

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

50

Event # 174

Station: UTW-6

CTD File: 2017-93-

UTC Date (ddmmmyyyy) 19 JUL 2017

UTC Time 00:23

Lat (N) 67° 44.418

Ice Coverage /10

Weather/Sea State 15k-b, Cloudy

Lon (W) 168° 26.014

Water Depth(Sounder) 50 m (includes 5m ship draft)

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressur e (db)	Actual Pressur e (db)	Samp #	DIC/Alk (IOS)	N2O (Tortelli)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 3.68 Bottom Salinity: 32.74 Comments	
1	1	✓	6.1-5	45	526			x x	x x	x	x							x	x	x	x						
2	2	✓	2.1-5	45	527		x x																				
3	4	✓	35	35	528			x	x x	x	x							x	x	x	x						
4	5	✓	35	35	529		x x																				
5	6	✓	25	25	530			x	x x	x	x							x	x	x	x						
6	7	✓	25	25	531		x x																				
7	8	✓	15	15	532			x	x x	x	x							x	x	x	x						
8	9	✓	15	15	533		x x																				
9	10	✓	5	5	534			x	x x	x	x							x	x	x	x						
10	11	✓	5	5	535		x x					x x															
* 11	3																										
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Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Bottom water for 30 sec

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 179

Station: SEC-2

CTD File: 2017-93-

UTC Date (ddmmmyyyy) 19 JUL 2017

UTC Time 02:13

Lat (N) 67° 46.962

Ice Coverage 10

Weather/Sea State 12-5 Overcast

Lon (W) 168° 35.959

Water Depth(Sounder) m (includes 5m ship draft)

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/Aik (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 2.62 Bottom Salinity: 32.72 Comments	
1		✓	6.1-5	46	536	X		X	XX	X	X										X						
2		✓	6.1-5	46	537																						
3		✓	35	35	538			X	XX	XX	X										X						
4		✓	35	35	539																						
5		✓	25	25	540			X	XX	X	XX										X						
6		✓	25	25	541																		X	X	X		
7		✓	15	15	542			X	XX	X	X										X						
8		✓	15	15	543																						
9		✓	5	5	544	X		X	XX	X	X										X						
10		✓	5	5	545							XX											X	X	X		
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Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 184

UTC Date (ddmmmyyyy) 17 JUL 2017

Ice Coverage /10

Water Depth(Sounder) 50 m (includes 5m ship draft)

Station: SEC-1

UTC Time 04:31

Weather/Sea State 12 knots Clear

CTD File: 2017-93-

Lat (N) 67° 40.511

Lon (W) 168° 55.380

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressur e (db)	Actual Pressur e (db)	Samp #	DIC/AIK (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 3.7 Bottom Salinity: 32.69 Comments	
1		✓	66-5	46	546	X		XX	XX	X	X							X	X	X	X						
2		✓	66-5	46	547		XX											X	X	X	X						
3		✓	35	35	548			X	XX	X	X							X	X	X	X						
4		✓	35	35	549		XX																				
5		✓	25	25	550			X	XX	X	X							X	X	X	X						
6		✓	25	25	551		XX																				
7		✓	15	15	552			X	XX	X	X							X	X	X	X						
8		✓	15	15	553		XX					XX											X	X	X		
9		✓	5	5	554	X		X	XX	X	X							X	X	X	X						
10		✓	5	5	555		XX					XX											X	X	X		
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Bottle integrity: First test lower petcock then test top valve. 'Check' means pass. 'X' means fail. If niskin fails, explain this in the comments column.

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 189

Station: UTN-7

CTD File: 2017-93-

UTC Date (ddmmmyyyy) 19 JUL 2017

UTC Time 07:41

Lat (N) 67° 59.992

Ice Coverage 10

Weather/Sea State 116-6 Culu

Lon (W) 168 55.736

Water Depth(Sounder) 57 m (includes 5m ship draft)

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/Aik (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 4.022	Bottom Salinity: 32.911	Comments
1		✓	6.5	53	556			X	XX	X	X							X	X	X	X							
2		✓	6.5	53	557																							
3		✓	50	50	558			X	XX	X	X							X	X	X	X							
4		✓	50	50	559																							
5		✓	35	35	560			X	XX	X	X							X	X	X	X							
6		✓	35	35	561																							
7		✓	25	25	562			X	XX	X	X							X	X	X	X							
8		✓	25	25	563																							
9		✓	15	15	564			X	XX	X	X							X	X	X	X							
10		✓	15	15	565																							
11		✓	5	5	566			X	XX	X	X							X	X	X	X							
12		✓	5	5	567																							
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Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 194

Station: DB046

CTD File: 2017-93-

UTC Date (ddmmmyyy) 20 JUL 2017

UTC Time 16:09

Lat (N) 71° 37.050

Ice Coverage 10

Weather/Sea State 15 Lo-sea skt Cloudy

Water Depth(Sounder) 42 m (includes 5m ship draft)

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/Alk (IOS)	N2O (Tortelli)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 1.22 Bottom Salinity: 32.21 Comments	
1	2	✓	34.5	38	568	X		X	X	X	X							X	✓	X	X						
2	3	✓	34.5	38	569		X	X	X	X	X							X	✓	X	X						
3	4	✓	35	35	570			X	X	X	X							X	✓	X	X						
4	5	✓	35	35	571		X	X	X	X	X								✓	X	X						
5	6	✓	25	25	572			X	X	X	X							X	✓	X	X						
6	7	✓	25	25	573		X	X	X	X	X								✓	X	X						
7	8	✓	15	15	574			X	X	X	X							X	✓	X	X						
8	9	✓	15	15	575		X	X	X	X	X								✓	X	X		X	X	X		
9	10	✓	5	5	576	X		X	X	X	X							X	✓	X	X						
10	11	✓	5	5	577		X	X	X	X	X	X								✓	X		X	X	X		
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24	1	✓	34.5	38	578																						

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 200

UTC Date (ddmmmyyy) 20 JUL 2017

Ice Coverage 0/10

Water Depth(Sounder) 43 m (includes 5m ship draft)

Station: DB04.5

UTC Time 18:43

Weather/Sea State 13 knots, 6m seas, Cloudy, Cold

CTD File: 2017-93-

Lat (N) 71° 29.372

Lon (W) 160° 22.209

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/Alk (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 1.26 Bottom Salinity: 32.18 Comments	
1	1	✓	6.5	38	579	XX		X	XX	X	X							X	X	X	X						
2	2	✓	6.5	38	580		XX											X	X	X	X						
3	3	✓	35	25	581			XX	XX	X	X							X	✓	X	X						
4	4	✓	35	25	582		XX																				
5	5	✓	25	25	583			X	XX	X	X							X	X	X	X						
6	6	✓	25	25	584		XX																				
7	7	✓	15	15	585			X	XX	X	X							X	X	X	X						
8	8	✓	15	15	586		XX												X	X	X	X					
9	9	✓	5	5	587	X		X	XX	X	X							X	X	X	X						
10	10	✓	5	5	588		XX					XX	X						X	X	X	X					
11																											
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Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'X' means fail. If Niskin fails, explain in this column.

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 207

UTC Date (ddmmmyyyy) 20 JUL 2017

Ice Coverage /10

Water Depth(Sounder) 46 m (includes 5m ship draft)

Station: DB04.4

UTC Time 21:31

Weather/Sea State 126-6

CTD File: 2017-93-

Lat (N) 71° 21.749

Lon (W) 163° 0.287

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/Alk (IOS)	N2O (Torcell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 1.17 Bottom Salinity: 32.18 Comments
1	1	✓	6.5	41	589	X		X	X	X	X							X	X	X	X					
2	2	✓	6.5	41	590		X											X	X	X	X					
3	4	✓	35	35	591			X	X	X	X							X	X	X	X					
4	5	✓	35	35	592		X											X	X	X	X					
5	6	✓	25	25	593			X	X	X	X							X	X	X	X					
6	7	✓	25	25	594		X											X	X	X	X					
7	9	✓	15	15	595			X	X	X	X							X	X	X	X					
8	10	✓	15	15	596		X											X	X	X	X					
9	12	✓	5	5	597	X		X	X	X	X							X	X	X	X					
10	14	✓	5	5	598		X					X														
11	3	✓	40	40	599																	X	X	X	X	
12	8	✓	25	25	600																	X	X	X	X	
13	11	✓	15	15	601																	X	X	X	X	
14	12	✓	10	10	602																	X	X	X	X	
15	15	✓	5	5	603																	X	X	X	X	
16	16	✓	5	5	604																	X	X	X	X	
17	17	✓	0	3	605																	X	X	X	X	
18	18	✓	0	3	606																	X	X	X	X	
19																										
20																										
21																										
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Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

48

Event # 213

UTC Date (ddmmmyyy) 21 JUL 2017

Ice Coverage /10

Water Depth(Sounder) 46 m (includes 5m ship draft)

Station: D130 4.3

UTC Time 00:29

Weather/Sea State 10 knots, 70 km/h, 5°C

CTD File: 2017-93-

Lat (N) 71° 13.850

Lon (W) 162° 38.092

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/AIK (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 1.44 Bottom Salinity: 32.55 Comments
1		✓	60.5	40	607	X		X	X	X	X							X	X	X	X					
2		✓	60.5	40	608		X	X										X	X	X	X					
3		✓	35	35	609			X	X	X	X							X	X	X	X					
4		✓	35	35	610		X	X										X	X	X	X					
5		✓	25	25	611			X	X	X	X							X	X	X	X					
6		✓	25	25	612		X	X										X	X	X	X					
7		✓	15	15	613			X	X	X	X							X	X	X	X					
8		✓	15	15	614		X	X										X	X	X	X					
9		✓	5	5	615	X		X	X	X	X							X	X	X	X					
10		✓	5	5	616		X	X				X														
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Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 219

UTC Date (ddmmmyyy) 21 JUL 2017

Ice Coverage 0/10

Water Depth(Sounder) 47 m (includes 5m ship draft)

Station: DB04.2

UTC Time 03:06

Weather/Sea State 104.6, C10.9

CTD File: 2017-93-

Lat (N) 71° 6.257

Lon (W) 162° 15.772

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/AIK (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 2.46 Bottom Salinity: 32.57 Comments
1		✓	6.45	42	617	X		X	XX	X	XX							X	X	X	X					
2		✓	6.45	42	618		XX											X	X	X	X					
3		✓	35	35	619			X	XX	X	X							X	X	X	X					
4		✓	35	35	620		XX																			
5		✓	25	25	621			X	XX	X	X							X	X	X	X					
6		✓	25	25	622		XX																			
7		✓	15	15	623			X	XX	X	X							X	X	X	X					
8		✓	15	15	624		XX																			
9		✓	5	5	625	X		X	XX	X	X							X	X	X	X					
10		✓	5	5	626		XX					XX														
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Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'X' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 225

UTC Date (ddmmmyyyy) 21 JUL 2017

Ice Coverage 0/10

Water Depth(Sounder) 45 m (includes 5m ship draft)

Station: DB04.1

UTC Time 05:35

Weather/Sea State 11 km/h Cc 1.5 m

CTD File: 2017-93-

Lat (N) 70° 58.348

Lon (W) 161° 54.238

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/Alk (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 3.26 Bottom Salinity: 32.39 Comments
1		✓	6.65	40	627	X		XX	XX	X	X							X	X	X	X					
2		✓	6.65	40	628		XX																			
3		✓	35	35	629			X	XX	X	X															
4		✓	35	35	630		XX											X	X	X	X					
5		✓	25	25	631			X	XX	X	X							X	X	X	X					
6		✓	25	25	632		XX																			
7		✓	15	15	633			X	XX	X	X							X	X	X	X					
8		✓	15	15	634		XX											X	X	X	X					
9		✓	5	5	635	X		X	XX	X	X							X	X	X	X					
10		✓	5	5	636		XX					XX														
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Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 230

Station: BWC-10

CTD File: 2017-93-

UTC Date (ddmmmyyyy) 21 JUL 2017

UTC Time 16:03

Lat (N) 71° 37.164

Ice Coverage 1/10

Weather/Sea State 7406 C12 J03

Lon (W) 157° 55.511

Water Depth(Sounder) 63 m (includes 5m ship draft)

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/AIK (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: -1.38 Bottom Salinity: 32.12 Comments
1		✓	5.1-5	50	637	x		x	xx	x	x							x	x	x	x					
2		✓	5.1-5	50	638		xx											x	x	x	x					
3		✓	50	50	639	x		x	xx	x	x							x	x	x	x					
4		✓	50	50	640		xx																			
5		✓	35	35	641	x		x	xx	x	x							x	x	x	x					
6		✓	35	35	642		xx																x	x	x	
7		✓	25	25	643	x		x	xx	x	x							x	x	x	x					
8		✓	25	25	644		xx																			
9		✓	15	15	645	x		x	xx	x	x							x	x	x	x					
10		✓	15	15	646		xx																			
11		✓	5	5	647	x		x	xx	x	x							x	x	x	x					
12		✓	5	5	648		xx					xx											x	x	x	
13																										
14																										
15																										
16																										
17																										
18																										
19																										
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21																										
22																										
23																										
24																										

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

(6)

78

Event # 235

UTC Date (ddmmmyyyy) 21 JUL 2017

Ice Coverage /10

Water Depth(Sounder) 66 m (includes 5m ship draft)

Station: B-C-9

UTC Time 17:56

Weather/Sea State 7 knots, 10m, Cloudy

CTD File: 2017-93-

Lat (N) 71° 34.697

Lon (W) 157 50.272

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressur e (db)	Actual Pressur e (db)	Samp #	DIC/Aik (IOS)	N2O (Tortelli)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: -1.02 Bottom Salinity: 32.17 Comments
1		✓	6.15	62	649	X		X	XX	X	X							X	X	X	X					
2		✓	6.15	62	650													X	X	X	X					
3		✓	5.0	49	651	X		XX	XX	XX	X							X	X	X	X					
4		✓	5.0	49	652																					
5		✓	25	34	653	X		X	XX	X	X	XX	X					X	X	X	X					
6		✓	25	24	654																					
7		✓	25	24	655	X		X	XX	X	X							X	X	X	X					
8		✓	25	24	656																					
9		✓	15	15	657	X		X	XX	X	X							X	X	X	X					
10		✓	15	15	658																					
11		✓	5	5	659	X		X	XX	X	X							X	X	X	X					
12		✓	5	5	660							XX														
13																										
14																										
15																										
16																										
17																										
18																										
19																										
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21																										
22																										
23																										
24																										

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass. 'X' means fail. If niskin fails, explain this in the comments.

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 240

UTC Date (ddmmmyyyy) 1 JUL 2017

Ice Coverage 10

Water Depth(Sounder) 73 m (includes 5m ship draft)

Station: BnC-8

UTC Time 19:29

Weather/Sea State 7606 C/Ln Sea

CTD File: 2017-93-

Lat (N) 71° 32' 16.6"

Lon (W) 157° 45' 29.2"

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/AIK (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: - 0.51 Bottom Salinity: 32.21 Comments
1		✓	5.4-5	67	661	X		X	xx	X	X							X	X	X	X					
2		✓	5.4-5	67	662													X	X	X	X					
3		✓	5-5	49	663	X		XX	xx	X	xx							X	X	X	X					
4		✓	5-5	49	664													X	X	X	X					
5		✓	25	35	665	X		X	xx	X	X							X	X	X	X					
6		✓	25	35	666													X	X	X	X					
7		✓	25	25	667	X		X	xx	X	X							X	X	X	X					
8		✓	25	25	668													X	X	X	X					
9		✓	15	15	669	X		X	xx	X	X							X	X	X	X					
10		✓	15	15	670													X	X	X	X					
11		✓	5	5	671	X		X	xx	X	X							X	X	X	X					
12		✓	5	5	672							xx						X	X	X	X					
13																										
14																										
15																										
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23																										
24																										

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 245

UTC Date (ddmmmyyyy) 1 JUL 2017

Ice Coverage 10

Station: BarC-7

UTC Time 20:53

Weather/Sea State 8 knots, Calm seas

CTD File: 2017-93-

Lat (N) 71° 29.888

Lon (W) 157° 39.547

Water Depth(Sounder) 82 m (includes 5m ship draft)

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressur e (db)	Actual Pressur e (db)	Samp #	DIC/Alk (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-frac. Chl (Varela)	Bottom Temperature: -1.11 Bottom Salinity: 32.10 Comments	
1	1	✓	6.5	79	673	X		X	XX	X	X							X	X	X	X						
2	2	✓	6.5	79	674																						
3	4	✓	50	50	675	X		X	XX	X	X							X	X	X	X						
4	5	✓	50	50	676																						
5	6	✓	35	35	677	X		X	XX	X	X							X	X	X	X						- copepods
6	7	✓	35	35	678																						
7	8	✓	25	25	679	X		X	XX	X	X	XX						X	X	X	X						CHLMAX
8	9	✓	25	25	680																						- Copepods
9	10	✓	15	15	681	X		X	XX	X	X							X	X	X	X						
10	11	✓	15	15	682																						
11	12		5	5	683	X		X	XX	X	X							X	X	X	X						
12	13		5	5	684							XX															
13																											
14																											
15																											
16																											
17																											
18																											
19																											
20																											
21																											
22																											
23																											
24	3	N	6.5	79	685																						

Rottle integrity: First test lower netlock than test to netlock 12m

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 251

UTC Date (ddmmmyyyy) 21 JUL 2017

Ice Coverage 10

Station: B-C-6

UTC Time 22:04

Weather/Sea State 12-16 C 2-5

CTD File: 2017-93-

Lat (N) 71° 27.334

Lon (W) 157° 34.70°

Water Depth(Sounder) 776 m (includes 5m ship draft)

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/Aik (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: -1.265 Bottom Salinity: 32.170 Comments: rosette hit bottom
1		✓	60.5	108	686	X		X	XX	X	X							X	X	X	X					Bridge sent 116m??
2		✓	50.5	108	687																					
3		✓	75	75	688	X		X	XX	X	X							X	X	X	X					
4		✓	75	75	689																					
5		✓	50	50	690	X		X	XX	X	X							X	X	X	X					
6		✓	50	50	691																					
7		✓	35	35	692	X		X	XX	X	X							X	X	X	X					
8		✓	35	35	693							XX	X													CHL MAX
9		✓	25	25	694	X		X	XX	X	X							X	X	X	X					
10		✓	25	25	695																					
11		✓	15	15	696	X		X	XX	X	X							X	X	X	X					
12		✓	15	15	697																					
13		✓	5	5	698	X		X	XX	X	X							X	X	X	X					
14		✓	5	5	699							XX														
15																										
16																										
17																										
18																										
19																										
20																										
21																										
22																										
23																										
24																										

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 256

UTC Date (ddmmmyyy) 22 JUL 2017

Ice Coverage 0/10

Water Depth(Sounder) 126 m (includes 5m ship draft)

Station: Bar C-5

UTC Time 01:11

Weather/Sea State 15 knots, Clear

CTD File: 2017-93-

Lat (N) 71° 24.587

Lon (W) 157 29.286

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/Aik (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 18.00 Bottom Salinity: 32.00 Comments	
1	1	✓	605	122	700	X		X	XX	XX	X							X	X	X							
2	2	✓	605	122	701		XX																				
3	3	✓	100	100	702	X		XX	XX	X	X							X	X	X							
4	4	✓	100	100	703		XX																				
5	5	✓	75	75	704	X		X	XX	X	XX							X	X	X	X						
6	6	✓	75	75	705		XX																				
7	7	✓	50	49	706	X		X	XX	X	X							X	X	X	X						
8	8	✓	50	49	707		XX																				Basia collected
9	10	✓	35	35	708	X		X	XX	X	X							X	X	X	X						
10	11	✓	35	35	709		XX																				
11	13	✓	25	25	710	X		X	XX	X	X							X	X	X	X						
12	14	✓	25	25	711		XX																				
13	16	✓	15	15	712	X		X	XX	X	X							X	X	X	X						
14	17	✓	15	15	713		XX																				
15	19	✓	5	5	714	X		X	XX	X	X							X	X	X	X						
16	20	✓	5	5	715		XX					XX															
17	9	✓	50	49	716																	X	X	X	X		
18	12	✓	30	30	717																	X	X	X	X		
19	15	✓	20	20	718																	X	X	X	X		
20	18	✓	15	15	719																	X	X	X	X		
21	21	✓	5	5	720																	X	X	X	X		
22	22	✓	5	5	721																						
23	23	✓	2	2	722																	X	X	X	X		
24	24	✓	2	2	723																						

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 262

UTC Date (ddmmmyyyy) 22 JUL 2017

Ice Coverage /10

Water Depth(Sounder) 114 m (includes 5m ship draft)

Station: BarC-4

UTC Time 03:08

Weather/Sea State 18C-6 Rainy No Sea

CTD File: 2017-93-

Lat (N) 71° 22.374

Lon (W) 157° 24.740

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressur e (db)	Actual Pressur e (db)	Samp #	DIC/Alk (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-frac. Chl (Varela)	Bottom Temperature: 3.765	Bottom Salinity: 32.243	Comments
1		✓	6.4-5	108	724	X		X	XX	X	X							X	X	X								
2		✓	6.4-5	108	725																							
3		✓	100	100	726	X		X	XX	X	X							X	X	X								
4		✓	100	100	727																							
5		✓	75	75	728	X		X	XX	X	X							X	X	X	X							
6		✓	75	75	729																							
7		✓	50	49	730	X		X	XX	X	X							X	X	X	X							
8		✓	50	49	731																							
9		✓	35	34	732	X		X	XX	X	X							X	X	X	X							
10		✓	35	34	733																							
11		✓	25	25	734	X		X	XX	X	X							X	X	X	X							
12		✓	25	25	735																							
13		✓	15	15	736	X		X	XX	X	X							X	X	X	X							
14		✓	15	15	737																							
15		✓	5	5	738	X		X	XX	X	X							X	X	X	X							
16		✓	5	5	739							XX																
17																												
18																												
19																												
20																												
21																												
22																												
23																												
24																												

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 267

Station: BearC-3

CTD File: 2017-93-

UTC Date (ddmmmyyy) 1 JUL 2017

UTC Time 09:50

Lat (N) 71° 19.844

Ice Coverage 10

Weather/Sea State Rain, 20 knots, Moderate

Lon (W) 157° 19.772

Water Depth(Sounder) 93 m (includes 5m ship draft)

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressur e (db)	Actual Pressur e (db)	Samp #	DIC/Aik (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 4.54 Bottom Salinity: 32.18 Comments	
1		✓	6.5	88	740	X		X	X	X	X																
2		✓	6.5	88	741																						
3		✓	75	75	742	X		X	X	X	X										X						
4		✓	75	75	743																						
5		✓	50	50	744	X		X	X	X	X										X						
6		✓	50	50	745																						
7		✓	35	35	746	X		X	X	X	X										X						
8		✓	35	35	747																						
9		✓	25	25	748	X		X	X	X	X										X						
10		✓	25	25	749																						
11		✓	15	15	750	X		X	X	X	X										X						
12		✓	15	15	751																						
13		✓	5	5	752	X		X	X	X	X										X						
14		✓	5	5	753							X															
15																											
16																											
17																											
18																											
19																											
20																											
21																											
22																											
23																											
24																											

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 272

UTC Date (ddmmmyyyy) 22 JUL 2017

Ice Coverage 0/10

Water Depth(Sounder) 58 m (includes 5m ship draft)

Station: BnC-2

UTC Time 06:44

Weather/Sea State 28 knots Rain

CTD File: 2017-93-

Lat (N) 71° 17.304

Lon (W) 157° 14.795

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/Alk (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 5.73 Bottom Salinity: 32.16 Comments
1		✓	60.5	52	754	X		X	X	X	X															
2		✓	60.5	52	755																					
3		✓	35	35	756	X		X	X	X	X															
4		✓	35	35	757																					
5		✓	25	25	758	X		X	X	X	X															
6		✓	25	25	759																					
7		✓	15	14	760	X		X	X	X	X															
8		✓	15	14	761																					
9		✓	5	5	762	X		X	X	X	X															
10		✓	5	5	763							X	X													
11																										
12																										
13																										
14																										
15																										
16																										
17																										
18																										
19																										
20																										
21																										
22																										
23																										
24																										

Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 277

UTC Date (ddmmmyyyy) 22 JUL 2017

Ice Coverage /10

Water Depth(Sounder) 47 m (includes 5m ship draft)

Station: BerC-1

UTC Time 08:23

Weather/Sea State 27 knots Rainy

CTD File: 2017-93-

Lat (N) 71° 14.881

Lon (W) 157° 9.70°

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DIC/Alk (IOS)	N2O (Tortell)	O18 (IOS)	Nutrients (IOS)	Salinity (IOS)	Barium (IOS)	HPLC (IOS)	Phyto ID (IOS)	DOC (Frey)	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto Product (Varela)	bSilica (Varela)	nuts (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 5.78 Bottom Salinity: 31.87 Comments
1		✓	6.1-5	42	764	x		x	x	x	x															
2		✓	6.1-5	42	765		xx																			
3		✓	35	34	766	x		x	x	x	x															
4		✓	35	34	767		xx																			
5		✓	25	25	768	x		x	x	x	x															
6		✓	25	25	769		xx																			
7		✓	15	15	770	x		x	xx	x	x															
8		✓	15	15	771		xx																			
9			5	5	772	x		x	xx	x	x															
10			5	5	773		xx					xx														
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Bottle integrity: First test lower petcock then test top valve. 'Check' means pass, 'x' means fail. If niskin fails, explain this in the comments column.