

DAILY SCIENCE LOG BOOK

Version FEB2023

Water Properties Group
Fisheries and Oceans Canada
Institute of Ocean Sciences
Ocean Sciences Division
Norh Saanich, BC, Canada
www.waterproperties.ca

Launch Daily Science
Log Userform

Print Daily Science Log
WorkBook



Cruise Number	2024-002
---------------	----------

Start Date	23-Jan-24
End Date	9-Feb-24

Vessel	John P Tully
Project(s)	Line P and Sof6

Mission Participants (Department/Agencies):	DFO
--	-----

Ship Personnel:

Name	Role
Victor Gronmyr	Captain
Robin Hielscher	Chief Engineer
John Gardner	Bosun
Ryan Hull	First Officer
Joseph Van Der Sande	Second Officer
David Bolton	Third Officer
Wade Boettcher	Logistics Officer
Megan Schwarz	Chief Cook
Shane Fraser	Electronics Technician

Scientific Personnel:

Name	Role	Watch	Cabin	Name	Role	Watch	Cabin
Marie Robert	Chief Scientist	06 - 18	A				
Morgan Griffith	TM, watch	06 - 18	C				
Michael Arych	DMS/P, watch	06 - 18	D				
Maira Galbraith	WL, Bongos, Oxy	12 - 24	E				
Cindy Wright	Watch, DOC, TCTD	00 - 12	E				
Lauryn Talbot	Watch, MVP	00 - 12	F				
Kailee Clarke	Watch, DOC, TCTD	12 - 24	F				
Mark Belton	WL, Oxy, Bongos	00 - 12	G				
Jody Klymak	Watch, MVP	12 - 24	G				
Chloe Immonen	Watch, CTD, TCTD	00 - 12	H				
Natasha Buck	Watch, Bongos	12 - 24	H				

Scientific Equipment:

CTD

	Primary						Secondary					
Equipment	Make	Model	Serial Number	Pump (P, S or No)	Depth Rating (m)	Comment	Make	Model	Serial Number	Pump (P, S or No)	Depth Rating (m)	Comment
Data Logging Computer	ThinkCentre		104									
Data Acquisition Program	Seasave											
CTD Deck Unit	SBE	11p	508									
CTD	SBE	9p	1515			Events 1-32						
Temperature Sensor	SBE	3	6754	P	6800 m		SBE	3	6736	S	6800 m	
Conductivity Sensor	SBE	4	6141	P	6800 m		SBE	4	6146	S	6800 m	
Transmissometer	WETLABS	Cstar	1185DR				WETLABS	Cstar	1883DG			
Fluorometer	Seapoint	SCF	3950	S			WETLABS	ECO	2216	no		
Fluorometer Gain Cable	3x											
Oxygen Sensor	SBE	43	1119	P								
Par Sensor	biospherical	Licor Chelsea	70613		2000							
Additional Sensors...	valeport	altimeter	79487	no		events 1-115						

Rosette
Setup

Number of Bottles	24
Manufacturer	OceanTestEquipment
Volume of Bottles (L)	10

Bottles Serial Numbers

1		9		17		25	
2		10		18		26	
3		11		19		27	
4		12		20		28	
5		13		21		29	
6		14		22		30	
7		15		23		31	
8		16		24		32	

CTD

	Primary						Secondary					
Equipment	Make	Model	Serial Number	Pump (P, S or No)	Depth Rating (m)	Comment	Make	Model	Serial Number	Pump (P, S or No)	Depth Rating (m)	Comment
Data Logging Computer												
Data Acquisition Program	Seasave											
CTD Deck Unit												
CTD	SBE	9p	506			Events 48-140						
Temperature Sensor	SBE	3	2374	P	6800 m		SBE	3	4883	S	6800 m	
Conductivity Sensor	SBE	4	3184	P	6800 m		SBE	4	4395	S	6800 m	
Transmissometer	WETLABS	Cstar	1185DR				WETLABS	Cstar	1883DG			
Fluorometer	Seapoint	SCF	3949	S			WETLABS	ECO	2216	no		
Fluorometer Gain Cable	3x											
Oxygen Sensor	SBE	43	997	P								
Par Sensor	biospherical	Licor Chelsea	70613	no	2000							
Additional Sensors...	valeport	altimeter	76341	no		events 116-140						

Rosette
Setup

Number of Bottles	24
Manufacturer	OceanTestEquipment
Volume of Bottles (L)	10

Bottles Serial Numbers

1		9		17		25	
2		10		18		26	
3		11		19		27	
4		12		20		28	
5		13		21		29	
6		14		22		30	
7		15		23		31	
8		16		24		32	

Salinometer

Make	Model	Serial Number	Comments on Performance During Cruise

ADCP		User Exits	
		Name	Exit Points
Computer Time Zone	UTC		
Sampling Interval (sec)			
Bin Length: (2^x)			
Pulse Length			
Buffer (bytes)			
Gyro Offset			
Work File			

Thermosalinograph System

Make	Model	Serial/kit Number	Program	Version	Comments on Performance During Cruise		
SBE	45	620	LoggerNet				
WetLabs		WSCHL-1656					
SBE	38	603					

Oxygen kit

Make	Model	Serial/kit Number	Comments on Performance During Cruise
N/A			

Winches

	Make	Model	Serial Number	Comment (Describe Application and Performance)
Winch 1	Hawboldt	Haw	17027	CTD - had spooling issue
Winch 2	Hawboldt	325237	1076-01	TM - worked well
Winch 3	Swann	329	1482	Bongo - worked well
Winch 4				

CTD Test Cast Information

	CTD Pressure Reading on Deck		Pumps Working (Y = 0011/N = 0010)	2 ° Temp - 1° Temp (Avg. from mixed layer)	2 ° Sal - 1° Sal (Avg. from mixed layer)	Additional Comments
Cast Location	Before Cast	After Cast				

Acoustics

			Frequencies (kHz) - Check Applicable						Comments on Performance During Cruise
Make	Model	Software	12	18	38	70	120	200	

Other Scientific Equipment Used Throughout this Cruise

Additional Equipment Comments During Cruise

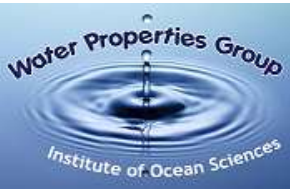
Additional Cruise Comments

During this cruise, only rosette casts that had dissolved oxygen samples had a 60 seconds "soak time" for bottles from (and including) 400 dbar and the surface. All other rosette casts and/or bottles had a "soak time" of 30 seconds. The exception is the DMS cast at P4 (0014) where most bottles had a soak time of 60 seconds.

Pictures (Equipment, Setups etc.)

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number: 2024-002
Vessel: JP Tully

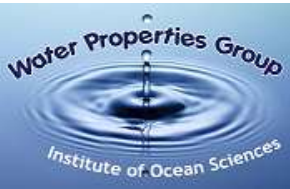
Launch Daily
Science Log

Print Daily Science
Log WorkBook

Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.LMMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	CTD/Rosette Status			Comments
							Latitude	Longitude			Start	End			Trans. Cleaned	Fluorometer Cleaned	PAR Status	
1 SI	CTD			BE	25-01-2024 00:22:18	25-01-2024 00:22:17	48 39.542 N	123 29.933 W	171					Chloe Immone	yes	yes		
1 SI	CTD			BO	25-01-2024 00:32:06	25-01-2024 00:32:05	48 39.543 N	123 29.931 W		162				Chloe Immonen				
1 SI	CTD			EN	25-01-2024 00:41:56	25-01-2024 00:41:56	48 39.542 N	123 29.931 W		162				Chloe Immonen				
2 Haro59	NET			BE	25-01-2024 04:42:55	25-01-2024 04:41:23	48 35.896 N	123 14.889 W	206	196				Moira Galbrait	NA	NA		
2 Haro59	NET			BO	25-01-2024 04:49:28	25-01-2024 04:47:58	48 35.914 N	123 14.906 W		196				Moira Galbraith				
2 Haro59	NET			EN	25-01-2024 04:53:52	25-01-2024 04:52:21	48 35.93 N	123 14.914 W		196				Moira Galbraith				
3 Haro59	ROS	US		BE	25-01-2024 05:18:01	25-01-2024 05:18:01	48 35.982 N	123 14.993 W	197		1	14	14	Jody Klymak	yes	yes	yes	
3 Haro59	ROS	US		BO	25-01-2024 05:24:13	25-01-2024 05:24:11	48 35.942 N	123 14.963 W	198	198	1	14	14	Jody Klymak				
3 Haro59	ROS	US		EN	25-01-2024 05:44:25	25-01-2024 05:44:24	48 35.756 N	123 14.904 W	197	198	1	14	14	Jody Klymak				
4 JF1	LOOP			BE	25-01-2024 08:15:19	25-01-2024 08:13:47	48 16.276 N	123 30.65 W	170	5	5004	5004	1	Mark Belton	NA	NA		
5 JF2	NET			BE	25-01-2024 10:18:40	25-01-2024 10:17:11	48 18.007 N	123 59.904 W	186	176				Mark Belton	NA	NA		
5 JF2	NET			BO	25-01-2024 10:24:45	25-01-2024 10:23:15	48 18.005 N	123 59.902 W		176				Mark Belton				
5 JF2	NET			EN	25-01-2024 10:27:29	25-01-2024 10:25:59	48 18.004 N	123 59.896 W		176				Mark Belton				
6 JF2	ROS	US		BE	25-01-2024 10:56:22	25-01-2024 10:56:19	48 17.986 N	123 59.895 W	186		15	30	16	Chloe Immone	yes	yes	yes	lots of current while at/near bottom depths, had to spend 5 minutes correcting after bottle 2
6 JF2	ROS	US		BO	25-01-2024 11:01:16	25-01-2024 11:01:14	48 17.979 N	123 59.837 W		183	15	30	16	Chloe Immonen				the sample log did not get updated to not include FA and SI, so bottles 15 and 16 were still tripped but not sampled (i.e. no samples 29 or 30)
6 JF2	ROS	US		EN	25-01-2024 11:26:07	25-01-2024 11:26:07	48 18.075 N	123 59.598 W		183	15	30	16	Chloe Immonen				
7 JF3	LOOP			BE	25-01-2024 13:34:19	25-01-2024 13:32:48	48 26.864 N	124 29.902 W	226	5	5007	5007	1	Chloe Immone	NA	NA		
8 JF4	LOOP			BE	25-01-2024 15:28:46	25-01-2024 15:27:14	48 31.82 N	125 0.144 W	49	5	5008	5008	1	Mark Belton, c	NA	NA		
9 P1	ROS	US		BE	25-01-2024 17:35:03	25-01-2024 17:35:01	48 34.496 N	125 30.017 W	135		31	36	6	Chloe Immone	yes	yes	yes	
9 P1	ROS	US		BO	25-01-2024 17:38:53	25-01-2024 17:38:54	48 34.492 N	125 29.997 W		124	31	36	6	Chloe Immonen				
9 P1	ROS	US		EN	25-01-2024 17:45:23	25-01-2024 17:45:21	48 34.516 N	125 29.94 W		124	31	36	6	Chloe Immonen				
10 P2	ROS	US		BE	25-01-2024 19:55:34	25-01-2024 19:55:31	48 36.105 N	125 59.986 W	118		37	50	14	Moira Galbrait	yes	yes	yes	
10 P2	ROS	US		BO	25-01-2024 19:58:19	25-01-2024 19:58:17	48 36.099 N	126 0.027 W		106	37	50	14	Moira Galbraith				
10 P2	ROS	US		EN	25-01-2024 20:23:24	25-01-2024 20:23:23	48 36.208 N	126 0.171 W		106	37	50	14	Moira Galbraith				
11 P2	NET			BE	25-01-2024 20:43:21	25-01-2024 20:41:50	48 36.003 N	126 0.068 W	121	110				Moira Galbrait	NA	NA		
11 P2	NET			BO	25-01-2024 20:48:44	25-01-2024 20:47:12	48 36.006 N	126 0.134 W		110				Moira Galbraith				
11 P2	NET			EN	25-01-2024 20:52:05	25-01-2024 20:50:36	48 36.013 N	126 0.17 W		110				Moira Galbraith				
12 P2	ROS	US		BE	25-01-2024 21:12:21	25-01-2024 21:12:21	48 36.04 N	126 0.247 W	121		51	58	8	Marie Robert	yes	yes	yes	

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number: 2024-002
Vessel: JP Tully

Launch Daily
Science Log

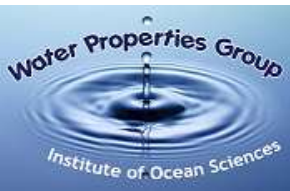
Print Daily Science
Log WorkBook

Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	CTD/Rosette Status			Comments
							Latitude	Longitude			Start	End			Trans. Cleaned	Fluorometer Cleaned	PAR Status	
12 P2	ROS	ROS	US	BO	25-01-2024 21:16:24	25-01-2024 21:16:22	48 36.055 N	126 0.258 W		107	51	58	8	Marie Robert				
12 P2	ROS	ROS	US	EN	25-01-2024 21:29:23	25-01-2024 21:29:22	48 36.097 N	126 0.313 W		107	51	58	8	Marie Robert				
13 P3	ROS	ROS	US	BE	25-01-2024 23:27:12	25-01-2024 23:27:10	48 37.55 N	126 20.029 W	755		59	61	3	Jody Klymak	yes	yes	yes	
13 P3	ROS	ROS	US	BO	25-01-2024 23:36:43	25-01-2024 23:36:42	48 37.526 N	126 20.007 W	820	810	59	61	3	Jody Klymak				
13 P3	ROS	ROS	US	EN	25-01-2024 23:49:42	25-01-2024 23:49:42	48 37.546 N	126 19.999 W	822	810	59	61	3	Jody Klymak				
14 P4	ROS	ROS	US	BE	26-01-2024 02:57:21	26-01-2024 02:57:21	48 39.045 N	126 40.033 W	754		62	80	19	Moira Galbrait	yes	yes	yes	
14 P4	ROS	ROS	US	BO	26-01-2024 03:08:42	26-01-2024 03:08:42	48 39.04 N	126 40.044 W	1351	600	62	80	19	Moira Galbraith				
14 P4	ROS	ROS	US	EN	26-01-2024 03:44:19	26-01-2024 03:44:18	48 39.074 N	126 40.016 W		600	62	80	19	Moira Galbraith				
15 P4	BOT	BOT	MR	BE	26-01-2024 04:16:25	26-01-2024 04:14:56	48 39.056 N	126 39.986 W	1327		81	90	10	Morgan Griffit	no	no		
15 P4	BOT	BOT	MR	BO	26-01-2024 05:09:52	26-01-2024 05:08:21	48 39.073 N	126 40.025 W		850	81	90	10	Morgan Griffith				
15 P4	BOT	BOT	MR	EN	26-01-2024 06:13:49	26-01-2024 06:12:17	48 39.096 N	126 40.107 W		850	81	90	10	Morgan Griffith				
16 P4	NET	NET		BE	26-01-2024 06:28:27	26-01-2024 06:26:58	48 39.039 N	126 40.034 W	1318	250				Moira Galbrait	NA	NA		
16 P4	NET	NET		BO	26-01-2024 06:39:47	26-01-2024 06:38:18	48 39.065 N	126 40.054 W		250				Moira Galbraith				
16 P4	NET	NET		EN	26-01-2024 06:43:07	26-01-2024 06:45:36	48 39.063 N	126 40.058 W		250				Moira Galbraith				
17 P4	NET	NET		BE	26-01-2024 06:57:42	26-01-2024 06:56:13	48 39.056 N	126 40.048 W	1328					Moira Galbrait	NA	NA		
17 P4	NET	NET		BO	26-01-2024 07:37:28	26-01-2024 07:35:59	48 39.022 N	126 39.996 W		1200				Moira Galbraith				
17 P4	NET	NET		EN	26-01-2024 07:57:04	26-01-2024 07:55:33	48 39.028 N	126 40.037 W		1200				Moira Galbraith				
18 P4	ROS	ROS	US	BE	26-01-2024 08:52:52	26-01-2024 08:52:50	48 39.023 N	126 39.994 W	1330		91	110	20	Chloe Immone	yes	yes	yes	30 sec soak below 400m, 60 sec soak at 400m and shallower than 400m
18 P4	ROS	ROS	US	BO	26-01-2024 09:06:29	26-01-2024 09:06:27	48 39.032 N	126 39.996 W		1327	91	110	20	Chloe Immonen				
18 P4	ROS	ROS	US	EN	26-01-2024 09:49:00	26-01-2024 09:49:01	48 39.044 N	126 40.026 W		1327	91	110	20	Chloe Immonen				
19 P5	ROS	ROS	US	BE	26-01-2024 12:17:42	26-01-2024 12:17:41	48 41.517 N	127 10.019 W	2111		111	111	1	Chloe Immone	yes	yes	no	PAR sensor removed prior to cast (going deeper than 2000m)
19 P5	ROS	ROS	US	BO	26-01-2024 12:53:09	26-01-2024 12:53:07	48 41.46 N	127 9.939 W		2005	111	111	1	Chloe Immonen				loop sample taken while rosette took 5m bottle. Sample number 5009
19 P5	ROS	ROS	US	EN	26-01-2024 13:27:12	26-01-2024 13:27:12	48 41.416 N	127 9.738 W		2005	111	111	1	Chloe Immonen				PAR ON
20 P6	ROS	ROS	US	BE	26-01-2024 15:50:18	26-01-2024 15:50:18	48 44.552 N	127 39.888 W	3005		112	132	21	Mark Belton	yes	yes	yes	
20 P6	ROS	ROS	US	BO	26-01-2024 16:23:59	26-01-2024 16:23:58	48 44.389 N	127 39.896 W		2005	112	132	21	Mark Belton				
20 P6	ROS	ROS	US	EN	26-01-2024 17:00:21	26-01-2024 17:00:19	48 44.437 N	127 39.725 W		2005	112	132	21	Mark Belton				
21 P6	DRF	DRF		DE	26-01-2024 18:53:52	26-01-2024 18:52:21	48 44.564 N	128 0.047 W	2537	0				Mark Belton				Scripps drifter 64907290
22 P7	ROS	ROS	US	BE	26-01-2024 20:14:59	26-01-2024 20:14:58	48 46.61 N	128 10.037 W	2533	2005	133	133	1	Moira Galbrait	no	yes	yes	5m loop water for barrel water for dms

DAILY SCIENCE LOG

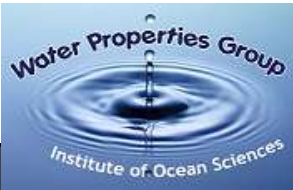
Ocean Sciences Division, Institute of Ocean Sciences

Cruise Number:			2024-002		Launch Daily Science Log		Print Daily Science Log WorkBook										CTD/Rosette Status			
Vessel:			JP Tully		Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	Trans. Cleaned	Fluoromet er Cleaned	PAR Status	Comments		
Event Number	Station Name	Cast Type	Firing Method	Time Code			Latitude	Longitude			Start	End								
22	P7	ROS	US	BO	26-01-2024 20:49:29	26-01-2024 20:49:27	48 46.627 N	128 10.069 W		2005	133	133	1	Moira Galbraith						
22	P7	ROS	US	EN	26-01-2024 21:25:34	26-01-2024 21:25:33	48 46.648 N	128 10.05 W		2005	133	133	1	Moira Galbraith						
23	P8	ROS	US	BE	26-01-2024 23:33:10	26-01-2024 23:33:07	48 48.997 N	128 40.25 W	2545		134	157	24	Moira Galbrait	yes	yes	yes			
23	P8	ROS	US	BO	27-01-2024 00:08:24	27-01-2024 00:08:24	48 49.069 N	128 40.061 W		2000	134	157	24	Moira Galbraith						
23	P8	ROS	US	EN	27-01-2024 01:16:35	27-01-2024 01:16:32	48 49.03 N	128 39.962 W		2000	134	157	24	Moira Galbraith						
24	P8	NET		BE	27-01-2024 01:31:00	27-01-2024 01:29:30	48 48.992 N	128 40.048 W	2544	250				Moira Galbrait	NA	NA				
24	P8	NET		BO	27-01-2024 01:39:35	27-01-2024 01:38:04	48 48.978 N	128 40.072 W		250				Moira Galbraith						
24	P8	NET		EN	27-01-2024 01:48:55	27-01-2024 01:47:23	48 48.982 N	128 40.09 W		250				Moira Galbraith						
25	P8	DRF		DE	27-01-2024 02:09:01	27-01-2024 02:07:31	48 47.921 N	128 39.948 W	2550					Moira Galbraith				64906970		
26	P10	ROS	US	BE	27-01-2024 05:54:44	27-01-2024 05:54:42	48 53.642 N	129 39.995 W	2667	2000	158	158	1	Moira Galbrait	yes	yes	yes			
26	P10	ROS	US	BO	27-01-2024 06:29:37	27-01-2024 06:29:37	48 53.628 N	129 39.963 W		2000	158	158	1	Moira Galbraith						
26	P10	ROS	US	EN	27-01-2024 07:07:37	27-01-2024 07:07:35	48 53.612 N	129 39.992 W		2000	158	158	1	Moira Galbraith						
27	P10	DRF		DE	27-01-2024 07:24:44	27-01-2024 07:23:12	48 53.638 N	129 40.277 W	2636	0				Moira Galbraith				64907300		
28	P12	ROS	US	BE	27-01-2024 10:46:33	27-01-2024 10:46:32	48 58.21 N	130 40.008 W	3261		159	182	24	Chloe Immone	yes	yes	no	PAR removed from rosette for deep cast		
																		forgot second 3000m bottle (samples 161), realized at 2940m, sent rosette back to 3000m, 30 sec soak, fired bottle 3, then ascended again. SORRY!!		
28	P12	ROS	US	BO	27-01-2024 11:43:23	27-01-2024 11:43:22	48 58.242 N	130 40.005 W		3276	159	182	24	Chloe Immonen						
28	P12	ROS	US	EN	27-01-2024 13:07:55	27-01-2024 13:07:54	48 58.267 N	130 39.961 W		3276	159	182	24	Chloe Immonen						
29	P12	NET		BE	27-01-2024 13:50:10	27-01-2024 13:50:07	48 58.247 N	130 40.066 W	3259					Mark Belton	NA	NA				
29	P12	NET		BO	27-01-2024 14:00:18	27-01-2024 14:00:17	48 58.23 N	130 40.044 W		250				Mark Belton						
29	P12	NET		EN	27-01-2024 14:05:05	27-01-2024 14:05:03	48 58.22 N	130 40.002 W		250				Mark Belton						
30	P12	NET		BE	27-01-2024 14:19:43	27-01-2024 14:18:10	48 58.222 N	130 40.024 W	3261	1200				Mark Belton	NA	NA				
30	P12	NET		BO	27-01-2024 15:06:07	27-01-2024 15:04:37	48 58.186 N	130 39.845 W		1200				Mark Belton						
30	P12	NET		EN	27-01-2024 15:27:16	27-01-2024 15:25:44	48 58.197 N	130 39.892 W		1200				Mark Belton						
31	P12	BOT	MR	BE	27-01-2024 15:45:26	27-01-2024 15:43:54	48 58.198 N	130 40.066 W	3247					Morgan Griffit	NA	NA		Go-Flows, lost some time due to issues with the counter		



DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number: 2024-002
Vessel: JP Tully

Launch Daily
Science Log

Print Daily Science
Log WorkBook

Vessel:			JP Tully		Science Log		Log Workbook									CTD/Rosette Status			Institute of Ocean Sciences	
Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	Trans. Cleaned	Fluorometer Cleaned	PAR Status	Comments		
							Latitude	Longitude			Start	End								
																		Number of bottles and depth have changed (see paper rosette log). When bottle 2 at depth >50m, the grey water tank was discharged. Recommenced cast at 16:24. MR=16:34		
31	P12	BOT	MR	BO	27-01-2024 16:33:43	27-01-2024 16:32:12	48 58.327 N	130 39.902 W		800				Morgan Griffith						
31	P12	BOT	MR	EN	27-01-2024 17:15:01	27-01-2024 17:13:28	48 58.454 N	130 39.753 W		800				Morgan Griffith						
																		DMS cast, PAR added back onto rosette. weather starting to get rough again. windy and choppy seas		
32	P12	ROS	US	BE	27-01-2024 17:34:10	27-01-2024 17:34:09	48 58.163 N	130 40.061 W	3255		193	210	18	Chloe Immone	yes	yes	yes			
32	P12	ROS	US	BO	27-01-2024 17:45:04	27-01-2024 17:45:02	48 58.197 N	130 40.03 W		601	193	210	18	Chloe Immonen						
32	P12	ROS	US	EN	27-01-2024 18:08:09	27-01-2024 18:08:09	48 58.242 N	130 39.973 W		601	193	210	18	Chloe Immonen						
33	P12	DRF		DE	27-01-2024 18:16:53	27-01-2024 18:15:23	48 58.165 N	130 39.921 W	3263	0				Mark Belton				Scripps drifter: 64907410		
34	Loop34	LOOP		BE	27-01-2024 21:26:26	27-01-2024 21:24:53	49 5.837 N	131 34.642 W	3004	4.5	5034			Moira Galbrait	NA	NA				
35	Loop35	LOOP		BE	28-01-2024 02:18:25	28-01-2024 02:18:22	49 29.956 N	132 57.793 W	3170	4.5	5035			Moira Galbrait	NA	NA				
36	Loop36	LOOP		BE	28-01-2024 08:22:10	28-01-2024 08:22:07	49 37.913 N	134 52.355 W	3002	5	5036			Chloe Immone	NA	NA				
37	Loop37	LOOP		BE	28-01-2024 12:06:12	28-01-2024 12:06:09	49 43.96 N	136 4.345 W	3005	5	5037			Chloe Immone	NA	NA				
																		depth may not be accurate... depth sounder does not appear to be happy...		
38	Loop38	LOOP		BE	28-01-2024 16:07:34	28-01-2024 16:07:30	49 51.671 N	137 20.57 W	3005		5038			Chloe Immone	NA	NA				
39	Loop39	LOOP		BE	29-01-2024 01:58:45	29-01-2024 01:58:42	49 54.773 N	140 3.294 W	4203	4.5	5039			Moira Galbrait	NA	NA		1 sal 2chl		
40	Loop40	LOOP		BE	29-01-2024 08:53:25	29-01-2024 08:53:23	49 13.774 N	141 17.277 W	2955	5	5040			Mark Belton	NA	NA		1 sal 2chl		
41	Loop41	LOOP		BE	29-01-2024 14:57:07	29-01-2024 14:57:02	49 38.455 N	142 29.657 W	4028	5	5041			Chloe Immone	NA	NA		1 sal 2chl		
42	Loop42	LOOP		BE	29-01-2024 21:43:38	29-01-2024 21:43:36	49 53.295 N	144 13.859 W	4176	4.5				Moira Galbrait	NA	NA		1 sal 2chl		
43		MVP		DE	29-01-2024 23:24:09	29-01-2024 23:24:07	49 55.666 N	144 30.318 W	4200	0				Jody Klymak				unwinding cable		
43		MVP		RE	29-01-2024 23:33:21	29-01-2024 23:33:08	50 55.902 N	145 30.882 W	4200	0				Jody Klymak				deploying line at 5kn		
44	P26	NET		BE	30-01-2024 02:34:09	30-01-2024 02:34:07	49 59.957 N	144 59.987 W	4226	250				Moira Galbrait	NA			bongo		
44	P26	NET		BO	30-01-2024 02:45:46	30-01-2024 02:45:44	49 59.991 N	145 0.048 W		250				Moira Galbraith						
44	P26	NET		EN	30-01-2024 02:53:55	30-01-2024 02:53:53	49 59.951 N	145 0.016 W		250				Moira Galbraith						
45	P26	NET		BE	30-01-2024 02:59:39	30-01-2024 02:59:37	49 59.964 N	144 59.998 W	4226					Moira Galbrait	NA			bongo		
45	P26	NET		BO	30-01-2024 03:41:33	30-01-2024 03:41:29	50 0.046 N	145 0.154 W	4260	1200				Moira Galbraith						
45	P26	NET		EN	30-01-2024 04:04:26	30-01-2024 04:04:22	50 0.085 N	144 59.999 W		1200				Moira Galbraith						
46	P26	BOT	MR	BE	30-01-2024 06:41:02	30-01-2024 06:41:00	49 59.948 N	144 59.951 W	4266	1500	235	240	6	Morgan Griffit	NA	NA		TM deep		

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Cruise Number: 2024-002

Vessel: JP Tully

Launch Daily Science Log

Print Daily Science Log WorkBook

CTD/Rosette Status

Water Properties Group

Institute of Ocean Sciences

Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	Trans. Cleaned	Fluorometer Cleaned	PAR Status	Comments
							Latitude	Longitude			Start	End						
46	P26	BOT	MR	BO	30-01-2024 07:31:55	30-01-2024 07:31:52	49 59.996 N	144 59.974 W		1500	235	240	6	Morgan Griffith				
46	P26	BOT	MR	MR	30-01-2024 07:31:57	30-01-2024 07:31:52	49 59.996 N	144 59.974 W		1500	235	240	6	Morgan Griffith				
46	P26	BOT	MR	EN	30-01-2024 08:40:42	30-01-2024 08:40:37	49 59.879 N	145 0.026 W		1500	235	240	6	Morgan Griffith				
47	P26	BOT	MR	BE	30-01-2024 10:44:16	30-01-2024 10:44:14	49 59.983 N	144 59.968 W	4267	200				Morgan Griffit NA	NA			TM Shallow
47	P26	BOT	MR	MR	30-01-2024 11:21:12	30-01-2024 11:21:09	49 59.974 N	145 0.026 W		200				Morgan Griffith				BO=1 min before MR
47	P26	BOT	MR	EN	30-01-2024 11:46:20	30-01-2024 11:46:17	49 59.995 N	145 0.154 W		200				Morgan Griffith				
48	P26	ROS	US	BE	30-01-2024 12:22:40	30-01-2024 12:22:40	49 59.987 N	145 0.082 W	4267				24	Chloe Immone	yes	yes	yes	test cast to make sure new 9p-0506 is happy and all bottles fire. NEW 9p and new pylon cable prior to cast, PAR is off, no samples taken for the test cast. LARS operator noticed that one of the shivs wasn't rotating freely as it should, so the wire was cutting into one of the PVC blocks as it payed out. This probably caused the tension in the wire to weaken it enough to snap
48	P26	ROS	US	BO	30-01-2024 12:24:12	30-01-2024 12:24:12	49 59.995 N	145 0.072 W		150			24	Chloe Immonen				
48	P26	ROS	US	EN	30-01-2024 12:34:07	30-01-2024 12:34:05	50 0.001 N	145 0.06 W		150			24	Chloe Immonen				
49	P26	ROS	US	BE	30-01-2024 13:18:50	30-01-2024 13:18:47	49 59.981 N	145 0.01 W	4267		211	234	24	Chloe Immone	yes	yes	yes	started acquiring data right after pump on command, probably garbage data cast. this was a test cast just to test the fixes done to the winch after reterminating.

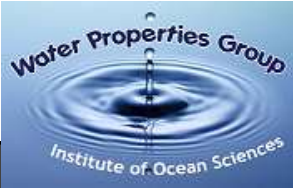
DAILY SCIENCE LOG

Cruise Number: 2024-002

Vessel: JP Tully

Launch Daily Science Log

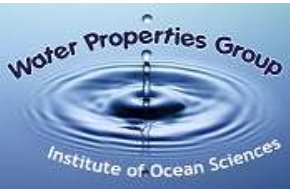
Print Daily Science Log WorkBook



Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	CTD/Rosette Status			Comments
							Latitude	Longitude			Start	End			Trans. Cleaned	Fluorometer Cleaned	PAR Status	
49	P26	ROS	US	BO	30-01-2024 13:35:25	30-01-2024 13:35:25	49 59.998 N	145 0.012 W		480	211	234	24	Chloe Immonen				the wire wrap where things started getting funky on the winch drum was ~90m until ~150m. The LARS operator started descent at 0.5m/s during those depths to make sure things looked okay. then started paying out at normal 1m/s below ~150m.
49	P26	ROS	N/A	EN	30-01-2024 13:43:36	30-01-2024 13:43:36	50 0.018 N	145 0.051 W						Chloe Immonen				
50	P26	ROS	US	BE	30-01-2024 13:45:30	30-01-2024 13:45:27	50 0.017 N	145 0.06 W	4268		211	234	24	Chloe Immone	no	no	no	had to stop on ascent at 1526m to assess winch wire on drum spooling poorly, jumping/skipping, and crossing over itself
50	P26	ROS	US	BO	30-01-2024 15:01:32	30-01-2024 15:01:31	49 59.962 N	144 59.957 W		4319	211	234	24	Chloe Immonen				
50	P26	ROS	US	EN	30-01-2024 17:09:21	30-01-2024 17:09:19	49 59.977 N	144 59.907 W		4319	211	234	24	Chloe Immonen				
51	P26	ROS	US	BE	30-01-2024 19:11:08	30-01-2024 19:11:07	49 59.982 N	144 59.914 W	4266		248	266	19	Chloe Immone	yes	yes	yes	PAR on small salinity spike on upcast at 360m
51	P26	ROS	US	BO	30-01-2024 19:30:47	30-01-2024 19:30:48	49 59.998 N	145 0.038 W		600	248	266	19	Chloe Immonen				
51	P26	ROS	US	EN	30-01-2024 20:02:16	30-01-2024 20:02:13	50 0.035 N	145 0.248 W		600	248	266	19	Chloe Immonen				
52	P26	DRF		DE	30-01-2024 20:15:03	30-01-2024 20:14:58	50 0.12 N	145 0.489 W	4267	0				Moira Galbraith				64907360
53	P26	MVP		DE	30-01-2024 20:18:12	30-01-2024 20:18:10	50 0.212 N	145 0.74 W	4265	200				Jody Klymak				
53	P26			RE	31-01-2024 22:13		52 31.26 N	148 53.00W	4354					Jody Klymak				
54	LOOP54	LOOP		BE	31-01-2024 08:04:50	31-01-2024 08:04:50	51 8.3107N	146 43.551 W	4518	5	5054	5054		Mark Belton	NA	NA		
55	loop55	LOOP		BE	31-01-2024 14:21:16	31-01-2024 14:21:12	51 45.83 N	147 43.199 W	4166	5	5055			Chloe Immone	NA	NA		1 sal 2 chl, lost ~50ml of A chl replicate
56	Loop56	LOOP		BE	31-01-2024 20:39:19	31-01-2024 20:39:14	52 22.568 N	148 39.606 W	3652	4.5	5056			Moira Galbrait	NA	NA		1 sal 2chl
57	seamount	ROS	US	BE	31-01-2024 22:37:35	31-01-2024 22:37:32	52 31.365 N	148 53.065 W	4333		267	267	1	Moira Galbrait	yes	yes	no	0.5m/sec down; no 10m up and down at surface; acqusition at start
57	seamount	ROS	US	BO	01-02-2024 01:05:09	01-02-2024 01:05:07	52 31.486 N	148 53.18 W		4365				Moira Galbraith				50m FLC
57	seamount	ROS	US	EN	01-02-2024 02:14:43	01-02-2024 02:14:41	52 31.48 N	148 53.139 W						Moira Galbraith				
58	Seamount	MVP		DE	01-02-2024 02:31:15	01-02-2024 02:31:12	52 31.623 N	148 52.976 W	4337	200				Jody Klymak				

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number: 2024-002
Vessel: JP Tully

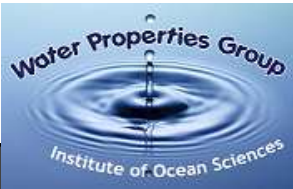
Launch Daily
Science Log

Print Daily Science
Log WorkBook

Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	CTD/Rosette Status			Comments
							Latitude	Longitude			Start	End			Trans. Cleaned	Fluorometer Cleaned	PAR Status	
58	Seamount	MVP		RE	01-02-2024 22:48:15	01-02-2024 22:48:13	51 07.542 N	145 27.202										jump shive, tangled drum, fish retrieved via capstan
59	Loop59	LOOP		BE	01-02-2024 04:30:37	01-02-2024 04:30:33	52 21.61 N	148 33.136 W	3920	4.5				Moira Galbrait	NA	NA		1 sal 2 chl
60	Loop60	LOOP		BE	01-02-2024 11:12:44	01-02-2024 11:12:37	51 48.908 N	147 22.655 W	3005	5	5060	5060	1	Mark Belton	NA	NA		depth is wrong? 2 CHL 1 SAL
61	Loop61	LOOP		BE	01-02-2024 18:21:54	01-02-2024 18:21:51	51 12.773 N	146 6.965 W	3004	5	5061			Morgan Griffith	NA	NA		depth is wrong? 2 CHL 1 SAL
62	Loop62	LOOP		BE	01-02-2024 21:47:33	01-02-2024 21:47:28	51 2.589 N	145 34.057 W	4350	4.5				Moira Galbrait	NA	NA		1 sal 2 chl
63	Loop63	LOOP		BE	02-02-2024 02:09:57	02-02-2024 02:09:52	50 51.468 N	144 59.994 W	4259	4.5				Moira Galbrait	NA	NA		1 sal 2 chl
64	P25	ROS	US	BE	02-02-2024 11:14:57	02-02-2024 11:14:57	49 59.952 N	143 36.28 W	3727		268	268	1	Chloe Immone	yes	yes	no	
64	P25	ROS	US	BO	02-02-2024 12:09:05	02-02-2024 12:09:02	50 0.084 N	143 36.676 W		2005	268	268	1	Chloe Immonen				PAR left off, very dark out!
64	P25	ROS	US	EN	02-02-2024 13:21:52	02-02-2024 13:21:50	50 0.131 N	143 36.56 W		2005	268	268	1	Chloe Immonen				
65	P25	DRF		DE	02-02-2024 13:40:59	02-02-2024 13:40:53	50 0.065 N	143 36.638 W	4000	0				Mark Belton				Scripps drifter: 64908910
66	P24	ROS	US	BE	02-02-2024 17:23:35	02-02-2024 17:23:34	49 50.182 N	142 39.976 W	4006		269	292	24	Chloe Immone	yes	yes	no	no PAR (deep)
66	P24	ROS	US	BO	02-02-2024 18:34:28	02-02-2024 18:34:26	49 50.193 N	142 39.957 W		4044	269	292	24	Chloe Immonen				
66	P24	ROS	US	EN	02-02-2024 20:13:17	02-02-2024 20:13:14	49 50.19 N	142 40.04 W		4044	269	292	24	Chloe Immonen				
67	P24	DRF		DE	02-02-2024 20:22:42	02-02-2024 20:22:39	49 50.284 N	142 39.874 W	4000	0				Morgan Griffith				Scripps drifter: 64908890
68	P23	ROS	US	BE	02-02-2024 23:53:21	02-02-2024 23:53:19	49 45.99 N	141 39.934 W	4070	2005	293	299	7	Moira Galbrait	yes	yes	yes	par on
68	P23	ROS	US	BO	03-02-2024 00:28:27	03-02-2024 00:28:24	49 45.994 N	141 39.897 W		2005	293	299	7	Moira Galbraith				
68	P23	ROS	US	EN	03-02-2024 01:08:39	03-02-2024 01:08:36	49 45.906 N	141 40.042 W		2005	293	299	7	Moira Galbraith				salinity compare loop at 5m 1 sal 2 chl
69	P23	DRF		DE	03-02-2024 01:23:13	03-02-2024 01:23:07	49 45.869 N	141 39.802 W	4070	0				Moira Galbraith				64906880
70	P22	ROS	US	BE	03-02-2024 04:48:17	03-02-2024 04:48:15	49 41.958 N	140 39.979 W	3920		300	323	24	Moira Galbrait	yes	yes	no	doc toc cdom profile
70	P22	ROS	US	BO	03-02-2024 05:57:16	03-02-2024 05:57:12	49 41.972 N	140 39.995 W		3982	300	323	24	Moira Galbraith				par off
70	P22	ROS	US	EN	03-02-2024 07:28:05	03-02-2024 07:28:06	49 42.001 N	140 40.064 W		3982	300	323	24	Moira Galbraith				
71	P22	DRF		DE	03-02-2024 07:39:38	03-02-2024 07:39:33	49 42.11 N	140 40.049 W	3913					Mark Belton				Drifter 64907450
72	P21	ROS	US	BE	03-02-2024 11:18:15	03-02-2024 11:18:14	49 38.03 N	139 40.036 W	3979		324	324	1	Chloe Immone	yes	yes	no	
72	P21	ROS	US	BO	03-02-2024 11:54:30	03-02-2024 11:54:30	49 38.076 N	139 40.092 W		2005	324	324	1	Chloe Immonen				par left off (dark sky)
72	P21	ROS	US	EN	03-02-2024 12:29:37	03-02-2024 12:29:35	49 38.051 N	139 40.053 W		2005	324	324	1	Chloe Immonen				
73	P21	DRF		DE	03-02-2024 12:49:22	03-02-2024 12:49:17	49 38.096 N	139 39.879 W	3932	0				Mark Belton				Drifter: 64906930
74	P20	ROS	US	BE	03-02-2024 16:20:10	03-02-2024 16:20:09	49 33.981 N	138 39.932 W	3986		325	348	24	Chloe Immone	yes	yes	no	PAR off (deep cast)
74	P20	ROS	US	BO	03-02-2024 17:30:21	03-02-2024 17:30:20	49 33.996 N	138 39.914 W		4025	325	348	24	Chloe Immonen				
74	P20	ROS	US	EN	03-02-2024 19:11:19	03-02-2024 19:11:17	49 33.977 N	138 39.94 W		4025	325	348	24	Chloe Immonen				
75	P20	BOT	MR	BE	03-02-2024 20:13:33	03-02-2024 20:13:28	49 33.956 N	138 39.989 W	3956	800	349	358	10	Morgan Griffith	NA	NA		
75	P20	BOT	MR	BO	03-02-2024 20:59:34	03-02-2024 20:59:29	49 33.954 N	138 39.96 W		800	349	358	10	Morgan Griffith				2 min soak
75	P20	BOT	MR	MR	03-02-2024 21:01:51	03-02-2024 21:01:44	49 33.952 N	138 39.968 W		800	349	358	10	Morgan Griffith				16 min wait
75	P20	BOT	MR	EN	03-02-2024 21:56:26	03-02-2024 21:56:20	49 33.942 N	138 39.981 W		800	349	358	10	Morgan Griffith				

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number: 2024-002
Vessel: JP Tully

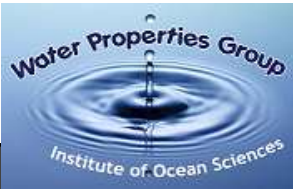
Launch Daily
Science Log

Print Daily Science
Log WorkBook

Vessel:			JP Tully		Science Log		Log Workbook									CTD/Rosette Status			Institute of Ocean Sciences
Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	Trans. Cleaned	Fluorometer Cleaned	PAR Status	Comments	
							Latitude	Longitude			Start	End							
76	P20	ROS	US	BE	03-02-2024 22:12:06	03-02-2024 22:12:06	49 33.983 N	138 39.975 W	3985		359	376	18	Moirá Galbrait	yes	yes	yes	DMS	
76	P20	ROS	US	BO	03-02-2024 22:23:05	03-02-2024 22:23:02	49 33.97 N	138 39.994 W		600	359	376	18	Moirá Galbraith					
76	P20	ROS	US	EN	03-02-2024 22:50:24	03-02-2024 22:50:21	49 33.962 N	138 39.968 W			359	376	18	Moirá Galbraith					
77	P20	NET		BE	03-02-2024 23:07:05	03-02-2024 23:07:01	49 33.961 N	138 39.971 W	3985	250				Moirá Galbrait NA	NA			Bongo	
77	P20	NET		BO	03-02-2024 23:18:49	03-02-2024 23:18:43	49 33.963 N	138 40.044 W	3985	250				Moirá Galbraith					
77	P20	NET		EN	03-02-2024 23:23:55	03-02-2024 23:23:51	49 33.949 N	138 40.044 W		250				Moirá Galbraith					
78	P20	NET		BE	03-02-2024 23:32:55	03-02-2024 23:32:47	49 33.954 N	138 40.032 W	3985	1200				Moirá Galbrait NA	NA				
78	P20	NET		BO	04-02-2024 00:19:40	04-02-2024 00:19:32	49 33.986 N	138 40.005 W	3985	1200				Moirá Galbraith					
78	P20	NET		EN	04-02-2024 00:39:38	04-02-2024 00:39:32	49 34.011 N	138 40.079 W		1200				Moirá Galbraith					
79	P20	DRF		DE	04-02-2024 00:48:01	04-02-2024 00:47:56	49 34.046 N	138 40.054 W	3984	0				Moirá Galbraith				64906900	
80	P20	MVP		DE	04-02-2024 00:52:31	04-02-2024 00:52:24	49 33.97 N	138 39.682 W	3984	200				Jody Klymak					
80	P20	MVP		RE	04-02-2024 01:21:19	04-02-2024 01:21:15	49 33.64 N	138 35.267 W	3954	200				Jody Klymak					
81	P19	ROS	US	BE	04-02-2024 04:46:00	04-02-2024 04:46:00	49 30.007 N	137 39.995 W	3948		377	377	1	Moirá Galbrait	yes	yes	yes		
81	P19	ROS	US	BO	04-02-2024 05:21:12	04-02-2024 05:21:08	49 30.018 N	137 40.062 W		2005	377	377	1	Moirá Galbraith					
81	P19	ROS	US	EN	04-02-2024 05:57:58	04-02-2024 05:57:56	49 30.066 N	137 40.087 W		2005	377	377	1	Moirá Galbraith					
82	P19	DRF		DE	04-02-2024 06:07:14	04-02-2024 06:07:09	49 30.121 N	137 39.987 W	3948	0				Moirá Galbraith					
83	P18	ROS	US	BE	04-02-2024 09:38:28	04-02-2024 09:38:26	49 26.006 N	136 39.92 W	3856		378	401	24	Chloe Immonen	yes	yes	no	PAR off (deep)	
																		stopped paying out winch wire at 300m on descent to wait for ship to adjust lead angle	
83	P18	ROS	US	BO	04-02-2024 10:47:50	04-02-2024 10:47:47	49 25.937 N	136 39.878 W		3889	378	401	24	Chloe Immonen				64906430	
83	P18	ROS	US	EN	04-02-2024 12:11:58	04-02-2024 12:11:58	49 25.923 N	136 39.946 W		3889	378	401	24	Chloe Immonen					
84	P18	DRF		DE	04-02-2024 12:25:13	04-02-2024 12:25:07	49 25.954 N	136 39.707 W	3858					Chloe Immonen					
85	P17	ROS	US	BE	04-02-2024 15:56:28	04-02-2024 15:56:27	49 20.979 N	135 39.995 W	3662		402	404	3	Chloe Immonen	yes	yes	yes	PAR on	
																		forgot to uncheck "sequential bottle fire" in "configure inputs" in seasave prior to starting archive, thus had to change sample labels to reflect change in bottle number of the 5m bottle (was 1, now is 3)	
85	P17	ROS	US	BO	04-02-2024 16:32:58	04-02-2024 16:32:57	49 20.974 N	135 40 W		2005	402	404	3	Chloe Immonen				64906940	
85	P17	ROS	US	EN	04-02-2024 17:07:30	04-02-2024 17:07:31	49 20.974 N	135 40.007 W		2005	402	404	3	Chloe Immonen					
86	P17	DRF		DE	04-02-2024 17:18:28	04-02-2024 17:18:21	49 20.977 N	135 39.743 W	3690					Chloe Immonen					

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number: 2024-002
Vessel: JP Tully

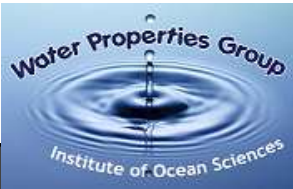
Launch Daily
Science Log

Print Daily Science
Log WorkBook

Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	CTD/Rosette Status			Comments
							Latitude	Longitude			Start	End			Trans. Cleaned	Fluorometer Cleaned	PAR Status	
87	P17	LOOP		BE	04-02-2024 17:34:24	04-02-2024 17:34:17	49 20.625 N	135 35.008 W	3752	5	5087	5087	1	Mark Belton	NA	NA		missed loop during cast, took soon after departure from P 17
88	P16	ROS	US	BE	04-02-2024 20:45:34	04-02-2024 20:45:33	49 16.963 N	134 40.078 W	3658		405	422	18	Moira Galbrait	yes	yes	yes	
88	P16	ROS	US	BO	04-02-2024 20:57:13	04-02-2024 20:57:13	49 16.976 N	134 40.015 W		600	405	422	18	Moira Galbraith				
88	P16	ROS	US	EN	04-02-2024 21:23:37	04-02-2024 21:23:34	49 17.011 N	134 40.006 W		600	405	422	18	Moira Galbraith				
89	P16	BOT	MR	BE	04-02-2024 21:36:52	04-02-2024 21:36:45	49 16.998 N	134 40.037 W	3658		423	432	10	Morgan Griffit	NA	NA		
89	P16	BOT	MR	BO	04-02-2024 22:20:14	04-02-2024 22:20:08	49 16.999 N	134 39.961 W		800	423	432	10	Morgan Griffith				TM
89	P16	BOT	MR	MR	04-02-2024 22:22:09	04-02-2024 22:22:03	49 16.986 N	134 39.961 W		800	423	432	10	Morgan Griffith				kevlar line fraying at 940m
89	P16	BOT	MR	EN	04-02-2024 23:09:25	04-02-2024 23:09:18	49 17.01 N	134 40.059 W		800	423	432	10	Morgan Griffith				
90	P16	ROS	US	BE	04-02-2024 23:52:19	04-02-2024 23:52:17	49 16.989 N	134 40.055 W	3664		433	456	24	Moira Galbrait	yes	yes	no	
90	P16	ROS	US	BO	05-02-2024 00:58:21	05-02-2024 00:58:20	49 16.962 N	134 39.958 W		3683	433	456	24	Moira Galbraith				Deep
90	P16	ROS	US	EN	05-02-2024 02:27:56	05-02-2024 02:27:53	49 16.995 N	134 40.037 W		3683	433	456	24	Moira Galbraith				
91	P16	NET		BE	05-02-2024 02:42:37	05-02-2024 02:42:32	49 16.964 N	134 40.058 W	3658	250				Moira Galbrait	NA	NA		
91	P16	NET		BO	05-02-2024 02:52:06	05-02-2024 02:52:05	49 16.966 N	134 40.002 W		250				Moira Galbraith				
91	P16	NET		EN	05-02-2024 02:58:44	05-02-2024 02:58:43	49 16.967 N	134 40.016 W		250				Moira Galbraith				
92	P16	NET		BE	05-02-2024 03:05:55	05-02-2024 03:05:54	49 16.966 N	134 39.967 W	3658	1200				Moira Galbrait	NA	NA		
92	P16	NET		BO	05-02-2024 03:51:13	05-02-2024 03:51:12	49 16.998 N	134 40.004 W		1200				Moira Galbraith				
92	P16	NET		EN	05-02-2024 04:11:39	05-02-2024 04:11:38	49 17.048 N	134 39.919 W		1200				Moira Galbraith				
93	P16	DRF		DE	05-02-2024 04:20:48	05-02-2024 04:20:46	49 17.096 N	134 39.876 W	3659	0				Moira Galbraith				
94	P15	ROS	US	BE	05-02-2024 08:00:58	05-02-2024 08:00:56	49 11.988 N	133 39.984 W	3537	2005	457	457	1	Chloe Immone	yes	yes	no	PAR off (dark), had issues archiving data in seasave on first attempt, had to stop cast at 40m and come back to surface to reboot seasave and restart cast
94	P15	ROS	US	BO	05-02-2024 08:36:51	05-02-2024 08:36:51	49 11.981 N	133 39.956 W		2005	457	457	1	Chloe Immonen				
94	P15	ROS	US	EN	05-02-2024 09:09:03	05-02-2024 09:09:03	49 11.98 N	133 39.948 W		2005	457	457	1	Chloe Immonen				
95	P15	DRF		DE	05-02-2024 09:23:24	05-02-2024 09:23:21	49 12.038 N	133 39.759 W	4028	0				Mark Belton				scripps 64906390
96	P14	ROS	US	BE	05-02-2024 13:00:47	05-02-2024 13:00:44	49 7.381 N	132 39.914 W	3833		458	481	24	Chloe Immone	yes	yes	no	PAR off (deep), accidentally wrote wrong dpeth in the header of the .xml file. sounder is acting up, depth was really unclear.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number: 2024-002
Vessel: JP Tully

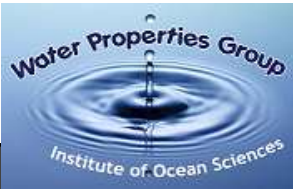
Launch Daily
Science Log

Print Daily Science
Log WorkBook

Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	CTD/Rosette Status			Comments
							Latitude	Longitude			Start	End			Trans. Cleaned	Fluorometer Cleaned	PAR Status	
96	P14	ROS	US	BO	05-02-2024 14:06:37	05-02-2024 14:06:37	49 7.516 N	132 39.894 W		3359	458	481	24	Chloe Immonen				stopped when altimeter was at 10, Depth sounding seems way off
96	P14	ROS	US	EN	05-02-2024 15:31:38	05-02-2024 15:31:37	49 7.416 N	132 39.948 W		3359	458	481	24	Chloe Immonen				
97	P14	DRF		DE	05-02-2024 15:43:49	05-02-2024 15:43:49	49 7.418 N	132 39.646 W	3532	0				Mark Belton				Drifter 64906860
98	P13	ROS	US	BE	05-02-2024 19:18:19	05-02-2024 19:18:19	49 2.598 N	131 39.949 W	3830		482	482	1	Chloe Immone	yes	yes	yes	PAR on
98	P13	ROS	US	BO	05-02-2024 19:54:35	05-02-2024 19:54:35	49 2.564 N	131 39.992 W		2005	482	482	1	Chloe Immonen				
98	P13	ROS	US	EN	05-02-2024 20:30:53	05-02-2024 20:30:54	49 2.604 N	131 39.896 W		2005	482	482	1	Chloe Immonen				5m loop 1 sal 2 chl
99	P13	DRF		DE	05-02-2024 20:42:22	05-02-2024 20:42:22	49 2.731 N	131 39.889 W	3624	0				Moira Galbraith				64906520
100	P13	MVP		DE	05-02-2024 20:44:47	05-02-2024 20:44:45	49 2.819 N	131 39.726 W	3642	170				Lauryn Talbot				less cable on winch
101	Loop101	LOOP		BE	06-02-2024 04:47:33	06-02-2024 04:47:31	49 55.714 N	130 36.091 W	2254	4.5				Moira Galbrait	NA	NA		1 sal 2 chl
102	Scott3	MVP		RE	06-02-2024 13:03:48	06-02-2024 13:03:46	50 49.315 N	129 30.201 W	786	170				Lauryn Talbot				max depth likely not accurate
																		PAR on, altimeter acting up near the surface, keeping a close eye on it.
103	Scott3	ROS	N/A	BE	06-02-2024 13:46:13	06-02-2024 13:46:12	50 50.712 N	129 29.432 W	240					Chloe Immone	yes	yes	no	
103	Scott3	ROS	N/A	BO	06-02-2024 13:51:41	06-02-2024 13:51:39	50 50.731 N	129 29.618 W		227				Chloe Immonen				
103	Scott3	ROS	N/A	EN	06-02-2024 13:57:39	06-02-2024 13:57:38	50 50.748 N	129 29.805 W		227				Chloe Immonen				
104	Scott3	NET		BE	06-02-2024 14:19:03	06-02-2024 14:19:01	50 50.714 N	129 29.178 W	238	228				Mark Belton	NA	NA		
104	Scott3	NET		BO	06-02-2024 14:29:21	06-02-2024 14:29:17	50 50.69 N	129 29.075 W		228				Mark Belton				
104	Scott3	NET		EN	06-02-2024 14:33:31	06-02-2024 14:33:27	50 50.672 N	129 29.066 W		228				Mark Belton				
105	Scott2	ROS	N/A	BE	06-02-2024 16:24:41	06-02-2024 16:24:38	51 7.37 N	129 27.662 W	290					Chloe Immone	yes	yes	yes	PAR on
																		cleaned altimeter connector prior to cast. seemed to act more normal, still saw a couple spikes though...
105	Scott2	ROS	N/A	BO	06-02-2024 16:30:01	06-02-2024 16:29:59	51 7.358 N	129 27.614 W		280				Chloe Immonen				
105	Scott2	ROS	N/A	EN	06-02-2024 16:35:26	06-02-2024 16:35:25	51 7.364 N	129 27.585 W		280				Chloe Immonen				
106	CPE1	ROS	N/A	BE	06-02-2024 22:10:01	06-02-2024 22:09:59	50 59.994 N	127 50.013 W	150					Jody Klymak	yes	yes	yes	
106	CPE1	ROS	N/A	BO	06-02-2024 22:13:23	06-02-2024 22:13:20	50 59.978 N	127 50.057 W	150	143				Jody Klymak				
106	CPE1	ROS	N/A	EN	06-02-2024 22:16:18	06-02-2024 22:16:16	50 59.997 N	127 50.06 W		143				Jody Klymak				
107	CPE1	NET		BE	06-02-2024 22:25:01	06-02-2024 22:24:57	51 0.02 N	127 50.003 W	140	135				Moira Galbrait	NA	NA		
107	CPE1	NET		BO	06-02-2024 22:30:14	06-02-2024 22:30:12	51 0.039 N	127 50.003 W		135				Moira Galbraith				
107	CPE1	NET		EN	06-02-2024 22:35:38	06-02-2024 22:35:36	51 0.034 N	127 50.012 W		135				Moira Galbraith				
108	LBA-1	ROS	N/A	BE	06-02-2024 23:39:15	06-02-2024 23:39:13	50 54.021 N	127 38.545 W	447					Jody Klymak	yes	yes	yes	
108	LBA-1	ROS	N/A	BO	06-02-2024 23:47:55	06-02-2024 23:47:55	50 54.06 N	127 38.515 W		444				Jody Klymak				

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number: 2024-002
Vessel: JP Tully

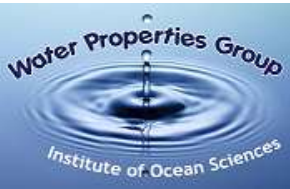
Launch Daily
Science Log

Print Daily Science
Log WorkBook

Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	CTD/Rosette Status			Comments
							Latitude	Longitude			Start	End			Trans. Cleaned	Fluorometer Cleaned	PAR Status	
108	LBA-1	ROS	N/A	EN	06-02-2024 23:55:39	06-02-2024 23:55:39	50 54.086 N	127 38.515 W		444				Jody Klymak				Turned deck unit off without shutting off pump
109	QCS3	ROS	N/A	BE	07-02-2024 01:45:36	07-02-2024 01:45:33	50 43.754 N	127 14.974 W	212					Jody Klymak	yes	yes	yes	
109	QCS3	ROS	N/A	BO	07-02-2024 01:50:14	07-02-2024 01:50:13	50 43.785 N	127 14.942 W	210	204.5				Jody Klymak				
109	QCS3	ROS	N/A	EN	07-02-2024 01:54:30	07-02-2024 01:54:27	50 43.811 N	127 14.933 W		204.5				Jody Klymak				
110	QCS1	ROS	N/A	BE	07-02-2024 03:43:40	07-02-2024 03:43:40	50 40.184 N	126 46.246 W	153					Morgan Griffit	yes	yes	yes	
110	QCS1	ROS	N/A	BO	07-02-2024 03:47:07	07-02-2024 03:47:06	50 40.214 N	126 46.232 W		145				Morgan Griffith				
110	QCS1	ROS	N/A	EN	07-02-2024 03:50:49	07-02-2024 03:50:48	50 40.257 N	126 46.234 W		145				Morgan Griffith				
111	16	ROS	N/A	BE	07-02-2024 12:42:39	07-02-2024 12:42:37	49 57.676 N	125 8.901 W	158					Chloe Immone	yes	yes	yes	
111	16	ROS	N/A	BO	07-02-2024 12:46:05	07-02-2024 12:46:03	49 57.673 N	125 8.935 W		154				Chloe Immonen				to 5 off bottom
111	16	ROS	N/A	EN	07-02-2024 12:49:10	07-02-2024 12:49:10	49 57.68 N	125 8.949 W		154				Chloe Immonen				
112	14	NET		BE	07-02-2024 13:55:47	07-02-2024 13:55:45	49 52.979 N	124 59.544 W	318					Mark Belton	NA	NA		
112	14	NET		BO	07-02-2024 14:07:07	07-02-2024 14:07:03	49 53.006 N	124 59.53 W		313				Mark Belton				
112	14	NET		EN	07-02-2024 14:13:28	07-02-2024 14:13:25	49 53.058 N	124 59.578 W		313				Mark Belton				took crustaceans for chitobiase
113	14	ROS	US	BE	07-02-2024 14:31:39	07-02-2024 14:31:36	49 53.007 N	124 59.472 W	319		483	487	5	Mark Belton	yes	yes	yes	
113	14	ROS	US	BO	07-02-2024 14:38:34	07-02-2024 14:38:32	49 52.992 N	124 59.52 W		312	483	487	5	Mark Belton				
113	14	ROS	US	EN	07-02-2024 14:48:53	07-02-2024 14:48:51	49 52.974 N	124 59.578 W		312	483	487	5	Mark Belton				
114	12	NET		BE	07-02-2024 16:27:20	07-02-2024 16:27:17	49 43.323 N	124 40.166 W	358					Mark Belton	NA	NA		bongo
114	12	NET		BO	07-02-2024 16:40:25	07-02-2024 16:40:22	49 43.41 N	124 40.21 W		353				Mark Belton				
114	12	NET		EN	07-02-2024 16:46:52	07-02-2024 16:46:49	49 43.48 N	124 40.197 W		353				Mark Belton				
115	12	ROS	US	BE	07-02-2024 17:01:18	07-02-2024 17:01:17	49 43.333 N	124 40.16 W	359		488	505	18	Chloe Immone	yes	yes	yes	
115	12	ROS	US	BO	07-02-2024 17:08:37	07-02-2024 17:08:34	49 43.344 N	124 40.104 W		350	488	505	18	Chloe Immonen				altimeter malfunctioning
115	12	ROS	US	EN	07-02-2024 17:33:56	07-02-2024 17:33:56	49 43.34 N	124 40.169 W		350	488	505	18	Chloe Immonen				
116	9	ROS	US	BE	07-02-2024 18:39:07	07-02-2024 18:39:07	49 35.516 N	124 38.25 W	171		506	508	3	Chloe Immone	yes	yes	yes	new altimeter off the vector rosette (76341). Still fluctuated a bit at the surface but kicked in properly at 100m off the bottom and value descended nicely without spikes. Will try cleaning both ends of the cable during next transit.
116	9	ROS	US	BO	07-02-2024 18:43:13	07-02-2024 18:43:13	49 35.5 N	124 38.247 W		160	506	508	3	Chloe Immonen				
116	9	ROS	US	EN	07-02-2024 18:48:03	07-02-2024 18:48:01	49 35.504 N	124 38.218 W		160	506	508	3	Chloe Immonen				

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number: 2024-002
Vessel: JP Tully

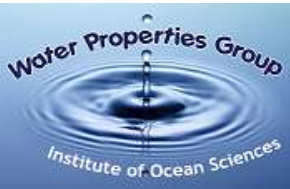
Launch Daily
Science Log

Print Daily Science
Log WorkBook

Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	CTD/Rosette Status			Comments
							Latitude	Longitude			Start	End			Trans. Cleaned	Fluorometer Cleaned	PAR Status	
117	6 ROS	US	BE		07-02-2024 19:50:48	07-02-2024 19:50:47	49 30.609 N	124 27.784 W	195		509	511	3	Chloe Imnone	yes	yes	yes	
117	6 ROS	US	BO		07-02-2024 19:55:04	07-02-2024 19:55:04	49 30.634 N	124 27.751 W		189	509	511	3	Chloe Immonen				
117	6 ROS	US	EN		07-02-2024 20:01:36	07-02-2024 20:01:34	49 30.612 N	124 27.75 W		189	509	511	3	Chloe Immonen				
118	CPF2	ROS	N/A	BE	07-02-2024 20:41:03	07-02-2024 20:41:01	49 27.938 N	124 29.963 W	354					Jody Klymak	yes	yes	yes	mushy bottom altimeter hits off plankton layer
118	CPF2	ROS	N/A	BO	07-02-2024 20:47:40	07-02-2024 20:47:37	49 27.93 N	124 29.942 W	331	324				Jody Klymak				
118	CPF2	ROS	N/A	EN	07-02-2024 20:53:42	07-02-2024 20:53:42	49 27.925 N	124 29.923 W		324				Jody Klymak				
119	CPF2	NET		BE	07-02-2024 21:00:05	07-02-2024 21:00:04	49 27.933 N	124 29.985 W	331					Maira Galbrait	NA	NA		
119	CPF2	NET		BO	07-02-2024 21:12:07	07-02-2024 21:12:06	49 27.98 N	124 29.995 W		325				Maira Galbraith				
119	CPF2	NET		EN	07-02-2024 21:19:03	07-02-2024 21:19:02	49 28.008 N	124 30.005 W		325				Maira Galbraith				
120	3 ROS	US	BE		07-02-2024 22:08:56	07-02-2024 22:08:56	49 26.613 N	124 20.139 W	323		512	514	3	Maira Galbrait	yes	yes	yes	
120	3 ROS	US	BO		07-02-2024 22:15:20	07-02-2024 22:15:17	49 26.585 N	124 20.155 W		319	512	514	3	Maira Galbraith				
120	3 ROS	US	EN		07-02-2024 22:24:47	07-02-2024 22:24:47	49 26.559 N	124 20.16 W		319	512	514	3	Maira Galbraith				
121	2 ROS	US	BE		07-02-2024 23:20:46	07-02-2024 23:20:45	49 24.109 N	124 9.267 W	280		515	519	5	Jody Klymak	yes	yes	yes	
121	2 ROS	US	BO		07-02-2024 23:26:17	07-02-2024 23:26:16	49 24.094 N	124 9.288 W	280	274	515	519	5	Jody Klymak				
121	2 ROS	US	EN		07-02-2024 23:34:14	07-02-2024 23:34:12	49 24.127 N	124 9.241 W		274	515	519	5	Jody Klymak				
122	24 ROS	US	BE		08-02-2024 00:25:31	08-02-2024 00:25:31	49 30.23 N	124 5.944 W	429		520	522	3	Jody Klymak	yes	yes	yes	Acquired before 10 m
122	24 ROS	US	BO		08-02-2024 00:35:29	08-02-2024 00:35:27	49 30.225 N	124 5.995 W	429	422	520	522	3	Jody Klymak				
122	24 ROS	US	EN		08-02-2024 00:45:41	08-02-2024 00:45:39	49 30.255 N	124 6.026 W		422	520	522	3	Jody Klymak				
123	24 NET		BE		08-02-2024 00:52:42	08-02-2024 00:52:40	49 30.248 N	124 6.049 W	430	425				Maira Galbrait	NA	NA		
123	24 NET		BO		08-02-2024 01:08:18	08-02-2024 01:08:15	49 30.262 N	124 6.033 W	430	425				Maira Galbraith				
123	24 NET		EN		08-02-2024 01:16:15	08-02-2024 01:16:13	49 30.305 N	124 6.039 W		425				Maira Galbraith				
124	CPF1	ROS	N/A	BE	08-02-2024 02:18:48	08-02-2024 02:18:46	49 21.959 N	124 4.95 W	245					Jody Klymak	yes	yes	yes	
124	CPF1	ROS	N/A	BO	08-02-2024 02:23:52	08-02-2024 02:23:50	49 21.957 N	124 4.965 W	244	238.3				Jody Klymak				
124	CPF1	ROS	N/A	EN	08-02-2024 02:28:24	08-02-2024 02:28:22	49 21.957 N	124 4.954 W		238.3				Jody Klymak				
125	CPF1	NET		BE	08-02-2024 02:39:23	08-02-2024 02:39:22	49 21.972 N	124 4.972 W	245	240				Maira Galbrait	NA	NA		
125	CPF1	NET		BO	08-02-2024 02:48:20	08-02-2024 02:48:19	49 21.974 N	124 4.958 W		240				Maira Galbraith				
125	CPF1	NET		EN	08-02-2024 02:53:00	08-02-2024 02:52:57	49 21.97 N	124 4.944 W		240				Maira Galbraith				
126	27 ROS	US	BE		08-02-2024 04:10:12	08-02-2024 04:10:10	49 19.081 N	123 47.943 W	345		523	530	8	Jody Klymak	yes	yes	yes	
126	27 ROS	US	BO		08-02-2024 04:17:08	08-02-2024 04:17:07	49 19.087 N	123 47.961 W		337	523	530	8	Jody Klymak				
126	27 ROS	US	EN		08-02-2024 04:31:19	08-02-2024 04:31:19	49 19.089 N	123 47.964 W		337	523	530	8	Jody Klymak				
127	GEO1	ROS	US	BE	08-02-2024 05:10:44	08-02-2024 05:10:42	49 14.934 N	123 44.998 W	402		531	538	8	Jody Klymak	yes	yes	yes	
127	GEO1	ROS	US	BO	08-02-2024 05:18:18	08-02-2024 05:18:17	49 14.93 N	123 45.018 W	402	396	531	538	8	Jody Klymak				
127	GEO1	ROS	US	EN	08-02-2024 05:32:36	08-02-2024 05:32:34	49 14.946 N	123 45.019 W		396	531	538	8	Jody Klymak				
128	GEO1	NET		BE	08-02-2024 05:41:47	08-02-2024 05:41:43	49 14.933 N	123 45.022 W	403	395				Maira Galbrait	NA	NA		

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number: 2024-002
Vessel: JP Tully

Launch Daily
Science Log

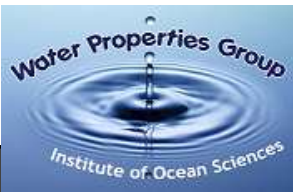
Print Daily Science
Log WorkBook

Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	CTD/Rosette Status			Comments
							Latitude	Longitude			Start	End			Trans. Cleaned	Fluorometer Cleaned	PAR Status	
128	GEO1	NET		BO	08-02-2024 05:56:49	08-02-2024 05:56:48	49 14.941 N	123 45.014 W	403	395				Moira Galbraith				
128	GEO1	NET		EN	08-02-2024 06:03:59	08-02-2024 06:03:56	49 14.941 N	123 45.011 W		395				Moira Galbraith				
129	39	ROS	US	BE	08-02-2024 07:13:05	08-02-2024 07:13:03	49 9.781 N	123 32.968 W	378		539	543	5	Jody Klymak	yes	yes	yes	
129	39	ROS	US	BO	08-02-2024 07:20:31	08-02-2024 07:20:27	49 9.775 N	123 32.964 W		370	539	543	5	Jody Klymak				
129	39	ROS	US	EN	08-02-2024 07:29:38	08-02-2024 07:29:37	49 9.806 N	123 32.989 W		370	539	543	5	Jody Klymak				
130	39	NET		BE	08-02-2024 07:37:15	08-02-2024 07:37:11	49 9.812 N	123 33.017 W	377	370				Moira Galbraith	NA	NA		bongo
130	39	NET		BO	08-02-2024 07:50:51	08-02-2024 07:50:47	49 9.822 N	123 33.048 W		370				Moira Galbraith				
130	39	NET		EN	08-02-2024 07:57:51	08-02-2024 07:57:49	49 9.862 N	123 33.034 W		370				Moira Galbraith				
131	40	ROS	N/A	BE	08-02-2024 08:38:15	08-02-2024 08:38:15	49 8.611 N	123 36.682 W	146					Chloe Immonen	yes	yes	yes	
131	40	ROS	N/A	BO	08-02-2024 08:41:32	08-02-2024 08:41:32	49 8.612 N	123 36.673 W		140				Chloe Immonen				
131	40	ROS	N/A	EN	08-02-2024 08:44:12	08-02-2024 08:44:10	49 8.611 N	123 36.662 W		140				Chloe Immonen				
132	40	NET		BE	08-02-2024 08:51:53	08-02-2024 08:51:48	49 8.598 N	123 36.668 W	149	145				Mark Belton	NA	NA		
132	40	NET		BO	08-02-2024 08:59:11	08-02-2024 08:59:10	49 8.597 N	123 36.741 W		145				Mark Belton				bongo
132	40	NET		EN	08-02-2024 09:01:38	08-02-2024 09:01:34	49 8.62 N	123 36.746 W		145				Mark Belton				bongo. had to move a bit NW of the station coordinates to avoid a subsurface mooring
133	42	NET		BE	08-02-2024 10:10:53	08-02-2024 10:10:49	49 1.907 N	123 26.379 W	323					Mark Belton	NA	NA		
133	42	NET		BO	08-02-2024 10:22:41	08-02-2024 10:22:39	49 1.932 N	123 26.556 W						Mark Belton				
133	42	NET		BO	08-02-2024 10:22:48	08-02-2024 10:22:43	49 1.932 N	123 26.557 W		318				Mark Belton				
133	42	NET		EN	08-02-2024 10:28:44	08-02-2024 10:28:41	49 1.958 N	123 26.648 W		318				Mark Belton				
134	42	ROS	US	BE	08-02-2024 10:44:19	08-02-2024 10:44:19	49 1.932 N	123 26.365 W	322		544	558	15	Chloe Immonen	yes	yes	yes	fraser river delta - lots of sediment in water
134	42	ROS	US	BO	08-02-2024 10:51:14	08-02-2024 10:51:13	49 1.925 N	123 26.424 W		316	544	558	15	Chloe Immonen				
134	42	ROS	US	EN	08-02-2024 11:14:36	08-02-2024 11:14:35	49 1.957 N	123 26.512 W		316	544	558	15	Chloe Immonen				
135	46	NET		BO	08-02-2024 13:00:51	08-02-2024 13:00:48	48 51.395 N	123 10.804 W						Cindy Wright				
135	46	NET		EN	08-02-2024 13:04:31	08-02-2024 13:04:30	48 51.415 N	123 10.81 W						Cindy Wright				
136	46	ROS	US	BE	08-02-2024 13:17:26	08-02-2024 13:17:23	48 51.393 N	123 10.73 W	180		559	561	3	Chloe Immonen	yes	yes	yes	
136	46	ROS	US	BO	08-02-2024 13:21:26	08-02-2024 13:21:24	48 51.39 N	123 10.738 W		173	559	561	3	Chloe Immonen				
136	46	ROS	US	EN	08-02-2024 13:25:42	08-02-2024 13:25:42	48 51.373 N	123 10.75 W		173	559	561	3	Chloe Immonen				
137	58	ROS	N/A	BE	08-02-2024 15:29:15	08-02-2024 15:29:12	48 42.999 N	123 14.274 W	340					Chloe Immonen	yes	yes	yes	weird sound coming from winch motor on ascent
137	58	ROS	N/A	BO	08-02-2024 15:35:22	08-02-2024 15:35:21	48 43.004 N	123 14.26 W		333				Chloe Immonen				
137	58	ROS	N/A	EN	08-02-2024 15:42:32	08-02-2024 15:42:31	48 43.019 N	123 14.254 W		333				Chloe Immonen				
138	GI01	NET		BE	08-02-2024 16:24:53	08-02-2024 16:24:50	48 45.825 N	123 20.496 W	68					Chloe Immonen	NA	NA		
138	GI01	NET		BO	08-02-2024 16:27:28	08-02-2024 16:27:24	48 45.827 N	123 20.509 W						Chloe Immonen				

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Cruise Number:			2024-002		Launch Daily Science Log		Print Daily Science Log WorkBook												CTD/Rosette Status			
Vessel:			JP Tully																			
Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy hh:mm:ss")	Date Time (UTC) GPS ("dd-mm-yyyy hh:mm:ss")	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	Trans. Cleaned	Fluorometer Cleaned	PAR Status	Comments				
							Latitude	Longitude			Start	End										
138	GI01	NET		EN	08-02-2024 16:28:44	08-02-2024 16:28:43	48 45.828 N	123 20.518 W						Chloe Immonen								
139	GI01	ROS	N/A	BE	08-02-2024 16:40:29	08-02-2024 16:40:29	48 45.812 N	123 20.506 W	68					Chloe Immonen	yes	yes	yes					
139	GI01	ROS	N/A	BO	08-02-2024 16:41:53	08-02-2024 16:41:52	48 45.808 N	123 20.498 W		63				Chloe Immonen								
139	GI01	ROS	N/A	EN	08-02-2024 16:43:26	08-02-2024 16:43:23	48 45.81 N	123 20.497 W		63				Chloe Immonen								
140	SC-04	ROS	US	BE	08-02-2024 17:16:48	08-02-2024 17:16:45	48 43.467 N	123 24.952 W	96		562	562	1	Chloe Immonen	yes	yes	yes					
140	SC-04	ROS	US	BO	08-02-2024 17:19:09	08-02-2024 17:19:07	48 43.468 N	123 24.97 W		90	562	562	1	Chloe Immonen								
140	SC-04	ROS	US	EN	08-02-2024 17:21:37	08-02-2024 17:21:36	48 43.475 N	123 24.976 W		90	562	562	1	Chloe Immonen								
141	SC-04	NET		BE	08-02-2024 17:27:15	08-02-2024 17:27:13	48 43.5 N	123 24.991 W	97						NA	NA						
141	SC-04	NET		BO	08-02-2024 17:30:52	08-02-2024 17:30:48	48 43.512 N	123 25.052 W		93				Mark Belton								
141	SC-04	NET		EN	08-02-2024 17:32:37	08-02-2024 17:32:35	48 43.512 N	123 25.081 W		93				Mark Belton								



Zooplankton Net Tow Log

Ocean Sciences Division, Institute of Ocean Sciences

Zooplankton Default Parameters

Cruise Number:	2024-002	Contact:	Galbraith
Vessel:	JP Tully	Equipment Description/Serial Number (ex. Bongo #1)	1
Project:	Line P	Additional Notes	Backup #2

Current TSK Serial Number	Current RBR Serial Number	Net Type	Tow Type	Mesh Size (µM)	Sampling Processing		
					Formalin	Freezing	Ethanol
					YES	YES	NO

Print
Zooplankton
Labels - Under
Construction

Date Time (UTC) GPS	Station	Net Event	CTD Event	Positional Information		Wire Out	Wire Angle	Sounder Depth BE (m)	Net Type	Mesh Size (µm)	Tow Type	Flow Start	Flow End	TSK Serial #	RBR Serial #	Equipment #	Sampling Processing	Comments
				Latitude	Longitude													
25-01-2024 04:47:51	Haro59	2	3	48 35.914 N	123 14.906 W	196	28	205	Bongo	236	VH							BO
25-01-2024 04:52:21	Haro59	2	3	48 35.93 N	123 14.914 W	196	28	205	Bongo	236	VH	79763	80542	2024002				EN
25-01-2024 10:23:11	JF2	5	6	48 18.005 N	123 59.902 W	176	15	186	BONGO	236	VNH	90541	92228	5333	Silver	1	Formalin Frozen	
25-01-2024 20:47:11	P2	11	12	48 36.006 N	126 0.134 W	110	10	118	BONGO	236	VNH	92228	93545	5333	Silver	1	Formalin Frozen	
26-01-2024 06:38:11	P4	16		48 39.065 N	126 40.054 W	250	8	1318	BONGO	236	VNH	93545	95686	5333	Silver	1	Formalin Frozen	
26-01-2024 07:35:51	P4	17	16	48 39.022 N	126 39.996 W	1200	0	1335	BONGO	236	VNH	95686	105285	5333	Silver	1	Formalin Ethanol	
27-01-2024 01:38:01	P8	24	23	48 48.978 N	128 40.072 W	250	5	2544	BONGO	236	VNH	5286	7740	5333	Silver	1	Formalin Frozen	
27-01-2024 14:00:11	P12	29	28	48 58.23 N	130 40.044 W	250		3259	BONGO	236	VNH	7928	12258	5333	Silver	1	Formalin Formalin	
27-01-2024 15:04:11	P12	30	28	48 58.186 N	130 39.845 W	1200	5	3261	BONGO	236	VNH	12258	21498	5333	Silver	1	Ethanol Formalin	
30-01-2024 02:45:14	P26	44	46	49 59.991 N	145 0.048 W	250	35	3796	BONGO	236	VNH	21402	24145	5333	Silver	1	Frozen Formalin	
30-01-2024 03:41:11	P26	45	46	50 0.046 N	145 0.154 W	1200	5	4260	BONGO	236	VNH	24145	36260	5333	Silver	1	Ethanol Formalin	
03-02-2024 23:18:14	P20	77	76	49 33.963 N	138 40.044 W	250	5	3985	BONGO	236	VNH	36266	38612	5333	Silver	1	Frozen Formalin	
04-02-2024 00:19:11	P20	78	76	49 33.986 N	138 40.005 W	1200	8	3985	BONGO	236	VNH	38612	49858	5333	Silver	1	Ethanol Formalin	
05-02-2024 02:52:01	P16	91	90	49 16.966 N	134 40.002 W	250	0	3658	BONGO	236	VNH	49858	51970	5333	Silver	1	Frozen Formalin	
05-02-2024 03:51:11	P16	92	90	49 16.998 N	134 40.004 W	1200	0	3659	BONGO	236	VNH	51970	62145	5333	Silver	1	Ethanol	
06-02-2024 14:29:11	Scott3	104	103	50 50.69 N	129 29.075 W	228	45	240	BONGO	236	VNH	62146	66443	5333	Silver	1	Formalin Frozen	Removed 2 inch mitrochoma from non-flow meter, formalin side
Time	CPE1	107	106	Lat	Long	135		143	BONGO	236	VNH	66445	67422	5333	Silver	1	Formalin Frozen	

Zooplankton Net Tow Log

Ocean Sciences Division, Institute of Ocean Sciences

Zooplankton Default Parameters

Cruise Number:	2024-002	Contact:	Galbraith
Vessel:	JP Tully	Equipment Description/Serial Number (ex. Bongo #1)	1
Project:	Line P	Additional Notes	Backup #2

Sampling Processing							
Current TSK Serial Number	Current RBR Serial Number	Net Type	Tow Type	Mesh Size (µM)	Formalin	Freezing	Ethanol
5333	Silver	BONGO	VNH	236	YES	YES	NO

Print
Zooplankton
Labels - Under
Construction

Date Time (UTC) GPS	Station	Net Event	CTD Event	Positional Information		Wire Out	Wire Angle	Sounder Depth BE (m)	Net Type	Mesh Size (µm)	Tow Type	Flow Start	Flow End	TSK Serial #	RBR Serial #	Equipment #	Sampling Processing	Comments
				Latitude	Longitude													
07-02-2024 14:07:00	CPF1	112	113	49 53.006 N	124 59.53 W	313	5	318	BONGO	236	VNH	67422	69581 - I think	5333	Silver	1	Formalin Frozen	Took crustaceans for chitobiase: 4 euphausiids
07-02-2024 16:40:00	CPF2	114	115	49 43.41 N	124 40.21 W	353	12	358	BONGO	236	VNH	70097	72268	5333	Silver	1	Formalin Frozen	
Time	CPF2	119	118	Lat	Long		0	331	BONGO	236	VNH	72268	74193	5333	Silver	1	Formalin Frozen	chito took 10 calma v, release 1 berabs3
08-02-2024 01:08:00	CPF1	123	122	49 30.262 N	124 6.033 W	425	0	430	BONGO	236	VNH	74194	74862	5333	Silver	1	Formalin Frozen	
08-02-2024 02:48:00	CPF1	125	124	49 21.974 N	124 4.958 W	240	5	245	BONGO	236	VNH	74861	76275	5333	Silver	1	Formalin Frozen	
08-02-2024 05:56:00	GEO1	128	127	49 14.941 N	123 45.014 W	395	0	403	BONGO	236	VNH	76275	78546	5333	Silver	1	Formalin Frozen	
08-02-2024 07:50:00		130	129	49 9.822 N	123 33.048 W	370	3	377	BONGO	236	VNH	78546	80585	5333	Silver	1	Formalin Frozen	
08-02-2024 08:59:00		132	131	49 8.597 N	123 36.741 W	145	20	149	BONGO	236	VNH	80585	81721	5333	Silver	1	Formalin Frozen	
08-02-2024 10:22:00		133	134	49 1.932 N	123 26.557 W	318	7.5	323	BONGO	236	VNH	81720	83710	5333	Silver	1	Formalin Frozen	
08-02-2024 13:00:00		135	136	48 51.395 N	123 10.804 W	177	5	182.8	BONGO	236	VNH	83710	84849	5333	Silver	1	Formalin Frozen	
08-02-2024 16:27:00	GI01	138	139	48 45.827 N	123 20.509 W	63	5	68	BONGO	236	VNH	84849	85259	5333	Silver	1	Formalin Frozen	
08-02-2024 17:30:00	SC04	141	140	48 43.512 N	123 25.052 W	92	10	97	BONGO	236	VNH	85258	85938	5333	Silver	1	Formalin Frozen	

Cruise: 2024-002 Loop Log

Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer (*dd-mm-yyyy hh:mm:ss*)	Date Time (UTC) GPS (*dd-mm-yyyy hh:mm:ss*)	Positional Information (DDD MM.MMM)		Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	Trans. Cleaned	Fluorometer Cleaned	PAR Status	Comments
							Latitude	Longitude			Start	End						
4	JF1	LOOP		BE	25-01-2024 08:15:19	25-01-2024 08:13:47	48 16.276 N	123 30.65 W	170	5	5004	5004	1	Mark Beltr	NA	NA		1 sal, 2 Chl, 1 Nut
7	JF3	LOOP		BE	25-01-2024 13:34:19	25-01-2024 13:32:48	48 26.864 N	124 29.902 W	226	5	5007	5007	1	Chloe Imrr	NA	NA		1 sal, 2 Chl, 1 Nut
8	JF4	LOOP		BE	25-01-2024 15:28:46	25-01-2024 15:27:14	48 31.82 N	125 0.144 W	49	5	5008	5008	1	Mark Beltr	NA	NA		1 sal, 2 Chl, 1 Nut
19	P5	ROS	US	EN	26-01-2024 13:27:12	26-01-2024 13:27:12	48 41.416 N	127 9.738 W		2005	111	111	1	Chloe Immonen				loop sample (1 Sal, 2 Chl) taken while rosette took 5m bottle. Sample number 5009. Should be number 5019
22	P7	ROS	US	EN	26-01-2024 21:25:34	26-01-2024 21:25:33	48 46.648 N	128 10.05 W		2005	133	133	1	Moir Galbraith				2 Chl, 1 Sal
34	Loop34	LOOP		BE	27-01-2024 21:26:26	27-01-2024 21:24:53	49 5.837 N	131 34.642 W	3004	4.5	5034			Moir Gall	NA	NA		2 Chl, 1 Sal
35	Loop35	LOOP		BE	28-01-2024 02:18:25	28-01-2024 02:18:22	49 29.956 N	132 57.793 W	3170	4.5	5035			Moir Gall	NA	NA		2 Chl, 1 Sal
36	Loop36	LOOP		BE	28-01-2024 08:22:10	28-01-2024 08:22:07	49 37.913 N	134 52.355 W	3002	5	5036			Chloe Imrr	NA	NA		2 Chl, 1 Sal
37	Loop37	LOOP		BE	28-01-2024 12:06:12	28-01-2024 12:06:09	49 43.96 N	136 4.345 W	3005	5	5037			Chloe Imrr	NA	NA		2 Chl, 1 Sal
38	Loop38	LOOP		BE	28-01-2024 16:07:34	28-01-2024 16:07:30	49 51.671 N	137 20.57 W	3005		5038			Chloe Imrr	NA	NA		2 Chl, 1 Sal. Depth may not be accurate... depth sounder does not appear to be happy...
39	Loop39	LOOP		BE	29-01-2024 01:58:45	29-01-2024 01:58:42	49 54.773 N	140 3.294 W	4203	4.5	5039			Moir Gall	NA	NA		2 Chl, 1 Sal
40	Loop40	LOOP		BE	29-01-2024 08:53:25	29-01-2024 08:53:23	49 13.774 N	141 17.277 W	2955	5	5040			Mark Beltr	NA	NA		2 Chl, 1 Sal
41	Loop41	LOOP		BE	29-01-2024 14:57:07	29-01-2024 14:57:02	49 38.455 N	142 29.657 W	4028	5	5041			Chloe Imrr	NA	NA		2 Chl, 1 Sal
42	Loop42	LOOP		BE	29-01-2024 21:43:38	29-01-2024 21:43:36	49 53.295 N	144 13.859 W	4176	4.5				Moir Gall	NA	NA		1 Sal, 2 Chl, 1 FLC
54	Loop54	LOOP		BE	31-01-2024 08:04:50	31-01-2024 08:04:50	51 8.3107N	146 43.551 W	4518	5	5054	5054		Mark Beltr	NA	NA		2 Chl, 1 Sal
55	loop55	LOOP		BE	31-01-2024 14:21:16	31-01-2024 14:21:12	51 45.83 N	147 43.199 W	4166	5	5055			Chloe Imrr	NA	NA		1 sal 2 chl, lost ~50ml of A chl replicate
56	Loop56	LOOP		BE	31-01-2024 20:39:19	31-01-2024 20:39:14	52 22.568 N	148 39.606 W	3652	4.5	5056			Moir Gall	NA	NA		2 Chl, 1 Sal
59	Loop59	LOOP		BE	01-02-2024 04:30:37	01-02-2024 04:30:33	52 21.61 N	148 33.136 W	3920	4.5				Moir Gall	NA	NA		1 sal 2 chl
60	Loop60	LOOP		BE	01-02-2024 11:12:44	01-02-2024 11:12:37	51 48.908 N	147 22.655 W	3005	5	5060	5060	1	Mark Beltr	NA	NA		depth is wrong? 2 CHL 1 SAL
61	Loop61	LOOP		BE	01-02-2024 18:21:54	01-02-2024 18:21:51	51 12.773 N	146 6.965 W	3004	5	5061			Morgan Gi	NA	NA		depth is wrong? 2 CHL 1 SAL
62	Loop62	LOOP		BE	01-02-2024 21:47:33	01-02-2024 21:47:28	51 2.589 N	145 34.057 W	4350	4.5				Moir Gall	NA	NA		1 sal 2 chl
63	Loop63	LOOP		BE	02-02-2024 02:09:57	02-02-2024 02:09:52	50 51.468 N	144 59.994 W	4259	4.5				Moir Gall	NA	NA		1 sal 2 chl
68	P23	ROS	US	EN	03-02-2024 01:08:39	03-02-2024 01:08:36	49 45.906 N	141 40.042 W		2005	293	299	7	Moir Galbraith				salinity compare loop at 5m 1 sal 2 chl
72	P21	ROS	US	EN	03-02-2024 12:29:37	03-02-2024 12:29:35	49 38.051 N	139 40.053 W		2005	324	324	1	Chloe Immonen				2 Chl, 1 Sal
81	P19	ROS	US	EN	04-02-2024 05:57:58	04-02-2024 05:57:56	49 30.066 N	137 40.087 W		2005	377	377	1	Moir Galbraith				2 Chl, 1 Sal
87	P17	LOOP		BE	04-02-2024 17:34:24	04-02-2024 17:34:17	49 20.625 N	135 35.008 W	3752	5	5087	5087	1	Mark Beltr	NA	NA		missed loop during cast, took soon after departure from P17, please call Loop 87
94	P15	ROS	US	EN	05-02-2024 09:09:03	05-02-2024 09:09:03	49 11.98 N	133 39.948 W		2005	457	457	1	Chloe Immonen				
98	P13	ROS	US	EN	05-02-2024 20:30:53	05-02-2024 20:30:54	49 2.604 N	131 39.896 W		2005	482	482	1	Chloe Immonen				5m loop 1 sal 2 chl
101	Loop101	LOOP		BE	06-02-2024 04:47:33	06-02-2024 04:47:31	49 55.714 N	130 36.091 W	2254	4.5				Moir Gall	NA	NA		1 sal 2 chl
126	27	ROS	US	EN	08-02-2024 04:31:19	08-02-2024 04:31:19	49 19.089 N	123 47.964 W		337	523	530	8	Jody Klymak				2 Chl, 1 Sal