

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

IOS 2019-052

SOG 2019-02

DATE:

From: 18 JUNE 2019

To: 6 JULY 2019

VESSEL:

Sea Crest

PROJECT(S):

SOG Juvenile Salmon - Neville

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

WaterProperties.ca

Captain: Nathan Dabie First Officer: James Brown
Second Officer: Terry Mosher Third Officer: Gerry Surko
Fishing Master: _____ Chief Engineer: Brad

Mission Participants / Agencies:

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

1 st Leg Scientific Personnel:		Chief Scientist:	
Name	Watch Cabin	Name	Watch Cabin
Brian Recalma	1	Chrys Neville	2
Colleen Haddad	2		
Lenora Turcotte	2		
Yeongha Jung	1		
Christoph Deeg	1		
Jason Parsley	1		

[illegible]

**** 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: _____

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

Primary CTD

Make: Sea Bird model: 25 serial number: 01104

Primary temperature serial number: 4843

Primary conductivity serial number: 1764

Secondary temperature serial number: _____

Secondary conductivity serial number: _____

Transmissometer: _____ Model: _____ s/n: _____

Transmissometer: _____ Model: _____ s/n: _____

Fluorometer: Model FLRTD Cable gain: _____ s/n: 2216 P, S or NO pump?

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

Oxygen sensor: _____ Model: 43 s/n: 1176 P, S or NO pump?

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

Other sensors: PARSIC Model: 29 s/n: 0464 P, S or NO pump?

Other sensors: PH Model: 18-I s/n: 0852 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: Sea Bird model: 19+ serial number: 5299

Primary temperature serial number: 4862

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: 43 s/n: 0047 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)

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: 600 cm Mesh: 250 μ m Flowmeter: 7292
Bongo #2 Frame Size: _____ cm Mesh: _____ μ m Flowmeter: _____
 Frame Size: _____ cm Mesh: _____ μ m Flowmeter: _____

Multinet ☐ BIONESS ☐ Neuston ☐ Others: _____

FM $coeff = 0.1437$ _____

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

DAILY SCIENCE LOG

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Month <u>JUNE</u>				Year <u>2019</u>		Vessel <u>Sea Crest</u>				Cruise ID <u>2019-052</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							
001	1	18	16:49	BE	SET		49°22.700	123°33.700	102	0	-			☐ ☐	
002	2	18	18:00		SET		49°23.810	123°38.880	135	15	-			☐ ☐	
003	3	18	19:00		SET		49°24.490	123°42.730	187	30	-			☐ ☐	
004	3	18	20:04		CTD		49°24.960	123°45.255	167	150	-		YJ	☐ ☐	
005	3	18	20:17		NET		49°25.018	123°45.172	166	150	-		YJ	☐ ☐	FM 11340-12302
006	4	18	20:50		SET		49°25.230	123°45.650	165	0	-			☐ ☐	
007	5	18	21:47		SET		49°25.470	123°49.560	179	30	-			☐ ☐	
008	6	18	23:00		SET		49°21.940	123°30.780	323	15	-			☐ ☐	
009	6	18	23:50		CTD		49°22.398	123°53.540	234	220	-		YJ	☐ ☐	
010	6	19	00:02		NET		49°22.449	123°53.584	251	220	-		YJ	☐ ☒	FM 12305-13668
011	7	19	00:32		SET		49°23.080	123°53.780	202	0	-			☐ ☐	
012	8	19	14:04		SET		49°26.660	123°55.490	225	0	-			☐ ☐	VERY STRONG WIND
013	8	19	15:26		CTD		49°27.605	123°58.286	210	200	-		YJ	☐ ☐	NET CANCELLED DUE TO WEATHER
014	9	19	16:35		SET		49°29.010	124°03.560	191	30	-			☐ ☐	Malaspina
015	10	19	18:00		SET		49°31.490	124°04.630	223	15	-			☐ ☐	25m for 3 min
016	11	19	19:33		SET		49°36.200	124°09.810	184	0	-			☐ ☐	STRONG TIDE
017	12	19	21:06		SET		49°39.090	124°15.450	340	15	-			☐ ☐	
018	12	19	21:58		CTD		49°37.358	124°13.586	322	250	-		YJ	☐ ☐	DATA DOWNLOAD Vmain=12.6
019	12	19	22:20	↓	NET		49°36.200	124°12.865	320	250	-		YJ	☐ ☐	DAS RBR ON

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
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Bottle Firing Method:

US = Up / Stop (default)
UN = Up / No stop
DN = Down / No stop

Time Code:

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

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Notes:

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							Latitude	Longitude							
020	13	19	23:11	BE	SET		49°39.580	124°16.740	348	40	-			☐ ☐	
021	14	20	00:40		SET		49°43.930	124°20.540	301	0	-			☐ ☐	
022	14	20	02:31		CTD		49°46.012	124°26.072	95	80	-		YJ	☐ ☐	
023	14	20	02:40		NET		49°46.013	124°25.802	68	60	-		YJ	☐ ☒	FW 17342-18110
024	15	20	14:00		SET		49°50.000	124°46.150	199	0	-			☐ ☐	
025	15	20	14:48		CTD		49°50.938	124°49.097	192	180	-		CH	☐ ☐	
026	15	20	15:02		NET		49°50.858	124°48.917	192	180	-		CH	☐ ☐	FW 18115-20389
027	16	20	15:33		SET		49°51.580	124°49.870	192	15	-			☐ ☐	STRONG HEADWIND
028	17	20	16:32		SET		49°52.980	124°51.870	252	30	-			☐ ☐	
029	18	20	17:55		SET		49°52.020	124°54.620	110	0	-			☐ ☐	
030	18	20	18:46		CTD		49°50.527	124°56.401	229	220	-		CH	☐ ☐	
031	18	20	18:59		NET		49°50.379	124°56.347	214	200	-		CH	☐ ☒	FW 20389 - 22740
032	19	20	19:42		SET		49°51.530	124°58.180	252	35	-			☐ ☐	STRONG TIDE BOTH SIDE
033	20	20	20:55		SET		49°49.510	124°58.860	115	0	-			☐ ☐	MAIN HYDROLOG FAILED
034	21	21	14:10		SET		49°52.770	125°03.340	109	0	-			☐ ☐	
035	21	21	14:58		CTD		49°53.981	125°05.609	118	110	-		CH	☐ ☐	
036	21	21	15:08		NET		49°54.005	125°05.663	116	100	-		CH	☐ ☐	FW 22743-23553
037	22	21	15:30		SET		49°54.490	125°04.850	126	15	-			☐ ☐	
038	23	21	16:30	↓	SET		49°55.380	125°05.380	157	30	-			☐ ☐	CROSS CURRENT

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039	23	21	17:22		CTD		49°55.953	125°02.569	299	250	-		CH	☐ ☐	
040	23	21	17:36		NET		49°55.866	125°02.644	293	250	-		CH	☐ ☐	FW23553-25652
041	24	21	18:07		SET		49°55.890	125°00.500	211	0	-			☐ ☐	
042	25	21	19:08		SET		49°56.880	124°56.290	178	15	-			☐ ☐	STRONG TIDE
043	26	21	21:00		SET		49°58.790	124°00.420	142	0	-			☐ ☐	
044	27	21	22:00		SET		50°00.900	125°04.520	246	40	-			☐ ☐	
045	28	21	22:56		SET		50°03.430	125°06.400	245	15	-			☐ ☐	
046	28	21	23:43		CTD		50°05.072	125°08.166	223	210	-		CH	☐ ☒	
047	28	22	00:13		NET		50°05.004	125°08.172	223	210	-		CH	☐ ☐	FW26715-28112 NET FLIPPED REDONE
048	29	22	00:40		SET		50°06.050	125°07.520	177	30	-			☐ ☐	
049	30	22	14:04		SET		50°07.970	125°05.590	203	0	-			☐ ☐	
050	30	22	14:45		CTD		50°08.671	125°04.053	299	295	-		CH	☐ ☐	
051	30	22	15:00		NET		50°08.472	125°04.194	210	200	-		CH	☐ ☐	FW 28112-30355
052	31	22	15:52		SET		50°10.150	125°01.150	461	15	-			☐ ☐	
053	32	22	16:56		SET		50°10.320	125°00.680	400	0	-			☐ ☐	
054	33	22	18:05		SET		50°12.280	124°59.920	471	0	-			☐ ☐	
055	33	22	18:46		CTD		50°13.531	125°01.513	489	250	-		CH	☐ ☐	
056	33	22	19:02		NET		50°13.322	125°01.537	489	250	-		CH	☐ ☐	FW30355-33138
057	34	22	20:58		SET		50°17.080	124°58.310	509	0	-			☐ ☐	

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							Latitude	Longitude							
058	35	22	21:52	BE	SET		50°19.240	124°55.170	430	0	-			☐ ☐	STRONG CURRENT
059	35	22	22:36		CTD		50°18.523	124°52.568	499	250	-		CH	☐ ☐	
060	35	22	22:51		NET		50°18.510	124°52.417	445	250	-		CH	☐ ☐	FW 33188-34699
061	36	22	23:47		SET		50°19.360	124°58.090	439	15	-			☐ ☐	
062	37	23	00:35		SET		50°19.440	125°01.430	260	0	-			☐ ☐	
063	37	23	01:23		CTD		50°18.575	125°04.817	347	250	-		CH	☐ ☒	
064	37	23	01:41		NET		50°18.481	125°04.610	347	250	-			☐ ☐	FW 34699-36370
065	38	23	14:10		SET		50°18.160	125°19.570	85	0	-			☐ ☐	
066	39	23	15:04		SET		50°19.680	125°19.660	87	0	-			☐ ☐	
067	40	23	16:00		SET		50°18.100	125°19.580	86	15	-			☐ ☐	
068	40	23	16:44		CTD		50°18.530	125°17.408	120	110	-		CH	☐ ☐	
069	40	23	16:52		NET		50°18.536	125°17.430	120	110	-		CH	☐ ☐	FW 36372-37085
070	41	23	17:40		SET		50°17.510	125°19.830	104	0	-			☐ ☐	
071	42	23	18:30		SET		50°18.450	125°24.820	135	0	-			☐ ☐	
072	43	23	19:36		SET		50°18.520	125°24.820	164	0	-			☐ ☐	
073	44	23	20:45		SET		50°21.570	125°23.380	242	0	-			☐ ☐	
074	44	23	22:25		CTD		50°21.290	125°20.020	75	60	-		CH	☐ ☒	
075	44	23	22:31		NET		50°21.287	125°19.996	75	60	-		CH	☐ ☐	FW 37085-39402
076	45	24	23:42	✓	SET		50°21.340	125°20.170	75	0	-			☐ ☐	

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077	46	24	00:30	BE	SET		50°22.270	125°21.250	204	15	-			☐ ☐	
078	47	24	14:03		SET		50°18.140	125°19.560	86	0	-			☐ ☐	
079	47	24	14:44		CTD		50°18.501	125°17.090	121	110	-		CH	☐ ☐	
080	47	24	14:53		NET		50°18.482	125°17.112	121	110	-		CH	☐ ☐	FW 37402-38113
081	48	24	15:38		SET		50°17.310	125°21.250	114	0	-			☐ ☐	
082	49	24	16:22		SET		50°18.130	125°19.560	87	0	-			☐ ☐	
083	50	24	18:05		SET		50°19.910	125°07.340	286	0	-			☐ ☐	
084	50	24	19:23		CTD		50°17.675	125°03.148	262	250	-		CH	☐ ☐	
085	50	24	19:39		NET		50°17.640	125°03.197	262	250	-		CH	☐ ☐	FW 38113-40690
086	51	24	21:03		SET		50°15.210	124°59.890	490	0	-			☐ ☐	STRONG EBB
087	51	24	21:53		CTD		50°13.720	124°58.298	318	250	-		CH	☐ ☒	
088	51	24	22:10		NET		50°13.990	124°58.621	324	250	-		CH	☐ ☐	FW 40690-43787 DAS
089	52	24	23:33		SET		50°07.410	124°52.510	195	0	-			☐ ☐	
090	53	25	00:21		SET		50°05.540	124°49.240	471	0	-			☐ ☐	
091	54	25	13:58		SET		50°07.630	124°46.670	482	0	-			☐ ☐	
092	55	25	15:02		SET		50°08.720	124°44.790	396	30	-			☐ ☐	BUCKING TIDE
093	56	25	16:02		SET		50°10.250	124°44.910	284	0	-			☐ ☐	
094	56	25	16:50		CTD		50°12.227	124°45.699	398	250	-		CH	☐ ☐	
095	56	25	17:07	↓	NET		50°12.238	124°45.807	398	250	-		CH	☐ ☐	FW 43789-44762

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							Latitude	Longitude							
096	57	25	17:40	BE	SET		50°12.610	124°46.700	460	15	-			☐ ☐	
097	58	25	18:06		SET		50°08.870	124°44.400	537	15	-			☐ ☐	
098	59	25	20:57		SET		50°03.440	124°51.980	442	0	-			☐ ☐	
099	59	25	21:42		CTD		50°02.613	124°54.047	327	250	-		CH	☐ ☐	
100	59	25	21:58		NET		50°02.705	124°54.123	327	250	-		CH	☐ ☐	FW 447602-46448
101	60	25	22:30		SET		50°02.910	124°53.840	209	15	-			☐ ☐	
102	61	25	23:32		SET		50°01.520	124°53.890	295	0	-			☐ ☐	
103	62	26	00:31		SET		49°59.040	124°50.290	256	0	-			☐ ☐	
104	62	26	01:30		CTD		49°57.828	124°48.809	155	140	-		CH	☐ ☒	
105	62	26	01:41		NET		49°57.787	124°48.124	155	140	-		CH	☐ ☐	FW 46448-47306
106	63	26	14:03		SET		49°54.660	124°41.380	155	0	-			☐ ☐	
107	64	26	16:42		SET		49°45.210	124°23.430	151	15	-			☐ ☐	
108	65	26	17:39		SET		49°45.900	124°27.910	314	0	-			☐ ☐	
109	65	26	19:15		CTD		49°46.417	124°32.628	307	250	-		YJ	☐ ☐	
110	65	26	19:33		NET		49°46.430	124°32.876	294	250	-		YJ	☐ ☐	FW 47306-48764
111	66	26	21:50		SET		49°48.500	124°42.470	172	30	-			☐ ☐	
112	67	26	22:44		SET		49°45.640	124°43.070	29	0	-			☐ ☐	
113	68	26	23:40		SET		49°43.160	124°48.060	144	15	-			☐ ☐	
114	69	27	00:32	↓	SET		49°40.680	124°47.380	96	0	-			☐ ☐	

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
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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
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Month <u>JUNE</u>				Year <u>2019</u>		Vessel <u>Sea Crest</u>				Cruise ID <u>2019-052</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
115	69	27	01:29	BE	CTD		49°38.563	124°45.621	124	110	-		YJ	☐ ☒	PH Solution replaced
116	69	27	01:39		NET		49°38.481	124°45.681	116	110	-		YJ	☐ ☐	FW 48764-49562
117	70	27	14:14		SET		49°35.590	124°44.000	97	0	-			☐ ☐	
118	71	27	15:16		SET		49°36.560	124°42.550	119	45	-			☐ ☐	
119	71	27	16:15		CTD		49°38.047	124°41.244	139	130	-		YJ	☐ ☐	DATA DOWNLOAD V _{main} = 11.4
120	71	27	16:26		NET		49°38.070	124°41.553	143	120	-		YJ	☐ ☐	FW 49562-51240 DAS STRONG WIND/CURR
121	72	27	16:51		SET		49°38.950	124°40.760	135	0	-			☐ ☐	
122	73	27	18:09		SET		49°41.130	124°39.690	193	15	-			☐ ☐	
123	74	27	19:16		SET		49°42.080	124°38.350	280	0	-			☐ ☐	STRONG TIDE
124	75	27	20:25		SET		49°41.050	124°33.240	176	30	-			☐ ☐	FLOOD TIDE
125	75	27	21:16		CTD		49°39.972	124°31.883	208	200	-		YJ	☐ ☒	
126	75	27	21:31		NET		49°40.272	124°32.338	194	180	-		YJ	☐ ☐	FW 51240-53490
127	76	27	22:13		SET		49°38.480	124°24.980	324	15	-			☐ ☐	STRONG FLOOD 15-30m 15 KNOT SE WIND
128	77	27	23:45		SET		49°35.110	124°23.520	180	30	-			☐ ☐	
129	78	28	01:06		SET		49°33.900	124°23.630	283	0	-			☐ ☐	STRONG TIDE
130	79	28	14:32		SET		49°32.830	124°26.389	127	0	-			☐ ☐	
131	79	28	15:38		CTD		49°32.110	124°28.918	177	170	-		YJ	☐ ☐	
132	79	28	15:52		NET		49°32.287	124°28.830	168	150	-		YJ	☐ ☐	FW 53490-54772
133	80	28	16:16	✓	SET		49°31.780	124°28.650	186	45	-			☐ ☐	STRONG TIDE

Event Type:

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Month <u>JUNE</u>				Year <u>2019</u>		Vessel <u>Sea Crest</u>				Cruise ID <u>2019-052</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							
134	81	28	17:20	BE	SET		49°30.490	124°31.610	175	0	-			☐ ☐	STRONG TIDE
135	82	28	18:33		SET		49°28.430	124°36.990	163	30	-			☐ ☐	
136	83	28	19:32		SET		49°26.610	124°35.950	128	15	-			☐ ☐	STRONG TIDE
137	83	28	20:11		CTD		49°25.756	124°33.699	136	130	-		YJ	☐ ☐	
138	83	28	20:23		NET		49°25.815	124°33.996	132	120	-		YJ	☐ ☐	FW54722-55800
139	84	28	20:53		SET		49°25.270	124°32.430	147	0	-			☐ ☐	STRONG TIDE
140	85	28	22:16		SET		49°23.190	124°26.900	134	15	-			☐ ☐	
141	86	28	23:06		SET		49°23.980	124°27.990	179	0	-			☐ ☐	
142	87	29	00:09		SET		49°25.170	124°23.490	349	30	-			☐ ☐	
143	87	29	01:02		CTD		49°27.353	124°22.197	322	250	-		YJ	☐ ☒	
144	87	29	01:23		NET		49°27.529	124°22.734	324	250	-		YJ	☐ ☐	FW55800-58280
145	88	29	13:52		SET		49°26.910	124°19.720	500	0	-			☐ ☐	
146	88	29	14:49		CTD		49°24.359	124°18.922	350	250	-		YJ	☐ ☐	SLOWED AT 40m DOWN
147	88	29	15:09		NET		49°24.418	124°19.024	350	250	-		YJ	☐ ☐	FW 58380-59932
148	89	29	15:45		SET		49°22.690	124°17.280	309	15	-			☐ ☐	
149	90	29	16:38		SET		49°20.700	124°14.990	238	0	-			☐ ☐	
150	91	29	17:48		SET		49°23.380	124°11.370	336	30	-			☐ ☐	
151	92	29	18:45		SET		49°26.140	124°08.960	126	15	-			☐ ☐	
152	92	29	19:38		CTD		49°27.914	124°07.725	254	240	-		YJ	☐ ☒	

Event Type:

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Month <u>JUNE / JULY</u>				Year <u>2019</u>		Vessel <u>Sea Crest</u>				Cruise ID <u>2019-052</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							
153	92	29	19:54	BE	NET		49°27.963	124°07.776	247	240	-		YJ	☐ ☐	FW 59932-62060
154	93	29	20:24		SET		49°29.090	124°06.150	401	0	-			☐ ☐	
155	94	30	14:03		SET		49°13.900	123°48.650	236	0	-			☐ ☐	
156	95	30	15:15		SET		49°15.950	123°43.510	405	30	-			☐ ☐	
157	95	30	16:07		CTD		49°18.020	123°41.781	277	250	-		YJ	☐ ☐	
158	95	30	16:24		NET		49°18.145	123°41.827	272	250	-		YJ	☐ ☐	FW 62060-64812
159	96	30	17:00		SET		49°19.330	123°39.260	259	15	-			☐ ☐	
160	97	30	18:25		SET		49°21.080	123°34.900	160	0	-			☐ ☐	
161	98	30	19:20		SET		49°20.910	123°30.300	194	30	-			☐ ☐	
162	98	30	20:04		CTD		49°20.416	123°27.612	119	110	-		YJ	☐ ☐	
163	98	30	20:15		NET		49°20.462	123°27.443	114	100	-		YJ	☐ ☐	FW 64812-65600
164	99	30	20:57		SET		49°23.530	123°25.150	170	0	-			☐ ☐	
165	100	30	21:55		SET		49°26.570	123°23.360	133	0	-			☐ ☐	
166	101	30	22:58		SET		49°27.330	123°27.630	120	0	-			☐ ☐	
167	101	30	23:43		CTD		49°29.249	123°27.315	190	190	-		YJ	☐ ☒	WENT 190m DUE TO MISCOMMUNICATION
168	101	30	23:57		NET		49°29.333	123°27.218	189	180	-		YJ	☐ ☐	FM 63600-66695
169	102	1	00:27		SET		49°31.010	123°26.720	224	15	-			☐ ☐	
170	103	1	13:57		SET		49°25.060	123°23.000	238	0	-			☐ ☐	STRONG TIDE
171	104	1	15:21	✓	CTD		49°31.615	123°16.459	224	210	-		YJ	☐ ☐	CTD FIRST

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Notes: _____

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Month <u>JULY</u>				Year <u>2019</u>			Vessel <u>Sea Crest</u>			Cruise ID <u>2019-052</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
172	104	1	15:36	BE	NET		49°30.787	123°16.514	232	220	-		YJ	☐ ☐	FM66695-68360
173	104	1	16:03		SET		49°29.900	123°16.860	239	0	-			☐ ☐	
174	105	1	16:58		SET		49°25.880	123°15.860	238	15	-			☐ ☐	
175	106	1	17:50		SET		49°23.700	123°18.370	234	0	-			☐ ☐	
176	107	1	18:37		SET		49°22.010	123°19.350	222	15	-			☐ ☐	
177	107	1	19:15		CTD		49°20.608	123°20.565	235	220	-		YJ	☐ ☒	V _{max} = 11.3
178	107	1	19:41		NET		49°20.648	123°20.480	238	230	-		YJ	☐ ☐	FM = 68360-69654.
179	108	1	20:46		SET		49°14.910	123°18.170	110	0	-			☐ ☐	STRONG FLOOD
180	109	1	21:57		SET		49°12.250	123°19.340	149	0	-			☐ ☐	STRONG TIDE
181	110	1	23:18		SET		49°09.140	123°24.200	222	15	-			☐ ☐	
182	111	2	13:59		CTD		49°02.314	123°17.009	106	100	-		YJ	☐ ☐	CTD FIRST
183	111	2	14:09		NET		49°02.317	123°16.995	105	90	-		YJ	☐ ☐	FM 69654-70885
184	111	2	14:32		SET		49°01.790	123°15.930	98	0	-			☐ ☐	
185	112	2	16:06		SET		49°00.300	123°17.540	175	0	-			☐ ☐	STRONG TIDE
186	113	2	17:36		SET		49°02.940	123°17.900	90	0	-			☐ ☐	STRONG CURRENT
187	113	2	18:31		CTD		49°04.630	123°19.797	120	110	-		YJ	☐ ☐	
188	113	2	18:40		NET		49°04.704	123°20.013	128	120	-		YJ	☐ ☐	FM 70385-72040
189	114	2	19:52		SET		49°07.300	123°19.470	97	0	-			☐ ☐	
190	115	2	21:21	✓	SET		49°05.700	123°23.710	229	30	-			☐ ☐	

Event Type:

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Month <u>JULY</u>				Year <u>2019</u>		Vessel <u>Sea Crest</u>				Cruise ID <u>2019-052</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							
191	116	2	22:31	BE	SET		49°06.110	123°28.150	329	15	-			☐ ☐	
192	116	2	23:21		CTD		49°07.906	123°30.777	359	250	-		YJ	☐ ☒	
193	116	2	23:40		NET		49°08.390	123°30.916	357	250	-		YJ	☐ ☐	FM 72040-74352
194	117	3	00:30		SET		49°06.770	123°32.770	279	0	-			☐ ☐	
195	118	3	14:15		SET		49°07.030	123°36.990	198	0	-			☐ ☐	
196	118	3	15:03		CTD		49°04.528	123°35.368	206	200	-		YJ	☐ ☐	
197	118	3	15:19		NET		49°04.416	123°35.273	206	200	-		YJ	☐ ☐	FM 74352-75562
198	119	3	15:43		SET		49°03.670	123°35.530	169	15	-			☐ ☐	
199	120	3	16:40		SET		49°01.150	123°31.880	183	30	-			☐ ☐	
200	121	3	17:42		SET		48°57.800	123°28.180	100	0	-			☐ ☐	
201	121	3	18:33		CTD		48°56.352	123°24.764	110	100	-		YJ	☐ ☐	
202	121	3	18:42		NET		48°56.302	123°24.667	110	100	-		YJ	☐ ☐	FM 75562-76160
203	122	3	19:07		SET		48°56.600	123°22.700	173	45	-			☐ ☐	
204	123	3	20:37		SET		48°52.020	123°13.540	160	30	-			☐ ☐	
205	124	3	21:42		SET		48°49.730	123°08.600	156	0	-			☐ ☐	TIDE CHANGE HALF WAY
206	124A	3	22:30		CTD		48°48.980	123°05.955	169	160	-		YJ	☐ ☐	
207	124A	3	22:42		NET		48°49.087	123°06.354	171	160	-		YJ	☐ ☐	FM 76160-77510
208	124B	4	00:04		CTD		48°46.021	123°04.508	220	150*	STRONG CURRENT AREA		YJ	☐ ☒	124A and 124B NOT RELATED
209	124B	4	00:15	✓	NET		48°46.124	123°04.528	190	150	-		YJ	☐ ☐	FM 77510-79248

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Month <u>JULY</u>				Year <u>2019</u>			Vessel <u>Sea Crest</u>			Cruise ID <u>2019-052</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
210	125	4	14:05	BE	SET		48°43.640	123°15.990	165	0	-			☐ ☐	STRONG TIDE
211	125	4	14:14		CTD		48°44.419	123°17.663	158	150	-		YJ	☐ ☐	
212	125	4	14:52		NET		48°44.152	123°17.460	165	160	-		YJ	☐ ☐	FM 79248-79610* FM MALFUNCTION
213	126	4	16:04		SET		48°47.890	123°20.960	70	0	-			☐ ☐	
214	127	4	17:00		SET		48°44.400	123°23.410	55	0	-			☐ ☐	CURRENT CHANGE LAST 2 MIN
215	128	4	18:33		SET		48°44.020	123°33.030	83	0	-			☐ ☐	
216	128	4	19:06		CTD		48°43.327	123°32.042	78	70	-		YJ	☐ ☐	
217	128	4	19:15		NET		48°43.231	123°32.930	78	70	-		YJ	☐ ☐	FMP610-80390 DAS
218	129	4	20:46		SET		48°44.910	123°36.180	51	0	-			☐ ☐	
219	129	4	21:14		CTD		48°44.510	123°35.113	61	50	-		YJ	☐ ☐	
220	129	4	21:20		NET		48°44.569	123°35.239	60	50	-		YJ	☐ ☐	FM80390-80860
221	130	4	22:20		SET		48°42.670	123°28.560	75	0	-			☐ ☐	
222	131	5	00:02		SET		48°42.880	123°31.370	76	15	-			☐ ☐	
223	131	5	00:29		CTD		48°43.595	123°32.116	73	65	-		YJ	☐ ☐	
224	131	5	00:36		NET		48°43.662	123°32.216	75	65	-		YJ	☐ ☐	FM80860-81180
225	132	5	01:20		SET		48°40.370	123°30.380	148	15	-			☐ ☐	
226	132	5	01:53		CTD		48°39.312	123°31.035	162	150	-		YJ	☐ ☒	
227	132	5	02:05		NET		48°39.296	123°31.063	160	150	-		YJ	☐ ☐	FM81180-81880
228	133	5	14:33	↓	SET		48°44.970	123°33.750	104	0	-			☐ ☐	

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Month <u>JULY</u>				Year <u>2019</u>		Vessel <u>Sea Crest</u>				Cruise ID <u>2019-052</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
229	134	5	15:30	BE	SET		48°48.340	123°33.440	179	0	-			☐ ☐	
230	134	5	16:02		CTD		48°48.621	123°34.232	125	120	-		YJ	☐ ☐	DATA DOWNLOAD VAT CHANGE
231	134	5	16:11		NET		48°48.568	123°34.173	119	110	-		YJ	☐ ☐	FM81880-82510
232	135	5	16:40		SET		48°48.390	123°33.380	108	30	-			☐ ☐	
233	136	5	17:38		SET		48°51.190	123°34.970	186	15	-			☐ ☐	
234	137	5	18:32		SET		48°52.610	123°35.740	208	0	-			☐ ☐	
235	137	5	19:15		CTD		48°53.713	123°36.409	180	170	-		YJ	☐ ☐	vmain = 13.5
236	137	5	19:28		NET		48°53.709	123°36.378	180	170	-		YJ	☐ ☐	FM82510-83390
237	138	5	20:37		SET		48°59.120	123°43.740	75	0	-			☐ ☐	
238	139	5	22:16		SET		49°04.460	123°40.840	54	0	-			☐ ☐	
239	139	5	22:56		CTD		49°04.886	123°41.348	55	50	-		YJ	☐ ☐	
240	139	5	23:03		NET		49°04.890	123°41.411	54	45	-		YJ	☐ ☐	FM83390-83880
241	139A	6	01:59		CTD		49°16.687	123°21.656	245	230	-		YJ	☐ ☒	
242	139A	6	02:15		NET		49°16.758	123°21.542	242	230	-		YJ	☐ ☐	FM83880-85522
243	140	6	14:06		SET		49°17.850	123°20.510	150	0	-			☐ ☐	
244	141	6	15:04		SET		49°15.910	123°25.340	194	30	-			☐ ☐	
245	142	6	16:03		SET		49°14.460	123°30.470	334	15	-			☐ ☐	
246	142	6	16:54		CTD		49°14.249	123°33.100	355	250	-		YJ	☐ ☐	
247	142	6	17:11	↓	NET		49°14.393	123°33.301	355	250	-		YJ	☐ ☐	FM85522-88420

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

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Notes: _____

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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