

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2010-14

DATE:

From: 17 AUGUST to: 2 SEPTEMBER 2010

VESSEL:

JOHN P. TULLY

PROJECT(S):

LINE P

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

WaterProperties.ca

Captain: MURRAY Mc GREGOR
Second Officer: RIDONA LETAU
Fishing Master:

First Officer: CORRINE COLE
Third Officer: SILVIA SACHE

Mission Participants / Agencies:

Scientific Personnel:		Chief Scientist:		MARQUE ROBERT A		0700-1900	Watch	Cabin
Name		Name						
Rebecca McLean		Keith Johnson						6
Jody Wright		David Semenik					18-24	6
Amy Cain		Jason McAlister					18-24	14
Josiane Melancon		Craig Hewis					00-06	H
Rebecca Taylor		Michael Artychuk						Y.P
Veronica Lance		Marlene L. Zotte					06-12	Up S
Constance Couture		Hugh Maclean					12-24	3
Nes Sutherland		Scott Rose					00-12	4
Glenn Cooper								
Michael Bentley								

[illegible]

Data logging computer:

Data acquisition program: V7 SBC V718c 000160068 7.20 g 0073-129

CTD deck unit make: SBC model: 11 serial number: 0074

Primary CTD

Make: SAF model: 9 serial number: 506

Primary temperature serial number: 2489

Primary conductivity serial number: 1764

Secondary temperature serial number: 2036

Secondary conductivity serial number: 3394

Transmissometer: vetLAB Model: _____

Fluorometer: Model SA-2017 Cable gain: 20

Oxygen sensor: SPE

PAR sensor:	BioSpectrum	Model:
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Other sensors: _____ model: _____

Other sensors: Altimeter

Other sensors:

Other sensors:

Secondary CTD

Make: 3C model: 9 serial number: 443

Primary temperature serial number: 4752

Primary conductivity serial number: 2173

Secondary temperature serial number: 2968

Secondary conductivity serial number: 2399

Transmissometer: 1185 Model: dr

Fluorometer: Model	Model:	Cable gain:

Oxygen sensor:	Model:
	Make gam:

PAR sensor:	Model:
PAR sensor:	Model:

Other sensors: _____ model: _____

Other sensors:

Other sensors:

Other sensors:

Other sensors:

CTD calibration bottle location (height above CTD in metres):

Rosette Setup:

Number of bottles: 24
Manufacturer: _____
Volume of bottles (litres): 10

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):

Scrapps

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: _____ Version: _____

Sampling interval (seconds): 30

Fluorometer sensor serial number: _____

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

ADCP Setup:

Computer time zone: _____

Sampling interval (sec): _____

Bin Length: (2^x): _____

Pulse Length: _____

Buffer (bytes): _____

Gyro Offset: _____

User Exits: Name: _____ Exit points: _____

Name: _____ Exit points: _____

Name: _____ Exit points: _____

Work File: _____

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 ☐

all good

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>Aug</u>				Year <u>2010</u>			Ship <u>TULLY</u>				Cruise ID <u>2010-14</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
19	SI03	0051		ROS	US	1	48° 35.62	123° 30.0	225		1-11	11		✓	PAR ON
		0056					48° 35.60	123° 30.01		220					
		0111					48° 35.60	123° 29.93							
19	JF1	0624		USW	Loop		48° 15.64	123° 29.52	161		—	—	H.M.		Loop
19	JF2	0826		USW	Loop		48° 18.10	124° 00.37					H.M.		Loop
19	JF3	1036		USW	Loop		48° 26.91	124° 30.14					SR		Loop
19	JF4	1248		USW	Loop		48° 32.37	124° 59.98					SR		Loop
19	P1	1521	BE	ROS		2	48° 34.53	125° 30.02	122		12-13		SR		
		1524	BO				48° 34.54	125° 29.99		117					
		1530	EN				48° 34.52	125° 30.02							
19	P2	1900	BE	ROS		3	48° 35.90	125° 59.97	117		14-27	14	H.M.		AMPS off on down cast
		1907	BO				48° 35.95	125° 59.94		19					AMPS CAST
		1917	EN				48° 35.93	125° 59.92							
19	P2	1936	BO	NETS		4	48° 35.95	125° 59.92	117	100:			H.M.		BONGO
		1939	EN				48° 35.96	125° 59.91							
19	P2	2048	BE	ROS		5	48° 35.96	125° 59.97	117		28-37	10	H.M.		"DEEP CAST"
		2053	BO				48° 36.00	125° 59.85		105					
		2103	EN				48° 35.97	125° 59.82							

Cast Type:

BOT = Bottle cast, no CTD
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 SET = Fish Set

USW = Sea Water Loop
 MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter
 =

Bottle Firing Method:

US = Up / Stop
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Month <u>AUGUST</u>				Year <u>2010</u>			Ship <u>TULLY</u>				Cruise ID <u>2010-14</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
20	P3	0329	BE	ROS	US	6	48° 37.44	126° 19.88	810		38-39	2	H.M.	✓	
		0344	BO				48° 37.35	126° 20.10							
		0402	EN				48° 37.40	126° 19.73							PAR-OFF
20	P4	0732	RE	ROS	US	7	48° 38.93	126° 40.08	1322		40-52	13	SR	✓	
		0755	BO				48° 38.96	126° 40.10		1300					
		0824	EN				48° 39.01	126° 39.98							
20	P4	0900	BE	PUMP		8	48° 39.01	126° 39.99							1054 UBC TO 40m 5:10:25
		1150	EN												UBC DAVE 10m 4:48m
20	P4	1150		PUMP		9	48° 39.01	126° 39.986							LAVAL 10m
20	P4	1310													
20	P4	1400	BO	NET		10	48° 38.94	126° 40.04	1317				SR		Bongo IOS
		1404	EN				48° 38.951	126° 40.0103		250					
20	P4	1510	BE	NET		11	48° 38.97	126° 40.10	1313				SR		Bongo CUNY
		1519	BO				48° 39.00	126° 40.19		250					
		1524	EN				48° 38.95	126° 40.15							
20	P4	1545	BE	ROS	US	12	48° 38.99	126° 40.03	1308		53-74	22		✓	IOS Deep Cast
		1607	BO				48° 38.92	126° 40.13		1300					Oxy lorp taken
		1650	EN				48° 38.97	126° 40.10							

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							Latitude	Longitude							
20	P4	1819	TBE	ROS	US	13	48° 38.90	126° 40.27	1324	500	75-78	24	SR		Shark spotting
		1828	BO				48° 38.95	126° 40.20							@ 10 m
		1857	EN				48° 38.96	126° 40.18							(AR-ON)
20	P4	1925	BC	BOAT		14	48° 38.88	126° 40.40	1329						KEITH BOAT SAMPING
20	P4	2015	BC	ROS	U.S.	15	48° 38.95	126° 40.16	1324		99-116	18	H.M.	✓	DMS CAST
		2023	BO				48° 38.97	126° 40.26		300					
		2041	EN				48° 38.88	126° 40.61							PAR-OFF
20	P5	2318	EC	ROS	U.S.	16	48° 41.58	127° 09.98	2078		117-118	2	H.M.	✓	NISK 4+5 closed but we don't need them. Not in CTD RL, please
		2354	BO				48° 41.61	127° 09.78		2005					
21		0027	EN				48° 41.55	127° 09.31							
21	P6	0307	BC	ROS	U.S.	17	48° 44.47	127° 39.83	2345		119-120	2	H.M.	✓	REPLACED NISKIN #20
		0343	BO			18	48° 44.52	127° 40.04		2005					REBOOT (SAIKES)
		0424	EN			19	48° 44.57	127° 39.98							20m ADD UP (CAST 19)
21	P7	0658	EC	RO	U.S.	20	48° 48.60	128° 10.32	2493		121-122	2	H.M.	✓	Slowed descent
		0744	BO				48° 48.27	128° 10.40		2005					rate to .75 m/s
		0825	EN				48° 48.15	128° 10.41							@ 1000m on the down
21	P8	1321	BO	Bongo		21									cast due to roll in
		1325													across the beam

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This page is for any notes or observations

→ RE-TERMINATED SA CABLE TO ELIMINATE SPIKES

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Month				Year			Ship			Cruise ID					
AUG				2010			TULLY			2010-14					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
21	P8	1403	BE	ROS	US	22	48° 49.06	128° 39.89	2515		123-146	24	SR	✓	
		1438	BO				48° 49.05	128° 39.93		2005					
		1542	EN				48° 49.05	128° 40.00							
21	P9	1819	BE	ROS	U.S.	23	48° 51.38	129° 10.03	2347		147-148	2	SR	✓	chl max @ 35 m
		1858	BO			24	48° 51.44	129° 10.04		800					SPikes - CRASH
		1912	EN				48° 51.41	129° 10.03							ABORT @ 800
21	P09	~1930	BO	PUMP		25			2347	10 m		3	HM + RJ		10 m only TEST + RINSING
		2014	EN	Go FLO's			48° 51.41'	129° 10.03'							
21	P10	2229	BE	ROS	U.S.	26	48° 53.69	129° 39.98	2642		149-150	2	H.M.	✓	
		2301	BO				48° 53.64	129° 40.63		2005					
		2339	EN				48° 53.74	129° 39.96							
22	P11	0205	BE	ROS	U.S.	27	48° 55.95	130° 09.95	2751		151-152	2	H.M.	✓	
		0240	BO				48° 55.97	130° 10.04		2005					
		0317	EN				48° 55.89	130° 10.19							
22	P12	2245	BE	BOT		28	48° 58.05	130° 40.12	3235				H.M.		Go-FLO-DECA/Pump
		2338	EN				48° 58.05	130° 40.12		300					
22	P12	0658	BE	ROS	U.S.	29	48° 58.22	130° 39.98	2235		153-164	12	H.M./S.R.	✓	UBC CAST
		0732	BO				48° 58.22	130° 40.02							
		0806	EN				48° 58.24	130° 39.97							

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Month <u>Aug</u>				Year <u>2010</u>			Ship <u>TULLY</u>			Cruise ID <u>2010-14</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
22	P12	0820	BE	BOTPUMP		30	48°58.24	130°39.97	3156	40			SR		UVC UBC IOS 5,10,25+40m
		0948	EN				48°58.18	130°40.23							
22	P12	0954	BE	X-NSUN	MRS	31	48°58.18	130°40.24	3156	100			SR		UVC UBC IOS 75+100m
		1015	EN				48°58.18	130°40.24							
22	P12	1204	BE	ROS	US	32	48°58.33	130°39.97	3233		165-187		SR		IOS Deep cast
		1257	BO				48°58.13	130°39.97							new Oxy + trans cable
		1325	EN				48°58.13	130°39.97							installed before cast
			BE	ROS	US	33	48°58.13	130°39.97							→
			EN												From 1500m + up
22	P12	1446	BE	BONGO		34	48°58.17	130°39.89	3233						
		1451	BO				48°58.20	130°39.90							
		1455	EN				48°58.22	130°39.89							
22	P12	1505	BE	BONGO		35	48°58.18	130°39.93	3233						
		1512	BO				48°58.14	130°39.91							
		1517	EN				48°58.19	130°39.86							
22	P12	1707	BE	ROS	US	36	48°58.18	130°39.97	3233		188-211	24	SR	✓	Pair added for this + the DMS cast
		1717	BO				48°58.11	130°39.92		500					
		1741	EN				48°58.23	130°39.90							see over →

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Pumps were not on for the first 10 seconds

More spikes prompted a CTD swap-out. CTD 443 was installed. The transducer + altimeter were kept in place. The spikes were still present after the swap. I disabled the fluorometer, altimeter, DO + transducer. On the next (test) cast I enabled the fluorometer for CUNY's work, the spikes did not return. For cast 37, the DMS cast, I will enable the DO sensor only.

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Month <u>AOÛT</u>				Year <u>2010</u>			Ship <u>TULLY</u>				Cruise ID <u>2010-14</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
22	P12		BE	ROS		37	48° 58.21	130° 39.90	3233		212-229	18	GR	✓	
			BO				48° 58.	130°		300					ABORTED
			EN				48° 58.	130°							
22	P12	1910	BE	ROS		38	48° 58.20	130° 39.99	3234	300	212-229	18	4.7	✓	OXY OFF - TRANS-ON
		1917	BO				48° 58.19	130° 40.03		301					DMS CAST
		1936	EN				48° 58.06	130° 40.35							
22	P12	1933	BE	BOAT		39	48° 58.06	130° 40.35					KJ		ZODIAC SAMPLING
22	P12	2025	BE	ROS		40	48° 58.15	130° 39.99	3235		165-187	23			ROS VBC DEEP CAST
		2119	BO				48° 57.72	130° 40.58		3051					
		2236	EN				48° 57.93	130° 40.22							
23	P13	0303	BE	ROS		41	49° 02.73	131° 40.02	3000		230-231	2	MR	N/A	NO OXY, NO ALT →
			BO							100					NO FLUO, NO TRANS
		0308	EN				49° 02.72	131° 40.00							
23	P13	0309	BE	ROS	US	42	49° 02.71	131° 39.99	3000		230-231	2	MR	N/A	Re-take of 41
		0344	BO				49° 02.78	131° 40.03		2005					Spikes @ 1540 ↑
		0416	EN				49° 02.65	131° 40.00							
23	P13	0418	BE	ROS	US	43	49° 02.64	131° 40.00			230-231	2	MR		FILE FOR
		0420	EN				49° 02.64	131° 40.00							BOTTLE INFO.

Changed the pylon cable to the one we had for most of Debby's cruise, 2010-36, prior to cast 0041. Do the cast with no extra sensor plugged in the CTD, only two Ts and two Cs and one P!

Cast 41. Down to 100 dbar, notice carousel error message

FFFFFFFF Unsupported modem message: FE FF FC from SBC Carousel

After 43. Change pylon

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Month <u>AUGUST</u>			Year <u>2010</u>			Ship <u>TULLY</u>			Cruise ID <u>2010-14</u>						
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
23	P14	0840	BE	ROS	US	44	49° 7.	132° 39.							Spikes returned
			BO				49° 7.	132°		2005					returned to surf
			EN				49° 7.	132°							to dummie off
23	P15	1532	BE	ROS	US	45	49° 11.95	133° 39.94	3405		232-233	2	GR	✓	Sensors
		1606	BO				49° 11.96	133° 39.96		2005					NO SENSORS
		1635	EN				49° 11.99	133° 40.01							
		1645	EN			46	49° 11.99	133° 40.01							UPCAST
23	P15.7	2042	BE	ROS	U.S.	47	49° 16.25	134° 31.29	3695					✓	TEST
		2045	BO				49° 16.23	134° 31.21		200			H.M.		ALL SENSORS ON
		2048	EN				49° 16.19	134° 31.17							INCL. PAR.
23	P16	2140	BE	ROS	U.S.	48	49° 17.01	134° 39.95	3636		234-252	19	H.M.	✓	AMS CAST
		2147	BO				49° 16.98	134° 39.88		300					
		2206	EN				49° 17.02	134° 40.01							
23	P16	2240	EN	BOAT		49	49° 16.38	134° 39.35					H.J.		KIETUS ZONE SAMPLING
23	P16	23:06	BO	NET		50	49° 16.96	134° 39.82	3636	250			H.M.		BONGO
		23:13	EN				49° 16.88	134° 39.78							
		23:34	BO	NET		51	49° 17.04	134° 40.01	3636	250			H.M.		VERONICA BONGO
		23:38	EN				49° 17.01	134° 39.99							

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							Latitude	Longitude							
23	P16	2357	BO	ROS		52/53	49° 17.20	134° 40.14	3636		253-276	24			
24		0009	BO				49° 17.13	134° 40.11		500					
		0033	EN				49° 17.01	134° 39.98							
24	P16	0045	BE	BOTTLES	MESS	54	49° 17.01	134° 39.98		150			KJ/HM		Go-FLOS to 150m
24		0115	EN				49° 17.09	134° 39.99							
24	P16	0125	BO	ROS		55/56	49° 17.16	134° 40.06	3636	2286	277-300	24	H.M.	✓	DEEP CAST
		0227	BO				49° 16.86	134° 39.84	2286	3686					
		0356	EN				49° 16.64	134° 39.42							
24	P16	0410	BA	BOT	MESS	57	49° 16.64	134° 39.42		400		3	K.J.		X-NISIKONS
		0451	EN				49° 16.90	134° 40.00							
24	P16	0512	BE	ROS		58	49° 17.15	134° 39.95	3636		301-314	14	H.M.	✓	UBC CAST
		0545	BO			59	49° 16.80	134° 39.75	12000						
		0625	EN				49° 16.55	134° 39.27							
24	16	0656	BE	PUMP	—	60	49° 16.55	134° 39.27		40					Fe 5-40m
		0922	EN				49° 16.55	134° 39.27		40					
24	P17	1410	BE	ROS	US	61	49° 21.03	135° 39.96	3663		315-316	2	SR	✓	Swapped out
		1445	BO				49° 21.01	135° 39.97		2005					deck units to sea
		1522	EN				49° 20.98	135° 39.97							if spikes clear up
															Deck unit # 0508

- CRASHED (SPURGED) @ 037 on UPGRADE - TURN OFF AND ON DECK UNIT, ADVANCE EVENT TO 59 - CONTINUING

→ Start archiving @ 760 dbar on downcast

Swapping com port 5 to a USB to serial conv, Main comp freezer in shut down.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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DAILY SCIENCE LOG				Ocean Sciences Division, Institute of Ocean Sciences											
Month <u>AUGUST</u>				Year <u>2010</u>			Ship <u>TULLY</u>			Cruise ID <u>2010-14</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
24	P18	1952	BE	ROS	U.S.	63	49° 25.99	136° 40.02	3666		317-320	4	H.M.	✓	PH TEST FOR GLGN
		2023	DO			64	49° 25.96	136° 40.04		2005					0→2005→204. *→
		2058	EN				49° 25.99	136° 40.04							
25	P19	0131	BE	ROS	U.S.	65	49° 30.00	137° 40.01						✓	
		0208	DO			66	49° 29.94	137° 40.12		2005	321-322	2			SURF TO 1766 *→
		0243	EN				49° 29.93	137° 40.01							
25	P20	0729	BE	BOT		67	49° 33.99	138° 39.67		400		3			3 bottles 200, 300+400
		0755	EN				49° 33.96	138° 39.91							
25	P20	0812	BE	ROS		68	49° 33.77	138° 39.96	4070		323-336	14		✓	Spikes @ 183 db ^{on up} _{cast}
		0847	BO			69	49° 33.95	138° 39.99		2005					started Event 69 @
		0932	EN				49° 33.98	138° 40.00							0926 to finish up cast
25	P20	0945	BE	bot		70	49° 33.98	138° 40.00		150		3			SHALLOW X NISIKINS
		1021	EN				49° 33.92	138° 40.04							4 DEPTHS 5, 10, 25, 40m
25	P20	1127	BE	PUMP		71	49° 33.92	138° 40.04		40					105, UBC, UVC
		1245	EN				" "	" "							BUL SW +
25	P20	1245	BE	PUMP		72	49° 33.916	138° 40.04		10					DAUR/UBC SAMPLE
			EN												

Transmissometer to be cleaned before each cast, do not use Ammonia products

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SET = Fish Set

USW = Sea Water Loop
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NET = Plankton Net Haul
DRF = Drifter

Bottle Firing Method:

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

Notes:

Time Code:

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RE = Recover Mooring Time

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FILE # 63 FROM SURFACE DOWN TO 2005, UP TO 204.

FILE # 64 FROM 204 TO

* NO ARCHIVING DATA FROM 204 TO 48 ON UPGAST.

* NO ARCHIVING FROM 1766 ON D-CAST TILL 1800 ON UPGAST

Scan length error displayed when spikes occur. Will research the problem online.

DAILY SCIENCE LOG

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Month <u>Aug</u>			Year <u>2010</u>				Ship <u>Tully</u>				Cruise ID <u>2010-14</u>				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
25	P20	1413	BE	ROS	US	73	49°33.87	138°40.01	3965		337-360	24		✓	Version 7-20g of
		1523	BO				49°33.99	138°40.22		4024					Seasave installed
		1659	EN				49°34.16	138°40.29							DEEP CAST →
25	P20	1721	BO	NET		74	49°33.99	138°40.22	3965						3+24 leaking
			EN							250					Bot60
25	P20	1753	BO	NET		75	49°34.07	138°40.04	3965						Bot60
			EN							250					
25	P20	1821	BO	ROS	US	76	49°34.07	138°40.09	3965		385-402	18		✓	PAR ON
		1926	BO			77	49°34.05	138°40.11							DMS CAST
			EN				49°	138°	3965						Using PAR #4615
25	P20	1922	BO	ROS	US	78	49°34.05	138°39.900		580	361-384	24		✓	VERONICA CUNT cast
		1937	BO				49°34.02	138°39.96							
		1956	EN				49°34.00	138°40.01							
26	P26	1807	BE	ROS		79	50°2.85	144°52.86	4261		403-407	5		✓	No spikes!
		1808	BO				50°2.84	144°52.85		30					
		1814	EN				50°2.82	144°52.85							
26	P26	1904	BO	ROS		80	50°02.91	144°52.90	4261		408-419	12		✓	
		1913	BO				50°02.87	144°52.91		200					
		1932	EN				50°02.83	144°52.90							

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— = —

Bottle Firing Method:

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Notes: _____

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Vesion 7-20g is supose to handle scan length errors so I installed it just before this cast. Short delay at the bottom as winch operators swapped out. I informed them not to swap operators at the bottom again!

Crash @ 18:36 UTC

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month AUGUST				Year 2010-14			Ship TULLY				Cruise ID 2010-14				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
26	P26	1347	BO	NET		81	49°59.9025	144°59.8829	4261				H.M.		BONGO
		2052	EN				49°59.89	144°59.85		250					
26	P26	2122	BO	NET		82	50°00.0690	145°00.0197	4261						
		2127	EN				50°00.06	145°00.02		250			H.M.		BONGO ANACUNY
26	P26	2145	BO	NET		83	49°59.9405	144°59.9039	4261				H.M.		BONGO ENY DNA
		2154	EN				50°00.035	144°59.8632		250					
26	P26	2213	BO	ROS	US	84	50°00.02	144°59.96	4253		420-443	24	H.M.	✓	INS CAST
		2219	BO				50°00.00	144°59.86		300					
		2240	EN				50°00.08	145°00.06							
26	P26	2030	BO	BOAT		85	49°59.85	144°59.79					KJ		ZODIAC
26	P26	2330	BO	ROS		86	50°00.11	144°59.94	4253		444-467	24	H.M.	✓	105 DEEP CAST
27		0033	BO				50°00.01	145°00.06							LOOP 5
		0208	EN				49°59.99	144°59.71							
27	P26	0215	BO	BOT		87	49°59.99	144°59.71		800			KJ		DRBP X-DISCONT
27	P26	0337	BO	ROS		88	50°00.05	144°59.94	4253		468-485	18	H.M.	✓	UBC CAST
		0410	BO				50°00.04	144°59.84		2000					
		0447	EN				50°00.03	144°59.93							
27	P26	0455	BO	BOT		89	50°00.03	144°59.94	4253	300			KJ		X MISHKINS
		0525	EN				50°00.00	144°59.90							

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Month <u>AUGUST</u>			Year <u>2010</u>			Ship <u>TOLLY</u>			Cruise ID <u>2010-14</u>						
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
27	P26	0531	BE	ROS		90	50° 00.05	144° 59.98	4253		486-490	5	H.M.	✓	ONAR DEEP CAST
		0638	BO				49° 59.99	144° 59.95		4000					
		0751	EN				49° 59.96	144° 59.98							
27	P26	0812	BE	BOT		91	49° 59.98	144° 59.98	4253	100		3			X-NISKINS
		0830	EN				49° 59.96	144° 59.98							
27	P26	0837	BE	ROS		92	50° 0.01	144° 59.96	4253		491-496	6		✓	
		0841	BO				50° 0.00	144° 59.97		200					
		0852	EN				49° 59.99	145° 0.01							
27	P26	1031	BE			93	50° 0.03	145° 0.01	4253		497-501	5		✓	
		1032	BO				50° 0.01	145° 0.01		30					
		1038	EN				49° 59.99	145° 0.03							
27	P26	1048	BE	PUMP		94	49° 59.99	145° 0.03		40			KJ		10S + JASON ARE
		1255	EN				49° 60.0	145° 0.03							
27	P26	1300	BE	PUMP		95	49° 60.0	145° 0.03		10			KJ		ULBC/DAVR
		1444	EN				50° 00.03	144° 59.97							
27	P26	1447	BE	PUMP		96	50° 00.03	144° 59.95	4252	10			KJ		U LAVAL
		1650	EN				50° 00.05	144° 59.81							

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Bottle Firing Method:

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Transmissometer to be cleaned before each cast, do not use Ammonia products

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DAILY SCIENCE LOG

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Month				Year			Ship			Cruise ID					
AUGUST				2010			TULLY			2010-14					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
27	P26	1704	BE	ROS	US	97	49° 59.99	145° 0.00	4248		502-509	8	SR	✓	Nothing to report!
		1722	BO				50° 0.00	144° 59.99		1000					
		1750	EN				49° 59.97	145° 0.01							
27	DDC-T0	1905	BE	ROS	US	98	50° 00.09	144° 59.85	4252		534-537	4	H.M.	✓	PAR-ON
		1909	BO				50° 00.09	144° 59.84		150					
		1914	EN				50° 00.05	144° 59.83							
27	P26	1127	BE	DRF		97.5	50° 00.10	144° 06.10							5003 ARGO
27	DDC-T0 1/2	1228		DRF		99	50° 00.10	145° 59.60							Deploy drifter
27	DDC-T2	2102	BE	ROS		100	49° 59.88	144° 59.25	4252		538-539	2	H.M.	✓	DDC-T2
		2105	BO				49° 59.87	144° 59.22		150					
		2109	EN				49° 59.83	144° 59.22							
27	(P26 DDC-T0)	2130	BE	ROS		101	49° 59.91	144° 59.67	4252		510-533	24	H.M.	✓	CUNY CAST
		2139	BO				49° 59.92	144° 59.73		500					
		2204	EN				49° 59.82	144° 59.84							
27	DDC-T4	2303	BE	ROS		102	50° 00.13	144° 59.74	4252		540-541	2	H.M.	✓	
		2306	BO				50° 00.12	144° 59.75		150					
		2310	EN				50° 00.10	144° 59.77							

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Month			Year				Ship				Cruise ID				
AUGUST			2010				TULLY				2010-14				
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
28	DDC-T6	0105	BE	ROS	U.S.	103	50° 00.62	145° 00.11	4253		542-545	4	H.M.	✓	
		0109	BO				50° 00.61	145° 00.14		150					
		0114	EN				50° 00.62	145° 00.10							
28	DDC-T6	0126	BE	NET		104	50° 00.64	144° 59.91	4253						1000m BONGO
		0151	BO				50° 00.61	144° 59.45		1000					1100m out 6/6 2°
		0210	EN				50° 00.52	144° 59.18							
28	DDC-T8	0309	BE	ROS		105	50° 00.51	144° 59.38	4251		546-547	2	H.M.	✓	
		0312	BO				50° 00.50	144° 59.36		150					
		0316	EN				50° 00.49	144° 59.36							
28	DDC-T10	0500	BE	ROS		106	50° 00.21	144° 59.12	4251		548-549	2	H.M.	✓	
		0504	BO				50° 00.15	144° 59.14		150					
		0509	EN				50° 00.14	144° 59.16							
28	DDC-T12	0709	BE	ROS		107	49° 59.83	144° 59.17	4250		550-553	4	SR	✓	
		0712	BO				49° 59.85	144° 59.16		150					
		0717	EN				49° 59.82	144° 59.16							
28	DDC-T14	0901	BE	ROS		108	50° 0.06	144° 59.11	4250						
		0904	BO				50° 0.03	144° 59.13		150	554-555	2	SR		
		0909	EN				50° 0.06	144° 59.10							

19 hrs 300°

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>AUGUST</u>				Year <u>2010</u>			Ship <u>TULLY</u>				Cruise ID <u>2010-14</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned		Comments
							Latitude	Longitude								
28	DDC-T16	1101	BE	ROS	US	109	50° 0.19	144° 58.70	3946		556-557	2	SR	✓		bottles leaking,
		1104	BO				50° 0.18	144° 58.70		150						re-do down to
		1109	EN				50° 0.18	144° 58.75								20 m to get water
28	DDC-T16	1116	BE	ROS	US	110	50° 0.25	144° 58.65	3946		556-557	2	SR	✓		
28	DDC-T16	1117	BO				50° 0.19	144° 58.65		150						
		1118	EN				50° 0.18	144° 58.65								
28	DDC-T18	1257	BE	ROS	US	111	49° 59.90	144° 58.37	3950		558-561	4	SR	✓		
		1300	BO				49° 59.87	144° 58.40		150						
		1305	EN				49° 59.78	144° 58.41								
28	DDC-T20	1503	BE	ROS	US	112	49° 59.50	144° 58.46	4270		562-563	4	SR	✓		9562 + 9561 added
		1507	BO				49° 59.48	144° 58.46		150	+9562 + 9563					on last minute for
		1515	EN				49° 59.49	144° 58.41								Dave
28	DDC-T22	1659	BE	ROS	US	113	49° 58.92	144° 58.70	4206		564-583		SR	✓		
		1701	BO				49° 58.91	144° 58.73		150						
		1707	EN				49° 58.96	144° 58.75								
28	DDC-T24	1859	BE	ROS	US	114	49° 58.87	144° 59.17	4249		566-569	4	H.M.	✓		
		1903	BO				49° 58.92	144° 59.14		150						
		1908	EN				49° 58.90	144° 59.08								

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Produced by the Water Properties Group, IOS

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Month <u>AUGUST</u>			Year <u>2010</u>			Ship <u>TULLY</u>			Cruise ID <u>2010-14</u>						
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
28	DDC-T26	2101	BE	ROS	U.S.	115	49° 59.62	144° 59.55	4215		570-571	2	H.M.	✓	
		2105	BO				49° 59.62	144° 59.54		150					
		2109	EN				49° 59.63	144° 59.53							
28	DDC-T28	2258	BE	ROS	U.S.	116	50° 00.36	144° 59.05	4215		572-575	4	H.M.	✓	PAR 4615 OFF PAR 4694 ON
		2302	BO				50° 00.33	144° 59.05		150					
		2309	EN				50° 00.28	144° 59.02			584-591				
28		1517	EN	DRF		(99)	50° 00.36	144° 59.21							Recover drogue
29	ENVIROCAN 1	0105	BE	DRF		117	49° 59.92	144° 32.98	4060						AXIS DRIFTER
29	P 35	0221	BE	ROS	U.S.	118	49° 59.88	144° 18.12	4151		592-615	24	H.M.	✓	PAR - OFF (4694)
		0256	BO				49° 59.92	144° 18.12		2005					
		0331	EN				49° 59.94	144° 18.17							
29	P25	0647	BE	ROS	U.S.	119	49° 59.77	143° 36.36	4146		616-617	2	H.M.	✓	
		0726	BO				49° 59.97	143° 36.36		2005					
		0802	EN				49° 59.98	143° 36.47							
29	P24	1211	BE	ROS	U.S.	120	49° 50.16	142° 40.07			618-619	2			
		1247	BO				49° 50.09	142° 40.16							
		1325	EN				49° 50.27	142° 40.22							

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Bottle Firing Method:

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Month <u>Aug</u>				Year <u>2010</u>			Ship <u>TULLY</u>			Cruise ID <u>2010-14</u>					
Day	Station Name	Time (UTC)	Time Code	Cast Type	Firing Method	Event Number	Positional Information		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch Keepers	Trans. Cleaned	Comments
							Latitude	Longitude							
29	P23	1740	BE	ROS		121	49° 45.99	141° 40.08	4052		620-623	7	SR	✓	will end @ 2005m
		1816	BO				49° 45.97	141° 40.04		2005					to get CHL max -
29	P23	1818	BE	ROS		122	49° 45.97	141° 40.05	4052						P23 up cast only
		1909	EN				49° 46.01	141° 40.11		2005					@ 0.75 m/s
29	P22	2325	BE	ROS		123	49° 41.99	140° 40.05	3940		624-625	2	H.M.	✓	
		2359	BO				49° 41.98	140° 40.16		2005					
30		0035	EN				49° 41.91	140° 40.32							
30	P21	0457	BE	ROS		124	49° 37.89	139° 40.48	3957		626-627	2	H.M.	✓	NISK 5,9,15 closed
		0531	BO				49° 37.91	139° 40.45		2005					but not in the Bk p/s
		0606	EN				49° 37.86	139° 40.40							→
31	P15	0613	BE	ROS		125	49° 11.89	133° 39.98	3407		628-629	2	H.M.	✓	
		0649	BO				49° 11.97	133° 39.80		2005					
		0725	EN				49° 11.97	133° 40.01							
31	P14	1145	BE	ROS		126	49° 7.44	132° 39.99	3317		630-631	2	SR	✓	bottle 3 fired by accident!
		1230	BO				49° 7.40	132° 40.03		2005					
		1315	EN				49° 7.37	132° 40.04							
31	P13	1735	BE	ROS		127	49° 2.63	131° 40.04	3154		632-633	2	SR	✓	
		1811	BO				49° 2.63	131° 40.04		2005					
		1849	EN				49° 2.61	131° 39.99							

Cast Type:

BOT = Bottle cast, no CTD
 CTD = CTD without Rosette
 ROS = Rosette plus CTD
 SET = Fish Set

USW = Sea Water Loop
 MOR = Mooring
 NET = Plankton Net Haul
 DRF = Drifter

Bottle Firing Method:

US = Up / Stop
 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

Transmissometer to be cleaned before each cast, do not use Ammonia products

Produced by the Water Properties Group, IOS

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by looking at the archived data as chl max info lost after the PAR variable was changed to transmissivity. The plot automatically resets when a new variable is selected. Decreased decent rate to 0.75 m/s due to rolling across the beam

Retermine between P21 and P15.

