DAILY SCIENCE LOG BOOK

MISSION NUMBER: 2022-067

DATE:

From: July 15/2022 To: Aug 1/2022

VESSEL: CCGS Sir John Franklin

PROJECT(S): Kitimat Fjords and WCVI Oceanographic Survey and Weather Stations

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

35 Page Logbook

WaterProperties.ca

Captain: Robert Barker First Officer: Jordan

Second Officer: Audrey L Third Officer: -

Fishing Master: Peter Bowers Chief Engineer: Roger

Mission Participants / Agencies:

OSD

**** Chief Scientist to tape Scientific Personnel section of their cruise plan here ****

This is accessed from your WaterProperties.ca Dashboard or from here:
https://www.waterproperties.ca/requests/cruiseplanview.php?cruiseid=YYYY-NNN

**** The following 3 pages are VERY IMPORTANT as they document equipment and settings used on board ****

These pages are to be completed by the CTD Technician setting up the equipment, the Watch Leader on board, and the Chief Scientist MUST verify that all relevant sections are completed prior to leaving the vessel. ***Any mid-cruise changes to be noted by watch leader in the notes.***

Data logging computer: WP # 103

Data acquisition program: Seasave 7.26.7.121

CTD deck unit make: SBE model: 11 serial number: 1043

Primary CTD

Make: SBE model: 9 serial number: 585

Primary temperature serial number: 2449

Primary conductivity serial number: 1764

Secondary temperature serial number: 4484

Secondary conductivity serial number: 2128

Transmissometer: Wetlabs Model: CSTAR serial: 1201

Transmissometer: _____ Model: _____ serial: _____

Fluorometer: Model Seapoint Cable gain: 10x serial: 2225 **P**, **S** or **NO** pump?

Fluorometer: Model _____ Cable gain: _____ serial: _____ **P, S** or **NO** pump?

Oxygen sensor: SBE Model: 43 serial: 1176 **P, S** or **NO** pump?

PAR sensor: _____ Model: _____ serial: _____ **Surface PAR? Y / N**

Other sensors: Valeport Altimeter serial: 75321 **P, S** or **NO** pump?

Other sensors: _____ serial: _____ **P, S** or **NO** pump?

Other sensors: _____ serial: _____ **P, S** or **NO** pump?

Other sensors: _____ serial: _____ **P, S** or **NO** pump?

Note pH exists in some .con files, but is not installed. - RF

Secondary CTD

Make: _____ model: _____ serial number: _____

Primary temperature serial number: _____

Primary conductivity serial number: _____

Secondary temperature serial number: _____

Secondary conductivity serial number: _____

Transmissometer: _____ Model: _____ serial: _____

Transmissometer: _____ Model: _____ serial: _____

Fluorometer: Model _____ Cable gain: _____ serial: _____ **P, S** or **NO** pump?

Fluorometer: Model _____ Cable gain: _____ serial: _____ **P, S** or **NO** pump?

Oxygen sensor: _____ Model: _____ serial: _____ **P, S** or **NO** pump?

PAR sensor: _____ Model: _____ serial: _____ **Surface PAR? Y / N**

Other sensors: _____ serial: _____ **P, S** or **NO** pump?

Other sensors: _____ serial: _____ **P, S** or **NO** pump?

Other sensors: _____ serial: _____ **P, S** or **NO** pump?

Other sensors: _____ serial: _____ **P, S** or **NO** pump?

CTD calibration bottle location (height above CTD in metres): _____

This also includes the bottle location above the CTD on non-rosette casts (typical on small launches).

Rosette Setup:
Number of bottles: 24
Manufacturer: OceanTest Equipment Inc
Volume of bottles (litres): 10

Rosette/Niskin Bottle Serial Numbers:

1: 2017-10-01	2: 2017-10-02	3: 2017-10-03	4: 2017-10-04	5: 2017-10-05
6: 2017-10-06	7: 2017-10-07	8: 2017-10-08	9: 2017-10-09	10: 2017-10-10
11: 2017-10-11	12: 2017-10-12	13: 2018-10-01	14: 2018-10-02	15: 2018-10-03
16: 2018-10-04	17: 2018-10-05	18: 2018-10-13	19: 2018-10-06	20: 2018-10-07
21: 2018-10-08	22: 2018-10-09	23: 2018-10-10	24: 2017-10-14	

Make sure to note any bottle changes or repairs during your cruise in this log book.

Winches:
1. Make: Hawboldt Model: _____ Serial #: _____ Used for: LARS, rosette.
2. Make: _____ Model: _____ Serial #: _____ Used for: _____
3. Make: _____ Model: _____ Serial #: _____ Used for: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):
See notes on LARS issue, page 5 (back page). Otherwise excellent.

Salinometer:
Make: _____ Model: _____ Serial Number: _____

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

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

Thermosalinograph System (SBE21/45):
Program: Seasave Version: 7.26.7.121
Sampling interval (seconds): _____
TSG serial number: 2488
Fluorometer sensor serial number: 1663

Comments on performance during cruise (comments should also be reflected in the post-cruise report):
Still needs int temp sensor installed electrically. Strainer cleaned Jul 23.

ADCP Setup:
Computer time zone: _____
Sampling interval (sec): _____
Bin Length: (2^x): _____
Pulse Length: _____
Buffer (bytes): _____
Gyro Offset: _____

User Exits: Name: _____ Exit points: _____
Name: _____ Exit points: _____
Name: _____ Exit points: _____
Work File: _____

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

CTD Test Cast Information

Test Cast along side? Yes (No)
Comments _____

Test Cast in Saanich Inlet or other location? (Yes) No
Comments Queen Charlotte Strait

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

Pumps working? (Yes) (0011) No (0010)

Secondary Temp – Primary Temp: _____
(Average from the mixed region)

Secondary Salinity – Primary Salinity: _____
(Average from the mixed region)

Additional Comments:

_____
_____
_____
_____

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

Other CTD units:
RBR Serial Number: _____ Sensors: _____

Others:
_____

Plankton Nets:

Bongo/SCOR #1	Frame Size: _____cm	Mesh: 236 µm	Flowmeter: 4966
Bongo/SCOR #2	Frame Size: _____cm	Mesh: _____ µm	Flowmeter: _____
_____	Frame Size: _____cm	Mesh: _____ µm	Flowmeter: _____
_____	Frame Size: _____cm	Mesh: _____ µm	Flowmeter: _____

Multinet ☐ BIONESS ☐ Neuston ☐ Others:
_____

_____

Trawl Gear:
Midwater Trawls: SOG ☐ Highseas ☐ Pelagic ☐ Other: _____

Bottom Trawls: Atlantic Western IIA ☐ Yankee 36 Hard & Soft Bottom ☐ Other: _____

American Shrimp Trawl ☐

Notes:
_____

Trawl Doors: USA Jet ☐ Tyburon ☐ _____

Sounders : Wesmar 380 ☐ Others: _____

Acoustics:
Echosounder #1 _____ Frequencies (KHz): 12 ☐ 18 ☐ 38 ☐ 70 ☐ 120 ☐ 200 ☐

Others: _____

Echosounder #2 _____ Frequencies (KHz): 12 ☐ 18 ☐ 38 ☐ 70 ☐ 120 ☐ 200 ☐

Others: _____

Software & Notes:
_____

Other Gear in Operation:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2022 **Vessel** Franklin **Cruise ID** 2022-067

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
1		16	3:15	BE	LOOP		° .	° .			-		RF	☐☐	Start TSG (see comment)
2	testcast	16	21:43	BE	ROS	US	50°41.314	126°57.971	193		1 -	1	RF	☑☐	
			21:47	BO			50°41.324	126°57.884		181	-			☐☐	
			21:54	EN			50°41.338	126°57.703			-			☐☐	
3	CS11	17	20:11	BE	CTD		51°22.99	128°12.267	151	1	-		HB	☑☐	
			20:14	BO			51°22.99	128°12.247		137	-		HB	☐☐	
			20:16	EN			51°22.99	128°12.208			-		HB	☐☐	
4	CJ02	17	21:46	BE	~~CTD~~ ROS	US	51°27.970	128°29.992	209		-		HB	☑☐	
			21:50	BO			51°27.966	128°29.960		192	2 -	1		☐☐	
			21:55	EN			51°27.968	128°29.899			-			☐☐	
5	CJ03	17	23:09	BE	CTD		51°35.669	128°18.180	166		-			☐☐	
			23:13	BO			51°35.666	128°18.151		147	-			☐☐	
			23:16	EN			51°35.658	128°18.112			-			☐☐	
6	HAK1-4	18	00:04	BE	CTD		51°42.685	128°14.476	151		-			☐☐	
			00:07	BO			51°42.670	128°14.431		131	-			☐☐	
			00:10	EN			51°42.646	128°14.393			-			☐☐	
7	CMP1	18	14:21	BE	CTD		53° 0.478	129°15.466	373		-			☐☐	
			14:34	BO			53° 0.442	129°15.444		357	-			☐☐	
			14:41	EN			53° 0.422	129°15.422			-			☐☐	

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

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

Time Code:
BE = Beginning Time of Cast
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CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

Notes: _____

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WaterProperties.ca
Version: 17 Feb 2020

This page is for any notes or observations

~20:15 PDT Jul 15 2022
-TSG started up with help from Roger, Elenie of engineering team. Data being saved on computer in Domestic machinery space. R.F

-00:11 18 July 2022 UTC 51 42.644 128 14.390 FRC deployed w/ Hauke & Sarne, 3 crew aboard. for recovery of weather station @ Fawcett Point

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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8	SC 69	18	15:29	BE	ROS	US	53° 4.798	129 19.652	690		3 -	1	RF	☑☐	
			15:41	BO			53° 4.808	129° 19.660		679	-			☐☐	
			15:55	EN			53° 4.829	129° 19.579			-			☐☐	
9	SC 64	18	17 04	BE	CTD	/	53° 8.814	129° 23.504	505		-	/	RF	☑☐	
			17:12	BO			53° 8.824	129 23.432		483	-			☐☐	
			17:20	EN			53° 8.825	129° 23.464			-			☐☐	
10	SC 61	18	17:55	BE	CTD	/	53° 12.617	129° 25.159	505		-		RF	☑☐	
			18:04	BO			53° 12.593	129° 25.204		491	-			☐☐	
			18:12	EN			53° 12.611	129° 25.252			-			☐☐	
11	CAM 2	18	19:58	BE	CTD		52° 55.018	129° 15.535	240		-		SH	☑☐	
			20:03	BO			52° 55.024	129° 15.545			-			☐☐	
			20:07	EN			52° 55.636	129° 15.647			-			☐☐	
12	VC 68	18	21:23	BE	CTD		53° 5.038	129° 9.652	550		-		SH	☑☐	
			21:33	BO			53° 5.062	129° 9.610		560	-			☐☐	
			21:42	EN			53° 5.056	129° 9.510			-			☐☐	
13	WHA 3	18	22:17	BE	ROS	US	53° 8.267	129° 7.261	542	-	4 -	1	RF	☑☐	
			22:27	BO			53° 8.263	129° 7.336		534	-			☐☐	
			22:37	EN			53° 8.308	129° 7.427			-			☐☐	
			:				° .	° .			-			☐☐	

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14	WC58	18	22:12	BE	CTD	/	53° 13.276	129° 7.304	501		-		SH	☑☐	Filename typo 134 instead of 14
			23:20	BO			53° 13.282	129° 7.297		487	-			☐☐	★ Solved, removed files and added Watchers ★
			23:29	EN			53° 13.312	129° 7.308			-			☐☐	
15	MK41	19	00:05	BE	CTD	/	53° 17.714	129° 6.871	510		-		RF	☑☐	
			00:14	BO			53° 17.669	129° 6.941		498	-			☐☐	
			00:23	EN			53° 17.645	129° 7.033			-			☐☐	
16	WHA 9	19	00:49	BE	CTD	/	53° 18.556	129° 10.967	479		-		HB	☑☐	
			00:57	BO			53° 18.570	129° 10.924		468	-		RF	☐☐	
			01:05	EN			53° 18.574	129° 10.842			-			☐☐	
17	DOUG-45	19	01:34	BE	ROS	US	53° 22.262	129° 11.686	470		S-6	2	SH	☑☐	
			01:42	BO			53° 22.261	129° 11.666		455	-			☐☐	
			01:52	EN			53° 22.276	129° 11.644			-			☐☐	
18	DOUG-40	19	02:25	BE	CTD	/	53° 26.747	129° 12.482	405		-		HB	☑☐	
			02:32	BO			53° 26.758	129° 12.496		389	-			☐☐	
			02:39	EN			53° 26.755	129° 12.497			-			☐☐	
19	KSK1	19	02:59	BE	CTD	/	53° 28.830	129° 12.527	382	382	-		HB	☑☐	
			03:05	BO			53° 28.831	129° 12.532		366	-			☐☐	
			03:11	EN			53° 28.841	129° 12.557			-			☐☐	
			:				° .	° .			-			☐☐	

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20	DOUG-26	19	14:03	BE	ROS	US	53° 40.457	129° 7.326	398		7-8	2	SH	☑ ☐	
			14:10	BO			53° 40.462	129° 7.318		386	-			☐ ☐	
			14:18	EN			53° 40.484	129° 7.284			-		RF	☐ ☐	
21	FOC 1	19	15:13	BE	CTD	/	53°44.143	129° 1.786	372		-	/	RF	☑ ☐	
			15:19	BO			53°44.164	129° 1.769		361	-			☐ ☐	
			15:26	EN			53°44.183	129° 1.746			-			☐ ☐	
22	DOUG-16	19	16:03	BE	CTD	/	53°46.766	128°54.692	390		-	/	RF	☑ ☐	
			16:10	BO			53°46.786	128°54.656		378	-			☐ ☐	
			16:17	EN			53°46.804	128°54.590			-			☐ ☐	
23	DOUG-12	19	16:45	BE	CTD	/	53°48.140	128°50.483	356		-	/	RF	☑ ☐	
			16:51	BO			53°48.140	128°50.458		345	-			☐ ☐	
			16:57	EN			53°48.154	128°50.408			-			☐ ☐	
24	DOUG-11	19	17:31	BE	CTD	/	53°49.787	128°49.246	331		-	/	RF	☐ ☐	
			17:37	BO			53°49.784	128°49.273		318	-			☐ ☐	
			17:43	EN			53°49.798	128°49.294			-			☐ ☐	
25	DOUG-8	19	18:12	BE	CTD		53° 52.088	128° 46.081	304		-		HB	☑ ☐	
			18:17	BO			53° 52.074	128° 46.045		290	-			☐ ☐	
			18:22	EN			53° 52.075	128° 45.994			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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26	DOUG-06	19	18:59	BE	ROS	US	53° 54 078	128° 44 676	261		9 - 10	2	~~HB~~ RF	☑ ☐	
			19:04	BO			53° 54.079	128° 44.090		250	-		JSH	☐ ☐	
			19:10	EN			53° 54 113	128° 44 100			-			☐ ☐	
27	KIT1-1	19	19:34	BE	CTD		53° 56 270	128° 41.237	210		-	/	SH	☑ ☐	
			19:37	BO			53° 56 264	128° 41.213		196	-	/		☐ ☐	
			19:41	EN			53° 56.290	128° 41.207			-			☐ ☐	
28	DOUG-02	19	20:01	BE	CTD		53° 57.796	128° 40.898	180		/	/	RF	☑ ☐	
			20:05	BO			53° 57.812	128° 40.901		167	-			☐ ☐	
			20:08	EN			53° 57.812	128° 40.910			-			☐ ☐	
29	Doug-05	19	20:40	BE	CTD		53° 54.776	128° 43.476	227		-	/	~~AA~~	☑ ☐	Hex say 05A not 05
			20:44	BO			53° 54.764	128° 43.440		212	-			☐ ☐	
			20:48	EN			53° 54.773	128° 43 438			-			☐ ☐	edited to correct
30	Doug-05D	19	21:04	BE	CTD		53° 54.668	128° 43 262	236		-	/	SH	☑ ☐	
			21:08	BO			53° 54.679	128° 43.266		226	-			☐ ☐	
			21:12	EN			53° 54.694	128° 43 277			-			☐ ☐	
31	DeC 12	20	14:23	BE	CTD		53° 46.478	128° 49.634	313		-		HB	☑ ☐	
			14:28	BO			53° 46.482	128° 49.657		304	-			☐ ☐	
			14:33	EN			53° 46.476	128° 49.681			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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Notes: _____

*This page is for any **notes or observations***

Boom stuck in extended position

~21:15. Issue with LARS.

Update Jul 20 1400h :
- issue is resolved for now
- sheared key in drive shaft due to overrunning limit switches
- key was replaced by CCG engineers. Some hairline cracks around key, not a concern for now.
- motor will need to be replaced at end of season
- LARS operational again as of Jul 20 AM

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32	DeC19	20	15:31	BE	ROS	US	53° 39 318	128° 52. 282	271		11 - 12	2	SH	☑ ☐	
			15:36	BO			53° 39. 313	128° 52 291		258	-			☐ ☐	
			15:42	EN			53° 39. 310	128° 52. 297			-			☐ ☐	
33	DeC23	20	16:10	BE	CTD	/	53° 36.937	128° 50.706	194		-	/	RF	☑ ☐	
			16:13	BO			53° 36.935	128° 50.698		181	-			☐ ☐	
			16:17	EN			53° 36.937	128° 50.700			-			☐ ☐	
34	GC26	20	16:50	BE	CTD	/	53° 33 970	128° 47.459	178		/	/	SH	☑ ☐	
			16:53	BO			53° 33 966	128° 47. 468		167	-			☐ ☐	
			16:57	EN			53° 33 974	128° 47 495			-			☐ ☐	
35	GC28	20	17:20	BE	CTD	/	53°32.095	128° 46. 142	201		/	/	RF	☑ ☐	
			17:24	BO			53 32 104	128° 46. 159		188	-			☐ ☐	
			17:28	EN			53° 32.098	128° 46. 164			-			☐ ☐	
36	GC31	20	17:51	BE	ROS	US	53° 31. 518	128° 43. 534	210		13 - 14	2	SH	☑ ☐	
			17:55	BO			53° 31. 536	128° 43. 512		198	-			☐ ☐	
			18:00	EN			53° 31. 543	128° 43 464			-			☐ ☑	
37	GC38	20	19:03	BE	CTD	/	53° 27.010	128° 36.047	216		/	/	RF HS	☑ ☐	
			19:07	BO			53° 27.008	128° 36.043		235	-			☐ ☐	
			19:11	EN			53° 27.012	128° 36.053			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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BOT = Bottle cast (no CTD)
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Notes: _____

This page is for any notes or observations

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2022 **Vessel** Franklin **Cruise ID** 2022-067

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
38	GC 44	20	20:30	BE	CTD	/	53°25.948	128°27.433	397		/	/	RF	☑ ☐	
			20:27	BO			53°26.008	128°27.506		385	-			☐ ☐	
			20:34	EN			53°26.030	128°27.646			-			☐ ☐	
39	GC 51	20	21:36	BE	ROS	US	53°28.331	128°18.882	488		15-16	2	RF	☑ ☐	
			21:45	BO			53°28.295	128°18.950		487	-			☐ ☐	
			21:55	EN			53°28.240	128°18.950			-			☐ ☐	
40	GC 56	20	22:48	BE	CTD	/	53°28.036	128°10.840	416		-		RF	☑ ☐	
			22:55	BO			53°28.016	128°10.822		408	-			☐ ☐	
			23:02	EN			53°28.002	128°10.749			-			☐ ☐	
41	GC 60	20	23:42	BE	CTD	/	53° 25.685	128° 5.383	268		-	/	SH	☑ ☐	
			23:47	BO			53° 25.684	128° 5.358		255	-			☐ ☐	
			23:51	EN			53° 25.685	128° 5.351			-			☐ ☐	
42	GC 68	21	00:43	BE	ROS	US	53°20.622	127°59.554	229		17-18	2	RF	☑ ☐	
			00:47	BO			53°20.614	127°59.542		218	-			☐ ☐	
			00:54	EN			53°20.604	127°59.530			-			☐ ☐	
43	GC 74	21	01:38	BE	CTD	/	53° 15.786	127° 55.454	142		/	/	RF HB	☑ ☐	
			01:40	BO			53° 15.788	127° 55.450		130	-			☐ ☐	
			01:43	EN			53° 15.778	127° 55.434			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2022 **Vessel** Franklin **Cruise ID** 2022-067

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
44	DeC26	21	14:08	BE	CTD	/	53° 34.261	128° 50.900	168		-	/	RF	☑ ☐	
			14:11	BO			53° 34.249	128° 50.851		153	-			☐ ☐	
			14:14	EN			53° 34.225	128° 50.820			-			☐ ☐	
45	VP46	21	14:39	BE	CTD	/	53° 32.746	128° 53.360	218		/	/	HB	☑ ☐	
			14:43	BO			53° 32.754	128° 53.345		200	-			☐ ☐	
			14:46	EN			53° 32.759	128° 53.323			-			☐ ☐	
46	VP46D	21	15:26	BE	ROS	US	53° 33.691	128° 58.691	246		19-20	2	RF	☑ ☐	
			15:31	BO			53° 33.712	128° 58.717		228	-			☐ ☐	
			15:37	EN			53° 33.730	128° 58.741			-			☐ ☐	
47	VP39D	21	15:58	BE	CTD	/	53° 32.368	129° 0.790	45		/	/	RF	☑ ☐	
			15:59	BO			53° 32.360	129° 0.814		35	-			☐ ☐	
			16:01	EN			53° 32.350	129° 0.839			-			☐ ☐	
48	VP39A	21	16:21	BE	CTD	/	53° 31.410	129° 2.725	105		/	/	RF	☑ ☐	
			16:23	BO			53° 31.391	129° 2.735		90	-			☐ ☐	
			16:25	EN			53° 31.367	129° 2.749			-			☐ ☐	
49	VP39	21	16:41	BE	CTD	/	53° 30.373	129° 3.852	150		/	/	RF	☑ ☐	
			16:44	BO			53° 30.358	129° 3.858		136	-			☐ ☐	
			16:47	EN			53° 30.344	129° 3.870			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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2022 07 21 T 15:17:00Z : FRC launched w/ Hake & Sam for Vieques Passage Wx recovery.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2022 **Vessel** Franklin **Cruise ID** 2022-067

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
50	UC 31	21	17:31	BE	CTD	/	53° 31.714	128° 59.482	78		-	/	RF	☑ ☐	
			17:33	BO			53° 31.714	128° 59.476		64	-			☐ ☐	
			17:34	EN			53° 31.712	128° 59.470			-			☐ ☐	
51	UC 32	21	17:48	BE	CTD	/	53° 31.343	128° 59.126	84		-	/	RF	☑ ☐	
			17:49	BO			53° 31.336	128° 59.153		72	-			☐ ☐	
			17:51	EN			53° 31.328	128° 59.143			-			☐ ☐	
52	UC 43	21	18:14	BE	CTD	/	53° 28.976	128° 58.699	112		-	/	SH	☑ ☐	
			18:17	BO			53° 28.967	128° 58.696		102	-			☐ ☐	
			18:19	EN			53° 28.960	128° 58.692			-			☐ ☐	
53	UC 45	21	18:56	BE	ROS	US	53° 26.029	128° 55.505	399		21 - 22	2	HB	☑ ☐	
			19:02	BO			53° 26.030	128° 55.522		385	-			☐ ☐	
			19:09	EN			53° 26.028	128° 55.554			-			☐ ☐	
54	UC 50	21	19:44	BE	CTD	/	53° 21.095	128° 54.382	468		-	/	RF	☑ ☐	
			19:52	BO			53° 21.104	128° 54.380		457	-			☐ ☐	
			20:00	EN			53° 21.118	128° 54.388			-			☐ ☐	
55	PRC 1	21	20:27	BE	CTD		53° 17.864	128° 53.382	447		-	/	SH	☑ ☐	
			20:35	BO			53° 17.878	128° 53.334		445	-			☐ ☐	
			20:43	EN			53° 17.872	128° 53.220			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2022 **Vessel** Franklin **Cruise ID** 2022-067

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
56	FR58	21	21:09	BE	CTD	/	53° 15.515	128° 50.593	504		/	/	HB	☐☐	
			21:18	BO			53° 15.481	128° 50.632		505	-			☐☐	
			21:26	EN			53° 15.425	128° 50.636	447		-			☐☐	
57	MKY3	21	22:01	BE	CTD	/	53° 18.457	128° 55.949	460		/	/	RF	☑☐	
			22:09	BO			53° 18.436	128° 55.902		452	-			☐☐	
			22:17	EN			53° 18.409	128° 55.835			-			☐☐	
58	MKY2	21	22:45	BE	CTD	/	53° 19.108	129° 1.001	491		/	/	SH	☑☐	
			22:53	BO			53° 19.108	129° 1.048		480	-			☐☐	
			23:01	EN			53° 19.109	129° 0.974			-			☐☐	
59	MKY1	21	23:33	BE	ROS	US	53° 17.825	129° 6.881	509		23-24	2	RF	☑☐	
			23:42	BO			53° 17.828	129° 6.934		497	-			☐☐	
			23:53	EN			53° 17.815	129° 6.950			-			☐☐	
60	GRCO	22	00:55	BE	CTD	/	53° 22.548	129° 20.145	228		/	/	SH	☑☐	
			00:58	BO			53° 22.560	129° 20.197		220	-			☐☐	
			01:02	EN			53° 22.572	129° 20.194			-			☐☐	
61	VP43	22	02:03	BE	CTD	/	53° 24.904	129° 6.931	321		/	/	RF	☑☐	
			02:08	BO			53° 24.894	129° 6.916		312	-			☐☐	
			02:15	EN			53° 24.904	129° 6.904			-			☐☐	
			:				° .	° .			-			☐☐	

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2022 **Vessel** Franklin **Cruise ID** 2022-067

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
62	SQL1	22	14:21	BE	ROS	US	53° 20.686	129° 17.806	526		25 - 26	2	SH	☑ ☐	
			14:30	BO			53° 20.664	129° 17.825		513	-			☐ ☐	
			14:40	EN			53° 20.639	129° 17.862			-			☐ ☐	
63	SC46	22	15:03	BE	CTD	/	53° 19.000	129° 18.606	541		-	/	RF	☑ ☐	
			15:13	BO			53° 19.004	129° 18.596		528	-			☐ ☐	
			15:22	EN			53° 19.012	129° 18.635			-			☐ ☐	
64	LP48	22	15:42	BE	CTD	/	53° 17.182	129° 17.167	552		-	/	SH	☑ ☐	
			15:51	BO			53° 17.200	129° 17.117		538	-			☐ ☐	
			16:01	EN			53° 17.218	129° 17.056			-			☐ ☐	
65	LP53	22	16:31	BE	CTD	/	53° 13.625	129° 20.615	597		-	/	RF	☑ ☐	
			16:42	BO			53° 13.620	129° 20.626		583	-			☐ ☐	
			16:52	EN			53° 13.627	129° 20.626			-			☐ ☐	
66	SC69	22	17:57	BE	CTD	/	53° 4.801	129° 19.638	690		/	/	SH	☑ ☐	
			18:09	BO			53° 4.786	129° 19.618		680	-			☐ ☐	
			18:20	EN			53° 4.766	129° 19.612			-			☐ ☐	
67	HB-GIL	22	19:04	BE	CTD	/	53° 8.778	129° 21.278	450		/	/	SH	☑ ☐	
			19:12	BO			53° 8.747	129° 21.262		440	-			☐ ☐	
			19:20	EN			53° 8.720	129° 21.251			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 17 Feb 2020

This page is for any notes or observations

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2022 **Vessel** Franklin **Cruise ID** 2022-067

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
68	SC64	22	19:42	BE	ROS	US	53° 8.788	129° 23.480	472		27 - 28	2	RF	☑ ☐	
			19 50	BO			53° 8.801	129° 23.484	~~482~~	482	-			☐ ☐	
			20:00	EN			53° 8.814	129° 23.480			-			☐ ☐	
69	HB-CAM	22	20:17	BE	CTD		53° 8.221	129° 25.087	375		—	—	SH	☑ ☐	EK60 showed
			20:24	BO			53° 8.236	129° 25.110		407	-			☐ ☐	dplw @ 510
			20:31	EN			53° 8.226	129° 25.114			-			☐ ☐	→
70	OC64	22	21:14	BE	CTD		53° 11.923	129° 30.686	285		—	—	SH	☑ ☐	
			21:18	BO			53° 11.896	129° 30.745			-			☐ ☐	
			21:23	EN			53° 11.854	129° 30.778			-			☐ ☐	
71	OC67	22	21:49	BE	CTD		53° 11.489	129° 35.450	219		—	—	RF	☑ ☐	
			21:53	BO			53° 11.458	129° 35.468		215	-			☐ ☐	
			21:58	EN			53° 11.431	129° 35.504			-			☐ ☐	
72	HB-OTTER	22	22:32	BE	CTD	—	53° 12.488	129° 29.536	197		—	—	SH	☑ ☐	
			22:36	BO			53° 12.466	129° 29.539		193	-			☐ ☐	
			22:39	EN			53° 12.451	129° 29.530			-			☐ ☐	
73	SC61	22	23:07	BE	CTD	✓	53° 12.592	129° 25.038	503		—	—	RF	☑ ☐	
			23:15	BO			53° 12.592	129° 25.018		493	-			☐ ☐	
			23:24	EN			53° 12.587	129° 25.021			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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Notes: _____

- Snagged some jellyfish tentacles all over the rosette!
  - cleaned manually as best as possible
  - back flushed pumps
  - next step: examine data from next cast @ OC64

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2022 **Vessel** Franklin **Cruise ID** 2022-067

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
74	HB-FIN	22	23:46	BE	CTD		53° 14.185	129° 22.739	332		—	—	SH	☑ ☐	Bottom ill-defined
			23:52	BO			53° 14.161	129° 22.733		337	-			☐ ☐	by echosounder,
			23:58	EN			53° 14.153	129° 22.714			-			☐ ☐	potentially soft
75	SC58	23	00:29	BE	ROS	US	53° 16.528	129° 25.552	535		29 - 30	2	~~SH~~ HB	☑ ☐	substrate
			00:38	BO			53° 16.554	129° 25.518		519	-			☐ ☐	
			00:48	EN			53° 16.549	129° 25.586			-			☐ ☐	
76	FR63	23	14:42	BE	ROS	US	53° 12.366	128° 44.731	493		31 - 32	2	SH	☑ ☐	
			14:50	BO			53° 12.370	128° 44.730		484	-			☐ ☐	
			15:00	EN			53° 12.365	128° 44.711			-			☐ ☐	
77	FR68	23	15:37	BE			53° 9.670	128° 38.212	506		—	—	RF	☑ ☐	
			15:45	BO			53° 9.670	128° 38.279		493	-			☐ ☐	
			15:54	EN			53° 9.660	128° 38.345			-			☐ ☐	
78	FR73	23	16:29	BE			53° 5.335	128° 31.112	200		-	—	SH	☑ ☐	
			16:32	BO			53° 5.348	128° 34.103		203	-			☐ ☐	
			16:36	EN			53° 5.366	128° 34.106			-			☐ ☐	
79	FR78	23	17:22	BE			52° 59.562	128° 31.470	197		-		HB	☑ ☐	
			17:26	BO			52° 59.560	128° 31.478		180	-			☐ ☐	
			17:29	EN			52° 59.557	128° 31.486			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month Jul4 **Year** 2022 **Vessel** Franklin **Cruise ID** 2022-067

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
80	GR1	23	18:03	BE	ROS	US	52° 55.534	128° 30.688	437		33 - 34		SA HB	☑ ☐	
			18:09	BO			52° 55.530	128° 30.680		423	-			☐ ☐	
			18:18	EN			52° 55.520	128° 30.690			-			☐ ☐	
81	FR88	23	18:56	BE	CTD	—	52° 50.611	128° 31.950	310		—	—	HB	☑ ☐	
			19:01	BO			52° 50.602	128° 31.940		292	-			☐ ☐	
			19:06	EN			52° 50.602	128° 31.949			-			☐ ☐	
82	FR93	23	19:42	BE	CTD	—	52° 45.630	128° 32.983	372		—	—		☑ ☐	
			19:49	BO			52° 45.634	128° 33.008		361	-			☐ ☐	
			19:55	EN			52° 45.617	128° 33.024			-			☐ ☐	
83	FR98	23	20:24	BE	CTD	—	52° 41.429	128° 33.863	261		—	—	SH	☑ ☐	
			20:29	BO			52° 41.419	128° 33.871		237	-			☐ ☐	
			20:33	EN			52° 41.412	128° 33.882			-			☐ ☐	
84	SA01		21:02	BE	CTD	—	52° 39.331	128° 32.000	253		—	—	BF	☑ ☐	Might have hit bottom
			21:07	BO			52° 39.300	128° 31.939		225	-			☐ ☐	
			21:11	EN			52° 39.305	128° 31.944			-			☐ ☐	
85	FC01	23	21:37	BE	ROS	US	52° 37.670	128° 28.829	592		35 - 36		SH	☑ ☐	
			21:46	BO			52° 37.682	128° 28.764			-			☐ ☐	
			21:58	EN			52° 37.710	128° 28.700			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2022 **Vessel** Franklin **Cruise ID** 2022-067

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86	FC02	23	22:34	BE	CTD	/	52° 32.636	128° 27.953	652		/	/	HB	☑☐	
			22:45	BO			52° 32.620	128° 27.964		646	-			☐☐	
			22:55	EN			52° 32.608	128° 27.954			-			☐☐	
87	FC03	23	23:31	BE	ROS	US	52° 27.554	128° 26.948	398		37-38	2	HB	☐☑	Steeply sloping bottom
			23:40	BO			52° 27.551	128° 26.909		505	-			☐☐	
			23:49	EN			52° 27.536	128° 26.866			-			☐☐	
88	FC04	24	00:23	BE	CTD	/	52° 24.449	128° 29.738	334		/	/	RF	☑☐	
			00:29	BO			52° 24.443	128° 29.718		320	-			☐☐	
			00:34	EN			52° 24.434	128° 29.688			-			☐☐	
89	MIL01	24	14:55	BE	CTD	/	52° 21.982	128° 34.054	238		/		HB	☑☐	
			14:59	BO			52° 21.980	128° 34.031		226	-	/		☐☐	
			15:03	EN			52° 21.995	128° 34.018			-			☐☐	
90	MIL03	24	15:49	BE	ROS	US	52° 16.354	128° 37.062	248		39-40		RF	☑☐	
			15:53	BO			52° 16.334	128° 37.050		236	-			☐☐	
			15:59	EN			52° 16.331	128° 37.032			-			☐☐	
91	MIL02	24	16:38	BE	CTD	/	52° 16.411	128° 29.136	181		/	/		☑☐	
			16:41	BO			52° 16.416	128° 29.143		158	-			☐☐	
			16:44	EN			52° 16.422	128° 29.147			-			☐☐	
			:				° .	° .			-			☐☐	

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92	MIL04	24	17:23	BE	CTD	—	52° 12.336	128° 33.512	260		-	—	RF	☑☐	
			17:27	BO			52° 12.336	128° 33.521		248	-			☐☐	
			17:32	EN			52° 12.329	128° 33527			-			☐☐	
93	MIL05	24	18:27	BE	CTD	—	52° 12.607	128° 41.708	266		-	—	SH	☑☐	
			18:32	BO			52° 12.613	128° 41.686		257	-			☐☐	
			18:36	EN			52° 12.665	128° 41.			-			☐☐	
94	MS01	24	19:22	BE	CTD	—	52° 7.992	128° 50.212	217		-		RF	☑☐	
			19:26	BO			52° 7.978	128° 50.192		205	-			☐☐	
			19:29	EN			52° 7.963	128° 50.161			-			☐☐	
95	MS02	24	21:02	BE	ROS	US	52° 0.016	129° 14.117	182		41 - 42	2	SH	☑☐	
			21:05	BO			52° 0.017	129° 14.110		171	-			☐☐	
			21:10	EN			52° 0.006	129° 14.101			-			☐☐	
96	C1036	25	01:39	BE	CTD		51° 23.005	128° 44.972	230		-	—	~~SH~~ HB	☑☐	
			01:43	BO			51° 23.992	128° 44.976		217	-			☐☐	
			01:46	EN			51° 23.002	128° 44.964			-			☐☐	
97	CS05	25	14:04	BE	CTD	—	50° 55.966	128° 59.987	67		-	—	HB	☑☐	
			14:05	BO			50° 55.974	128° 59.986		53	-			☐☐	
			14:06	EN			50° 55.973	128° 59.974			-			☐☐	
			:				° .	° .			-			☐☐	

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Month July | **Year** 2022 | **Vessel** Franklin | **Cruise ID** 2022-067

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98	CS06	25	14:59	BE	CTD	~	50° 59.966	128° 49.982	70		~	~	SH	☑ ☐	
			15:00	BO			50° 59.948	128° 49.996		56	-			☐ ☐	
			15:02	EN			50° 59.932	128° 49.999			-			☐ ☐	
99	CS07	25	15:53	BE	CTD	~	51° 4.376	128° 44.028	71		-	-	HB	☑ ☐	
			15:54	BO			51° 4.357	128° 44.040		55	-			☐ ☐	
			15:55	EN			51° 4.332	128° 44.030			-			☐ ☐	
100	CS08	25	16:49	BE	CTD	~	51° 8.432	128° 35.981	148		-	-	RF	☑ ☑	
			16:52	BO			51° 8.412	128° 35.974		134	-			☐ ☐	
			16:54	EN			51° 8.398	128° 35.935			-			☐ ☐	
101	CS09	25	17:40	BE	ROS	US	51° 12.403	128° 27.937	200		43 - 44	2	HB	☑ ☐	
			17:44	BO			51° 12.406	128° 27.907		185	-			☐ ☐	
			17:48	EN			51° 12.410	128° 27.892			-			☐ ☐	
102	CS10	25	18:33	BE	CTD	~	51° 16.481	128° 19.922	85		~	~	RF	☑ ☐	
			18:35	BO			51° 16.463	128° 19.938		70	-			☐ ☐	
			18:36	EN			51° 16.441	128° 19.937			-			☐ ☐	
103	GG06	25	20:05	BE	CTD	~	51° 5.344	127° 59.806	146		~	~	SH	☑ ☐	
			20:08	BO			51° 5.315	127° 59.812		128	-			☐ ☐	
			20:10	EN			51° 5.314	127° 59.836			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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104	GG07	25	21:02	BE	CTD	—	51° 7.987	127° 48.725	78		-	—	RF	☑ ☐	
			21:04	BO			51° 7.972	127° 48.726		65	-			☐ ☐	
			21:06	EN			51° 7.975	127° 48.749			-			☐ ☐	
105	CPEI	25	21:56	BE	CTD	—	50° 59.934	127° 50.033	150		—	—	SH	☑ ☐	
			21:59	BO			50° 59.978	127° 50.034		140	-			☐ ☐	
			22:02	EN			50° 59.975	127° 50.027			-			☐ ☐	
106	LBA-2	25	23:04	BE	ROS	US	50°53.938	127°38.396	453		45-46	2	RF	☑ ☐	Rosette Bottle #2
			23:11	BO			50°53.926	127°38.398		440	-			☐ ☐	failed integrity
			23:20	EN			50°53.934	127°38.374			-			☐ ☐	check (2nd today)
107	QCS8	25	23:51	BE	CTD	—	50°56.683	127°35.012	174		—	—	HB	☑ ☐	Test fired bottle #2
			23:55	BO			50°56.708	127°34.984		162	-			☐ ☐	- passed integrity
			23:58	EN			50°56.723	127°34.979			-			☐ ☐	check
108	QCS9	26	00:32	BE	CTD	—	50° 58.120	127° 31.387	167		—	—	SH	☑ ☐	Test fired bottles #1,2
			00:36	BO			50° 58.166	127° 31.408		162	-			☐ ☐	- passed integrity
			00:39	EN			50° 58.156	127° 31.417			-			☐ ☐	check
109	QCS4	27	14:24	BE	NET	—	50° 46.671	127° 24.389	397		-			☐ ☐	Winch counter *
110			14:				50° .	127° .			-			☐ ☐	"
			14:				50° .	127° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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Notes: _____

-Cleaned TSG fluorometer ~ 18:00 PDT, 20220725. RF Noted NMEA time is ~4 min fast for the TSG, not sure how this is possible!
-Talked with C/E, regarding low flow. Strainer needed cleaning. Checked Jul 26 morning, and flow back to normal.
* failed + cast not performed.
-failed again on #110,

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111	QCS4	27	14:52	BE	ROS	US	50° 46.726	127° 24.325	395		47-48	2	HB	☐☐	- drifting into deeper water during cast (357.4 bottle pressure)
			14:58	BO			50° 46.788	127° 24.373		404	-			☐☐	
			15:07	EN			50° 46.883	127° 24.419			-			☐☐	
112	GoC2	27	15:43	BE	CTD	✓	50° 49.970	127° 28.122	245		✓	✓	HB	☐☐	
			15:48	BO			50° 49.974	127° 28.165		249	-			☐☐	
			15:52	EN			50° 49.988	127° 28.168			-			☐☐	
113	GoC3	27	16:08	BE	CTD	✓	50° 50.432	127° 29.682	150		✓	✓	HB	☑☐	- stopped @ 123 db for a few secs, winch lost altimeter feed
			16:11	BO			50° 50.428	127° 29.710		158	-			☐☐	
			16:14	EN			50° 50.416	127° 29.732			-			☐☐	
114	GoC4	27	16:33	BE	CTD	✓	50° 50.903	127° 30.982	157		✓	✓	HB	☑☐	
			16:37	BO			50° 50.886	127° 31.039		167	-			☐☐	
			16:40	EN			50° 50.888	127° 30.048			-			☐☐	
115	GoC5	27	16:55	BE	CTD	✓	50° 51.322	127° 32.424	115		✓	✓	HB	☑☐	
			16:57	BO			50° 51.313	127° 32.440		86	-			☐☐	
			16:59	EN			50° 51.305	127° 32.450			-			☐☐	
116	GoC6	27	17:14	BE	CTD	✓	50° 51.833	127° 33.874	275		✓	✓	HB	☑☐	
			17:19	BO			50° 51.821	127° 33.884		268	-			☐☐	
			17:24	EN			50° 51.820	127° 33.890			-			☐☐	
			:				° .	° .			-			☐☐	

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117	GoC7	27	17:55	BE	CTD	/	50 ° 52.129	127 ° 35.281	343		/	/	HB	☑ ☐	
			18:01	BO			50 ° 52.086	127 ° 35.281		329	-			☐ ☐	
			18:06	EN			50 ° 52.040	127 ° 35.281			-			☐ ☐	
118	GoC8	27	18:25	BE	ROS	US	50° 52.910	127 ° 37.012	425		49 - 50	2	HB	☑ ☐	Strong EK80 signal
			18:32	BO			50° 52.866	127 ° 36.964		411	-			☐ ☐	from ~180-250m
			18:40	EN			50° 52.810	127° 36.840			-			☐ ☐	-correlates w/ conductivity
119	QCS10	27	19:33	BE	ROS	US	50 ° 48.604	127 ° 36.002	480		51 - 52	2	HB	☑ ☐	spikes
			19:41	BO			50 ° 48.592	127 ° 35.963		450	-			☐ ☐	
			19:50	EN			50 ° 48.598	127° 35.903			-			☐ ☐	
120	LBB-2	27	20:27	BE	CTD	/	50 ° 50.520	127 ° 43.166	353		/	/	HH	☑ ☐	
			20:34	BO			50 ° 50.509	127 ° 43.163		338	-			☐ ☐	
			20:40	EN			50 ° 50.479	127 ° 43.120			-			☐ ☐	
121	GoC1	27	23:16	BE	NET	/	50 ° 49.076	127° 25.369	226		-		KS/HB	☐ ☐	
			23:24	BO			50 ° 49.067	127° 25.419	206	200	/	/		☐ ☐	
			23:31	EN			50° 49.087	127° 25.469	198		-			☐ ☐	
122	GoC1	27	23:39	BE	CTD	/	50 ° 49.099	127 ° 25.483	202		/	/	HB	☑ ☐	
			23:43	BO			50 ° 49.116	127 ° 25.502		215	-			☐ ☐	
			23:46	EN			50 ° 49.116	127° 25.504			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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123	QCSSS	28	00:08	BE	CTD	/	50 ° 48.311	127 ° 22.464	215		/	/	HB	☑ ☐	
			00:11	BO			50 ° 48.316	127 ° 22.487		192	-			☐ ☐	
			00:15	EN			50 ° 48.308	127 ° 22.489			-			☐ ☐	
124	QCSS	28	00:32	BE	CTD	/	50 ° 49.374	127 ° 21.631	166		/	/	KS	☑ ☐	
			00:35	BO			50 ° 49.368	127 ° 21.665		147	-			☐ ☐	
			00:37	EN			50 ° 49.374	127 ° 21.653			-			☐ ☐	
125	QCSSN	28	00:58	BE	CTD	-	50 ° 50.328	127 ° 21.948	138		/	/	HB	☑ ☐	- drifting to deeper water during cast
			01:01	BO			50 ° 50.305	127 ° 21.966		142	-			☐ ☐	
			01:03	EN			50 ° 50.275	127 ° 21.976			-			☐ ☐	
126	QCS6N	28	14:06	BE	CTD	/	50 ° 53.174	127 ° 20.844	123		/	/	KS/GC	☑ ☐	
			14:08	BO			° 53.175	° 20.877		109	-			☐ ☐	
			14:11	EN			° 53.171	° 20.903			-			☐ ☐	
127	QCS6	28	14:28	BE	CTD	/	50 ° 52.547	127 ° 21.651	152		/	/	KS/GG	☑ ☐	Large spike in the
			14:30	BO			° 52.566	° 21.657		138	-			☐ ☐	data @ about 18
			14:33	EN			° 52.571	° 21.653			-			☐ ☐	m. All channels
128	QCS6S	28	14:52	BE	CTD	/	° 51.34	° 21.437	149		/	/	GC	☑ ☐	affected.
			14:55	BO			° 51.351	° 21.436		134	-			☐ ☐	
			14:58	EN			° 51.370	° 21.440			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month	Year	Vessel	Cruise ID

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
129	QCS5	28	15:21	BE	ROS	US	50 °49.474	127 °21.658	157		53 - 54	2	HB	☑ ☐	
			15:23				50 °49.501	127 °21.655		144	-			☐ ☐	
			15:27				50 °49.549	127 °21.649			-			☐ ☐	
130	QCS4N	28	15:52	BE	CTD		50 °47.525	127 °23.366	248		-		HH	☑ ☐	Drifting into deeper water
			15:57	BO			50 °47.554	127 °23.362		261	-			☐ ☐	
			16:02	EN			50 °47.572	127 °23.341			-			☐ ☐	
131	QCS4	28	16:19	BE	CTD		50 °46.650	127 °24.277	402		-		HH	☑ ☐	Sloping bathymetry
			16:25	BO			50 °46.682	127 °24.276		415	-			☐ ☐	
			16:33	EN			50 °46.715	127 °24.274			-			☐ ☐	
132	QCS4S	28	16:49	BE	CTD		50 °45.734	127 °24.688	268		-		CW	☑ ☐	
			16:54	BO			50 °45.749	127 °24.712		263	-			☐ ☐	
			16:58	EN			50 °45.784	127 °24.760			-			☐ ☐	
133	QCS3	28	17:48	BE	ROS	US	50 °43.762	127 °14.975	215		55 - 56	2	CW	☑ ☐	
			17:51	BO			50 °43.770	127 °14.956		202	-			☐ ☐	
			17:56	EN			50 °43.770	127 °14.923			-			☐ ☐	
134	QCS3M	28	18:27	BE	NET	/	50 °47.006	127 °11.301	171		-		KS/HB	☐ ☐	
			18:33	BO			50 °47.006	127 °11.301		161	-			☐ ☐	
			18:35	EN			50 °47.003	127 °11.281			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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

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Produced by the Water Properties Group, IOS

WaterProperties.ca
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135	QCS3M	28	18:43	BE	CTD	✓	50° 47.002	127° 11.232	178		✓	✓	HB	☑ ☐	
			18:46	BO			50° 47.002	127° 11.208		167	-			☐ ☐	
			18:49	EN			50° 46.997	127° 11.180			-			☐ ☐	
136	QCS2	28	19:38	BE	NET	✓	50° 44.429	127° 02.314	133		✓	✓	KS/HB	☐ ☐	Flow meter has
			19:41	BO			50° 44.406	127° 02.302	115	103	-			☐ ☐	failed, second
			19:43	EN			50° 44.404	127° 02.301			-			☐ ☐	gear not engaging
137	QCS2	28	19:49	BE	CTD	✓	50° 44.417	127° 02.320	115		✓	✓	HB	☑ ☐	- after few it looks
			19:51	BO			50° 44.414	127° 02.320		114	-			☐ ☐	like it might
			19:54	EN			50° 44.401	127° 02.312			-			☐ ☐	have worked fine
138	QCS2N	28	20:25	BE	CTD	✓	50° 47.312	126° 57.688	125		✓	✓	CW	☑ ☐	
			20:27	BO			50° 47.315	126° 57.677		109	-			☐ ☐	
			20:29	EN			50° 47.320	126° 57.672			-			☐ ☐	
139	QCS3N	28	21:21	BE	CTD	✓	50° 49.566	127° 08.377	150		✓	✓	HH	☑ ☐	Oxygen spike at bottom
			21:24	BO			50° 49.549	127° 08.364		137	-			☐ ☐	Altimeter went to zero
			21:26	EN			50° 49.537	127° 08.350			-			☐ ☐	briefly at bottom.
140	QCS7	28	22:09	BE	NET	✓	50° 51.836	127° 16.190	134		✓	✓	KS/HB	☒ ☒	Flow meter repaired.
			22:13	BO			50° 51.816	127° 16.199		124	-			☐ ☐	
			22:16	EN			50° 51.802	127° 16.187			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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141	QCS7	28	22:21	BE	CTD	/	50° 51.776	127° 16.235	142		/	/	HB	☑☐	- noisy DO sensor,
			22:24	BO			50° 51.766	127° 16.247		129	-			☐☐	especially 15-60m*
			22:26	EN			50° 51.755	127° 16.217			-			☐☐	
142	LBA-2	29	00:03	BE	NET	/	50° 53.886	127° 38.320	131		/	/	KS/HB	☒☒	- unsuccessful cast
			00:08	BO			50° 53.858	127° 38.335		121	-			☐☐	(net was not
			00:10	EN			50° 53.844	127° 38.336			-			☐☐	fully extended***)
143	LBA-2	29	00:20	BE	ROS	US	50° 53.878	127° 38.322	454		57-63	7	HB	☑☐	- oxygen and conductivity
			00:27	BO			50° 53.870	127° 38.308		439	-			☐☐	look much improved
			00:40	EN			50° 53.797	127° 38.285			-			☐☐	from #141
144	LBA-2	29	00:49	BE	NET	/	50° 53.729	127° 38.294	454		-		CW	☐☐	- repeat of #142
			00:58	BO			50° 53.672	127° 38.672		491	-			☐☐	
			01:06	EN			50° 53.661	127° 38.415			/	/		☒☒	
145	CPEI	29	02:19	BE	CTD	/	50° 59.980	127° 49.979	159		/	/	HH	☑☐	Rosette was lowered to
			02:21	BO			50° 59.974	127° 49.990		138	-			☐☐	8m then back to surface.
			02:24	EN			50° 59.971	127° 50.012			-			☐☐	
146	CPEI	29	02:25	BE	NET	/	50° 59.970	127° 50.014	146		/	/	HH	☒☒	
			02:32	BO			50° 59.948	127° 50.002		136	-			☐☐	
			02:35	EN			50° 59.94	127° 50.004			-			☐☐	
			:				° .	° .			-			☐☐	

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* sensor cable plug for DO was cleaned and lubricated after cast. Backflushed pump on DO/CI side. Also cleaned bulkhead connector on CTD.

** bottom of net rode up on tow line. Fixed by tying base of net directly to weight. Cast successfully repeated on #144

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month | **Year** | **Vessel** | **Cruise ID**

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
147	QUA0a	29	14:06	BE	NET	/	50° 18.417	128° 14.654	218		-	/	KS/HB/HH	☑☑	
			14:13	BO			50° 18.379	128° 14.638		208	-			☐☐	
			14:16	EN			50° 18.374	128° 14.645			-			☐☐	
148	QUA0a	29	14:20	BE	ROS	US	50° 18.344	128° 14.674	255		64 - 65	2	HB	☑☐	-cliffing into deeper
			14:25	BO			50° 18.316	128° 14.681		266	-			☐☐	water during cast
			14:31	EN			50° 18.295	128° 14.680			-			☐☐	Niskin #2 o-ring replaced
149	QUA0b	29	15:18	BE	CTD	/	50° 21.527	128° 5.681	89		-	/		☑☐	
			15:19	BO			50° 21.521	128° 5.686		73	-			☐☐	
			15:21	EN			50° 21.517	128° 5.695			-			☐☐	
150	QUA1	29	16:09	BE	CTD	-	50° 25.009	127° 59.972	170		-	-	HH	☑☐	
			16:11	BO			50° 24.996	127° 59.989		155	-			☐☐	
			16:14	EN			50° 24.984	128° 00.000			-			☐☐	
151	QUA1b	29	16:46	BE	NET	/	50° 27.877	127° 56.921	228		-	/	KS/HB	☐☐	
			16:54	BO			50° 27.898	127° 56.947		218	-			☐☐	
			16:58	EN			50° 27.895	127° 56.943			-			☐☐	
152	QUA1b	29	17:04	BE	ROS	US	50° 27.858	127° 56.975	234		66 - 67	2		☑☐	
			17:08	BO			50° 27.859	127° 56.968		227	-			☐☐	
			17:13	EN			50° 27.844	127° 56.975			-			☐☐	
			:				° .	° .			-			☐☐	

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month July **Year** 2022 **Vessel** Franklin **Cruise ID** 2022-067

Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
153	QUA 2	29	17:43	BE	CTD	/	50° 28.066	127° 53.390	112		/	/	HB	☑ ☐	-drifting deeper
			17:45	BO			50° 28.056	127° 53.378	125	116	-			☐ ☐	
			17:48	EN			50° 28.050	127° 53.369			-			☐ ☐	
154	QUA2	29	17:51	BE	DRF	/	50° 28.042	127° 53.344	/	/	/	/	HB	☐ ☐	SCT # 1457
155	QUA3	29	18:10	BE	CTD	/	50° 29.076	127° 50.932	170		/	/	HH	☑ ☐	spike in all channels*
			18:13	BO			50° 29.082	127° 50.932		163	-			☐ ☐	at bottom of cast, no
			18:16	EN			50° 29.095	127° 50.93			-			☐ ☐	modulo error recorded
156	QUA4	29	18:49	BE	CTD	/	50° 28.488	127° 48.230	148		/	/	HB	☑ ☐	
			18:52	BO			50° 28.488	127° 48.223		144	-			☐ ☐	
			18:54	EN			50° 28.486	127° 48.220			-			☐ ☐	
157	QUA4	29	18:57	DE	DRF	/	50° 28.561	127° 48.097	/	/	/	/	HB	☐ ☐	SCT# 1460
158	QUA5	29	19:22	BE	CTD	/	50° 29.290	127° 45.587	113		/	/	KS	☑ ☐	
			19:24	BO			50° 29.286	127° 45.592		95	-			☐ ☐	
			19:26	EN			50° 29.288	127° 45.606			-			☐ ☐	
159	QUA6	29	19:45	BE	CTD	/	50° 29.902	127° 43.816	121		/	/	HH	☑ ☐	
			19:47	BO			50° 29.906	127° 43.816		111	-			☐ ☐	
			19:48	EN			50° 29.914	127° 43.798			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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* Error message "Unsupported Modem message: 20 31 2E from SBE Carousel"

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160	QUA7	29	20:08	BE	ROS	US	50 ° 30 . 380	127 ° 41 . 489	140		68 - 69	2	HH	☑ ☐	
			20:10	BO			50 ° 30 . 358	127 ° 41 . 482		127	-			☐ ☐	
			20:14	EN			50 ° 30 . 368	127 ° 41 . 431			-			☐ ☐	
161	QUA7	29	20:16	DE	DRF	/	50 ° 30 . 493	127 ° 41 . 387	/	/	/	/	HB	☐ ☐	SCT # 1458
162	QUA8	29	20:40	BE	CTD	/	50 ° 31 . 708	127 ° 38 . 722	123		/	/	HH	☑ ☐	
			20:42	BO			50 ° 31 . 704	127 ° 38 . 711		112	-			☐ ☐	
			20:44	EN			50 ° 31 . 703	127 ° 38 . 630			-			☐ ☐	
163	QUA9	29	21:04	BE	CTD	/	50 ° 31 . 760	127 ° 36 . 688	60		/	/	HB	☑ ☐	
			21:05	BO			50 ° 31 . 762	127 ° 36 . 682		49	-			☐ ☐	
			21:06	EN			50 ° 31 . 765	127 ° 36 . 676			-			☐ ☐	
164	NE7	29	21:24	BE	CTD	/	50 ° 30 . 475	127 ° 35 . 974	150		/	/	HH	☑ ☐	Temperature, salinity
			21:26	BO			50 ° 30 . 476	127 ° 35 . 993		136	-			☐ ☐	and oxygen spikes at
			21:29	EN			50 ° 30 . 474	127 ° 36 . 016			-			☐ ☐	surface
165	NE6	29	21:56	BE	CTD	/	50 ° 28 . 800	127 ° 33 . 492	196		/	/	HB	☑ ☐	
			22:00	BO			50 ° 28 . 798	127 ° 33 . 478		186	-			☐ ☐	
			22:07	EN			50 ° 28 . 792	127 ° 33 . 460			-			☐ ☐	
166	HOL1	29	23:24	BE	RO		50 ° 33 . 898	127 ° 33 . 606	129		-			☐ ☐	
			23:28	BO			50 ° 33 . 891	127 ° 33 . 605		119	/	/		☐ ☐	
			23:30	EN			50 ° 33 . 892	127 ° 33 . 599			-			☐ ☐	

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167	HOL1	29	23:33	BE	ROS	US	50° 33.889	127° 33.598	130		70 - 71	2	HB	☑ ☐	
			23:35	BO			50° 33.888	127° 33.596		127	-			☐ ☐	
			23:39	EN			50° 33.880	127° 33.604			-			☐ ☐	
168	HOL2	30	00:14	BE	CTD	/	50° 35.290	127° 38.999	119		/	/	HH	☑ ☐	
			00:16	BO			50° 35.287	127° 39.001		107	-			☐ ☐	
			00:18	EN			50° 35.28	127° 38.995			-			☐ ☐	
169	HOL3	30	00:51	BE	CTD	/	50° 35.812	127° 44.969	78		/	/	KS	☑ ☐	
			00:53	BO			50° 35.809	127° 44.968		68	-			☐ ☐	
			00:54	EN			50° 35.807	127° 44.981			-			☐ ☐	
170	~~HOL3~~	30	01:04	DE	DRF	/	50° 35.807	127° 44.984	/	/	/	/	KS	~~☐ ☐~~	SCT#1456
			:				° .	° .			-			☐ ☐	Drifter deployed after leaving HOL3
171	HOL3b	30	01:21	BE	CTD	/	50° 36.270	127° 48.161	72		/	/	HH	☑ ☐	
			01:22	BO			50° 36.270	127° 48.162		63	-			☐ ☐	
			01:23	EN			50° 36.271	127° 48.178			-			☐ ☐	
172	HOL4	30	01:47	BE	ROS	US	50° 36.973	127° 51.230	66		72 - 73	2	HH	☑ ☐	Drifted into shallower
			01:49	BO			50° 36.973	127° 51.226		47	-			☐ ☐	water during cast
			01:50	EN			50° 36.970	127° 51.226			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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173	RU2	30	15 :28	BE	CTD	/	50 ° 34 . 858	127 ° 30 . 511	82		/	/	HB	☑ ☐	0.5nm SW of waypoint
			15 :29	BO			50 ° 34 . 862	127 ° 30 . 500		73	-			☐ ☐	due to boat traffic
			15 :30	EN			50 ° 34 . 864	127 ° 30 . 490			-			☐ ☐	- spikes in all *
174	RU3	30	15 :53	BE	NET	/	50 ° 35 . 031	127 ° 26 . 106	65		/	/	KS/HB	☐ ☐	
			15 :55	BO			50 ° 35 . 031	127 ° 26 . 106		55	-			☐ ☐	
			15 :56	EN			50 ° 35 . 031	127 ° 26 . 106			-			☐ ☐	
175	RU3	30	15 :59	BE	CTD	/	50 ° 35 . 238	127 ° 26 . 633	65		/	/	HH	☑ ☐	
			16 :00	BO			50 ° 35 . 234	127 ° 26 . 635		56	-			☐ ☐	
			16 :01	EN			50 ° 35 . 230	127 ° 26 . 638			-			☐ ☐	
176	NE5b	30	17 :48	BE	CTD	/	50 ° 27 . 622	127 ° 32 . 225	190		/	/	CW	☑ ☐	
			17 :51	BO			50 ° 27 . 611	127 ° 32 . 213		181	-			☐ ☐	
			17 :54	EN			50 ° 27 . 602	127 ° 32 . 207			-			☐ ☐	
177	NESA	30	18 :12	BE	NET	/	50 ° 26 . 961	127 ° 31 . 571	193		/		KS	☐ ☐	
			18 :19	BO			50 ° 26 . 947	127 ° 31 . 555		183	-			☐ ☐	
			18 :23	EN			50 ° 26 . 958	127 ° 31 . 564			-			☐ ☐	
178	NESA	30	18 :26	BE	ROS	US	50 ° 26 . 950	127 ° 31 . 560	193		74 - 75	2	CW	☑ ☐	
			18 :29	BO			50 ° 26 . 957	127 ° 31 . 564		185	-			☐ ☐	
			18 :34	EN			50 ° 26 . 952	127 ° 31 . 556			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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* channels on upcast at ~10m. Modulo error recorded, but no error message. Upcast continued without problems. Continuing to monitor for these isolated spikes.

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Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information Latitude	Positional Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/Fl Cleaned	Comments
179	NE4	30	19:02	BE	CTD	/	50° 25.637	127° 30.538	170		/	/	HB	☑ ☐	
			19:05	BO			50° 25.636	127° 30.538		160	-			☐ ☐	
			19:07	EN			50° 25.631	127° 30.535			-			☐ ☐	
180	NE4	30	19:10	DE	DRF	/	50° 25.649	127° 30.541	-	-	/	/	HB	☐ ☑	SCTH 1459
181	NE3	30	19:31	BE	CTD	/	50° 24.300	127° 29.456	140		/	/	HH	☑ ☐	drifted into shallower
			19:33	BO			50° 24.294	127° 29.455		125	-			☐ ☐	water during cast
			19:35	EN			50° 24.290	127° 29.455			-			☐ ☐	
182	NE2	30	19:57	BE	CTD	/	50° 22.992	127° 27.502	46		/	/	HH	☑ ☐	
			19:58	BO			50° 22.992	127° 27.503		32	-			☐ ☐	
			19:59	EN			50° 22.990	127° 27.502			-			☐ ☐	
183	NE1	30	20:18	BE	NET	/	50° 21.662	127° 26.517	55		/	/	KS	☐ ☑	
			20:20	BO			50° 21.662	127° 26.517			-			☐ ☐	
			20:20	EN			50° 21.662	127° 26.517			-			☐ ☐	
184	NE1	30	20:23	BE	ROS	US	50° 22.048	127° 26.599	55		76 - 77	2	HH	☑ ☐	
			20:24	BO			50° 22.050	127° 26.599		45	-			☐ ☐	
			20:27	EN			50° 22.048	127° 26.594			-			☐ ☐	
185	NE0	30	20:49	BE	CTD	/	50° 21.092	127° 26.618	42		/	/	HH	☑ ☐	
			20:50	BO			50° 21.090	127° 26.615		31	-			☐ ☐	
			20:51	EN			50° 21.089	127° 26.614			-			☐ ☐	

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186	NSØØ	31	14 :04	BE	NET	/	49 °34 .363	126 °37 .210	94		/	/	KS	☐☐	
			14 :07	BO			49 °34 .359	126 °37 .233		84	-			☐☐	
			14 :09	EN			49 °34 .354	126 °37 .246			-			☐☐	
187	NSØØ	31	14 :11	BE	ROS	US	49 °34 .345	126 °37 .264	95		78 - 79	2	HH	☑☐	
			14 :13	BO			49 °34 .338	126 °37 .274		85	-			☐☐	
			14 :16	EN			49 °34 .325	126 °37 .294			-			☐☐	
188	NSØ1	31	14 :31	BE	CTD	/	49 °35 .159	126 °35 .938	100		/	/	HH	☑☐	Drifted into shallower
			14 :33	BO			49 °35 .150	126 °35 .941		86	-		-	☐☐	water during cast
			14 :35	EN			49 °35 .140	126 °35 .944			-			☐☐	
189	NSØ2	31	14 :55	BE	CTD	/	49 °36 .733	126 °35 .684	167		/	/	HH	☑☐	
			14 :58	BO			49 °36 .713	126 °35 .679		157	-			☐☐	
			15 :00	EN			49 °36 .697	126 °35 .664			-			☐☐	
190	NSØ7	31	15 :25	BE	CTD	/	49 °35 .711	126 °32 .135	138		/	/	HH	☑☐	
			15 :28	BO			49 °35 .708	126 °32 .142		127	-			☐☐	
			15 :30	EN			49 °35 .706	126 °32 .152			-			☐☐	
191	NSØ6	31	15:52	BE	CTD	/	49 °37.969	126 °30.030	188		/	/	HB	☑☐	
			15:55	BO			49 °37.963	126 °30.040		175	-			☐☐	
			15:58	EN			49 °37.961	126 °30.046			-			☐☐	
			:				° .	° .			-			☐☐	

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192	~~NS07~~ NS05 G.G.	31	16:11	BE	NET	/	49° 39.096	126° 28.560	263		/	/	KS/AB/HH	☑ ☐	
			16:20	BO			49° 39.098	126° 28.597		253	-			☐ ☐	
			16:25	EN			49° 39.103	126° 28.617			-			☐ ☐	
193	~~NS07~~ NS05 G.G.	31	16:30	BE	ROS	US	49° 39.100	126° 28.643	263		80 - 81	2	HB/HH	☑ ☐	#192 Both bottles failed
			16:34	BO			49° 39.103	126° 28.658		254	-			☐ ☐	integrity check
			16:39	EN			49° 39.106	126° 28.674			-			☐ ☑	- minor chipping
194	HC2	31	17:00	BE	CTD	/	49° 40.184	126° 28.793	129		/	/	KS/HH	☑ ☐	
			17:02	BO			49° 40.181	126° 28.786		118	-			☐ ☐	
			17:05	EN			49° 40.177	126° 28.780			-			☐ ☐	
195	HC1	31	17:20	BE	CTD	/	49° 39.424	126° 27.718	195		/	/	HB/HH	☑ ☐	
			17:24	BO			49° 39.430	126° 27.704		186	-			☐ ☐	
			17:27	EN			49° 39.424	126° 27.688			-			☐ ☐	
196	MOB1	31	17:40	BE	NET	/	49° 38.788	126° 27.115	174		/	/	KS/AB/HH	☐ ☐	- Missed timing of
			17:47	BO			49° 38.767	126° 27.101		164	-			☐ ☐	bottom of tow;
			17:48	EN			49° 38.761	126° 27.091			-			☐ ☐	recorded too late
197	MOB 1	31	17:51	BE	CTD	/	49° 38.756	126° 27.070	173		/	/	HB/HH	☑ ☐	
			17:54	BO			49° 38.760	126° 27.052		163	-			☐ ☐	
			17:57	EN			49° 38.765	126° 27.037			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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198	WP1	31	18:08	BE	CTD	✓	49° 38 . 998	126° 26 . 290	102		✓	✓	HH	☑ ☐	spike in temperature
			18:10	BO			49° 38 . 999	126° 26 . 284		94	-			☐ ☐	at surface after upcast
			18:12	EN			49° 39 . 004	126° 26 . 274			-			☐ ☐	
199	WP2	31	18:24	BE	CTD	✓	49° 39 . 329	126° 25 . 588	178		✓	✓	HH	☑ ☐	
			18:27	BO			49° 39 . 330	126° 25 . 564		166	-			☐ ☐	
			18:30	EN			49° 39 . 331	126° 25 . 531			-			☐ ☐	
200	WP3	31	18:46	BE	CTD	✓	49° 39 . 541	126° 24 . 070	157		✓	✓	HB	☑ ☐	
			18:49	BO			49° 39 . 550	126° 24 . 046		146	-			☐ ☐	
			18:51	EN			49° 39 . 562	126° 24 . 044			-			☐ ☐	
201	MuI4	31	19:32	BE	CTD	✓	49° 38 . 446	126° 20 . 767	290		✓	✓	HH	☑ ☐	
			19:37	BO			49° 38 . 450	126° 20 . 736		281	-			☐ ☐	
			19:42	EN			49° 38 . 452	126° 20 . 744			-			☐ ☐	
202	MuI3	31	19:53	BE	NET	✓	49° 38 . 575	126° 19 . 249	288		✓	✓	KS	☐ ☐	
			20:03	BO			49° 38 . 618	126° 19 . 238		278	-			☐ ☐	
			20:07	EN			49° 38 . 631	126° 19 . 234			-			☐ ☐	
203	MuI3	31	20:11	BE	ROS	US	49° 38 . 629	126° 19 . 242	288		82 - 83	2	HH	☑ ☐	
			20:16	BO			49° 38 . 639	126° 19 . 225		280	-			☐ ☐	
			20:22	EN			49° 38 . 653	126° 19 . 216			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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