DAILY SCIENCE LOG BOOK

MISSION NUMBER 2022-011

DATE: From: Oct 8 2022 To: Oct 23 2022

VESSEL: Nordic Pearl

PROJECT(S): BCSI (King)
WCVI Juvenile Salmon Survey

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

Captain: Joe Greene First Officer: _____

Second Officer: _____ Third Officer: _____

Fishing Master: _____ Chief Engineer: _____

Mission Participants / Agencies:

DFO

**** Chief Scientist to complete section below OR cut and tape from cruise plan ****

1st Leg Scientific Personnel: Chief Scientist: Jackie King

Name	Watch	Cabin	Name	Watch	Cabin
Cindy Wright					

2nd Leg Scientific Personnel: Chief Scientist: _____

Name	Watch	Cabin	Name	Watch	Cabin

**** 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: _____

Data acquisition program: _____ N/A

CTD deck unit make: _____ model: _____ serial number: _____

Primary CTD

Make: SBE model: 25 (25) serial number: 1091

Primary temperature serial number: 6376

Primary conductivity serial number: 4799

Secondary temperature serial number: _____

Secondary conductivity serial number: _____

Transmissometer: _____ Model: 8960 s/n: _____

Transmissometer: _____ Model: _____ s/n: _____

Fluorometer: Model SBE ECO Cable gain: _____ s/n: D 10025 P, S or NO pump?

Fluorometer: Model _____ Cable gain: _____ s/n: _____ P, S or NO pump?

Oxygen sensor: SBE Model: 43 s/n: 1483 P S or NO pump?

PAR sensor: _____ Model: _____ s/n: _____ **Surface PAR? Y / N**

Other sensors: _____ s/n: _____ P, S or NO pump?

Other sensors: _____ s/n: _____ P, S or NO pump?

Other sensors: _____ s/n: _____ P, S or NO pump?

Other sensors: _____ s/n: _____ P, S or NO pump?

Secondary CTD

Make: _____ model: _____ serial number: _____

Primary temperature serial number: _____

Primary conductivity serial number: _____

Secondary temperature serial number: _____

Secondary conductivity serial number: _____

Transmissometer: _____ Model: _____ s/n: _____

Transmissometer: _____ Model: _____ s/n: _____

Fluorometer: Model _____ Cable gain: _____ s/n: _____ P, S or NO pump?

Fluorometer: Model _____ Cable gain: _____ s/n: _____ P, S or NO pump?

Oxygen sensor: _____ Model: _____ s/n: _____ P, S or NO pump?

PAR sensor: _____ Model: _____ s/n: _____ **Surface PAR? Y / N**

Other sensors: _____ s/n: _____ P, S or NO pump?

Other sensors: _____ s/n: _____ P, S or NO pump?

Other sensors: _____ s/n: _____ P, S or NO pump?

Other sensors: _____ s/n: _____ 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 (e.g., W.E. Ricker)

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2022 **Vessel** Nordic Pearl **Cruise ID** 2022-011 Page 1 of 11

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	QCST01	9	14:28	BE	CTD		50° 40.882	126° 52.071	185	139	01-01	1	CW	☐☐	BOT @ 5m
			14:31	BO			50° 40.878	126° 52.057			-			☐☐	
			14:33	EN			50° 40.873	126° 52.029			-			☐☐	
2	QCST01	9	14:43	BE	NET		50° 40.856	126° 51.948	185	175	-		CW	☐☐	
			14:48	BO			50° 40.841	126° 51.893			-			☐☐	
			14:51	EN			50° 40.828	126° 51.858			-			☐☐	
4	QCST02	9	17:03	BE	CTD		50° 42.163	127° 01.478	152	140	02-02	1	CW	☐☐	BOT @ 5m
			17:08	BO			50° 42.148	127° 01.421			-			☐☐	
			17:12	EN			50° 42.121	127° 01.284			-			☐☐	
5	QCST02	9	17:17	BE	NET		50° 42.116	127° 01.265	168	160	-		CW	☐☐	
			17:20	BO			50° 42.112	127° 01.229			-			☐☐	
			17:23	EN			50° 42.107	127° 01.176			-			☐☐	
7	QCST04	9	19:35	BE	CTD		50° 46.065	127° 16.962	174	160	03-03	1	CW	☐☐	BOT @ 5m
			19:37	BO			50° 46.057	127° 16.924			-			☐☐	
			19:41	EN			50° 46.005	127° 16.862			-			☐☐	
8	QCST04	9	19:48	BE	NET		50° 46.948	127° 16.787	192	180	-		CW	☐☐	
			19:51	BO			50° 45.929	127° 16.763			-			☐☐	
			19:54	EN			50° 45.910	127° 16.733			-			☐☐	
			:				° .	° .			-			☐☐	

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

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

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

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

Notes: UTC +7 to PT

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 20 April 2016

- Event 1 - gave oceanographer incorrect bottom depth, so gear depth greater than 10 m off bottom

* add niskins @ 5m - CTD held and the water whale messenger dropped?

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Ocean Sciences Division, Institute of Ocean Sciences

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10	QCST05	10	14:05	BE	CTD		50 °52.844	127° 35.424	326	250	04-04	1	CW	☐☐	Bottle @ 5m
			14:08	BO			50 °52.905	127° 35.508			-			☐☐	
			14:15	EN			50 °52.994	127° 35.675			-			☐☐	
11	QCST05	10	14:20	BE	NET		50 °53.063	127° 35.807	374	250	-	1	CW	☐☐	MR = 0715
			14:24	BO			50 °53.118	127° 35.851			-			☐☐	
			14:38	EN			50 °53.314	127° 36.000			-			☐☐	
13	QCST06	10	16:13	BE	CTD		50 °56.532	127° 42.090	295	250	05-05	1	CW	☐☐	Bottle @ 5m
			16:16	BO			50 °56.555	127° 42.073			-			☐☐	
			16:23	EN			50 °56.603	127° 42.028			-			☐☐	
15	QCST07	10	17:48	BE	CTD		50 °59.899	127° 49.518	148	140	06-06	1	CW	☐☐	Bottle @ 5m
			17:50	BO			50 °59.885	127 °49.447			-			☐☐	
			17:54	EN			50 °59.830	127 °49.349			-			☐☐	
16	QCST07	10	17:58	BE	NET		50 °59.755	127 ° 49.243	148	135	-		CW	☐☐	
			18:00	BO			50 °59.717	127 ° 49.194			-			☐☐	
			18:03	EN			50 °59.606	127 ° 49.125			-			☐☐	
18	QCSD01	10	20:23	BE	CTD		51 ° 5.397	127 ° 49.445	104	90	-	Ø	CW	☐☐	
			20:25	BO			51 ° 5.381	127 ° 49.422			-			☐☐	
			20:27	EN			51 ° 5.358	127 ° 49.384			-			☐☐	
			:				° .	° .			-			☐☐	

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Notes: _____

This page is for any notes or observations

Event #11 – Boom stuck on rudder during retrieval, used extra weight to detach; net was still intact. Oceanographer has confidence sample still useable and valid.

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Ocean Sciences Division, Institute of Ocean Sciences

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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
20	QCSD03	10	21:45	BE	CTD		51° 7.403	127° 54.198	122	110	07-07	1	CW	☐☐	Bottle @ 5m
			21:46	BO			51° 7.387	127° 54.179			-			☐☐	
			21:49	EN			51° 7.352	127° 54.135			-			☐☐	
21	QCSD03	10	21:53	BE	NET		51° 7.291	127° 54.070	121	110	-		CW	☐☐	
			21:54	BO			51° 7.277	127° 54.055			-			☐☐	
			21:56	EN			51° 7.254	127° 54.026			-			☐☐	
23	QCSD02	10	23:43	BE	CTD		51° 10.858	127° 54.000	126	115	-	Ø	CW	☐☐	
			23:45	BO			51° 10.841	127° 54.005			-			☐☐	
			23:47	EN			51° 10.832	127° 54.003			-			☐☐	
25	TO2	11	14:03	BE	CTD		51° 11.988	128° 28.307	193	185	-	Ø	CW	☐☐	
			14:06	BO			51° 11.957	128° 28.289			-			☐☐	
			14:09	EN			51° 11.914	128° 28.264			-			☐☐	
27	TO3	11	15:54	BE	CTD		51° 08.328	126° 35.357	141	130	08-08	1	CW	☐☐	Bottle @ 5m
			15:56	BO			51° 08.314	126° 35.351			-			☐☐	MR-0900
			16:00	EN			51° 08.286	126° 35.333			-			☐☐	
26	TO3	11	16:10	BE	NET		51° 08.201	126° 35.306	139	130	-		CW	☐☐	
			16:12	BO			51° 08.191	126° 35.300			-			☐☐	
			16:14	EN			51° 08.184	126° 35.286			-			☐☐	
			:				° .	° .			-			☐☐	

Event Type:
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SET = Fish Set
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DRF = Drifter
____ = _____

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

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

Notes:

Event 23 - no rusher bottle

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Ocean Sciences Division, Institute of Ocean Sciences

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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
30	T04	11	18:03	BE	CTD		51° 4.730	128° 43.540	62	50	-	Ø	CW	☐☐	
			18:05	BO			51° 4.717	128° 43.505			-			☐☐	
			18:06	EN			51° 4.714	128° 43.488			-			☐☐	
32	T05	11	19:36	BE	CTD		51° 1.279	128° 51.211	62	50	09-09	1	CW	☐☐	Bottle @ 5m
			19:37	BO			51° 1.277	128° 51.175			-			☐☐	MR = 1239
			19:40	EN			51° 1.264	128° 51.050			-			☐☐	
33	T05	11	19:43	BE	NET		51° 1.232	128° 50.876	62	50	-		CW	☐☐	
			19:44	BO			51° 1.229	128° 50.857			-			☐☐	
			19:45	EN			51° 1.219	128° 50.814			-			☐☐	
35	T06	11	21:20	BE	CTD		50° 57.857	128° 59.126	71	60	-	Ø	CW	☐☐	
			21:21	BO			50° 57.840	128° 59.100			-			☐☐	
			21:22	EN			50° 57.821	128° 59.067		60	-			☐☐	
37	T07	11	22:46		CTD		50° 54.552	129° 7.034	66	55	10-10	1	CW	☐☐	Bottle @ 5m
			22:47				50° 54.543	129° 7.030			-			☐☐	MR = 1549
			22:50				50° 54.515	129° 7.028			-			☐☐	
39	T07	11	22:55		NET		50° 54.455	129° 7.034	64	55	-			☐☐	
			22:56				50° 54.445	129° 7.040			-			☐☐	
			22:57				50° 54.432	129° 7.039			-			☐☐	
			:				° .	° .			-			☐☐	

Event Type:
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Bottle Firing Method:
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Time Code:
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CTD Transmissometer and Fluorometer to be cleaned before each cast -- do not use Ammonia products

Notes: _____

DAILY SCIENCE LOG

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Month October **Year** 2022 **Vessel** Nordic Pearl **Cruise ID** 2022-011

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
40	QS03	12	14:05	BE	CTD		50°27.099	127°31.628	190	185	11 - 11	1	CW	☐☐	Bottle @ 5m
			14:08	BO			50°27.123	127°31.645			-			☐☐	
			14:13	EN			50°27.152	127°31.675			-			☐☐	MT = 0712 PDT
41	QS03	12	14:17	BE	NET		50°27.175	127°31.699	189	180	-			☐☐	
			14:20	BO			50°27.190	127°31.716			-		CW	☐☐	
			14:24	EN			50°27.205	127°31.736			-			☐☐	
43	QS02	12	16:16	BE	CTD		50°29.894	127°43.523	117	110	-			☐☐	
			16:18	BO			50°29.901	127°43.526			12 - 12	1	CW	☐☐	Bottle @ 5m
			16:21	EN			50°29.912	127°43.543			-			☐☐	MR = 0924 PDT
44	QS02	12	16:24	BE	NET		50°29.923	127°43.583	117	110	-			☐☐	
			16:26	BO			50°29.924	127°43.607			-		CW	☐☐	
			16:28	EN			50°29.922	127°43.635			-			☐☐	
46	QS01	12	18:49	BE	CTD		50°24.215	128°2.740	79	70	-			☐☐	
			18:50	BO			50°24.208	128°2.745			13 - 13	1	CW	☐☐	Bottle @ 5m
			18:53	EN			50°24.191	128°2.749			-			☐☐	MR = 1152 PDT
47	QS01	12	18:58	BE	NET		50°24.152	128°2.742	80	70	-			☐☐	
			19:00	BO			50°24.134	128°2.740			-		CW	☐☐	
			19:02	EN			50°24.116	128°2.731			-			☐☐	
			:				° .	° .			-			☐☐	

Event Type:
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DRF = Drifter
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Bottle Firing Method:
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Time Code:
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Notes: _____

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

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Month October **Year** 2022 **Vessel** Nordic Pearl **Cruise ID** 2022-011

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
49	VI05	12	20:36	BE	CTD		50° 28.056	128° 13.303	82	70	14 - 14	1	CW	☐☐	Bottle @ 5m
			20:38	BO			50° 28.050	128° 13.276			-			☐☐	MR 1340 PDT
			20:40	EN			50° 28.039	128° 13.219			-			☐☐	
50	VI05		20:46	BE	NET		50° 28.017	128° 13.137	84	75	-		CW	☐☐	
			20:47	BO			50° 28.006	128° 13.092			-			☐☐	
			20:49	EN			50° 28.990	128° 13.046			-			☐☐	
52	BBD1	12	22:19	BE	CTD		50° 20.860	128° 10.348	150	140	-	Ø	CW	☐☐	
			22:23	BO			50° 20.833	128° 10.281			-			☐☐	
			22:26	EN			50° 20.813	128° 10.212			-			☐☐	
54	BB03	13	14:00	BE	CTD		50° 11.248	127° 59.238	55	50	15 - 15	1	CW	☐☐	Bottle @ 5m
			14:08	BO			50° 11.236	127° 59.237			-			☐☐	MR 0710 PDT
			14:11	EN			50° 11.213	127° 59.233			-			☐☐	
55	BB03	13	14:15	BE	NET		50° 11.175	127° 59.226	64	50	-		CW	☐☐	
			14:17	BO			50° 11.161	127° 59.221			-			☐☐	
			14:18	EN			50° 11.148	127° 59.217			-			☐☐	
57	BBD4	13	15:41	BE	CTD		50° 6.260	~~127°~~ 128° GG 0.803	175	165	-	Ø	CW	☐☐	
			15:44	BO			50° 6.236	~~127°~~ 0.835			-			☐☐	
			15:47	EN			50° 6.197	~~127°~~ 0.871			-			☐☐	
			:				° .	° .			-			☐☐	

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

Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 20 April 2016

→ labelled as BB04

→ labelled as BB04

Babelled as BB02

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59	VI06	13	17:56	BE	CTD		50° 1.063	127° 50.397	355	250	16 - 16	1	CW	☐☐	Bottle @ 5m
			18:00	BO			50° 1.076	127° 50.410			-			☐☐	MR 1604
			18:05	EN			50° 1.080	127° 50.410			-			☐☐	
60	VI06	13	18:08	BE	NET		50° 1.082	127° 50.433	304	250	-		CW	☐☐	
			18:14	BO			50° 1.078	127° 50.458			-			☐☐	
			18:18	EN			50° 1.090	127° 50.452			-			☐☐	
62	VI07	13	20:01	BE	CTD		50° 0.262	127° 42.179	97	90	-	Ø	CW	☐☐	
			20:02	BO			50° 0.266	127° 42.182			-			☐☐	
			20:04	EN			50° 0.270	127° 42.184			-			☐☐	
64	VI08	13	21:27	BE	CTD		49° 58.520	127° 36.403	77	70	17 - 17	1	CW	☐☐	Bottle @ 5m
			21:29	BO			49° 58.524	127° 36.410			-			☐☐	MR 1432
			21:31	EN			49° 58.534	127° 36.418			-			☐☐	
65	VI08	13	21:36	BE	NET		49° 58.537	127° 36.434	77	70	-		CW	☐☐	
			21:38	BO			49° 58.539	127° 36.414			-			☐☐	
			21:40	EN			49° 58.547	127° 36.457			-			☐☐	
✓ 67	VI09	13	23:20	BE	CTD		49° 57.538	127° 28.037	50	40	-	Ø	CW	☐☐	
			23:22	BO			49° 57.542	127° 28.031			-			☐☐	
			23:22	EN			49° 57.552	127° 28.029			-			☐☐	
			:				° .	° .			-			☐☐	

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month | **Year** | **Vessel** | **Cruise ID** | Page 8 of 11

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
69	KS01	14	14:03	BE	CTD		50° 5.989	127° 15.249	130	120	B0 - 18	1	CW	☐☐	Bottle @ 5m
			14:06	BO			50° 5.996	127° 15.241			-			☐☐	MT = 0710
			14:07	EN			50° 6.005	127° 15.230			-			☐☐	
70	KS01	14	14:15	BE	NET		50° 6.018	127° 15.223	126	115	-		CW	☐☐	
			14:18	BO			50° 6.027	127° 15.225			-			☐☐	
			14:21	EN			50° 6.034	127° 15.224			-			☐☐	
72	KS02	14	16:01	BE	CTD		49° 59.575	127° 13.568	175	165	19 - 19	1	CW	☐☐	Bottle @ 5m
			16:04	BO			45° 59.548	127° 13.614			-			☐☐	MT = 0909
			16:08	EN			45° 59.99	127° 13.684			-			☐☐	
73	KS02	14	16:12	BE	NET		45° 59.482	127° 13.759	160	150	-		CW	☐☐	
			16:15	BO			45° 59.460	127° 13.816			-			☐☐	
			16:18	EN			45° 59.437	127° 13.875			-			☐☐	
75	KS03	14	14:22	BE	CTD		49° 55.843	127° 18.992	65	55	-	0	CW	☐☐	
			14:23	BO			49° 55.845	127° 18.992			-			☐☐	
			14:24	EN			49° 55.855	127° 18.990			-			☐☐	
77	KS04	14	19:49	BE	CTD		49° 52.586	127° 26.579	70	60	-	0	CW	☐☐	
			19:50	BO			49° 52.588	127° 26.584			-			☐☐	
			19:52	EN			49° 52.591	127° 26.582			-			☐☐	
			:				° .	° .			-			☐☐	

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

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

Bottle Firing Method:
US = Up / Stop (default)
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Time Code:
BE = Beginning Time of Cast
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Notes: _____

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

SET = Fish Set

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 20 April 2016

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2022 **Vessel** Nordic Pearl **Cruise ID** 2022-011

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
79	KSO5	14	21:14	BE	CTD		49° 49.526	127° 34.771	93	85	20-20	1	CW	☐☐	~~Bottle~~ @ 5m
			21:16	BO			49° 49.513	127° 34.741			-			☐☐	MT 2118 UTC
			21:19	EN			49° 49.509	127° 34.688			-			☐☐	
80	KS05	14	21:24	BE	NET		49° 49.491	127° 34.579	88	75	-		CW	☐☐	
			21:26	BO			49° 49.487	127° 34.551			-			☐☐	
			21:27	EN			49° 49.487	127° 34.513			-			☐☐	
82	VI 10	14	21:57	BE	CTD		49° 48.899	127° 23.472	84	75	-	Ø	CW	☐☐	
			21:59	BO			49° 48.895	127° 23.461			-			☐☐	
			22:00	EN			49° 48.897	127° 23.440			-			☐☐	
84	VI 11	15	14:02		CTD		49° 41.302	127° 6.666	100	90	-	Ø	CW	☐☐	
			14:04				49° 41.306	127° 6.642			-			☐☐	
			14:06				49° 41.315	127° 6.610			-			☐☐	
86	EI04	15	15:43		CTD		49° 46.861	127° 3.977	44	35	21-21	1	CW	☐☐	Bottle @ 5m
			15:44				49° 46.864	127° 3.972			-			☐☐	MT 1545 UTC
			15:46				49° 46.872	127° 3.954			-			☐☐	
87	EI04	15	15:50		NET		49° 46.878	127° 3.931	44	35	-		CW	☐☐	
			15:51				49° 46.877	127° 3.929			-			☐☐	
			15:51				49° 46.878	127° 3.925			-			☐☐	
			:				° .	° .			-			☐☐	

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Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2022 **Vessel** Nordic Pearl **Cruise ID** 2022-011

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89	EI03	15	18:31	BE	CTD		49° 55.704	126° 55.671	235	225	22-22	1	CW	☐☐	Bottle @ 5m
			18:35	BO			44° 55.698	126° 55.695			-			☐☐	MT 1838 UTC
			18:39	EN			49° 55.696	126° 55.710			-			☐☐	
90	EI03	15	18:43	BE	NET		49° 55.694	126° 55.618	240	230	-		CW	☐☐	
			18:47	BO			49° 55.690	126° 55.728			-			☐☐	
			18:51	EN			49° 55.688	126° 55.735			-			☐☐	
92	EI02	15	20:22	BE	CTD		49° 51.749	126° 52.373	227	220	23-23	1	CW	☐☐	Bottle @ 5m
			20:25	BO			49° 51.745	126° 52.377			-			☐☐	MT 2029 UTC
			20:30	EN			49° 51.740	126° 52.381			-			☐☐	
93	EI02	15	20:34	BE	NET		49° 51.734	126° 52.387	227	220	-		CW	☐☐	
			20:38	BO			49° 51.731	126° 52.390			-			☐☐	
			20:41	EN			49° 51.728	126° 52.390			-			☐☐	
95	EI01	15	22:04	BE	CTD		49° 54.475	126° 47.520	220	210	-	Ø	CW	☐☐	
			22:07	BO			49° 54.482	126° 47.504			-			☐☐	
			22:11	EN			49° 54.495	126° 47.492			-			☐☐	
97	NS01	16	14:02	BE	CTD		49° 41.269	126° 33.149	267	250	24-24	1	CW	☐☐	Bottle @ 5m
			14:07	BO			49° 41.270	126° 33.187			-			☐☐	MT 1412 UTC
			14:13	EN			49° 41.271	126° 33.218			-			☐☐	
			:				° .	° .			-			☐☐	

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Notes: _____

after
@ ~~EI02~~, I noticed the T-C duct was disconnect. Do not know for how long. I repaired it and after EI02 deployment, it disconnected during the cast. looked @ the CTD Neville used and their tubing was longer. I took that tubing and put it on and it held during EI02

→ the tube was ~3-4mm shorter than Neville's, creating just enough play in the conductivity cell to wiggle free

Future: need to ensure both spouts on ~~the~~ both ports are fully connected and tubing is long enough.

- played out all casts on Seasave but cant see evidence of the TC duct failure - even between EI02 and EI01

note for EI01 electrical blip shortly after BO on the upcast

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98	NS01	16	14:17	BE	NET		49° 41.269	126° 33.228	267	255	-		CW	☐☐	
			14:22	BO			49° 41.263	126° 33.246			-			☐☐	
			14:27	EN			49° 41.257	126° 33.265			-			☐☐	
100	NS02	16	15:46	BE	CTD		49° 39.502	~~127°~~ 126° GG ~~27.896~~	183	175	25-25	1	CW	☐☐	Bottle @ 5m
			15:48	BO			49° 39.491	~~127°~~ 27.889			-			☐☐	MT 1552 UTC
			15:54	EN			49° 39.475	~~127°~~ 27.874			-			☐☐	
101	NS02	16	15:56	BE	NET		49° 39.471	127° 27.867	192	180	-		CW	☐☐	
			16:00	BO			49° 39.466	127° 27.866			-			☐☐	
			16:03	EN			49° 39.460	127° 27.859			-			☐☐	
1103	NS04	16	17:26	BE	CTD		49° 35.759	126° 35.429	107	95	-	Ø	CW	☐☐	
			17:27	BO			49° 35.760	126° 35.449			-			☐☐	
			17:29	EN			49° 35.761	126° 35.467			-			☐☐	
105	NS05	16	18:52	BE	CTD		49° 32.406	126° 39.830	50	40	-	Ø	CW	☐☐	
			18:53	BO			49° 32.418	126° 39.821			-			☐☐	
			18:54	EN			49° 32.428	126° 39.809			-			☐☐	
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	

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107	NSO6	16	20:43	BE	CTD		49° 29.371	126° 50.369	75	65	26 - 26	1	CW	☐☐	Bottle @ 5m
			20:44	BO			49° 29.399	126° 50.383			-			☐☐	MT2046UTC
			20:47	EN			49° 29.467	126° 50.414			-			☐☐	
108	NSO6	16	20:51	BE	NET		49° 29.581	126° 50.444	75	65	-		CW	☐☐	
			20:52	BO			49° 29.601	126° 50.447			-			☐☐	
			20:54	EN			49° 29.637	126° 50.462			-			☐☐	
110	VI4	16	22:45	BE	CTD		49° 21.327	126° 44.095	93	85	-	Ø	CW	☐☐	✱
			22:47	BO			49° 21.344	126° 44.103			-			☐☐	
			22:48	EN			49° 21.365	126° 44.115			-			☐☐	
112	CS09	17	19:36	BE	CTD		49° 2.598	126° 6.649	60	50	-	Ø	CW	☐☐	
			19:37	BO			49° 2.587	126° 6.653			-			☐☐	
			19:38	EN			49° 2.597	126° 6.655			-			☐☐	
114	CS08	17	21:03	BE	CTD		49° 6.820	126° 14.937	68	60	27 - 27	1	CW	☐☐	Bottle @ 5m
			21:04	BO			49° 6.827	126° 14.944			-			☐☐	MT 2106UTC
			21:07	EN			49° 6.851	126° 14.955			-			☐☐	
115	CS08	17	21:12	BE	NET		49° 6.888	126° 14.997	68	60	-		CW	☐☐	
			21:14	BO			49° 6.893	126° 15.006			-			☐☐	
			21:15	EN			49° 6.901	126° 15.016			-			☐☐	
			:				° .	° .			-			☐☐	

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This page is for any notes or observations

Something odd with cast VI.14. The data file is so short and although the hex string is there, there is no profile. There only seems to be data @ surface? There are only 72 scans

NOTE CS06 & CS08
- These last have no data. The CTD shut down after it was deployed. CS09 is fine. There was no evidence of battery fail. CS09 had 16.6 V which should be more than enough. Conversations/uploads don't suggest a bat fail or power fail. Changed out the battery pack for tomorrow)
V = 18.6 V

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117	CS06	17	23:19	BE	CTD		49° 18.845	126° 18.327	34	25	-	Ø	CW	☐☐	
			23:19	BO			49° 18.852	126° 18.326			-			☐☐	
			23:20	EN			49° 18.859	126° 18.325			-			☐☐	
119	CS05	18	13:58	BE	CTD		49° 29.536	126° 17.312	106	100	-	1	CW	☐☐	Bottle @ 5m
			14:05	BO			49° 29.532	126° 17.317			-			☐☐	MT 1408 UTC
			14:04	EN			49° 29.526	126° 17.327			-			☐☐	
120	CS05	18	14:09	BE	NET		49° 29.517	126° 17.339	106	95	-		CW	☐☐	
			14:11	BO			49° 29.511	126° 17.345			-			☐☐	
			14:13	EN			49° 29.507	126° 17.352			-			☐☐	
122	CS04	18	15:42	BE	CTD		49° 25.164	126° 14.677	66	60	-	Ø	CW	☐☐	
			15:46	BO			49° 25.163	126° 14.680			-			☐☐	
			15:47	EN			49° 25.162	126° 14.679			-			☐☐	
124	CS03	18	17:46	BE	CTD		49° 25.471	126° 6.236	154	145	-	1	CW	☐☐	Bottle @ 5m
			17:48	BO			49° 25.473	126° 6.242			-			☐☐	MT 1752UTC
			17:53	EN			49° 25.482	126° 6.257			-			☐☐	
125	CS03	18	17:56	BE	NET		49° 25.489	126° 6.275	160	150	-		CW	☐☐	
			17:58	BO			49° 25.494	126° 6.291			-			☐☐	
			18:01	EN			49° 25.498	126° 6.302			-			☐☐	
			:				° .	° .			-			☐☐	

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127	CS02	18	19:53	BE	CTD		49°23.103	126°5.217	69	60	-	Ø	CW	☐☐	
			19:54	BO			49°23.102	126°5.214			-			☐☐	
			19:55	EN			49°23.101	126°5.208			-			☐☐	
129	CS01	18	22:31	BE	CTD		49°22.639	125°56.510	137	130	-	1	CW	☐☐	Bottle @ 5m
			22:34	BO			49°22.648	125°56.502			-			☐☐	MT 2237 UTC
			22:38	EN			49°22.659	125°56.496			-			☐☐	
130	CS01	18	22:41	BE	NET		49°22.666	125°56.494	137	125	-			☐☐	
			22:43	BO			49°22.667	125°56.495			-		CW	☐☐	
			22:46	EN			49°22.673	125°56.493			-			☐☐	
132	CS10	19	14:07	BE	CTD	48° GG	48°59.013	125°59.630	45	35	-	1	C	☐☐	Bottle @ 5m
			14:08	BO			49°20.018	125°59.615			-			☐☐	MT 1911 UTC
			14:12	EN			49°00.053	125°59.576			-			☐☐	
133	CS10	19	14:16	BE	NET		49°00.106	125°59.527	48	40	-		CW	☐☐	
			14:17	BO			49°00.118	125°59.518			-			☐☐	
			14:18	EN			49°00.126	125°59.512			-			☐☐	
135	VI15	19	16:31	BE	CTD		48°57.142	125°52.182	42	35	-	Ø	CW	☐☐	
			16:31	BO			48°57.144	125°52.168			-			☐☐	
			16:32	EN			48°57.150	125°52.151			-			☐☐	
			:				° .	° .			-			☐☐	

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137	VI16	19	17:59	BE	CTD		48° 55.400	125° 45.612	100	90	-	1	CW	☐☐	Bottle @ 5m
			18:00	BO			48° 55.396	125° 45.587			-			☐☐	MT 1802UTC
			18:03	EN			48° 55.392	125° 45.539			-			☐☐	
138	VI16	19	18:06	BE	NET		48° 55.393	125° 45.482	100	90	-		CW	☐☐	
			18:08	BO			48° 55.397	125° 45.461			-			☐☐	
			18:09	EN			48° 55.401	125° 45.438			-			☐☐	
140	VI17	19	19:37	BE	CTD		48° 54.475	125° 35.506	95	85	-	Ø	CW	☐☐	
			19:39	BO			48° 54.456	125° 35.477			-			☐☐	Deployed
			19:40	EN			48° 54.443	125° 35.447			-			☐☐	
142	BS04	19	21:51	BE	CTD		48° 41.183	125° 29.822	95	85	-	1	CW	☐☐	Bottle @ 5m
			21:52	BO			48° 41.174	125° 29.823			-	Deployed		☐☐	MT 2154UTC
			21:55	EN			48° 41.161	125° 29.825			-			☐☐	
143	BS04	19	21:58	BE	NET		48° 41.157	125° 29.819	95	85	-		CW	☐☐	
			22:00	BO			48° 41.152	125° 29.821			-			☐☐	
			22:02	EN			48° 41.148	125° 29.821			-			☐☐	
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
			:				° .	° .			-			☐☐	
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Event Type:
BOT = Bottle cast (no CTD)
CTD = Standalone CTD
ROS = CTD in Rosette
SET = Fish Set

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

Bottle Firing Method:
US = Up / Stop (default)
UN = Up / No stop
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Time Code:
BE = Beginning Time of Cast
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DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

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

Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2022 **Vessel** Nordic Pearl **Cruise ID** 2022-011

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
145	VI07	20	14:17	BE	CTD		48° 53.868	125° 24.240	57	50	-	1	CW	☐☐	Bottle @ 5m
			14:19	BO			48° 53.880	125° 24.248			-			☐☐	MT 1421 UTC
			14:21	EN			48° 53.845	125° 24.271			-			☐☐	
146	VI07	20	14:25	BE	NET		48° 53.911	125° 24.279	57	45	-		CW	☐☐	
			14:26	BO			48° 53.914	125° 24.279			-			☐☐	
			14:27	EN			48° 53.918	125° 24.278			-			☐☐	
148	BS01	20	16:51	BE	CTD		48° 57.187	125° 07.271	92	85	-	Ø	CW	☐☐	
			16:52	BO			48° 57.183	125° 07.272			-			☐☐	
			16:54	EN			48° 57.276	125° 07.178			-			☐☐	
150	BS02	20	18:09	BE	CTD		48° 54.256	125° 12.977	99	90	-	1	CW	☐☐	Bottle @ 5m
			18:10	BO			48° 54.262	125° 12.975			-			☐☐	MT 1812 UTC
			18:13	EN			48° 54.270	125° 12.961			-			☐☐	
151	BS02	20	18:17	BE	NET		48° 54.272	125° 12.949	99	90	-			☐☐	
			18:18	BO			48° 54.270	125° 12.950			-			☐☐	
			18:20	EN			48° 54.273	125° 12.948			-			☐☐	
152	BS03	20	20:03	BE	CTD		48° 50.323	125° 15.856	102	95	-	Ø	CW	☐☐	
			20:05	BO			48° 50.333	125° 15.853			-			☐☐	
			20:07	EN			° .339	° .848			-			☐☐	
			:				° .	° .			-			☐☐	

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

Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October **Year** 2022 **Vessel** Nordic Dawn **Cruise ID** 2022-01

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
155	JDF02	21	14:01	BE	CTD		48°31.434	124°30.830	97	90	-	1	CW	☐☐	Bottle @ 5m
			14:01	BO			48°31.462	124°30.822			-			☐☐	MT 1411 UTC
			14:12	EN			48°31.470	124°30.819			-			☐☐	
156	JDF03	21	14:26	BE	NET		48°31.550	124°30.795	86	75	-		CW	☐☐	
			14:28	BO			48°31.555	124°30.790			-			☐☐	
			14:30	EN			48°31.565	124°30.790			-			☐☐	
158	JDF03	21	16:42	BE	CTD		48°27.711	124°20.794	113	105	-	Ø	CW	☐☐	
			16:44	BO			48°27.688	124°20.741			-			☐☐	
			16:46	EN			48°27.666	124°20.683			-			☐☐	
160	JDF04	21	18:09	BE	CTD		48°25.224	124°13.598	117		-	1	CW	☐☐	Bottle @ 5m
			18:10	BO			48°25.215	124°13.564			-			☐☐	MT 1817 UTC
			18:12	EN			48°25.179	124°13.445			-			☐☐	
161	JDF04	21	18:13	BE	NET		48°25.179	124°13.445	117	110	-		CW	☐☐	
			18:17	BO			48°25.154	124°13.346			-			☐☐	
			18:19	EN			48°25.139	124°13.268			-			☐☐	
163	JDF05	21	19:42	BE	CTD		48°23.311	124°5.159	108	100	-	Ø	CW	☐☐	
			19:44	BO			48°23.294	124°5.098			-			☐☐	
			19:46	EN			48°23.273	124°5.019			-			☐☐	
			:				° .	° .			-			☐☐	

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Notes: _____

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 20 April 2016

* Poonga first attempt came up twisted; restarted event

Missed communication to bridge, so BE BO + EN missed

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month October	Year 2022	Vessel Nordic Pearl	Cruise ID 2022-011

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
165	JDF06	21	21:26	BE	CTD		48°20.145	123°49.140	141	135	-	1	CW	☐ ☐	Bottle @ 5m
			21:28	BO			48°20.126	123°49.106			-			☐ ☐	MT 2131 UTC
			21:32	EN			48°20.099	123°49.062			-			☐ ☐	
166	JDF06	21	21:35	BE	NET		48°20.078	123°49.027	142	130	-		CW	☐ ☐	
			21:37	BO			48°20.065	123°49.006			-			☐ ☐	
			21:40	EN			48°20.057	123°48.976			-			☐ ☐	
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