

Captain: VICTOR First Officer: Jim Garrett
Second Officer: Jodi Third Officer: Kevin

Mission Participants / Agencies: IOS / PBS

Scientific Personnel:

Party Chief:

Doug Yelland

Name	Watch	Cabin	Name	Watch	Cabin
<u>Marie Robert</u>	<u>noon-Mid</u>	<u>A</u>	<u>Mara Galbraith</u>	<u>N-M</u>	<u>Down</u>
<u>Kelly Young</u>	<u>M-N</u>	<u>B</u>			
<u>Scott Rose</u>	<u>M-N</u>	<u>C</u>			
<u>Doug Yelland</u>	<u>D</u>	<u>D</u>			
<u>Nina Nemcek</u>	<u>D</u>	<u>E</u>			
<u>Tamara Fraser</u>	<u>D</u>	<u>F</u>			
<u>Ian Perry</u>	<u>N-18</u>	<u>G</u>			
<u>Ze</u>	<u>6-N</u>	<u>G</u>			
<u>Steve Page</u>	<u>N-M</u>	<u>H</u>			
<u>Ron Lindsay</u>	<u>M-N</u>	<u>H</u>			

Second leg of Mission:

Party Chief:

Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: #3

Data acquisition program: Seasave

CTD deck unit make: SBE model: 11+ serial number: 0471

Primary CTD

Make: SBE model: 9+ serial number: 0443

Primary temperature serial number: 2106

Primary conductivity serial number: 2280

Secondary temperature serial number: 2663

Secondary conductivity serial number: 2754

Transmissometer: Wetlabs Model: C-Star s/n: 1396 DR

Fluorometer: Model Seapoint Cable gain: 3x s/n: 3642 P, S or NO pump?

Oxygen sensor: SBE Model: 43 s/n: 0997 P, S or NO pump?

PAR sensor: BIOHERICAL Model: s/n: 4615

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: _____

Manufacturer: _____ (Ocean Test Equip., General Oceanics, IOS)

Volume of bottles (litres): _____

Winches:

1. Make: _____ model: _____ serial #: _____ used for: _____

2. Make: _____ model: _____ serial #: _____ used for: _____

3. Make: _____ model: _____ serial #: _____ used for: _____

4. Make: _____ model: _____ serial #: _____ used for: _____

5. Make: model: serial #: used for:

6. Make: _____ model: _____ serial #: _____ used for: _____

7. Make: _____ model: _____ serial #: _____ used for: _____

Comments: _____

Salinometer: make: _____ model: _____ serial number: _____

Comments: _____

Thermosalinograph System:

Program: _____ Version: _____

Sampling interval (seconds): _____

Fluorometer sensor serial number: _____

Comments: _____

ADCP Setup:

Computer time zone: UTC User Exits: Name: _____ Exit points: _____

Sampling interval (sec): 300 Name: _____ Exit points: _____

Bin Length: (2^x): 8m Name: _____ Exit points: _____

Pulse Length: _____ Work File: _____

Buffer (bytes): _____

Gyro Offset: _____

Comments: Set up as 105-N138133-30 Hom Piny

- also 105-NB-B-No Bottom Ring in 'depa

Comments:

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month SEPTEMBER				TIME	Year 2014			Ship TULLY				Cruise ID 2014-22 P.1		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
6	L B01	0502	ROS	US/BE	1	48° 40.43	124° 59.51	35				MR	✓	
		0503		BO		48° 40.42	124° 59.51		25	1-4	4			
		0506		EN		48° 40.40	124° 59.53							
6	L B02	0528	ROS	US/BE	2	48° 39.01	125° 02.46	58				MR	✓	
		0529		BO		48° 39.01	125° 02.45			6-10	5			
		0535		EN		48° 39.00	125° 02.44							
6	L B03	0602	ROS	BE	3	48° 37.33	125° 05.70	96		12	1	MR	✓	
		0604		BO		48° 37.32	125° 05.71		85	12				
		0606		EN		48° 37.32	125° 05.73							
6	L B04	0629	ROS	US/BE	4	48° 35.60	125° 08.75	115		14-20	7	MR	✓	
		0632		BO		48° 35.58	125° 08.74		105					
		0642		EN		48° 35.55	125° 08.75							
6	E1	0726	ROS	BE	5	48° 31.78	125° 3.77	114		—	—	SR	✓	
		0728		BO		31.77	3.75		110					
		0730		EN		31.78	3.75							
6	E1	0738	NET	BE	6	48° 31.81	125° 3.76	113		—	—	KY	—	
		0742		BO		31.84	3.71					IP		
		0744		EN		31.85	3.68							

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22 March 2002
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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>Sept</i>					Year <i>2014-22</i>			Ship <i>Tully</i>				Cruise ID <i>2014-22 p2</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
<i>6</i>	<i>LB05</i>	<i>0832</i>	<i>ROS</i>	<i>US</i> <i>BE</i>	<i>7</i>	<i>48° 34.00</i>	<i>125 11.98</i>	<i>102</i>		<i>22-23</i>	<i>1</i>	<i>SR</i>	<i>✓</i>	<i>Sample #23 not used there</i>
		<i>0835</i>		<i>BO</i>		<i>34.00</i>	<i>11.97</i>		<i>97</i>					
		<i>0839</i>		<i>EN</i>		<i>33.99</i>	<i>12.00</i>							
<i>6</i>	<i>LB06</i>	<i>0907</i>	<i>ROS</i>	<i>BE</i> <i>US</i>	<i>8</i>	<i>48° 32.20</i>	<i>125° 15.51</i>	<i>144</i>				<i>SR</i>	<i>✓</i>	<i>The 50m bottle was</i>
		<i>0909</i>		<i>BO</i>		<i>32.21</i>	<i>15.54</i>		<i>110</i>	<i>24-30</i> <i>29</i>	<i>7 6</i>			<i>missed by me somehow</i>
		<i>0919</i>		<i>EN</i>		<i>32.20</i>	<i>15.63</i>							<i>SR. Sorry.</i>
<i>6</i>	<i>C1</i>	<i>0954</i>	<i>ROS</i>	<i>BE</i>	<i>9</i>	<i>48° 29.27</i>	<i>125° 15.47</i>	<i>150</i>				<i>SR</i>	<i>✓</i>	
		<i>0958</i>		<i>BO</i>		<i>29.27</i>	<i>15.43</i>		<i>145</i>					
		<i>1000</i>		<i>EN</i>		<i>29.28</i>	<i>15.44</i>							
<i>6</i>	<i>C1</i>	<i>1008</i>	<i>NET</i>	<i>BE</i>	<i>10</i>	<i>48° 29.31</i>	<i>125° 15.42</i>	<i>150</i>				<i>SR</i> <i>KY</i>		<i>TSK 7131</i>
		<i>1014</i>		<i>BO</i>		<i>29.36</i>	<i>15.45</i>		<i>144</i>					
		<i>1017</i>		<i>EN</i>		<i>29.37</i>	<i>15.47</i>							
<i>6</i>	<i>C2</i>	<i>1103</i>	<i>ROS</i>	<i>BE</i>	<i>11</i>	<i>48° 26.37</i>	<i>125° 9.44</i>	<i>159</i>				<i>SR</i>	<i>✓</i>	
		<i>1106</i>		<i>BO</i>		<i>26.37</i>	<i>9.44</i>		<i>154</i>					
		<i>1108</i>		<i>EN</i>		<i>26.40</i>	<i>9.42</i>							
<i>6</i>	<i>C2</i>	<i>1112</i>	<i>NET</i>	<i>BE</i>	<i>12</i>	<i>48° 26.43</i>	<i>125° 9.45</i>	<i>158</i>				<i>SR</i> <i>KY</i>		
		<i>1119</i>		<i>BO</i>		<i>26.46</i>	<i>9.44</i>		<i>152</i>					
		<i>1122</i>		<i>EN</i>		<i>26.47</i>	<i>9.43</i>							

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

22 March 2002
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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>Sept</i>					Year <i>2014</i>			Ship <i>Tully</i>				Cruise ID <i>2014-22 p3</i>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
6	C3	1227	ROS	BE	13	48° 23.39	125° 20.64	121				SR	✓	
		1229		BO		23.40	20.63		116					
				EN		23.40	20.63							
6	C3	1235	NET	BE	14	48° 23.43	125° 20.61	121				SR/KY		
		1240		BO		23.44	20.56		116					
		1243		EN		23.43	20.52							
6	LBO7	1327	ROS	BE	15	48° 28.86	125° 22.01	154		32-33	1	SR	✓	
		1332		BO		28.87	21.45		149					
		1336		EN		28.89	21.96							
6	LBO7	1341	NET	BE	16	48° 28.90	125° 21.92	154				SR/KY		
		1347		BO		28.92	21.92		149					tear in flow side after
		1350		EN		28.91	21.89							cast. Nets changed to spare for next station.
6	LBO8	1441	ROS	BE ^{US}	17	48° 25.40	125° 28.62	158		34-43		SR	✓	
		1444		BO		25.42	28.59							
				EN		25.	28							
6	LBO8	1505	Net	BE	18	48 25.55	125 28.38	166				KY		Bongo to 156
		1510		BO		48 25.62	125 28.32		156					New TSK 7085
		1513		EN		48 25.64	125 28.27							

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22 March 2002
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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>Sept</i>					Year <i>2014</i>			Ship <i>JP TULLY</i>				Cruise ID <i>2014-22</i> <i>pt</i>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
6	B8	1623	ROS	BE	19	48° 34.51	125° 29.96	113		—	—	SR	✓	Spigot service on bottles 2+5	
		1625		BO		34.51	29.96		108						
		1627		EN		34.52	29.96								
6	B8	1635	NET	BE	20	48° 34.54	125° 29.93	113		—	—	SR/KY			
		1638		BO		48° 34.53	125° 29.92		106						
		1640		EN		48° 34.54	125° 29.93								
6	B7	1721	ROS	BE	21	48° 32.02	125° 35.41	81		—	—	SR	✓		
		1723		BO		32.02	35.40		76						
		1724		EN		32.01	35.40								
6	B7	1730	NET	BE	22	48° 32.01	125° 35.40	81		—	—	KY	✓		
		1731		BO		32.01	125° 35.38		71						
		1733		EN		32.01	35.38								
6	LB09	1852	ROS	BE	23	48° 21.98	125° 34.45	152		44-53 ^{SL}	9	SR	✓		
		1855		BO		48° 21.99	125° 34.43		141			MR			
		1906		EN		48° 22.05	125° 34.29								
6	LB10	1952	ROS	BE	24	48° 18.61	125° 41.25	153		53	1	MR	✓		
		1955		BO		48° 18.61	125° 41.22		141						
		1959		EN		48° 18.59	125° 41.18								

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month				Year				Ship				Cruise ID			
SEPTEMBER				2014				TULLY				2014-22 P5			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
6	LB11	2044	NET	BE	25	48° 15.26	125° 47.73	205							
		2051		Bo		48° 15.26	125° 47.75		200			MG		BOWED TO 200	
		2055		EN		48° 15.27	125° 47.77								
6	LB11	2103	ROS	BE	26	48° 15.29	125° 47.77	205		54-64	11	MR	✓		
		2106		Bo		48° 15.30	125° 47.79								
		2119		EN		48° 15.23	125° 47.82								
6	LB12	2149	ROS	BE	27	48° 12.90	125° 51.86	507		66-81	16	MR	✓		
		2158		Bo		48° 12.89	125° 51.91		502						
		2220		EN		48° 12.90	125° 51.92								
6	LB13	2251	ROS	BE	28	48° 10.68	125° 56.00	905				MR	✓		
		2306		Bo		48° 10.69	125° 55.91		887	B2-83	2			Out of Order	
		2323		EN		48° 10.69	125° 55.98								
6	LB14	2353	ROS	BE	29	48° 08.50	125° 59.89	1176		84-102	19	MR	✓		
7		0010		Bo		48° 08.46	125° 59.95		1168						
		0046		EN		48° 08.47	125° 59.98								
7	LB15	0139	ROS	BE	30	48° 04.31	126° 08.49	1554		103	1	MR	✓	PAR OFF	
		0205		Bo		48° 04.34	126° 08.45		1554						
		0231		EN		48° 04.36	126° 08.45								

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month SEPTEMBER					Year 2014			Ship TULLY				Cruise ID 2014-22 p6			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
7	LB16	0321	ROS	BE	31	48°00.52	126°16.97	1792				MR	✓		
		0354		BO		48°00.53	126°16.93		1823	105	1				
		0426		EN		48°00.56	126°16.90								
7	LB16	0432	NET	BE	32	48°00.57	126°16.87	1810							
		0442		BO		48°00.58	126°16.88		250			MR		BONDO	
		0446		EN		48°00.58	126°16.88								
7	LB16	0515	NET	BE	33	48°00.60	126°16.93	1796	1778					MPS	
		0620		BO		48°00.64	126°17.12		1750						
		0656		EN		48°00.73	126°17.24								
7	PLASTIC34	0733	Loop	BE	34	48°04.23	126°22.76	1781						10MIN 459,450,484 seconds 1L	
		0743				48°05.19	126°24.33		4.5						
7	LC12	0928	ROS	BE	35	48°14.94	126°39.97	2520				SR	✓		
		1010		BO		14.94	39.99		2515						
		1049		EN		14.92	40.05	8							
7	LC12	11:05	NET	BE	36	48°14.90	126°40.06	2515				KY		MPS	
		12:34		BO		48°14.92	126°40.02	2515	2010						
		13:13		EN		48°14.91	126°40.08								
7	LC12	13:37	NET	BE	37	48°14.92	126°40.08	2515						BONDO	
		13:46		BO		48°14.87	126°40.07		250						

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>September</i>					Year <i>2014</i>			Ship <i>Tully</i>			Cruise ID <i>2014-22</i> <i>P7</i>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
7	LC12	13:50	NET	EN	37	48 14.85	126 40.06	2515		<i>134</i>	<i>19</i>			<i>Bongo</i>
7	LC11	1508	ROS	BE	38	48 18.94	126 26.85	1481		<i>116-135</i>	<i>20</i>	SR	✓	
		1533		BO		18.95	26.85		1474					
		1615		EN		18.98	26.84							
7	LC10	1703	ROS	BE	39	48 22.38	126 20.18	1244				SR	✓	
		1724		BO		22.39	20.15		1240					
		1742		EN		22.39	20.17							
8	LC01	0029	ROS	BE	40	48 50.38	125 27.84	97		196-202	7	MG	✓	PAR ON 4615
		0031		BO		50.39	27.84		85					BIG WHITE THERM FOR O2
		0040		EN		50.41	27.82							TEMPS READ HIGH N 20
8	LC02	0111	ROS	BE	41	48 48.67	125 30.93	108		186-193	9	MG	✓	CHANGE TO YELLOW
		0113		BO		48.68	30.93		98	<i>194?</i>				THERMOMETER FOR O2
		0122		EN		48.71								
8	LC03	0150	ROS	BE	42	48 46.91	125 34.29	139				MG	✓	
		0153		BO		46.90	34.29		129					
		0156		EN		46.90	34.29							
8	LC04	0240	ROS	BE	43	48 43.46	125 40.85	167		175-184	10	MG	✓	PROGRAM CRASH @ 100M ↑
		0243		BO	44	43.45	40.87		156					↓CAST 43 ↑CAST 44
				EN		43.46	40.92							

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DAILY LOG

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INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship				Cruise ID			
SEPT					2014			JP Tully				2014-22 P8			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
8	LC05	0346	ROS	BE	45	48 39.91	125 47.46	65				MG	✓	PAR OFF	
		0348		BO		48 39.91	125 47.46		55	—		DI			
		0349		EN		48 39.91	125 47.46				—	IP			
8	LC05	0357	NET	BE	46	48 39.95	125 47.47	65				MG		Bongo to 55m	
		0358		BO		48 39.95	125 47.47		55			DI			
		0400		EN		48 39.95	125 47.47					IP			
8	LC06	0443	ROS	BE	47	48 36.46	125 53.91	93		167-173	7	DI	✓		
		0445		BO		48 36.46	125 53.90		83			MG			
		0452		EN		48 36.43	125 53.94					IP			
8	LC06	2155	NET	BE	48	48 36.43	125 53.98	93				MG		Bongo	
		2159		BO		36.44	53.99		85			IP			
		2203		EN		36.45	53.98								
8	LC07	0549	ROS	BE	49	48 32.95	126 0.55	130		—	—	DI	✓		
		0552		BO		48 32.94	126 0.54		120			MG			
		0554		EN		48 32.93	126 0.55					IP			
8	LC08	0640	ROS	BE	50	48 29.43	126 7.06	202				DI	✓		
		0644		BO		48 29.45	126 7.08		191	154-165	12	MG			
		0656		EN		48 29.47	126 7.05					IP			

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship			Cruise ID				
Sept					2014			Tully			2014-22				
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
8	LC08/A1	07:04	NET	BE	51	48 29.488	126 07.068	201				MG/KY			
		0713		BO		48 29.503	126 07.099		191						
		0716		EN		48 29.504	126 07.127								
8	AZ	0817	ROS	BE	52	48' 22.75	126' 3.81	350		/	/	SR	✓		
		0823		BO		22.75	3.83								
		0828		EN		22.76	3.85								
8	AZ	0834	NET	BE	53	48' 22.78	126' 3.85	343				KY			
		0845		BO		22.79	3.87		250						
		0850		EN		22.79	3.89								
8	LC09	1028	ROS	BE	54	48' 25.96	126' 13.66	597		136-153	18	SR	✓	Vents were all open	
		1039		BO		25.97	13.66		591					Redo 1.5 event 50	
				EN		25.95	13.71								
8	LC09	1110	NET	BE	55	48' 25.94	126' 13.68	597		/	/	KY			
		1120		BO		25.945	13.706		250						
		1125		EN		25.97	13.74								
8	LC09	1141	ROS	BE	56	48' 25.96	126' 13.82	615		136-153	18	SR	✓	Event 54 Redo.	
		1152		BO		25.96	13.85		616					Check if 5m tripped	
		1217		EN		25.93	13.86							(2 @ 5m)	

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>Sept</i>					Year <i>2014</i>			Ship <i>Tully</i>				Cruise ID <i>2014-22</i>				<i>P10</i>
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments		
						Latitude	Longitude									
<i>8</i>	<i>LD11</i>	<i>1515</i>	<i>ROS</i>	<i>BE</i>	<i>57</i>	<i>48 28.77</i>	<i>126 42.91</i>	<i>1602</i>	<i>1595</i>	<i>204-224</i>	<i>21</i>	<i>SK</i>	☒	<i>No dup chl 5 m?</i>		
		<i>1540</i>		<i>BO</i>		<i>28.77</i>	<i>42.95</i>			<i>223?</i>	<i>20?</i>					
		<i>1628</i>		<i>EN</i>		<i>28.84</i>	<i>43.02</i>									
<i>8</i>	<i>LD11</i>	<i>1634</i>	<i>NET</i>	<i>BE</i>	<i>58</i>	<i>48 28.85</i>	<i>126 43.03</i>	<i>1602</i>								
		<i>1644</i>		<i>BO</i>		<i>28.80</i>	<i>43.02</i>		<i>250</i>							
		<i>1648</i>		<i>EN</i>		<i>28.86</i>	<i>43.03</i>									
<i>8</i>	<i>LD11</i>	<i>17:11</i>	<i>NET</i>	<i>BE</i>	<i>59</i>	<i>48 28.780</i>	<i>126 42.896</i>	<i>1593</i>						<i>MPS N1=1500-1000 N2=1000-</i>		
		<i>1821</i>		<i>BO</i>		<i>48 28.84</i>	<i>126 42.94</i>		<i>1500</i>					<i>N3=600-300 N4=300-100 5=100-0</i>		
		<i>1853</i>		<i>EN</i>		<i>48 28.86</i>	<i>126 42.97</i>									
<i>8</i>	<i>LD10</i>	<i>1956</i>	<i>ROS</i>	<i>BE</i>	<i>60</i>	<i>48 32.20</i>	<i>126 36.71</i>	<i>1472</i>	<i>DEPTH</i>	<i>—</i>	<i>—</i>	<i>MG</i>	☒	<i>FLUO SPIKE @ 1206 AND WENT TO</i>		
		<i>2024</i>		<i>BO</i>		<i>32.24</i>	<i>126 36.72</i>		<i>1471</i>	<i>PRESSURE</i>				<i>ZERO</i>		
		<i>2045</i>		<i>EN</i>		<i>32.28</i>	<i>36.75</i>									
<i>8</i>	<i>LD09</i>	<i>2135</i>	<i>ROS</i>	<i>BE</i>	<i>61</i>	<i>48 35.69</i>	<i>126 29.95</i>	<i>1057</i>		<i>—</i>	<i>—</i>	<i>MG</i>	☒			
		<i>2152</i>		<i>BO</i>		<i>35.70</i>	<i>29.97</i>		<i>1032</i>							
		<i>2209</i>		<i>EN</i>		<i>35.69</i>	<i>30.00</i>									
<i>8</i>	<i>LD09</i>	<i>2217</i>	<i>NET</i>	<i>BE</i>	<i>62</i>	<i>48 35.70</i>	<i>126 29.98</i>	<i>1052</i>				<i>MG</i>		<i>Bongo to 250</i>		
		<i>2229</i>		<i>BO</i>		<i>48 35.70</i>	<i>126 30.00</i>		<i>250</i>							
		<i>2234</i>		<i>EN</i>		<i>48 35.70</i>	<i>126 29.98</i>									

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month				TIME CODE	Year			Ship				Cruise ID			
SEPT					2014			J P TULLY				2014-22 P11			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
8	LD08	2319	ROS	BE	63	48 39.17	126 23.36	772		225-241	17	MG	✓	TEMP 14.5@SURFACE + 7@ 50M	
		2332		BO		48 39.18	126 23.37		764						
9		0004		EN		48 39.21	126 23.38								
9	LD07	0115	ROS	BE	64	48 42.630	126 16.810	453	onsounder na altimeter	—	—	N ²	oops		
		0123		BO		48 42.620	126 16.774	470	460						
		0130		EN		48 42.626	126 16.792								
9	LD06	0245	ROS	BE	65	48 46.14	126 10.24	137		243-250	8	MG	✓	beautiful full moonrise ☺	
		0247		BO		46.14	10.24		127						
		0257		EN		46.15	10.27								
9	LD05	0348	ROS	BE	66	48 49.73	126 3.55	89		—	—	MG	✓		
		0350		BO		49.74	3.55		79						
		0352		EN		49.74	3.55								
9	LD04	0440	ROS	BE	67	48 53.17	125° 56.94	63		252-257	6	N ²	✓		
		0441		BO		48 53.16	125° 56.94		52	258	5				
		0446		EN		48 53.15	125° 59.93	56.93							
9	LD04	0452	NET	BE	68	48 53.16	125 59.92	56.94				MG		BONGO	
		0454		BO		48 53.17	125 56.92		54						
				EN											

DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month		SEPT		Year		2014		Ship		JP TULLY		Cruise ID		2014-22 P12	
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
9	LD03	0543	ROS	BE	69	48 56.65	125 50.33	49		—	—	MG	✓		
		0544		BO		56.65	50.33		38						
		0545		EN		56.66	50.33								
9	LD02	0614	ROS	BE	70	48 58.37	125 47.03	45		258-262	5	MG	✓		
		0616		BO		58.38	47.03		35						
		0620		EN		58.40	47.11								
9	LD02	0627	NET	BE	71	48 58.33	125 47.14	46				MG		BONGO	
		0629		BO		58.36	47.12		36						
9	LD01	0701	ROS	BE	72	49° 0.10	125° 43.95	39		264-267	4				
		0702		BO		0.10	43.95		34	84					
		0707		EN		0.10	43.99								
9	LG01	1134	ROS	BE	73	49° 20.47	126 34.93	55		269-274	6	SR	✓	Seapoint 3x gain cable was replaced with a new 3x gain cable	
		1135		BO		20.46	34.93		51	273	5				
		1140		EN		20.42	34.91								
	LG02	1209	ROS	BE	74	49° 18.69	126° 38.01	100		275-282	8	SR	✓		
		1211		BO		18.68	38.00		95						
		1221		EN		18.65	37.97								

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>Sept</i>					Year <i>2014</i>			Ship <i>Tully</i>				Cruise ID <i>2014-22 PL3</i>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
9	LG02	1231	NET	BE	75	49° 18.62	126° 38.00	100				KY		<i>Bongo!</i>	
		1235		BO		18.60	38.00		90						
		1237		EN		18.60	38.00								
9	LG02	1249	ROS	BE	76	49° 18.58	126° 38.18	100				SR	✓	Redo of event # 74	
		1251		BO		18.57	38.19		45	275-282	8			Vents were open.	
				EN		18.59	38.13							sample in # 11	
9	LG03	1346	ROS	BE	77	49° 14.99	126° 43.66	123				SR	✓	Tripped bottle 5 for testing reasons	
		1348		BO		14.99	43.65		118						
		1350		EN		15.00	43.64								
9	LG04		NET	BE	78			144				KY			
		1445		BO		49° 11.30	126° 49.37		134						
				EN											
9	LG04	1504	ROS	BE	79	49° 11.32	126° 49.41	144		285-293	9	SR	✓		
		1507		BO		11.32	49.41		139						
		1518		EN		11.33	49.42								
9	LG05	1604	ROS	BE	80	49° 7.39	126° 55.27	275				SR	✓		
		1607		BO		7.39	55.28		269						
				EN		7.40	55.27								

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Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <i>Sept</i>					Year <i>2014</i>			Ship <i>Tully</i>				Cruise ID <i>2014-22</i> <i>P14</i>			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
9	LG06	1659	ROS	BE	81	49° 3.48	127° 1.17	960		295-312	18	SR	✓	Out of order	
		1715		BO		3.50	1.18		955					500m in #20	
		1748		EN		3.51	1.28								
9	LG07	1841	ROS	BE	82	48° 59.45	127° 7.18	1761				SR	✓	TEMP 15.4@SURFACE 7°@90m	
		1908		BO		59.54	7.24		1750						
		1939		EN		59.50	7.28								
9	LG07	1947	NET	BE	83	48 59.46	127 7.20	1758						Bongo to 250m	
		1958		BO		48 59.49	127 7.20		250						
		2003		EN		48 59.50	127 7.23								
9	LG08	2108	ROS	BE	84	48 55.27	127 13.29	2069		—	—	MG	✓	DEPTH WRONG IN HEADER INFO	
		2141		BO		48 55.28	127 13.30		2005					For 2014-22-0084 HEX	
		2215		EN		48 55.32	127 13.28								
9	LG09	2309	ROS	BE	85	48 51.25	127 19.33	2059		—	—	MG	✓	NOODLES ON	
		2341		BO		48 51.21	127 19.36		2005						
10		0013		EN		48 51.21	127 19.39								
10	LG09	0021	NET	BE	86	48 51.21	127 19.37	2059				MG		BONGO	
		0034		BO		51.26	19.37		250						
		0043		EN		51.25	19.36								

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship				Cruise ID			
SEPT					2014			JP TULLY				2014-22 PLS			
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
						Latitude	Longitude								
10	LJ09	0046	NET	BE	87	48 51.23	127 19.35	2058				MG		Bongo	
		0134		BO		51.34	19.35		1000						
10	LJ09	0557	ROS	BE	88	49 16.05	127 47.42	2488		—	—	MG	✓	Noodles OFF	
		0632		BO		4 16.03	47.42		2005						
		0709		EN		16.05	47.47								
10	LJ09	0716	NET	BE	89	(49 16.04	127 47.42	2488		—	—	KY	—		
		0725		BO		49 16.11	47.51		250						
		0729		EN		16.13	47.52								
10	LJ08	0821	ROS	BE	90	49° 20.10	127° 41.10	1755		315	1	SR	✓		
		0850		BO		20.20	41.18		1750						
		0918		EN		20.28	41.16								
10	LJ07	1010	ROS	BE	91	49° 24.04	127° 34.83	1808		—	—	SR	✓		
		1041		BO		24.11	34.88		1803						
		1109		EN		24.20	35.00								
10	LJ06	1203	ROS	BE	92	49° 27.98	127° 28.72	1001		—	—	SR	✓		
		1219		BO		27.99	28.71		995						
		1235		EN		27.99	28.69								
10	LJ06	1242	NET	BE	93	49° 28.08	127° 28.72	1601		—	—	KY	—		
		1251		BO		28.02	127° 28.75		250						

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Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month					Year			Ship				Cruise ID				Comments
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned			
						Latitude	Longitude									
10	LJ06	12:56	NET	EN	93	49°28.03	127°28.77									
10	LJ05	1345	ROS	DE	94	49° 31.67	127° 22.51	1063		314	1	SR	✓			
		1403		BO		49 31.68	127 22.47		1058					To B-10 dy		
		1421		EN		49 31.66	127 22.47									
10	LJ04	1509	ROS	BE	95	49° 35.60	127° 16.91	160				SR	✓	DAR back on!		
		1511		BO		35.60	16.93		155							
		1514		EN		35.60	16.93									
10	LJ04	15:24	NET	BE	96	49 35.59	127 16.90	157				KY	—			
		15:29		BO		49 35.60	127 16.88		148							
		15:32		EN		49 35.59	127 16.89									
10	LJ03	1616	ROS	BE	97	49° 39.20	127° 11.23	125				SR	✓			
		1619		BO		39.20	11.23		116							
		1621		EN		39.20	11.24									
10	LJ02	1704	ROS	BE	98	49° 42.63	127° 5.36	82		313	1	SR	✓			
		1706		BO		42.63	5.37		72							
		1708		EN		42.63	5.38									
10	LJ02	17:13	NET	BE	99	49 42.61	127°05.38	82				KY	✓			
		17:16		BO		49 42.61	127° 05.37		70							
		17:18		EN		49 42.61	127 05.37									

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month September					Year 2014				Ship JP Tully				Cruise ID 22			Comments
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned			
						Latitude	Longitude									
10	LJ01	1743	RDS	BE	100	49 44.30	127° 2.59	61		—	—	SR	✓			
		1744		BO		44.30	2.60		51							
		1745		EN		4430	2.61									
10	Loop 101	1838	LOOP	BE	101	49 48.77	127 13.82							Sal & Chl Not		
10	LBP1	2142	RDS	BE	102	50 4.86	127 52.95	54		—	—	MG	✓			
		2143		BO		4.85	52.95		43							
		2144		EN		4.85	52.95									
10	LBP2	2200	RDS	BE	103	50° 4.04	127° 54.22	100		—	—	N2	✓			
		2203		BO		50° 4.05	127° 54.20		89							
		2205		EN		50° 4.05	127° 54.20									
10	LBP2	2208	NET	BE	104	50° 4.03	127° 54.22	100				MG				
		2213		BO		50° 4.03	127° 54.24		95							
		2215		EN		50° 4.04	127° 54.23									
10	LBP3	2232	RDS	BE	105	50 3.25	127° 55.27	165		316-326	11	N2	✓			
		2236		BO		50 3.25	127° 55.25		154							
		2248		EN		50 3.24	127° 55.30									
10	LBP3	2254	NET	BE	106	50 3.22	127 55.26	166						Bongo to 160m		
		2300		BO		50 3.21	127 55.27		160							
		2303		EN		50 3.20	127 55.25									

Cast type:

BOT = bottle cast, no CTD
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USW = sea water loop
MOR = mooring
NET = net haul
DRF = drifter

bottle firing method:
• US = up / stop
• UN = up / no stop
• DN = down / no stop

Time Code

• BE = beginning time of cast
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DE = deployment time
MR = messenger release time
RE = recover mooring time

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

22 March 2002
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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>Sept</u>					Year <u>2014</u>			Ship <u>Tully</u>				Cruise ID <u>2014-22 P18</u>		
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments
						Latitude	Longitude							
10	LBP4	2329	ROS		107	50 1.41	127 58.06	1011		—	—	DY	✓	
		2348				50 1.38	127 58.14	(1050)	1082					
11		0005				50 1.35	127 58.12							
11	LBP5	0029	ROS	BE	108	50 0.03	127 59.97	1286		327-346	20	MG	✓	PAR OFF
		0050		BO		50 0.04	127 59.96		1278					
		0131		EN		50 0.06	127 59.92							
11	LBP5	0137	NET	BE	109	50 0.04	127 59.92	1283				MG		Bongo to 250m
		0146		BO		50 0.01	127 59.95		250					
		0151		EN		50 0.00	127 59.94							
11	LBP6	0236	ROS	BE	110	49 56.24	128 5.46	779 + 830				MG	✓	ALTIMETER WOULD NOT KICK IN
		0251		BO		56.22	5.40		800					SIDE LOBES STOPPED AT 800
		0305		EN		56.18	5.46							CHICKEN
11	LPB7	0348	ROS	BE	111	49 52.34	128 11.10	2195		347-366	20	MG	✓	STARTED ARCHIVING ON 1061
		0419		BO		52.29	11.09		2005					SORRY
		0512		EN		52.37	11.12							NO SAMPLE CLOSE
11	LPB7	0520	NET	BE	112	49 52.38	128 11.11	2197				MG		BOTTLE 11 DID NOT FIRE CAUGHT ON FRAME
		0528		BO		49 52.41	128 11.11		250					Bongo to 250m
		0533		EN		49 52.41	128 11.10							

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22 March 2002

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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCE

Month		SEPT		TIME CODE		Year		2014		Ship		JP TULLY		Cruise ID		2014-22	
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Latitude	Longitude	Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments	
11	LBP8	0615	ROS	BE	112	49	48.59	128	16.82	2074		—	—	MG	✓		
		0653		BO			48.62		16.81		2005						
		0724		EN			48.61		16.85								
11	LBP8	0746	NET	BE	113	49	48.606	128	16.867	2075				KY		MPS N1-2000-1500	
		09:05		BO		49	48.629	128	16.816		2010					N2-1500-1000 N3-1000-600	
		09:47		EN		49	48.653	128	16.840							N4-600-250 N5-250-0	
11	LOOP114	14:46	LOOP	BE	114	50	33.457	128	35.665					KY			
11	CPE2	1557	ROS	BE	115	50°	42.95	128°	39.93	126		—	—	8R	✓	NUTS, SAL, CHL	
		1600		BO			42.96		39.96		116						
		1602		EN			42.97		39.99								
11	CPE2	1615	NET	BE	116	50°	43.09	128°	40.21	123		—	—	KY	—		
		1618		BO			43.14		40.28		113						
		1620		EN			43.17		40.30								
11	PLASTIC116	1745	LOOP	BE	—	50	39.94	129	0.37	1006	4.5			MG		10 mins	
		1755		EN			39.69		1.85								
11	LQ03	1756	NET	BE	117	50°	39.67	129°	1.89	1231		—	—	KY	—	BONGO	
		1804		BO			39.65		1.92		250						
		1809		EN			39.66		1.96								

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22 March 2002
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DAILY LOG

Ocean Sciences and Productivity Division

INSTITUTE OF OCEAN SCIENCES

Month <u>Sept</u>					Year <u>2014</u>			Ship <u>Tully</u>				Cruise ID <u>2014-22</u>				P20
Day	Station Name	Time (UTC)	Cast type	Firing Method	Event Number	Position		Bottom Depth	Max Depth	Sample Numbers	# of Bottles	Watch keeper	Trans. cleaned	Comments		
						Latitude	Longitude									
11	LQ03	1818	ROS	BE	118	50° 39.67	129° 02.03	1330								
		1843		BO		39.77	02.32		1250					Stopped @ 760 db		
		1904		EN		39.77	02.33							to fix the wire angle		
11	J122	2014	ROS	BE	119	50 39.85	129 17.23	1328						for almost 10 mins!		
		2036		BO		39.87	17.35	1380	1424			MG	✓			
		2058		EN		39.77	17.32									
11	J122	2005	NET	BE	120	50 39.75	129 17.28	1434								
		2113		BO		39.75	17.33		250							
12	CS00	0024	ROS	BE	121	50 27.78	129 55.14	2177		368-387	20	MG	✓			
		0059		BO		27.70	55.10									
		0152		EN		27.66	55.04		2005							
12	CS00	0158	NET	BE	122	50 27.65	129 55.03	2174								
		0206		BO		50 27.64	129 55.06		250					Bongo to 250m		
		0211		EN		50 27.63	129 55.08									
12	CS00	0224	NET	BE	123	50 27.66	129 55.02	2175								
		0351		BO		50 27.54	129 55.23		2005					MPS VNH		
		0430		EN		50 27.51	129 55.22									
2	CS00	0204	LOOP		LOOP2	50 27.65	129 55.03									
														LOOP2 on stn		

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22 March 2002
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DAILY SCIENCE LOG BOOK

MISSION
NUMBER

2014-22

DATE:

From: SEPT 5 2014 to: SEPT 15 2014

VESSEL:

J P TULLY

PROJECT(S):

LAPEROUSE ZOOPLANKTON MONITORING
BOOK 2 OF 2

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

WaterProperties.ca

Captain: VICTOR First Officer: JIM
Second Officer: JODI Third Officer: KEVAN
Fishing Master: JIMMY

Mission Participants / Agencies: DFO-105/PBS

Scientific Personnel:			Chief Scientist: <u>DOUG YELLAND</u>		
Name	Watch	Cabin	Name	Watch	Cabin
<u>DOUG YELLAND</u>	<u>06-18</u>	<u>D</u>	<u>MOIRA GALBRAITH</u>	<u>12-24</u>	<u>DOWN 7</u>
<u>SCOTT ROBE</u>	<u>24-12</u>	<u>C</u>	<u>MARIE ROBERT</u>	<u>12-24</u>	<u>A</u>
<u>RON LINDSAY</u>	<u>24-12</u>	<u>H</u>	<u>TAMARA FRASER</u>	<u>06-18</u>	<u>F</u>
<u>IAN PERRY</u>	<u>12-24</u>	<u>G</u>	<u>KELLY YOUNG</u>	<u>24-12</u>	<u>B</u>
<u>STEVE PAGE</u>	<u>12-24</u>	<u>H</u>	<u>NINA NEMCEK</u>	<u>06-18</u>	<u>E</u>
<u>ZEE ENGIDA</u>	<u>06-12</u>	<u>G</u>			

Second leg of Mission:			Chief Scientist: _____		
Name	Watch	Cabin	Name	Watch	Cabin

Data logging computer: #3
Data acquisition program: Seagave
CTD deck unit make: SBE model: 11+ serial number: 0471

Primary CTD
Make: SBE model: 9+ serial number: 0443
Primary temperature serial number: 2106
Primary conductivity serial number: 2280
Secondary temperature serial number: 2663
Secondary conductivity serial number: 2754
Transmissometer: Wetlabz Model: C-Star s/n: 1396DR
Fluorometer: Model Seapoint Cable gain: 3x s/n: 3642 ☒ S or NO pump?
Oxygen sensor: SBE Model: 43 s/n: 0997 ☒ S or NO pump?
PAR sensor: BIOSHERICAL Model: _____ s/n: 4615
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: _____
Manufacturer: _____
Volume of bottles (litres): _____

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): TH10 EXCHANGE #6 DOSIMAT 665-2

Make: DOSIMAT 865-3 Model: _____ Kit Number: 3
Make: K103 EXCHANGE #7 Model: _____ Kit Number: _____

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

LAPTOP ID: OXY 1

Thermosalinograph System (SBE21):

Program: _____ Version: _____

Sampling interval (seconds): _____

Fluorometer sensor serial number: _____

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

ADCP Setup:

Computer time zone: _____ User Exits: Name: _____ Exit points: _____

Sampling interval (sec): _____ Name: _____ Exit points: _____

Bin Length: (2^x): _____ Name: _____ Exit points: _____

Pulse Length: _____ Work File: _____

Buffer (bytes): _____

Gyro Offset: _____

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

CTD Test Cast Information

Test Cast along side? Yes ☐ No ☐

Comments _____

Test Cast in Saanich Inlet or other location? Yes ☐ No ☐

Comments _____

CTD pressure reading on deck (db), before cast: _____ after cast: _____

Pumps working? Yes ☐ (0011) No ☐ (0010)

Secondary Temp – Primary Temp: _____
(Average from the mixed region)

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

Additional Comments:

DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 1 of

Month <u>SEPT</u>				Year <u>2014</u>			Ship <u>J.P. TULLY</u>				Cruise ID <u>2014-22</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							
12	CS01	0622	BE	NET	✓	124	50° 34.95	129° 41.62	2106				MG		Bongo to 250m
		0631	BO				50° 34.96	129° 41.51		250					
		0635	EN				50° 34.96	129° 41.48							
12	CS01	0644	BE	ROS	US	125	50° 34.97	129° 41.46	2098		—	—	DMG	✓	
		0716	BO				35.05	41.44		2005					
		0746	EN				35.14	41.47							
12	CS02	0903	BE	NET		126	50° 41.23	129° 27.99	1904		—	—	KY	✓	Bongo
		0912	BO				41.28	27.90		250					
		0917	EN				41.29	27.91							
12	CS02	0927	BE	ROS	US	127	50° 41.27	129° 27.91	1902		389-409	21	SR	✓	
		0956	BO				41.30	27.89		1892					
		1046	EN				41.29	27.95							
12	CS03	1139	BE	ROS		128	50° 45.51	129° 20.15	247		—	—	SR	✓	
		1143	BO				45.51	20.18		239					
		1147	EN				45.51	20.17		237					
12	CS03	1155	BE	NET		129	50° 45.51	129° 20.17	248				KY		Bongo
		1204	BO				45.52	20.16		239					
		1209	EN				45.51	20.16							

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
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Notes:

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

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>Sept</u>			Year <u>2014</u>				Ship <u>Tully</u>				Cruise ID <u>2014-22</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							
12	CS04	1300	BE	ROS	us	130	50° 49.19	129° 13.24	102				SR	✓	
		1302	BO				49.19	13.23		92					
		1314	EN				49.19	13.30							
12	CS04	1319	BE	NET	✓	131	50 49.22	129 13.36	102				KY		BONGO
		1323	BO				49.24	13.43		92					
		1325	EN				49.25	13.46							
12	ODAS	1620	BE	ROS	✓	132	50° 50.18	129° 53.72	2102				SR	✓	
		1655	BO				50.19	53.74		2005					
		1726	EN				50.16	53.73							
12	ODAS	1734	BE	NET	✓	133	50.50.15	129 53.74	2103						BONGO
		1745	BO				50.15	129 53.74		250					
		1750	EN				50.16	53.74							
12	CS3B	2014	BE	ROS	✓	134	50 59.99	129 27.14	222				MG	✓	
		2017	BO				51 0.01	129 27.11		213					
		2022	EN				51 0.02	129 27.08							
12	CS3B	2029	BE	NET	✓	135	51 0.05	129 27.05	223				MG		BONGO
		2039	BO				51 0.06	129 27.08	223	215					
		2042	EN				51 0.07	129 27.07	223						

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

Page 3 of

Month <u>SEPT</u>				Year <u>2014</u>			Ship <u>JP Tully</u>			Cruise ID <u>2014-22</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							
12	CS05	2239	BE	ROS	✓	136	50 55.96	129 0.07	66		✓	✓	MG	✓	
		2240	BO				55.96	0.08		56					
		2242	EN				55.96	0.08							
12	CS05	2246	BE	NET	-	137	50 55.97	129 0.08	66				MG		BONGO
		2249	BO				50 56.0	129 0.10		56					
		2250	EN				50 56.0	129 0.10							
13	CS1B	0021	BE	ROS	✓	138	50 53.01	128 40.07	75		✓		MG	✓	PAR ON
		0022	BO				53.01	40.07		64					FLUO 4.5 @ 10m
		0025	EN				53.01	40.07							
13	CS1B	0031	BE	NET	✓	139	50 53.00	128 40.08	75				MG		net hit bottom!
		0034	BO				50 53.00	128 40.08		75					
		0035	EN				50 53.00	128 40.09							
13	CS06	0156	BE	ROS	US	140	50 59.92	128° 51.88	65		418-423	6	N2	✓	took while to
		0201	BO				50° 59.96	128° 51.91		54					straighten wire
		0207	EN				50° 59.98	128° 52.00							inboard lead @ surface
13	CS06	0215	BE	NET	✓	141	51 00.01	128 52.18	65				MG		BONGO
		0217	BO				00.02	52.27		60					

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DAILY SCIENCE LOG

Ocean Sciences Division, Institute of Ocean Sciences

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Month <u>SEPT</u>				Year <u>2014</u>			Ship <u>SP TULLY</u>				Cruise ID <u>2014-22</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							
13	C507	0316	BE	ROS	/	142	51° 4.47	128° 44.05	64		/	/	MG	✓	
		0317	BO				4.46	44.05		54					STOP ON ↑ @ 30 To
		0320	EN				4.48	44.05							STRAIGHTEN WIRE L°
13	C507	0325	BE	NET		143	51° 4.46	128° 44.18	64				MG		BONGO
		0327	BO				51° 4.46	128° 44.22		60					
		0328	EN				51° 4.46	128° 44.25							
13	C508	0426	BE	ROS	/	144	51° 8.47	128° 36.01	143		/	/	MG	✓	
		0429	BO				8.45	35.99		132					
		0431	EN				8.45	36.01							
13	C508	0436	BE	NET		145	51° 08.45	128° 36.03	143				MG		BONGO
		0440	BO				08.45	36.05		135					
		0443	EN				08.45	36.05							
13	C509	0536	BE	ROS	VS	146	51° 12.49	128° 28.09	193		425-436	12	N2	✓	Box 5 SPIGOT VERT LEAK
		0540	BO				12.48	28.10		183					
		0554	EN				12.52	28.13							
13	C509	0558	BE	NET		147	51° 12.52	128° 28.12	194				MG		BONGO
		0604	BO				12.53	28.12		188					
		0607	EN				12.55	28.12							

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Bottle Firing Method:

US = Up / Stop
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Notes:

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Month SEPT				Year 2014				Ship JPTULLY				Cruise ID 2014-22			
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							
13	CS10	0658	BE	ROS		148	51° 16.58	128° 20.02	81				SR	✓	
		0700	BO				16.58	20.01							
		0701	EN				16.59	19.99							
13	CS10	0708	BE	NET		149	51° 16.59	128° 19.99	80				KY		BONGO
		0710	BO				16.59	20.01		69					
		0711	EN				16.58	20.01							
13	SS5	0851	BE	ROS		150	51° 27.84	128° 29.83	202				SR	✓	
		0856	BO				27.86	29.84		192					
		0859	EN				27.86	29.88							
13	LOOP151	0910	BE	LOOP		151	51 27.86	128 29.88							Leaving Station 555
13	SS4	1137	BE	ROS		152	51° 20.97	128 59.85	242				SR	✓	
		1143	BO				20.97	59.87		232					
		1147	EN				20.97	59.89							
13	SS3	1338	BE	ROS		153	51° 14.92	129° 21.23	293				SR	✓	
		1342	BO				14.93	21.23		283					
		1347	EN				14.93	21.24							
13	PLASTIC153	1917	BE	LOOP			51 2.79	129 6.33	146	4.5			MG		4.55 4.44 4.49
		1927	EN				2.40	3.62	149						

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Month <u>SEPT</u>				Year <u>2014</u>			Ship <u>JP TULLY</u>				Cruise ID <u>2014-22</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							
13	CPE1	2028	BE	ROS	✓	154	50 59.98	127 50.01	147						
		2031	BO				59.98	50.02		138					
		2034	EN				59.98	50.00							
13	CPE1	2040	BE	NET		155	51 0.00	127 50.00	146						Bongo
		2044	BO				51 0.00	127 50.00		140					
		2047	EN				51 0.00	127 50.00							
13	Duncan Island	2216	BE	NET	-	156	50 49.23	127 33.17		surface			KY/N2		Fish farm
		2222	EN												sea lice sampling
13	Bell Isl	2244	BE	NET	-	157	50 49.88	127 31.25		surface			KY/N2		Fish farm
		2247	EN												sea lice sampling
13	Doyle Isl	2305	BE	NET		158	50 48.88	127 28.96		surface			KY/N2		Fish farm
		2307	EN												sea lice sampling
14	17			ROS		159									Chandler
14	CPF2	1640	BE	ROS	✓	159	49° 27.96	124° 29.96	329				SR	✓	
		1645	BO				27.93	29.93							
		1651	EN				27.86	29.90							
14	CPF2	1656	BE	NET	✓	160	49° 27.88	124° 29.94	330				KY		Bongo
		1658	BO				27.88	29.94		50					
		1659	EN				27.88	29.95							

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Month <u>Sept</u>			Year <u>2014</u>				Ship <u>Tully</u>				Cruise ID <u>2014-22</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							
14	CPF2	1709	BE	NET		161	49° 27.93	124° 29.95	335				KY		Bongo
		1720	BO				27.92	29.96		325					
		1725	EN				27.82	29.97							
14	CPF1	1923	BE	ROS	✓	162	49° 21.95	124° 5.05	245		✓	✓	MG	✓	78860 78942
		1927	BO				21.97	5.07		235					
		1931	EN				21.98	5.08							
14	CPF1	1937	BE	NET		163	49° 22.02	124° 5.11	246				KY		Bongo
		1939	BO				22.03	5.12		50					
		1940	EN				22.03	5.12							
14	CPF1	1949	BE	NET		164	49° 22.04	124° 5.15	249				KY		Bongo
		1954	BO				22.06	5.26		240					
		1959	EN				22.06	5.30							
14	GEO1	2143	BE	ROS	✓	165	49° 14.98	123° 44.90	402		✓	✓	MG	✓	78942 79012
		2150	BO				14.98	44.95		394					
		2157	EN				14.99	44.96							
14	GEO1	2204	BE	NET		166	49° 14.99	123° 44.96	402				KY		Bongo
		2206	BO				15.02	44.97		50					
		2207	EN				15.02	44.97							79120

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