

DAILY SCIENCE LOG BOOK

CRUISE
NUMBER

2017-06

DATE:

From: 4 JUNE 2017

To: 20 JUNE 2017

VESSEL:

JOHN P TULLY

PROJECT(S):

LINE P

Water Properties Group
Fisheries and Oceans Canada
Institute of Ocean Sciences
Ocean Sciences Division

WaterProperties.ca

Captain: VICTOR G R O N M Y R First Officer: KEVIN M C K E C H N I E
Second Officer: A U D R E A B A C A S T I N Third Officer: C H A R I S T I A N M I A K A
Fishing Master: _____ Chief Engineer: D A V E V E L D M A N

Mission Participants / Agencies:

DF0-ID3 - UVIC - UBC - NOAA/PMEL - U. NORTH DAKOTA

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

1st Leg Scientific Personnel: Chief Scientist: MARIE ROBERT 06-18 A

Name	Watch	Cabin	Name	Watch	Cabin
DOUG YELLAND	12-24	B	TERESA VENELO	06-18	G
JADE SILVER	06-12	C	RICHARD NIXON	TH/DIC	H
LINDSAY FENWICK	18-24	C	ROBERT IZETT	00-06	H
MIKE CRAIG	12-18	D	MARC BERTON	00-12	4
PATRICK BEER	06-12	D			
YUAN HENG (ERIC) XIONG	18-24	E			
CORROR MOREN-LAW	00-06	E			
MICHAEL ARYCHUK	DM5	F			
GLEN COOPER	PH	F			
AMANDA TIMMERMAN	12-18	G			

2nd Leg Scientific Personnel: _____
Chief Scientist: _____

[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: TULCY LAPTOP
Data acquisition program: SEASAVE

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

Primary CTD

Make: SBG model: 9+ serial number: 550

Primary temperature serial number: 4054

Primary conductivity serial number: 1766

Secondary temperature serial number: 4484

Secondary conductivity serial number: 3531

Transmissometer: WETLABS Model: C-STAR s/n: 1201 DR

Transmissometer: _____ Model: _____ s/n: _____

Fluorometer: Model SEAPOINT Cable gain: 3x s/n: 3685 P, S or NO pump? P

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

Oxygen sensor: SBG Model: 43 s/n: 1119 P S or NO pump? _____

PAR sensor: BIOSTERICA Model: QSP2350 s/n: 70613 Surface PAR? Y (N)

Other sensors: ALTIMETER 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-rossette casts (e.g., W.E. Ricker)

Rosette Setup:

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

Winches:

1. Make: HANSON Model: HAW Serial #: 17027 Used for: CIT
2. Make: HAUL BOULDER Model: HAW Serial #: 1076 Used for: CHARTS
3. Make: SWANN Model: 3Z9 Serial #: 1482 Used for: NETS

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: SDO (HSE-600A) Model: 2.369 Kit Number: 2
Make: _____ Model: _____ Kit Number: _____
Comments on performance during cruise (comments should also be reflected in the post-cruise report):

Thermosalinograph System (SBE21):

Program: SEASAVE Version: S/N 2488
Sampling interval (seconds): 30
Fluorometer sensor serial number: WSSS-953P
Comments on performance during cruise (comments should also be reflected in the post-cruise report):

ADCP Setup:

Computer time zone: _____ User Exit: 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:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 1 of

Month				Year			Vessel				Cruise ID					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments	
							Latitude	Longitude								
1	Har059	5	04:26	BE	ROS	US	48° 36.86	123° 14.70	230		1-21	21	DY	☒		
			04:31	BO			48° 36.89	123° 14.70		221	-			☐		
			04:52	EN			48° 36.80	123° 14.78			-			☐		
2	Har059	5	05:10	BE	NET	-	.	.	218		-			☐		
			05:23	BO			48° 36.23	123° 14.84		210	-		DY	☐		Bongo
			05:28	EN			48° 36.18	123° 14.85			-			☐		
			:				48° 36.17	123° 14.85			-			☐		
3	JF1	5	10:00	BE	Loop	-	48° 16.66	123° 31.03	165		5003	-	MB	☐		2xch, Sel Nut, 2.625
4	JF2	5	12:02	BE	ROS	US	48° 18.02	124° 0.24	185		22-40	19	MB	☒		loops taken for chl, S, nits, sal, O ₂ CTD
			12:05	BO			48° 18.05	124° 0.28		177	-			☐		
			12:26	EN			48° 18.16	124° 0.63			-			☐		
5	JF2	5	12:48	BE	NET	-	48° 18.28	124° 00.90	186		-			☐		
			12:55	BO			48° 18.31	124° 00.96		176	-			☐		
			12:57	EN			48° 18.34	124° 01.04			-			☐		
6	JF3	5	15:01	BE	LOOP		48° 26.96	124° 29.92	226		5006			☐		LOOPS x2 chl Nut Sal
7	JF4	5	17:13	BE	LOOP		48° 32.25	124° 59.60	73		5007			☐		Loops x2 chl Nut Sal
8	P1	5	19:41	BE	ROS	US	48° 34.54	125° 30.00	114		-		DY	☒		Loops gases & O ₂
			19:44	BO			48° 34.55	125° 29.99		101	41-44	4		☐		
			19:49	EN			48° 34.56	125° 29.99			-			☐		

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 6 December 2016

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 2 of

Month <u>June</u>			Year <u>2017</u>			Vessel <u>Tully</u>			Cruise ID <u>2017-06</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
9	P2	5	22:30	BE	ROS	US	48° 36.05	125° 59.84	115		-		dy	☒ ☐	Start W DAK
			22:31	BO			48° 36.05	125° 59.83		106	45-52	8		☐ ☐	in air
			22:41	EN			48° 36.03	125° 59.73			-			☐ ☐	Loops oxy & Regula
10	P2	5	22:50	DE	Net		48° 36.02	125° 59.69	115		-			☐ ☐	Bongo to 105
			22:56	BO			48° 36.02	125° 59.65		105	-			☐ ☐	
			22:58	EN			48° 36.02	125° 59.65			-			☐ ☐	
11	P2	5	23:08	BE	NET		48° 36.00	125° 59.68	115		-			☐ ☐	RING NET TO 105
			23:15	BO			48° 35.99	125° 59.64		105	-			☐ ☐	
			23:18	EN			48° 35.98	125° 59.62			-			☐ ☐	
12	P2	5	23:31	DE	ROS	US	48° 35.93	125° 59.58	114		-		dy	☒ ☐	DMS
			23:34	BO			48° 35.91	125° 59.55		104	53-72	200		☐ ☐	chl loops
			23:49	EN			48° 35.86	125° 59.48			-			☐ ☐	
13	P2-P3	6	01:07	BE	LOOP		48° 36.85	126° 14.82	612		5013-		LF	☐ ☐	gas loop (lab)
14	P3	6	01:41	BE	ROS	US	48° 37.52	126° 20.02	784		-	3	dy	☒ ☐	D804 S 790
			01:55	BO			48° 37.50	126° 20.11			73-75	3		☐ ☐	P813 A 10
			02:11	EN			48° 37.56	126° 20.16			-			☐ ☐	
15	P3-P4	6	02:39		LOOP		48° 38.00	126° 27.47			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 6 December 2016

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 3 of

Month <u>June</u>				Year <u>2017</u>			Vessel <u>Tully</u>			Cruise ID <u>2017-06</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
16	P4	6	03:51	BE	ROS	US	48° 39.15	126° 39.97	1299		-		DI	☒ ☐	Deep Cast
			04:14	BO			48° 39.09	126° 40.01			76 - 94	19		☐ ☐	D1290 S1302 P1305 A10
			04:54	EN			48° 39.08	126° 40.04			-			☐ ☐	
17	P4	6	05:56	BE	Net	-	49° 39.03	126° 40.30	1323		-		DI/MB	☐ ☐	Bongo to 1200
			06:58	BO			49° 39.00	126° 40.45		1200	-			☐ ☐	
			07:17	EN			49° 39.00	126° 40.47			-			☐ ☐	
18	P4	6	07:40	BE	NET	-	48° 39.07	126° 40.58	1322		-		MB	☐ ☐	bongo to 250
			07:50	BO			48° 39.09	126° 40.59		250	-			☐ ☐	
			07:55	EN			48° 39.09	126° 40.59			-			☐ ☐	
19	P4	6	08:39	BE	NET	-	48° 38.68	126° 39.51	1326		-		MB	☐ ☐	small white net
			08:50	BO			48° 38.70	126° 39.61		250	-			☐ ☐	
			08:54	EN			48° 38.71	126° 39.64			-			☐ ☐	
20	P4	6	10:00	BE	ROS	US	48° 38.82	126° 40.14	1321		95 - 10	16	MB	☒ ☐	URC Cast
			10:24	BO			48° 38.86	126° 40.18		1327	-			☐ ☐	D1312 S1322 P1326 A14
			10:51	EN			48° 38.83	126° 40.28			-			☐ ☐	
21	P4	6	11:08	BE	ROS	US	48° 38.79	126° 40.35	1321		-	18	MB	☒ ☐	AMMONIA CAST
			11:12	BO			48° 38.78	126° 40.37		250	111 - 128			☐ ☐	
			11:32	EN			48° 38.76	126° 40.47			-			☐ ☐	
			:				°	°			-			☐ ☐	

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:

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 6 December 2016

DIDN'T START ARCHIVING, BACK TO SURFACE AND START ARCHIVING. INITIALLY STARTED @ 0915.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 4 of

Month <u>JUNE</u>			Year <u>2017</u>			Vessel <u>TULLY</u>			Cruise ID <u>2017-06</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
22	P4	6	13:42	BE	ROS	US	48° 38.97	126° 39.95	1310		129 - 149	21	MB	☒ ☐	DMS CAST
			13:47	BO			48° 38.93	126° 39.94		300	-			☐ ☐	
			14:05	EN			48° 38.90	126° 39.93			-			☐ ☐	
23	P5	6	16:26	BE	ROS	US	48° 41.53	127° 10.06	2083		150 - 151	2	MB	☒ ☐	
			17:00	BO			48° 41.66	127° 9.81		2005	-			☐ ☐	
			17:34	EN			48° 41.69	127° 9.57			-			☐ ☐	
24	P6	6	20:11	BE	ROS	US	48° 44.64	127° 39.94	2542		-			☐ ☐	
			20:44	BO			48° 44.62	127° 40.00		2005	152 - 153	2		☐ ☐	
			21:16	EN			48° 44.59	127° 40.00			-			☐ ☐	
25	P6	6	21:25	DE	DRF	US	48° 44.61	127° 40.20			-			☐ ☐	Augo 443
26	P7	6	23:55	BE	ROS	US	48° 46.63	128° 9.94	2501		-		dy	☒ ☐	
			00:25	BO			48° 46.58	128° 10.00		2005	154 - 155	2		☐ ☐	
			00:59	EN			48° 46.50	128° 10.07			-			☐ ☐	
27	P8	7	03:36	BE	ROS	US	48° 49.01	128° 40.02	2517		-		dy	☒ ☐	OPT
			03:43	BO			48° 48.99	128° 40.05		300	156 - 161	6		☐ ☐	Paused for wine
			03:54	EN			48° 49.00	128° 39.98			-			☐ ☐	angle @ 95m ↓
28	P8	7	04:06	BE	Net	-	48° 49.00	128° 40.01	2518		-			☐ ☐	Bongo 250m
			04:21	BO			48° 48.99	128° 40.07		250	-			☐ ☐	
			04:26	EN			48° 49.00	128° 40.08			-			☐ ☐	

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 6 December 2016

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 5 of

Month <u>June</u>			Year <u>2017</u>			Vessel <u>Tully</u>			Cruise ID <u>2017-06</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
29	P8	7	04:36	BE	Net	-	48° 48.99	128° 39.99	2517		-			☐ ☐	Ring (aka wind sock)
			04:55	BO			48° 48.96	128° 40.04		250	-			☐ ☐	
			05:02	EN			48° 48.95	128° 40.02			-			☐ ☐	
30	P8	7	05:14	BE	ROS		48° 48.95	128° 40.05	2518		-		DY	☐ ☐	Deep
			05:50	BO			48° 48.95	128° 39.97		2005	162-185	24		☐ ☐	
			06:49	EN			48° 48.86	128° 39.77			-			☐ ☐	
31	P9	7	09:10	BC	ROS	US	48° 51.41	129° 9.84	2345		186-187	2	MS	☒ ☐	
			09:43	BO			48° 51.32	129° 9.96		2005	-			☐ ☐	
			10:18	EN			48° 51.39	129° 9.48			-			☐ ☐	
32	P10	7	12:26	BC	ROS	US	48° 53.62	129° 40.01	2640		188-189	2		☒ ☐	
			13:01	BO			48° 53.63	129° 40.04		2005	-			☐ ☐	
			13:33	EN			48° 53.68	129° 39.95			-			☐ ☐	
33	P11	7	15:46	BC	ROS	US	48° 56.00	130° 10.14	2752		190-191	2		☒ ☐	
			16:16	BO			48° 56.00	130° 10.09		2011	-			☐ ☐	
			16:50	EN			48° 56.08	130° 10.13			-			☐ ☐	
34	P12	7	19:10	BE	ROS	US	48° 58.26	130° 40.10	3235		-		dy	☐ ☐	Loop chl.
			19:16	BO			48° 58.25	130° 40.09		300	192-212	21		☐ ☐	
			19:40	EN			48° 58.25	130° 40.10			-			☐ ☐	
35	P12	7	21:00		BOT		48° 58.25	130° 40.10	3235	50	-			☐ ☐	Go flo to 50

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

WaterProperties.ca
 Version: 6 December 2017

Bottle 12+6?

← Nutrients 241, 213 not frozen right away. Frozen @ 0325 8 June UTC
↑ other Goflo cast? (Event 37)

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 6 of

Month <u>June</u>				Year <u>2017</u>		Vessel <u>Tully</u>				Cruise ID <u>2017-06</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
36	P12	7	21:50	BE	ROS	US	48° 58.24	130° 40.09	3282		-		DY	☒	P 2264 S 3234?
			22:43	BO			48° 58.24	130° 40.09	(3235)	3266	217-240	24		☐	D 3212 A 10
		8	03:41	EN			48° 58.24	130° 40.09			-			☐	PAR OFF
37	P12	8	01:30	BE	BOT		48° 58.24	130° 40.09	3235		-			☐	
			01:36	BO			48° 58.23	130° 40.07		258	-			☐	Go-flo
			01:47	EN			48° 58.22	130° 40.06			-			☐	
38	P12	8	02:15	BE	ROS		48° 58.22	130° 40.07	3235		-		DY	☒	UAC-Jado
			02:53	BO			48° 58.22	130° 40.07		2005	249-264	16		☐	
			03:33	EN			48° 58.22	130° 40.06			-			☐	
39	P12	8	04:16	BE	BOT		48° 58.28	130° 40.06			-			☐	Go-flo
			04:48	BO			48° 58.27	130° 40.04	3235	800	245-248			☐	
			05:30	EN			48° 58.27	130° 40.04			-			☐	
40	P12	8	06:01	BE	NET		48° 58.26	130° 40.04	3238		-			☐	Bongo
			06:12	BO			48° 58.26	130° 40.04		250	-			☐	
			06:16	EN			48° 58.26	130° 40.04			-			☐	
41	P12	8	06:57	BE	ROS		48° 58.27	130° 40.04	3259		265-277	15	MB	☒	
			07:02	BO			48° 58.27	130° 40.04		250	-			☐	
			07:17	EN			48° 58.27	130° 40.05			-			☐	
42	P12	8	07:27		DRF	DE	48° 58.28	130° 40.71	3260	-	-			☐	Avad #450

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 6 December 2016

Before went 0038; NISKIN 22: tube broke in the middle. Gel replaced (white tube)

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 7 of

Month <u>June</u>				Year <u>2017</u>			Vessel <u>Tully</u>			Cruise ID <u>2017-06</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
43	P13	8	11:34	BE	ROS	US	49° 2.50	131° 40.07	320		280-281	2	MS	☒ ☐	
			12:05	BO			49° 2.33	131° 40.31		2005	-			☐ ☐	
			12:45	EN			49° 2.10	131° 40.61			-			☐ ☐	
44	P14	8	16:55	BE	ROS	US	49° 7.35	132° 40.06	3316		282-283	2	MS	☒ ☐	
			17:31	BO			49° 7.15	132° 40.00		2005	-			☐ ☐	
			18:12	EN			49° 6.88	132° 39.74			-			☐ ☐	
45	P15	8	22:30	BE	ROS	US	49° 11.93	133° 39.92	3408		-		DY	☒ ☐	
			23:07	BO			49° 11.84	133° 40.00		2005	290-291	2		☐ ☐	
			23:39	EN			49° 11.88	133° 40.03			-			☒ ☐	
46	P16	9	03:48	BE	ROS	US	49° 17.04	134° 39.99	3634		-		DY	☐ ☐	Deep Cast
			04:50	BO			49° 17.00	134° 39.99		3683	292-315	24		☐ ☐	D 3621 S 3635 P 3684 A 9
			06:16	EN			49° 17.01	134° 39.99			-			☐ ☐	PAR OFF
47	P16	9	07:23	BE	BOT	MSG	49° 17.05	134° 39.94	3636		316-319	4	MS	☐ ☐	Go Flo
			07:36	BO			49° 17.07	134° 40.00		40	-			☐ ☐	
			07:44	EN			49° 17.08	134° 40.00			-			☐ ☐	
48	P16	9	07:50	BE	Net		49° 17.05	134° 40.00	3636		-	-	MS	☐ ☐	1200 Bongo.
			08:32	BO			49° 16.95	134° 40.12		1200	-			☐ ☐	
			08:52	EN			49° 16.82	134° 40.20			-			☐ ☐	
			:				°	°			-			☐ ☐	

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: _____

Produced by the Water Properties Group, IOS
 WaterProperties.ca
 Version: 6 December 2016

Stop @ 250m down to straighten wire.

SHAFT ON BONGRO BENT DURING RECOVER-1, SWAPPED OUT TO SPARE NET FOR NEXT CAST

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 8 of

Month <u>June</u>			Year <u>2017</u>			Vessel <u>Tolly</u>			Cruise ID <u>2017-06</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
49	P16	9	09:23	BE	NET	-	49° 16.66	134° 40.26	3636		-	-	MB	☐ ☐	New net
			09:34	BO			49° 16.36	134° 40.31		250	-			☐ ☐	
			09:38	EN			49° 16.54	134° 40.32			-			☐ ☐	
50	P16	9	09:59	BE	BOT	MFG	49° 16.47	134° 40.28		150	320 - 323	4	MB	☐ ☐	Go-flow 150
			10:24	BO			49° 16.33	134° 40.30			-			☐ ☐	150 bottle did
			10:37	EN			49° 16.33	134° 40.25			-			☐ ☐	on line
51	P16	9	10:54	BE	ROS	US	49° 17.06	134° 40.00	3636		324 - 338	15	MB	☒ ☐	PRODUCTIVITY CAN
			10:59	BO			49° 17.03	134° 40.01		250	-			☐ ☐	
			11:19	EN			49° 16.96	134° 39.97			-			☐ ☐	
52	P16	9	11:56	BE	BOT	MFG	49° 16.74	134° 39.99	3636		339 - 342	4	MB	☐ ☐	Go-flow to 800m
			12:28	BO			49° 16.66	134° 39.78		800	-			☐ ☐	
			12:55	EN			49° 16.52	134° 39.76			-			☐ ☐	
53	P16	9	13:00	BE	NET	-	49° 16.49	134° 39.70	3638		-			☐ ☐	White NET to 250
			13:06	BO			49° 16.48	134° 39.60		250	-			☐ ☐	
			13:10	EN			49° 16.49	134° 39.55			-			☐ ☐	
54	P16	9	14:03	BE	ROS	US	49° 17.07	134° 39.96	3633		343 - 363	21	MB	☒ ☐	PAR ON
			14:08	BO			49° 17.11	134° 39.95		300	-			☐ ☐	PAR OFF
			14:28	EN			49° 17.18	134° 39.87			-			☐ ☐	
55	P12	9	14:17	BE	DRF	-	49° 17.24	134° 40.25	3633	-	-		MB	☐ ☐	2 DRFS 64735150 NOAA 64735260 DRF.

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 6 December 2016

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 9 of

Month <u>June</u>			Year <u>2017</u>			Vessel <u>ATC-1</u>			Cruise ID <u>2017-06</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
56	P17	9	18:39	BE	ROS	US	49° 21.02	135° 40.15	3590		364 - 365	2	mydy	☒ ☐	PAR ON
			19:16	BO			49° 21.13	135° 40.29		2005	-			☐ ☐	
			19:53	EN			49° 21.20	135° 40.51			-			☐ ☐	
57	P18	9	23:41	BE	ROS	US	49° 26.00	136° 40.05	3835		-		dy	☐ ☐	@ surface measurement light
		10	00:22	BO			49° 25.99	136° 40.00		2005	366 - 379	14		☐ ☐	
			01:06	EN			49° 26.05	136° 40.31			-			☐ ☐	
58	P18		01:18	DE	DRF		49° 26.03	136° 40.50	3835		-			☐ ☐	Argo 463
59	P18		01:19	DE	DRF		49° 26.03	136° 40.55	3835		-			☐ ☐	NOAA 64734800
60	P19	10	05:14	BE	ROS	US	49° 29.99	137° 39.96	3928		-		dy	☒ ☐	
			05:43	BO			49° 30.01	137° 40.04		2005	380-381	2		☐ ☐	
			06:13	EN			49° 30.03	137° 40.15			-			☐ ☐	
61	P20	10	10:32	BE	NET	-	49° 34.05	138° 39.89	3967		-	-	MB	☐ ☐	250 Buro
			10:42	BO			49° 34.03	138° 39.88		250	-			☐ ☐	
			10:46	EN			49° 34.03	138° 39.89			-			☐ ☐	
62	P20	10	11:08	BE	ROS	US	49° 34.01	138° 39.89	3964		382-396	15	MB	☒ ☐	Productivity cart
			11:12	BO			49° 34.00	138° 39.90		250	-			☐ ☐	
			11:30	EN			49° 33.96	138° 39.87			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 6 December 2016

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 10 of

Month				Year			Vessel				Cruise ID						
JUNE				2017			TULLY				2017-06						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments		
63	P26	10	11:37	BE	BOT	MSG	41° 33. 90	138° 35. 85	3967		397-400	4	MB	☐ ☐	Go Fluo 800m		
			12:01	BO			49° 33. 94	138° 39. 84		800	-			☐ ☐			
			12:30	EN			49° 33. 99	138° 39. 80			-			☐ ☐			
64	P20	10	13:04	BE	ROS	US	49° 33. 90	138° 35. 94	3966		401-424	24	MB	☒ ☐	DEEP CNT PAR OFF		
			14:10	BO			49° 33. 90	138° 40. 23			-			☐ ☐			
			15:34	EN			49° 33. 91	138° 35. 95			-			☐ ☐	D=3951 A=10 S=3965 P=4024		
65	P20		16:13	BE	BOAT		49° 33. 91	138° 40. 03	3965		434-456	3	M	☐ ☐	BOAT IN WATER		
			16:32	EN			49° 33. 84	138° 40. 28			-			☐ ☐	FOR DEC		
66	P20	10	16:21	BE	BOT	MSG	49° 33. 86	138° 40. 11	3965		425-428	4	MB	☐ ☐	Go Fluo 150m		
			16:36	BO			49° 33. 86	138° 40. 30		150	-			☐ ☐	Weights only down 5m not 50m		
			16:54	EN			49° 33. 80	138° 40. 31			-			☐ ☐			
67	P20	10	17:01	BE	NET	-	41° 33. 76	138° 40. 43	3965		-		MB	☐ ☐	Bongo to 1200		
			17:40	BO			49° 33. 45	138° 40. 45		1200	-			☐ ☐			
			17:58	EN			49° 34. 04	138° 40. 58			-			☐ ☐			
68	P20	10	18:09	BE	BOT	MSG	49° 34. 13	138° 40. 66	3965		429-432		MB	☐ ☐	Go Fluo 40m		
			18:20	BO			49° 34. 22	138° 40. 70		40	-			☐ ☐	redid 10m		
			18:33	EN			49° 34. 30	138° 40. 75			-			☐ ☐			
			:				°	°			-			☐ ☐			
			:				°	°			-			☐ ☐			

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 6 December 2016

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 11 of 11

Month <u>June</u>				Year <u>2017</u>			Vessel <u>Tully</u>			Cruise ID <u>2017-06</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
69	P20	10	18:52	BE	NET	-	49° 34.43	138° 40.79	3964		-		DY	☐	Emergency Ring Brq
			19:03	BO			49° 34.48	138° 40.82		250	-			☐	NET
			19:07	EN			49° 34.50	138° 40.79			-			☐	
70	P20	10	19:20	BE	ROS	US	49° 34.93	138° 40.78	3964		-			☒	PAR on
			19:25	BO			49° 34.50	138° 40.79		300	433-453	21		☐	DMS cast
			19:44	EN			49° 34.48	138° 40.78			-			☐	
71	P20	10	19:54	DE	DRF		49° 34.44	138° 40.73	3964		-			☐	Argo 441
72	P20	10	19:56	DE	DRF		49° 34.41	138° 40.84	3964		-			☐	NOAA 4160
73	P20	10	19:57	DE	DRF		49° 34.39	138° 40.91	3964		-			☐	NOAA 4250
74	P21	11	00:41	BE	ROS	US	49° 37.97	139° 38.98	3959		-		DY	☒	
			01:14	BO			49° 37.97	139° 40.09		2005	457-458	2		☐	
			01:47	EN			49° 37.98	139° 40.07			-			☐	
75	P22	11	06:36	BE	ROS	US	49° 42.07	139° 39.99	3892		-		DI/MB	☒	
			07:08	BO			49° 41.95	140° 40.01		2005	459-475	17		☐	
			07:56	EN			49° 41.93	140° 40.06			-			☐	
76	P22	11	08:02	BE	DRF	-	49° 41.98	140° 40.45	3943	501	-	-	MB	☐	NOAA DRF 64733840
77	P23	11	12:35	BE	ROS	US	49° 46.01	141° 39.97	4052		476-477	2	MB	☒	
			13:08	BO			49° 45.97	141° 40.14		2005	-			☐	
			13:40	EN			49° 45.86	141° 40.22			-			☐	

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:

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 6 December 2016

PUT A KNOT IN THE BACK LANTARD FOR NISKIN 11 + 15 SINCE BOTTLES WERE CLOSED ON THE BOTTOM
WHEN HOOKED UP TO THE TRIGGER MECHANISM

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 12 of

Month <u>JUNE</u>				Year <u>2017</u>		Vessel <u>R/V</u>			Cruise ID <u>2017-06</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
78	P23 → P24	11	14:06	BE	Loop	-	49° 46.18	141° 45.25	4045	-	5078-	-	MB	☐ ☐	Loop 2x, 1x, 1x
79	P24	11	18:30	BE	ROS	US	49° 50.26	142° 39.89	3985	-	478 - 494	17	MB	☒ ☐	CALIBRATION CAST
			19:12	BO			49° 50.33	142° 39.98		2005	-			☐ ☐	Extra (accidental) trip @ 19:14
			20:07	EN			49° 50.22	142° 39.95			-			☐ ☐	
80	P24	11	20:12	DE	DRF		49° 50.34	142° 40.10	3988		-			☐ ☐	NOAA 3880
81	P24	11	20:13	DE	DRF		49° 50.35	142° 40.12	3988		-			☐ ☐	NOAA 3970
82	Loop TSG	11	23:55		Loop		49° 57.80	143° 23.55			-			☐ ☐	
83	P25	12	01:08	BE	ROS	US	50° 0.00	143° 36.28	4149		-		DY	☒ ☐	
			01:38	BO			49° 59.88	143° 36.35		2005	495-518	24		☐ ☐	
			02:12	EN			49° 59.57	143° 36.52			-			☐ ☐	
84	P35	12	06:00	BE	ROS	US	50° 0.03	144° 18.69	4150		-		DY/MB	☒ ☐	
			06:32	BO			50° 0.00	144° 18.67		2005	519-520	2		☐ ☐	
			07:04	EN			50° 0.02	144° 18.75			-			☐ ☐	
85	P26	12	17:09	BE	ROS	US	50° 0.00	144° 59.91	4251		554 - 577	24	MB	☒ ☐	PAR OFF
			18:22	BO			50° 0.00	144° 59.98		4313	-			☐ ☐	D= 4234 S= 4249 P= 4315 A= 12
			19:51	EN			50° 0.00	144° 59.99			-			☐ ☐	
86	P26	12	20:35	BE	BOT	MR	49° 59.99	144° 59.93	4250		550 - 553	4	DY	☐ ☐	800 GOF/0
			21:06	MR			50° 00.00	144° 59.98		800	-			☐ ☐	
			21:38	EN			50° 0.00	144° 59.98			-			☐ ☐	

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 6 December 2016

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 13 of

Month <u>June</u>				Year <u>2017</u>		Vessel <u>Tully</u>				Cruise ID <u>2017-06</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
87	P26	12	21:57	BE	ROS	US	50° 0.00	144° 59.99	4251		578-598	21	DY	☒	DMS
			22:03	BO			50° 0.01	144° 59.99		300	-			☐	
			22:23	EN			50° 0.00	144° 59.99			-			☐	
88	P26	12	22:40	BE	NET		50° 00.00	144° 59.99	4251		-		DY	☐	Bongo to 250
			22:44	BO			50° 0.00	144° 59.99		250	-			☐	brought back on deck bad wip angle/sk
			22:46	EN			50° 00.00	144° 59.98			-			☐	~20m out
89	P26	12	23:05	BE	BOT		50° 0.00	144° 59.98	4251		546-549		DY	☐	Go to 150
			23:21	MR			50° 0.00	144° 59.98		150	-			☐	
			23:38	EN			50° 0.01	144° 59.98			-			☐	
90	P26	13	01:43	BE	BOT		50° 0.00	144° 59.99	4250		542-545		DY	☐	Go to 40
			01:54	MR			50° 0.00	144° 59.98		40	542-545			☐	
			02:05	EN			50° 0.00	144° 59.99			-			☐	
91	P26	13	02:19	BE	ROS	US	50° 0.00	144° 59.99	4289		-		DY	☒	UBC cast
			03:00	BO			50° 0.00	144° 59.99		2000	599-614	16		☐	
			03:33	EN			50° 0.00	144° 59.99			-			☐	
92	P26	13	11:35	BC	ROS	US	49° 59.99	145° 0.21	4252		529-541	18	MA	☒	PRODUCTIVITY Cast
			11:40	BO			49° 59.97	145° 0.21		250	-			☐	
			11:59	EN			49° 59.94	145° 0.16			-			☐	
			:				.	.			-			☐	

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
 Version: 6 December 2016

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 14 of

Month <u>June</u>				Year <u>2017</u>			Vessel <u>TULLI</u>				Cruise ID <u>2017-06</u>				
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
93	P26	13	12:49	BE	NET	-	49° 59.89	145° 00.21	4250		-	-	MB	☐	Buoy 200
			12:59	BO			49° 59.91	145° 00.25		250	-			☐	
			13:03	EN			49° 59.93	145° 00.26			-			☐	
94	P26	13	13:50	BE	NET	-	50° 00.15	145° 00.41	4250		-	-	MB	☐	Buoy 1200
			14:30	BO			50° 00.09	145° 00.63		1200	-			☐	
			14:50	EN			50° 00.02	145° 00.80			-			☐	
95	P26	13	15:28	BE	NET	-	50° 00.01	145° 00.07	4250		-	-	MB	☐	RENT NET 250
			15:38	BO			50° 00.01	145° 00.13		250	-			☐	
			15:42	EN			50° 00.01	145° 00.16			-			☐	
96	P26	13	15:55	BE	ROS	US	50° 0.01	145° 0.28	4250		618-623	6	MB	☒	Glenn (pH)
			16:07	BO			50° 0.03	145° 0.30		500	-			☐	
			16:21	EN			49° 59.96	145° 0.31			-			☐	
97	P26	13	16:27	DE	DRF		49° 59.95	145° 0.46	4250		-			☐	NOAA 64733820
98	P26	13	16:28	DE	DRF		49° 59.97	145° 0.48	4250		-			☐	NOAA 64733950
99	PA-011	13	19:52	BE	MOR		50° 8.15	144° 43.45			-			☐	Start buoy deploy
	PA-011	14	00:02	DE			50° 7.66	144° 50.52	4220		-			☐	Anchor drop
100	PA-011		01:41	BE	ROS	US	50° 8.05	144° 49.87	4220		-			☒	Calis Cast
			01:50	BO			50° 8.05	144° 49.86		500	521-523	3		☐	@ mooring
			01:59	EN			50° 8.05	144° 49.86			-			☐	

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 6 December 2016

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 15 of

Month <i>June</i>				Year <i>2017</i>			Vessel <i>Tully</i>			Cruise ID <i>2017-06</i>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Information		Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
							Latitude	Longitude							
101	PA-011	14	15:06	BE	MOR	-	50° 07.52	144° 50.19	4220		-	-	MB	☐	PA-01 RECOVERY
			15:09	MR			50° 07.52	144° 50.19		4220	-	-		☐	ACoustic Release
			15:47	RE			50° 07.56	144° 50.07			-	-		☐	MOORING ON DECK
			15:50	EN			50° 07.57	144° 50.09			-	-		☐	boat recovered
102	PA-011	14	22:04	BE	MOR		50° 7.07	144° 50.11	4220		-	-	dy	☐	PA-011 (re)deploy
		15	01:25	DE			50° 7.82	144° 50.49			-	-		☐	anchor and log
103	PA-011	15	02:04	BE	ROS	US	50° 8.13	144° 50.00	4220		-	-	dy	☒	Calib @ mooring
			02:12	BO			50° 8.12	144° 50.02		500	521-523	3		☐	
			02:24	EN			50° 8.03	144° 49.96			-	-		☐	
104	PA-010	15	12:34	BE	ROS	US	50° 2.37	144° 53.57	4220		615-617	3	MB	☒	Pre calib by recovery
			12:42	BO			50° 2.37	144° 53.59		500	-	-		☐	Closed ALL REMOVAL
			12:53	EN			50° 2.34	144° 53.64			-	-		☐	BOTTLES @ SER.
105	PA-010	15	14:59	MR	MOR	Acoustic	50° 03.02	144° 53.38	4220		-	-	MB	☐	ACoustic Release PA-010 RECOVERY
			15:00	BE			50° 03.01	144° 53.38		4220	-	-		☐	BOAT IN WATER
			15:42	RE			50° 02.96	144° 53.65			-	-		☐	Mooring on deck
			15:46				50° 2.96	144° 53.05			-	-		☐	boat recovered
	Loop on		18:17	EN			50° 2.98	144° 53.07			-	-		☐	all line on board
106	PA-010	16	04:28		Loop		50° 3.82	142° 13.50			-	-		☐	2x ch 1 sal loop
107	North 60 P21	16	13:55	BE	Loop	-	50° 00.49	139° 39.91	4034		-	-	MB	☐	2x ch 1 sal

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 6 December 2016

BOAT IN THE WATER

BOAT BACK ON BOARD

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 16 of

Month <u>JUNE</u>				Year <u>2017</u>		Vessel <u>TULLY</u>				Cruise ID <u>2017-06</u>					
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Depth	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
108	NORTH of P20 → P19	16	20:18	BE	Loop	-	49° 56.60	157° 57.43	4030	-	508-	-	MR	☐ ☐	2x21 + 1521 Loop
109	Union	17	14:45	BE	Sounder		49° 36.87	133° 7.50	3284		-			☐ ☐	Sounding over Union
110	~ Union	17	15:27	BE	Loop	-	49° 35.99	132° 58.01	3222	-	5110	-	MR	☐ ☐	
111	P13 → P12	17	23:00	BE	Loop		49° 05.56	131° 13.74	2918	-	5111-	-	MR	☐ ☐	
112	PBS Mooring	18	00:52	BE	MOR		48° 59.63	130° 54.07	1526	-	5113-		GC	☐ ☐	
113	Loop P3 → P4	18	17:30	BE	Loop	-	48° 40.10	126° 51.78	1268	-	5113-			☐ ☐	Robert N20 Loop
114	Loop	18	17:52	BE	Loop	-	48° 39.66	126° 46.56	1409	-	5114-	-	MR	☐ ☐	2x21 + 1521 Loop
115	Loop	18	18:30	BE	Loop	-	48° 38.99	126° 40.16	1317	-	5115-			☐ ☐	Robert N20 Loop
116	P4	18	18:25	BE	BOT		48° 39.00	126° 40.24	1316		624-627	4	MR	☐ ☐	GO FLO
			18:37	BO	BOT		48° 39.01	126° 40.24		40	-			☐ ☐	
			18:46	EN	BOT		48° 39.04	126° 40.23			-			☐ ☐	
117	Loop	18	19:46	EN	Loop	-	48° 38.05	126° 26.26	1037	-	5117-			☐ ☐	Robert N20 Loop P4 → P3
118	Loop	18	21:03	EN	Loop	-	48° 39.93	126° 07.03	1419	-	5118-			☐ ☐	Robert N20 Loop P3 → P2
119	Loop	18	22:16	EN	Loop	-	48° 35.74	125° 48.47	139		5119-			☐ ☐	P2 → P1 N20
120	Loop	19	02:35	EN	Loop	-	48° 33.50	124° 46.57	113		520-			☐ ☐	P1 → JF2 N20
121	JF2	19	05:50	BE	ROS	US	48° 19.28	123° 59.20	174		-		DY	☒ ☐	
			05:53	BO			48° 19.30	123° 59.22		160	628-651	23		☐ ☐	(bottle 20 NFG)
			05:59	EN			48° 19.31	123° 59.13			-			☐ ☐	
			:				°	°			-			☐ ☐	

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

Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 6 December 2016