

DAILY SCIENCE LOG BOOK

MISSION
NUMBER

PAC 2011-27

DATE:

From: 16 AUGUST

to: 1 SEPTEMBER 2011

VESSEL:

JOHN P TULLY

PROJECT(S):

LING P

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

WaterProperties.ca

Captain:	<u>MIKE CORFIELD</u>	First Officer:	<u>RICH MARIOTT</u>
Second Officer:	<u>SHANE LOVEACE</u>	Third Officer:	<u>JIM GARRETT</u>
Fishing Master:			

Mission Participants / Agencies: Tos/STO: vcc; vvic; uw

Scientific Personnel:				Chief Scientist: ROBERT 07-19 A		Watch		Cabin	
Name	Watch	Cabin	Name	Watch	Cabin	Watch	Cabin		
CHRISTINA SCHALLENBERG	06-12	B	CRAIG MENNIS	00-06	UP	00-06	UP		
MOIRA GALLAGHER	12-24	C	MICHAEL ARCHER	DMS					
WENDY RICHARDSON	WUTS	D	KYLE SIMPSON	06-12					
SCOTT ROSE	00-12	E							
DIANE PERRY	12-18	F							
ANITA POSACKA	18-24	F							
DAVID SEMENIUK	00-06	G							
JASON MCALISTER	12-18	G							
NARI SIM	06-12	H							
LIZZY ASHER	18-24	H							

[illegible]

Data logging computer: #2
Data acquisition program: SEASAVE V 7.21 b
CTD deck unit make: SBE model: 11+ serial number: 0471

Primary CTD

Make: SBE model: 9+ serial number: 0550
 Primary temperature serial number: 2374
 Primary conductivity serial number: 3396
 Secondary temperature serial number: 2668
 Secondary conductivity serial number: 2754
 Transmissometer: Wet Labs Model: _____ s/n: 1396DR
 Fluorometer: Model ECO Cable gain: 25X s/n: 2216 P, S or NO pump?
 Oxygen sensor: SBE Model: 43 s/n: 1176 P, S or NO pump?
 PAR sensor: BIO SPAN R111L Model: _____ s/n: 4601
 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: _____ Model: _____ s/n: _____

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: _____

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):

Rosette Setup:

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

Winches:

1. Make: HAUBOLDT Model: _____ Serial #: 17026 Used for: ENTIRE CRUISE
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: Metrohm Model: 765 Desima+ Kit Number: #2
Make: _____ Model: _____ Kit Number: _____

Comments on performance during cruise (comments should also be reflected in the post-cruise report):
AT FIRST PROGRAM KEPT FREEZING, FORCING REBOOT, PORTS WOULD CHANGE, AFTER P12 EVERYTHING OKAY

Thermosalinograph System (SBE21):

Program: Seasave Version: 7.21b S/N 3363
Sampling interval (seconds): 30
Fluorometer sensor serial number: WS35-713P

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 All went well

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)

do not know

Secondary Salinity – Primary Salinity:
(Average from the mixed region)

do not know

Additional Comments:

99
03

DAILY SCIENCE LOG

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Page 1 of 14

Month <u>Aug</u>				Year <u>2011</u>			Ship <u>TULLY</u>				Cruise ID <u>2011-27</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							
17	SI 2 3	2058	BE	ROS	US	1	48° 35.58	123° 30.02	225	215	1-11	11	SR	✓	JELLYFISH TENTACLES/GOO
		2102	BO				48° 35.58	123° 30.00							
		2119	EN				48° 35.72	123° 30.01							
18	JF1	0312	BE	USW		—	48 15.96	123 29.99	173	—	—		MG		LOOP FOR CHL SAL NOT
		0315	EN				48 15.78	123 31.42	180						
	JF2	0509	BE	USW		—	48 17.998	123 00.08	187		—				CHL SAL NOT
		0513	EN				48 18.259	123 00.967	188						
	JF3	0704	BE	USW		—	48 26.99	124 30.03	227		—				CHL SAL NOT
		0706	EN				48 26.99	124 30.03							
	JF4	0854	BE	USW		—	48 32.30	125 00.00	62		—				CHL SAL NOT
		0857	EN				48 32.34	125 01.22							
	PO1	1111	BE	ROS	US	2	48° 34.45	125 30 13	137		12-13	2	SR	✓	NMEA Entered
		1114	BO				48° 34.43	125° 30.16		128					manually
		1120	EN				48° 34.	125° 30.16							
	LB08	1229	BE	ROS	US	3	48° 25.32	125° 28.50	134		#14	1	SR	✓	NMEA Feed has been fixed.
		1232	BO				48° 25.34	125° 28.48		126					Bottle 1 tripped
		1234	EN				48° 25.32	125° 28.45							in air during recovery

Cast Type:

BOT = Bottle cast, no CTD
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 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

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Notes:

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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

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DAILY SCIENCE LOG

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Page 2 of 14

Month		Year		Ship		Cruise ID									
August		2011		Tully		2011-27									
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							
18	P2	1519	BE	ROS	US	4	48 36.00	126 0.01	116		15-22	8	SK	✓	Deep cast
		1522	BO				48 35.99	126 0.00		106					
		1532	EN				48 36.00	126 0.00							
18	P2	1558	BE	NET		5	48 35.998	125 59.995	114				MG		
		1602	BO				48 36.02	125 59.97		106					
			EN												
18	P2	1626	BE	ROS	US	6	48 36.04	125 59.97	116		23-36	14	MR	✓	Dns cast
		1635	BO				48 35.93	126 00.01							@ 30, New Pl.
		1636	BO			7	48 35.91	126 00.04							See notes →
	P3	2104	BE	TMR	DN	8	48 37.50	126 20.02	816		37-48	12	NS		Trace metal rosette
		2106	BO				48 37.51	126 19.99		50					
		2122	EN				48 37.49	126 19.99							
	P3	2143	BE	ROS	US	9	48 37.495	126 19.984	816		49-55	7	MG	✓	See notes →
		2157	BO				48 37.496	126 19.993		810					
		2159	BE			10	48 37.482	126 20.004							LOOP
		2218	EN	US			48 37.488	126 20.008							CHL NUT OXY HPLC SR
18	P4	0050	BE	TMR	DN	11	48 39.00	126 39.96	132.75		56-61	6	NS		Turn shallow
		0057	BO				48 39.00	126 39.98		300					
		0104	EN				48 38.99	126 40.00							

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Casts 6-7 (P2 DMS) and 9-10 (P3):

Water sampler was in "Sequential" mode. Had to stop the file to change mode to User Input.

Casts 6-7: stopped @ 30 dbar on the way up of #6.

Casts 9-10: stopped @ the bottom: 9 is downcast, 10 is upcast.
MK

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 3 of 14

Month <u>AUGUST</u>				Year <u>2011</u>			Ship <u>TULLY</u>				Cruise ID <u>2011-27</u>					Page <u>3</u> of <u>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	P4	0132	BE	ROS	US	12	48° 39.02	126° 39.95	1320		62-80	19	MR	✓	Deep cast PAR OFF	
		0156	BO				48° 39.00	126° 40.00		1315						
		0234	EN				48° 38.98	126° 40.00								
19	P4	0257	BE	NET		13	48° 38.9858	126° 40.0125	1321				MG			
		0305	BO				48° 39.0032	126° 40.0329		250						
		0310	EN				48° 39.0240	126° 39.9980								
19	P4	0319	BE	NET		14	48° 38.9850	126° 40.01	1322				MG			
		0356	BO				48° 39.9947	126° 40.029		1200						
		0418	EN				48° 39.018	126° 39.99								
19	P4	0506	BE	ROS	US	15	48 39.018	126 39.995	1317		81-100		MG	✓	WRONG FILE NAME	
		0529	BO				48 39.998	126 39.996							RENAME 00115 → 0015	
		0602	EN				48 38.994	126 39.998							UBC CAST	
19	P4	1115	BE	Pumping		16	48° 38.98	126 39.99	1319		101-104	4	SR			
		1420	EN				48° 39.00	126 39.97								
19	P4	1538	BE	TMR	DN	17	48° 39.04	126 39.94	1315		105-116	12	NS			
		1558	BO				48° 39.00	126° 39.99		1200						
		1629	EN				48° 39.01	126° 39.97								

Cast Type: USW - Sea Water Loop

Cast Type:

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Bottle Firing Method:

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Notes:

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 4 of 14

Month <i>August</i>		Year <i>2011</i>		Ship <i>Tully</i>		Cruise ID <i>2011-27</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							
19	P4	1653	BE	ROS	US	18	48 38.99	126 40.01	1320		117-132	16	MR	✓	pylon swap →
		1657	BO				48 39.00	126 40.01		200					
		1718	EN				48 38.99	126 40.00							
19	P5	1940	BE	ROS	US	19	48 41.54	127 09.94	2090		133-134	2	MR	✓	PAR OFF + LOOP OXY, NUT, SAL, CHL, HPLC x2
		2013	BO				48 41.49	127 10.00		2007					
		2045	EN				48 41.51	127 09.95							Closed NUSE, US 3-29 @ 5 to test ALL OK! ☺
19	P6	2306	BE	ROS	US	20	48 44.633	127 39.966	2546		135-136	2	MG	✓	
		2340	BO				48 44.590	127 40.00		2005					
20		0015	EN				48 44.591	127 39.977							
	P7	0238	BE	ROS	US	21	48 46.598	128 9.970	2056		137-138	2	MG	✓	loop OXY NUT SAL CHL HPLC x2
		0311	BO				48 46.560	128 10.013		2005					
		0347	EN				48 46.61	128 9.974							
21	P8	0616	BE	NET		22	48 49.096	128 39.993	2517				MG		
		0618	BO				48 49.0360	128 39.9920		250					
		06.31	EN				48 49.30	128 40.0490							
20	P8	0633	BE	NET		23	48 49.025	128 40.032	2517				MG		
		0708	BO				48 49.084	128 40.116		1200					
		0727	EN				48 49.064	128 40.045							

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→ Bottles 5, 9 + 11 were not tripping, swapped out pylon skt 0648 cont.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 5 of 14

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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							
20	P8	0747	BE	ROS	US	24	48° 48.96	128° 39.98	2518		139-161	23	SR	✓	
		0818	BO				48° 49.01	128° 39.97		2005					
		0910	EN				48° 49.02	128° 39.99							
20	P9	1115	BE	Pumping		25	48° 51.39	129° 9.95	2346		162	1	SR		
		1315	EN				48° 51.37	129° 9.97							
20	P9	1336	BE	ROS	US	26	48° 51.42	129° 9.99	2346		163-164	2	SR	✓	+ LOOP: OXY, NOT SAL, CHL, HPLC
		1404	BO				48° 51.41	129° 9.98		2005					
		1437	EN				48° 51.39	129° 10.03							
20	P10	1647	BE	ROS	US	27	48° 53.64	129° 40.02	2642		165-166	2	SR	✓	CHL MAX @ 43m
		1719	BO				48° 53.62	129° 40.01		2005					
		1751	EN				48° 53.62	129° 39.99							
20	P11	2008	BE	ROS	US	28	48 56.008	130 09.982	2755		167-168	2	MG	✓	LOOP OXY, NOT SAL, CHL, HPLC 0.8-1.2 RATE DESCENT AT SURF 1-1.4 " " " AFTER 200
		2037	BO				48 55.997	130 09.971		2005					
		2105	EN				48 56 00	130 00.00							
20	P12	2336	BE	ROS	US	29	48 58.20	130 39.98	3232		169-185	17	MG	✓	DMS CAST PAR ON
		2342	BO				48 58.22	130 40.00		200					
21		0007	EN				48 58.21	130 39.98							

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Version: 16 April 2010

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 6 of 14

Month <u>AUG</u>				Year <u>2011</u>			Ship <u>JPTULLY</u>				Cruise ID <u>2011-07</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	P12	0018	BE	TMR	DN	30	48° 58.21	130° 39.97	3230		186-191	6	NS		
21		0024	BO				48° 58.20	130° 40.01		300					
		0031	EN				48° 58.20	130° 40.02							
21	P12	0042	BE	ROS	US	31	48° 58.20	130° 39.98	3232		192-215	24	MR/MB	✓	DEEP CAST
		0144	BO				48° 58.20	130° 39.99		3270					PAR OFF
		0303	EN				48° 58.16	130° 40.03							E-3216
21	P12	0329	BE	TMR	DN	32	48° 58.21	130° 40.03	3021		216-227	12	NS		
		0426	BO				48° 58.20	130° 40.00		2000					
		0505	EN				48° 58.19	130° 40.02							
21	P12	0532	BE	NET		33	48° 58.176	130° 39.97	3228						
		0545	BO				48° 58.21	130° 40.01		250					
		0554	EN				48° 58.1686	130° 39.9800	3230						
21	P12	0558	BE	NET		34	48° 58.18	130° 39.94	3232						
		0637	BO				48° 58.22	130° 40.01		1200					
		0654	EN				48° 58.16	130° 39.92							
21	P12	0735	BE	ROS	US	35	48° 58.18	130° 39.94	3230		228-246	19			Rough seas caused
		0815	BO				48° 58.24	130° 40.04		2000					us to slow the descent
		0904	EN				48° 58.21	130° 39.97							rate to 0.75 m/s
21	P12	1214	BE	Plumting		36	48° 58.16	130° 39.88	3230		247-249	34	NS		

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WaterProperties.ca
 Version: 16 April 2010

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 7 of 14

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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							
	P12	1451	Bo				48° 57.89	130° 39.57							
21		1451	EN				48° 57.89	130° 39.57		40m					from shallow to deep
	P13	2034	BE	ROS	US	37	49 2.602	131 40.02	3030		250-251	2	MG	✓	Loop CHL SAL NUT OX4 HPLC
		2117	Bo				49 2.60	131 39.94		2005					SWEEP (0.8) ON DESCENT
		2155	EN				49 2.58	131 40.00	3015						NEW TSG STARTED AT P13
22	P14	0235	BE	ROS	US	38	49 7.42	132 40.19	3162		252-253	2	MG	✓	
		0314	Bo				49 7.37	132 40.02		2005					
		0349	EN				49 07 39	132 39.96							
22	P14	0356	BE	DRF	/	39	49 07.422	132 40.096	3309				MR		Deploy Algo 5882
	P15	0813	BE	ROS	US	40	49 12.02	133 39.99			254-255	2		✓	Pauses in cast due
		0902	Bo				49 12.01	133 39.98							to wrapping issues
		0937	EN				49 12.00	133 40.00							on the winch
22	P16	1512	Be	TMR	DN	41	49 16.99	134 39.99	3623		256-264	9	NS		
		1523	Bo				49 17.00	134 40.01		300					
		1533	EN				49 17.01	134 40.02							
	P16	1547	BE	ROS	US	42	49 16.97	134 39.97	3623		265-288	24	SR	✓	Paused to swap
		1657	Bo				49 17.00	134 40.00		3615					operators.
		1831	EN				49 17.00	134 39.98							DEEP CAST

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WaterProperties.ca
 Version: 16 April 2010

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 8 of 14

Month August				Year 2011			Ship JPTully			Cruise ID 2011-27					Page 8 of 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							
22 Aug 2011	P16	1936		TUR	DN	43	49° 16.95	134° 39.95	3600	2000	289-300	12	JM		
		2016					49° 17.01	134° 40.05							
22	P16	2119	BE	DAS	US	44	49° 17.00	134° 40.02	3622		301-319	14	MG	✓	DWY CAST PAR ON
		2128	BO	ROS			49° 16.99	134° 39.95		300					
		2147	EN				49° 17.02	134° 40.03							PAR OFF
22	P16	2238	BE	NET		45	49° 16.95	134° 40.01	3624				MG		
		2247	BO				49° 16.97	134° 40.04		250					
		2255	EN				49° 16.96	134° 40.02							
22	P16	2300	BE	NET		46	49° 17.06	134° 40.03	3624				MG		
		2329	BO				49° 17.01	134° 40.05		1200					
		2347	EN				49° 16.97	134° 39.99							
23	P16	0014	BE	ROS	US	47	49 17.01	134 40.02	362A						
		0102	BO				49 17.06	134 40.03		2000	320-338	19	MR	✓	
		0132	EN				49 17.10	134 40.03							
	P16	0151	BE	PUMP		48	49 17.02	134 40.08			339-341	3			
		0427	BO												
		5	EN												

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Version: 16 April 2010

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 9 of 14

Month AUG				Year 2011			Ship J.P. TOLLY				Cruise ID 2011-27				
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	P17	0905	BE	ROS	US	49	49° 20.96	135° 39.98			342-343	2			LOOP OXY NOT SAL CHL HPLC
		0941	BO				49° 20.95	135° 39.96							
		1017	EN				49° 20.92	135° 39.97							
	?		BE	Pumping		50									
			EN												
23	P18	1454	BE	ROS	US	51	49° 26.01	136° 40.00	3818		344-345	2	SR	✓	
		1549	BO				49° 25.99	136° 40.02		2005					
		1647	EN				49° 26.01	136° 39.97							
23	P19	2304	BE	ROS	US	52	49° 29.99	137° 40.02	3909		346-347	2	MG	✓	LOOP OXY NOT SAL CHL HPLC
		2336	BO				49° 30.02	137° 39.96		2005					
24		0009	EN				49° 30.02	137° 39.97							
24	P20	0510	BE	NET		53	49° 33.98	138° 40.013	3948						
		0521	BO				49° 33.981	138° 40.036		250					
		0529	EN				49° 34.017	138° 40.053							
24	P20	0531	BE	NET		54	49° 34.027	138° 40.055	3947						
		0608	BO				49° 33.985	138° 40.036		1200					
		0628	EN				49° 33.99	138° 40.007							

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Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 16 April 2010

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 10 of 14

Month				Year			Ship			Cruise ID					
August				2011			JP TOLLY			2011-27					
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	P20	0647	BE	ROS	US	55	49 33.97	138 40.00	3946		348-359	12	MG/SE	✓	
		0720	BO				49 33.99	138 40.02		2000					
		0801	EN				49 34.00	138 39.99							
24	P20	1446	BE	TMR		56	49° 33.99	138° 40.10	3946		360 - 368	9	NS		
		1507	BO				49° 33.99	138° 40.12		2000					
		1521	EN				49° 33.99	138° 40.13							
24	P20	1549	BE	ROS	US	57	49° 33.97	138° 40.05	3946		369-392	24	SR	✓	DEEP CAST
		1700	BO				49° 34.12	138° 40.24		3936					
		1833	EN				49° 34.02	138° 40.01							
24	P20	1935	BE	TMR	DN	58	49° 33.98	138° 40.04	3946		393-404	12	NS		
		2016	BO				49° 33.99	138° 39.99		2000					
		2101	EN				49° 33.97	138° 40.01							
24	P20	2107	BE	ROS	US	59	49 33.97	138 39.99	3946		405-425	21	MG	✓	PAR ON
		2115	BO				49 33.98	138 39.99		300					SHALLOW DMS
		2138	EN				49 34.00	138 39.97							
25	P21	0220	BE	ROS	US	60	49 37.97	139 40.03	3940		426-427	2	MG	✓	PAR OFF HPLC LOOP CMC SALINUS OXY
		0247	BO				49 37.90	139 39.94		2005					
		0319	EN				49 38.00	139 39.98							

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Produced by the Water Properties Group, IOS

WaterProperties.ca
Version: 16 April 2010

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 11 of 14

Month <u>AUG</u>				Year <u>2011</u>			Ship <u>JP Tully</u>				Cruise ID <u>2011-27</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	P22	0724	BE	ROS	US	61	49° 41.86	140° 40.09	3923		428-429	2	SR	✓	
		0802	BO				49° 41.98	140° 40.07							
		0841	EN				49° 41.96	140° 39.90							
25	P23	1304	BE	ROS	US	62	49° 46.03	141° 39.90	4026		430-431	2	SR	✓	
		1340	BO				49° 46.01	141° 40.06		2005					
		1418	EN				49° 46.00	141° 40.01							
25		1545	BE	DRF		63	49° 47.111	141° 54.675	4014				SR		
	P24	1914	BE	ROS	US	64	49° 50.23	142° 40.02	3966		432-455	24	MG	✓	Deploy EC drifter @ 2000m
		1951	BO				49° 50.21	142° 40.00		2000					Full SALINITY CTD BEST
		2033	EN				49° 50.17	142° 40.02							
26	P25	0049	BE	ROS	US	65	50° 00.02	143° 36.27	3885		456-457	2	MG	✓	LOOP OXY SAL NOT CHL HPLC
		0116	BO				49° 59.98	143° 36.28		2005					
		0146	EN				49° 59.99	143° 36.25							
26	P35	0530	BE	ROS	US	66	49° 59.99	144° 18.12	4126		458-459	2	MG		LOOP OXY SAL NOT CHL HPLC
		0606	BO				49° 59.99	144° 18.19		2005					
		0646	EN				49° 59.99	144° 18.19							
26	P26	1005	BE	ROS	US	67	50° 0.04	145° 0.00	4226		460-481	22	SR	✓	Bot 1 tripped by accident at almost exactly 1000m
		1044	BO				50° 0.02	145° 0.05		2000					
		1132	EN				49° 59.95	144° 59.92							

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Version: 16 April 2010

Deployment of EC drifter did not go as smoothly as possible, may have sustained damage.
The crew will contact Vahn to check it out.

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 12 of 14

Month AUGUST				Year 2011			Ship TULLY				Cruise ID 2011-27				
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	1147		PUMP		68	49° 59.95	144° 59.99							
		1345													
26	P26	1545	BE	TMR	DN	69	49° 59.99	144° 59.97	4225		482-493		NS		
		1600	BO				50° 00.02	144° 59.98		300					
		1609	EN				49° 59.99	145° 00.00							
26	P26	1627	BE	ROS	US	70	49° 59.96	144° 59.96	4225		494-517	24	8R	✓	DEEP CAST
		1747	BO				50° 0.01	144° 59.97		4215					
		1932	EN				50° 0.11	145° 0.12							
26	P26	2100	BE	ROS	US	71	49° 59.95	144° 59.93	4226		518-539	22		✓	PAR ON
		2112	BO				49° 59.98	144° 59.99		300					SHALLOW DMS
		2132	EN				49° 59.97	145° 00.04							
26	P26	2157	BE	TMR	DN	72	50° 00.01	145° 00.02	4226		540-551		NS		
		2235	BO				50° 00.00	145° 00.01		2000					
		2333	EN				50° 00.09	145° 00.12							
	P26	2342	BE	ROS	US	73	50° 00.08	145° 0.12	4225		552-563	MG	12	✓	PAR ON
		2351	BO				50° 00.04	145° 0.02		250					
27	PA005	0003	EN				50° 00.01	144° 59.98							
		0054	BE	BOAT		74	50° 05.19	144° 53.43	4205						
		0208	EN												

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WaterProperties.ca
Version: 16 April 2010

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 13 of 14

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							Latitude	Longitude							
27	PA005	0150	BE	ROS	US	75	50 8.10	144 48.92	4188		564 - 566	3	MG	✓	MOORING ONAR 1
		0153	BO				50 8.09	144 48.95		100					
		0157	EN				50 8.10	144 48.93							
27	PA005	0240	BE	ROS	US	76	50 8.09	144 48.84	4188		567 - 569	3	MG	✓	MOORING ONAR 2
		0250	BO				50 8.10	144 48.88		500					
		0303	EN				50 8.12	144 49.00							
27	P26	0436	BE	NET		77	50 00.01	145 00.00	4225						
		0443	BO				50 00.02	144 59.99		250					
		0448	EN				50 00.01	145 00.00							
27	P26	0455	BE	NET		78	50 00.01	144 59.95	4221						
		0515	BO				49 59.99	145 00.00		500					
		0536	EN				49 59.98	145 00.02							
27	P26	0550	BE	NET		79	49 59.99	144 59.99	4226						
		0601	BO				49 59.98	145 00.00		1000					
		0614	EN				49 59.99	145 00.00							
27	P26	0622	BE	NET		80	49 59.97	145 59.91	4226						
		0658	BO				49 59.98	145 00.06		1200					
		0716	EN				49 59.97	144 59.97							

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