

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2019 - 007

DATE:

From: 4 March 2019

To: 8 March 2019

VESSEL:

Neocaligus

PROJECT(S):

Strait of Georgia Zooplankton

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

WaterProperties.ca

**** 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: Note book #10

Data acquisition program: Seaterm/Seasave

CTD deck unit make: DA/A model: _____ serial number: _____

Primary CTD

Make: SBE model: 25 serial number: 456

Primary temperature serial number: 5130

Primary conductivity serial number: 3500

Secondary temperature serial number: _____

Secondary conductivity serial number: _____

Transmissometer: _____ Model: _____ s/n: _____

Transmissometer: _____ Model: _____ s/n: _____

Fluorometer: Model ECO Cable gain: 13 X s/n: 4185 P, S or NO pump?

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

Oxygen sensor: SBE Model: 43 s/n: 1592 (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?

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?

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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)

Rosette Setup:

Number of bottles: _____
Manufacturer: _____
Volume of bottles (litres): _____

Winches:

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

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

Salinometer:

Make: _____ Model: _____ Serial Number: _____
Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Oxygen Kit(s):

Make: _____ Model: _____ Kit Number: _____
Make: _____ Model: _____ Kit Number: _____
Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Thermosalinograph System (SBE21):

Program: _____ Version: _____
Sampling interval (seconds): _____
Fluorometer sensor serial number: _____

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

ADCP Setup:

Computer time zone: _____ User Exits: Name: _____ Exit points: _____
Sampling interval (sec): _____ Name: _____ Exit points: _____
Bin Length: (2^x): _____ Name: _____ Exit points: _____
Pulse Length: _____ Work File: _____
Buffer (bytes): _____
Gyro Offset: _____

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

CTD Test Cast Information

Test Cast along side? Yes ☒ No
Comments _____

Test Cast in Saanich Inlet or other location? Yes No
Comments _____

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

Pumps working? Yes (0011) No (0010)

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

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

Additional Comments:

Scientific Equipment Used During Cruise

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

Other CTD units:

RBR Serial Number: _____ Sensors: _____

Others: _____

Plankton Nets:

Bongo #1 Frame Size: 50 cm Mesh: 236 μ m Flowmeter: 35k 7057 + RBR 81

Bongo #2 Frame Size: _____ cm Mesh: _____ μ m Flowmeter: _____

Frame Size: _____ cm Mesh: _____ μ m Flowmeter: _____

Frame Size: _____ cm Mesh: _____ μ m 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:

1. SL Nixins

2. _____

3. _____

4. _____

5. _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>March</u>			Year <u>2019</u>			Vessel <u>Neocaliguis</u>			Cruise ID <u>2019-007</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
1	GEO1	4	20:09	BE	CTD	-	49° 15.004	123° 45.411	400		-	-	KY	☐ ☐	cast 0
			20:19	BO			49° 15.003	123° 45.422	(407)	390	-			☐ ☐	
			20:26	EN			° . 0	° . 424			-			☐ ☐	
2	GEO1	4	20:33	BE	NET		49° 15.004	123° 45.423	400		-	-	KY	☐ ☐	
			20:41	BO			49° 15.003	123° 45.428		390	-			☐ ☐	
			20:48	EN			49° 15.008	123° 45.433			-			☐ ☐	
			:		BOT		° .	° .			-			☐ ☐	
3	GEO1	4	21:25	MR	BOT		49° 15.009	123° 45.414	400	390	1 - 8	8		☐ ☐	+ POM surface
4			21:59	MR	BOT		49° 15.011	123° 45.403	400	5	9 - 10	2		☐ ☐	
5	BS-11	5	15:32	BE	CTD		49° 29.008	124° 45.910	63		-			☐ ☐	cast 01 →
			15:35	BO			49° 29.010	124° 45.908		53	-			☐ ☐	
			15:36	EN			49° 29.011	124° 45.910			-			☐ ☐	
6	BS-11	5	15:32	MR	BOT		49° 29.007	124° 45.905		0	- 12	1		☐ ☐	POM-S1
7	BS-11	5	15:34	MR	BOT		49° 29.010	124° 45.907		0	- 11	1		☐ ☐	PLC + 4 out of order
8	BS-11	5	15:42	BE	NET		49° 28.996	124° 45.894	62		-			☐ ☐	
			15:43	BO			49° 28.989	124° 45.885		53	-			☐ ☐	
			15:44	EN			49° 28.981	124° 45.881			-			☐ ☐	
			:				° .	° .			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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

Notes:

Time Code:

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

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Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 20 April 2016

2 min start. CTD down to 10m for soak until ~ 1m 3.0 sec, brought back to surface + sit until 2min up. Then cast started.
Didn't clean fluorometer.

Lots of sea lions around

End day anchored @ Deep Bay / Baynes Sound 18:20
Morning: BS-11
diesel sick @ station, moved off to clearer waters

Sample # out of order with event #'s

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Ocean Sciences Division, Institute of Ocean Sciences

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9	CPF2	5	16:54	BE	CTD		49°27.995	124°29.978	333		-	—	KY	☒	cast 2✓
			17:02	BO			49°28.008	124°29.970		323	-			☐	
			17:08	EN			49°28.005	124°29.973			-			☐	
10	CPF2	5	17:00	MR	BOT		49°28.009	124°29.970		0	-21	1	DC	☐	Pom-S1
11	CPF2	5	17:11	BE	NET		49°28.003	124°29.973	333		-		KY	☐	
			17:18	BO			49°27.996	124°29.986		323	-			☐	
			17:24	EN			49°27.993	124°29.997			-			☐	
12	CPF2		17:45	MR	BOT		49°27.996	124°29.988	333	323	13-20	8		☐	DC cast X
13	CPF2		18:10	MR	BOT		49°28.003	124°29.993	333	5	-22	1	DC	☐	Pom-FA
14	3	5	18:55	BE	CTD		49°26.590	124°20.185	328		-			☐	cast 3✓
			19:03	BO			49°26.601	124°20.176		318	-			☐	
			19:09	EN			49°26.599	124°20.170			-			☐	
15	3	5	18:56	MR	BOT		49°26.595	124°20.181	328	0	-23	1	mm	☐	chl-a + HPLC
16	6	5	20:02	BE	CTD		49°30.597	124°27.782	196		-		KY	☐	cast 5 →
			20:07	BO			49°30.608	124°27.769		186	-			☐	
			20:11	EN			49°30.607	124°27.764			-			☐	
17	6	5	20:03	MR	BOT		49°30.601	124°27.781	196	0	-24	1	mm	☐	HPLC + chl a
			:				°	°			-			☐	
			:				°	°			-			☐	

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WaterProperties.ca
 Version: 20 April 2016

* only 0-20m bottles fired 1st try - removed from wire + reset to depth to fire remaining deeper bottles
(msg. hung up on 20m bottle)
RBR depth 1st try = 322 m 2nd = 320 m

→ switched on for ~ 5 sec too soon, nothing in cast 4

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Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>March</u>				Year <u>2019</u>		Vessel <u>Neocaligus</u>		Cruise ID <u>2019-007</u>							
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
18	9	5	21:06	BE	CTD		49° 35.492	124° 38.297	173		-			☐	cast 6 ✓
			21:14	BO			.	.		163	-			☐	
19	9	5	21:07	MR	BOT		49° 35.484	124° 38.300			-			☐	missed bottom
20	11		22:04	BE	CTD		49° 35.491	124° 38.300	173	0	-25	1	MM	☐	HPEC+chl a
			22:12	BO			49° 42.393	124° 43.393	306		-			☐	cast 7 ✓
			22:17	EN			49° 42.386	124° 43.410		296	-			☐	
21	11	5	22:06	MR	BOT		49° 42.387	124° 43.409			-			☐	
22	11	5	22:22	MR	BOT		49° 42.397	124° 43.402	306	0	-26	1	DC	☐	POM-S1
23	11	5	22:26	BE	NET		49° 42.390	124° 43.416	306	5	-27	2	DC	☐	POM-FA
			22:31	BO			49° 42.392	124° 43.425	306		-			☐	
			22:37	EN			49° 42.386	124° 43.430		296	-			☐	sea lion
24	12	5	22:57	BE	CTD		49° 42.387	124° 43.426			-			☐	
			23:05	BO			49° 43.583	124° 40.799	361		-			☐	
			23:11	EN			49° 43.595	124° 40.815		351	-		KY	☐	cast 8 ✓
25	12	5	23:05	MR	BOT		49° 43.601	124° 40.811			-			☐	
26	20	6	0:13	BE	CTD		49° 43.659	124° 40.815	361	0	-28	1		☐	HPLC, photo, chl-a
			0:21	BO			49° 47.188	124° 32.292	318		-		KY	☐	cast 9
			0:26	EN			49° 47.193	124° 32.304		308	-			☐	
							49° 47.197	124° 32.303			-			☐	

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Bottle Firing Method:

US = Up / Stop (default)
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Notes:

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Weather - sunny but cold

This page is for any notes or observations

end day 17:00 tied up @ Powell River

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Ocean Sciences Division, Institute of Ocean Sciences

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Month		Year		Vessel		Cruise ID									
March		2019		Neocaligus		2019-007									
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
27	22	6	16:36	BE	CTD		49° 40.198	124° 16.297	3583		-		KY	☐	had to restart
			16:49	BO			49° 40.193	124° 16.290		343	-			☐	cast 11✓
			16:55	EN			49° 40.193	124° 16.291			-			☐	
28	22	6	16:41	MR	BOT		49° 40.197	124° 16.288		0	-			☐	
29	22	6	16:41	MR	BOT		49° 40.197	124° 16.288		0	- 29	1	DC	☐	POM-S1
30	22	6	16:59	MR	BOT		49° 40.190	124° 16.290	353	5	- 30	1	MM	☐	HPLC, chl a, phyto
31	22	6	17:03	BE	NET		49° 40.191	124° 16.293	353		- 31	2	DC	☐	POM-FA
			17:10	BO			49° 40.191	124° 16.289		343	-		KY	☐	
			17:16	EN			49° 40.191	124° 16.287			-			☐	
32	15-2	6	18:07	BE	CTD		49° 38.190	124° 4.981	32		-			☐	
			18:10	BO			49° 38.191	124° 4.987			-		KY	☐	cast 12
			18:10	EN			49° 38.191	124° 4.988		27	-			☐	
33	15-2	6	18:15	BE	NET		49° 38.191	124° 4.996	28		-			☐	
			18:16	BO			49° 38.190	124° 4.997			-		KY	☐	
			18:16	EN			49° 38.189	124° 4.999		23	-			☐	
34	24	6	19:08	BE	CTD		49° 30.291	124° 5.986	431		-			☐	
			19:18	BO			49° 30.287	124° 5.998			-		KY	☒	cast 13✓
			19:26	EN			49° 30.288	124° 5.990	421		-			☐	
35	24	6	19:09	MR	BOT		49° 30.291	124° 5.988	431	0	- 32	1	DC	☐	POM-S1

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This page is for any notes or observations

Nothing in cast #10, had to turn off + recover to fix shackle

Lots of phyto - brownish surface water

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month

March

Year

2019

Vessel

Neocaligus

Cruise ID

2019-07

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Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
36	24	6	19:29	BE	NET		49° 30.289	124° 5.988	431		-		KY/mm	☐	
			19:37	BO			49° 30.291	124° 5.985		421	-			☐	
			19:44	EN			49° 30.288	124° 5.986			-			☐	
37	2	6	20:29	BE	CTD		49° 24.098	124° 9.274	281		-			☐	
			20:36	BO			49° 24.096	124° 9.278		271	-		KY	☐	cast 14✓
			20:40	EN			49° 24.102	124° 9.277			-			☐	
38	2	6	20:31	MR	BOT		49° 24.098	124° 9.276	281	0	-			☐	
39	CPF1	6	21:06	BE	CTD		49° 21.993	124° 4.977	249		- 33	1	MM	☐	HPLC data phyto
			21:13	BO			49° 21.994	124° 4.979		239	-		KY	☐	cast 15✓
			21:17	EN			49° 21.996	124° 4.981			-			☐	
40	CPF1	6	21:07	MR	BOT		49° 21.992	124° 4.979	249	0	-			☐	
41	CPF1	6	21:20	MR	BOT		49° 22.001	124° 4.985	249	5	- 34	1	DC	☐	POM-S1
42	CPF1	6	21:24	BE	NET		49° 22.002	124° 4.985	249		- 35	2	DC	☐	POM-FA
			21:29	BO			49° 21.995	124° 4.987		239	-		KY/mm	☐	
			21:33	EN			49° 21.986	124° 4.982			-			☐	
43	28	6	22:58	BE	CTD		49° 24.099	123° 45.282	138		-			☐	
			23:03	BO			49° 24.101	123° 45.285		128	-		KY	☐	cast 16✓
			23:06	EN			49° 24.095	123° 45.298		140	-			☐	went to bottom
44	28	6	22:59	MR	BOT		49° 24.103	123° 45.289	138	0	- 36	1	DC	☐	came back to 128m + stopped →

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Notes:

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Some mud on edge of cage, don't see anything in tubes.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month

March

Year

2019

Vessel

Neocaligus

Cruise ID

2019-007

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Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
45	28	6	23:01	MR	BOT		Latitude	Longitude							
46	28	6	23:09	BE	NET		49° 24.102	123° 45.291	138	0	- 37	1	MM/DC	☐	chl-a
			23:11	BO			49° 24.097	123° 45.301	138		-		KY/MM	☐	
			23:14	EN			49° 24.097	123° 45.297		128	-			☐	
47	27	6	23:53	BE	CTD		49° 24.100	123° 45.302			-			☐	
		7	0:01	BO			49° 19.101	123° 48.025	351		-			☐	
		7	0:07	EN			49° 19.100	123° 48.016		341	-		KY	☐	cast 17 ✓
48	27	6	23:54	MR	BOT		49° 19.101	123° 48.012			-			☐	
49	40	7	16:33	BE	CTD		49° 19.102	123° 48.022		0	- 38	1	MM/DC	☐	HPLC chl-a
			16:38	BO			49° 8.589	123° 36.813	155		-		KY	☐	cast 18 ✓
			16:41	EN			49° 8.595	123° 36.805		145	-			☐	
50	40	7	16:44	BE	NET		49° 8.592	123° 36.806			-			☐	
			16:46	BO			49° 8.595	123° 36.810	155		-			☐	
			16:49	EN			49° 8.601	123° 36.807		148	-		KY/MM	☐	
51	39	7	17:12	BE	CTD		49° 8.605	123° 36.802			-			☐	
			17:21	BO			49° 9.802	123° 33.008	382		-			☐	
			17:28	EN			49° 9.813	123° 33.030		372	-		KY	☐	cast 19 ✓
52	39	7	17:15	MR	BOT		49° 9.827	123° 33.032			-			☐	
			:				49° 9.804	123° 33.018	382	0	- 39	1	MM/DC	☐	HPLC + chl-a
							.	.			-			☐	

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

Notes:

Time Code:

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

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

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WaterProperties.ca
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