

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2020-009

DATE:

From: 24 AUGUST 2020 To: 8 SEPT 2020

VESSEL:

JOHN P TULLY

PROJECT(S):

WCVI, LA PEROUSE, S.O.G

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

Book 1 of 2

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: #102 MINI LENDVD

Data acquisition program: SEASAVE

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

Primary CTD

Make: SBE model: 9+ serial number: 0443

Primary temperature serial number: 4700

Primary conductivity serial number: 3531

Secondary temperature serial number: 4888

Secondary conductivity serial number: 4513

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

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

Fluorometer: Model SEAPoint Cable gain: 3x 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: 3771 P S or NO pump?

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

Other sensors: SPAR s/n: 20518 P, S or NO pump?

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?

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: GO
Volume of bottles (litres): 10

Winches:

1. Make: HAWBOLDT Model: _____ Serial #: 17026 Used for: CTD
2. Make: HAWBOLDT Model: _____ Serial #: 17027 Used for: MPS
3. Make: SWANU Model: 329 Serial #: 1481 Used for: BONGO

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: SIO UV-BASED TITRATOR Model: _____ 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: SCS Version: _____
Sampling interval (seconds): 5
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: _____ cm Mesh: 236 μ m Flowmeter: 7132
Bongo #2 Frame Size: _____ cm Mesh: _____ μ m Flowmeter: _____
_____ Frame Size: _____ cm Mesh: _____ μ m Flowmeter: _____
_____ Frame Size: _____ cm Mesh: _____ μ m Flowmeter: _____

Multinet ☒ BIONESS ☐ Neuston ☐ Others: mini

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>AUGUST</u>			Year <u>2020</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2020-009</u>						
Event Number	Station Name	Day	Time (UTC)	Time Code	Event Type	Firing Method	Positional Latitude	Information Longitude	Bottom Pressure	Max Cast Pressure	Sample Serial Numbers	# of Bottles	Watch Keepers	Trns/FI Cleaned	Comments
1	LB01	24	22:07	BE	ROS	US	48°40.378	124°59.418	37		1-4	4	MB	☒ ☐	PALAN
			22:08	BO			48°40.378	124°59.417		27	-			☐ ☐	
			22:12	EN			48°40.378	124°59.399			-			☐ ☐	
2	LB02	24	22:39	BE	ROS	US	48°39.046	125°2.346	57		5-9	5		☒ ☐	BOTTLE 2 DID
			22:41	BO			48°39.047	125°2.346		47	-		MB	☐ ☐	NOT FIRE
			22:46	EN			48°39.030	125°2.320			-			☐ ☐	
3	LB03	24	23:14	BE	ROS	US	48°37.415	125°5.536	95		10-	2		☒ ☐	TEST FIRE Bot 2
			23:16	BO			48°37.416	5°5.536		84	-			☐ ☐	
			23:20	EN			48°37.416	125°5.522			-			☐ ☐	
4	LB04	24	23:49	BE	ROS	US	48°35.71	125°8.710	113		11-17	7	MB	☒ ☐	FIRE BOTTLE 24
			23:52	BO			48°35.720	125°8.700		103	-		1	☐ ☐	@ 75m as well
			23:59	EN			48°35.710	5°8.670			-			☐ ☐	AS BACKUP
5	E1	25	01:04	BE	CTD	-	48°31.680	125°3.750	119		-	-	MB	☒ ☐	
			01:07	BO			48°31.672	125°3.763		110	-			☐ ☐	
			01:09	EN			48°31.678	125°3.761			-			☐ ☐	
6	E1	25	01:16	BE	NET	-	48°31.671	125°3.743	119		-	-	MB	☐ ☐	Backup
			01:20	BO			48°31.660	125°3.758		110	-			☐ ☐	
			01:22				48°31.657	125°3.756			-			☐ ☐	
			:				°	°			-			☐ ☐	

Event Type:

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

LOOP = Sea Water Loop

MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter
 =

Bottle Firing Method:

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

Notes:

Time Code:

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

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

DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

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EVENT 3

BOTTLE 2 TEST FIRE DID NOT FIRE 1ST ATTEMPT, FIRED AGAIN @ SRT & FIRED
POURED BUCKET OF HOT WATER ON FIRING MECHANISM.

EVENT 4

AIRGUN 2 FIRED.

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Month <u>AUGUST</u>			Year <u>2020</u>			Vessel <u>JP TULLY</u>			Cruise ID <u>2020-009</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
7	LB05	25	02:21	BE	ROS	US	48° 34.090	125° 11.770	104		18-	1	MB	☒	WAIT @ DE
			02:26	BO			48° 34.090	125° 11.770		94	-			☐	TO CORRECT WIRE
			02:28	EN			48° 34.070	125° 11.750			-			☐	↳ RESTARTED CAST OVERLAP 0007
8	LB06	25	02:59	BE	ROS	US	48° 32.730	125° 15.470	116		19-26	8	MB	☒	FIREP BTL 24
			03:01	BO			48° 32.731	125° 15.463		105	-			☐	AS BACKUP @ 100m
			03:09	EN			48° 32.202	125° 15.445			-			☐	↳ NOT NEEDED.
9	C1	25	03:46	BE	ROS	-	48° 28.930	125° 15.260	153		-	-	MB	☒	
			03:49	BO			48° 28.930	125° 15.210		143	-			☐	
			03:52	EN			48° 28.940	125° 15.210			-			☐	
10	C1	25	03:59	BE	NET	-	48° 28.919	125° 15.255	153		-		MB	☐	BONGO →
			04:04	BO			48° 28.942	125° 15.229		143	-			☐	
			04:07	EN			48° 28.964	125° 15.248			-			☐	
11	C2	25	04:57	BE	ROS	-	48° 26.164	125° 9.223	161		-	-	MB	☒	
			05:00	BO			48° 26.177	125° 9.224		151	-			☐	
			05:03	EN			48° 26.168	125° 9.220			-			☐	
12	C3	25	06:13	BE	ROS	-	48° 23.440	125° 20.780	122		-	-	KS	☒	No bottles
			06:15	BO			48° 23.440	125° 20.790		111	-			☐	
			06:17	EN			48° 23.440	125° 20.790			-			☐	
			:				.	.			-			☐	

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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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EVENT 8

STOP @ 60m ↓ TO COLLECT WIRE

Event 10

Bongo left hanging at the rail as the ship proceeded dead slow. There was a problem with the A-frame hydraulics. Net was pulled in by hand while A-frame was fully outboard. Nets on deck @ 4:20. @ rail for ~15 min.

EVENT 11

* Skipped Net @ station C2 due to A-frame problem.

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Month <u>August</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-009</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	Tms/FI Cleaned	Comments
13	C3	25	06:22	BE	NET	✓	48° 23.441	125° 20.787	122		✓	✓	MA/MB	☐ ☐	Bongo
			06:26	BO			48° 23.441	125° 20.788		112	-			☐ ☐	
			06:29	EN			48° 23.441	125° 20.787			-			☐ ☐	
14	LB07	25	07:16	BE	ROS	US	48° 28.72	125° 21.96	155		27 -	1	MG	☒ ☐	
			07:20	BO			° 28.72	° 21.97		145	-			☐ ☐	
			07:24	EN			° 28.70	° 22.01			-			☐ ☐	
15	LB07	25	07:32	BE	NET	✓	48° 28.68	125° 22.03	155		✓	✓	JS	☐ ☐	BONGO
			07:38	BO			° 28.68	° 22.10		145	-			☐ ☐	
			07:42	EN			° 28.68	° 22.12			-			☐ ☐	
16	B8	25	08:50	BE	ROS	US	48° 34.49	125° 29.98	115		-		MG	☒ ☐	
			08:52	BO			° 34.50	° 29.99		107	-			☐ ☐	
			08:55	EN			° 34.50	° 30.01			-			☐ ☐	
17	B8	25	09:02	BE	NET	✓	48° 34.51	125° 30.06	117		✓	✓	JS	☐ ☐	Bongo
			09:06	BO			° 34.53	° 30.11		112	-			☐ ☐	
			09:09	EN			° 34.54	° 30.12			-			☐ ☐	
18	LOOP18	25	09:24	BE	LOOP	UN	48° 33.80	125° 31.74	126	4.5	5018	✓	MG	☐ ☐	1 SAL 2 CHL
19	B7	25	09:51	BE	ROS	US	48° 32.04	125° 35.53	79		✓	✓	MG	☒ ☐	
			09:53	BO			° 32.04	° 35.54		69	-			☐ ☐	
			09:55	EN			° 32.04	° 35.54			-			☐ ☐	

Event Type:

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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
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EVENT 14 + 16 SALINITY AVERAGING 0.016 APART

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Month		AUGUST		Year		2020		Vessel		J P Tully		Cruise ID		2020-009		Page		4 of 37	
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				
20	B7	25	10:02	Be	NET	/	48° 32.04	125° 35.57	79		/	/	JS/DC	☐ ☐	BONGO				
			10:11	Bo			° 32.08	° 35.67		74	-			☐ ☐	WIRE OUT @ 0.3/sec				
			10:12	EN			° 32.09	° 35.70			-			☐ ☐					
21	LB08	25	11:14	BE	NET	/	48° 25.21	125° 28.75	145		/	/	JS/DC	☐ ☐	BONGO				
			11:20	Bo			° 25.26	° 28.77		140	-			☐ ☐					
			11:23	EN			° 25.26	° 28.76			-			☐ ☐					
22	LB08	25	11:37	Be	ROS	US	48° 25.35	125° 28.77	157		28 - 36	9	MG	☒ ☐					
			11:40	Bo			° 25.36	° 28.76		145	-			☐ ☐					
			11:54	EN			° 25.39	° 28.80			-			☐ ☐					
23	LB09	25	12:49	Be	ROS	US	48° 22.09	125° 34.70	152		37 - 45	9	MG	☒ ☐					
			12:51	Bo			° 22.06	° 34.72		142	-			☐ ☐					
			13:03	EN			° 22.02	° 34.78			-			☐ ☐					
24	LB10	25	14:07	Be	ROS	US	48° 18.56	125° 41.33	155		46	1	MG	☒ ☐					
			14:10	Bo			° 18.56	° 41.34		144	-			☐ ☐					
			14:14	EN			° 18.56	° 41.33			-			☐ ☐					
25	LB11	25	15:01	Be	NET	/	48° 15.23	125° 47.73	206		/	/	JS/DC	☐ ☐	BONGO				
			15:15	Bo			° 15.26	° 47.70		200	-			☐ ☐	SOME SWELLS, DEPLOY SLOW				
			15:19	EN			° 15.26	° 47.71			-			☐ ☐					
			:				°	°			-			☐ ☐					

Event Type:

ROS = Bottle cast (no CTD)

LOOP = Sea Water Loop

MOB =

Bottle Firing Method:

Time Code:

CTD Transmittance:

Event Type:

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

LOOP = Sea Water Loop
MOR = Mooring
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DRF = Drifter
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Bottle Firing Method:

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

Notes:

Time Code:

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Month <u>AUGUST</u>			Year <u>2020</u>			Vessel <u>LP TULLY</u>			Cruise ID <u>2020009</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	Tms/FI Cleaned	Comments
26	LB11	25	15:31	BE	ROS	US	48° 15.26	125° 47.71	205		47-56	10	MG	☒ ☐	
			15:35	BO			° 15.25	° 47.70		195	-			☐ ☐	
			15:51	EN			° 15.26	° 47.69			-			☐ ☐	
27	LB12	25	16:31	BE	ROS	US	48° 12.91	125° 51.83	509		-		MG	☒ ☐	
			16:40	BO			° 12.89	° 51.83		501	57-71	15		☐ ☐	
			17:05	EN			° 12.89	° 51.85			-			☐ ☐	
28	LB13	25	17:44	BE	ROS	US	48° 10.61	125° 56.09	919		72	1	SS	☐ ☐	1 skin
			18:01	BO			° 10.59	° 56.13		909	-			☐ ☐	
			18:19	EN			° 10.60	° 56.10			-			☐ ☐	
29	LB14	25	19:00	BE	ROS	US	48° 8.465	125° 59.934	1190		73-96	18	MB	☒ ☐	
			19:22	BO			48° 8.465	125° 59.934		1170	-			☐ ☐	
			19:57	EN			48° 8.461	125° 59.934			-			☐ ☐	
30	LB15	25	20:55	BE	ROS	US	48° 4.320	126° 8.480	1556		91-	1	MB	☒ ☐	
			21:22	BO			48° 4.350	126° 8.460		1552	-			☐ ☐	
			21:48	EN			48° 4.350	126° 8.460			-			☐ ☐	
31	LB16	25	23:00	BE	NET	—	48° 00.457	126° 16.967	1804		—	—	MA/MB	☐ ☐	Bongo to 250m
			23:10	BO			48° 00.458	126° 16.968		250	-			☐ ☐	
			23:14	EN			48° 00.458	126° 16.969			-			☐ ☐	
			:				°	°			-			☐ ☐	

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 DRF = Drifter
 — =

Bottle Firing Method:

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

Notes:

Time Code:

BE = Beginning Time of Cast
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Month August				Year 2020		Vessel Tully			Cruise ID 2020-009						
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
32	LB16	25	23:26	BE	NET	/	48 ° 00.521	126 ° 16.989	1801		-			☐ ☐	
			23:28	BO			48 ° 00.521	126 ° 16.989		50	/	/	MA/MB	☐ ☐	Mini
			23:29	EN			48 ° 00.522	126 ° 16.989			-			☐ ☐	
33	LB16	25	23:43	BE	ROS	US	48 ° 00.52	126 ° 16.99	1801		92-95	4	MR/MB	☒ ☐	HT SOMETH UP ~1550 ↓
		26	00:16	BO			48 ° 00.52	126 ° 16.99		1817	-			☐ ☐	
		26	00:49	EN			48 ° 00.520	126 ° 16.990			-			☐ ☐	
34	LB16	26	00:56	BE	NET	/	48 ° 00.520	126 ° 16.989	1815		/	/	MR/MA	☐ ☐	Bongo 1200
			01:44	BO			48 ° 00.520	126 ° 16.990		1200	-			☐ ☐	
			02:04	EN			48 ° 00.520	126 ° 16.989			-			☐ ☐	
35	LC12	26	04:49	BE	ROS	US	48 ° 14.976	126 ° 40.045	2537		96-98	3	MR	☒ ☐	
			05:24	BO			48 ° 14.992	126 ° 39.989		2665	-			☐ ☐	
			05:59	EN			48 ° 14.990	126 ° 39.990			-			☐ ☐	
36	LC12	26	06:15	BE	NET	/	48 ° 14.990	126 ° 39.990	2555		/	/	MA/MB	☐ ☐	Bongo 250m
			06:27	BO			48 ° 14.989	126 ° 39.990		250	-			☐ ☐	
			06:31	EN			48 ° 14.991	126 ° 39.988			-			☐ ☐	
37	LC12	26	06:42	BE	NET	/	48 ° 14.990	126 ° 39.991	2538		-			☐ ☐	
			06:45	BO			48 ° 14.990	126 ° 39.991		50	/	/	MA/MB	☐ ☐	Mini 50m
			06:46	EN			48 ° 14.989	126 ° 39.990			-			☐ ☐	
			:				°	°			-			☐ ☐	

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

Time Code:
 BE = Beginning Time of Cast
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Notes:

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Month <u>August</u>				Year <u>2020</u>		Vessel <u>Tully</u>				Cruise ID <u>2020-009</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
38	LC12	26	07:20	BE	NET	/	48° 14.99	126° 39.99	2539		-			☐	
			08:30	BO			48° 14.99	126° 39.99		2005	/	/	MG/DC/JS	☐	MPS 2000 m
			09:05	EN			48° 14.99	126° 39.99			-			☐	
39	LC11	26	10:38	BE	ROS	US	48° 19.01	126° 26.68	1440		99-117	19	MG	☒	→
40			11:15	BO			° 18.94	° 26.73		1462	-			☐	
			12:35	EN			° 18.97	° 26.75			-			☐	
41	LC10	26	13:51	BE	ROS	US	48° 22.42	126° 20.15	1260		-	-	MG	☒	
			14:13	BO			° 22.41	° 20.16		1245	-			☐	
			14:33	EN			° 22.39	° 20.17			-			☐	
42	LC09	26	15:19	BE	NET	/	48° 25.94	126° 13.75	618		-	-	JS/DC	☐	Bengo
			15:29	BO			° 25.97	° 13.76		250	-			☐	
			15:33	EN			° 25.99	° 13.76			-			☐	
43	LC09	26	15:45	BE	ROS	US	48° 25.99	° 13.70	618		118-134	17	MG	☒	
			15:56	BO			° 25.99	° 13.68		598	-			☐	
			16:24	EN			° 25.96	° 13.68			-			☐	
44	A2	26	17:16	BE	ROS	US	48° 22.73	126° 03.69	356		/	/	JS	☒	
			17:23	BO			° 22.73	126° 03.68		347	-			☐	
			17:30	EN			° 22.76	° 03.72			-			☐	Temp. diff started to ↑ 0.3, 0.5
			:				°	°			-			☐	

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EVENT 39/40 COMPUTER CRASH @ 300 M NEW FILE STARTED BOT 12 NOT CLOSED QUESTION BOT 7 CLOSING DEPTH
BOT 1-6 & 13-19 GOOD 7-12 FIGURE OUT FROM QXY OR SAL

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Month <u>August</u>				Year <u>2020</u>		Vessel <u>Tully</u>			Cruise ID <u>2020-009</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
45	A2	26	17:37	BE	NET	BE	48°22.73	126°03.71	355		/	/	MB/DC	☐ ☐	BONGO
			17:47	BO		BO	°22.72	°03.72		250	-			☐ ☐	
			17:51	EN		EN	°22.76	°03.77			-			☐ ☐	
46	LCO8	26	18:51	BE	NET		48°29.52	126°06.98	197		/	/	MA	☐ ☐	Bongo
			18:58	BO			48°29.53	126°06.99		187	-			☐ ☐	
			19:02	EN			48°29.52	126°06.99			-			☐ ☐	
47	LCO8	26	19:10	BE	ROS	US	48°29.52	126°06.99	197		135-145	11	MR	☒ ☐	CORRECT HEAD -> 009
			19:14	BO			48°29.53	126°06.99		187	-			☐ ☐	
			19:27	EN			48°29.52	126°06.99			-			☐ ☐	
48	A1	26	20:05	BE	ROS	-	48°32.11	126°11.08	393		-	Ø	MR	☒ ☐	
			20:13	BO			48°32.100	126°11.070		380	-			☐ ☐	
			20:20	EN			48°32.100	126°11.070			-			☐ ☐	
49	LCO7	26	21:10	BE	ROS	US	48°32.860	126°0.660	129		-		MB	☒ ☐	
			21:12	BO			48°32.850	126°0.650		119	-			☐ ☐	
			21:15	EN			48°32.850	126°0.630			-			☐ ☐	
50	LCO6	26	21:59	BE	ROS	US	48°36.440	125°53.950	94		146-152	7	MB	☒ ☐	
			22:01	BO			48°36.440	125°53.950		82	-			☐ ☐	
			22:07	EN			48°36.440	125°53.950			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Month <u>AUGUST</u>			Year <u>2020</u>			Vessel <u>SP TULLY</u>			Cruise ID <u>2020-009</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
51	LC06	26	22:12	BC	NET	-	48° 36.440	125° 53.922	93		-	-	MA	☐	Bongo
			22:16	BO			48° 36.436	125° 53.925		83	-			☐	
			22:18	CN			48° 36.441	125° 53.923			-			☐	
52	LC05	26	23:04	BC	ROS	-	48° 39.900	125° 47.470	65		-	-	MB	☒	
			23:05	BO			48° 39.890	125° 47.480		55	-			☐	
			23:07	CN			48° 39.890	125° 47.470			-			☐	
53	LC05	26	23:15	BC	NET	-	48° 39.887	125° 47.468	65		-		MA	☐	
			23:17	BO			48° 39.882	125° 47.466		55	-			☐	
			23:19	CN			48° 39.881	125° 47.461			-			☐	
54	LC04	27	00:34	BC	ROS	US	48° 43.420	125° 40.890	168		153-162	10	MB	☒	
			00:37	BO			48° 43.410	125° 40.880		156	-			☐	
			00:48	CN			48° 43.430	125° 40.790			-			☐	
55	LC03	27	01:34	BC	ROS	-	48° 46.970	125° 34.230	137		-	-	MB	☒	
			01:36	BO			48° 46.990	125° 34.200		126	-			☐	
			01:39	CN			48° 47.000	125° 34.190			-			☐	
56	LC02	27	02:09	BC	ROS	US	48° 48.600	125° 31.000	112		163-170		MB	☒	
			02:11	BO			48° 48.600	125° 31.000		102	-			☐	
			02:18	CN			48° 48.660	125° 30.990			-			☐	
			:				°	°			-			☐	

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Month			Year			Vessel			Cruise ID			Page			of		
August			2020			JP Tully			2020-009			18			54		
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		
57	LC01	27	02:46	BE	ROS	US	48° 50.390	125° 27.780	98		171-177	7	MB	☒			
			02:48	BO			48° 50.370	125° 27.810		88	-			☐			
			02:55	EN			48° 50.400	125° 27.800			-			☐			
58	LC01	27	03:10	BE	NET	-	48° 50.423	125° 27.838	98		-	-	MA	☐	MINE NET		
			03:12	BO			48° 50.426	125° 27.836		50	-			☐			
			03:13	EN			48° 50.426	125° 27.832			-			☐			
59	LD01	27	04:59	BE	ROS	US	49° 0.110	125° 43.770	35		178-181	4	KS	☒			
			04:59	BO			49° 0.110	125° 43.770		25	-			☐			
			05:04	FN			49° 0.110	125° 43.790	36		-			☐			
60	LD01	27	05:20	BE	NET	-	49° 0.119	125° 43.815		26	-	-	MA/MB	☐	Mini Bongo		
			05:22	BO			49° 0.112	125° 43.825			-			☐			
			05:23	FN			49° 0.113	125° 43.821			-			☐			
61	LD02	27	05:57	BE	ROS	US	48° 58.433	125° 47.017	43		182-186	5	MB	☒			
			05:59	BO			48° 58.428	125° 47.023		33	-			☐			
			06:01	EN			48° 58.424	125° 47.048			-			☐			
62	LD02	27	06:15	BE	NET	-	48° 58.427	125° 47.096	43		-	-	MA	☐	Bongo		
			06:16	BO			48° 58.427	125° 47.104		33	-			☐			
			06:17	EN			48° 58.424	125° 47.102			-			☐			
			:				°	°			-			☐			

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Notes:

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File name was started with 2020-009 0059 . CHANGED ALL FILES TO 0059 IN 2020-009 CTD Folder.
Bottle 2 DID NOT FIRE EVENT #59; CHANGED OUT FIRING MECHANISM.

Event 61 - Niskin 2 did not close again even after firing mech replacement.

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Month August			Year 2020			Vessel Tully			Cruise ID 2020-009						
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
63	LDO3	27	06:48	BE	ROS	US	48° 56.660	125° 50.340	46		-	-	KS	☒	
			06:50	BO			48° 56.670	125° 50.310		36	-			☐	
			06:53	EN			48° 56.700	125° 50.280			-			☐	
64	LDO4	27	07:44	BE	NET	US	48° 53.24	125° 57.08	62		-	-	JS/DC	☐	BONGO
	/		07:47	BO			° 53.23	° 57.12			-			☐	
			07:48	EN			° 53.23	° 57.13			-			☐	
65	LDO4	27	07:58	BE	ROS	US	48° 53.30	125° 57.14	62		187-191	5	MG	☐	Bottle 2 did not
			08:00	BO			° 53.30	° 57.16		52	-			☐	fire
			08:09	EN			° 53.29	° 57.25			-			☐	
66	LDO5	27	08:56	BE	ROS	US	48° 49.70	126° 36.10	89		-	-	DC	☒	stop @ 63m & 2 min inboard lead.
			09:05	BO			48° 49.84	126° 35.50		78	-			☐	
			09:07	EN			48° 49.84	126° 35.50			-			☐	
67	LDO6	27	09:55	BE	ROS	US	48° 46.21	126° 10.31	137		192-199	8	MG	☒	Bot 2 did NOT FIRE
			09:59	BO			° 46.21	° 10.34		127	-			☐	
			10:10	EN			° 46.24	° 10.37			-			☐	
68	LDO7	27	10:56	BE	ROS	US	48° 42.61	126° 16.65	424		-	-	DC	☒	soft bottom
			11:06	BO			° 42.61	° 16.69		433	-			☐	
			11:13	EN			° 42.60	° 16.69			-			☐	
			:				°	°			-			☐	

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Month <u>AUGUST</u>				Year <u>2020</u>		Vessel <u>JP TULLY</u>				Cruise ID <u>2020-009</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
69	LD08	27	12:00	BE	ROS	US	48°39.26	126°23.48	774		200-216	17	JS	☒	Bottle 2 & 18 fired together
			12:14	BO			°39.26	°23.49		761	-			☐	Bot 18 replaced Bot 2
			12:44	EN			°39.21	°23.44			-			☐	Bot 18 didn't fire...
70	LD09	27	13:57	BE	ROS	US	48°35.71	126°29.96	1058		/	/	MG	☒	
			14:17	BO			°35.70	°29.98		1051	-			☐	
			14:33	EN			°35.71	°29.98			-			☐	
71	LD09	27	14:40	BE	NET	/	48°35.70	126°30.00	1057		-		JS/DC	☐	BONGO
			14:47	BO			°35.69	°30.02		250	-			☐	
			14:52	EN			°35.70	°30.08			-			☐	
72	LOOP72	27	15:14	BE	LOOP	UN	48°34.20	126°33.17	1357	4.5	5072	/	MG	☒	1 SAC 2 CHL
73	LD10	27	15:41	BE	ROS	US	48°32.18	126°36.45	1489		/	/	MG	☒	
			16:05	BO			°32.10	°36.48		1477	-			☐	
			16:30	EN			°32.20	°36.54			-			☐	
74	LD11	27	17:13	BE	NET	/	48°28.25	126°42.89	1601		/	/	MG/DC	☐	BONGO
			17:21	BO			°28.75	°42.91		250	-			☐	
			17:26	EN			°28.74	°42.92			-			☐	
75	LD11	27	17:32	BE	NET	/	48°28.74	126°42.93	1600		/	/	MG/DC	☐	Mini Bongo
			17:34	BO			°28.74	°42.94		50	-			☐	
			17:35	EN			°28.74	°42.94			-			☐	

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Month <u>August</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>7020-009</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/Fl Cleaned	Comments
76	LD11	27	17:54	BE	NET	/	48° 28.74	126° 42.94	1600		/	/	SS/KM/DR	☐ ☐	MPS
			18:45	BO			48° 28.738	126° 42.944		1535	-			☐ ☐	
			19:10	EN			48° 28.738	126° 42.944			-			☐ ☐	
77	LD11	27	19:25	BE	ROS	VS	48° 28.740	126° 42.940	1600		217-236		MB	☒ ☐	Fired Bot 22x
			19:53	BO			48° 28.738	126° 42.941		1555	-			☐ ☐	Did Not Close
			20:36	FN			48° 28.738	126° 42.941			-			☐ ☐	
78	LG09	28	01:12	BE	ROS	US	48° 51.20	127° 19.420	2071		237-241			☒ ☐	
			01:47	BO			48° 51.180	127° 19.380		2005	-	5	MB	☐ ☐	
			02:25	EN			48° 51.200	127° 19.380			-			☐ ☐	
79	LG09	28	02:35	BE	NET	-	48° 51.202	127° 19.377	2071		-		MB/MS	☐ ☐	Bot 250
			02:45	BO			48° 51.207	127° 19.393		250	-			☐ ☐	
			02:49	EN			48° 51.202	127° 19.378			-			☐ ☐	
80	LG09	28	02:57	BE	NET	-	48° 51.209	127° 19.379	2073		-		MB/MS	☐ ☐	Bot 1200
			03:37	BO			48° 51.199	127° 19.369		1200	-			☐ ☐	
			03:57	EN			48° 51.192	127° 19.393			-			☐ ☐	
81	LG09	28	04:11	BE	NET	-	48° 51.199	127° 19.400	2074		-			☐ ☐	MINI-NET
			04:12	BO			48° 51.199	127° 19.401		50	-			☐ ☐	
			04:13	EN			48° 51.199	127° 19.402			-			☐ ☐	
			:				°	°			-			☐ ☐	

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SLIKE IN - FL & SAL @ ~1100m DOWN

AFTER CAST 0077, LDI:

SWAP LATCHING MECHANISM AGAIN

TESTED ON DUEK. N1SKINS 2 AND 11 NOT WORKING WILL SKIP FROM NOW ON.

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Month <u>AUGUST</u>				Year <u>2020</u>		Vessel <u>SP TUCKY</u>				Cruise ID <u>2020-009</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
82	LG08	28	05:03	BE	ROS	-	48°55.270	127°13.380	2080		-	-	MR	☒	
			05:37	BO			48°55.250	127°13.380		2055	-			☐	
			06:10	EN			48°55.280	127°13.370			-			☐	
83	LG07	28	07:10	BE	ROS	/	48°59.35	127°07.26	1774		-	-	JS	☒	
			07:40	BO			°59.31	°07.27		1770	-			☐	
			08:08	EN			°59.32	°07.26			-			☐	
84	LG07	28	08:16	BE	NET	/	48°59.32	127°07.26	1772		-	-	MGDC	☐	BONGO
			08:25	BO			°59.32	°07.26		250	-			☐	
			08:29	EN			°59.32	°07.27			-			☐	
85	LG06	28	9:19	BE	ROS	US	49°03.55	127°01.20	965		242-258	17	AL	☒	dolphins
			9:39	BO			°03.39	°01.26		969	-			☐	SHARK SANDLANCE
			10:11	EN			°03.58	°01.23			-			☐	
86	LG05	28	10:57	BE	ROS	/	49°07.43	126°55.47	261		-	-	JS	☒	
			11:03	BO			°07.44	°55.51		272	-			☐	
			11:08	EN			°07.43	°55.52			-			☐	
87	LG04	28	11:53	BE	NET	/	49°11.19	126°49.43	145		-	-	JS/De	☐	BONGO
			11:58	BO			°11.20	°49.45		140	-			☐	
			12:01	EN			°11.20	°49.45			-			☐	
			:				°	°			-			☐	

Event Type:

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ROS = CTD in Rosette
SET = Fish Set

LOOP = Sea Water Loop

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NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

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

Notes:

Time Code:

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DE = Deployment Time
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RE = Recover Mooring Time

Produced by the Water Properties Group, IOS

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Month August		Year 2020		Vessel JPTully		Cruise ID 2020-009									
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
88	LG04	28	12:17	BE	ROS	US	49° 11.21	126° 49.46	145		259-267	9	MG	☒	
			12:20	BO			° 11.20	° 49.47		135	-			☐	
			12:33	EN			° 11.24	° 49.50			-			☐	
89	LG03	28	13:49	BE	ROS	US	49° 15.00	126° 43.75	122		—	—	MG	☒	HUMBACK PORT SIDE
			13:52	BO			° 15.00	° 43.75		112	-			☐	
			13:54	EN			° 15.01	° 43.74			-			☐	
90	LG02	28	14:32	BE	NET	/	49° 18.77	126° 38.19	100		—	—	JS/DC	☐	BONGO
			14:36	BO			49° 18.73	126° 38.17		95	-			☐	
			14:38	EN			49° 18.72	126° 38.16			-			☐	
91	LG02	28	14:48	BE	ROS	US	49° 18.71	126° 38.10	100		268-276	9	MG	☒	SESTONS AT STEVENS
			14:51	BO			° 18.73	° 38.10		91	-			☐	
			:	EN			° 18.90	° 38.11			-			☐	
92	ED1	28	15:22	BE	ROS	US	49° 17.80	126° 36.82	101		—	—	DC	☒	CTD only
			15:24	BO			° 17.81	° 36.86		91.6	-			☐	
			15:26	EN			° 17.82	° 36.89			-			☐	
93	LG01	28	15:55	BE	ROS	US	49° 20.52	126° 35.05	54		277-281	5	DC	☒	
			15:58	BO			° 20.52	° 35.05		41	-			☐	
			16:02	EN			° 20.51	° 35.05			-			☐	
94	LOOP94	28	16:58	BE	LOOP	UN	49° 25.67	126° 43.08	54	4.5	5094	—	DC	☐	

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 DRF = Drifter
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Bottle Firing Method:

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Notes:

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Month <u>August</u>			Year <u>2020</u>			Vessel <u>J.P. Tully</u>			Cruise ID <u>2020-009</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
95	L501	28	19:41	BE	ROS	-	49°44.312	127°2.537	61		-		MB	☒ ☐	
			19:42	BO			49°44.310	127°2.540		50	-			☐ ☐	
			19:43	EN			49°44.310	127°2.550			-			☐ ☐	
96	L502	28	20:09	BE	ROS	US	49°42.600	127°5.360	83		282-284	3	MB	☒ ☐	+LOOP 5096 27cm + 1 DAL
			20:10	BO			49°42.610	127°5.370		73	-			☐ ☐	
			20:14	EN			49°42.630	127°5.380			-			☐ ☐	
97	L502	28	20:20	BE	NET	-	49°42.612	127°5.389	83		-		MA	☐ ☐	Bongo
			20:22	BO			49°42.593	127°5.395		73	-			☐ ☐	
			20:23	EN			49°42.593	127°5.394			-			☐ ☐	
98	L503	28	21:09	BE	ROS	-	49°39.130	127°11.100	126		-		MB	☒ ☐	ABORT CAST
			21:16	BO			49°39.130	127°11.030		28	-			☐ ☐	
			21:17	EN			49°39.130	127°11.020			-			☐ ☐	
99	L503	28	21:25	BE	ROS	-	49°39.224	127°11.991	126		-		MB	☒ ☐	HANGING
			21:27	BO			49°39.227	127°11.992		115	-			☐ ☐	
			21:30	EN			49°39.233	127°11.011			-			☐ ☐	
100	L504	28	22:19	BE	ROS	US	49°35.604	127°16.865	158		284-286	3		☒ ☐	
			22:21	BO			49°35.620	127°16.865		148	-			☐ ☐	
			22:27	EN			49°35.628	127°16.878			-			☐ ☐	
			:				.	.			-			☐ ☐	

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Notes:

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ABORT @ ~ 28 DUE TO LARGE WIRE ANGLE, STRONG CURRENT & WIND

JIMMY WINCH.

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Month <u>AUGUST</u>			Year <u>2020</u>			Vessel <u>SP TULLY</u>			Cruise ID <u>2020-009</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	Tms/FI Cleaned	Comments
101	LJ04	28	22:34	BE	NET	-	49° 35.633	127° 16.888	158		-	-	MA/MB	☐ ☐	Bongo
			22:39	BO			49° 35.662	127° 16.910		148	-			☐ ☐	
			22:41	EN			49° 35.670	127° 16.921			-			☐ ☐	
102	LJ05	28	23:36	BE	ROS	-	49° 31.620	127° 22.530	1076		-	-	MB	☒ ☐	
			23:48	BO			49° 31.680	127° 22.560		1062	-			☐ ☐	
		29	00:06	EN			49° 31.690	127° 22.560			-			☐ ☐	
103	LJ06	29	00:57	BE	ROS	US	49° 27.890	127° 28.510	1049		287-289	3	KS	☒ ☐	+ Loop 5103 2CHL + 1PAC
			01:14	BO			49° 27.900	127° 28.580		1039	-			☐ ☐	
			01:33	FN			49° 27.930	127° 28.670			-			☐ ☐	
104	LJ06	29	01:40	BE	NET	-	49° 27.941	127° 28.683	1015		-	-	MA/MB	☐ ☐	Bongo
			01:49	BO			49° 27.986	127° 28.709			-			☐ ☐	
			01:54	EN			49° 27.960	127° 28.706			-			☐ ☐	
105	LJ07	29	02:39	BE	ROS		49° 24.080	127° 34.660	1822		-	-	KS	☒ ☐	
			03:12	BO			49° 24.040	127° 34.710		1812	-			☐ ☐	
			03:40	EN			49° 24.040	127° 34.710			-			☐ ☐	
106	LJ08	29	04:33	BE	ROS	-	49° 20.120	127° 40.960	1736		-	-	MB	☒ ☐	
			05:03	BO			49° 20.110	127° 40.950		1745	-			☐ ☐	
			05:32	EN			49° 20.100	127° 40.950			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Notes:

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Month <u>August</u>			Year <u>2020</u>			Vessel <u>JPT</u>			Cruise ID <u>2020-009</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/Fl Cleaned	Comments
107	LJ09	29	06:21	BE	ROS	US	49° 16.070	127° 47.330	2485		290 - 292	3	K5	☒	
			06:55	BO			49° 16.06	127° 47.32		2005	-			☐	
			07:32	EN			49° 16.06	127° 47.32			-			☐	
108	LJ09	29	07:45	BE	NET	-	49° 16.06	127° 47.32	2363		-	-	JS	☐	BONGO
			07:56	BO			49° 16.06	127° 47.32		250	-			☐	
			08:01	EN			49° 16.06	127° 47.32			-			☐	
109	LJ09	29	08:12	BE	NET	-	49° 16.05	127° 47.32	2503		-	-	JS	☐	BONGO
			08:54	BO			49° 16.06	127° 47.32		1200	-			☐	
			09:14	EN			49° 16.06	127° 47.32			-			☐	
110	LJ09	29	09:21	BE	NET	-	49° 16.06	127° 47.32	2502		-	-	JS	☐	MINI BONGO
			09:23	BO			49° 16.06	127° 47.32		50	-			☐	
			09:25	EN			49° 16.06	127° 47.32			-			☐	
111	LBP8	29	13:36	BE	ROS	-	49° 48.58	128° 16.80	2086		-	0	MR/MG	☒	
			14:14	BO			49° 48.55	128° 16.89		2006	-			☐	
			14:47	EN			49° 48.59	128° 16.82			-			☐	
112	LBP8	29	14:54	BE	NET		49° 48.66	128° 16.82	2087	250	-		MG/DX	☐	BONGO
			15:08	BO			° 48.73	° 16.86		2087	-			☐	
			15:13	EN			° 48.74	° 16.86			-			☐	
113	LOOP113	29	15:39	BE	LOOP		49° 50.54	128° 14.34	2054	4.5	5113 -		DC	☐	1 SAL 2CHL

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Bottle Firing Method:

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Notes:

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Month AUGUST			Year 2020			Vessel NP TULLY			Cruise ID 2020-009						
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							
114	LBP7	29	16:03	BE	NET	/	49° 52.43	128° 11.30	2186		/	/	JS/DC	☐ ☐	BONGO WHALE
			16:18	BO			° 52.51	° 11.33		250	-			☐ ☐	
			16:23	EN			° 52.52	° 11.33			-			☐ ☐	
115	LBP7	29	16:36	BE	ROS	US	49° 52.51	128° 11.37	2198		293-312	20	MG	☐ ☐	
			17:09	BO			° 52.51	° 11.48		2005	-			☐ ☐	
			18:01	EN			° 52.57	° 11.57			-			☐ ☐	
116	LBP6	29	18:58	BE	ROS	-	49° 56.183	128° 5.504	900		-	-	MB	☒ ☐	MAYBE WHALE
			19:16	BO			49° 56.286	128° 5.515		740	-			☐ ☐	HENDER (LBP7?)
			19:28	EN			49° 56.255	128° 5.672			-			☐ ☐	
117	LBP5	29	20:11	BE	ROS	US	50° 0.080	128° 0.050	1297		33-331	19	MB	☒ ☐	
			20:33	BO			50° 0.125	128° 0.109		1286	-			☐ ☐	
			21:11	EN			50° 0.194	128° 0.188			-			☐ ☐	
118	LBP5	29	21:16	BE	NET		50° 0.164	128° 0.150	1302		-			☐ ☐	BONGO 250
			21:27	BO			50° 0.199	128° 0.202		250	-			☐ ☐	
			21:30	EN			50° 0.203	128° 0.189			-			☐ ☐	
119	LBP4	29	21:51	BE	ROS	-	50° 1.386	127° 58.070	1054??		/	/	KS	☒ ☐	
			22:11	BO			50° 1.400	127° 58.140		1041	-			☐ ☐	
			22:34	EN			50° 1.400	127° 58.240			-			☐ ☐	
			:				°	°						☐ ☐	

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Notes:

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STOP @ 360 / TO CORRECT WERE
STEEL SLOPE SOUNDER BETWEEN 750 → 900m DOWN, STOP @ 740 TO BE CAUTIOUS

Event 119 - stopped downcast early due to unreliable sounder reading and depth 20 m deeper than sounder on bridge. Altimeter had not found bottom when cast stopped. Felt too risky going further.

- Stop @ 414 m on upcast to correct severe inboard lead

DAILY SCIENCE LOG

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Month		August		Year		2020		Vessel		JP Tully		Cruise ID		2020-009		Page 20 of 37	
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									
120	LBP3	29	23:01	BE	ROS	US	50° 3.196	127° 55.244	167		332 - 341	10	MB	☒			
			23:05	BO			50° 3.200	127° 55.235		157	-			☐			
			23:16	EN			50° 3.190	127° 55.260			-			☐			
121	LBP3	29	23:24	BE	NET	-	50° 3.175	127° 55.274	168		/	/	MA	☐		Bongo	
			23:29	BO			50° 3.180	127° 55.272		157	-			☐			
			23:32	EN			50° 3.190	127° 55.260			-			☐			
122	LBP2	29	23:57	BE	ROS	-	50° 4.010	127° 54.160	98		342	1	MB	☒			
			23:59	BO			50° 4.010	127° 54.154		88	-			☐			
			00:02	EN			50° 3.997	127° 54.144			-			☐			
123	LBP2	29	00:06	BE	NET	-	50° 3.999	127° 54.160	98		-	-	MA/MS	☐		Bongo	
		30	00:09	BO			50° 3.985	127° 54.139		86	-			☐			
			00:11	EN			50° 3.978	127° 54.144			-			☐			
124	LBP1	30	00:26	BE	ROS	-	50° 04.77	127° 52.83	55		-	0	MR	☒		To # better	
			00:27	BO			50° 04.76	127° 52.85			-			☐			
			00:28	EN			50° 04.75	127° 52.88			-			☐			
125	LOOP125	30	08:39	BE	LOOP	UN	50° 38.25	128° 25.48	84	4.5	5125 -			☐		1 SAL 2016	
126	SS15	30	09:44	BE	ROS	-	50° 46.67	128° 29.72	46		-	-	JS	☒		Heavy Current	
			09:46	BO			° 46.62	° 29.74		75	-			☐		took rosette in and out	
			09:48	EN			° 46.54	° 29.84			-			☐		of water at first deployment	

Event Type:

LOOP = Sea Water Loop

Bottle Firing Method:

Time Code:

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 NET = Plankton Net Haul
 DRF = Drifter
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Notes:

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CAST 122 LBP2:

TEMP & SALINITY DIFFERENCE VERY LARGE, FIRED BOT #1 FOR A SALINITY SAMPLE @ 8d-10
SOMETHING STUCK IN CBL

AFTER EVENT 124

RESPONDING TO SAR CALL ~ 2100, RESUME PROCEEDING TO STN ISIS @ 0010
SAILED INTO QUATERO SOUND:

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Month <u>AUGUST</u>			Year <u>2020</u>			Vessel <u>JPTULLY</u>			Cruise ID <u>2020009</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/Fl Cleaned	Comments
127	CPE2	30	10:43	BE	ROS	-	50°43.10	121°39.82	124		-	-	DC	☒ ☐	lots of current
			10:45	BO			50°43.12	128°39.85		114	-			☐ ☐	forward lead
			10:48	EN			50°43.13	128°39.81			-			☐ ☐	
128	CPE2	30	10:58	DE	NET	-	50°42.98	128°39.96	123		-	-	JS	☐ ☐	BONGO
			11:04	BO			50°43.01	128°39.92		117	-		MG	☐ ☐	
129	LQ03	30	11:06	EN			50°43.02	128°39.92			-			☐ ☐	
129	LQ03	30	12:50	BE	ROS	-	50°39.69	129°01.91	1245		-	-	DC/MR	☒ ☐	
			13:17	BO			50°39.67	129°01.89		1260	-			☐ ☐	
			13:37	EN			50°39.74	129°01.92			-			☐ ☐	
130	LQ03	30	13:43	BE	NET	-	50°39.75	129°01.96	1242		-	-	JS/MG	☐ ☐	BONGO
			13:52	BO			°39.68	°01.82		250	-			☐ ☐	
			13:56	EN			°39.64	°01.72			-			☐ ☐	
131	CS00	30	17:52	BE	NET	-	50°27.77	129°54.94	2192		-	-	MG/DC	☐ ☐	BONGO
			18:02	BO			°27.74	°54.97		2570	-			☐ ☐	
			18:06	EN			°27.73	°54.99			-			☐ ☐	
132	CS00	30	18:13	BE	NET	-	50°27.71	129°55.01	2190		-	-	Night Day	☐ ☐	BONGO
			18:58	BO			50°27.663	129°55.052		1223	-			☐ ☐	
			19:18	EN			50°27.660	129°55.050			-			☐ ☐	
			:				°	°			-			☐ ☐	

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
 — =

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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DAILY SCIENCE LOG

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Month <u>August</u>			Year <u>2020</u>			Vessel <u>JPT</u>			Cruise ID <u>2020-009</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
133	CS00	30	19:28	BE	ROS	US	50° 27.660	129° 55.049	2192		343 - 362	20	MB	☒	
			20:04	BO			50° 27.660	129° 55.050		2005	-			☐	
			20:53	EN			50° 27.656	129° 55.040			-			☐	
134	CS01	30	22:07	BE	ROS	-	50° 34.910	129° 41.340	2123		-	-	MB	☒	
			22:41	BO			50° 34.900	129° 41.340		2005	-			☐	
			23:15	EN			50° 34.900	129° 41.340			-			☐	
135	CS01	30	23:22	BE	NET	-	50° 34.902	129° 41.342	2122		-	-	MA/MB	☐	Bongo
			23:32	BO			50° 34.902	129° 41.344		250	-			☐	
			23:36	EN			50° 34.901	129° 41.343			-			☐	
136	CS02	31	00:59	BE	NET		50° 41.290	129° 28.008	1914		-	-	MA/MB	☐	
			01:10	BO			50° 41.314	129° 28.025		250	-			☐	Bongo
			01:15	EN			50° 41.338	129° 28.009			-			☐	
137/138	CS02	31	01:25	BE	ROS	US	50° 41.396	129° 28.084	1914		363 - 382	20	KS	☒	
			02:00	BO			50° 41.402	129° 28.102		1908	- (383)	21		☐	
			02:59	EN			50° 41.420	129° 28.180			-			☐	
139	SI22	31	04:15	BE	ROS	-	50° 39.780	129° 17.370	1400		-	-	MB	☒	
			04:43	BO			50° 39.780	129° 17.380		1450	-			☐	
			05:07	EN			50° 39.780	129° 17.380			-			☐	
			:				.	.			-			☐	

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Notes:

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Event 136

- Aborted First cast. Lines connecting cod-ends / come apart. Repaired @ the rail and re-started cast.

Event 137/138

- Computer Freeze up @ ~720 m on upcast. Rebooted everything. Reconfigured Seasave and started new event (138). Niskins 1-6 on event 137 and 7-23 on event 138.

CAST 139

ALTIMETER DID NOT FIND BOTTOM @ 1450m, RETURN TO SURF, SOUNDER SEEING SOMETHING BELOW 1500m,

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Month <u>August</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-009</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
140	JI22	31	05:30	BE	NET	—	50° 39.809	129° 17.494	~1400		—	—	MA/MB	☐	Bongo
			05:42	BO			50° 39.255	129° 17.673		250	-			☐	
			05:46	EN			50° 39.860	129° 17.768			-			☐	
141	CS03	31	06:32	BE	ROS	—	50° 45.640	129° 20.050	240		—	—	KS	☒	
			06:37	BO			50° 45.630	129° 20.080		230	-			☐	
			06:41	EN			50° 45.640	129° 20.090			-			☐	
142	CS03	31	06:53	BE	NET	—	50° 45.661	129° 20.178	243		-		MG/DC	☐	Bongo
			07:01	BO			50° 45.682	129° 20.179		238	-			☐	
			07:05	EN			50° 45.685	129° 20.178			-			☐	
143	CS04	31	07:55	BE	NET	—	50° 49.17	129° 13.02	100		-		JS/DC	☐	Bongo
			08:02	BO			50° 49.17	129° 13.06		95	-			☐	
			08:04	EN			50° 49.18	129° 13.10			-			☐	
144	CS04	31	08:15	BE	ROS	US	50° 49.18	129° 13.09	98		383-389	7	MG	☒	
			08:18	BO			50° 49.20	129° 13.12		90	-			☐	
			08:27	EN			50° 49.19	129° 13.08			-			☐	
145	Scott3	31	09:52	BE	ROS	—	50° 50.61	129° 29.23	242		—	—	DC	☒	Art + bad
			09:57	BO			50° 50.64	129° 29.25		230	-			☐	
			10:01	EN			50° 50.67	129° 29.28			-			☐	
146	loop 146	31	10:16	BE			50° 51.18	129° 31.41	230	4.5	—	—	JS	☐	ISAL 2 CHL

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Notes:

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Event 140

1st attempt failed due to strong surface currents and extreme starboard lead. Bridge requested abortion of cast. Nets washed down and flowmeter re-read for second attempt. Ship re-positioned.

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Month <u>AUGUST</u>				Year <u>2020</u>		Vessel <u>LP TULLY</u>				Cruise ID <u>2020009</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
147	NewODAS	31	12:29	BE	ROS	/	50°56.344	129°58.616	2121		-	/	JS/MR	☒	
			13:04	BO			50°56.350	129°58.700		2005	-			☐	
			13:38	EN			50°56.33	129°58.66			-			☐	
148	NewODAS	31	13:45	BE	NET	/	50°56.32	129°58.68	2120		-	/	MR/DC	☐	BONGO
			13:58	BO			50°56.30	129°58.76		250	-			☐	
			14:03	EN			50°56.29	129°58.77			-			☐	
149	SCOTT 2	31	16:41	BE	ROS	/	51°07.56	129°29.01	292		-	/	MG	☒	
			16:47	BO			51°07.55	129°28.99		280	-			☐	
			16:52	EN			51°07.56	129°28.95			-			☐	
150	CS3B	31	17:55	BE	ROS	/	50°59.97	129°26.93	220		-	/	MG	☒	
			17:59	BO			50°59.97	129°26.93		210	-			☐	
			18:02	EN			50°59.96	129°26.95			-			☐	
151	CS3B	31	18:06	BE	NET	/	50°59.96	129°26.95	221		-	/	JS/DC	☐	BONGO
			18:15	BO			50°59.93	129°27.01		216	-			☐	
			18:18	EN			50°59.93	129°27.01			-			☐	
152	CS05	31	20:22	BE	ROS	-	50°55.907	128°59.908	66		-	-	MB	☒	7/15/19
			20:23	BO			50°55.900	128°59.900			-			☐	
			20:24	EN			50°55.900	128°59.870	65		-	/	MB/MA	☐	
153	CS05	31	20:28	DE	DRF	-	50°55.943	129°59.855			-			☐	7/15/19

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Notes:

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SHUT DOWN AND

EVENT 147 REBOOT COMPUTER + PROGRAM

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Month			August/SEP		Year			2020		Vessel		Tully		Cruise ID		2020-009	
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/Fl Cleaned	Comments		
							Latitude	Longitude									
154	CS1B	31	21:55	BE	ROS	-	50° 52.900	128° 39.890	73		-	-	KS	☒			
			21:56	BO			50° 52.890	128° 39.890		61	-			☐			
			21:58	EN			50° 52.880	128° 39.910			-			☐			
155	CS1B	31	22:03	BE	NET	-	50° 52.843	128° 39.955	72		-	-	MA/MB	☐		Bongo	
			22:05	BO			50° 52.854	128° 39.926		61	-			☐			
			22:06	EN			50° 52.882	128° 39.897			-			☐			
156	CS06	31	23:29	BE	ROS	US	50° 59.960	128° 51.980	65		390-395	6	MB/KS	☒			
			23:30	BO			50° 59.960	128° 52.010		55	-			☐			
			23:37	EN			50° 59.990	128° 52.100			-			☐			
157	CS06	31	23:46	BE	NET	-	51° 00.08	128° 51.82	65		-		MA	☐		Bongo	
			23:48	BO			51° 00.08	128° 51.79		55	-			☐			
			23:49	EN			51° 00.07	128° 51.79			-			☐			
158	CS07	1	00:47	BE	ROS	-	51° 4.610	128° 44.120	65		-	-	KS	☒			
			00:48	BO			51° 4.610	128° 44.120		54	-			☐			
			00:49	EN			51° 4.610	128° 44.130			-			☐			
159	CS08	1	01:48	BE	ROS	-	51° 8.420	128° 36.040	143		-	-	MR	☒			
			01:50	BO			51° 8.380	128° 36.030		132	-			☐			
			01:53	EN			51° 8.370	128° 36.030			-			☐			
			:				°	°			-			☐			

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 DRF = Drifter
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Bottle Firing Method:

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

Notes:

Time Code:

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

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Event 154 - I forgot to enter correct depth in header.

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BIG O₂ SPIKE @ 50m ↓ LARGE SHIFT BETWEEN ↑ & ↓,

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Month <u>September</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-009</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
160	CS09	01	02:53	BE	NET	-	51° 12.507	128° 27.967	195				MA/MB	☐	Bongo
			03:01	BO			51° 12.499	128° 28.062		185	-			☐	2x Humpbacks off stern.
			03:04	EN			51° 12.480	128° 28.084			-			☐	
161	CS09	01	03:15	BE	ROS	US	51° 12.480	128° 28.210	195		396-406	11	KS	☒	
			03:19	BO			51° 12.500	128° 28.210		185	-			☐	
			03:34	EN			51° 12.520	128° 28.330			-			☐	
162	CS10	01	04:30	BE	ROS	US	51° 16.548	128° 19.951	80		-	-	MB	☐	
			04:32	BO			51° 16.560	128° 19.920		69	-			☐	
			04:33	EN			51° 16.550	128° 19.900			-			☐	
163	CS10	01	: 0	BE	NET	-	51° 16.525	128° 19.846	80		-	-	MA/MB	☐	Bongo
			04:44	BO			51° 16.499	128° 19.819		70	-			☐	
			04:46	EN			51° 16.496	128° 19.794			-			☐	
164	CS10	01	04:57	BE	NET	-	51° 16.454	128° 19.721	79		-	-	MA/MB	☐	Mini-Bongo
			:	BO			51° 16.471	128° 19.723		59	-			☐	
			05:00	EN			° .472	128° 19.723			-			☐	
165	SS7	01	08:23	BE	ROS		51° 24.64	127° 47.60	126		-	-	JS	☒	
			08:26	BO			51° 24.62	127° 47.60		115	-			☐	
			08:28	EN			51° 24.59	127° 47.61			-			☐	
			:				° .	° .			-			☐	

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Bottle Firing Method:

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Notes:

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Month <u>September</u>			Year <u>2020</u>		Vessel <u>JPT</u>		Cruise ID <u>2020-009</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							
166	SS7	01	08:33	BE	NET	—	51°24.62	127°47.64	125		—	—	MG/DC	☐	
			08:38	BO			51°24.57	127°47.65		120	-			☐	
			08:40	EN			51°24.56	127°47.66			-			☐	
167	SS6	01	10:01	BE	ROS	—	51°19.93	127°59.82	176		—	—	DC	☒	
			10:06	BO			51°19.95	127°59.93		167	-			☐	
			10:09	EN			51°19.94	127°59.94			-			☐	
168	SS5	01	12:42	BE	ROS	US	51°27.94	128°29.93	200		407-409	3	MG	☒	LOOP 5168 1 SAL 2 CHL
			12:46	BO			51°27.93	128°29.98		191	-			☐	
			12:53	EN			51°27.92	128°30.02			-			☐	DAY SAL TRACE VERY DIVERGENT GOING ↑
169	SS5	01	12:58	BE	NET	—	51°27.98	128°30.11	200		—	—	JS.	☐	BONGO
			13:06	BO			51°28.08	128°30.18		195	-			☐	
			13:10	EN			51°28.12	128°30.16			-			☐	
170	SS4	01	15:37	BE	ROS	US	51°21.120	129°00.020	238		413-420	8	JS	☒	Just Oxyg sampled
			15:42	BO			51°21.100	129°00.020		226	-			☐	SAMPLE # OUT & OVER SHARK
			15:54	EN			51°21.050	129°00.002			-			☐	
171	Loop 171	01	16:13	BE	LOOP	UN	51°20.34	129°02.76	249	4.5	5171-		DC	☐	1 SAL 2 CHL
172	SS3	01	18:08	BE	ROS	US	51°15.69	129°20.78	292		410-412	3	MG	☒	
			18:13	BO			51°15.09	129°20.77		281	-			☐	
			18:21	EN			51°15.10	129°20.78			-			☐	

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EVENT 168 FAUSHED OXY/FLOW

EVENT 170

SAMPLE
SERIAL NUMBERS FOR SS3 ALREADY PRINTED 410-412

START SS1 WITH SAMPLE #421

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Month			Year			Vessel			Cruise ID						
SEPTEMBER			2020			JP Tully			2020009						
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
173	SS3	01	18:26	BE	NET	/	51°15.11	129°20.76	292		/	/	SYDL	☐ ☐	Bongo
			18:37	BO			51°15.103	129°20.772		250	-			☐ ☐	
			18:42	EN			51°15.11	129°20.76			-			☐ ☐	
174	SS2	01	20:50	BE	ROS	-	51°12.970	129°42.870	587		-	-		☒ ☐	
			21:08	BO			51°13.054	129°42.750		563	-			☐ ☐	
			21:17	EN			51°13.004	129°42.718			-			☐ ☐	
175	SS1	01	22:50	BE	ROS	US	51°11.930	130°59.860	495		421-423	3	KS	☒ ☐	loop 5175 2 chl, 1 Sal
			22:58	BO			51°11.940	130°59.860		484	-			☐ ☐	
			23:11	EN			51°11.910	130°59.870			-			☐ ☐	
176	SS1	01	23:19	BE	NFT	/	51°11.867	129°59.897	500		-	-	MA	☐ ☐	Bongo
			23:29	BO			51°11.754	129°59.934		250	-			☐ ☐	
			23:34	EN			51°11.728	129°59.977			-			☐ ☐	
177	NL01	02	04:10	BE	ROS	US	51°22.290	130°50.630	2226		424-431	8	MB	☒ ☐	
			04:46	BO			51°22.290	130°50.630		2005	-			☐ ☐	
			05:27	EN			51°22.290	130°50.630			-			☐ ☐	
178	NL01	02	05:32	BE	NET	-	51°22.286	130°50.633	2216		-		MA	☐ ☐	Bongo!
			05:45	BO			51°22.296	130°50.649		250	-			☐ ☐	
			05:49	EN			51°22.301	130°50.661			-			☐ ☐	
179	LOOP	02	05:56	BE	LOOP	UN	51°32.52	130°48.88		4.5	5179-			☐ ☐	

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STOP @ 40m ↓ TO CORRECT WIRE

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Month			Year			Vessel			Cruise ID						
SEPTEMBER			2020			J P TULLY			2020 009						
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							
180	MT11B	02	08:44	BE	ROS	/	51° 42.07	130° 33.40	1000		/	/	MG	☒ ☐	↑ Stop @ 63 ~ 30 Sec
			09:02	BO			° 42.02	° 33.46		984	-			☐ ☐	
			09:18	EN			° 41.92	° 33.46			-			☐ ☐	
181	NL02	02	10:52	BE	ROS	/	51° 33.60	130° 16.36	868		/	/	JS	☒ ☐	
			11:08	BO			51° 33.62	130° 16.39		860	-			☐ ☐	
			11:23	EN			51° 33.64	130° 16.48			-			☐ ☐	
182	G101	02	13:54	BE	ROS	/	51° 30.10	129° 38.16	148		/	/	DC	☒ ☐	
			13:57	BO			° 30.14	° 38.22		139	-			☐ ☐	
			14:00	EN			° 30.18	° 38.27			-			☐ ☐	
183	NL03	02	16:16	BE	ROS	US	51° 48.07	129° 39.95	295		432-434	3	MG	☒ ☐	
			16:22	BO			° 48.07	° 39.94		282	-			☐ ☐	
			16:30	EN			° 48.09	° 39.94			-			☐ ☐	
184	NL03	02	16:36	BE	NET	/	51° 48.11	129° 39.95	294		/	/	JS/DC	☐ ☐	BONGO
			16:51	BO			51° 48.16	129° 40.04		250	-			☐ ☐	
			16:55	EN			° 48.16	° 40.04			-			☐ ☐	
185	MT08B	2	20:18	BE	ROS	.	52° 14.000	130° 11.520	503		-	-	MB	☒ ☐	
			20:27	BO			52° 14.071	130° 11.471		494	-			☐ ☐	
			20:36	EN			52° 14.056	130° 11.503			-			☐ ☐	
			:				°	°			-			☐ ☐	

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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Month			Year			Vessel			Cruise ID						
September			2020			Tully			2020-009						
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/Fl Cleaned	Comments
186	GN02	02	22:59	BE	ROS	-	52° 9.970	129° 37.570	223		-	-	KS	☒	
			23:02	BO			52° 9.960	129° 37.580		212	-			☐	
			23:06	EN			52° 9.960	129° 37.560			-			☐	
187	NL04	03	01:21	BE	ROS	-	51° 55.960	129° 11.830	168		-	-	KS	☒	
			01:24	BO			51° 55.950	129° 11.830		152	-			☐	
			01:26	EN			51° 55.940	129° 11.820			-			☐	
188	NL05	03	03:41	BE	ROS	US	51° 40.510	128° 54.383	43		435-437	3	MB	☒	7 LOP & 5189 2 CHL & 1 SAL
			03:42	BO			51° 40.510	128° 54.380		33	-			☐	
			03:45	EN			51° 40.500	128° 54.350			-			☐	
189	NL05	03	03:51	BE	NET	-	51° 40.500	128° 54.364	43		-	-	MA	☐	Bongo
			03:52	BO			51° 40.505	128° 54.381		33	-			☐	
			03:53	EN			51° 40.508	128° 54.388			-			☐	
190	HAK1	03	06:28	BE	ROS	US	51° 42.660	128° 14.660	143		438-446	9	KS	☒	
			06:31	BO			51° 42.660	128° 14.650		132	-			☐	
			06:40	EN			51° 42.650	128° 14.620			-			☐	
191	HAK1	03	06:52	BE	NET	-	51° 42.64	128° 14.65	142		-	-	MG/DC	☐	Bongo
			06:57	BO			51° 42.61	128° 14.59		137	-			☐	
			06:59	EN			51° 42.60	128° 14.57			-			☐	
192	LOOP192	03	09:58	BE	LOOP	UN	51° 14.78	128° 06.86	40	4.5	-	-	DC	☐	1 SAL 2 CHL

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Notes:

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Month			SEPTEMBER		Year		2020		Vessel		IP5004		Cruise ID		2020-009	
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	
193	CPE1	03	12:06	BE	ROS	✓	51° 00.02	127° 50.08	146		-	✓	MG	☒ ☐		
			12:09	BO			51° 00.01	127° 50.07		136	-			☐ ☐		
			12:12	EN			51° 00.00	127° 50.06			-			☐ ☐		
194	CPE1	03	12:15	BE	NET	✓	51° 00.00	127° 50.02	149		✓	✓	JS/DC	☐ ☐	BONGO	
			12:21	BO			50° 59.99	127° 50.07		143	-			☐ ☐		
			12:24	EN			50° 59.98	127° 50.07			-			☐ ☐		
195	CPE1	03	12:37	BE	DRF	✓	50° 59.96	127° 49.96	154	0	✓	✓	JS/DC	☐ ☐	SPONGE BOB 1152 OSKER 0455	
196	JS	3	23:49	BE	NET	-	50° 29.84	126° 29.49	405		-	-	MA	☐ ☐		
		4	00:33	BO			50° 29.89	126° 29.58		400	-		MA/MB	☐ ☐		
		4	00:09	EN			50° 29.90	126° 29.66			-			☐ ☐		
197	JS	4	00:45	BE	ROS	US	50° 29.886	126° 29.640	402		447 - 460	14	MB	☒ ☐	BOT II DID NOT CLOSE	
			00:52	BO			50° 29.890	126° 29.660		399	-			☐ ☐		
			01:09	EN			50° 29.860	126° 29.6			-			☐ ☐		
198	CHP1	04	08:49	BE	ROS	✓	50° 20.77	125° 26.04	327		✓	✓	MG	☒ ☐	FIRE BOT II TO TEST →	
			08:58	BO			50° 20.74	125° 25.93		320	-		✓	☐ ☐	↓ STOP @ 205 FOR 1 MIN	
			09:04	EN			50° 20.74	125° 25.93			-			☐ ☐		
199	LOOP199	04	09:16	BE	LOOP	UN	50° 20.39	125° 25.83	229	4.5	5199	✓	DC	☐ ☐	1 SAL 2CH	
200	LOOP200	04	14:11	BE	LOOP	UN	50° 09.25	125° 21.53	195	4.5	5200	✓	JS	☐ ☐	SAL C	
			:				°	°			-			☐ ☐		

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FUEL IN PORT HARDY ~ 0930 - 1300

RESTART ALL 4 COMPUTERS IN THE RACK.

EVENT 198 POURED HOT WATER OVER CAROSEL BOT II DID NOT FIRE
STOP @ 124 ↑ FOR ~ 30 SECONDS

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Month		Year		Vessel		Cruise ID									
SEPTEMBER		2020		NPTULLY		2020-009									
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							
201	14	04	16:55	BE	ROS	US	49° 53.01	124° 59.56	316		461-464	4	MG	☒	
			17:02	BO			° 53.02	° 59.55		306	-			☐	
			17:11	EN			° 53.01	° 59.56			-			☐	
202	14	04	17:16	BE	NET	/	49° 53.00	124° 59.62	317		-	-	JS/DC	☐	BONGO
			17:26	BO			° 53.03	° 59.68		312	-			☐	
			17:31	EN			° 53.04	° 59.74			-			☐	
203	12	04	19:25	BE	N	/	49° 43.600	124° 40.802	355		-	-	MA/MB	☐	Bongo
			19:37				49° 43.627	124° 40.841		350	-			☐	
			19:43	EN			49° 43.635	124° 40.829			-			☐	
204		04	19:53	BE	ROS	US	49° 43.650	124° 40.820	356		465-480	16	MB	☒	
			19:59	BO			49° 43.660	124° 40.810		348	-			☐	
			20:18	EN			49° 43.690	124° 40.840			-			☐	
205	9	4	21:21	BE	ROS	US	49° 35.503	124° 38.368	169		481-484	4	MB	☒	
			21:24	BO			49° 35.500	124° 38.380		164	-			☐	
			21:30	EN			49° 35.500	124° 38.360			-			☐	
206	6	4	22:28	BE	ROS	US	49° 30.620	124° 27.780	192		485-488	4	MB	☒	
			22:32	BO			49° 30.640	124° 27.800			-			☐	
			22:39	EN			49° 30.670	124° 27.800			-			☐	
			:				°	°			-			☐	

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Month <u>September</u>			Year <u>2020</u>			Vessel <u>JP Tully</u>			Cruise ID <u>2020-009</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
207	CPF2	4	23:10	BE	ROS	-	49° 27.980	124° 30.000	325		-	-	MB	☒	
			23:16	BO			49° 27.940	124° 29.980		321	-			☐	
			23:22	EN			49° 27.900	124° 29.920			-			☐	
208	CPF2	4	23:28	BE	NET	-	49° 27.992	124° 29.969	328		-	-	MA	☐	Bongo
			23:39	BO			49° 27.99	124° 29.98		320	-			☐	
			23:44	EN			49° 27.981	124° 29.983			-			☐	
209	BS1	5	01:17	BE	NET	-	49° 29.044	124° 46.068	67		-		MA	☐	Bongo
			01:18	BO			49° 29.035	124° 46.074		55	-			☐	
			01:19	EN			49° 29.036	124° 46.074			-			☐	
210	BS1	5	01:28	BE	ROS	US	49° 29.029	124° 46.081	61		489-492	4	MB	☒	
			01:30	BO			49° 29.029	124° 46.082		55	-			☐	
			01:34	EN			49° 29.030	124° 46.082			-			☐	
211	3	05	03:50	BE	ROS	US	49° 26.570	124° 20.210	327		493-496	4	KS	☒	
			03:56	BO			49° 26.560	124° 20.270		320	-			☐	
			04:05	EN			49° 26.570	124° 20.320			-			☐	
212	12	05	05:14	BE	ROS	US	49° 24.114	124° 9.252	280		497-500	4	MB	☒	
			05:18	BO			49° 24.130	124° 9.240		2	-			☐	
			05:28	EN			49° 24.169	124° 9.203			-			☐	
			:				.	.			-			☐	

Event Type:

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Bottle Firing Method:

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Notes:

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

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Event 211

Altimeter cut out @ 320m so winch operator stopped and we cut the downcast there for fear of hitting bottom.

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Month		Year		Vessel		Cruise ID		Page							
September		2020		SP Tully		2020-069		34 of 37							
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
213	24	5	06:21	BE	ROS	-	49°30.320	124°6.020	428				KS	☒	
			06:29	BO			49°30.320	124°6.030		423				☐	
			06:36	EN			49°30.320	124°6.020						☐	
214	24	5	06:43	BE	NET	-	49°30.313	124°6.013	427				MA/MB	☐	Bongo
			06:57	BO			49°30.315	124°05.98		422				☐	
			07:04	EN			49°30.286	124°05.942						☐	
215	22	05	08:33	BE	ROS	US	49°40.21	124°16.26	353		501-504	4	MG	☒	
			08:39	BO			49°40.21	124°16.26		342				☐	
			08:49	EN			49°40.22	124°16.26						☐	
216	22	05	08:54	BE	NET	/	49°40.22	124°16.25	354				JS/DC	☐	BONGO
			09:06	BO			°40.21	°16.22		349				☐	
			09:12	EN			°40.21	°16.20						☐	
217	CPE1	05	11:28	BE	ROS	/	49°21.98	124°04.93	246				MG	☒	
			11:34	BO			°21.96	°04.94		235				☐	
			11:39	EN			°21.95	°04.94						☐	
218	CPE1	05	11:44	BE	NET	/	49°21.96	124°04.91	247				JS/DC	☐	BONGO
			11:52	BO			°21.96	°04.85		241				☐	
			11:57	EN			°21.96	°04.81						☐	
219	LOOP219	05	12:45	BE	LOOP		49°22.97	123°55.60	386	4.5	5219.		DC	☐	15AL 2CHL

Event Type:

BOT = Bottle cast (no CTD)
MOR = Mooring

LOOP = Sea Water Loop
MOR = Mooring

Bottle Firing Method:

Time Code:

CTD Transmittance and FI

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Notes:

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Month SEPTEMBER				Year 2020		Vessel JPTULLY				Cruise ID 2020-009					
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
220	28	05	13:47	BE	ROS	/	49° 24.17	123° 45.22	136		/	/	MG	☒	
			13:50	BO			49° 24.17	123° 45.21		125	-			☐	
			13:52	EN			49° 24.17	123° 45.21			-			☐	
221	28	05	13:56	BE	NET	/	49° 24.17	123° 45.20	137		/	/	JS/dc	☐	BONGO
			14:00	BO			49° 24.17	123° 45.19		131	-			☐	
			14:03	EN			49° 24.18	123° 45.19			-			☐	
222	27	05	14:54	BE	ROS	US	49° 19.18	123° 47.68	359		505-520	17	MG	☒	
			15:03	BO			49° 19.14	123° 47.69		351	-			☐	
			15:26	EN			49° 19.14	123° 47.70			-			☐	
223	GEO1	05	16:10	BE	ROS	US	49° 15.10	123° 45.05	405		521-524	4	MG	☒	
			16:20	BO			49° 15.07	123° 45.03		399	-			☐	
			16:32	EN			49° 15.04	123° 45.02			-			☐	
224	GEO1	05	16:36	BE	NET	/	49° 15.07	123° 45.01	405		/	/	dc/js	☐	BONGO
			16:50	BO			° 15.01	° 45.00		400	-			☐	
			16:56	EN			° 15.00	° 45.00			-			☐	
225	GEO1	05	17:03	BE	NET	/	49° 15.01	123° 45.00	405		/	/	dc/js	☐	MINI
			17:06	BO			° 15.01	° 45.00		50	-			☐	
			17:07	EN			° 15.01	° 45.00			-			☐	
			:				°	°			-			☐	

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Notes:

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Month <u>SEPTEMBER</u>				Year <u>2020</u>		Vessel <u>IP TULLY</u>				Cruise ID <u>2020-009</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
226	GEO1	05	17:19	BE	NET	UN	49° 15.01	123° 45.00	404		/	/	MB	☐	MP5
			17:33	BO			° 15.01	° 45.00		395	-			☐	
			17:41	EN			° 15.01	° 45.00			-			☐	
227	39	5	19:23	BE	ROS	US	49° 9.823	123° 32.999	376		525-528	4	MB	☒	
			19:31	BO			49° 9.823	123° 33.031		370	-			☐	
			19:40	EN			49° 9.810	123° 33.063			-			☐	
228	38	5	20:32	BE	ROS	-	49° 11.970	123° 26.180	299		-		KS	☒	stopped bot-10
			20:37	BO			49° 11.960	123° 26.120		288	-			☐	due to inboard lead
			20:43	EN			49° 11.990	123° 26.060			-			☐	
229	38	5	20:51	BE	NET	-	49° 11.987	123° 26.216	300		-		MA	☐	BOUNCO
			21:01	BO			49° 11.981	123° 26.224		295	-			☐	
			21:05	EN			49° 11.980	123° 26.224			-			☐	
230	42	5	22:27	BE	NET	-	49° 1.734	123° 26.276	320		-		MA	☐	BOUNCO
			22:37	BO			49° 1.739	123° 26.285		315	-			☐	
			22:43	EN			49° 1.739	123° 26.285			-			☐	
231	42	5	22:53	BE	ROS	US	49° 1.750	123° 26.290	321		529-544	17	MB	☒	
			22:58	BO			49° 1.740	123° 26.287		316	-			☐	
			23:18	EN			49° 1.748	123° 26.279			-			☐	
			:				°	°			-			☐	

Event Type:

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

LOOP = Sea Water Loop

MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter
 =

Bottle Firing Method:

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

Notes:

Time Code:

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

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

DE = Deployment Time
 MR = Messenger Release Time
 RE = Recover Mooring Time

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>September</u>			Year <u>2020</u>			Vessel <u>Tully</u>			Cruise ID <u>2020-009</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
232	46	06	02:05	BE	NET	—	48° 51.401	123° 10.817	180		—	—	MA	☐ ☐	Bongo
			02:11	BO			48° 51.397	123° 10.825		175	-			☐ ☐	
			02:13	EN			48° 51.391	123° 10.834			-			☐ ☐	
233	46	06	02:21	BE	ROS	US	48° 51.390	123° 10.830	181		545-548	4	KS	☒ ☐	
			02:24	BO			48° 51.400	123° 10.830		176	-			☐ ☐	
			02:31	EN			48° 51.400	123° 10.820			-			☐ ☐	
234	56	06	11:03	BE	ROS	US	48° 46.40	123° 01.51	214		549-552	4	MG	☒ ☐	LOOP 5234 15AL 2CHL
			11:10	BO			48° 46.42	123° 01.51		207	-			☐ ☐	↓ STOP @ 126 FOR ~1 MIN
			11:18	EN			48° 46.43	123° 01.49			-			☐ ☐	
235	SC04	06	13:34	BE	ROS	US	48° 43.46	123° 25.07	97		553-556	4	MG	☒ ☐	
			13:36	BO			48° 43.45	123° 25.06		91	-			☐ ☐	
			13:42	EN			48° 43.45	123° 25.07			-			☐ ☐	
236	SC04	6	13:46	BE	NET	—	48° 43.46	123° 25.07	97		-	-	DC/JS	☐ ☐	
			13:49	BO			48° 43.46	123° 25.08		92	-			☐ ☐	
			13:51	EN			48° 43.46	123° 25.08			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	
			:				°	°			-			☐ ☐	

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