

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2020-083

Book #1

DATE:

VESSEL:

PROJECT(S):

From:

6 Oct 2020
J.P. Tully

To:

20 Oct 2020

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: WP #102

Data acquisition program: Seasave

CTD deck unit make: SBE model: 11+ serial number: 0425

Primary CTD

Make: SBE model: 9+ serial number: 443

Primary temperature serial number: ~~4888~~ 4700

Primary conductivity serial number: ~~4513~~ 3531

Secondary temperature serial number: 4888

Secondary conductivity serial number: 4513

Transmissometer: Wetlabs Model: C-STAR s/n: 1185DR

Transmissometer: Wetlabs Model: C-STAR s/n: 1883DG

Fluorometer: Model Seapoint Cable gain: 10X s/n: 3950 P, S or NO pump?

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

Oxygen sensor: SBE Model: 43 s/n: 3791 P, S or NO pump?

PAR sensor: Biospherical Model: QSP2350 s/n: 70613 Surface PAR? Y / N

Other sensors: Attimeter s/n: 62355 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)

Rosette Setup:

Number of bottles: 24
Manufacturer: 105
Volume of bottles (litres): 10L

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: Se Version: _____ SN# 0620
Sampling interval (seconds): 30
Fluorometer sensor serial number: WS35-953P

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: 56 cm Mesh: 236 μ m Flowmeter: 7132
Bongo #2 Frame Size: 56 cm Mesh: 236 μ m Flowmeter: _____
_____ Frame Size: _____ cm Mesh: _____ μ m Flowmeter: _____
_____ Frame Size: _____ cm Mesh: _____ μ m Flowmeter: _____

Multinet ☐ BIONESS ☐ Neuston ☐ Others: _____

RBR 79108 on 1

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 20 ³⁰ Frequencies (KHz): 12 ☐ 18 ☐ 38 ☐ ~~70~~ ☐ ~~120~~ ☐ ~~200~~ ☐ 19222-0236

Others: _____

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

Others: _____

Software & Notes: _____

Other Gear in Operation:

1. _____
2. _____
3. _____
4. _____
5. _____

DAILY SCIENCE LOG

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Month		Year		Vessel		Cruise ID		Page		of				
OCTOBER		2020		JP TULLY		2020-083								
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
1	EO1	08	02:02	BE	ROS	US	49° 17.327	126° 36.426	103		24	SP		TEST CAST.
			02:04	BO			° 17.318	° 36.450	90					
			02:06	EN			° 17.317	° 36.450						
02	Loop 02	08	21:18	BE	LOOP		51° 28.250	129° 54.629	237	4.5	5002	MG		1 SAL 2 CHL
03	MT10	09	01:32	BE	ROS		51° 58.180	130° 29.410	435			SP		
			01:39	BO			° 58.170	° 29.430	429					
			01:46	EN			° 58.130	° 29.430						
04	MT09	09	03:14	BE	ROS		52° 07.640	130° 17.090	450			SR		NTRU
			03:23	BO			° 07.630	° 17.110	443					
			03:30	EN			° 07.630	° 17.110						
05	MT09		03:33	DE	DRF		52° 07.630	130° 17.110						
06	MT08B	09	04:26	BE	ROS		52° 13.990	130° 11.430	294			SR		SCT #1206
			04:40	BO			° 13.960	° 11.530	495					
			04:47	EN			° 13.970	° 11.560						
07	MT07B	09	05:58	BE	ROS		52° 23.950	130° 08.350	332			ST		
			06:06	BO			52° 23.960	130° 08.310	325					
			06:11	EN			52° 23.960	130° 08.310						
08	MT07B	09	06:15	DE	DRF		52° 23.960	130° 08.310				SM		SCT 1208
			:				°	°						

Event Type:
BOT = Bottle cast (no CTD)

LOOP = Sea Water Loop
MOR = Mooring

Bottle Firing Method:
US

Time Code:

CTD Transducer and Fluorometer

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
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

Notes:

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EVENT 1

→ TRIPPED ALL BOTTLES FOR TESTING PURPOSES ONLY

Air factor 98.7 → 15.2 49.35 → 30.4
 wire at 76
depth at 102

Wire at 90: $49.35 = 30.4$
 $98.7 = 15.2$

- New Altimeter failed to respond. Suspect new Valeport altimeter has not been configured yet. Continuing on to MT10 and will configure new altimeter on transit.

Air original setting: Serial 62355 / Scale Factor 98.700 / offset 0

- New Valeport Altimeter = #75321 Cal 23-Sep/20 Scale Factor = 15 Offset = 0

EVENT 6

→ Mystery depth, slow down 250m → 425m depth sonar not giving depth; finally altimeter kicked in at -95m from bottom
 CORRECT BOTTOM DEPTH 500m
 (For future reference)

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Month <u>October</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-083</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							
9	MT06B	9	07:38	BE	ROS	US	52° 33.420	130° 03.170	283		—	—	SR	☒ ☐	NTR ^y
			07:44	BO			52° 33.380	130° 03.200		277	-			☐ ☐	
			07:49	EN			52° 33.370	130° 03.220			-			☐ ☐	
10	MT05	9	08:45	BE	ROS	US	52° 40.642	129° 59.365	264		—	—	SR	☒ ☐	NTR ^y
			08:51	BO			52° 40.650	129° 59.330		259	-			☐ ☐	
			08:55	EN			52° 40.640	129° 59.280			-			☐ ☐	
11	MT05	9	08:57	BE	DRF	US	52° 40.640	129° 59.280	265		-			☐ ☐	#1209
12	HEC1	9	10:00	BE	ROS	US	52° 49.319	129° 50.945	166		1-12	12	SR	☒ ☐	
			10:07	BO			52° 49.337	129° 50.880		157	-			☐ ☐	
			10:17	EN			52° 49.330	129° 50.810			-			☐ ☐	
13	HEC1	9	10:57	BE	NET		52° 49.275	129° 50.436	117		-			☐ ☐	Bongo UNH
			11:01	BO			52° 49.275	129° 50.395		107	-			☐ ☐	
			:	EN			.	.			-			☐ ☐	
14	CAM1	9	12:30	BE	ROS	US	52° 46.860	129° 29.930	431		—	—	SR	☒ ☐	
			12:42	BO			52° 46.860	129° 29.900		426	-			☐ ☐	
			12:49	EN			52° 46.870	129° 29.900			-			☐ ☐	
15	ASHDOWN	9	15:05	BE	LAUNCH		53° 02.914	129° 14.0593			—		SP	☐ ☐	→
			:	EN			.	.			-			☐ ☐	
			:				.	.			-			☐ ☐	

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
BO = Bottom 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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Notes:

09

Event 15: Launched Doug Anderson w/ Cooper, Spear, Blanken for Weather Station Install #1

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Month <u>OCTOBER</u>			Year <u>2020</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2020-083</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
16	SC69	09	15:48	BE	NET		53°04.776	129°19.488	690		-		MG	☐ ☐	BONGO
			16:12	BO			53°04.631	129°19.20		685	-			☐ ☐	
			16:22	EN			53°04.610	129°19.10			-			☐ ☐	
17	SC69	09	16:43	BE	ROS	US	53°4.830	129°19.530	690		13-28	16	SP	☒ ☐	→
			16:55	BO			°4.830	°19.420		684	-			☐ ☐	
			17:22	EN			°4.800	°19.370			-			☐ ☐	
18	HB-GIL	09	18:24	BE	ROS	—	53°8.720	129°21.200	420		—	—	SP	☒ ☐	
			18:32	BO			°8.720	°21.210		422	-			☐ ☐	
			18:39	EN			°8.720	°21.210			-			☐ ☐	
19	SC64	09	19:24	BE	ROS	—	53°8.700	129°23.450	472		—	—	SP	☒ ☐	
			19:31	BO			°8.700	°23.480		467	-			☐ ☐	
			19:39	EN			°8.690	°23.520			-			☐ ☐	
20	HB CAM	09	20:05	BE	ROS	—	53°8.020	129°25.190	150		—	—	SP	☒ ☐	
			:07	BO			°8.020	°25.230		146	-			☐ ☐	
			:10	EN			°8.010	°25.220			-			☐ ☐	
21	HB-OTIE	09	21:15	BE	ROS	—	53°12.200	129°30.010	384		—	—	SP	☒ ☐	NMEA LAT NOT SE
			21:27	BO			°12.200	°30.030		298	-			☐ ☐	DISPLAY REFRESH
			21:32	EN			°12.200	°30.050			-			☐ ☐	
22	LOOP22	09	21:39	BE	LOOP	—	53°12.340	129°29.520	230	4.5	5072	—	MG	☐ ☐	15L 2XCHL

Event Type:

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 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

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 RE = Recover Mooring Time

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Event 17: bottle 1 bottom cap leaking slightly

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Month <u>OCTOBER</u>			Year <u>2020</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2020-083</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
23	HB-FIN	09	22:20	BE	ROS	—	53° 14.070	129° 22.830	432		—	—	MG	☒ ☐	
			22:29	BO			° 14.070	° 22.810		443	-			☐ ☐	
			22:37	EN			° 14.080	° 22.810			-			☐ ☐	
24	LP53	09	22:53	BE	ROS	/	53° 13.280	129° 23.050	495		—	—	MG	☒ ☐	
			23:03	BO			° 13.270	° 23.030		484	-			☐ ☐	
			23:11	EN			° 13.296	° 23.664			-			☐ ☐	
25	SC 61	09	23:36	BE	ROS	US	53° 12.630	129° 25.090	511		29 - 47	19	MG	☒ ☐	
			23:47	BO			° 12.650	° 25.050			-			☐ ☐	
			00:09	EN			° 12.611	° 25.010			-			☐ ☐	
26	OC64	10	00:37		DRF		53° 12.072	129° 30.22	—	—	—	—	DS	☐ ☐	ScT 1196, 1200
27	OC64	10	00:48	BE	ROS	—	53° 11.957	129° 30.655	278		—	—	GL	☒ ☐	
			00:54	BO			° 11.940	° 30.668		271	-			☐ ☐	
			00:59	EN			° 11.965	° 30.671			-			☐ ☐	
28	OC67	10	01:41	BE	ROS	—	53° 11.580	129° 35.533	169		—	—	SP	☐ ☐	
			01:44	BO			° 11.590	° 35.540		162	-			☐ ☐	
			:47	EN			° 11.610	° 35.530			-			☐ ☐	
29	PC01	10	02:35	BE	ROS	US	53° 15.730	129° 42.570	186		—	—	SM	☒ ☐	
			02:42	BO			53° 15.740	129° 42.610		179	-			☐ ☐	
			02:45	EN			53° 15.740	129° 42.630			-			☐ ☐	

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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EN = End Time of Cast

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

DE = Deployment Time
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Month <u>October</u>				Year <u>2020</u>		Vessel <u>Tully</u>				Cruise ID <u>2020-083</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							
30	PC02	10	03:37	BE	ROS		53° 21.710	129° 50.460	189		-	—	SR	☒	
			03:44	BO			53° 21.790	129° 50.410		181	-			☐	
			03:47	EN			53° 21.770	129° 50.410			-			☐	
31	PC03	10	05:05	BE	ROS		53° 30.600	130° 03.820	205		-	—	SR	☒	
			05:09	BO			53° 30.600	130° 03.820		200	-			☐	
			05:12	EN			53° 30.600	130° 03.820			-			☐	
32	PC04	10	06:27	BE	ROS		53° 36.350	130° 20.010	312		-	—	SR	☒	
			06:34	BO			53° 36.340	130° 20.010		308	-			☐	
			06:39	EN			53° 36.350	130° 20.000			-			☐	
33	HECS3	10	08:24	BE	ROS		53° 41.880	130° 42.740	139		-	—	SR	☐	
			08:29	BO			53° 41.890	130° 42.690		134	-			☐	
			08:31	EN			53° 41.900	130° 42.660			-			☐	
34	HECS4	10	09:28	BE	ROS		53° 48.202	130° 49.466	114		48-60	13	SR	☒	
			09:35	BO			53° 48.216	130° 49.453		108	-			☐	
			09:44	EN			53° 48.251	130° 49.414			-			☐	
35	HECS4	10	10:08	BE	NET		53° 48.333	130° 49.185	100		-			☐	Bongo VNH
			10:13	BO			53° 48.343	130° 49.207		100	-			☐	
			:	EN			°	°			-			☐	
			:				°	°			-			☐	

Event Type:

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CTD = Standalone CTD
ROS = CTD in Rosette
SFT = Fish Set

LOOP = Sea Water Loop

MOR = Mooring
NET = Plankton Net Haul
DRF = Drifter
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Bottle Firing Method:

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UN = Up / No stop
DN = Down / No stop

Notes:

Time Code:

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Month <u>October</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-093</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
36	HECSS	10	11:28	BE	ROS		53° 56.228	131° 0.505	89		-	—	SR	☒	
			11:32	BO			53° 56.196	131° 0.534		85	-			☐	
			11:34	EN			53° 56.194	131° 0.536			-			☐	
37	HECS6	10	12:50	BE	ROS		54° 7.620	131° 2.380	111		-	—	SR	☒	
			12:55	BO			54° 7.600	131° 2.430		105	-			☐	
			12:57	EN			54° 7.600	131° 2.440			-			☐	
38	HECS7	10	13:42	BE	ROS	US	54° 13.790	131° 2.100	124		61-74	14	SR	☒	→
			13:47	BO			54° 13.830	131° 2.090		118	-			☐	
			13:48	EN			° 13.900	° 2.010			-			☐	
39	HECS8	10	:	BE	Net		°	°	116		-			☐	
			15:16	BO			54° 23.165	131° 05.64	121	110	-			☐	
			15:19	EN			° 23.173	° 5.663			-			☐	
40	HECS8	10	15:31	BE	ROS	US	54° 23.180	131° 05.450	115		75-87	13	GR	☒	
			15:34	BO			° 23.140	° 05.480		110	-			☐	
			15:45	EN			° 23.150	° 05.410			-			☐	
41	HECS9	10	16:44	BE	ROS	—	54° 31.040	131° 6.300	160		—	—	SR	☒	
			16:47	BO			° 31.020	° 6.250		155	-			☐	
			16:50	EN			° 31.000	° 6.230			-			☐	
			:				°	°			-			☐	

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Bottle Firing Method:

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Notes:

Time Code:

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EVENT 38

Sewage likely dumped just before station (? REASON TO THINK THIS?)

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>OCTOBER</u>			Year <u>2020</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2020-083</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							
42	CH03	10	18:18	BE	NETS		54° 41.260	130° 55.289	574		-		GC	☐	Bongo
			18:35	BO			54° 41.260	130° 55.289	524	521	-			☐	
			18:44	EN			54° 41.240	130° 55.081	485		-			☐	
43	CH03	10	18:59	BE	ROS	VS	54° 41.390	130° 55.530	570		88-88	1	SP	☒	
			19:08	BO			54° 41.400	130° 55.47		567	-			☐	
			:	EN			°	°			-			☐	
44	CH02	10	20:50		LAUNCH		°	°			-		SP	☐	→
45	CH02	10	21:05	BE	ROS	VS	34° 39.766	130° 38.183	328		89-106		SP	☒	
			21:10	BO			° 39.779	° 38.150		332	-			☐	
			21:29	EN			° 39.770	° 38.081			-			☐	
46	CH06	10	22:17	BE	ROS	VS	54° 34.930	130° 31.960	250		107-117	11	SP	☒	
			22:21	BO			54° 35.000	130° 31.940		248	-			☐	
			:36	EN			° 35.040	° 31.830			-			☐	
47	CH05	10	23:09	BE	ROS	VS	54° 33.710	130° 37.520	145		118-131	14	SP	☒	
			23:11	BO			° 33.660	° 37.570		137	-			☐	
			23:23	EN			° 33.660	° 37.570			-			☐	
48	CH04	10	23:56	BE	ROS	VS	54° 32.410	130° 43.530	87		132-139	8	SP	☒	
			:58	BO			° 32.410	° 43.530		80	-			☐	
			00:05	EN			° 32.400	° 43.510			-			☐	

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
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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

Produced by the Water Properties Group, IOS

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EVENT 44

This page is for any notes or observations

Launch of Doug Anderson w/ Couper & Blonkens to do CTDs in
Prince Rupert Harbour

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>OCTOBER</u>			Year <u>2020</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2020-083</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
49	CH09	11	00:39	BE	ROS	—	54°30.214	130°40.842	89		—	—	SP	☒	
			00:41	BO			°30.215	°40.842		83	-			☐	
			:42	EN			°30.220	°40.840			-			☐	
50	CH08	11	01:40	BE	ROS	US	54°31.160	130°34.920	145		140-153	14	SP	☒	
			01:43	BO			5°31.170	°34.920		140	-			☐	
			01:52	EN			°31.180	°34.950			-			☐	
51	CH03	11	02:23	BE	ROS	US	54°31.620	130°32.660	165		154-169	16	SR	☒	
			02:30	BO			54°31.600	130°32.690		158	-			☐	
			02:41	EN			54°31.590	130°32.700			-			☐	
52	CH07	11	03:36	BE	ROS	US	54°31.560	130°30.870	96		170-177	8	SR	☒	
			03:40	BO			54°31.560	130°30.860		90	-			☐	
			03:48	EN			54°31.560	130°30.860			-			☐	
53	CH11	11	04:25	BE	ROS	US	54°26.927	130°33.046	133		178-191	14	SR	☒	
			04:30	BO			54°26.930	130°33.006		127	-			☐	
			04:39	EN			54°26.917	130°33.006			-			☐	
54	CH10	11	05:17	BE	ROS	US	54°26.840	130°39.370	85		192-198	7	SR	☒	
			05:25	BO			54°26.840	130°39.340		80	-			☐	
			05:32	EN			54°26.830	130°39.320			-			☐	
			:				°	°			-			☐	

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Produced by the Water Properties Group, IOS

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>October</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-083</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
55	CH13	11	06:12	BE	ROS	US	54° 23.110	130° 39.090	144		199-208	10	SR	☒	
			06:18	BO			54° 23.090	130° 39.120		137	-			☐	
			06:28	EN			54° 23.100	130° 39.070			-			☐	
56	CH12	11	06:58	BE	ROS	US	54° 23.614	130° 34.046	137		209-222	14	SR	☒	
			07:04	BO			54° 23.614	130° 34.042		131	-			☐	
			07:15	EN			54° 23.665	130° 33.912			-			☐	
57	CH17	11	07:51	BE	ROS	US	54° 20.520	130° 33.180	91		223-230	8	SR	☒	
			07:57	BO			54° 20.510	130° 33.190		85	-			☐	
			08:05	EN			54° 20.460	130° 33.160			-			☐	
58	CH16	11	08:48	BE	ROS	US	54° 19.860	130° 37.240	210		231-245	15	SR	☒	
			08:54	BO			54° 19.880	130° 37.150		202	-			☐	
			09:08	EN			54° 19.880	130° 37.080			-			☐	
59	CH16	11	10:38	BE	NET		54° 19.942	130° 37.402	220		-			☐	
			10:45	BO			54° 19.924	130° 37.353		210	-			☐	Bongo VNA
			:	EN			.	.			-			☐	
60	CH15	11	11:27	BE	ROS	US	54° 18.370	130° 42.640	188		246-255	10	SR	☒	
			11:35	BO			54° 18.360	130° 42.650		182	-			☐	
			11:48	EN			54° 18.410	130° 42.690			-			☐	
			:				.	.			-			☐	

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Month			October		Year		2020		Vessel		Tully		Cruise ID				2020-083	
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										
61	CH14	11	12:30	BE	ROS	US	54° 20.470	130° 49.930	134		256-269	14	SP	☒	☐			
			12:37	BO			54° 20.440	130° 49.930		127	-			☐	☐			
			12:47	EN			54° 20.380	130° 49.920			-			☐	☐			
62	CH22	11	14:31	BE	ROS	US	54° 16.074	130° 46.380	185		270-285	16	GC	☒	☐	Hydraulic leak		
			14:35	BO			° 16.067	° 46.369		172	-			☐	☐	bringing it back		
			14:50	EN			° 16.040	° 46.332			-			☐	☐	aboard		
63	CH20	11	15:39	BE	ROS	US	54° 13.580	130° 43.630	158		286-294	9	SP	☒	☐			
			15:42	BO			° 13.590	° 43.670		152	-			☐	☐			
			15:51	EN			° 13.550	° 43.680			-			☐	☐			
64	CH20	11	16:12		LAUNCH	DOUG ANDERSON					-			☐	☐			
65	CH21		16:47	BE	ROS	US	54° 11.900	130° 39.310	125		295-308	14	SP	☒	☐			
			16:50	BO			° 11.960	° 39.290		118	-			☐	☐			
			16:59	EN			° 11.990	° 39.340			-			☐	☐			
66	CH22	11	17:37	BE	ROS	US	54° 9.970	130° 35.140	129		309-317	9	SP	☒	☐			
			17:39	BO			° 9.970	° 35.150		122	-			☐	☐			
			17:50	EN			° 9.950	° 35.150			-			☐	☐			
67	CH24	11	18:23	BE	ROS	US	54° 7.660	130° 34.144	93		318-325	8	SP	☒	☐			
			:25	BO			° 7.648	° 34.145		88	-			☐	☐			
			:32	EN			° 7.618	° 34.130			-			☐	☐			

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Notes:

Event 64

This page is for any notes or observations

Launch of Doug Anderson for Skeena R. work.
- Spear/Cooper/Johannessen
- Return to ship at 2100

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month			Year		Vessel		Cruise ID								
OCTOBER			2020		JP TV2LY		2020-083								
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							
68	CH25	11	19:24	BE	ROS	US	54° 8.810	130° 26.430	118		326-341	16	SP	☒	
			19:26	BO			° 8.820	° 26.430		112	-			☐	
			19:36	EN			° 8.810	° 26.430			-			☐	
69	CHAT1	11	20:19	BE	ROS	US	54° 12.050	130° 27.152	117		342-356	15	MG	☒	
			20:22	BO			° 12.036	° 27.170		109	-			☐	
			20:35	EN			° 12.060	° 27.170			-			☐	
70	CH23	11	21:25	BE	ROS	US	54° 11.490	130° 23.340	100		357-364	8	SP	☒	
			21:27	BO			° 11.490	° 23.332		95	-			☐	
			21:34	EN			° 11.480	° 23.314			-			☐	
71	CH26	11	22:14	BE	ROS	US	54° 08.820	130° 21.370	61		365-372	8	MG	☒	
			22:16	BO			° 08.830	° 21.360			-			☐	
			22:25	EN			° 08.830	° 21.360			-			☐	
72	CH18	11	23:43	BE	RO	US	54° 16.350	130° 28.950	39		382-388	6	GC	☒	Had to restart
			23:47	BO			° 16.350	° 28.950		34	-			☐	computer. Seabird
			23:52	EN			° 16.340	° 28.950			-			☐	software crash.
73	CH19	12	00:30	BE	ROS	US	54° 15.220	130° 35.610	80		389-400	12	SP	☒	
			00:31	BO			° 15.230	° 35.600		74	-			☐	
			00:38	EN			° 15.250	° 35.610			-			☐	
74	LOOP 74	12	01:06	BE	LOOP	/	54° 19.028	130° 33.74	89	4.5	50.77	/	MG	☐	1 SAL 2 CHL

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Month <u>October</u>				Year <u>2020</u>		Vessel <u>Tully</u>		Cruise ID <u>2020-083</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
75	PI1	12	03:13	BE	ROS	US	54°40.620	130°28.370	527		401-420	20	SR	☒	
			03:23	BO			54°40.560	130°28.360		516	-			☐	
			03:44	EN			54°40.620	130°28.390			-			☐	
76	PI1	12	04:17	BE	NET		54°40.616	130°28.456	509		-		SR	☐	Bongo UNH Decy
			04:28	BO			54°40.582	130°28.503		503	-			☐	
			:	EN			.	.			-			☐	
77	PI2	12	05:14	BE	ROS	US	54°43.757	130°24.434	552		421-	1	SR	☒	
			05:25	BO			54°43.750	130°24.440		547	-			☐	
			05:34	EN			54°43.750	130°24.421			-			☐	
78	PI3	12	06:10	BE	ROS		54°46.650	130°19.920	496		/	/	SR	☒	
			06:22	BO			54°46.670	130°19.960		489	-			☐	
			06:30	EN			54°46.670	130°19.950			-			☐	
79	PI4	12	07:08	BE	ROS		54°49.550	130°14.940	454		422-440	19	SR	☒	
			07:18	BO			54°49.550	130°14.870		455	-			☐	
			07:40	EN			54°49.620	130°14.720			-			☐	
80	PI5	12	08:16	BE	ROS		54°52.822	130°11.107	428		-		SR	☒	
			08:27	BO			54°52.805	130°11.020		423	-			☐	
			08:36	EN			54°52.799	130°10.920			-			☐	
			:				.	.			-			☐	

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DAILY SCIENCE LOG

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Month <u>October</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-083</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
81	PI6	12	09:11	BE	ROS	US	54° 56.098	130° 7.015	340		442-443	2	SR	☒	
			09:20	BO			54° 56.083	130° 6.990		333	-			☐	
			09:27	EN			54° 56.050	130° 6.954			-			☐	
82	PI7	12	10:17	BE	ROS	US	54° 59.270	130° 3.140	221		444-445	2	SR	☒	
			10:23	BO			54° 59.320	130° 3.160		212	-			☐	
			10:28	EN			54° 59.380	130° 3.160			-			☐	
83	PORT2	12	10:57	BE	ROS	US	54° 59.260	129° 59.720	121		446-447	2	SR	☒	lots of
			11:02	BO			54° 59.290	129° 59.750		117	-			☐	current
			11:06	EN			54° 59.290	129° 59.700			-			☐	
84	PORT1	12	X	BE	ROS	US	X	X			448-449	2	SR	☐	CANCELLED
			X	BO			X	X			X			☐	→
			X	EN			X	X			X			☐	
85	OB1a	12	11:35	BE	ROS		55° 1.790	130° 1.320	194		/	/	SR	☒	
			11:43	BO			55° 1.750	130° 1.220		184	-			☐	
			11:46	EN			55° 1.750	130° 1.190			-			☐	
86	OB1	12	12:07	BE	ROS		55° 3.070	130° 0.290	55		/	/	SR	☐	
			12:12	BO			55° 3.060	130° 0.270		50	-			☐	
			12:13	EN			55° 3.060	130° 0.260			-			☐	
			:				.	.			-			☐	

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EVENT 89

] Bridge concerns over current, bottom depths being variable
Happy to do later in daylight hours.
Sheets / labels already printed BUT not used.
When station occupied later new event # & sheets required.

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Month <u>October</u>				Year <u>2020</u>		Vessel <u>Tully</u>		Cruise ID <u>2020-083</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
87	OB16	12	12:39	BE	ROS		55° 4.960	129° 58.950	239		/	/	SR	☒	
			12:47	BO			55° 4.940	129° 59.020		232	-			☐	
			12:51	EN			55° 4.940	129° 59.020			-			☐	
88	OB2	12	13:15	BE	ROS	US	55° 6.761	129° 57.449	420		449-450	2	SR	☒	1 Sample # split bottle
			13:27	BO			55° 6.738	129° 57.470		415	-			☐	
			13:35	EN			55° 6.738	129° 57.352			-			☐	
89	OB3	12	14:22	BE	ROS	US	55° 09.960	129° 53.070	483		/	/	MG	☐	476 @ BOTTOM
			14:32	BO			° 09.980	° 53.170		471	-			☐	
			14:40	EN			° 10.016	° 53.220			-			☐	
90	OB4	12	15:17	BE	ROS	US	55° 13.870	129° 51.300	535		-		MG	☐	
			15:27	BO			° 13.830	° 51.320		528	-			☐	
			15:36	EN			° 13.810	° 51.350			-			☐	
91	OB4	12	15:47	BE	LAUNCH	/	55° 13.775	129° 51.418	540	0	/	/	MG	☐	
92	OB5	12	16:28	BE	NET		55° 17.5311	129° 47.985	548		-		MG	☐	
			16:46	BO			° 17.434	° 48.033		543	-			☐	
			16:55	EN			° 17.410	° 48.123			-			☐	
93	OB5	12	17:06	BE	ROS	US	55° 17.477	129° 48.029	549		450-468	19	GC	☒	
			17:16	BO			° 17.449	° 48.133		543	-			☐	
			17:35	EN			° 17.482	° 48.158			-			☐	

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EN = End Time of Cast
DE = Deployment Time
MR = Messenger Release Time
RE = Recover Mooring Time

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EVENT 91

ANDERSON LAUNCH STEVE PAGE + DAVE SPEAR → HASTINGS ARM

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month			Year		Vessel		Cruise ID								
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
94	Ob6	12	18:22	BE	ROS	/	55° 21.250	129° 45.950	242		/	/	GC/HB	☒	
			18:27	BO			55° 21.250	129° 45.920		235	-			☐	
			18:31	EN			55° 21.250	129° 45.930			-			☐	
95	PORT2	12	22:29	BE	ROS	US	54° 58.585	129° 58.031	78		448-	1	GC	☒	
			22:32	BO			54° 58.590	129° 58.032		78.3	-			☐	
			22:34	EN			54° 58.590	129° 58.032			-			☐	
96	CH27	13	05:16	BE	ROS	US	54° 6.610	130° 16.450	51		373-382	10	SN	☒	
			05:21	BO			54° 6.600	130° 16.440		46	-			☐	Sample ID's at of after ??? (corrected)
			05:27	EN			54° 6.600	130° 16.440			-			☐	
97	MP55	13	05:59	BE	ROS	US	54° 4.229	130° 16.027	110		469-482	14	SN	☒	
			06:04	BO			54° 4.222	130° 16.036		105	-			☐	
			06:12	EN			54° 4.223	130° 16.031			-			☐	
98	CH29	13	06:48	BE	ROS	US	54° 1.871	130° 14.084	91		510-523	14	SN	☒	
			06:52	BO			54° 1.870	130° 14.080		85	-			☐	
			07:01	EN			54° 1.870	130° 14.080			-			☐	
99	OGCH50	13	07:36	BE	ROS	US	53° 59.320	130° 12.630	131		483-493	11	SN	☒	
			07:40	BO			53° 59.290	130° 12.640		124	-			☐	
			07:50	EN			53° 59.270	130° 12.680			-			☐	
			:				.	.			-			☐	

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

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

Produced by the Water Properties Group, IOS

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EVENT 98

CH29 originally mislabelled 397-410,
correct sample ID = 510-523

This page is for any notes or observations

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>October</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-083</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
100	OGCH46	13	09:00	BE	ROS	US	53° 55.450	130° 12.990	150		494-507	14	SR	☒ ☐	
			09:06	BO			53° 55.450	130° 12.960		144	-			☐ ☐	
			09:17	EN			53° 55.470	130° 12.900			-			☐ ☐	
101	OGCH43	13	09:51	BE	ROS		53° 54.000	130° 15.900	374		 	 	SR	☒ ☐	
			09:59	BO			53° 53.990	130° 15.860		368	-			☐ ☐	
			10:05	EN			53° 53.990	130° 15.830			-			☐ ☐	
102	Grc41	13	11:01	BE	ROS		53° 53.230	130° 5.010	140		-	 	SR	☒ ☐	
			11:07	BO			53° 53.220	130° 5.070		135	-			☐ ☐	
			11:09	EN			53° 53.210	130° 5.110			-			☐ ☐	
103	Grc36	13	11:57	BE	ROS		53° 49.187	129° 59.166	197		508	1	SR	☒ ☐	
			12:03	BO			53° 49.199	129° 59.215		187	-			☐ ☐	
			12:07	EN			53° 49.218	129° 59.264			-			☐ ☐	
104	Grc32	13	12:42	BE	ROS		53° 46.390	129° 54.930	187		 	 	SR	☒ ☐	
			12:48	BO			53° 46.370	129° 54.910		182	-			☐ ☐	
			12:52	EN			53° 46.370	129° 54.920			-			☐ ☐	
105	Grc27	13	13:38	BE	ROS		53° 43.210	129° 49.280	218		 	 	SR	☒ ☐	
			13:41	BO			53° 43.230	129° 49.300		212	-			☐ ☐	
			13:48	EN			53° 43.240	129° 49.270			-			☐ ☐	
			:				.	.			-			☐ ☐	

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SET = Fish Set

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NET = Plankton Net Haul
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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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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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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month				Year		Vessel			Cruise ID						
OCTOBER				2020		J P TULLY			2020-083						
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
106	GRC23	13	14:27	BE	ROS	/	53° 39.40	129° 45.41	121		-		DS	☐	
			14:32	BO			53° 39.51	° 45.46		114	-			☐	
			14:34	BE			53° 39.55	129° 45.50			-			☐	
107	GRC19	13	15:16	BE	ROS	/	53° 38.55	129° 42.36	97		-		DS	☒	Strong current
			15:25	BO			° 36.58	° 42.38		85	-			☐	drifting
			15:27	EN		/	53° 36.59	129° 42.37			-			☐	
108	GRC16	13	16:04	BE			53° 33.73	129° 38.64	106		-		DS	☒	too much current
			16:15	BO			53° 33.78	129° 38.80		58	-			☐	aborted at 58
			16:16	EN			53° 33.80	129° 38.85			-			☐	
109	LAUNCH	13	19:18	BE	BOAT	/	53° 23.21	129° 08.41	396	0	-	/	SP	☐	WHALES ~6 →
110	VP43	13	19:50	BE	ROS	/	53° 24.88	129° 06.93	322		-		MG	☒	WHALES ~4
			19:57	BO			° 24.89	° 06.95		317	-			☐	
			20:02	EN			° 24.89	° 06.94			-			☐	
111	VP39	13	20:59	BE	ROS	/	53° 30.38	129° 03.94	160		-	/	MG	☒	WHALES ~2
			20:02	BO			° 30.37	° 03.94		154	-			☐	
			21:05	EN			° 30.37	° 03.94			-			☐	
112	VP39b	13	21:25	BE	ROS	/	53° 31.38	129° 02.94	104		-	/	MG	☒	WHALES ~3
			21:28	BO			° 31.38	° 02.97		99	-			☐	
			21:32	EN			° 31.37	° 02.98			-			☐	

Event Type:

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Bottle Firing Method:

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Notes:

Time Code:

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EVENT 109

ANDERSON LAUNCH VERNAY PASSAGE NEAR DOUG 45 DAVE SPEAR, HOWIE BLANKEN, GLENN COOPER

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month			Year			Vessel			Cruise ID						
OCTOBER			2020			J P TULLY			2020-083						
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
113	VP39c	13	21:53	BE	ROS	/	53° 32.20	129° 01.87	72		/	/	MG	☒ ☐	
			21:54	Bo			° 32.20	° 01.88		67	-			☐ ☐	
			21:56	EN			° 32.20	° 01.89			-			☐ ☐	
114	VP39d	13	22:12	BE	ROS	/	53° 32.41	129° 00.79	35		/	/	MG	☒ ☐	
			22:13	Bo			° 32.40	° 00.81		35	-			☐ ☐	Bottom 39M
			22:14	EN			° 32.39	° 00.82			-			☐ ☐	END 43M
115	UC31	13	22:31	BE	ROS	/	53° 32.19	128° 59.91	41		/	/	MG	☒ ☐	
			22:32	Bo			° 32.18	° 59.91		34	-			☐ ☐	
			22:32	EN			° 32.17	° 59.91			-			☐ ☐	END 38M
116	UC31	13	22:44	BE	ROS	US	53° 32.21	128° 59.78	45		524	1	MG	☒ ☐	SFC SURFACE
			22:45	Bo			° 32.20	° 59.79		37	-			☐ ☐	
			22:46	EN			° 32.19	° 59.80			-			☐ ☐	
117	UC32	13	23:06	BE	ROS	/	53° 31.30	128° 59.06	84		/	/	MG	☒ ☐	
			23:08	Bo			° 31.30	° 59.06		78	-			☐ ☐	
			23:09	EN			° 31.29	° 59.06			-			☐ ☐	
118	LOOP118	13	23:18	BE	LOOP	/	53° 30.90	128° 58.80	90	4.5	5118	/	MG	☐ ☐	1 SAL 2 CHL
119	UC33	13	23:32	BE	ROS	/	° 30.29	° 58.80	95		/	/	MG	☒ ☐	
			23:34	Bo			° 30.29	° 58.79		89	-			☐ ☐	
			23:35	EN			° 30.29	° 58.79			-			☐ ☐	

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>OCTOBER</u>				Year <u>2020</u>			Vessel <u>IP TULLY</u>			Cruise ID <u>2020-083</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
120	UC43	13	23:59	BE	ROS	/	53° 28.98	128° 58.67	109		/	/	MG	☒ ☐	
		14	00:01	BO			° 28.98	° 58.68		103	-			☐ ☐	
			00:02	EN			° 28.97	° 58.69			-			☐ ☐	110@SURFACE
121	VP46e	14	01:00	BE	ROS	/	53° 32.82	129° 00.12	222		/	/	MG	☒ ☐	
			01:04	BO			° 32.84	° 00.12		219	-			☐ ☐	227@BOTTOM
			01:08	EN			° 32.86	° 00.11			-			☐ ☐	
122	VP46e	14	01:17	BE	NET	/	53° 32.85	129° 00.112	251		/	/	MG	☐ ☐	Bongo
			01:27	BO			° 32.88	° 00.042		246	-			☐ ☐	
			01:30	EN			° 32.892	° 00.022			-			☐ ☐	
123	VP39D	14	01:48	BE	ROS	-	53° 32.410	129° 0.590	38		-	-	SP	☒ ☐	
			01:49	BO			° 32.410	° 0.540			-			☐ ☐	
			01:50	EN			° 32.410	° 0.540			-			☐ ☐	
124	VP46D	14	02:12	BE	ROS	-	53° 33.690	128° 58.650	239		/	/	SR	☐ ☐	NO!
			02:18	BO			53° 33.690	128° 58.610		233	-			☐ ☐	
			02:22	EN			53° 33.680	128° 58.530			-			☐ ☐	
125	VP46C	14	02:39	BE	ROS	/	53° 33.542	128° 56.876	238		/	/	SR	☒ ☐	
			02:45	BO			53° 33.506	128° 56.816		231	-			☐ ☐	
			02:49	EN			53° 33.491	128° 56.765			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Notes:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>October</u>		Year <u>2020</u>		Vessel <u>Tully</u>		Cruise ID <u>2020-083</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
126	VP46B	14	03:12	BE	ROS	/	53° 32.910	128° 55.060	224		-	/	SR	☒	
			03:17	BO			53° 32.930	128° 55.020		218	-			☐	
			03:21	EN			53° 32.940	128° 55.000			-			☐	
127	VP46	14	03:43	BE	ROS	/	53° 32.880	128° 53.200	208		-	/	SR	☒	
			03:49	BO			53° 32.870	128° 53.200		202	-			☐	
			03:52	EN			53° 32.870	128° 53.180			-			☐	
128	VP46E	14	04:31	BE	ROS	/	53° 32.830	129° 0.100	215		-	/	SR	☒	
			04:37	BO			53° 32.820	129° 0.070		206	-			☐	
			04:41	EN			53° 32.820	129° 0.060			-			☐	
129	VP39C	14	04:55	BE	ROS	/	53° 32.174	129° 1.652	72		-	/	SR	☒	
			05:02	BO			53° 32.190	129° 1.633		66	-			☐	
			05:04	EN			53° 32.192	129° 1.628			-			☐	
130	VP39C	14	05:08	BE	NET	/	53° 32.202	129° 1.608	72		-		SR	☐	Bongo VNH
			05:12	BO			53° 32.210	129° 1.606		67	-			☐	
			05:13	EN			53° 32.212	129° 1.604			-			☐	
131	MKY1	14	07:09	BE	ROS	/	53° 17.750	129° 6.890	521		-	/	SR	☒	
			07:21	BO			53° 17.800	129° 6.960		501	-			☐	
			07:30	EN			53° 17.810	129° 6.950			-			☐	
			:				°	°			-			☐	

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>October</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-083</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							
132	FR58	14	08:54	BE	ROS		53° 15.583	128° 50.575	532		-		SP	☒	
			09:04	BO			53° 15.600	128° 50.546		527	-			☐	
			09:13	EN			53° 15.594	128° 50.513			-			☐	
133	FR63	14	09:48	BE	ROS		53° 12.220	128° 44.920	527		-		SP	☒	
			10:00	BO			53° 12.200	128° 44.870		522	-			☐	
			10:08	EN			53° 12.210	128° 44.860			-			☐	
134	FR53	14	11:07	BE	ROS		53° 18.299	128° 53.746	390±10		-		SP	☒	
			11:15	BO			53° 18.288	128° 53.754	395	390	-			☐	
			11:21	EN			53° 18.270	128° 53.760			-			☐	
135	UC50	14	11:50	BE	ROS		53° 21.084	128° 54.378	465		-		SP	☒	
			11:59	BO			53° 21.043	128° 54.360	462	457	-			☐	
			12:06	EN			53° 21.020	128° 54.400			-			☐	
136	UC45	14	12:49	BE	ROS		53° 26.040	128° 55.500	394		-		SP	☒	
			12:56	BO			53° 26.030	128° 55.490	392	387	-			☐	
			13:02	EN			53° 26.030	128° 55.530			-			☐	
137	LOOP137	14	15:10	BE	LOOP	/	53° 31.02	128° 45.16	204	4.5	5137	/	MG	☐	1 SAL 2 CHL
138	LAUNCH	14	15:36	BE	BOAT	/	53° 28.85	128° 38.96	172	0	-		SP	☐	→
139	LAUNCH	14	:	BE	BOAT		°	°			-		SP	☐	→
			:				°	°			-			☐	

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EVENT 138 LAUNCH ANDERSON GLENN COOPER HAUKE BLANKEN DAVE SPEAR ALAN REACH
EVENT 139 LAUNCH TULLY ERC MOIRA GALBRAITH STEPHEN PAGE JIMMY
JEAN PAUL KITLOPE RIVER
launch 1700 return 2100
sampled Kitlope R @ 1208 53.12.645
127 50.626

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month <u>October</u>		Year <u>2020</u>		Vessel <u>Tully</u>		Cruise ID <u>2020-083</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							
140	GC74	14	21:05	BE	ROS	US	53° 15.76	127° 55.44	141		536-537	2	SP	☒	
			21:08	BO			° 15.76	° 55.44		134	-			☐	
			21:12	EN			° 15.77	° 55.44			-			☐	
141	GC68	14	22:04	BE	ROS	US	53° 20.63	127° 59.61	227		534-535	2	MG	☒	
			22:09	BO			° 20.62	° 59.60		222	-			☐	CRANE STICKING
			22:14	EN			° 20.62	° 59.58			-			☐	
142	GC60	14	23:19	BE	ROS	US	53° 25.72	128° 05.38	265		532-533	2	MG	☒	
			23:24	BO			° 25.72	° 05.39		259	-			☐	CRANE STICKING
			23:30	EN			° 25.72	° 05.39			-			☐	
143	GC60	14	23:38	BE	DRF	/	53° 25.72	128° 05.38	260	0	/	/	HB	☐	
144	KITLOPE	14	19:08	BE	SURFACE SET		53° 12.645	127° 50.626			538-538	1	SP	☐	SCT 1202, 1210
145	GC51	15	00:38	BE	ROS		53° 28.340	128° 18.820	485		-			☒	
			00:47	BO			53° 28.37	128° 18.87		476	-			☐	
			00:56	EN			53° 28.38	128° 18.93			-			☐	
146	GC51	15	01:05	BE	NET		53° 28.30	128° 18.99	496		-			☐	
			01:20	BO			53° 28.36	128° 18.99		450	-			☐	BONGO
147	GC44	15	02:28	BE	ROS		53° 25.930	128° 27.030	400		-			☐	
			02:40	BO			53° 25.930	128° 27.050		404	-		RA	☒	RBR 204694
			02:47	EN			53° 25.940	128° 27.060			-			☐	

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Month <u>October</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-083</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
148	GC38	15	03:48	BE	ROS		53°25.950	128°27.060	234	229	527-528	2	RH	☒ ☐	RBR
			:	BO			.	.		229	-			☐ ☐	Missed BO TIME/LAT LONG
			03:51	EN			53°27.050	128°35.870			526 -	1 2		☐ ☐	RBR
149	GC31	15	04:38	BE	ROS		53°31.510	128°43.430	207		526 -	1	SM	☐ ☐	+RBR
			04:44	BO			53°31.500	128°43.430		202	-			☐ ☐	
			04:48	EN			53°31.490	128°43.430			-			☐ ☐	
150	GC28	15	05:09	BE	ROS		53°32.180	128°46.070	207		-		SM	☒ ☐	+RBR
			05:15	BO			53°32.190	128°46.080		194	-			☐ ☐	
			05:18	EN			53°32.190	128°46.070			-			☐ ☐	
151	GC26	15	05:44	BE	ROS		53°34.020	128°47.500	207		-		SM	☒ ☐	+RBR
			05:49	BO			53°34.020	128°47.480	177	172	-			☐ ☐	Lab computer crashed so depth 207m wrong.
			05:53	EN			53°34.020	128°47.480			-			☐ ☐	
152	GC26	15	05:58	BE	Drifter		53°34.020	128°47.480		0	-		SM	☐ ☐	#1195 As steamed away
153	DeC26	15	06:20	BE	ROS		53°34.309	128°50.990	165		525	1	SM	☐ ☐	+RBR
			06:26	BO			53°34.334	128°50.969		159	-			☐ ☐	
153	DeC26		06:30	EN	ROS		53°34.361	128°50.939			-			☐ ☐	
154	DeC26	15	06:40	DE	DRF		53°34.679	128°50.609	151		-			☐ ☐	1204 Serial
			:	EN			.	.			-			☐ ☐	SET
			:				.	.			-			☐ ☐	

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Month <u>October</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-083</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
155	Dec24	15	06:54	BE	ROS		53°35.940	128°50.480	175		/	/	SN	☒	
			07:01	BO			53°35.932	128°50.533		163	-			☐	
			07:04	EN			53°35.936	128°50.532			-			☐	
156	Dec24	15	07:12	DE	DRF		53°35.955	128°50.479	177		-		SN	☐	1212 Serial
157	Dec21	15	07:43	BE	ROS		53°38.370	128°51.590	215		/	/	RH	☒	+RBR
			07:49	BO			53°38.360	128°51.580		229	-	/		☐	
			07:53	EN			53°38.370	128°51.580			-			☐	
158	Dec19	15	08:09	BE	ROS		53°39.300	128°52.430	270		/	/	RH	☒	+RBR
			08:20	BO			53°39.290	128°52.390		263	-			☐	
			08:24	EN			53°39.290	128°52.390			-			☐	
159	Dec15	15	09:12	BE	ROS		53°42.710	128°48.500	317		-		SN	☒	+RBR
			09:20	BO			53°42.710	128°48.500		310	-			☐	
			09:26	EN			53°42.710	128°48.510			-			☐	
160	Dec12	15	10:07	BE	ROS		53°46.661	128°49.507	305		540	1	SN	☒	+RBR
			10:15	BO			53°46.660	128°49.500		300	-			☐	
			10:21	EN			53°46.654	128°49.501			-			☐	
161	Dec12	15	10:42	BE	ROS		53°48.200	128°50.330	357		/	/	SN	☐	+RBR
			10:51	BO			53°48.210	128°50.320		350	-			☐	
			10:57	EN			53°48.220	128°50.310			-			☐	

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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
162	Doug11	15	11:19	BE	ROS	US	53°49.820	128°49.300	325		541-550	10	SM	☒	
			11:28	BO			53°49.800	128°49.310		320	-			☐	
			11:41	EN			53°49.780	128°49.360			-			☐	
163	Doug08	15	12:30	BE	ROS	US	53°52.080	128°46.050	301		551-	1	SP	☒	Oxygen sensor
			12:36	BO			53°52.110	128°46.030		294	-			☐	v. different on
			12:42	EN			53°52.110	128°46.020			-			☐	upcast than
164	Doug06	15	13:30	BE	ROS	US	53°54.108	128°44.113	257		552-553	2	SL	☒	downcast, and
			13:38	BO			53°54.008	128°44.162		251	-			☐	looks too low.
			13:45	EN			53°54.077	128°44.171			-			☐	+RBL
165	Doug05a	15	14:16	BE	ROS	/	53°54.96	128°44.11	92		-	-	MG	☒	
			14:18	BO			° 54.96	° 44.10		97	-			☐	100 @ BOTTOM
			14:20	EN			° 54.95	° 44.09			-			☐	
166	Doug05b	15	14:33	BE	ROS	/	53°54.89	128°43.83	158		-	-	MG	☒	
			14:36	BO			° 54.88	° 43.82		162	-			☐	167 @ BOTTOM
			14:39	EE			° 54.88	° 43.81			-			☐	
167	Doug05	15	15:51	BE	ROS	/	53°54.75	128°43.82	222		-	-	MG	☒	
			15:56	BO			° 54.75	° 43.47		217	-			☐	
			16:00	EN			° 54.75	° 43.47			-			☐	
168	Doug05	15	15:03	BE	Boat	/	53°54.75	128°43.47	223	0	-	-	SP	☐	LAUNCH

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EVENT 164

lots of wood pieces in water at station

EVENT 168

ANDERSON AWAY DAVID SPEAR GLENN COOPER HAIKE BLANKEN KITIMAT HARBOUR