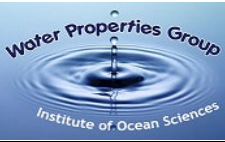


DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number:			2023-069		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										
1	SI	ROS	N/A	BE	26-07-2023 23:59:09	26-07-2023 23:59:07	48 39.288 N	123 30.198 W	182					Cindy Wright	yes	no	yes					
1	SI	ROS	N/A	BO	27-07-2023 00:02:31	27-07-2023 00:02:30	48 39.315 N	123 30.186 W		143				Cindy Wright								
1	SI	ROS	N/A	EN	27-07-2023 00:05:05	27-07-2023 00:05:04	48 39.323 N	123 30.181 W		143				Cindy Wright				sct 1552				
2		DRF		DE	27-07-2023 13:52:29	27-07-2023 13:52:20	49 1.583 N	126 6.208 W	62					Charles Hannah				sct 1550				
3		DRF		DE	27-07-2023 14:48:03	27-07-2023 14:47:52	49 8.82 N	126 20.41 W	82					Charles Hannah								
4	In transit to E0:	LOOP		BE	27-07-2023 15:32:09	27-07-2023 15:31:58	49 14.568 N	126 31.924 W	98		1	1	1	Cindy Wright	NA	NA						
5	E01-62	MOOR		RE	27-07-2023 19:44:22	27-07-2023 19:44:09	49 16.924 N	126 36.758 W	104	104				David Spear								
6	E01	ROS	N/A	BE	27-07-2023 20:37:57	27-07-2023 20:37:56	49 16.972 N	126 36.844 W	104					Cindy Wright	yes	no	yes					
6	E01	ROS	N/A	BO	27-07-2023 20:40:09	27-07-2023 20:40:05	49 16.986 N	126 36.846 W		100				Cindy Wright				db=-.14-.19				
6	E01	ROS	N/A	EN	27-07-2023 20:42:12	27-07-2023 20:42:11	49 17 N	126 36.85 W						Cindy Wright				chlmax=8m				
7	E01-63	MOR		DE	27-07-2023 21:45:05	27-07-2023 21:44:53	49 17 N	126 36.874 W	104	104				David Spear								
8	E01	DRF		DE	27-07-2023 21:53:55	27-07-2023 21:53:44	49 16.96 N	126 38.167 W	106					Charles Hannah				sct 1546 & 1523				
9		DRF		DE	27-07-2023 22:39:11	27-07-2023 22:39:00	49 11.926 N	126 46.186 W	131					Charles Hannah				sct 1553				
10	E03-62	MOR		RE	28-07-2023 00:37:06	28-07-2023 00:36:55	49 7.277 N	126 57.083 W	381	381				David Spear								
11	E03-63	MOR		DE	28-07-2023 01:24:58	28-07-2023 01:24:47	49 5.73 N	126 56.077 W	400	400				David Spear								
12	E03	ROS	US	BE	28-07-2023 01:37:49	28-07-2023 01:37:46	49 5.702 N	126 55.993 W	396		2	15	14	Cindy Wright	yes	no	yes	electronic BE a bit late				
12	E03	ROS	US	BO	28-07-2023 01:41:50	28-07-2023 01:41:49	49 5.694 N	126 56.01 W		396	2	15	14	Cindy Wright								
12	E03	ROS	US	EN	28-07-2023 02:04:11	28-07-2023 02:04:08	49 5.658 N	126 56.012 W		396	2	15	14	Cindy Wright								
13	E03	DRF		DE	28-07-2023 02:23:01	28-07-2023 02:22:49	49 6.707 N	126 57.246 W						Charles Hannah				sct 1522				
14		DRF		DE	28-07-2023 10:07:00	28-07-2023 10:07:00	49 59.281 N	127 59.938 W						Charles Hannah				sct1554				
15	Quat2-2	MOR		RE	28-07-2023 14:33:19	28-07-2023 14:33:06	50 28.514 N	127 49.268 W	132	132				Cindy Wright								
16	Quat2-3	MOR		DE	28-07-2023 15:36:00	28-07-2023 15:35:50	50 28.484 N	127 49.219 W	132					David Spear								
17	Quat2	ROS	US	BE	28-07-2023 15:46:49	28-07-2023 15:46:44	50 28.448 N	127 49.065 W	134		16	29	14	Cindy Wright	yes	no	yes	accidentally labelled Quat1 labels not changed, will say Quat1 when it is Quat2				
17	Quat2	ROS	US	BO	28-07-2023 15:49:41	28-07-2023 15:49:37	50 28.446 N	127 49.065 W		131	16	29	14	Cindy Wright								
17	Quat2	ROS	US	EN	28-07-2023 16:05:43	28-07-2023 16:05:40	50 28.379 N	127 49.218 W		131	16	29	14	Cindy Wright								
18	Quat1-2	MOR		RE	28-07-2023 17:22:56	28-07-2023 17:22:43	50 24.761 N	128 0.13 W	175					David Spear								
19	Quat1	ROS	N/A	BE	28-07-2023 18:14:53	28-07-2023 18:14:50	50 24.762 N	128 0.367 W	187					Cindy Wright	yes	no	yes					
19	Quat1	ROS	N/A	BO	28-07-2023 18:18:31	28-07-2023 18:18:28	50 24.738 N	128 0.388 W		185.5				Cindy Wright								
19	Quat1	ROS	N/A	EN	28-07-2023 18:22:03	28-07-2023 18:22:01	50 24.745 N	128 0.4 W						Cindy Wright								
20	Quat1-3	MOR		DE	28-07-2023 18:44:32	28-07-2023 18:44:21	50 24.794 N	128 0.332 W	188					David Spear								
21	In transit	LOOP		BE	28-07-2023 21:01:16	28-07-2023 21:01:05	50 28.082 N	128 15.159 W	100		30	30		Cindy Wright	NA	NA						
22		DRF		DE	28-07-2023 22:03:22	28-07-2023 22:03:09	50 33.886 N	128 33.225 W	190					Charles Hannah								
23	In transit	DRF		DE	28-07-2023 23:51:20	28-07-2023 23:51:09	50 43.212 N	129 4.828 W	306					David Spear				sct1520				
24	Scott3-3	MOR		RE	29-07-2023 01:22:21	29-07-2023 01:22:09	50 50.332 N	129 28.56 W	240					David Spear								
25	Scott3-4	MOR		DE	29-07-2023 02:21:13	29-07-2023 02:21:01	50 50.468 N	129 28.81 W	241					David Spear								
26	Scott3	ROS		BE	29-07-2023 02:29:20	29-07-2023 02:29:14	50 50.504 N	129 28.886 W	239					Stephen Page	yes	no	yes	cast failed at 70m. Issue with computer. Swapped out to spare compuer				
27	Scott3	ROS	US	BE	29-07-2023 04:21:47	29-07-2023 04:23:15	50 50.509 N	129 28.883 W	238		31	46	16	Stephen Page	yes	no	yes					
27	Scott3	ROS	US	BO	29-07-2023 04:27:01	29-07-2023 04:28:30	50 50.514 N	129 28.886 W	238	237				Stephen Page								
27	Scott3	ROS	US	EN	29-07-2023 04:41:47	29-07-2023 04:43:15	50 50.505 N	129 28.891 W						Stephen Page				dp = 0.3				
28	CS01	ROS	US	BE	29-07-2023 06:50:23	29-07-2023 06:51:49	50 34.891 N	129 41.51 W	2102		47	69	23	Stephen Page	no	no	yes					
28	CS01	ROS	US	BO	29-07-2023 07:25:05	29-07-2023 07:26:34	50 34.874 N	129 41.544 W		2122	47	69	23	Stephen Page								
28	CS01	ROS	US	EN	29-07-2023 08:28:55	29-07-2023 08:30:24	50 34.865 N	129 41.583 W		2122	47	69	23	Stephen Page				lost communication with CTD at ~450m on upcast. Similar issue as earlier at Scott3, but for CTD port, not Pump port.				
29	CS01	NET		BO	29-07-2023 09:20:40	29-07-2023 09:20:30	50 34.859 N	129 41.54 W	2104	250				Stephen Page								

We had issues getting the TSG pressure valves pushing enough water. Flows to both Valve 1 and 2 were erratic and ever changing. On Wed July 27th, 11:00 ish, Lindsay noticed that a valve top of the debubble was wide open. He closed it down slightly and flow resumed normally. So, the first day or so of TSG will show weird flow ratings

E03-62 was hit and moved 2 miles to the north. The rosette cast does not reflect this and was done at the position for E03-63

TSG: around midnight on July 29th (PDT), the flow to the TSG started to go down. Notice it had no flow in V1 or V2 at 07:00 PDT. Played with valves and outflows, and then there was a spike in flow and flow resumed. We believe it to be a clog somewhere in the line. We do suspect though, there is an issue with the debubbler since the start of the cruise.

Ocean Sciences Division, Institute of Ocean Sciences



2023-069

Launch Daily Science Log

**Print Daily Science
Log WorkBook**

Vessel: JP Tully

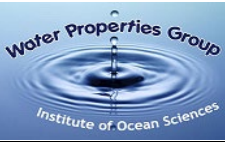
CTD/Bocette Status

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						
29	CS01	NET		EN	29-07-2023 09:27:04	29-07-2023 09:26:50	50 34.844 N	129 41.564 W		250				Stephen Page				
30	Scott2-7	MOR		RE	29-07-2023 14:14:22	29-07-2023 14:14:13	51 7.768 N	129 28.387 W	287					David Spear				
31	Scott2	ROS	N/A	BE	29-07-2023 14:54:02	29-07-2023 14:55:29	51 7.68 N	129 28.531 W	288					Cindy Wright	yes	no	no	db=0.2db
31	Scott2	ROS	N/A	BO	29-07-2023 14:58:44	29-07-2023 15:00:12	51 7.682 N	129 28.492 W		286				Cindy Wright				Issues characterized
31	Scott2	ROS	N/A	EN	29-07-2023 15:03:31	29-07-2023 15:04:59	51 7.675 N	129 28.486 W						Cindy Wright				
32	Scott2-8	MOR		DE	29-07-2023 16:09:36	29-07-2023 16:09:27	51 7.687N	129 28.570 W						David Spear				
33		DRF		DE	29-07-2023 16:09:57	29-07-2023 16:03:48	51 7.596 N	129 28.736 W										
34	CI04	ROS	N/A	BE	29-07-2023 17:12:33	29-07-2023 17:13:59	51 13.177 N	129 16.06 W	287					Cindy Wright	yes	no	no	
34	CI04	ROS	N/A	BO	29-07-2023 17:17:43	29-07-2023 17:19:09	51 13.188 N	129 16.049 W		284				Cindy Wright				
34	CI04	ROS	N/A	EN	29-07-2023 17:22:38	29-07-2023 17:24:06	51 13.203 N	129 16.046 W						Cindy Wright				
35	CI04	NET		BE	29-07-2023 18:32:51	29-07-2023 18:32:39	51 19.185 N	129 3.142 W	260					Cindy Wright	NA	NA		
35	CI04	NET		BO	29-07-2023 18:43:03	29-07-2023 18:42:53	51 19.159 N	129 3.1 W		250				Cindy Wright				
35	CI04	NET		EN	29-07-2023 18:47:25	29-07-2023 18:47:15	51 19.162 N	129 3.117 W		250				Cindy Wright				
36	CI04	ROS	US	BE	29-07-2023 19:09:45	29-07-2023 19:11:10	51 19.15 N	129 3.057 W	260		70	84	15	Lucius Perreault	yes	no	no	
36	CI04	ROS	US	BO	29-07-2023 19:17:31	29-07-2023 19:18:58	51 19.142 N	129 3.066 W	260	257	70	84	15	Lucius Perreault				
36	CI04	ROS	US	EN	29-07-2023 19:37:48	29-07-2023 19:39:16	51 19.138 N	129 3.1 W		257	70	84	15	Lucius Perreault				
37	CI03b	ROS		BE	29-07-2023 20:57:00	29-07-2023 20:58:27	51 23.081 N	128 44.986 W						Lucius Perreault	yes	no		
37	CI03b	ROS		BO	29-07-2023 21:03:06	29-07-2023 21:04:32	51 23.067 N	128 45.002 W	226	223				Lucius Perreault				
38	In Transit	LOOP		BE	29-07-2023 21:58:11	29-07-2023 21:57:59	51 26.589 N	128 33.96 W	208		85	85	1	Cindy Wright	NA	NA		
39	CI02	ROS	N/A	BE	29-07-2023 22:22:33	29-07-2023 22:23:59	51 28.047 N	128 29.983 W	200					Cindy Wright	yes	no	no	
39	CI02	ROS	N/A	BO	29-07-2023 22:26:20	29-07-2023 22:27:48	51 28.046 N	128 29.971 W		196.5				Cindy Wright				
39	CI02	ROS	N/A	EN	29-07-2023 22:30:02	29-07-2023 22:31:28	51 28.045 N	128 29.966 W						Cindy Wright				
40	HAK1-7	MOR		RE	30-07-2023 00:33:15	30-07-2023 00:33:04	51 42.832 N	128 14.054 W	136					David Spear				
41	HAK1	ROS	N/A	BE	30-07-2023 01:32:01	30-07-2023 01:33:27	51 42.706 N	128 14.149 W	141					Stephen Page	yes	no	no	
41	HAK1	ROS	N/A	BO	30-07-2023 01:35:45	30-07-2023 01:37:11	51 42.706 N	128 14.148 W		138				Stephen Page				
41	HAK1	ROS	N/A	EN	30-07-2023 01:38:03	30-07-2023 01:39:29	51 42.709 N	128 14.14 W		138				Stephen Page				dp = 0.2
42	HAK1	DRF		DE	30-07-2023 01:44:58	30-07-2023 01:46:25	51 42.543 N	128 14.232 W						Charles Hannah				SCT 1547
43	CI01	NET		BE	30-07-2023 02:39:01	30-07-2023 02:38:49	51 35.727 N	128 18.172 W	156					Stephen Page	NA	NA		
43	CI01	NET		BO	30-07-2023 02:43:27	30-07-2023 02:43:15	51 35.721 N	128 18.195 W	156	146				Stephen Page				
43	CI01	NET		EN	30-07-2023 02:45:46	30-07-2023 02:45:34	51 35.717 N	128 18.196 W	156	146				Stephen Page				
44	CI01	ROS	US	BE	30-07-2023 03:08:02	30-07-2023 03:09:29	51 35.7 N	128 18.228 W	156		86	100	15	Stephen Page	yes	no	yes	PAR sensor back on for CI01
44	CI01	ROS		BO	30-07-2023 03:11:08	30-07-2023 03:12:34	51 35.703 N	128 18.226 W		153				Stephen Page				
44	CI01	ROS		EN	30-07-2023 03:27:44	30-07-2023 03:29:10	51 35.708 N	128 18.19 W		153				Stephen Page				
45	CI01	ROS	US	BE	30-07-2023 04:02:13	30-07-2023 04:03:41	51 35.697 N	128 18.187 W	156	50			3	Stephen Page	yes	no	yes	
45	CI01	ROS		BO	30-07-2023 04:03:16	30-07-2023 04:04:41	51 35.697 N	128 18.187 W		50			3	Stephen Page				
45	CI01	ROS		EN	30-07-2023 04:06:44	30-07-2023 04:08:09	51 35.696 N	128 18.181 W		50			3	Stephen Page				
46	in transit	DRF		DE	30-07-2023 04:41:41	30-07-2023 04:41:29	51 38.384 N	128 24.47 W						Charles Hannah				SCT 1551
47	in transit	DRF		DE	30-07-2023 05:18:53	30-07-2023 05:18:43	51 42.181 N	128 33.04 W						Charles Hannah				SCT 1545
48	in transit	DRF		DE	30-07-2023 05:53:01	30-07-2023 05:52:49	51 45.289 N	128 40.078 W	79					Charles Hannah				SCT1526
49	in transit	DRF		DE	30-07-2023 06:27:01	30-07-2023 06:26:50	51 48.697 N	128 47.783 W	75					Charles Hannah				SCT 1555
50	MS02	ROS		BE	30-07-2023 08:24:20	30-07-2023 08:25:46	52 0.007 N	129 14.175 W	180					Charles Hannah	yes	no		
50	MS02	ROS		BO	30-07-2023 08:28:57	30-07-2023 08:30:23	52 0.003 N	129 14.157 W	180	177				Charles Hannah				
50	MS02	ROS		EN	30-07-2023 08:32:12	30-07-2023 08:33:37	52 0.004 N	129 14.158 W	180	177				Charles Hannah				
51	MT09	NET		BE	30-07-2023 12:33:46	30-07-2023 12:33:36	52 7.683 N	130 17.173 W	444					Stephen Page	NA	NA		
51	MT09	NET		BO	30-07-2023 12:39:34	30-07-2023 12:39:21	52 7.688 N	130 17.164 W	444	250				Stephen Page				
51	MT09	NET		EN	30-07-2023 12:44:17	30-07-2023 12:44:07	52 7.692 N	130 17.121 W		250				Stephen Page				
52	MT09	ROS	US	BE	30-07-2023 12:58:46	30-07-2023 13:00:11	52 7.689 N	130 17.131 W	444		102	119	18	Charles Hannah	yes	no	yes	
52	MT09	ROS	US	BO	30-07-2023 13:07:59	30-07-2023 13:09:25	52 7.68 N	130 17.139 W	444	442				Charles Hannah				
52	MT09	ROS	US	EN	30-07-2023 13:32:43	30-07-2023 13:34:08	52 7.696 N	130 17.126 W						Charles Hannah				
53	In Transit	LOOP		BE	30-07-2023 15:17:46	30-07-2023 15:17:34	52 13.386 N	130 42.511 W	179		120	120		Cindy Wright	NA	NA		

Y:\Cruise_Data_Raw\2023\2023-069 Mooring cruise\Daily Log\2023-069\2023-069_Daily Science Log_V.FEB2023.xlsx

DAILY SCIENCE LOG

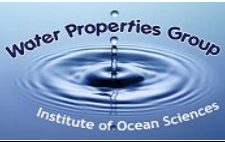
Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number:			2023-069		Launch Daily Science Log		Print Daily Science Log WorkBook														
Vessel:			JP Tully															CTD/Rosette Status			
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									
54	GH2	ROS	N/A	BE	30-07-2023 16:02:02	30-07-2023 16:03:29	52 15.613 N	130 51.97 W	184					Cindy Wright	yes	no	yes	timed out NMEA. GPS from seasave			
54	GH2	ROS	N/A	BO	30-07-2023 16:05:49	30-07-2023 16:06	52 15.62 N	130 51.96 W		180.8				Cindy Wright							
54	GH2	ROS	N/A	EN	30-07-2023 16:09:07	30-07-2023 16:10:33	52 15.632 N	130 51.975 W						Cindy Wright							
55	GH1	ROS	N/A	BE	30-07-2023 17:18:37	30-07-2023 17:20:04	52 23.79 N	130 57.965 W	121					Cindy Wright	yes	no	yes				
55	GH1	ROS	N/A	BO	30-07-2023 17:22:08	30-07-2023 17:23:33	52 23.804 N	130 57.976 W		117				Cindy Wright							
55	GH1	ROS	N/A	EN	30-07-2023 17:24:25	30-07-2023 17:25:50	52 23.821 N	130 57.987 W						Cindy Wright							
56	Juan1-5	MOR		DE	30-07-2023 19:29:22	30-07-2023 19:29:10	52 31.086 N	131 23.874 W	225					David Spear							
57	Juan3-1	MOR		RE	30-07-2023 20:57:24	30-07-2023 20:47:12	52 33.726N	131 26.550 W						David Spear							
58	Juan2-4	MOR		RE	30-07-2023 21:47:46	30-07-2023 21:47:34	52 31.144 N	131 25.516 W	223					David Spear				release time a bit late			
59	Juan2	ROS	US	BE	30-07-2023 21:58:11	30-07-2023 21:59:34	52 31.245 N	131 25.922 W	243		139	141	3	Cindy Wright	yes	no	yes				
59	Juan2	ROS	US	BO	30-07-2023 22:02:14	30-07-2023 22:03:40	52 31.269 N	131 25.963 W		224	139	141	3	Cindy Wright							
59	Juan2	ROS	US	EN	30-07-2023 22:12:16	30-07-2023 22:13:40	52 31.278 N	131 25.981 W			139	141	3	Cindy Wright							
60	JPS1	NET		BE	30-07-2023 23:31:36	30-07-2023 23:31:24	52 36.34 N	131 40.141 W	136					Cindy Wright	NA	NA					
60	JPS1	NET		BO	30-07-2023 23:36:12	30-07-2023 23:35:59	52 36.34 N	131 40.164 W		125				Cindy Wright							
61	JPS1	ROS	US	BE	30-07-2023 23:49:58	30-07-2023 23:51:23	52 36.353 N	131 40.222 W	131		150	162	13	David Spear	yes	no	yes				
61	JPS1	ROS	US	BO	30-07-2023 23:52:48	30-07-2023 23:54:12	52 36.351 N	131 40.224 W		128	150	162	13	David Spear							
61	JPS1	ROS	US	EN	31-07-2023 00:07:18	31-07-2023 00:08:42	52 36.35 N	131 40.214 W		128	150	162	13	David Spear							
62	JPS2	ROS		BE	31-07-2023 00:39:32	31-07-2023 00:40:57	52 34.961 N	131 37.306 W	234					Lucius Perreault	yes	no	yes				
62	JPS2	ROS		BO	31-07-2023 00:45:40	31-07-2023 00:47:07	52 34.961 N	131 37.361 W	243	246				Lucius Perreault							
62	JPS2	ROS		EN	31-07-2023 00:49:58	31-07-2023 00:51:25	52 34.961 N	131 37.355 W	241					Lucius Perreault							
63	JPS3	NET		BE	31-07-2023 01:36:23	31-07-2023 01:36:11	52 33.271 N	131 29.842 W	318					Cindy Wright	NA	NA					
63	JPS3	NET		BO	31-07-2023 01:45:32	31-07-2023 01:45:21	52 33.272 N	131 29.866 W		250				Cindy Wright							
63	JPS3	NET		EN	31-07-2023 01:49:46	31-07-2023 01:49:35	52 33.268 N	131 29.871 W		250				Cindy Wright							
64	JPS3	ROS	US	BE	31-07-2023 01:59:32	31-07-2023 02:00:58	52 33.264 N	131 29.875 W	325		163	174	12	Stephen Page	yes	no	yes				
64	JPS3	ROS	US	BO	31-07-2023 02:06:04	31-07-2023 02:07:29	52 33.264 N	131 29.868 W		322	163	174	12	Stephen Page							
64	JPS3	ROS	US	EN	31-07-2023 02:23:30	31-07-2023 02:24:54	52 33.252 N	131 29.857 W		322	163	174	12	Stephen Page							
65	JPS4	ROS	US	BE	31-07-2023 03:04:28	31-07-2023 03:05:54	52 31.121 N	131 23.559 W	357		121	138	18	Stephen Page	yes	no	yes				
65	JPS4	ROS	US	BE	31-07-2023 03:04:31	31-07-2023 03:05:58	52 31.121 N	131 23.559 W			121	138	18	Stephen Page	NA	NA	no				
65	JPS4	ROS	US	BO	31-07-2023 03:10:40	31-07-2023 03:12:04	52 31.118 N	131 23.56 W		361.3	121	138	18	Stephen Page							
65	JPS4	ROS	US	EN	31-07-2023 03:33:36	31-07-2023 03:35:03	52 31.11 N	131 23.595 W		361.3	121	138	18	Stephen Page				dp = 0.3			
66	JPS5	ROS		BE	31-07-2023 04:13:44	31-07-2023 04:15:09	52 31.4 N	131 18.738 W	246					Charles Hannah	yes	no					
66	JPS5	ROS		BO	31-07-2023 04:19:41	31-07-2023 04:21:06	52 31.403 N	131 18.739 W	246	243				Charles Hannah							
66	JPS5	ROS		EN	31-07-2023 04:24:47	31-07-2023 04:26:14	52 31.396 N	131 18.734 W		243				Charles Hannah							
67	JPS5	NET		BE	31-07-2023 04:36:00	31-07-2023 04:35:49	52 31.406 N	131 18.729 W	246					Stephen Page	NA	NA					
67	JPS5	NET		BO	31-07-2023 04:39:51	31-07-2023 04:39:39	52 31.395 N	131 18.708 W		235				Stephen Page							
67	JPS5	NET		EN	31-07-2023 04:43:39	31-07-2023 04:43:27	52 31.386 N	131 18.703 W						Stephen Page							
68	JPS6	ROS	US	BE	31-07-2023 05:26:07	31-07-2023 05:27:33	52 32.158 N	131 10.661 W	173					Charles Hannah	yes	no	yes				
68	JPS6	ROS		EN	31-07-2023 05:47:23	31-07-2023 05:48:49	52 32.119 N	131 10.632 W	173	171	175	187	13	Charles Hannah							
69	JPS7	NET		BE	31-07-2023 06:26:42	31-07-2023 06:26:32	52 33.949 N	131 5.916 W	134	124				Stephen Page	NA	NA					
69	JPS7	NET		BO	31-07-2023 06:29:33	31-07-2023 06:29:19	52 33.949 N	131 5.914 W	134	124				Stephen Page							
69	JPS7	NET		EN	31-07-2023 06:31:47	31-07-2023 06:31:34	52 33.941 N	131 5.906 W	134	124				Stephen Page							
70	JPS7	ROS		BE	31-07-2023 06:44:36	31-07-2023 06:46:01	52 33.926 N	131 5.875 W	134					Charles Hannah	yes	no	yes				
70	JPS7	ROS		BO	31-07-2023 06:48:03	31-07-2023 06:49:29	52 33.918 N	131 5.872 W	13	131				Charles Hannah							
70	JPS7	ROS		EN	31-07-2023 06:51:01	31-07-2023 06:52:27	52 33.918 N	131 5.872 W	134	131				Charles Hannah							
71	JPS7	DRF		DE	31-07-2023 06:55:24	31-07-2023 06:56:51	52 33.918 N	131 5.869 W	134					Charles Hannah				SCT 1578			
72	JPS8	ROS	N/A	BE	31-07-2023 07:51:53	31-07-2023 07:53:20	52 33.958 N	130 52.856 W	150					Stephen Page	yes	no	yes				
72	JPS8	ROS		BO	31-07-2023 07:54:49	31-07-2023 07:56:14	52 33.949 N	130 52.865 W		146				Stephen Page							
72	JPS8	ROS		EN	31-07-2023 07:57:27	31-07-2023 07:58:51	52 33.942 N	130 52.871 W						Stephen Page				dp = 0.2			
73	JPS8	DRF		DE	31-07-2023 08:07:36	31-07-2023 08:07:25	52 33.975 N	130 52.566 W	151					Charles Hannah							

DAILY SCIENCE LOG

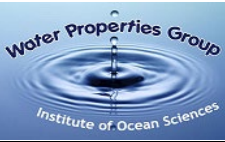
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Cruise Number:				2023-069		Launch Daily Science Log		Print Daily Science Log WorkBook												CTD/Rosette Status			
Vessel:				JP Tully																			
Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy 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											
74	In transit	LOOP		BE	31-07-2023 08:45:06	31-07-2023 08:44:56	52 29.421 N	130 48.536 W	144		188	188	1	Stephen Page	NA	NA							
75		DRF		DE	31-07-2023 10:02:43	31-07-2023 10:02:33	52 29.036 N	130 36.855 W						Stephen Page				SCT 1539					
76	JPS9	ROS	N/A	BE	31-07-2023 11:01:28	31-07-2023 11:02:54	52 33.929 N	130 26.038 W	180					Stephen Page	yes	no	yes						
76	JPS9	ROS	N/A	BO	31-07-2023 11:04:42	31-07-2023 11:06:07	52 33.919 N	130 26.029 W		177				Stephen Page									
76	JPS9	ROS	N/A	EN	31-07-2023 11:07:46	31-07-2023 11:09:11	52 33.914 N	130 26.019 W						Stephen Page				dp = 0.2					
77	JPS9	DRF		DE	31-07-2023 11:17:03	31-07-2023 11:16:49	52 34.257 N	130 25.934 W						Stephen Page				SCT 1529					
78		DRF		DE	31-07-2023 12:35:02	31-07-2023 12:34:49	52 47.775 N	130 24.639 W	139					Charles Hannah				sct 1516					
79	In transit	DRF		DE	31-07-2023 13:40:06	31-07-2023 13:39:56	52 59.087 N	130 23.684 W	160					Charles Hannah									
80	SRN1-6	MOR		RE	31-07-2023 14:31:08	31-07-2023 14:30:58	53 6.58 N	130 23.139 W	200					David Spear									
81	SRN1	ROS	US	BE	31-07-2023 15:36:19	31-07-2023 15:37:43	53 6.529 N	130 23.005 W	201		189	202	14	Cindy Wright	yes	no	yes						
81	SRN1	ROS	US	BO	31-07-2023 15:40:09	31-07-2023 15:41:32	53 6.534 N	130 23.024 W		198	189	202	14	Cindy Wright									
81	SRN1	ROS	US	EN	31-07-2023 15:56:58	31-07-2023 15:58:23	53 6.55 N	130 23.06 W		198	189	202	14	Cindy Wright									
82	SRN1-6	DRF		DE	31-07-2023 16:07:01	31-07-2023 16:06:48	53 6.644 N	130 23.059 W						Lucius Perreault									
83	HECS1	ROS	US	BE	31-07-2023 18:06:33	31-07-2023 18:07:59	53 23.541 N	130 45.588 W	181		203	216	14	Cindy Wright	yes	no	yes						
83	HECS1	ROS	US	BO	31-07-2023 18:09:59	31-07-2023 18:11:24	53 23.535 N	130 45.62 W		173.7	203	216	14	Cindy Wright									
83	HECS1	ROS	US	EN	31-07-2023 18:24:46	31-07-2023 18:26:09	53 23.596 N	130 45.619 W		173.7	203	216	14	Cindy Wright									
84	HECS3	ROS	N/A	BE	31-07-2023 20:27:11	31-07-2023 20:28:37	53 41.886 N	130 43.022 W	140					Cindy Wright	yes	no	yes	DP=0.2 db					
84	HECS3	ROS	N/A	BO	31-07-2023 20:29:30	31-07-2023 20:30:56	53 41.885 N	130 43.022 W		136.7				Cindy Wright									
84	HECS3	ROS	N/A	EN	31-07-2023 20:32:06	31-07-2023 20:33:32	53 41.882 N	130 43.023 W		136.7				Cindy Wright									
																		latitude seems to be missing from NMEA feed on seasave. Please see latitude on daily log					
85	HECS5	ROS	US	BE	31-07-2023 22:36:03	31-07-2023 22:37:29	53 56.228 N	131 0.33 W	89		217	227	11	Cindy Wright	yes	no	yes						
85	HECS5	ROS	US	BO	31-07-2023 22:38:25	31-07-2023 22:39:51	53 56.231 N	131 0.324 W		86	217	227	11	Cindy Wright									
85	HECS5	ROS	US	EN	31-07-2023 22:49:56	31-07-2023 22:51:22	53 56.242 N	131 0.312 W		86	217	227	11	Cindy Wright									
86	HECS7	ROS	N/A	BE	01-08-2023 01:09:01	01-08-2023 01:10:26	54 13.828 N	131 2.182 W	123					Chris Clarke	yes	yes	yes						
86	HECS7	ROS	N/A	BO	01-08-2023 01:13:23	01-08-2023 01:14:46	54 13.834 N	131 2.191 W	123	119				Chris Clarke									
86	HECS7	ROS	N/A	EN	01-08-2023 01:15:33	01-08-2023 01:16:56	54 13.837 N	131 2.188 W	123	119				Chris Clarke									
87	HECS7	DRF		DE	01-08-2023 01:27:09	01-08-2023 01:26:56	54 14.459 N	131 2.329 W	121					Charles Hannah				sct 1533					
88	HECS8	NET		BE	01-08-2023 03:06:02	01-08-2023 03:05:49	54 23.158 N	131 5.318 W	115	105				Stephen Page	NA	NA							
88	HECS8	NET		BO	01-08-2023 03:08:47	01-08-2023 03:08:34	54 23.167 N	131 5.31 W		105				Stephen Page									
88	HECS8	NET		EN	01-08-2023 03:10:33	01-08-2023 03:10:21	54 23.169 N	131 5.308 W		105				Stephen Page									
																		had to bring back onboard to check that bottles were ready.					
89	HECS8	ROS	US	BE	01-08-2023 03:29:14	01-08-2023 03:30:37	54 23.157 N	131 5.273 W	114		228	240	13	Charles Hannah	yes	no	yes						
89	HECS8	ROS		BO	01-08-2023 03:32:23	01-08-2023 03:33:50	54 23.167 N	131 5.249 W	114	111				Charles Hannah									
89	HECS8	ROS		EN	01-08-2023 03:54:00	01-08-2023 03:54	54 23.167 N	131 5.249 W	114	111				Charles Hannah				lost it. Did the EN log by hand					
90		DRF		DE	01-08-2023 04:26:47	01-08-2023 04:26:34	54 23.88 N	131 12.971 W						Stephen Page				SCT 1534					
91	DIX1	NET		BE	01-08-2023 05:42:52	01-08-2023 05:42:41	54 25.732 N	131 30.903 W	269	259				Stephen Page	NA	NA							
91	DIX1	NET		BO	01-08-2023 05:48:07	01-08-2023 05:47:56	54 25.736 N	131 30.912 W		259				Stephen Page									
91	DIX1	NET		EN	01-08-2023 05:52:27	01-08-2023 05:52:15	54 25.732 N	131 30.907 W		259				Stephen Page									
92	DIX1	ROS	US	BE	01-08-2023 06:05:11	01-08-2023 06:06:37	54 25.719 N	131 30.9 W	268					Charles Hannah	yes	no	yes						
92	DIX1	ROS	US	BO	01-08-2023 06:13:35	01-08-2023 06:14:58	54 25.739 N	131 30.864 W	269	268	241	255	15	Charles Hannah									
92	DIX1	ROS	US	EN	01-08-2023 06:34:57	01-08-2023 06:36:20	54 25.744 N	131 30.808 W	270					Charles Hannah									
93	DIX1	DRF		DE	01-08-2023 06:45:19	01-08-2023 06:45:07	54 25.732 N	131 30.924 W	270					Stephen Page				SCT 1521					
94	DIX2	ROS	US	BE	01-08-2023 08:26:28	01-08-2023 08:27:53	54 25.442 N	131 56.612 W	279		256	271	16	Stephen Page	yes	no	yes						
94	DIX2	ROS	US	BO	01-08-2023 08:31:15	01-08-2023 08:32:41	54 25.447 N	131 56.6 W		276	256	271	16	Stephen Page									
94	DIX2	ROS	US	EN	01-08-2023 08:49:24	01-08-2023 08:50:50	54 25.42 N	131 56.616 W		276	256	271	16	Stephen Page									
95	DIX2	DRF		DE	01-08-2023 08:57:57	01-08-2023 08:57:44	54 25.495 N	131 57.015 W						Stephen Page				SCT 1536					

DAILY SCIENCE LOG

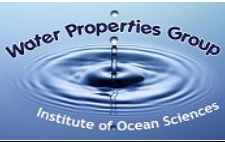
Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number:			2023-069		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										
96	DIX3	NET		BE	01-08-2023 10:16:22	01-08-2023 10:16:11	54 28.682 N	132 18.137 W	365	355				Stephen Page	NA	NA						
96	DIX3	NET		BO	01-08-2023 10:24:11	01-08-2023 10:23:56	54 28.692 N	132 18.112 W		355				Stephen Page								
96	DIX3	NET		EN	01-08-2023 10:30:44	01-08-2023 10:30:33	54 28.7 N	132 18.111 W		355				Stephen Page								
97	DIX3	ROS	US	BE	01-08-2023 10:45:08	01-08-2023 10:46:31	54 28.712 N	132 18.047 W	364		272	288	17	Charles Hannah	yes	no	yes					
97	DIX3	ROS	US	BO	01-08-2023 10:52:10	01-08-2023 10:53:36	54 28.694 N	132 18.111 W	364		272	288	17	Charles Hannah								
97	DIX3	ROS	US	EN	01-08-2023 11:18:41	01-08-2023 11:20:05	54 28.69 N	132 18.253 W	363		272	288	17	Charles Hannah								
98	DRF			DE	01-08-2023 11:43:43	01-08-2023 11:43:31	54 25.712 N	132 17.35 W						Charles Hannah				SCT 1531				
99	DIX7	ROS	N/A	BE	01-08-2023 12:22:48	01-08-2023 12:24:11	54 19.873 N	132 16.12 W	225					Stephen Page	yes	no	yes					
																		strong current. drifted shallower during downcast by ~5m				
99	DIX7	ROS	N/A	BO	01-08-2023 12:26:53	01-08-2023 12:28:18	54 19.863 N	132 16.166 W		216				Stephen Page								
99	DIX7	ROS	N/A	EN	01-08-2023 12:30:29	01-08-2023 12:31:52	54 19.867 N	132 16.199 W		216				Stephen Page								
																		NE of original deployment position				
100	Dixon2-1	MOR		RE	01-08-2023 14:27:12	01-08-2023 14:26:57	54 16.803 N	131 58.325 W	204					David Spear								
101	Dixon2-1	ROS	N/A	BE	01-08-2023 14:53:51	01-08-2023 14:55:15	54 16.9 N	131 58.098 W	213					Cindy Wright	yes	no	yes					
101	Dixon2-1	ROS	N/A	BO	01-08-2023 14:59:06	01-08-2023 15:00:31	54 16.91 N	131 58.051 W		210				Cindy Wright								
101	Dixon2-1	ROS	N/A	EN	01-08-2023 15:03:05	01-08-2023 15:04:29	54 16.913 N	131 58.025 W						Cindy Wright								
102	Dixon3-1	MOR		DE	01-08-2023 17:51:39	01-08-2023 17:51:26	54 26.3 N	131 23.012 W	260					David Spear								
103	Dixon3-1	ROS	N/A	BE	01-08-2023 18:03:28	01-08-2023 18:04:52	54 26.31 N	131 23.273 W	267					Cindy Wright	yes	no	yes					
103	Dixon3-1	ROS	N/A	BO	01-08-2023 18:08:40	01-08-2023 18:10:04	54 26.308 N	131 23.222 W		262.5				Cindy Wright								
103	Dixon3-1	ROS	N/A	EN	01-08-2023 18:13:30	01-08-2023 18:14:52	54 26.317 N	131 23.134 W						Cindy Wright								
104	Dixon4-1	MOR		DE	01-08-2023 18:30:45	01-08-2023 18:30:31	54 26.993 N	131 21.909 W	233					David Spear								
105	CH14	ROS	N/A	BE	01-08-2023 20:46:29	01-08-2023 20:47:54	54 20.448 N	130 49.651 W	136					Cindy Wright	yes	no	yes	db=0.1db				
105	CH14	ROS	N/A	BO	01-08-2023 20:50:43	01-08-2023 20:52:09	54 20.436 N	130 49.644 W		133				Cindy Wright								
105	CH14	ROS	N/A	EN	01-08-2023 20:53:27	01-08-2023 20:54:52	54 20.435 N	130 49.641 W		133				Cindy Wright								
106	Chat2-4	MOR		DE	01-08-2023 22:04:32	01-08-2023 22:04:21	54 15.82 N	130 46.881 W						David Spear								
107	Chat2-4	ROS	N/A	BE	01-08-2023 22:11:04	01-08-2023 22:12:28	54 15.817 N	130 46.884 W	198					Cindy Wright	yes	no	yes					
																		looking at historical chatham sound data, it does seem like noisy fluor signal is common.				
107	Chat2-4	ROS	N/A	BO	01-08-2023 22:15:09	01-08-2023 22:16:35	54 15.826 N	130 46.895 W		195				Cindy Wright								
107	Chat2-4	ROS	N/A	EN	01-08-2023 22:18:21	01-08-2023 22:19:44	54 15.829 N	130 46.905 W						Cindy Wright								
108	Chat4-1	MOR		DE	01-08-2023 22:42:51	01-08-2023 22:42:38	54 15.28 N	130 46.006 W	188					David Spear								
109	Chat2-4	MOR		RE	02-08-2023 00:48:27	02-08-2023 00:48:14	54 31.62 N	130 32.167 W	153					David Spear								
110	Chat3	ROS	US	BE	02-08-2023 01:24:30	02-08-2023 01:26:03	54 31.593 N	130 32.517 W	162		289	291	3	Lucius Perreault	yes	no	yes	altimeter not working (1st report of this?)				
110	Chat3	ROS	US	BO	02-08-2023 01:31:02	02-08-2023 01:32:36	54 31.577 N	130 32.531 W	161	157	289	291	3	Lucius Perreault								
110	Chat3	ROS	US	EN	02-08-2023 01:40:04	02-08-2023 01:41:36	54 31.555 N	130 32.559 W	161	157	289	291	3	Lucius Perreault								
111	CH03	ROS	US	BE	02-08-2023 03:28:20	02-08-2023 03:29:53	54 41.351 N	130 55.57 W	562		292	304	13	Stephen Page	yes	no	yes					
111	CH03	ROS	US	BO	02-08-2023 03:43:24	02-08-2023 03:44:56	54 41.372 N	130 55.603 W		556	292	304	13	Stephen Page				altimeter didn't kick in at all				
111	CH03	ROS	US	EN	02-08-2023 04:10:10	02-08-2023 04:11:43	54 41.401 N	130 55.632 W		556	292	304	13	Stephen Page								
112	CH03	LOOP		BE	02-08-2023 04:13:10	02-08-2023 04:14:44	54 41.402 N	130 55.635 W			305	305	1	Tamara Fraser	NA	NA						
113	CH02	ROS	N/A	BE	02-08-2023 05:32:32	02-08-2023 05:34:03	54 39.771 N	130 38.256 W	320					Charles Hannah	yes	no	yes					
																		altimeter has stopped working. Showed 99.9 all the way down. Stopped at 10-15 m above bottom.				
113	CH02	ROS	N/A	BO	02-08-2023 05:36:18	02-08-2023 05:37:52	54 39.773 N	130 38.24 W	315	305				Charles Hannah								
113	CH02	ROS	N/A	EN	02-08-2023 05:42:27	02-08-2023 05:44:01	54 39.778 N	130 38.213 W	319	305				Charles Hannah								
114	PI1	ROS	N/A	BE	02-08-2023 06:37:55	02-08-2023 06:39:28	54 40.579 N	130 28.255 W	546					Charles Hannah	yes	no	yes					
114	PI1	ROS	N/A	BO	02-08-2023 06:49:52	02-08-2023 06:51:25	54 40.599 N	130 28.27 W	549	540				Charles Hannah								
114	PI1	ROS	N/A	EN	02-08-2023 06:59:22	02-08-2023 07:00:52	54 40.618 N	130 28.282 W	556	540				Charles Hannah								

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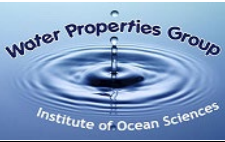
Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number:			2023-069		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										
115	PI2	ROS	N/A	BE	02-08-2023 08:07:54	02-08-2023 08:09:26	54 43.814 N	130 24.399 W	551					Charles Hannah	no	no	yes	altimeter still not working				
115	PI2	ROS	N/A	BO	02-08-2023 08:18:24	02-08-2023 08:19:56	54 43.808 N	130 24.408 W	551	540				Charles Hannah								
115	PI2	ROS	N/A	EN	02-08-2023 08:28:20	02-08-2023 08:29:54	54 43.798 N	130 24.42 W	550	540				Charles Hannah								
116	PI3	ROS	US	BE	02-08-2023 09:05:22	02-08-2023 09:06:54	54 46.653 N	130 19.845 W	495		306	323	18	Stephen Page	yes	no	yes	no altimeter				
116	PI3	ROS	US	BO	02-08-2023 09:13:39	02-08-2023 09:15:11	54 46.649 N	130 19.856 W		475	306	323	18	Stephen Page								
116	PI3	ROS	US	EN	02-08-2023 09:37:28	02-08-2023 09:39:01	54 46.644 N	130 19.862 W		475	306	323	18	Stephen Page								
117	PI5	ROS	N/A	BE	02-08-2023 10:41:16	02-08-2023 10:42:50	54 52.832 N	130 11.06 W	428					Charles Hannah	yes	no	yes	no altimeter				
117	PI5	ROS	N/A	BO	02-08-2023 10:49:24	02-08-2023 10:50:58	54 52.831 N	130 11.065 W	427	415				Charles Hannah								
117	PI5	ROS	N/A	EN	02-08-2023 10:56:53	02-08-2023 10:58:26	54 52.823 N	130 11.084 W	426	415				Charles Hannah								
118	PI6	ROS	N/A	BE	02-08-2023 11:35:18	02-08-2023 11:36:52	54 56.042 N	130 6.984 W	342					Stephen Page	yes	no	yes	no altimeter				
118	PI6	ROS	N/A	BO	02-08-2023 11:41:05	02-08-2023 11:42:36	54 56.02 N	130 7.01 W		330				Stephen Page								
118	PI6	ROS	N/A	EN	02-08-2023 11:47:08	02-08-2023 11:48:39	54 56.025 N	130 7.021 W						Stephen Page								
119	Chat3-4	MOR		RE		02-08-2023 00:47:00	54 31.625 N	130 32.517	160					David Spear				event missed being logged at time of recovery				
121	PO5	ROS	US	BE	02-08-2023 12:27:24	02-08-2023 12:28:58	55 0.164 N	130 8.478 W	300		324	336	13	Stephen Page	yes	no	yes					
121	PO5	ROS	US	BO	02-08-2023 12:32:25	02-08-2023 12:33:56	55 0.155 N	130 8.481 W		290	324	336	13	Stephen Page								
121	PO5	ROS	US	EN	02-08-2023 12:48:50	02-08-2023 12:50:22	55 0.111 N	130 8.466 W		290	324	336	13	Stephen Page								
122	PC06	ROS	N/A	BE	02-08-2023 13:50:01	02-08-2023 13:51:34	55 6.706 N	130 9.582 W	207					Cindy Wright	yes	no	yes	Swapped out altimeter to SN79487				
122	PC06	ROS	N/A	BO	02-08-2023 13:55:12	02-08-2023 13:56:44	55 6.658 N	130 9.615 W		202				Cindy Wright								
122	PC06	ROS	N/A	EN	02-08-2023 13:59:02	02-08-2023 14:00:35	55 6.637 N	130 9.636 W						Cindy Wright								
123	PC06	NET		BE	02-08-2023 14:17:19	02-08-2023 14:17:06	55 6.743 N	130 9.542 W	206					Cindy Wright	NA	NA						
123	PC06	NET		BO	02-08-2023 14:25:23	02-08-2023 14:25:10	55 6.726 N	130 9.575 W						Cindy Wright								
123	PC06	NET		EN	02-08-2023 14:28:58	02-08-2023 14:28:45	55 6.728 N	130 9.576 W		195				Cindy Wright								
124	WC5	ROS	US	BE	02-08-2023 20:34:13	02-08-2023 20:35:46	54 18.466 N	129 59.82 W	122		348	360	13	Cindy Wright	yes	no	yes	vent on bottle 8 leaking - replaced				
124	WC5	ROS	US	BO	02-08-2023 20:37:51	02-08-2023 20:39:21	54 18.483 N	129 59.812 W		118	348	360	13	Cindy Wright								
124	WC5	ROS	US	EN	02-08-2023 20:50:24	02-08-2023 20:51:57	54 18.525 N	129 59.809 W		118	348	360	13	Cindy Wright								
125	WC4	ROS	N/A	BE	02-08-2023 21:46:57	02-08-2023 21:48:27	54 24.436 N	130 7.091 W	259					Cindy Wright	yes	no	yes					
125	WC4	ROS	N/A	BO	02-08-2023 21:53:19	02-08-2023 21:54:49	54 24.425 N	130 7.063 W		258				Cindy Wright								
125	WC4	ROS	N/A	EN	02-08-2023 21:58:15	02-08-2023 21:59:48	54 24.422 N	130 7.059 W						Cindy Wright								
126	QU1	ROS	N/A	BE	02-08-2023 22:26:20	02-08-2023 22:27:53	54 26.457 N	130 4.459 W	125					Cindy Wright	yes	no	yes					
126	QU1	ROS	N/A	BO	02-08-2023 22:29:46	02-08-2023 22:31:16	54 26.456 N	130 4.472 W		121.5				Cindy Wright								
126	QU1	ROS	N/A	EN	02-08-2023 22:31:58	02-08-2023 22:33:29	54 26.435 N	130 4.471 W						Cindy Wright								
127	In transit	LOOP		BE	02-08-2023 22:54:37	02-08-2023 22:54:25	54 24.545 N	130 6.92 W	162		361	361		Cindy Wright	NA	NA						
128	WC3	ROS	N/A	BE	02-08-2023 23:24:45	02-08-2023 23:26:18	54 27.498 N	130 11.461 W	313						yes	no	yes					
128	WC3	ROS	N/A	BO	02-08-2023 23:31:03	02-08-2023 23:32:36	54 27.503 N	130 11.454 W		309												
128	WC3	ROS	N/A	EN	02-08-2023 23:36:31	02-08-2023 23:38:01	54 27.502 N	130 11.444 W														
129	WC2	ROS	N/A	BE	03-08-2023 00:37:18	03-08-2023 00:38:50	54 32.893 N	130 18.018 W	342					Cindy Wright	yes	no	yes	dp=0.2/0.3db				
129	WC2	ROS	N/A	BO	03-08-2023 00:44:37	03-08-2023 00:46:08	54 32.874 N	130 18.015 W		338				Cindy Wright								
129	WC2	ROS	N/A	EN	03-08-2023 00:50:08	03-08-2023 00:51:41	54 32.862 N	130 18.023 W						Cindy Wright								
130	WC1	ROS	US	BE	03-08-2023 01:53:26	03-08-2023 01:54:57	54 37.453 N	130 23.482 W	66		337	347	11	David Spear	yes	no	yes					
130	WC1	ROS	US	BO	03-08-2023 01:55:16	03-08-2023 01:56:49	54 37.462 N	130 23.499 W		61	337	347	11	David Spear								
131	CH05	ROS	N/A	BE	03-08-2023 03:22:04	03-08-2023 03:23:37	54 33.722 N	130 37.559 W	142					Charles Hannah	yes	no	yes					
131	CH05	ROS	N/A	BO	03-08-2023 03:24:47	03-08-2023 03:26:19	54 33.718 N	130 37.543 W		138				Charles Hannah								
131	CH05	ROS	N/A	EN	03-08-2023 03:28:01	03-08-2023 03:29:34	54 33.714 N	130 37.538 W		138				Charles Hannah								
132	CH10	ROS	N/A	BE	03-08-2023 04:26:37	03-08-2023 04:28:08	54 26.809 N	130 39.236 W	82					Charles Hannah	yes	no	yes					
132	CH10	ROS	N/A	BO	03-08-2023 04:28:25	03-08-2023 04:29:58	54 26.814 N	130 39.234 W		79				Charles Hannah								
132	CH10	ROS	N/A	EN	03-08-2023 04:30:21	03-08-2023 04:31:53	54 26.815 N	130 39.234 W		79				Charles Hannah								
133	CH16	ROS	US	BE	03-08-2023 05:28:48	03-08-2023 05:30:21	54 19.833 N	130 37.384 W	213		362	370	9	Stephen Page	yes	no	yes					

DAILY SCIENCE LOG

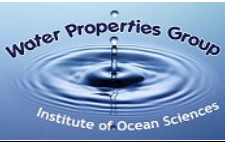
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Cruise Number:				2023-069		Launch Daily Science Log		Print Daily Science Log WorkBook														
Vessel:				JP Tully															CTD/Rosette Status			Comments
Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("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					
							Latitude	Longitude			Start	End										
133	CH16	ROS	US	BO	03-08-2023 05:32:30	03-08-2023 05:34:03	54 19.835 N	130 37.379 W		214	362	370	9	Stephen Page								
133	CH16	ROS	US	EN	03-08-2023 05:48:19	03-08-2023 05:49:51	54 19.853 N	130 37.373 W		214	362	370	9	Stephen Page								
134	CH21	ROS	N/A	BE	03-08-2023 07:02:16	03-08-2023 07:03:48	54 11.815 N	130 39.184 W	123					Charles Hannah	yes	no	yes					
134	CH21	ROS	N/A	BO	03-08-2023 07:04:50	03-08-2023 07:06:21	54 11.812 N	130 39.177 W	123	120				Charles Hannah								
134	CH21	ROS	N/A	EN	03-08-2023 07:07:37	03-08-2023 07:09:10	54 11.798 N	130 39.164 W		120				Charles Hannah								
135	UC2-1	MOR		DE	03-08-2023 16:24:21	03-08-2023 16:24:07	53 24.257 N	128 54.003 W	401					David Spear								
136	UC2	ROS	N/A	BE	03-08-2023 16:30:31	03-08-2023 16:32:03	53 24.324 N	128 53.999 W	401					Cindy Wright	yes	no	yes	DP=0.2db				
136	UC2	ROS	N/A	BO	03-08-2023 16:38:47	03-08-2023 16:40:17	53 24.325 N	128 54.014 W		399				Cindy Wright								
136	UC2	ROS	N/A	EN	03-08-2023 16:45:44	03-08-2023 16:47:17	53 24.326 N	128 54.022 W						Cindy Wright								
137	UC1-1	MOR		DE	03-08-2023 17:42:51	03-08-2023 17:42:37	53 29.198 N	128 58.684 W	106					David Spear								
138	UC1	ROS	N/A	BE	03-08-2023 17:51:00	03-08-2023 17:52:33	53 29.162 N	128 58.475 W	108					Cindy Wright	yes	no	yes					
138	UC1	ROS	N/A	BO	03-08-2023 17:54:06	03-08-2023 17:55:36	53 29.188 N	128 58.48 W		104				Cindy Wright								
138	UC1	ROS	N/A	EN	03-08-2023 17:56:21	03-08-2023 17:57:52	53 29.202 N	128 58.479 W						Cindy Wright								
139	GA04	ROS	N/A	BE	04-08-2023 05:12:57	04-08-2023 05:14:26	53 32.741 N	128 53.15 W	203					Stephen Page	yes	no	yes					
139	GA04	ROS	US	BO	04-08-2023 05:17:25	04-08-2023 05:18:55	53 32.74 N	128 53.158 W		200.8	371	371	1	Stephen Page								
139	GA04	ROS	US	EN	04-08-2023 05:22:12	04-08-2023 05:23:42	53 32.743 N	128 53.157 W						Stephen Page				dp= 0.3				
																			very low surface salinity (2). very high Fluor at 7 m (18) I may have called it CH44 in the hex file			
140	GC44	ROS	N/A	BE	04-08-2023 08:51:38	04-08-2023 08:53:08	53 25.947 N	128 27.018 W	408					Charles Hannah	yes	no	yes					
140	GC44	ROS	N/A	BO	04-08-2023 09:00:52	04-08-2023 09:02:23	53 25.958 N	128 26.983 W	408	406				Charles Hannah								
140	GC44	ROS	N/A	EN	04-08-2023 09:08:32	04-08-2023 09:10:01	53 25.96 N	128 26.987 W		406				Charles Hannah				surface salinity = 1				
141	GC60	ROS	N/A	BE	04-08-2023 11:02:48	04-08-2023 11:04:17	53 25.71 N	128 5.408 W	268					Charles Hannah	yes	no	yes	max fluor about 2. very murky water.				
141	GC60	ROS	N/A	BO	04-08-2023 11:08:45	04-08-2023 11:10:14	53 25.7 N	128 5.421 W	267	264				Charles Hannah								
141	GC60	ROS	N/A	EN	04-08-2023 11:13:53	04-08-2023 11:15:25	53 25.691 N	128 5.425 W		264				Charles Hannah								
																			TSG file needs to note the impact of the Tully thrusters on the TSG samples when on station.			
142	GC68	ROS	US	BE	04-08-2023 12:05:26	04-08-2023 12:06:58	53 20.655 N	127 59.618 W	22		372	373	2	Stephen Page	yes	no	yes					
																			In Gardner Canal with a very shallow surface layer things get mied and the TSG sainity goes up (a lot) and the temperature goes down. When there is a strong chl-a max at 7 m even that ges mixed into surface.			
142	GC68	ROS	US	BO	04-08-2023 12:09:30	04-08-2023 12:11:03	53 20.655 N	127 59.606 W		224				Stephen Page								
																			Use of TSG data will have to exclude when on station. Please this info to meta data for TSG			
142	GC68	ROS	US	EN	04-08-2023 12:15:56	04-08-2023 12:17:27	53 20.67 N	127 59.599 W						Stephen Page								
143	GC74	ROS	N/A	BE	04-08-2023 13:57:05	04-08-2023 13:58:34	53 15.791 N	127 55.415 W	134					Charles Hannah	yes	no	yes					
143	GC74	ROS	N/A	BO	04-08-2023 14:00:35	04-08-2023 14:02:04	53 15.79 N	127 55.407 W	133	132				Charles Hannah								
143	GC74	ROS	N/A	EN	04-08-2023 14:03:26	04-08-2023 14:04:56	53 15.791 N	127 55.4 W		132				Charles Hannah								
144	GC51	ROS	US	BE	04-08-2023 16:21:02	04-08-2023 16:22:34	53 28.291 N	128 18.838 W	491.5		374	388	15	Cindy Wright	yes	no	yes	DP=0.2/0.3db				
144	GC51	ROS	US	BO	04-08-2023 16:30:59	04-08-2023 16:32:28	53 28.266 N	128 18.864 W		490	374	388	15	Cindy Wright								
144	GC51	ROS	US	EN	04-08-2023 16:57:00	04-08-2023 16:58:31	53 28.365 N	128 18.995 W		490	374	388	15	Cindy Wright								

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number:			2023-069		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									
145	GC38	ROS	N/A	BE	04-08-2023 18:28:22	04-08-2023 18:29:54	53 26.994 N	128 35.936 W	236					Cindy Wright	yes	no	yes	Put original altimeter back onto the rosette. Not sure if con file updated			
145	GC38	ROS	N/A	BO	04-08-2023 18:33:42	04-08-2023 18:35:12	53 26.998 N	128 35.957 W		226				Cindy Wright				the altimeter did not work.			
145	GC38	ROS	N/A	EN	04-08-2023 18:37:56	04-08-2023 18:39:27	53 27.007 N	128 35.944 W		226				Cindy Wright				small blip on the fluorometer and decided to stop cast a 226m Sounder would indicate a good 10m from bottom			
146	GC31	ROS	N/A	BE	04-08-2023 19:30:54	04-08-2023 19:32:25	53 31.464 N	128 43.504 W	207					Cindy Wright	yes	no	yes	Put back on the spare altimeter			
146	GC31	ROS	N/A	BO	04-08-2023 19:36:32	04-08-2023 19:38:04	53 31.47 N	128 43.5 W		203.5				Cindy Wright				inserted rosette sheet/sample ID to sample 8m chlorophyll max with Lugols			
146	GC31	ROS	N/A	EN	04-08-2023 19:42:18	04-08-2023 19:43:49	53 31.464 N	128 43.468 W						Cindy Wright							
147	GC28	ROS	N/A	BE	04-08-2023 20:14:20	04-08-2023 20:15:51	53 32.156 N	128 46.198 W	197					Cindy Wright	yes	no	yes				
147	GC28	ROS	N/A	BO	04-08-2023 20:18:59	04-08-2023 20:20:30	53 32.148 N	128 46.189 W		194				Cindy Wright							
147	GC28	ROS	N/A	EN	04-08-2023 20:22:54	04-08-2023 20:24:22	53 32.146 N	128 46.186 W						Cindy Wright							
148	VP39	ROS	N/A	BE	04-08-2023 21:58:57	04-08-2023 22:00:29	53 30.415 N	129 3.826 W	146					Cindy Wright	yes	no	yes	DP=0.2db NOTE: as soaking, gained about 10m of water depth to 150m			
148	VP39	ROS	N/A	BO	04-08-2023 22:03:46	04-08-2023 22:05:15	53 30.396 N	129 3.827 W		151				Cindy Wright							
148	VP39	ROS	N/A	EN	04-08-2023 22:06:13	04-08-2023 22:07:41	53 30.396 N	129 3.82 W						Cindy Wright							
149	VP43	ROS	N/A	BE	04-08-2023 22:57:26	04-08-2023 22:58:58	53 24.904 N	129 6.914 W	318					Cindy Wright	yes	no	yes				
149	VP43	ROS	N/A	BO	04-08-2023 23:02:55	04-08-2023 23:04:26	53 24.896 N	129 6.9 W		320				Cindy Wright							
149	VP43	ROS	N/A	EN	04-08-2023 23:08:55	04-08-2023 23:10:26	53 24.894 N	129 6.879 W						Cindy Wright				had him slow down between 10m-surf to see if could pin point that fluor max depth			
150	DO1	ROS	US	BE	04-08-2023 23:50:41	04-08-2023 23:52:12	53 22.263 N	129 11.5 W	415		407	424	18	Cindy Wright	yes	no	yes	Station seems shallower than historical. Historically around 445m, now around 415m			
150	DO1	ROS	US	BO	04-08-2023 23:58:34	05-08-2023 00:00:05	53 22.262 N	129 11.491 W		416	407	424	18	Cindy Wright							
150	DO1	ROS	US	EN	05-08-2023 00:22:22	05-08-2023 00:23:51	53 22.251 N	129 11.554 W		416	407	424	18	Cindy Wright							
151	WC43	ROS	N/A	BE	05-08-2023 01:07:54	05-08-2023 01:09:25	53 21.053 N	129 16.499 W	513					Charles Hannah	yes	no	yes				
151	WC43	ROS	N/A	BO	05-08-2023 01:18:00	05-08-2023 01:19:31	53 21.047 N	129 16.561 W	515	514				Charles Hannah							
151	WC43	ROS	N/A	EN	05-08-2023 01:27:34	05-08-2023 01:29:06	53 21.083 N	129 16.656 W		514				Charles Hannah							
152	SC61	ROS	N/A	BE	05-08-2023 02:53:55	05-08-2023 02:55:26	53 11.928 N	129 25.086 W	504					Stephen Page	yes	no	yes				
152	SC61	ROS	N/A	BO	05-08-2023 03:03:03	05-08-2023 03:04:34	53 11.926 N	129 25.082 W		504				Stephen Page							
152	SC61	ROS	N/A	EN	05-08-2023 03:10:45	05-08-2023 03:12:17	53 11.925 N	129 25.084 W		504				Stephen Page				dp = 0.3			
153	SC69	NET		BE	05-08-2023 04:13:43	05-08-2023 04:13:31	53 4.785 N	129 19.534 W	683	672				Stephen Page	NA	NA					
153	SC69	NET		BO	05-08-2023 04:27:05	05-08-2023 04:26:52	53 4.796 N	129 19.576 W		672				Stephen Page							
153	SC69	NET		EN	05-08-2023 04:37:24	05-08-2023 04:37:10	53 4.804 N	129 19.632 W	683	672				Stephen Page							
154	SC69	ROS	N/A	BE	05-08-2023 04:50:10	05-08-2023 04:51:41	53 4.808 N	129 19.667 W	683					Charles Hannah	yes	no	yes				
154	SC69	ROS	US	BO	05-08-2023 05:03:52	05-08-2023 05:05:24	53 4.802 N	129 19.618 W	683	684	390	406	17	Charles Hannah							
154	SC69	ROS	US	EN	05-08-2023 05:38:01	05-08-2023 05:39:31	53 4.806 N	129 19.564 W		684	390	406	17	Charles Hannah							
155	SC74	ROS	N/A	BE	05-08-2023 06:27:06	05-08-2023 06:28:35	53 0.734 N	129 15.721 W	375					Stephen Page	no	no	yes				
155	SC74	ROS	N/A	BO	05-08-2023 06:33:42	05-08-2023 06:35:11	53 0.754 N	129 15.702 W		373.7				Stephen Page							

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Ocean Sciences Division, Institute of Ocean Sciences



Cruise Number: 2023-069					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										
155	SC74	ROS	N/A	EN	05-08-2023 06:39:41	05-08-2023 06:41:11	53 0.764 N	129 15.702 W						Stephen Page								
156	SC80	ROS	N/A	BE	05-08-2023 07:36:54	05-08-2023 07:38:25	52 54.781 N	129 15.988 W	238					Charles Hannah	yes	no	yes					
156	SC80	ROS	N/A	BO	05-08-2023 07:42:49	05-08-2023 07:44:18	52 54.761 N	129 15.974 W	240	237				Charles Hannah								
156	SC80	ROS	N/A	EN	05-08-2023 07:47:29	05-08-2023 07:48:56	52 54.739 N	129 15.969 W		237				Charles Hannah								
157	CS84	ROS	N/A	BE	05-08-2023 08:32:36	05-08-2023 08:34:07	52 54.022 N	129 24.076 W	254					Charles Hannah	yes	no	yes	ALL STOP at 47 m to deal with inboard lead. then continued down a second all stop at 25 m on the upcast. Serious inboard lead.				
157	CS84	ROS	N/A	BO	05-08-2023 08:39:58	05-08-2023 08:41:29	52 54.031 N	129 24.074 W	255	253				Charles Hannah								
157	CS84	ROS	N/A	EN	05-08-2023 08:46:34	05-08-2023 08:48:05	52 54.025 N	129 24.079 W		253				Charles Hannah								
158	CAM1	ROS	N/A	BE	05-08-2023 09:55:17	05-08-2023 09:56:49	52 46.889 N	129 30.012 W	430					Stephen Page	yes	no	yes					
158	CAM1	ROS	N/A	BO	05-08-2023 10:02:43	05-08-2023 10:04:12	52 46.884 N	129 30 W		428.8				Stephen Page								
158	CAM1	ROS	N/A	EN	05-08-2023 10:10:17	05-08-2023 10:11:46	52 46.876 N	129 29.991 W						Stephen Page								
159	HEC2-1	MOR		DE	05-08-2023 14:20:38	05-08-2023 14:20:24	52 44.607 N	129 46.007 W	148					David Spear								
160	HEC2	ROS	N/A	BE	05-08-2023 14:39:41	05-08-2023 14:41:11	52 44.514 N	129 46.229 W	161					Cindy Wright	yes	no	yes					
160	HEC2	ROS	N/A	BO	05-08-2023 14:43:38	05-08-2023 14:45:07	52 44.5 N	129 46.208 W		159				Cindy Wright								
160	HEC2	ROS	N/A	EN	05-08-2023 14:46:36	05-08-2023 14:48:06	52 44.503 N	129 46.228 W		159				Cindy Wright								
161	In transit	DRF		DE	05-08-2023 15:47:44	05-08-2023 15:47:32	52 35.909 N	129 44.395 W	154					David Spear				SN1542				
162	In transit	DRF		DE	05-08-2023 16:46:50	05-08-2023 16:46:35	52 27.396 N	129 43.333 W	195					David Spear				SN1527				
163	SRC1	MOR		DE	05-08-2023 18:26:14	05-08-2023 18:26:01	52 14.993 N	129 41.006 W	210	210				Lindsay Mazzei								
164	SRC1	NET		BE	05-08-2023 18:40:02	05-08-2023 18:39:48	52 14.838 N	129 41.001 W						Cindy Wright	NA	NA						
164	SRC1	NET		BO	05-08-2023 18:46:48	05-08-2023 18:46:33	52 14.84 N	129 41.016 W						Cindy Wright								
164	SRC1	NET		BO	05-08-2023 18:46:53	05-08-2023 18:46:41	52 14.84 N	129 41.017 W		201				Cindy Wright								
164	SRC1	NET		EN	05-08-2023 18:50:15	05-08-2023 18:50:02	52 14.841 N	129 41.036 W		201				Cindy Wright								
165	SRC1	ROS	N/A	BE	05-08-2023 19:01:05	05-08-2023 19:02:36	52 14.848 N	129 41.079 W	211					David Spear	yes	no	yes					
165	SRC1	ROS	US	BO	05-08-2023 19:05:10	05-08-2023 19:06:41	52 14.843 N	129 41.053 W		208	425	438	14	David Spear								
165	SRC1	ROS	US	EN	05-08-2023 19:22:55	05-08-2023 19:24:26	52 14.852 N	129 41.036 W		208	425	438	14	David Spear				SN1541				
166	SRC1	DRF		DE	05-08-2023 19:28:49	05-08-2023 19:28:36	52 14.844 N	129 41.05 W	211					David Spear				SN????				
167	In transit	DRF		DE	05-08-2023 20:49:23	05-08-2023 20:49:11	52 5.361 N	129 46.239 W	112					David Spear				SN1541				
168	MS03	ROS	N/A	BE	05-08-2023 22:49:40	05-08-2023 22:51:10	51 48.828 N	129 41.253 W	301.5					Cindy Wright	yes	no	yes					
168	MS03	ROS	N/A	BO	05-08-2023 22:56:06	05-08-2023 22:57:36	51 48.838 N	129 41.215 W		299.8				Cindy Wright								
168	MS03	ROS	N/A	EN	05-08-2023 23:01:27	05-08-2023 23:02:56	51 48.828 N	129 41.207 W						Cindy Wright								
169	In transit	LOOP		BE	05-08-2023 23:11:29	05-08-2023 23:11:16	51 48.813 N	129 41.2 W	300					Cindy Wright	NA	NA						
170	MS03	DRF		DE	05-08-2023 23:14:07	05-08-2023 23:13:53	51 48.674 N	129 40.803 W	299					David Spear				SN1525				
171	In transit	DRF		DE	06-08-2023 00:53:34	06-08-2023 00:53:22	51 37.5 N	129 17.563 W	60									SN1538				
172	CI03b	ROS	N/A	BE	06-08-2023 03:23:54	06-08-2023 03:25:22	51 23.008 N	128 45.07 W	225					Stephen Page	yes	no	yes					
172	CI03b	ROS	N/A	BO	06-08-2023 03:28:20	06-08-2023 03:29:48	51 23.004 N	128 45.063 W		227				Stephen Page								
172	CI03b	ROS	N/A	EN	06-08-2023 03:32:30	06-08-2023 03:34:01	51 23.012 N	128 45.101 W		227				Stephen Page				rosette touched the mud :(				
173	CI03b	DRF		DE	06-08-2023 03:41:55	06-08-2023 03:41:41	51 22.99 N	128 45.054 W	225					Charles Hannah				SCT 1549				
174	In transit	DRF		DE	06-08-2023 04:26:02	06-08-2023 04:25:50	51 18.303 N	128 37.294 W	178					Charles Hannah				SCT 1519				
175	CS09	ROS	N/A	BE	06-08-2023 05:30:11	06-08-2023 05:31:39	51 12.505 N	128 28.1 W	194					Charles Hannah	yes	no	yes					
175	CS09	ROS	N/A	BO	06-08-2023 05:35:31	06-08-2023 05:37:02	51 12.505 N	128 28.121 W	193	190				Charles Hannah								
175	CS09	ROS	N/A	EN	06-08-2023 05:39:44	06-08-2023 05:41:14	51 12.505 N	128 28.124 W		190				Charles Hannah								
176	In transit	DRF		DE	06-08-2023 05:52:19	06-08-2023 05:52:04	51 12.301 N	128 27.382 W						Charles Hannah								
177	CPEI	NET		BE	06-08-2023 09:00:42	06-08-2023 09:00:27	50 59.964 N	127 49.972 W	147	137				Charles Hannah	NA	NA						
177	CPEI	NET		BO	06-08-2023 09:04:00	06-08-2023 09:03:47	50 59.987 N	127 49.968 W	147	137				Charles Hannah								
177	CPEI	NET		EN	06-08-2023 09:06:40	06-08-2023 09:06:26	50 59.988 N	127 49.982 W	146	137				Charles Hannah								
178	CPEI	ROS	N/A	BE	06-08-2023 09:23:35	06-08-2023 09:25:04	50 59.998 N	127 49.997 W	143					Charles Hannah	yes	no	yes					

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Cruise Number:

Vessel:

2023-069

JP Tully

Launch Daily Science Log

Print Daily Science Log WorkBook

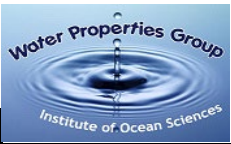
CTD/Rosette Status

Trans. Cleaned

Fluorometer Cleaned

PAR Status

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						
178	CPEI	ROS	N/A	BO	06-08-2023 09:27:43	06-08-2023 09:29:12	51 0.015 N	127 49.987 W	142	141				Charles Hannah				surface DO was 4 ml/l seems very low. But everything else seems fine. All stop at 124 m on upcast
178	CPEI	ROS	N/A	EN	06-08-2023 09:32:32	06-08-2023 09:34:02	51 0.011 N	127 49.982 W		141				Charles Hannah				DO reproduced on upcast.
179	CPEI	DRF		DE	06-08-2023 09:41:40	06-08-2023 09:41:26	51 0.01 N	127 49.908 W	143					Charles Hannah				Maybe 4 is normal here.
180	In Transit	LOOP		BE	06-08-2023 21:29:41	06-08-2023 21:29:29	50 44.399 N	127 13.654 W	208		440	440	1	Cindy Wright	NA	NA		SCT 1532, 1535, 1548



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	2023-069
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Start Date	25-Jul-23
End Date	08-Aug-23

Vessel	JP Tully
Project(s)	Deep-Sea Marine Conservation Survey

Mission Participants (Department/Agencies):	DFO
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Ship Personnel:

Name	Role
Bennett Light	Captain
	Chief Engineer
Glenn	Bosun

Scientific Personnel:

Name	Role	Watch	Cabin	Name	Role	Watch	Cabin
David Spear	Chief Scientist	days					
Chris Clarke		days					
Lucius Perreault		days					
Lindsay Mazzei		days					
Cindy Wright		days					
Jocelyn Nelson		days					
Stephen Page		nights					
Tamara Fraser		nights					
Charles Hannah		nights					

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												
Data Acquisition Program	seasave V7											
CTD Deck Unit	SBE	11P	424				SBE	11P	508			
CTD	SBE	9P	1515				SBE	9P	2374			
Temperature Sensor	SBE	3	6754	P	6736	S	SBE	3	2374	P	4883	S
Conductivity Sensor	SBE	4	6141	P	6146	S	SBE	4	3184	P	4395	S
Transmissometer	WETLABS	C-STAR	1185DR	P		1883DG - S	WETLABS	C-STAR	1185DR	P		1883DG - S
Fluorometer	SEAPOINT	SCF	3950	S			SEAPOINT	SCF	3641	S		
Fluorometer Gain Cable	3X						3X					
Oxygen Sensor	SBE	43	1119	P			SBE	43	997	P		
Par Sensor												
Additional Sensors...	VALEPORT ALTIMETER - 73171											

Rosette

Setup

Number of Bottles	24
Manufacturer	estEquipment, General Ocea
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			
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

Oxygen kit

Make	Model	Serial/kit Number	Comments on Performance During Cruise

Winches

	Make	Model	Serial Number	Comment (Describe Application and Performance)
Winch 1				
Winch 2				
Winch 3				
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				
SI			0011			

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

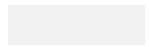
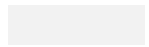
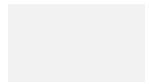
Additional Cruise Comments

Pictures (Equipment, Setups etc.)

Event Number	Station Name	Cast Type	Firing Method	Time Code	Date Time (UTC) Computer ("dd-mm-yyyy)	Date Time (UTC) GPS ("dd-mm-yyyy)	Positional Information (DDD MM.MMM)	
							Latitude	Longitude
4	In transit	LOOP		BE	#####	7-2023 15:349	14.568	1126 31.924
21	In transit	LOOP		BE	#####	7-2023 21:050	28.082	1128 15.159
38	In Transit	LOOP		BE	#####	7-2023 21:551	26.589	1128 33.96
53	In Transit	LOOP		BE	#####	7-2023 15:152	13.386	1130 42.511
74	In transit	LOOP		BE	#####	7-2023 08:452	29.421	1130 48.536
112	CH03	LOOP		BE	#####	8-2023 04:154	41.402	1130 55.635
127	In transit	LOOP		BE	#####	8-2023 22:554	24.545	1130 6.92 W
169	In transit	LOOP		BE	#####	8-2023 23:151	48.813	1129 41.2 W
180	In Transit	LOOP		BE	#####	8-2023 21:250	44.399	1127 13.654

Sounder Depth (m)	Max Sampling Pressure	Sample Number		# of Bottles	Watch Keepers	Trans. Cleaned	Fluorometer Cleaned	PAR Status
		Start	End					
98		1	1	1	Cindy Wrig	NA	NA	
100		30	30		Cindy Wrig	NA	NA	
208		85	85	1	Cindy Wrig	NA	NA	
179		120	120		Cindy Wrig	NA	NA	
144		188	188	1	Stephen Pa	NA	NA	
W		305	305	1	Tamara Fra	NA	NA	
		162	361		Cindy Wrig	NA	NA	
300					Cindy Wrig	NA	NA	
208		440	440	1	Cindy Wrig	NA	NA	

Comments



Zooplankton Net Tow Log

Ocean Sciences Division, Institute of Ocean Sciences

Zooplankton Default Parameters

Cruise Number:	2023-069	Contact:	David Spear
Vessel:	JP Tully	Equipment Description/Serial Number (ex. Bongo #1)	
Project:	Deep-Sea Marine Conservation Survey	Additional Notes	

Current TSK Serial Number	Current RBR Serial Number	Net Type	Tow Type	Mesh Size (µM)	Formalin	Freezing	Ethanol
5294		BONGO	VNH	236	YES	NO	NO

Print
Zooplankton
Labels - Under

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													
'29-07-2023 09:20:30	CS01	29	28	50 34.859 N	129 41.54 W	250	0	2103	Bongo	236	VNH	978	1588	5294				
29-07-2023 18:43:03	CI04	35	36	51 19.159 N	129 3.1 W	250	5	260	BONGO	236	VNH	1525	3158	5294			Formalin Frozen	1 large 16" Aurelia broken up in frozen side , discarded but lots of ooze in frozen sample
30-07-2023 02:43:15	CI01	43	44	51 35.721 N	128 18.195 W	146	0	156	BONGO	236	VNH	3159	4058	5294			Formalin Frozen	
30-07-2023 12:39:21	MT09		51	52 52 7.688 N	130 17.164 W		250	5	44 BONGO	236	VNH	4058	4058		5794		Formalin Frozen	
30-07-2023 23:54:12	JPS1	60	61	52 36.34 N	131 40.141 W	125	0		BONGO	236	VNH	16420	16812	5294			Frozen	
31-07-2023 01:45:21	JPS3	63	64	52 33.272 N	131 29.866 W	250		323	BONGO	236	VNH	16812	18270	5294			Formalin Frozen	*flow end was originally listed as 28170. Corrected it here to 18270 at JPS5
31-07-2023 04:39:39	JPS5		67	66 52 31.395 N	131 18.708 W		235	0	246 BONGO	236	VNH	18270	19565	5294			Formalin Frozen	
31-07-2023 06:29:19	JPS7	69	70	52 33.949 N	131 5.914 W		125	0	135 BONGO	236	VNH	19565	20150	5294			Formalin Frozen	
01-08-2023 03:08:34	HECS8	88	89	54 23.167 N	131 5.31 W	105	0	115	BONGO	236	VNH	20152	20790	5294			Frozen	
01-08-2023 05:47:56	DIX1	91	92	54 25.736 N	131 30.912 W	259	17	269	BONGO	236	VNH	20790	22375	5294			Formalin Formalin	
01-08-2023 10:23:56	DIX3	96	97	54 28.692 N	132 18.112 W	355	17	365	BONGO	236	VNH	22375	25083	5294			Frozen Formalin	
02-08-2023 14:25:10	PC06	123	122	55 6.726 N	130 9.575 W	195	0	206	BONGO	236	VNH	25083	26298	5294			Frozen Formalin	
05-08-2023 04:26:52	SC69	153	154	53 4.796 N	129 19.576 W	672		0 683	BONGO	236	VNH	29720	33770	5294			Frozen Formalin	
05-08-2023 18:46:41	SRC1	164	165	52 14.84 N	129 41.017 W	201	2	211	BONGO	236	VNH	33770	35030	5294			Frozen Formalin	
06-08-2023 09:03:47	CPEI	177	178	50 59.987 N	127 49.968 W	137		146	BONGO	236	VNH			5294			Frozen	

Watch Keepers	Stations	Ship	Rosette/CTD	
			Par Status	Fluorometer Status
Cindy Wright	C12	Tully		
Tamara Fraser	CAM1			
Charles Hannah	CH02		ON	ON
Stephen Page	CH03			
David Spear	CH05			
Chris Clarke	CH10			
Lucius Perreault	CH14			
Lindsay Mazzei	CH16			
Jocelyn Nelson	CH18			
	CH21			
	CH26			
	Chat2			
	Chat3-4			
	Chat4			
	CI01			
	CI02			
	CI03b			
	CI04			
	CI05b			
	CI06			
	CI07			
	CI08			
	CPEI			
	CS01			
	CS02			
	CS03			
	CS04			
	CS05			

CS06

CS07

CS08

CS09

CS10

CS11

CS84

Ctd 66

D08

DEV14

DEV22

DIX1

DIX2

DIX3

Dixon2-1

Dixon3

Dixon4

DO1

DO10

DO2

DO3

DO4

DO5

DO6

DO7

DO9

E01-62

E03-62

GA01

GA02

GA04

GH1

GH2

HAK1-7

HEC1

HEC2

HECS1

HECS2

HECS3

HECS4

HECS5

HECS6

HECS7

HECS8

HECS9

HOL1

HOL2

HOL3

HOL4

HOL5

IOS

IOS

JPS1

JPS2

JPS3

JPS4

JPS5

JPS6

JPS7

JPS8

JPS9

JS1

Juan1

Juan2-4

Juan3

KH1

KH2

MA01

MA02

MA03

MS01

MS02

MS03

MS04

MS05B

MS06B

MS07B

MS08B

MT02

MT03

MT04

MT05

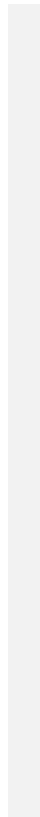
MT06B

MT07B

MT08B

MT09
MT10
MT11B
N11
N17
N18
N2
N22
North Ajax
PC06
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PI2
PI3
PI4
PI5
PI6
PO5
Q1
Q1
Q2
Q2
Q3
Q4
QCS1
QCS3
QCS4
QCS6
QU1
QU2
QU3
Quat1-2
Quat2-2
Ros 102
Ros 69
RU2
RU3
S5
SC04
SC61
SC69
SC74
SC80
Scott2-7
Scott3-3
SRC1
SRN1-6
UC1

UC2
W007
WC 1
WC2
WC3
WC4
WC43
WC5
WC50
WHA3
BP1
Chatham
MP1S
MPSF1
MP2S
MP2F
MP3S
MP3F
E01-63
E03-62b
E03-63



Default Parameters			Bottle Default Parameters		
Transmissometer Status	Instrument Soak		Bottle Soak		Rosette Bottle Firing Method
ON	Instrument Flush (sec)	60	Threshold Depth (m)	150	US
			Above (sec)	60	
			Below(sec)	30	

Sampling /Rosette Sheet File	Default Location for NMEA Feed File	Local Time Adjustment
Browse for Sampling Sheet Location	Browse NMEA Feed File Location	
\\LAPTOP-6VLA5O8P\Users\info\Desktop\Sharefolder\2023-069 Moorings Template Validation V.DEC2022.xlsx	\\LAPTOP-6VLA5O8P\Users\info\Desktop\Sharefolder\NMEAfeed.txt	Daylight Savings Time

Daily Science Log File to Backup (this file)

Browse for Daily Science Log File to Backup

\\LAPTOP-
6VLA5O8P\Users\info\Desktop\Sharefolder\202
3-034_Daily Science Log_V.FEB2023.xlsx

Additional Comments and/or Bugs:

[illegible]

S

[illegible]

Daily Science e-Log Detailed Instructions - Under Construction

Software

Microsoft Excel
BradyWorkstation with Data Automation Suite
Tera Term

Files and Folders on Desktop

Sharefolder

Folders

Daily Science Log Templates	Contains a copy of the Daily Science Log Template for use
DailyLogMacros	Contains all macros that work to drive the Daily Science e-Log
O2_Generated_BoxFiles	Folder to collect files to start oxygen box files the user can
Rosette Templates	Contains a copy of the Daily Science Log Template for use

Files

NEAfeed.txt	TeraTerm set to output NMEA feed to this file
20xx-xxx_Daily Science Log...	The users cruise specific copy - place here
20xx-xxx_RosetteTemplate...	The users cruise specific copy - place here

Brady

Folders

Additional_Files	Contains a print number log, sample files for using Data Automation Suite
Brady_Label_Templates	Has different user made template that can be pointed to
BradyExcel_ImportFiles	Folder where .csv files are shuffled from the label printing
BradyExcel_ImportFiles_Zooplankton	Folder where .csv files for zooplankton labels are shuffled
BradyInstructions	Various manuals for the Brady Software
BradyMacros	Copy of the BradyDirectPrint macro
Drivers	Drivers for the two Brady printers in use

Box File Templates

Folder with current years organization of oxygen flasks to

l from the Brady macro to automate printing

be referenced by the O2 filling tool

Chief Scientist CheckList

Cruise
Dates

<i>Pre Cruise</i>	<i>Status</i>	<i>Comments</i>
<i>Submit Cruise Plan</i>	NO	
<i>Submit request to access US waters</i>	NO	
<i>Consult collaborators on sampling regime</i>	NO	
<i>Review last cruise report/data support meeting</i>	NO	
<i>Ensure participants WHMIS trained</i>	NO	
<i>Submit participants preference time/pay to Division Manager</i>	NO	
<i>Complete and submit Equipment Requests</i>	NO	
<i>Prepare/Submit Hazardous Materials List to Ship</i>	NO	
<i>Prepare Sampling Sheet Workbook as needed</i>	NO	
<i>Submit Science log to CTD shop to fill out relevant serial numbers etc.</i>	NO	
<i>Fill out relevant Daily Science Log fields/defaults</i>	NO	

Chief Scientist CheckList

Cruise
Dates

Science Meeting/Safety Meeting	NO	
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During Cruise

Post relevant documents in lab (Sampling Plan, Watches, etc.)		NO	
Perform a Test Cast		NO	
Check Data Quality - submit test cast to IOS for review		NO	
Get core monitoring equipment online and running	GPS tracking	NO	
	Sounder	NO	
	ADCP	NO	
	TSG	NO	

Chief Scientist CheckList

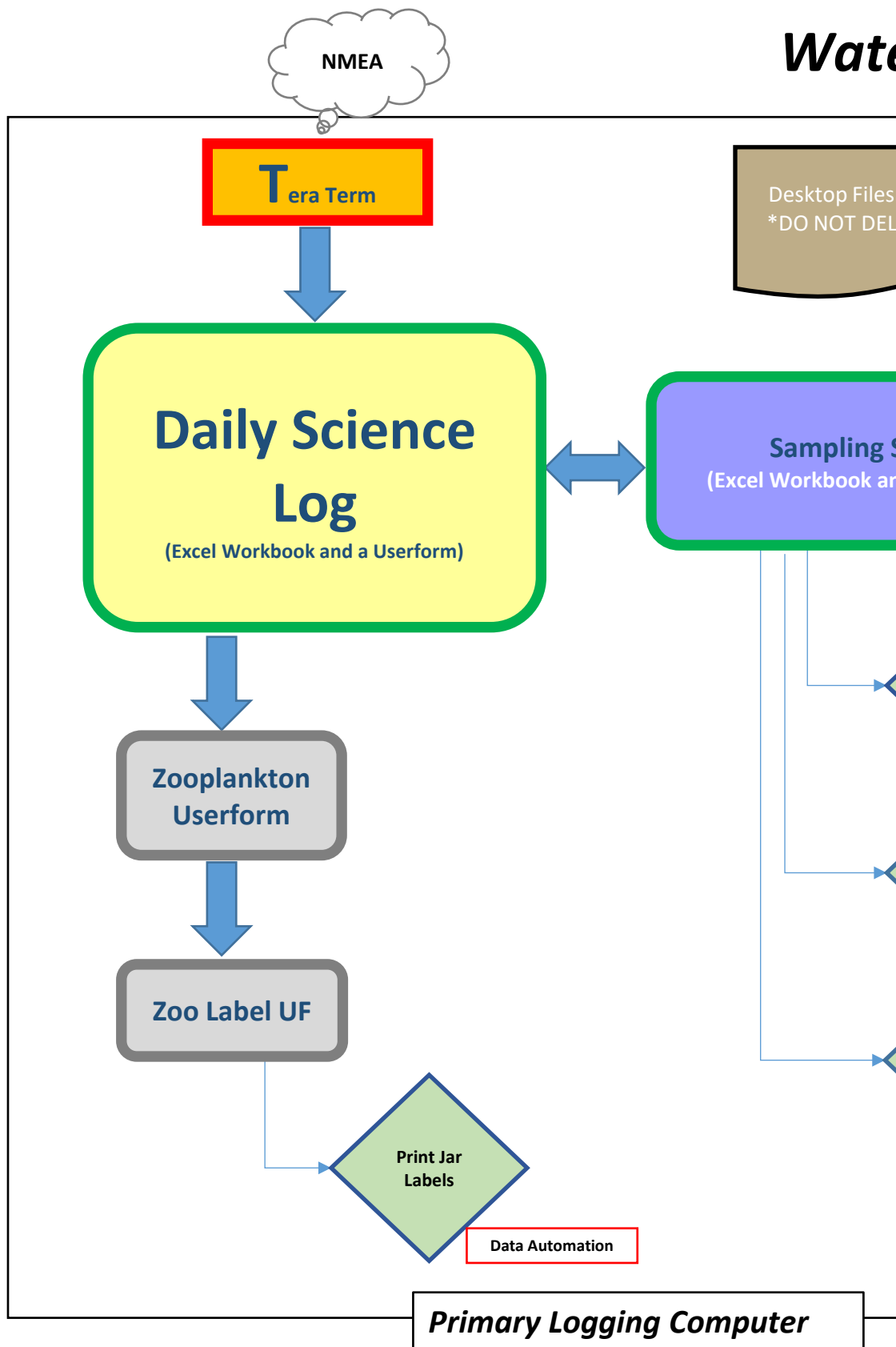
Cruise
Dates
Post Cruise

Complete Daily Science Log		NO	
Scan All Paper Documents (ie. O2 Logs, HPLC Logs, Zooplankton etc.)		NO	
Copy Files to OSDCommon Cruise Folder	CTD Data	NO	
	CTD Configuration File	NO	
	TSG Data	NO	
	TSG Configuration File	NO	
	GPS Tracks	NO	
	Sounder Data	NO	
	Daily Science Log	NO	
	Excel Sampling/Rosette Sheets	NO	
	At-sea O2 analysis files	NO	
Ensure samples collected are stored properly		NO	

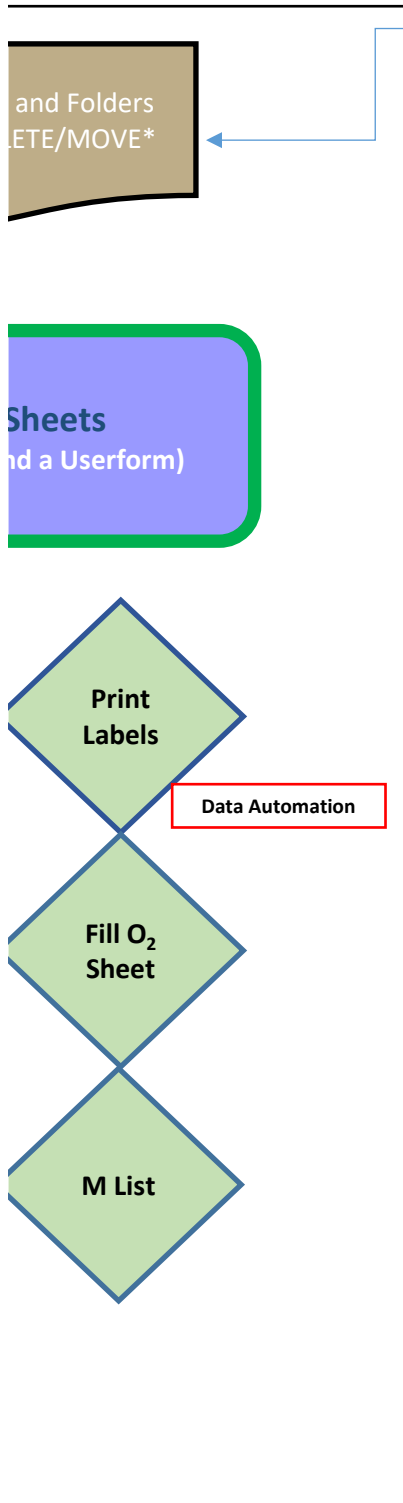
Chief Scientist CheckList

Cruise
Dates

<i>Pass on revelavent issues to next Chief Scientist</i>	NO	
<i>Complete Cruise Report</i>	NO	



er Properties E-Log Quick Guide



Sampling Sheets:

Function

A log for recording sampling depths, sample types and sample number.

How-to-use

Make a copy of the sampling sheet template (located in the *Sharefolder* in the share folder and rename with your specific cruise number.

Use the Validation List sheet to input cruise specific parameters; for sample types etc.

Include header information common to all sampling sheets on the Form ID, Ship.

Prepared sheets can then be used to load data into the *Daily Scientific* sampling details in real-time by calling from the *DSL Userform*.

Create Sampling Sheets

Use the 'Generate Copy...' button to copy the sheet. Input the parameters applicable (ie. if more than one cast at the same station to different depths).

Print Labels

Add Sample numbers and print labels with the 'Print Labels' button. Use *Automation* software and a running channel setup.

Fill an Oxygen Log Sheet

If there are oxygen samples use the 'Generate O₂ Sheet' button to fill the sheet.

Generate a Cruise Sample Masterlist

At the end of the cruise generate a masterlist of all samples taken using the 'Sample Masterlist' button.

Printing

Use the 'Print Sheet' button if you wish to print a hard copy for logs; use the 'Print All Sampling Sheets' Button to have a paper copy for the entire cruise.



bers for water sampling events.

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RosetteSheet template ex. Cruise

ie *Log Userform* and be used to log

mpted station ID and cast type if
tiate).

. This requires *Brady Data*

ill an oxygen template sheet.

using the 'Generate a Cruise

ging and at the end of the cruise
the file