
 BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products
 DE = Deployment Time
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Notes:

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Month			Year			Vessel		Cruise ID		Page				
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
58	LC08	27	13:50	BE	ROS	US	48° 29.461 126° 07.078	199		143-154	12	JS	☒	
			13:55	BO			48° 29.457 126° 07.068		196				☐	
			14:24	EN			48° 29.433 126° 07.087						☐	
59	AZ	27	15:40	BE	ROS	/	48° 22.71 126° 03.768	355			0	JU	☒	
			15:46	BO			48° 22.735 126° 03.741		349				☐	
			15:51	EN			48° 22.734 126° 03.765						☐	
60	LC09	27	16:03	BE	NET	US	48° 22.711 126° 03.791	352		155-176	23	SK	☒	moved chi to from bot 9 to bot 23
			16:13	BO			48° 22.701 126° 03.796		250				☐	
			16:19	EN			48° 22.692 126° 03.782						☐	
61	LC09	27	17:24	BE	ROS	US	48° 25.951 126° 13.665	607		155-176	23	JS	☐	↓
			17:35	BO			48° 25.941 126° 13.668		606				☐	
			18:16	EN			48° 25.965 126° 13.702						☐	
62	LC09	27	18:26	BE	CTD		48° 25.948 126° 13.701	605				SK	☒	SBE 250 cast off
			18:28	BO			48° 25.914 126° 13.707		595				☐	att deck winch
			18:49	EN			48° 25.9 126° 13.691						☐	
63	LC09	27	19:00	BE	NET		48° 25.993 126° 13.62	613				JD	☐	fine/frozen
			19:09	BO			48° 25.964 126° 13.667		250				☐	
			19:14	EN			48° 25.956 126° 13.681						☐	
													☐	

Event Type:
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 US = Up / Stop (default)
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Month			Year		Vessel		Cruise ID		Page					
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
64	LC09	27	19:23	BE	NET		48° 25.914 126° 13.662	607				SD		Bongo
			19:32	BO			48° 25.926 126° 13.767		250					
			19:36	EN			48° 25.931 126° 13.729							
65	LC10	27	20:26	BE	ROS		48° 22.395 126° 20.183	1248				SR		
			20:49	BO			° 22.398 ° 20.202		1243					
			21:09	EN			° 22.436 ° 20.284							
66	LC11	27	22:00	BE	ROS	US	48° 18.962 126° 26.702	1454		177-195	19	SR		
			22:26	BO			° 18.972 ° 26.684		1470					
			23:27	EN			° 18.966 ° 26.694							
67	LC11	27	00:00	BE	CTD		48° 18.982 126° 26.746	1454				SR		
			00:30	BO			° 18.945 ° 26.668		950					
			00:34	EN			° 18.948 ° 26.649							
68	LC12	28	01:41	BE	NET		48° 15.019 126° 39.979	2243				MG		Multi-net VNH
			02:52	BO			48° 15.000 126° 39.996		2005					
			03:26	EN			48° 14.974 126° 39.993		1501					
69	LC12	28	03:00	BE			48° 15.021 126° 40.019		1000					
			03:17	BO			48° 15.009 126° 40.006		1500					
			03:21	BO			48° 15.003 126° 39.978		1500					
			03:26	EN			48° 14.974 126° 39.999							

Event Type:
 BOT = Bottle cast (no CTD)
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Bottle Firing Method:
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Notes:

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Month		Aug		Year		2023		Vessel		J.P. Tully		Cruise ID		2023-026		
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information	Latitude	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
69	LC12	28	03:46	BE	ROS		48° 15.01	126° 39.982	2535			-	-	SR	☒	
			04:24	BO			° 15.021	° 39.963			2005	-	-		☐	
			04:57	EN			° 14.949	° 40.003				-	-		☐	
70	LC12	28	05:10	BE	NET		48° 15.023	126° 39.961	2538			-	-	FL	☐	Bongo VNH
			05:19	BO			° 15.002	° 39.916			250	0	-		☐	
			05:24	EN			° 14.986	° 39.958				-	-		☐	
71	LD11	28	07:32	BE	ROS	US	48° 28.744	126° 42.913	1595			196-216	21	JJ	☒	
			07:54	BO			48° 28.749	126° 42.937			1603	-	-		☐	
			08:57	EN	NET		48° 28.734	126° 42.933				-	-		☐	
72	LD11	28	09:08	BE	NET		48° 28.75	126° 42.935	1595		250	-	-	SA	☐	bongo VNH
			09:17	BO			48° 28.767	126° 42.975				-	-		☐	
			09:	EN			48° 28.767	126° 42.971				-	-		☐	
73	LD11	28	09:32	BE	NET		48° 28.766	126° 42.946	1595		1200	-	-	SA	☐	bong
			10:19				48° 28.698	126° 42.945				-	-		☐	
			10:40	EN			48° 28.684	126° 42.96				-	-		☐	
74	LD10	28	11:46	BE	ROS	US	48° 32.204	126° 36.712				-	3		☒	2x6 met - 10 for VBC
			12:10	BO			48° 32.204	126° 36.669			1479	-	-		☐	0
			12:38	EN			48° 32.244	126° 36.625				-	-		☐	
			:				°	°				-	-		☐	

Event Type:
 BOT = Bottle cast (no CTD)
 CTD = Standalone CTD
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LOOP = Sea Water Loop
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Bottle Firing Method:
 US = Up / Stop (default)
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 DN = Down / No stop

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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Notes:

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Month				Year		Vessel			Cruise ID						
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	
75	LD09	28	13:34	BE	ROS	/	48° 35.660 126° 30.034	1056		-	-	SS	☐		
			13:52	BO			48° 35.692 126° 30.033		1057	-	-		☐		
			14:09	EN			48° 35.728 126° 30.083			-	-		☐		
76	LD09	28	14:20	BE	NET		48° 35.706 126° 30.077	1056		-	-	SK	☐	Bongo	
			14:29	BO			48° 35.688 126° 30.028		250	-	-		☐		
			14:37	EN			48° 35.706 126° 30.033			-	-		☐		
77	LOOP77	28	14:50	BE	LOOP		48° 36.312 126° 28.907			-	-		☐		
78	LD08	28	15:30	BO	ROS	US	48° 39.116 126° 23.428	775	4.5	5077-5077	N/A	JJ	☐	1 SAL 2 CML	
			15:57	BO			48° 39.203 126° 23.448			217-235	19	JJ	☒		
			16:26	EN			48° 39.183 126° 23.435			-	-		☐		
79	LD08	28	16:36	BE	CTD		48° 39.199 126° 23.416	789		-	-		☐		
			16:53	BO			48° 39.186 126° 23.419		760	-	-		☐		
			17:06	EN			48° 42.678 126° 16.807	775	760	-	-		☐		
80	LD07	28	17:56	BE	ROS	/	48° 42.678 126° 16.819	474		-	-	SS	☒		
			18:06	BO			48° 42.678 126° 16.807		496	-	-		☐		
			18:15	EN			48° 42.660 126° 16.824			-	-		☐		
81	LD06	28	19:15	BE	ROS	US	48° 46.226 126° 10.196	138		236-243	8	SS	☒	bot 1 Fired	
			19:17	BO			48° 46.226 126° 10.203		134	-	-		☐	@ Bottom-5	
			19:42	EN			48° 46.226 126° 10.210			-	-		☐		

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 BOT = Bottle cast (no CTD)
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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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 MR = Messenger Release Time
 RE = Recover Mooring Time

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Month			August		Year		2023		Vessel		Tully		Cruise ID		2023-026		Page		17		of	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information	Latitude	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trms/FI Cleaned	Comments						
82	LDØ5	28	20:37	BE	ROS			48°49.676	126°3.666	92		-	-	FL/SR	✓							
			20:39	BO				48°49.672	126°3.689		87.5	-			□							
			20:42	EN				48°49.677	126°3.702			-			□							
83	LDØ4	28	21:38	BE	ROS	US		48°53.14	125°56.918	63		244-248	5	FL/SR	✓							
			21:40	BO				48°53.136	125°56.919		59	-			□							
			21:51	EN				48°53.149	125°56.928			-			□							
84	LDØ4	28	22:05	BE	NET			48°53.108	125°56.891	62		-	-	JD	□	Bongo						
			22:07	BO				°53.095	°56.879		52	-			□							
			22:08	EN				°53.094	°56.878			-			□							
85	LDØ3	28	22:55	BE	ROS			48°56.636	125°50.326	47		-	-	FL/SR	✓							
			22:56	BO				°56.634	°50.319		42.5	-			□							
			22:58	EN				°56.632	°50.317			-			□							
86	LDØ2	28	23:30	BE	ROS	US		48°58.36	125°47.006	43		249-254	6	FL	□							
			23:31	BO				°58.358	°47.006		39	-			□							
			23:41	EN				°58.363	°46.949			-			□							
87	LDØ2	28	23:47	BE	NET			48°58.383	125°46.98	42		-	-	JD	□	Bongo						
			23:48	BO				°58.38	°46.995		32	-			□							
			23:49	EN				°58.377	°47.002			-			□							
			:	:				°	°			-			□							
Event Type:		LOOP = Sea Water		Bottle Firing Method:																		

Event Type:
 BOT = Bottle cast (no CTD)
 CTD = Standalone CTD
 ROS = CTD in Rosette
 SET = Fish Set

Loop = Sea Water Loop
 MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:
 US = Up / Stop (default)
 UN = Up / No stop
 DN = Down / No stop

Time Code:
 BE = Beginning Time of Cast
 BO = Bottom Time of Cast
 EN = End Time of Cast

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products
 DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

Notes:

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Month August			Year 2023			Vessel J.P. Tully			Cruise ID 2023-026			Page 13 of				
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	
88	LDØ1	29	00:48	BE	ROS	US	49° 0.135	125° 43.787	35		255-258	4	SR	☒		
			00:49	BO			° 0.135	° 43.784		30.5	-			☐		
			00:57	EN			° 0.106	° 43.769			-			☐		
89	GØ1	29	05:06	BE	ROS	US	49° 20.459	126° 35.076	56		259-263	5	SR	☒		
			05:07	BO			° 20.462	° 35.068		52	-			☐		
			05:17	EN			° 20.469	° 35.039			-			☐		
90	LGØ2	29	06:40	BE	ROS	US	49° 18.749	126° 38.099	101		264-276	13	SR	☒	Went to 42m	
			06:43	BO			° 18.748	° 38.402		92	-			☐	before realizing	
			06:27	EN			° 18.704	° 38.120			-			☐	bot 4 wasn't	
9	LGØ2	29	06:35	BE	NET	/	49° 18.694	126° 38.109	102		/	/	HH	☐	Bored VNIH	
			06:38	BO			° 18.692	° 38.096		90	-			☐		
			06:40	EN			° 18.69	° 38.094			-			☐		
92	LGØ2	29	06:48	BE	NET	/	48° 18.695	126° 38.089	101		/		HH	☐	Bongo VNIH	
			06:52	BO			° 18.694	° 38.094		90	-			☐		
			06:53	EN			° 18.69	° 38.095			-			☐		
	LØ3	29	07:56	BE	ROS		49° 14.996	126° 43.729	123		-		JS	☒		
			07:59	BO			49° 14.994	126° 43.734		118	-			☐		
			08:03	EN			49° 14.977	126° 43.977			-			☐		
			:				°	°			-			☐		
Event Type:			LOOP = Sea Water Loop			Bottle Firing Method:			Time Code:							

Event Type:
 BOT = Bottle cast (no CTD)
 CTD = Standalone CTD
 ROS = CTD in Rosette
 SET = Fish Set
 LOOP = Sea Water Loop
 MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:
 US = Up / Stop (default)
 UN = Up / No stop
 DN = Down / No stop

Time Code:
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Month	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information	Latitude	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
August																
94	LG04	28	08:53	BE	ROS	US	49° 11.275	126° 49.448	146	143	277-285	9	JS			
			08:56	BO			49° 11.284	126° 49.443								
			09:14	EN			49° 11.296	126° 49.433								
95	LG04	29	09:25	BE	NET		49° 11.314	126° 49.421	146							Bongo
			09:30	BO			49° 11.323	126° 49.405		136						
			09:32	EN			49° 11.324	126° 49.401								
96	LG05	29	10:33	BE	ROS	—	49° 07.259	126° 55.287	276					JU		lots of current
			10:38	BO			49° 07.357	126° 55.278		272						
			10:44	EN			49° 07.362	126° 55.287								
97	LG06	29	11:35	BE	CTD	—	49° 03.507	127° 01.158	953					JS		
			11:50	BO			49° 03.509	127° 01.176		750						
			12:03	EN			49° 03.538	127° 01.184								
98	LG06	29	12:14	BE	ROS	US	49° 03.499	127° 01.178	950		286-305	20	JS			
			12:32	BO			49° 03.498	127° 01.189		967						
			13:18	EN			49° 03.572	127° 01.236								
99	LG07	29	14:09	BE	ROS	—	48° 59.409	127° 07.212	1764					JU		
			14:40	BO			48° 59.395	127° 07.144		1770						

Event Type:
 BOT = Bottle cast (no CTD)
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 ROS = CTD in Rosette
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 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:
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Notes:

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Month		August		Year		2023		Vessel		JP Tully		Cruise ID		2023-026	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Latitude	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Tms/Fls Cleaned	Comments
100	LG07	29	15:20	BE	NET		48° 59.390	127° 07.174	1765				SK		Bongo VNH
			15:29	BO			48° 59.391	127° 07.189		250					
			15:34	EN			48° 59.395	127° 07.198							
101	LG08	29	18:09	BE	ROS	US	48° 55.330	127° 13.280	2073				JS		
			17:09	BO			48° 55.318	127° 13.297		2005					
			17:41	EN			48° 55.299	127° 13.292							
102	LO08	29	18:17	BE	LO08		48° 51.968	127° 18.23	2066	4.5			SK		1 sal, 2 chl
			:	EN						4.5					
103	LG09	29	18:32	BE	NET		48° 51.237	127° 19.351	2064				JJ		Bongo VNH
			18:41	BO			48° 51.226	127° 19.377		250					
			18:46	EN			48° 51.216	127° 19.399							
104	LG09	29	18:58	BE	NET		48° 51.192	127° 19.43	2065				SK/FL		Bongo VNH
			19:07	BO			48° 51.186	127° 19.407		250					
			19:11	EN			48° 51.181	127° 19.414							
105	LG09	29	19:31	BE	ROS	US	48° 51.205	127° 19.405	2065						
			20:09	BO			° 51.208	° 19.361		2068	306-312	7	SK		
			20:51	EN			° 51.200	° 19.458							
			:				°								

Event Type: BOT = Bottle cast (no CTD) CTD = Standalone CTD ROS = CTD in Rosette SET = Fish Set

LOOP = Sea Water Loop MOR = Mooring NET = Plankton Net Haul DRF = Drifter

Bottle Firing Method: US = Up / Stop (default) UN = Up / No stop DN = Down / No stop

Time Code: BE = Beginning Time of Cast BO = Bottom Time of Cast EN = End Time of Cast

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

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

Notes:

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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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Month August		Year 2023		Vessel JPTully		Cruise ID 2023-026								
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
113	LBP8	30	13:05	BE	NET	—	49° 48.587 128° 16.802	2084		—	—	JS	☐	Deep bongo
			13:49	BO			49° 48.571 128° 16.75		1200	—			☐	
			14:10	EN			49° 48.56 128° 16.802			—			☐	
114	LBP8	30	14:19	BE	NET	—	49° 48.568 128° 16.818	2078		—	—	SK	☐	bongo
			14:29	BO			49° 48.569 128° 16.856		250	—			☐	
			14:33	EN			49° 48.569 128° 16.874			—			☐	
115	LBP8	30	14:42	BE	NET	—	49° 48.566 128° 16.757	2071		—	—	SK	☐	bongo
			14:52	BO			49° 48.569 128° 16.408		250	—			☐	
			14:56	EN			49° 48.569 128° 16.814			—			☐	
116	LBP8	30	15:08	BE	ROS	US	49° 48.572 128° 16.840	2080		313 - 319	7	SS	☒	
			15:31	BO			49° 48.588 128° 16.801		1205	—			☐	
			16:01	EN			49° 48.596 128° 16.802			—			☐	
117	LBP7	30	16:55	BE	ROS	US	49° 52.397 128° 11.228	2192		320 - 337	18	JJ	☒	
			17:17	BO			49° 52.421 128° 11.228		1205	—		SS	☐	
			17:50	EN			49° 52.418 128° 11.226			—			☐	
118	LBP7	30	18:09	BE	NET	—	49° 52.391 128° 11.173	2196		—	—	SK	☐	bongo
			18:18	BO			49° 52.33 128° 11.206		250	—			☐	
			18:22	EN			49° 52.306 128° 11.218			—			☐	
			:				°			—			☐	

Event Type:
 BOT = Bottle cast (no CTD)
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 SET = Fish Set

LOOP = Sea Water Loop
 MOR = Mooring
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 DRF = Drifter

Bottle Firing Method:
 US = Up / Stop (default)
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 DN = Down / No stop

Time Code:
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Notes:

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Month	Year	Vessel	Cruise ID	Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Latitude	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
August	2023	JO Tully	2023-026	119	LBP6	30	19:13	BE	ROS	/	49° 56.156	128° 5.490	8402				SR	☒	
							19:30	BO			° 56.188	° 5.526		830				☐	
							19:44	EN			° 56.204	° 5.524						☐	
120		LBP5		30			20:30	BE	ROS	US	50° 0.041	128° 0.051	1290		338-354	17	SR	☒	
							20:54	BO			° 0.051	° 0.016		1284				☐	
							21:39	EN			° 0.060	127° 59.991						☐	
121		LBP5		30			21:46	BE	NET	/	50° 0.048	127° 59.995	1289				HH	☐	Bongo VNH
							21:57	BO			° 0.017	° 59.956		250				☐	
							22:01	EN			° 0.022	° 59.961						☐	
122		LBP4		30			22:24	BE	ROS	/	50° 01.437	127° 58.117	1006				SR	☒	
							22:44	BO			° 01.418	° 58.131		1054				☐	
							23:02	EN			° 01.383	° 58.131						☐	
123		LBP3		30			23:32	BE	ROS	US	50° 3.220	127° 55.372	168		355-369	15	SR	☒	
							23:36	BO			° 3.220	° 55.379		158				☐	
							23:49	EN			° 3.202	° 55.364						☐	
124		LBP3		30			23:54	BE	NET	/	50° 3.196	127° 55.854	168				HH	☐	Bongo VNH
				31			00:01	BO			° 3.189	° 55.312		160				☐	
							00:03	EN			° 3.191	° 55.289						☐	
							.				°	°						☐	

Event Type:
 BOT = Bottle cast (no CTD)
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Notes:

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Month		August		Year		2023		Vessel		SP Tully		Cruise ID		2023026		Page 21 of 26	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Latitude	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments		
125	LBP2	31	00:56	BE	ROS		50° 4.028	127° 54.268	95				8R	☒			
			00:59	BO			° 4.032	° 54.282		91				☐			
			01:01	EN			° 4.045	° 54.273						☐			
126	LBP2	31	01:06	BE	NET		50° 4.058	127° 54.208	95					☐			
			01:09	BO			° 4.058	° 54.209		85			HH	☐	Bongo		
			01:11	EN			° 4.065	° 54.192						☐			
127	LBP1	31	01:35	BE	ROS		50° 4.784	127° 52.845	52					☐			
			01:36	BO			° 4.785	° 52.862		49			8R	☒			
			01:38	EN			° 4.783	° 52.875						☐			
128	LOOP128	31	03:51	BE	LOOP		50° 24.751	128° 18.18	180	4.5	5128		HH	☐	1 sol; 2 chl		
129	CPE2	31	05:50	BE	ROS		50° 43.036	128° 39.784	128				8R	☒			
			05:53	BO			° 43.034	° 39.808		123				☐			
			05:55	EN			° 43.032	° 39.809						☐			
130	CPE2	31	06:03	BE	NET		50° 43.01	128° 39.809	127				FL	☐	Bongo		
			06:08	BO			° 42.997	° 39.818		120				☐			
			06:10	EN			° 42.992	° 39.816						☐			
131	LQ03	31	07:56	BE	ROS		50° 39.766	129° 02.006	1325					☐			
			08:18	BO			50° 39.791	129° 02.008		1205			JS	☒	Bongo		
			08:40	EN			50° 39.796	129° 02.058						☐			

Event Type:
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SET = Fish Set

LOOP = Sea Water Loop
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Bottle Firing Method:
US = Up / Stop (default)
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DN = Down / No stop

Time Code:
BE = Beginning Time of Cast
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MR = Messenger Release Time
RE = Recover Mooring Time

Notes:

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August			Year 2023		Vessel JP Tully		Cruise ID 2023-026		Page 22 of 22					
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	Trms/FI Cleaned	Comments
Q03	31	08:51	BE	NET	/	50° 39.750	129° 02.014	1299		-		SK	☐	bongo
		09:03	BO			50° 39.841	129° 01.963		250	-			☐	
		09:07	EN			50° 39.900	129° 01.966			-			☐	
I22	31	10:28	BE	ROS	US	50° 39.856	129° 17.347	1387		-	2	JJ	☒	UBC bottles
		10:46	BO			50° 39.85	129° 17.388		1205	-		JJ	☐	
		11:10	EN			50° 39.842	129° 17.468			-		JJ	☐	
I22	31	11:17	BE	NET	/	50° 39.858	129° 17.472	1412		-		SK	☐	bongo
		11:29	BO			50° 39.827	129° 17.459	1412	250	-		SK	☐	
		11:33	EN			50° 39.814	129° 17.472			-		SK	☐	
300	31	14:42	BE	ROS	US	50° 27.638	129° 55.011	2182		370-389	20	JJ	☒	
		15:05	BO			50° 27.617	129° 55.064			-		JJ	☐	
		15:45	EN			50° 27.653	129° 55.076			-		JJ	☐	
300	31	15:55	BE	NET		50° 27.64	129° 55.069	2182		-		SK	☐	bongo
		16:06	BO			50° 27.652	129° 55.089		250	-			☐	
		16:10	EN			50° 27.644	129° 55.096			-			☐	
300	31	16:17	BE	NET		50° 27.628	129° 55.168	2182		-		SK	☐	deep bongo
		17:03	BO			50° 27.648	129° 55.171		1200	-			☐	
		17:22	EN			50° 27.644	129° 55.092			-			☐	
		:				.	.			-			☐	

LOOP = Sea Water Loop

Bottle Firing Method: Time Code

1st (no CTD) ☐ 2nd (no CTD) ☐ 3rd (no CTD) ☐ 4th (no CTD) ☐ 5th (no CTD) ☐ 6th (no CTD) ☐ 7th (no CTD) ☐ 8th (no CTD) ☐ 9th (no CTD) ☐ 10th (no CTD) ☐ 11th (no CTD) ☐ 12th (no CTD) ☐ 13th (no CTD) ☐ 14th (no CTD) ☐ 15th (no CTD) ☐ 16th (no CTD) ☐ 17th (no CTD) ☐ 18th (no CTD) ☐ 19th (no CTD) ☐ 20th (no CTD) ☐ 21st (no CTD) ☐ 22nd (no CTD) ☐ 23rd (no CTD) ☐ 24th (no CTD) ☐ 25th (no CTD) ☐ 26th (no CTD) ☐ 27th (no CTD) ☐ 28th (no CTD) ☐ 29th (no CTD) ☐ 30th (no CTD) ☐ 31st (no CTD) ☐

LOOP = Sea Water Loop
 MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:
 US = Up / Stop (default)
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Time Code:
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Month	Year	Vessel	Cruise ID	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	Trms/FI Cleaned	Comments
August	2023	JP Tully	2023-026	138	LOOP138	31	18:24	BE	LOOP		50° 33.309	129° 44.302	2448	4.5	5138-5139	5J		2xch1, 1x5a1
				139	CSØ1	31	18:52	BE	ROS	US	50° 34.875	129° 41.474	2114		390-390	SR		
							19:27	BO			° 34.909	° 41.522						
							19:58	EN			° 34.902	° 41.474						→ this event was just to collect missed 5m bottle
				140	CSØ1	31	20:04	BO	ROS	US	° 34.902	° 41.474	2114	5m	390-390	SR		CNL 1L+0.25L
				141	CSØ1	31	20:12	BE	NET		50° 34.86	129° 41.508	2115			FL		Bongo
							20:21	BO			° 34.896	° 41.492	250					
							20:25	EN			° 34.91	° 41.488						
				142	CSØ2	31	21:44	BE	ROS	US	50° 41.281	129° 27.979	1910		391-413	SR		
							22:05	BO			° 41.303	° 27.983						
							22:50	EN			° 41.276	° 28.027						
				143	CSØ2	31	22:58	BE	NET		50° 41.264	129° 27.987	1909			HH		Bongo VNH
							23:07	BO			° 41.271	° 28.031	250					
							23:11	EN			° 41.261	° 28.038						
				144	CSØ2	31	23:19	BE	NET		50° 41.283	129° 28.003	1909			HH		Bongo VNH
							23:27	BO			° 41.312	° 28.011	250					
							23:32	EN			° 41.358	° 28.026						
							:				°	°						
							:				°	°						

Event Type:
 BOT = Bottle cast (no CTD)
 CTD = Standalone CTD
 ROS = CTD in Rosette
 SET = Fish Set

Loop = Sea Water Loop
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Bottle Firing Method:
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Time Code:
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Notes:

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Month		Sept.		Year 2023		Vessel JR Tully		Cruise ID 2023-026						
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	Trms/FI Cleaned	Comments
							Latitude	Longitude						
145	CS03	1	00:41	BE	ROS	/	50° 45.559	129° 20.063	244			SR	☒	
			00:45	BO			° 45.560	° 20.074	236				☐	
			00:50	EN			° 45.568	° 20.049					☐	
146	CS03	1	00:59	BE	NET		50° 45.594	129° 20.027	244			HH	☐	
			01:09	BO			° 45.608	° 20.01	235				☐	Bongo UNH
			01:13	EN			° 45.61	° 20.028					☐	
147	Loop 147	01	01:41	BE	LOOR	/	50° 47.744	129° 15.871	140	45		FL/HH	☐	/ Sal, 200
148	CS04	01	02:19	BE	ROS	us	50° 49.211	129° 13.015	95	414-422	9	SR	☐	
			02:25	BO			° 49.214	° 13.104	92				☐	
			02:36	EN			° 49.345	° 13.372					☐	
149	CS04	01	02:45	BE	NET		50° 49.464	129° 13.348	100			HH	☐	Bongo UNH
			02:49	BO			° 49.539	° 13.444	95				☐	
			02:51	EN			° 49.564	° 13.47					☐	
150	NEWODAS	01	06:22	BE	ROS		50° 56.368	129° 58.808	2121			SS	☒	
			06:46	BO			50° 56.379	129° 58.800	1205				☐	
			07:07	EN			50° 56.388	129° 58.801					☐	
151	NEWODAS	01	07:24	BE	NET		50° 56.394	129° 58.792	218			SK	☐	Bongo
			07:44	BO			50° 56.416	129° 58.818	250				☐	
			07:34	EN			50° 56.420	129° 58.841					☐	

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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Notes:

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Month			September		Year		2023		Vessel		JP Tully		Cruise ID		2023-026		Page 20 of 20	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Positional Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trms/FI Cleaned	Comments			
152	SS2	01	10:17	BE	ROS	US	51° 12.936	129° 43.025	593		-	2	JS	☐	Bots for VBC			
			10:27	BO			51° 12.939	129° 43.014		593	-			☐				
			10:40	EN			51° 12.299	129° 43.074			-			☐				
153	SS2	01	10:50	BE	NET		51° 12.924	129° 43.091	601		-		JS/SK	☐	bongo			
			11:00	BO			51° 12.964	129° 43.078		250	-			☐				
			11:05	EN			51° 12.97	129° 43.115			-			☐				
154	LOOP/54	01	12:16	BE	LOOP		51° 04.363	129° 33.050	475	4.5	-		JS	☐	loop! 1sa, 2chl			
155	CS3B	01	13:15	BE	ROS		50° 59.948	129° 27.113	220		-		JS	☒				
			13:19	BO			50° 59.993	129° 27.106		215	-			☐				
			13:24	EN			50° 59.996	129° 27.120			-			☐				
156	CS3B	01	13:34	BE	NET		50° 59.995	129° 27.112	221		-		SK	☐	bongo			
			13:44	BO			50° 59.014	129° 27.053		210	-			☐				
			13:46	EN			51° 00.025	129° 27.053			-			☐				
157	LOOP/57	01	15:00	BE	LOOP		51° 09.670	129° 24.893	279	4.5	5157-5157		JS/SK	☐	1 SAL 3CHL			
158	SS3	01	16:04	BE	ROS		51° 14.992	129° 21.287	291		-		JS	☒				
			16:11	BO			51° 15.002	129° 21.249		285	-			☐				
			16:18	EN			51° 15.035	129° 21.263			-			☐				
			:				°	°			-			☐				
			:				°	°			-			☐				

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Month		September		Year		2023		Vessel		JP Tully		Cruise ID		2023-026	
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Positional Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fls Cleaned	Comments
159	SS3	01	16:25	BE	NET		51° 15.045	129° 21.269	291				SK	☐	bargo
			16:34	BO			51° 15.078	129° 21.29		250				☐	
			16:38	EN			51° 15.102	129° 21.358						☐	
160	LOOP160	01	17:27	BE	LOOP		51° 9.588	129° 15.259	248	4.5	5160		JS	☐	loop; 1 sal, 2 chl
161	CS05	01	19:26	BE	ROS		50° 55.982	128° 59.943	64				SR	☒	
			19:28	BO			° 55.982	° 59.953		60				☐	
			19:29	EW			° 55.984	° 59.956						☐	
162	CS05	01	19:39	BE	NET		50° 55.986	128° 59.981	64				HH	☐	Bargo VNH
			19:42	BO			° 56.01	129° 00.003		55				☐	
			19:43	EN			° 56.013	° 00.006						☐	
163	CS1B	01	21:23	BE	ROS		50° 53.112	128° 39.900	79				SR	☒	
			21:26	BO			° 53.111	° 39.876		75				☐	
			21:28	EN			° 53.107	° 39.856						☐	
164	CS1B	01	21:37	BE	NET		50° 53.08	128° 39.886	78				HH	☐	Bargo VNH
			21:40	BO			° 53.081	° 39.93		70				☐	
			21:41	EN			° 53.086	° 39.948						☐	
165	CS06	01	23:11	BE	ROS	US	50° 59.964	128° 51.946	66		423-432	10	SR	☒	
			23:13	BO			° .958	° 51.977		61				☐	
			23:23	EN			° .958	° 51.972						☐	

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Year 2023

Vessel J.P. Tully

Cruise ID 2023-026

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Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
166	CS06	01	23:37	BE	NET	/	51° 00.074	128° 51.817	66				HH	☐	Bongo VNH
			23:40	BO			° 00.058	° 51.838		55				☐	
			23:41	EN			° 00.052	° 51.845						☐	
167	CS07	02	00:46	BE	ROS	/	51° 4.451	128° 44.002	66					☐	
			00:48	BO			° 4.426	° 44.003		61				☒	NO BONGOS
			00:50	EN			° 4.398	° 44.023						☐	WINDS GUSTING TO 30k
168	CS08	02	01:52	BE	ROS	US	51° 8.493	128° 36.058	143		433-433	1	SR	☐	
			01:55	BO			° 8.494	° 36.071		139				☐	
			01:59	EN			° 8.482	° 36.086						☐	
169	CS09	02	02:08	BE	NET	/	51° 8.498	128° 36.078	143					☐	Bongo
			02:13	BO			° 8.498	° 36.092		135				☐	
			02:16	EN			° 8.505	° 36.094						☐	
170	LOOP 170	02	02:30	BE	LOOP	/	51° 9.163	128° 34.836	156	4.5	5170			☐	sal, 2 chl
171	CS09	02	03:13	BE	ROS	US	51° 12.481	128° 28.075	194		434-452	19	FL/HH	☐	
			03:17	BO			° 12.504	° 28.097		190				☐	
			03:34	EN			° 12.537	° 28.080						☐	
172	CS09	02	03:45	BE	NET	/	51° 12.507	128° 28.12	193					☐	Bongo VNH
			03:52	BO			° 12.554	° 28.133		185				☐	
			03:55	EN			° 12.557	° 28.152						☐	

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Year 2023

Vessel J. P. Jolly

Cruise ID 2023-026

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
173	CS09	02	04:06	BE	NET	—	51° 12.472 ° 12.524	193	185	—	—	HH	□□	bargo VNH
			04:13	BO			° 28.195						□□	
			04:16	EN			° 28.208						□□	
174	CS10	02	05:11	BE	ROS	US	51° 16.491 ° 16.494	80	75	433-453	1	SR	□□	
			05:12	BO			° 19.969						□□	
			05:15	EN			° 19.990						□□	
175	CS10	02	05:22	BE	NET	—	51° 16.499 ° 16.52	79	70	—	—	JD	□□	BONGO
			05:25	BO			° 19.992						□□	
			05:28	EN			° 19.968						□□	
176	LOOP176	02	06:27	BE	LOOP	—	51° 10.18	88	4.5	5176	—	MS	□□	1 SAL 2 CML
177	CPE1	02	08:00	BE	ROS	—	50° 59.969 ° 59.955	157	154	—		SS	□□	
			08:03	BO			127° 49.776						□□	
			08:06	EN			127° 49.691						□□	
178	CPE1	02	08:14	BE	NET	—	50° 59.931 ° 59.941	157		—	—	SK	□□	bargo
			08:19	BO			127° 49.743		147				□□	
			08:22	EN			127° 49.769						□□	
179	LOOP179	02	15:51	BE	LOOP	US	50° 23.247 ° .	75	4.5	5179	—	SR	□□	
			:	BO			° .						□□	
			:	EN			° .						□□	

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Month			Year			Vessel			Cruise ID			Page			
Sept.			2023			J.P. Tully			2023-026			27			
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/Fls Cleaned	Comments
180	14	02	22:16	BE	ROS	US	49° 52.994	124° 59.624	314		454-470	17	SR	☒	missed the 200m
			22:22	BO			° 52.988	° 59.632		309	-			☐	bottle, went
			22:50	EN			° 52.992	° 59.658			-			☐	back for it.
181	14	02	22:54	BE	NET	/	49° 52.993	124° 59.66	314		/	/	HH	☐	Bargo UNH
			23:03	BO			° 52.996	° 59.678		250	-			☐	
			23:07	EN			° 52.999	° 59.697			-			☐	
182	14	02	23:20	BE	CTD	/	49° 53.023	124° 59.698	314		/	/	AHHH	☒	small SBE25 off aft deck watch
			23:28	BO			° 53.026	° 59.702		304	-			☐	
			23:34	EN			° 53.034	° 59.704			-			☐	
183	12	03	01:15	BE	ROS	US	49° 43.538	124° 40.793	356		471-487	17	SR	☒	Went from 250m
			01:22	BO			° 43.53	° 40.813		352	-			☐	back to 350m
			01:51	EN			° 43.548	° 40.803			-			☐	to get bot-5
184	12	03	02:00	BE	CTD	/	49° 43.574	124° 40.808	356		/	/	HH	☒	bottle. 8R
			02:09	BO			° 43.597	° 40.785		350	-			☐	small SBE25 off aft deck watch
			02:16	EN			° 43.587	° 40.768			-			☐	
185	12	03	02:23	BE	NET	/	49° 43.576	124° 40.769	357		/	/	HH	☐	Bargo UNH
			02:35	BO			° 43.541	° 40.858		345	-			☐	
			02:41	EN			° 43.53	° 40.889			-			☐	
			:				°	°			-			☐	

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Month			Sept.		Year		2023		Vessel		J.P. Tully		Cruise ID		2023-026			
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information	Latitude	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments		
186	CPF2	03	04:30	BE	ROS	/	49° 27.993	124° 30.011	330					SR	☒			
			04:36	BO			27.967	124° 30.001			326	-			☐			
			04:42	EN			27.959	124° 30.006				-			☐			
187	CPF2	03	04:49	BE	NET	/	49° 27.98	124° 29.993	327					HH	☐	Bongo UNH		
			05:01	BO	/		28.03	124° 29.904			318	-			☐			
			05:06	EN			28.036	124° 28.927				-			☐			
188	LOOP188	03	05:22	BE	LOOP	/	49° 27.367	124° 27.468	338		4.5	5188		FL/HA	☐	1 Sal, 2 chl		
189	CPF1	03	07:14	BE	ROS	US	49° 21.989	124° 04.951	245			488-488	1	SS	☒			
			07:19	BO			49° 21.989	124° 04.945			240	-			☐			
			07:24	EN			49° 21.944	124° 04.939				-			☐			
190	CPF1	03	07:32	BE	NET	/	49° 21.984	124° 04.971	245					SK	☐	bongo		
			07:41	BO			49° 21.975	124° 04.978			235	-			☐			
			07:46	EN			49° 21.980	124° 04.981				-			☐			
191	24	03	08:56	BE	ROS	US	49° 30.260	124° 06.004	426			489-489	1	SS	☒			
			09:04	BO			49° 30.255	124° 06.004			421	-			☐			
			09:12	EN			49° 30.214	124° 05.993				-			☐			
192	24	03	09:20	BE	NET	/	49° 30.29	124° 06.00	425					SK	☐	bongo		
			09:36	BO	.		49° 30.324	124° 06.020			420	-			☐			
			09:44	EN			49° 30.324	124° 06.032				-			☐			

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Month Sept.			Year 2023		Vessel J.P. Tully			Cruise ID 2023-026		Page 51 of 51					
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
193	22	03	11:15	BE	ROS	US	49° 40.155	124° 16.263	352		490-492	3	SS	☒	
			11:23	BO			49° 40.166	124° 16.275		347	-			☐	
			11:32	EN			49° 40.171	124° 16.271			-			☐	
194	22	03	11:38	BE	NET	/	49° 40.173	124° 16.293	352		-	-	SK	☐	bongo
			11:50	BO			49° 40.178	124° 16.300		347	-			☐	
			11:56	EN			49° 40.186	124° 16.284			-			☐	
195	28	03	14:19	BE	ROS	US	49° 24.097	123° 45.254	136		493	1	JT	☒	
			14:21	BO			49° 24.098	123° 45.254		131	-			☐	
			14:26	EN			49° 24.118	123° 45.276			-			☐	
196	28	03	14:32	BE	NET	/	49° 24.143	123° 45.279	136		-	-		☐	bongo
			14:37	BO			49° 24.147	123° 45.29		130	-		SK	☐	
			14:40	EN			49° 24.149	123° 45.302			-			☐	
197	GE01	03	15:41	BE	NET	/	49° 15.026	123° 44.929	403		-	-	SK/JS	☐	bongo
			15:55	BO			° 15.007	° 181		390	-	-		☐	
			16:01	EN			° 14.992	° 979			-			☐	
198	GE01	03	16:13	BE	ROS	US	49° 15.007	123° 44.979	403		494-501	8	SS	☒	
			16:20	BO			49° 15.010	123° 44.983		400	-			☐	
			16:35	EN			49° 15.007	123° 44.989			-			☐	
							°	°			-			☐	

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Month Sept			Year 2023		Vessel JP Tully		Cruise ID 2023-026								
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
199	GEO1	03	16:44	BE	NET	—	49° 14.984	123° 45.00	403	398	-	—	SK	☐	multinet
		03	16:56	BO			49° 14.952	123° 45.001			-			☐	
		03	17:04	EN			49° 14.950	123° 45.006			-			☐	
200	Loop200	03	18:03	BE	loop	—	49° 08.026	123° 34.873	210	4.5	500-500	—	SK/NF	☐	sal, obchl
201	42	03	19:01	BE	ROS	us	49° 1.779	123° 26.106	319		502-509	8	SR	☒	
		03	19:07	BO			° 1.774	° 26.113			-			☐	
		03	19:22	EN			° 1.782	° 26.139			-			☐	
202	42	03	19:32	BE	NET	—	49° 1.815	123° 26.256	319		—	—	HH	☐	Bargo VNH
			19:43	BO			° 1.797	° 26.208		309	-			☐	
			19:48	EN			° 1.801	° 26.217			-			☐	
203	46	03	21:18	BE	ROS	us	48° 51.354	123° 10.671	176		510-512	3	SR	☒	
			21:22	BO			° 51.355	° 10.686		172	-			☐	
			21:28	EN			° 51.344	° 10.681			-			☐	
204	46	03	21:37	BE	NET	—	48° 51.408	123° 10.777	177		—	—	HH	☐	Bargo VNH
			21:43	BO			° 51.405	° 10.716		167	-			☐	
			21:46	EN			° 51.404	° 10.729			-			☐	
			:				° .	° .			-			☐	
			:				° .	° .			-			☐	
			:				° .	° .			-			☐	

Event Type:
BOT = Bottle cast (no CTD)
CTD = Standalone CTD
ROS = CTD in Rosette
SET = Fish Set

LOOP = Sea Water Loop
MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:
US = Up / Stop (default)
UN = Up / No stop
DN = Down / No stop

Time Code:
BE = Beginning Time of Cast
BO = Bottom Time of Cast
EN = End Time of Cast

CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products
DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

Notes:

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