

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2011-09

DATE:

From: 21 June 2011

to: 25 June 2011

VESSEL:

Tully

PROJECT(S):

SoG / JdF Water Properties

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

WaterProperties.ca

Captain: MIKE ORFIELD
 First Officer: RYAN
 Second Officer: SHANE
 Third Officer: JIM
 Fishing Master: _____

Mission Participants / Agencies:

Scientific Personnel:		Chief Scientist:		Peter Chandler	
Name	Watch	Cabin	Name	Watch	Cabin
ANNA MALLARD					
BEN MORENO					
ERICA YOUNG					
TRAVIS NORMAN					
STEVE ROMANDE					
HANNAH STEWART					
BRAD WELCH					
MELISSA HENNEKES					
MAJON PEARCE					

[illegible]

Data logging computer:

Data acquisition program: _____

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

Primary CTD

Make: 9 SBE model: _____ serial number: 550

Primary temperature serial number: 22

Primary conductivity serial number:

Secondary temperature serial number:

Secondary conductivity serial number:

Transmissometer:	Model:

Fluorometer: Model	✓✓	Cable gain:	s/n: 22-16	P S or NO num?
--------------------	----	-------------	------------	----------------

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

PAR sensor: _____ Model: _____ s/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? _____

Secondary CTD

Make: _____ model: _____ serial number: _____

Primary temperature serial number: _____

Primary conductivity serial number:

Secondary temperature serial number:

Secondary conductivity serial number:

Transmissometer: _____ s/n: _____
Model: _____

Fluorometer: Model	Cable gain:	s/n:	P S or NO numm?

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

PAR sensor: _____ Model: _____ s/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):

left at 18:15 from 105
local

clear skies, light breeze

DAILY SCIENCE LOG

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Month <i>Dec</i>				Year <i>2011</i>			Ship <i>Tully</i>				Cruise ID <i>2011-09</i>				
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	<i>Stn 58</i>	0145	BE	ROS	U.S.	1	48° 39.59	123° 30.24	179		1-9	9		✓	
		0148	BO				48° 39.59	123° 30.24		100					
		0158	EN				48° 39.61	123° 30.26							
22	STA 58	0334	BE	CTD		2	48° 42.98	123° 14.20	330		—	—	D.N.	✓	
		0341	BO				48° 43.01	123° 14.21		325					
		0347	EN				48° 43.05	123° 14.12							
22	Sta 59	0440	BE	ROS	U.S.	3	48° 37.84	123° 14.59	234		10-23	14	H.M.		
		0445	BO				48° 37.88	123° 14.63							
		0500	EN				48° 38.13	123° 14.60							
22	Sta 60	0555	BE	CTD		4	48° 33.93	123° 12.75	288		—	—	H.M.	✓	
		0601	BO				48° 33.93	123° 12.80		287					
		0606	EN				48° 33.95	123° 12.81							
22	Sta 61	0657	BE	CTD		5	48° 29.28	123° 09.49	284		—	—	H.M.	✓	
		0702	BO				48° 29.28	123° 09.53		269					
		0707	EN				48° 29.30	123° 09.54							
22	101	1358	BE	ROS		6	48° 25.405	124° 45.144	239	235		—	SP	✓	
		1404	BO				48° 25.429	124° 45.155							
		1408	EN				48° 25.450	124° 45.143							

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:

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BE = Beginning Time of Cast
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Transmissometer to be cleaned before each cast, do not use Ammonia products

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This page is for any notes or observations

Guessed on SPAR calibration values as serial # unknown (entered 1, 1)

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Month <u>June</u>				Year <u>2011</u>			Ship <u>Tully</u>				Cruise ID <u>2011-09</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	102	1445	BE	ROS		7	48 30.082	124 44.020	256	250	14-38	15	SR	/	
		1454	BO				48 30.052	124 44.032							
		1511	EN				48 30.155	124 44.077							
22	103	1543	BE	ROS		8	48 33.014	124 42.959	122	116				/	
		1548	BO				48 33.084	124 42.983							
		1550	EN				48 32.994	124 42.989							
22	76	1650	BE	ROS		9	48 31.426	124 29.947	88	84			SR	/	
		1655	BO				48 31.403	124 29.931							
		1657	EN				48 31.412	124 29.936							
22	75	1728	BE	ROS		10	48 28.276	124 32.767	221	215	39-50	12	SR	/	
		1733	BO				48 28.255	124 32.828							
		1747	EN				48 28.254	124 32.701							
22	7A	1821	BE	ROS		11	48 25.066	124 35.531	183	180					
		1825	BO				48 25.078	124 35.545							
		1830	EN				48 25.114	124 35.569							

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Month <u>JUNE</u>				Year <u>2011</u>			Ship <u>TULLY</u>				Cruise ID <u>2011-09</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	73	20 59	BE	ROS		12	48 15.12	124 6.91	163				PC	✓	
		21 03	BO				48 15.10	124 7.05		158					
		21 06	EN				48 15.10	124 7.09							
22	72	21 42	BE	ROS	US	13	48 18.71	124 3.92	185		51-63	13	PC	✓	
		21 47	BO				48 18.46	124 3.98		182					
		22 00	EN				48 18.51	124 3.88							
22	70	23 43	BE	ROS		14	48 19.28	123 42.89	149				PC	✓	restart - write error
		23 46	BO				48 19.20	123 42.83		144					
		23 49	EN				48 19.18	123 42.74							
23	69	00 22	BE	ROS	US	15	48° 15.57	123 43.12	178		64-75	12	PC	✓	repair chipping on termination
		00 27	BO				48° 15.54	123° 43.10		173					
		00 42	EN				48° 15.53	123° 43.11							
23	68	01 53	BE	ROS		16	48 12.17	123 42.96	139				PC	✓	
		01 59	BO				48 12.18	123 42.97		135					
		02 02	EN				48 12.18	123 42.97							

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- station 71 not sampled due to exercise in area WH by military.

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Month <u>JUNE</u>				Year <u>2011</u>			Ship <u>TULLY</u>				Cruise ID <u>2009-11</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	105	0340	BE	ROS		17	48 11.03	123 18.84	90				PA	✓	
		0344	BO				48 11.02	123 18.77		85					
		0346	EN				48 10.99	123 18.76							
23	ADCP	0414	BE	ROS	US	18	48 13.98	123 17.95	123		76-85	10	PA	✓	
		0421	BO				48 13.95	123 17.98		116					
		0430	EN				48 14.04	123 17.90							
23	104	0517	BE	ROS		19	48 20.01	123 17.67	88				PA	✓	
		0522	BO				48 19.99	123 17.98		82					
		0525	EN				48 20.00	123 17.98							
23	67	0618	BE	ROS		20	48 22.81	123 18.09	101				PA	✓	
		0623	BO				48 22.87	123 18.09		96					
		0625	EN				48 22.89	123 18.08							
23	66	0700	BE	ROS		21	48 19.032	123 14.237	109	102			SL	✓	
		0705	BO				48 19.032	123 14.303							
		0707	EN				48 19.063	123 14.322							

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Month <u>June</u>				Year <u>2011</u>			Ship <u>Tully</u>				Cruise ID <u>2011-05</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	65	0745	BE	ROS		22	48 15.930	123 9.851	129	123	86-95	10	SR	/	
		0750	BO				48 15.864	123 9.878							
		0801	EN				48 15.819	123 9.978							
23	64	0836	BE	ROS		23	48 12.820	123 5.747	105	100		-	SR	/	
		0841	BO				48 12.872	123 5.668							
		0843	EN				48 12.904	123 5.626							
23	63	0926	BE	ROS		24	48 14.652	122 58.541	153	145			SR	/	
		0930	BO				48 14.585	122 58.585							
		0933	EN				48 14.572	122 58.645							
23	62	1048	BE	ROS		25	48 22.802	123 2.620	149	145	¹⁰⁰ 96 -110	15	SR	-	Discard bottles
		1054	BO				48 22.729	123 2.642							1-4 (labelled
		1106	EN				48 22.695	123 2.740							too deep)
23	54	1244	BE	ROS		26	48 26.584	122 44.305	79	74			SR	/	
		1249	BO				48 26.596	122 44.353							
		1250	EN				48 26.596	122 44.358							

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Month <u>June</u>				Year <u>2011</u>			Ship <u>Tully</u>				Cruise ID <u>2011-05</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	S3	1342	BE	ROS		27	48 33.161	122 45.058	68	62		—	SN	—	
		1344	BO				48 33.161	122 45.052							
		1345	EN				48 33.152	122 45.046							
23	S2	1430	BE	ROS		28	48 38.912	122 43.306	87	80		—	SN	—	
		1435	BO				48 38.932	122 43.236							
		1437	EN				48 38.939	122 43.230							
23	S1	1548	BE	ROS		29	48 46.721	122 51.694	165	160		1	SN	—	phyto sample for analysis
		1559	BO				48 46.744	122 51.656							
		1602	EN				48 46.758	122 51.654							
23	S6	1658	BE	ROS	US	30	48 46.456	123 1.592	210	200	111-124	14	SN	—	
		1705	BO				48 46.493	123 1.636							
		1720	EN				48 46.500	123 1.658							
23	S2	1759	BE	ROS		31	48 43.976	123 8.101	161	155					
		1804	BO				48 43.999	123 8.114							
		1808	EN				48 44.022	123 8.108							

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Month		Year		Ship		Cruise ID								
JUNE		2011		TULLY		2011-09								
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	47	1920	BE	ROS		32	48 49.34	123 6.21	187			BP	✓	
		1925	BO				48 49.34	123 6.18		182				
		1928	EN				48 49.35	123 6.23						
23	48	1955	BE	ROS		33	48 51.70	123 3.22	229			BM	✓	
		2002	BO				48 51.68	123 3.22		224				
		2006	EN				48 51.66	123 3.22						
23	49	2040	BE	ROS		34	48 55.01	122 59.59	133			BM	✓	
		2045	BO				48 55.04	122 59.60		126				
		2047	EN				48 55.06	122 59.60						
23	44	21:24	BE	ROS		35	48 56.79	123 6.60	122			61	✓	
		21:27	BO				48 56.78	123 6.00		115				
		21:30	EN				48 56.79	123 6.01						
23	45	21:56	BE	ROS		36	48 52.85	123 8.3	129				✓	
		22:01	BO				48 53.86	123 8.30		124.5				
		22:03	EN				48 53.86	123 8.31				61		

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Month <u>JUNE</u>		Year <u>2011</u>		Ship <u>TULLY</u>		Cruise ID <u>2011-09</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	46	22 29	BE	ROS	US	37	48 51.37	123 10.784	179		125-136	12	BM	✓	
		22 33	BO				48 51.38	123 10.84		175					
		22 46	EN				48 51.36	123 10.88							
23	106	23 57	BE	ROS		38	49 0.970	123 12.99	76					✓	
		00:01	BO				49 0.96	123 12.96		71			TN		
		00:03	EN				49 0.96	123 12.99							
24	107	00:34	BE	ROS		39	48 58.37	123 17.96	182				TN	✓	
		00:38	BO				48 58.38	123 17.96		176					
		00:41	EN				48 58.40	123 17.95							
24	43	01 36	BE	ROS		40	49 0.18	123 30.07	192				FE	✓	
		01 42	BO				49 0.13	123 30.06		189					
		01 45	EN				49 0.14	123 30.07							
24	42	02:11	BE	ROS	US	41	49 1.82	123 26.22	321		137-152	16		✓	
		02:17	BO				49 1.806	123 26.26		324					
		02:37	EN				49 1.73	123 26.32							

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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	41	0321	BE	ROS		42	49 3.30	123 22.33	245				PE	✓	
		0328	BO				49 3.31	123 22.33		240					
		0332	EN				49 3.30	123 22.35							
24	108	0359	BE	ROS		43	49 4.42	123 19.18	98				PE	✓	
		0403	BO				49 4.43	123 19.18		93					
		0405	EN				49 4.44	123 19.19							
24	37	0514	BE	ROS		44	49 13.56	123 20.65	214				PE	✓	
		0518	BO				49 13.57	123 20.66		209					
		0522	EN				49 13.58	123 20.66							
24	38	0557	BE			45	49 12.05	123 26.31	309				PE	✓	
		0603	BO				49 12.01	123 26.30		304					
		0608	EN				49 12.00	123 26.32							
24	39	0648	BE			46	49 9.84	123 32.86	375	369			SW	✓	
		0656	BO				49 9.850	123 32.915							
		0718	EN				49 9.850	123 32.974							

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Month <u>June</u>				Year <u>2011</u>			Ship <u>T-4</u>				Cruise ID <u>2011-09</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	40	07:55	BE	ROS		47	49° 8.614'N	123° 36.760'W	153	150		-	BW	✓	
		08:00	BO				49° 8.598	123° 36.766							
		08:03	EN				49° 8.592	123° 36.782							
24	26	09:26	BE	ROS		48	49° 14.245	123 50.820	248	244		-	BW	✓	
		09:33	BO				49° 14.236	123 50.826							
		09:38	EN				49 14.225	123 50.832							
24	27	10:20	BE	ROS		49	49 19.118	123 48.082	351	345	170-185	16	BW	✓	
		10:30	BO				49 19.41	123 48.071							
		10:51	EN				49.19.134	123.48.048							
24	28	11:31	BE	ROS		50	49.24.104	123.45.278	135	130		-	BW		archive started early.
		11:36	BO				49.24.107	123.45.289							
		11:38	EN				49.24.114	123.45.288							
24	24	13:16	BE	ROS		51	49 30.398	124 6.041	425.8	420		-	BW		
		13:24	BO				49° 30.304	124. 6.040							
		13:32	EN				49° 30.299	124° 6.040							

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Month <u>June</u>				Year <u>2011</u>				Ship <u>Tully</u>				Cruise ID <u>2011-09</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	25	13:57	BE	ROS		52	49° 27.703	124° 7.486	286	281		—	BW	✓	
		14:03	BO				49° 27.708	124° 7.507							
		14:08	EN				49° 27.709	124° 7.518							
24	2	14:38	BE	ROS		53	49° 24.102	124° 9.295	277	273	186-200	15	BW	✓	
		14:45	BO				49° 24.090	124° 9.332							
		15:03	EN				49 24.052	124 9.332							
24	CPF 1	1540	BO	NET		54	49 21.951	124 5.056	240	230			SR	✓	Bongo Unit
24	1	1622	BE	ROS		55	49 20.296	124 12.112	246	240		—	SR	✓	0340 local
		1629	BO				49 20.292	124 12.202							
		1633	EN				49 20.326	124 12.223							
24	4	1720	BE	ROS		56	49 25.516	124 22.162	340	335			HS	✓	
		1730	BO				49 24.510	124 22.180							
		1736	EN				49 24.514	124 22.184							

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Month June		Year 2011		Ship Tully		Cruise ID 2011-09									
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	3	1804	BE	ROS	US	57	49 26.64	124 20.153	320	315	201-216	16	HS	✓	
		1820	BO				49 26.674	124 20.092							
		1834	EN				49 26.895	124 20.168							
24	6	19:19	BE	ROS	US	58	49 30.67	124 27.85	193		217-229	13	RD	✓	
		19:24	BO				49 30.67	124 27.83		188					
		19:38	EN				49 30.63	124 27.84							
24	9	20:35	BE	ROS	US	59	49 35.53	124 38.32	170		230-241	12	TW	✓	
		20:39	BO				49 35.53	124 38.30		165					
		20:52	EN				49 35.54	124 38.29							
24	10	21:55	BE	ROS		60	49 40.72	124 47.36	94				RD	✓	
		22:00	BO				49 40.72	124 47.37		87					
		22:02	EN				49 40.72	124 47.38							
24	11	22:30	BE	ROS		61	49 42.43	124 43.40	301				RD	✓	
		22:37	BO				49 42.43	124 43.33		295					
		22:41	EN				49 42.41	124 43.34							

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1200 - RMI away with Rich. Piper - Eureka to change out fluorometer at Halibut Bank
 weather bery.

1450 boat return

1.5	4.0	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0	90.0	91.0	92.0	93.0	94.0	95.0	96.0	97.0	98.0	99.0	100.0
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Month JUNE				Year 2011			Ship TULLY				Cruise ID 2011-09				
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	12	2302	BE	ROS	US	62	49 43.60	124 40.82	355		242-257	16	PD	✓	note hooden shna
		2310	BO				49 43.60	124 40.76		350					station 62, should
		2330	EN				49 43.53	124 40.68							be stn 12
25	14	0104	BE	ROS	US	63	49 52.96	124 59.61	315		258-260	3	PD	✓	
		0112	BO				49 52.99	124 59.63		310					
		0120	EN				49 53.01	124 59.63							
25	20	0314	BE	ROS		64	49 47.18	124 32.32	315				PD	✓	
		0324	BO				49 47.18	124 32.31		310					
		0330	EN				49 47.18	124 32.30							
25	22	0457	BE	ROS		65	49 40.20	124 16.26	353				BM	✓	
		0505	BO				49 40.18	124 16.31		348					
		0511	EN				49 40.15	124 16.29							
26	GEO 1	0719	BO	NET		66	49 15.001	123 44.931	410	400			SP		

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