

DAILY SCIENCE LOG BOOK

CRUISE
NUMBER

2017-36

DATE:

From: Jul 28/17

To:

Aug 1/17

VESSEL:

J.P. TULLY

PROJECT(S):

SEAMOUNTS

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

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: Tully Laptop

Data acquisition program: Seasave

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

Primary CTD

Make: SBE model: 9+ serial number: 0550

Primary temperature serial number: 4054

Primary conductivity serial number: 1766

Secondary temperature serial number: 4484

Secondary conductivity serial number: 3531

Transmissometer: Metlabs Model: C-STAR s/n: 1396 DR

Transmissometer: _____ Model: _____ s/n: _____

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

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

Oxygen sensor: SBE Model: 43 s/n: 1119 P, S or NO pump?

PAR sensor: _____ Model: _____ s/n: _____ 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?

Note: End of trip did upgrade of SBE software to 2017 version (old one was 2016). had to rebuild display forward. can file is the same.

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-roselite casts (e.g., W.E. Ricker)

Rosette Setup:

Number of bottles: 24
Manufacturer: 165
Volume of bottles (litres): 10L

Winches:

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

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

Salinometer:

Make: _____ Model: _____ Serial Number: _____

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

Oxygen Kit(s):

Make: _____ Model: _____ Kit Number: _____
Make: _____ Model: _____ Kit Number: _____

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

Thermosalinograph System (SBE21):

Program: Seasave Version: _____ TSG s/N: 2488
Sampling interval (seconds): 30
Fluorometer sensor serial number: W535-953P

Comments on performance during cruise (comments should also be reflected in the post-cruise report):
Not used due to drain flooding.

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:

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Month <u>July</u>			Year <u>2017</u>			Vessel <u>Tully</u>			Cruise ID <u>2017-36</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
✓ 1	DIVE 21	19	16:10	BE	CAM		48° 28.01	124° 20.38	102		---	---	JC	☐ ☐	CAM TEST
			16:35	BO			48° 28.07	124° 20.37		112	-			☐ ☐	
			17:36	EN			48° 19.88	124° 07.47			-			☐ ☐	
✓ 2	SI-test	19	23:14	BE	ROS		48° 36.310	125° 30.140	195		1-11	11	SP/CS	☒ ☐	
			23:21	BO			48° 36.330	125° 30.160		190	-			☐ ☐	Small HPLC bottle
			23:35	EN			48° 36.340	125° 30.240			-			☐ ☐	
3	MOCOL	21	12:24	BE	NET		49° 31.493	132° 42.203	460		-		CS/MT	☐ ☐	MOCNESS
			12:35	BO			49° 31.470	132° 42.230		300	-			☐ ☐	
			12:47	EN			49° 31.227	132° 42.440			-			☐ ☐	
4	DIVE 22	21	14:52	BE	CAM		49° 32.52	132° 42.922	385		---	---	---	☐ ☐	TRANSERT
			15:03	BO			49° 32.71	132° 41.920		512	-			☐ ☐	600 DEEPER
			17:01	EN			49° 31.485	132° 42.921			-			☐ ☐	
5	DIVE 23	21	20:29	BE	CAM		49° 31.509	132° 41.670	678		---	---	JC	☐ ☐	TOWED CAM
			20:45	BO			49° 31.514	132° 41.672			-			☐ ☐	TO NEXT DIVE
			21:20	EN			49° 32.511	132° 42.677			-			☐ ☐	
6	DIVE 24	21	21:52	BE	CAM		49° 31.265	132° 42.842	465		---	---	JC	☐ ☐	
			:	BO			°	°			-			☐ ☐	
			01:38	EN			49° 31.547	132° 42.317			-			☐ ☐	
			:				°	°			-			☐ ☐	

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
MOC = MOCNESS

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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Month <u>JULY</u>			Year <u>2017</u>			Vessel <u>TULLY</u>			Cruise ID <u>2017-36</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
6	US42	22	06:51	BE	ROS		49°34.960	132°43.230	2131		12-35	24	SR	☒ ☐	NTR
			07:29	BO			49°34.920	132°43.490		2206	-			☐ ☐	
			08:24	EN			°	°			-			☐ ☐	← missed this
7	US44	22	08:53	BE	NET		49°34.890	132°47.844	1974	250	-		MT	☐ ☐	Bongo UNW
	US43		:	BO			°	°			-			☐ ☐	ship went
			:	EN			°	°			-			☐ ☐	to US43
8	US44	22	09:28	BE	ROS		49°34.890	132°42.830	2007		-		SR	☒ ☐	NOT US44
	US43		10:02	BO			49°34.900	132°47.810		2093	-			☐ ☐	
			10:32	EN			49°34.900	132°47.810			-			☐ ☐	
9	US45	22	11:07	BE	ROS		49°33.380	132°45.390	946		36-55	20	SR	☒ ☐	
			11:23	BO			49°33.340	132°45.390		964	-			☐ ☐	
			11:56	EN			49°33.340	132°45.390			-			☐ ☐	
10	US46	22	12:17	BE	NET		49°32.447	132°43.909	590		-		MT	☐ ☐	BONGO-VNH
			12:29	BO			49°32.437	132°43.909		250	-			☐ ☐	
			12:34	EN			49°32.438	132°43.909			-			☐ ☐	
11	US46	22	13:03	BE	ROS		49°32.440	132°43.900	602		-		SR	☒ ☐	CTD
			13:14	BO			49°32.430	132°43.900		610	-			☐ ☐	
			13:23	EN			49°32.430	132°43.900			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Notes:

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Month <u>JULY</u>			Year <u>2017</u>			Vessel <u>TULLY</u>			Cruise ID <u>2017-36</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
12	DIVE24	22	:	BE	CAM		° .	° .			-		JL	☐	
			:	BO			° .	° .			-			☐	
			:	EN			° .	° .			-			☐	
13	US47	23	01:44	BE	ROS	VS	49° 31.460	132° 42.320	4140		50-74	19	CS/SR	☒	
			01:53	BO			49° 31.430	132° 42.310		448	-			☐	
			02:18	EN			49° 31.390	132° 42.360			-			☐	
14	US48	23	02:41	BE	NET	—	49° 30.856	132° 41.416	1175		-		MT	☐	BONGO-VNH
			02:58	BO			49° 30.834	132° 41.447		250	-			☐	
			03:04	EN			49° 30.834	132° 41.447			-			☐	
15	US48	23	03:37	BE	ROS		49° 30.830	132° 41.450	1149		-		SN	☒	CTD
			03:50	BO			49° 30.830	132° 41.440		1170	-			☐	
			04:18	EN			49° 30.830	132° 41.440			-			☐	
16	US49	23	04:41	BE	ROS		49° 30.350	132° 40.710	1372		75-58	21	SN	☒	
			05:06	BO			49° 30.350	132° 40.710		1330	-			☐	
			05:49	EN			49° 30.350	132° 40.710			-			☐	
17	US50	23	06:08	BE	NET		49° 29.971	132° 39.978	1707		-		MT	☐	BONGO-VNH
			06:22	BO			49° 29.957	132° 39.963		250	-			☐	
			06:29	EN			49° 29.982	132° 39.991			-			☐	
			:				° .	° .			-			☐	

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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
18	US50	23	06:45	BE	ROS		49° 29.960	132° 40.010	1703		-		SN	☒	CTD
			07:10	BO			49° 29.837	132° 39.870		1760	-			☐	
			07:43	EN			49° 29.820	132° 39.900			-			☐	
19	US51	23	08:00	BE	ROS		49° 29.490	132° 39.270	1842		96 - 118	23	MT	☒	
			08:33	BO			49° 29.430	132° 39.160		1986	-			☐	
			09:24	EN			49° 29.390	132° 39.190			-			☐	
20	US53	23	10:25	BE	NET		49° 23.607	132° 30.355	3097		-		MT	☐	
			10:35	BO			49° 23.605	132° 30.364		250	-			☐	
			10:39	EN			49° 23.607	132° 30.400			-			☐	
21	US53	23	11:00	BE	ROS		49° 23.560	132° 30.430	3054		119 - 142	24	SN	☒	polystyrene
			11:53	BO			49° 23.450	132° 30.430		3157	-			☐	compression study on rosette
			13:03	EN			49° 23.550	132° 30.860			-			☐	
22	DIVE25	23	:	BE	CAM		° .	° .			-			☐	
			:	BO			° .	° .			-			☐	
			:	EN			° .	° .			-			☐	
23	US34	24	02:32	BE	NET		49° 32.805	132° 41.384	369		-			☐	BONGO-VNH
			02:44	BO			49° 32.798	132° 41.426		250	-		MT	☐	
			02:50	EN			49° 32.799	132° 41.427			-			☐	
			:				° .	° .			-			☐	

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Month JULY				Year 2017			Vessel TULLY			Cruise ID 2017-36					
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24	US34	24	03:04	BE	ROS	1	49° 32.798	132° 41.430	365		-		SN	☒	NTR U CTD
			03:12	BO			49° 32.798	132° 41.428		371	-			☐	
			03:19	EN			49° 32.798	132° 41.428			-			☐	
25	US35	24	03:43	BE	ROS		49° 33.980	132° 40.640	938		143 - 163	21	SN	☒	
			04:00	BO			49° 33.990	132° 40.640		972	-			☐	
			04:35	EN			49° 34.010	132° 40.650			-			☐	
26	MOC02	24	05:00	BE	NET		49° 34.050	132° 40.692	870		-		CS	☐	MOCNESS
	[US35]		05:21	BO			49° 34.822	132° 40.142		500	-			☐	
			05:37	EN			49° 34.860	132° 39.907			-			☐	
27	US36	24	06:09	BE	ROS		49° 35.040	132° 39.950	1381		-		SN	☒	CTD
			06:36	BO			49° 35.070	132° 40.050		1519	-			☐	
			06:59	EN			49° 35.110	132° 39.970			-			☐	
28	US36	24	07:12	BE	NET		49° 35.111	132° 39.890	1446		-		MT	☐	Bongo VNH
			07:20	BO			49° 35.121	132° 39.842		250	-			☐	
			07:24	EN			49° 35.131	132° 39.821			-			☐	
29	US37	24	07:45	BE	ROS		49° 35.960	132° 39.330	2018		-			☐	
			08:23	BO			49° 35.930	132° 39.370		2186	164 - 137	24	SN	☒	
			09:23	EN			49° 35.970	132° 39.500			-			☐	
			:				°	°			-			☐	

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30	US39	24	10:31	BE	NET		49°43.383	132°34.598	2384		-		MT	☐ ☐	BONGO-VNH
			10:39	BO			49°43.437	132°34.609		250	-			☐ ☐	
			10:43	EN			49°43.437	132°34.608			-			☐ ☐	
31	US39	24	10:54	BE	ROS		49°43.460	132°34.580	3186		188-211	24	sn	☒ ☐	
			11:49	BO			49°43.550	132°34.630		3255	-			☐ ☐	
			13:03	EN			49°43.840	132°34.370			-			☐ ☐	
32	DIVE26	24	:	BE	CAM		°	°			-			☐ ☐	
			:	BO			°	°			-			☐ ☐	
			:	EN			°	°			-			☐ ☐	
33	US31	25	03:08	BE	NET		49°30.051	132°43.335	1072		-		MT	☐ ☐	Bongo-VNH
			03:25	BO			49°30.082	132°43.311		250	-			☐ ☐	
			03:31	EN			49°30.068	132°43.326			-			☐ ☐	
34	US31	25	:	BE	ROS		°	°			212-233	22		☐ ☐	
			:	BO			°	°			-			☐ ☐	
			:	EN			°	°			-			☐ ☐	
35	US29	25	05:24	BE	NET		49°28.775	132°44.082	1558		-		cl	☐ ☐	Bongo-VNH
			05:39	BO			49°28.848	132°44.082		250	-			☐ ☐	
			05:45	EN			49°28.882	132°44.053			-			☐ ☐	
			:				°	°			-			☐ ☐	

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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
36	US31	25	03:48	BE	ROS		49°30.110	132°43.230	1104		212-233	22	SN	☒ ☐	
			04:03	BO			49°30.080	132°43.210		1170	-			☐ ☐	wait at 326 on up for more drags
			04:51	EN			49°30.120	132°43.250			-			☐ ☐	
37	US29	25	05:55	BE	ROS		49°28.885	132°44.060	1539		234-256		SN	☒ ☐	
			06:21	BO			49°28.880	132°44.050		1573	-			☐ ☐	
			07:06	EN			49°28.830	132°44.020			-			☐ ☐	
38	US27	25	08:18	BE	NET		49°21.552	132°48.895	3167		-		UN	☐ ☐	Bongo-VNH
			08:26	BO			49°21.543	132°48.896		250	-			☐ ☐	
			08:30	EN			49°21.548	132°48.892			-			☐ ☐	
39	US27	25	08:44	BE	ROS		49°21.552	132°48.917	3168		257-280	24	CSG	☒ ☐	
			09:38	BO			49°21.679	132°48.877		3278	-			☐ ☐	
			10:49	EN			49°21.740	132°48.989			-			☐ ☐	
40	US40	25	13:14	BE	NET		49°40.800	132°57.140	3237		-		MT	☐ ☐	Bongo-VNH
			13:24	BO			49°40.760	132°57.220		250	-			☐ ☐	
			13:30	EN			49°40.760	132°57.290			-			☐ ☐	
41	US40	25	13:37	BE	ROS		49°40.760	132°57.370	3237		-		SN	☒ ☐	CTD
			14:12	BO			49°40.570	132°57.320		2000	-			☐ ☐	
			14:41	EN			49°40.460	132°57.240			-			☐ ☐	
			:				.	.			-			☐ ☐	

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DRF = Drifter
=

Bottle Firing Method:

US = Up / Stop (default)
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Time Code:

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RE = Recover Mooring Time

Notes:

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Month <u>JULY</u>			Year <u>2017</u>			Vessel <u>TULLY</u>			Cruise ID <u>2017-36</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							
42	DIVE27	25	:	BE	CAM		°	°			-			☐	
			:	BO			°	°			-			☐	
			:	EN			°	°			-			☐	
43	MOC03	26	03:40	BE	NET		49°52.970	132°06.950	1125		-			☐	MOCNESS
			03:48	BO			49°52.870	132°07.330		500	-			☐	[From CS02 to CS01]
			03:58	EN			49°52.690	132°07.920			-			☐	
44	CS01	26	04:40	BE	ROS		49°52.440	132°08.880	2019		281 - 303	23	SL	☒	Curds Seamount
			05:15	BO			49°52.450	132°08.890		2100	-			☐	
			06:11	EN			49°52.350	132°09.080			-			☐	
45	CS01	26	06:20	BE	NET		49°52.336	132°09.141	2154		-		CS	☐	Bongo VNH
			06:34	BO			49°52.394	132°09.234		250	-			☐	
			06:37	EN			49°52.404	132°09.311			-			☐	
46	CS02	26	07:18	BE	NET		49°53.109	132°06.975	1154		-		MT	☐	BONGO-VNH
			07:27	BO			49°53.111	132°07.023		250	-			☐	
			07:31	EN			49°53.103	132°07.048			-			☐	
47	CS02	26	07:40	BE	ROS		49°53.610	132°07.100	1153		304 - 325		CS	☒	→
			08:00	BO			49°52.880	132°07.140		1156	-			☐	
			08:40	EN			49°53.000	132°07.290			-			☐	
			:				°	°			-			☐	

Event Type:

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⊗ First attempt aborted.

entered as "CSØ1" not "CSØ2" on CTD file.

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Month			Year			Vessel			Cruise ID						
JULY			2017			TULLY			2017-36						
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
48	CS03	26	09:30	BE	NET		49°53.565	132°05.064	1919		-		MT	☐ ☐	BONGO-VNH
			09:38	BO			49°53.617	132°05.045		250	-			☐ ☐	
			09:41	EN			49°53.609	132°05.061			-			☐ ☐	
49	CS03	26	09:55	BE	ROS		49°53.670	132°5.030	1965		326-343	23	SW	☒ ☐	Curtis
			10:32	BO			49°53.750	132°5.040		2113	-			☐ ☐	Scamant
			11:25	EN			49°53.990	132°5.180			-			☐ ☐	→
50	DIVE28	26	20:01	BE	CAM		°	°			-			☐ ☐	
			21:11	BO			°	°			-			☐ ☐	
		27	02:47	EN			°	°			-			☐ ☐	
51	DS05	27	03:26	BE	NET		50°42.917	130°51.787	993		-		CSG	☐ ☐	BONGO-VNH
			03:39	BO			50°42.912	130°51.854		250	-			☐ ☐	
			03:45	EN			50°42.899	130°51.900			-			☐ ☐	
52	DS05	27	03:56	BE	ROS		50°42.910	130°51.900	987		349-370	22	SW	☐ ☐	→
			04:16	BO			50°42.953	130°51.851		1019	-			☐ ☐	
			04:51	EN			50°42.940	130°51.870			-			☐ ☐	
53	DS04	27	05:21	BE	NET		50°44.506	130°53.415	572		-		MT	☐ ☐	BONGO-VNH
			05:39	BO			50°44.481	130°53.512		250	-			☐ ☐	
			05:46	EN			50°44.489	130°53.500			-			☐ ☐	
			:				°	°			-			☐ ☐	

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bottle 23 - chip on top o-ring → leaky.

replaced o-ring, but likely wriston needs replacement

[bottle 22] → inside tubing snapped before this cast. NO SPARES
Tied tubing together and reset, but need to replace
back at J05. WM monitor leakage from this
bottle.

sample 353 NOT TAKEN - too shallow

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Month <u>JULY</u>				Year <u>2017</u>		Vessel <u>TULLY</u>				Cruise ID <u>2017-36</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
54	DS04	27	05:55	BE	ROS		50° 44.520	130° 53.480	568		371 - 39	20	CSG	☒ ☐	
			06:08	BO			50° 44.504	130° 53.478		575	-			☐ ☐	
			06:35	EN			50° 44.500	130° 53.490			-			☐ ☐	
55	DS03	27	07:00	BE	NET		50° 46.027	130° 54.907	1063		-			☐ ☐	
			07:11	BO			50° 46.009	130° 55.031		250	-		CSG	☐ ☐	BONGO-VNH
			07:14	EN			50° 46.047	130° 55.052			-			☐ ☐	
56	DS03	27	07:22	BE	ROS		50° 45.990	130° 55.110	1111		391 - 412	22	SN	☐ ☐	
			07:41	BO			50° 45.930	130° 55.090		1143	-			☐ ☐	
			08:19	EN			50° 45.930	130° 54.950			-			☐ ☐	
57	DS02	27	08:41	BE	NET		50° 47.429	130° 56.148	2250		-		MT	☐ ☐	BONGO-VNH
			08:49	BO			50° 47.430	130° 56.167		250	-			☐ ☐	
			08:55	EN			50° 47.426	130° 56.178			-			☐ ☐	
58	DS02	27	09:10	BE	ROS		50° 47.390	130° 56.196	?		-		SN	☒ ☐	CTD
			09:49	BO			50° 47.460	130° 56.389		2392	-			☐ ☐	
			10:26	EN			50° 47.454	130° 56.478			-			☐ ☐	
59	DS01	27	04:26	BE	NET		50° 53.164	131° 01.657	2560		-			☐ ☐	Bongo VNH
			04:35	BO			50° 53.148	131° 01.764		250	-			☐ ☐	
			04:40	EN			50° 53.150	131° 01.723			-			☐ ☐	
			:				°	°			-			☐ ☐	

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⊗ DS02: no sounder reading available for depth

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Month <u>JULY</u>			Year <u>2017</u>			Vessel <u>TULLY</u>			Cruise ID <u>2017-36</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/Fl Cleaned	Comments
60	DS01	27	11:59	BE	ROS		50°53.130	131°01.840	2555		413-436	24	CSG	☒ ☐	Styrofoam cups on rosette
			12:42	BO			50°53.090	131°02.090		2594	-			☐ ☐	
			13:47	EN			50°53.060	131°02.600			-			☐ ☐	
61	DIVE29	27	15:12	BE	CAM		° .	° .			-			☐ ☐	
			16:24	BO			° .	° .			-			☐ ☐	
		28	01:36	EN			° .	° .			-			☐ ☐	
62	MPS01	28	03:45	BE	NET		50°36.032	131°05.471	2563		-			☐ ☐	MPS
			:	BO			° .	° .			-			☐ ☐	
			:	EN			° .	° .			-			☐ ☐	
63	DS13	28	06:54	BE	NET		50°36.117	131°05.775	2555		-		MT	☐ ☐	BONGO-VNH
			07:02	BO			50°36.101	131°05.811		250	-			☐ ☐	
			07:05	EN			50°36.071	131°05.841			-			☐ ☐	
64	DS13	28	07:18	BE	ROS		50°35.990	131°5.940	2555		437-460	24	SR	☒ ☐	Full profile
			08:00	BO			50°35.832	131°6.220		2595	-			☐ ☐	salinity
			08:59	EN			50°35.782	131°6.595			-			☐ ☐	NOT GOOD! →
65	DS13	28	09:20	BE	ROS		50°36.060	131°5.640	2558		437-460	24	CSG	☒ ☐	
			10:10	BO			50°35.820	131°5.850		2604	-			☐ ☐	
			11:11	EN			50°35.350	131°6.190			-			☐ ☐	
			:				° .	° .			-			☐ ☐	

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MPSO1: Net cancelled when battery failed.

[Yeah, I don't want to talk about it, but it looked beautiful on recovery.
Every single f***ing bottle was open, vent + spigot.
First time for me

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Month <u>JULY</u>			Year <u>2017</u>			Vessel <u>TULLY</u>			Cruise ID <u>2017-36</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
66	DS-12	28	12:27	BE	NET		50°41.584	130°57.567	2113		-		JN	☐ ☐	BONGO-VNH
			12:35	BO			50°41.395	130°57.592		250	-			☐ ☐	
			12:39	EN			50°41.336	130°57.553			-			☐ ☐	
67	DS12	28	12:51	BE	ROS		50°41.120	130°57.499	2194		-	-	SN	☒ ☐	CTD
			13:29	BO			50°41.052	130°57.520			-			☐ ☐	
			14:03	EN			50°41.035	130°57.624			-			☐ ☐	
68	MOC04	28	14:46	BE	NET		50°42.806	130°55.740	1195		-		CS	☐ ☐	MOCNESS
			15:09	BO			50°42.096	130°56.759		500	-			☐ ☐	
			15:29	EN			50°42.559	130°57.481			-			☐ ☐	
69	DIVE30	28	16:23	BE	LAM		50°41.485	130°57.540	2083		-			☐ ☐	
			17:49	BO			50°41.600	130°57.525		2107	-			☐ ☐	
		29	01:46	EN			50°44.670	130°53.540			-			☐ ☐	
70	DS08	29	03:53	BE	NET		50°49.633	130°46.043	2418		-		SR/CSG	☐ ☐	BONGO-VNH
			04:06	BO			50°49.623	130°45.980		250	-			☐ ☐	
			04:12	EN			50°49.608	130°45.928			-			☐ ☐	
71	DS08	29	04:23	BE	ROS		50°49.660	130°45.920	2437		461-484	24	SN	☒ ☐	
			05:07	BO			50°49.660	130°45.720		2439	-			☐ ☐	
			06:05	EN			50°49.660	130°45.410			-			☐ ☐	
			:				°	°			-			☐ ☐	

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Notes:

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Month <u>July</u>			Year <u>2017</u>			Vessel <u>Tully</u>			Cruise ID <u>2017-36</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
72	DS09	29	07:03	BE	ROS		50°47.360	130°49.360	2261		No	4	SL	☒ ☐	→ bottle test
			07:39	BO			50°47.370	130°49.260		2112	-			☐ ☐	
			08:13	EN			50°47.414	130°49.015			-			☐ ☐	
73	DS07	29	09:45	BE	ROS		50°40.650	130°49.660	2098		485-507	23	CSG	☐ ☐	associated
			10:20	BO			50°40.470	130°49.460		2127	-			☐ ☐	bongo cancelled
			11:12	EN			50°40.280	130°49.500			-			☐ ☐	due to weather
74	DIVE 31	29	17:33	BE	CAM		49°57.414	130°53.481			-			☐ ☐	
			18:53	BO			°	°	2000		-		JC	☐ ☐	
			23:40	EN			°	°			-			☐ ☐	
75	MoC05	30	01:00	BE	NET		49°56.3140	130°54.7688	1621		-		CS	☐ ☐	MOCNESS
			01:17	BO			49°55.773	130°55.017		500	-			☐ ☐	
			01:33	EN			49°55.511	130°55.653			-			☐ ☐	
76	UN18	30	02:48	BE	NET		49°50.160	131°01.642	2760		-		MT/CSG	☐ ☐	BONGO-VNH
			04:14	BO			49°50.111	131°01.595		2000	-			☐ ☐	
			05:03	EN			49°50.095	131°01.641			-			☐ ☐	
77	UN18	30	05:23	BE	ROS		49°50.090	131°01.620	2750		No	1	SL	☒ ☐	bottle fired
			06:12	BO			49°50.100	131°01.600		2795	-			☐ ☐	at 50m chl
			06:57	EN			49°50.050	131°01.650			-			☐ ☐	map for →
			:	:			°	°			-			☐ ☐	clane @ Uvic.

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⇒ Forget to turn archive on until 200m! Very rough out-so was distracted, sorry
Germane! Niskin test bottles 1-4 @ 250m

⇒ Samples taken 1L in formaldehyde
vial in ethanol.

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