

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 40

UTC Date (ddmmmyyyy) 14 JUL 2017

Ice Coverage 0/10

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

Station: SLIP-1

UTC Time 14:15

Weather/Sea State C-1/2

CTD File: 2017-93-040

Lat (N) 62° 0 535

Lon (W) 175° 3.553

Watchkeeper(s) W, SV, A

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)	FDOM (Frey) DOC	CDOM (Frey)	Chl-a/Phaeo Total (Frey)	SPM (Frey)	O-18 (Cooper)	Nutrient (Cooper)	Chl-a Total (Cooper)	Phyto-ID (Varela)	Phyto-Product Isotope (Varela) Basia	bSilica (Varela)	nuts (Varela)	Si24-fraction Chl a	Bottom Temperature: -1.62	Bottom Salinity: 32.1	Comments
1	1	✓	6.5-5	75	226			X	XX	X	X			X	X	X	✓	X	X	X	X							
2	2	✓	6.5-5	75	227		XX							X	X	X	✓	X	X	X	X							
3		✓	50	50	228			X	XX	X	✓			X	X	X	X	X	✓	X	X							
4		✓	50	50	229		XX																					
5		✓	35	35	230			X	XX	X	X			X	X	X	X	✓	X	X	X							
6		✓	35	35	231		XX																					
7		✓	25	25	232			X	XX	X	X			X	X	X	✓	✓	X	✓	X							
8		✓	25	25	233		XX																					
9		✓	15	15	234			X	XX	X	X			X	X	X	X	✓	X	X	X							
10		✓	15	15	235		XX																					
11		✓	5	5	236			X	XX	X	X			X	X		X	X	X	X	X							
12		✓	5	5	237	1	XX					XX				X						X	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

Event # 45

UTC Date (ddmmmyyyy) 14 JUL 2017

Ice Coverage 0/10

Water Depth(Sounder) 83 m (includes 5m ship draft)

Station: SLIP-2

UTC Time 16:49

Weather/Sea State

CTD File: 2017-93-045

Lat (N) 62° 2.976

Lon (W) 175° 12.439

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)	stable isotope	Bottom Temperature: -1.6	Bottom Salinity: 32.1	Comments
1	1	✓	6.1-5	78	238	X		X	X X	X	X X			X	X	X	X	X	X	X	X						
2	2	✓	6.1-5	78	239																						not sampled
3	3	✓	75	75	240			X X	X X	X	X			X	X	X	X	X	X	X	X						
4	4	✓	75	75	241																						not sampled
5	5	✓	50	50	242			X	X X	X	X			X	X	X	X	X	X	X	X						
6	6	✓	50	50	243																						
7	8	✓	35	40	244			X	X X	X X	X			X	X	X	X	X	X	X	X						
8	9	✓	35	35	245																						
9	10	✓	25	25	246			X	X X	X	X			X	X	X	X	X	X	X	X						all 244 taken from N9 #245
10	11	✓	25	25	247																						
11	12	✓	15	15	248			X	X X	X	X			X	X	X	X	X	X	X	X						not sampled
12	13	✓	15	15	249																						
13	14	✓	5	5	250	X		X	X X	X	X			X	X		X	X	X	X	X						" "
14	15	✓	5	5	251							X X				X											
15																											
16																											
17																											
18																											
19																											
20																											
21																											
22																											
23																											
24	7	✓	40	40	252																			X			

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

75

Event # 51

Station: SLIP-3

CTD File: 2017-93-0

UTC Date (ddmmmyyy) 01 JUL 2017

UTC Time 21:30

Lat (N) 62° 23.483

Ice Coverage 0/10

Weather/Sea State Calm, Foggy

Lon (W) 174° 34.174

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

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: -1.58 Bottom Salinity: 32.20 Comments
1	1	✓	Bot-5	68	253			X	XX	X	X			X	X	X	X	X	X	X						
2	2	✓	Bot-5	68	254		XX																			
3	4	✓	50	50	255			X	XX	X	X			X	X	X	X	X	X	X						
4	5	✓	50	50	256		XX																			
5	6	✓	35	35	257			X	XX	X	X			X	X	X	X	X	X	X						
6	7	✓	35	35	258		XX					XX	X										X	X	X	Chl MAX
7	8	✓	25	25	259			X	XX	X	X			X	X	X	X	X	X	X						
8	9	✓	25	25	260		XX																			
9	10	✓	15	15	261			X	XX	X	X			X	X	X	X	X	X	X						
10	11	✓	15	15	262		XX																			
11	12	✓	5	5	263			X	XX	X	X			X	X	X	X	X	X	X						
12	13	✓	5	5	264		XX					XX				X							X	X	X	
13																										
14																										
15																										
16																										
17																										
18																										
19																										
20																										
21																										
22																										
23	3	✓		68																						no sample number bottom water for Jackie
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 # 58

Station: SLIP-5

CTD File: 2017-93-058

UTC Date (ddmmmyyyy) 15 JUL 2017

UTC Time 02:38

Lat (N) 62° 33.593

Ice Coverage 0/10

Weather/Sea State

Lon (W) 173° 32.872

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

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)	Comments
1		✓	64.5	61	265			X	XX	XX	X			X	X	X	X	X	X	X	X					Bottom Temperature: -1.4
2		✓	64.5	61	266		XX																			Bottom Salinity: 32.2
3		✓	50	50	267			X	XX	X	X			X	X	X	X	X	X	X	X					
4		✓	50	50	268		XX																			
5		✓	35	35	269			X	XX	X	XX			X	X	X	X	X	X	X	X	X				
6		✓	35	35	270		XX																			
7		✓	25	25	271			X	XX	X	X			X	X	X	X	X	X	X	X					
8		✓	25	25	272		XX																			
9		✓	15	15	273			XX	XX	X	X			X	X	X	X	X	X	X	X					
10		✓	15	15	274		XX																			
11		✓	5	5	275			X	XX	X	X			X	X		X	X	X	X	X					
12		✓	5	5	276		XX					XX				X							X	X	X	
13																										
14																										
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20																										
21																										
22																										
23																										
24			CHL-MAN																							

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 # 64

UTC Date (ddmmmyyyy) 15 JUL 2017

Ice Coverage 0/10

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

Station: SLIP-4

UTC Time 07:19

Weather/Sea State

CTD File: 2017-93-064

Lat (N) 63° 1.826

Lon (W) 173° 27.473

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: -1.21 Bottom Salinity: 32.35 Comments huge jellyfish slime!
1	1	✓	60.5	68	277	x		x	xx	x	x			x	x	x	x	x	x	x	x					
2	2	✓	60.5	68	278		xx																			
3	3	✓	59	50	279			x	xx	x	x			x	x	x	x	x	x	x	x					
4	4	✓	50	50	280		xx																			
5	7	✓	35	35	281			x	xx	x	x			x	x	x	x	x	x	x	x					
6	8	✓	35	35	282		xx					xx	x													CHL MAX
7	9	✓	25	25	283			x	xx	x	x			x	x	x	x	x	x	x	x					
8	10	✓	25	25	284		xx																			-bottle sampled before gases
9	12	✓	15	15	285			x	xx	xx	x			x	x	x	x	x	x	x	x					
10	13	✓	15	15	286		xx																			
11	15	✓	5	5	287	x		x	xx	x	x			x	x		x	x	x	x	x					
12	18	✓	5	5	288		xx					xx				x										
13	5	✓	50	50	289																	x	x	x	x	
14	6	✓	40	40	290																	x	x	x	x	
15	11	✓	20	20	291																	x	x	x	x	
16	14	✓	10	10	292																	x	x	x	x	
17	17	✓	5	5	293																	x	x	x	x	
18	18	✓	2	2	294																	x	x	x	x	
19	19	✓	2	3	295																	x				
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 # 71

Station: BCL-6a

CTD File: 2017-93-071

UTC Date (ddmmmyyyy) 17 JUL 2017

UTC Time 15:52

Lat (N) 63° 36.218

Ice Coverage 0 /10

Weather/Sea State calm, low cloud

Lon (W) 172° 35.324

Water Depth(Sounder) 49 m (includes 5m ship draft)

Watchkeeper(s) N2

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: 0.29 Bottom Salinity: 32.501 Comments	
1	1	✓	807.5	49	296	X		X	XX	X	X			X	X	X	X	X	✓	X							
2	2	✓	807.5	49	297		XX							X	X	X	X	X	✓	X							
3	3	✓	35	35	298			X	XX	X	X			X	X	X	X	X	X	X							
4	4	✓	35	35	299		XX											X	X	X							redraw 3rd rep. bubble
5	5	✓	25	25	300			X	XX	X	X			X	X	X	X	X	X	X							
6	6	✓	25	25	301		XX											X	X	X							
7	7	✓	15	15	302			X	XX	X	X			X	X	X	X	X	X	X							
8	8	✓	15	15	303		XX											X	X	X							
9	9	✓	5	5	304	X		X	XX	X	X			X	X	X	X	X	X	X							
10	10	✓	5	5	305		XX					XX				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 this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 73

UTC Date (ddmmmyyyy) 15 JUL 2017

Ice Coverage 0/10

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

Station: BCC-6c

UTC Time 22:15

Weather/Sea State calm, Breeze 1.

CTD File: 2017-93-0

Lat (N) 64°40.315

Lon (W) 170 38 555

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)	HPIC (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: 3.50 Bottom Salinity: 32.81 Comments
1		✓	6.1-5	43	306			x	xx	x	xx			x	x	x	x	x	x	x	x					
2		✓	6.1-5	43	307									x	x	x	x	x	x	x	x					
3		✓	35	35	308			xx	xx	x	x			x	x	x	x	x	x	x	x					no gases not sampled
4		✓	35	35	309																		x	x	x	chl max
5		✓	25	25	310			x	xx	x	x			x	x	x	x	x	x	x	x					
6		✓	25	25	311																					
7		✓	15	15	312			x	xx	x	x			x	x		x	x	x	x	x					
8		✓	15	15	313																					
9		✓	5	5	314			x	xx	x	x							x	x	x	x					
10		✓	5	5	315							xx				x							x	x	x	
11																										
12																										
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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 # 80 UTC Date (ddmmmyyy) 16 JUL 2017 Ice Coverage 0/10 Water Depth(Sounder) _____ m (includes 5m ship draft)

Station: UTBS-5 UTC Time 01:56 Weather/Sea State Calm, Sunny

CTD File: 2017-93-080 Lat (N) 64° 40.199 Lon (W) 169 54.826 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: 2.25 Bottom Salinity: 32.56 Comments
1		✓	6.5	43	316	XX		X	XX	X	X			X	X	X	X	X	X	X	X	X				Phyto ID = integrated sample for all DBO stations
2		✓	6.5	43	317		XX																			
3		✓	35	35	318			X	XX	X	X			X	X	X	X	X	X	X	X	X				
4		✓	35	35	319		XX																			
5		✓	25	25	320			X	XX	X	X			X	X	X	X	X	X	X	X	X				
6		✓	25	25	321		XX																			
7		✓	15	15	322			X	XX	X	X			X	X	X	X	X	X	X	X	X				
8		✓	15	15	323		XX																			
9		✓	5	5	324	X		X	XX		X			X	X		X	X	X	X	X	X	X	X	X	
10		✓	5	5	325		XX			X		XX	X			X										Sal from bot 10, not enough volume on 9
11																										
12																										
13																										
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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 # 86

UTC Date (ddmmmyyyy) 16 JUL 2017

Ice Coverage 10

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

Station: UTBS-2

UTC Time 05:29

Weather/Sea State

CTD File: 2017-93-086

Lat (N) 64° 40.859

Lon (W) 169 5.819

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) (IsoType code)	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)	nutr (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 2.45 Bottom Salinity: 32.56 Comments
1		✓	305-5	41	326			X	XX	X	XX			X	X	X	X	X	X	X	X	X				
2		✓	305-5	41	327																					phyto-one integrated sample
3		✓	35	34	328			X	XX	X	X			X	X	X	X	X	X	X	X					
4		✓	35	34	329																					
5		✓	25	24	330			X	XX	X	X			X	X	X	X	X	X	X	X					
6		✓	25	24	331																					
7		✓	15	15	332			XX	XX	X	X			X	X	X	X	X	X	X	X					
8		✓	15	15	333																					
9		✓	5	5	334			X	XX	X	X			X	X		X	X	X	X	X		X	X	X	
10		✓	5	5	335							XX				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 this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

38

Event # 92 UTC Date (ddmmmyyyy) 16 JUL 2017 Ice Coverage 10% Water Depth(Sounder) _____ m (includes 5m ship draft)

Station: UTBS-2A UTC Time 09:12 Weather/Sea State Calm, grey, light wind

CTD File: 2017-93-0 Lat (N) 64° 40.246 Lon (W) 168° 14.172 Watchkeeper(s) SV/NZ

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: 1.855	Bottom Salinity: 32.315	Comments
1		✓	6.5	33	336	X		X	XX	X	X			X	X	X	X	X	X	X	X							
2		✓	6.5	33	337																							not sampled
3		✓	25	25	338			X	XX	X	X			X	X	X	X	X	X	X	X							
4		✓	25	25	339																							not sampled
5		✓	15	15	340			X	XX	X	X			X	X	X	X	X	X	X	X							CHL MAX
6		✓	15	15	341							XX																
7		✓	5	5	342	X		X	XX	X	X			X	X		X	X	X	X	X							
8		✓	5	5	343							XX				X												
9																												
10																												
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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 # 97

Station: DB0 2.7

CTD File: 2017-93-097

UTC Date (ddmmmyyy) 16 JUL 2017

UTC Time 12:19

Lat (N) 65 0.043

Ice Coverage 0/10

Weather/Sea State calm, grey

Lon (W) 168 13.350

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

Watchkeeper(s) N²

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: 1.58	Bottom Salinity: 32.4	Comments
1		✓	34.5	40	344			X	XX	X	X			X	X	X	X	X	X	X	X							
2		✓	34.5	40	345						X																	
3		✓	35	35	346			X	XX	X	X			X	X	X	X	X	X	X	X							
4		✓	35	35	347																							
5		✓	25	25	348			X	XX	X	X	XX	X	X	X	X	X	X	X	X	X							
6		✓	25	25	349																							
7		✓	15	15	350			X	XX	X	X			X	X	X	X	X	X	X	X							
8		✓	15	15	351																							
9		✓	5	5	352			X	XX	X	X			X	X		X	X	X	X	X							
10		✓	5	5	353							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 this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

48

Event # 103

UTC Date (ddmmmyyyy) 16 JUL 2017

Ice Coverage 0/10

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

Station: UTBS-1

UTC Time 16:20

Weather/Sea State CALM, BROKEN CLOUD

CTD File: 2017-93-0

Lat (N) 64 59.419

Lon (W) 169 8.272

Watchkeeper(s) _____

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (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-fraction Chl (Varela)	Bottom Temperature: 2.98	Bottom Salinity: 32.71	Comments
1	1	✓	BOT-5	43	354			X	XX	X	X			X	X	X	X	X	X	X	X							
2	2	✓	BOT-5	42	355		XX							X	X	X	X	X	X	X	X							
3	4	✓	35	25	356			X	XX	X	X			X	X	X	X	X	X	X	X							
4	5	✓	35	25	357		XX							X	X	X	X	X	X	X	X							
5	6	✓	25	25	358			X	XX	X	X			X	X	X	X	X	X	X	X							
6	7	✓	25	25	359		XX							X	X	X	X	X	X	X	X							
7	9	✓	15	15	360			X	XX	X	X			X	X	X	X	X	X	X	X							
8	10	✓	15	15	361		XX							X	X	X	X	X	X	X	X							
9	13	✓	5	5	362			X	XX	X	X			X	X	X	X	X	X	X	X							
10	14	✓	5	5	363		XX					XX	X			X												
11	3	✓	43		364																	X						
12	8	✓	20	20	365																	X						
13	11	✓	15	15	366																	X						
14	12	✓	10	10	367																	X						
15	15	✓	5	5	368																	X						CHL MAX
16	16	✓	5	5	369																	X						
17	17	✓	2	3	370																	X						
18	18	✓	2	0	371																							
19																												
20																												
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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 # 109

Station: UTBS-4

CTD File: 2017-93-0109

UTC Date (ddmmmyyyy) 16 JUL 2017

UTC Time 12:53

Lat (N) 64° 57.679

Ice Coverage 10

Weather/Sea State

Lon (W) 169° 53.473

Water Depth(Sounder) 48 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 (Torrell)	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: 2.07 Bottom Salinity: 32.83 Comments	
1		✓	805	43	372	X		XX	XY	XY	X			X	X	X	X	X	X	X	X						
2		✓	805	43	373									X	X	X	X	X	X	X	X						
3		✓	35	34	374			X	XY	X	X			X	X	X	X	X	X	X	X						
4		✓	35	34	375																						
5		✓	25	25	376			X	XY	X	X			X	X	X	X	X	X	X	X						
6		✓	25	25	377																						
7		✓	15	15	378			X	XX	X	X			X	X	X	X	X	X	X	X						
8		✓	15	15	379																						
9			5	5	380	X		X	XX	X	X			X	X	X	X	X	X	X	X						
10			5	5	381							XX				X							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 # 115

Station: BRS-2

CTD File: 2017-93-0

UTC Date (ddmmmyyyy) 17 JUL 2017

UTC Time 02:28

Lat (N) 65°40.1

Ice Coverage /10

Weather/Sea State Rdn, 24kts wind

Lon (W) 168°23.807

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

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: 4.05 Bottom Salinity: 32.16 Comments	
1		✓	Bot-5	47	382			X	XX	X	X			X	X	X	X	X	X	X							
2		✓	Bot-5	47	383																						
3		✓	35	35	384			X	XX	X	XX			X	X	X	X	X	X	X							
4		✓	35	35	385																						
5		✓	25	25	386			X	XX	X	X			X	X	X	X	X	X	X							
6		✓	25	25	387																						
7		✓	15	15	388			X	XX	X	X			X	X	X	X	X	X	X							
8		✓	15	15	389																						
9		✓	5	5	390			X	XX	X	X			X	X		X	X	X	X							
10		✓	5	5	391							XX				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 # 117 UTC Date (ddmmmyyy) ____ | _JUL_ | 2017 Ice Coverage ____/10 Water Depth(Sounder) 53 m (includes 5m ship draft)

Station: BRS-3 UTC Time 03:32 Weather/Sea State 22.0-6 m/s Watchkeeper(s) _____

CTD File: 2017-93-0 Lat (N) 65° 40.940 Lon (W) 168° 33.646

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-fraction (Varela)	Bottom Temperature: 3.97 Bottom Salinity: 32.21 Comments
1		✓	6.5	48	392	✓		×	×	×	×			×	×	×	×	×	×	×						
2		✓	6.5	48	393		×																			
3		✓	35	35	394			×	×	×	×			×	×	×	×	×	×	×						
4		✓	35	35	395		×																			
5		✓	25	25	396			×	×	×	×			×	×	×	×	×	×	×						
6		✓	25	25	397		×																			
7		✓	15	15	398			×	×	×	×			×	×	×	×	×	×	×						
8		✓	15	15	399		×																			
9		✓	5	5	400	×		×	×	×	×			×	×		×	×	×	×						
10		✓	5	5	401		×					×	×			×		×	×	×						
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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 # 119

UTC Date (ddmmmyyyy) 17 JUL 2017

Ice Coverage /10

52
Water Depth(Sounder) 52 m (includes 5m ship draft)

Station: BRES-4

UTC Time 04:37

Weather/Sea State Rain, Wind 22kts

CTD File: 2017-93-0

Lat (N) 65° 42.101

Lon (W) 168° 43.192

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: 28.5 Bottom Salinity: 32.266 Comments
1		✓	14.5	47	402			x	x	x	x			x	x	x	x	x	x	x						
2		✓	14.5	47	403									x	x	x	x	x	x	x						
3		✓	35	35	404			x	x	x	x			x	x	x	x	x	x	x						
4		✓	35	35	405																					
5		✓	25	25	406			x	x	x	x			x	x	x	x	x	x	x						
6		✓	25	25	407																					
7		✓	15	15	408			x	x	x	x			x	x	x	x	x	x	x						
8		✓	15	15	409																					
9		✓	5	5	410			x	x	x	x			x	x		x	x	x	x						
10		✓	5	5	411							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 # 121

UTC Date (ddmmmyyyy) 1 JUL 2017

Ice Coverage /10

Water Depth(Sounder) 35 m (includes 5m ship draft)

Station: UTM-1

UTC Time 12:07

Weather/Sea State 17 knots, R997

CTD File: 2017-93-021

Lat (N) 66° 42.626

Lon (W) 168° 23.956

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: 4.27 Bottom Salinity: 32.21 Comments
1		✓	64.5	29	412	X		X	XX	XX	X							X	X	X	X					
2		✓	64.5	29	413																					
3		✓	25	25	414			X	XX	X	XX							X	X	X	X					
4		✓	25	25	415																					
5		✓	15	15	416			X	XX	X	X										X					
6		✓	15	15	417																					
7		✓	5	5	418	X		X	XX	X	X										X					
8		✓	5	5	419							XX														
9																										
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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

46

Event # 126 UTC Date (ddmmmyyyy) 17 JUL 2017 Ice Coverage /10 Water Depth(Sounder) _____ m (includes 5m ship draft)

Station: UTA-2 UTC Time 15:40 Weather/Sea State _____

CTD File: 2017-93-0 Lat (N) 67° 3.034 Lon (W) 168° 43.717 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: 33.9 Bottom Salinity: 32.38 Comments
1		✓	6.5	42	420			X	X	X	X			X	X	X	X	X	X	X	X					
2		✓	6.5	42	421		X							X	X	X	X	X	X	X	X					
3		✓	35	35	422			X	X	X	X			X	X	X	X	X	X	X	X					
4		✓	35	35	423		X							X	X	X	X	X	X	X	X					
5		✓	25	25	424			X	X	X	X			X	X	X	X	X	X	X	X					
6		✓	25	25	425		X							X	X	X	X	X	X	X	X					
7		✓	15	15	426			X	X	X	X			X	X	X	X	X	X	X	X					
8		✓	15	15	427		X							X	X	X	X	X	X	X	X					
9		✓	5	5	428			X	X	X	X			X	X	X	X	X	X	X	X					
10		✓	5	5	429		X					X	X			X	X	X	X	X	X	X	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 # 131

UTC Date (ddmmmyyyy) 17 JUL 2017

Ice Coverage /10

Water Depth(Sounder) 49 m (includes 5m ship draft)

Station: U7N-3

UTC Time 18:54

Weather/Sea State 15 knots R

CTD File: 2017-93-

Lat (N) 67° 19.868

Lon (W) 168 54.390

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)	nufs (Varela)	size-fac. Chl (Varela)	Bottom Temperature: 9.33 Bottom Salinity: 32.69 Comments
1		✓	6.5	44	430			x	xx	x	x			x	x	x	x	x	x	x	x					
2		✓	6.5	44	431									x	x	x	x	x	x	x	x					
3		✓	35	35	432			xx	xx	x	x			x	x	x	x	x	x	x	x					
4		✓	35	35	433																					
5		✓	25	25	434			x	xx	x	x			x	x	x	x	x	x	x	x					
6		✓	25	25	435																					
7		✓	15	15	436			x	xx	x	x			x	x	x	x	x	x	x	x					
8		✓	15	15	437																					
9		✓	5	5	438			x	xx	x	x			x	x		x	x	x	x	x					
10		✓	5	5	439							xx				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 # 136 UTC Date (ddmmmyyyy) 17 JUL 2017 Ice Coverage 10% Water Depth(Sounder) 51 m (includes 5m ship draft)

Station: 07N-4 UTC Time 21:15 Weather/Sea State 1/4-5

CTD File: 2017-93- Lat (N) 67° 30.007 Lon (W) 168° 54.486 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: 3.90 Bottom Salinity: 32.632 Comments
1	1	✓	44.5	48	440			✓	xx	x	xx							x	x	x	x					
2	2	✓	46.5	45	441		xx																			
3	3	✓	35	35	442			x	xx	x	x							x	x	x	x					
4	4	✓	35	35	443		xx																			
5	6	✓	25	25	444			x	xx	xx	x							x	x	x	x					
6	7	✓	25	25	445		xx																			
7	9	✓	15	15	446			x	xx	x	x							x	x	x	x					
8	10	✓	15	15	447		xx																			
9	13	✓	5	5	448			x	xx	x	x							x	x	x	x					
10	14	✓	5	5	449		xx					xx	x													
11	5	✓	30	30	450																	x	x	x	x	
12	8	✓	25	25	451																					
13	11	✓	15	15	452																					
14	12	✓	8	8	453																					
15	15	✓	5	5	454																					
16	16	✓	5	5	455																					
17	17	✓	2	3	456																					
18	18	✓	2	3	457																					
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

Event # 142

Station: SEC-8

CTD File: 2017-93-

UTC Date (ddmmmyyy) 18 JUL 2017

UTC Time 1200

Lat (N) 68° 17.851

Ice Coverage 0/10

Weather/Sea State 5 knots, Cloudy

Lon (W) 166° 56.579

Water Depth(Sounder) 35 m (includes 5m ship draft)

Watchkeeper(s)

Niskin #	Firing Order	Confirmed Fire	Target Pressure (db)	Actual Pressure (db)	Samp #	DI/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: 6.86 Bottom Salinity: 31.86 Comments
1		✓	6.5	30	458	X		X	XX	X	X							X	X	X	X					Vent a little loose
2		✓	6.5	30	459		XX																			
3		✓	25	25	460			X	XX	X	X							X	X	X	X					
4		✓	25	25	461		XX																			
5		✓	15	15	462			X	XX	X	X							X	X	X	X					
6		✓	15	15	463		XX																			
7		✓	5	5	464	X		X	XX	X	X							X	X	X	X					
8		✓	5	5	465		XX					XX														
9																										
10																										
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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 # 147

Station: SEC-7

CTD File: 2017-93-

UTC Date (ddmmmyyyy) 18 JUL 2017

UTC Time 13:43

Lat (N) 68° 14.546

Ice Coverage 10

Weather/Sea State Shuts, fog

Lon (W) 167° 7.303

Water Depth(Sounder) 43 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: 5.75 Bottom Salinity: 32.102 Comments	
1		✓	5.4-5	30	466	X		X	X	X	X																
2		✓	5.4-5	38	467		X																				
3		✓	35	35	468			X	X	X	X																
4		✓	35	35	469		X																				
5		✓	25	25	470			X	X	X	X																
6		✓	25	25	471		X																				
7		✓	15	15	472			X	X	X	X																
8		✓	15	15	473		X																				
9		✓	5	5	474	X		X	X	X	X																Bottom cap not sealed Leaking
10		✓	5	5	475		X																				
11																											
12																											
13																											
14																											
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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 # 152

UTC Date (ddmmmyyyy) 16 JUL 2017

Ice Coverage /10

49
Water Depth(Sounder) 48 m (includes 5m ship draft)

Station: SEC-6

UTC Time 15:19

Weather/Sea State 64-3, f-2-7

CTD File: 2017-93-

Lat (N) 60° 11.114

Lon (W) 167° 18.491

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: 4.88 Bottom Salinity: 32.189 Comments
1		✓	60.5	43	476	XX		X	XX	X	X							X	X	X	X					
2		✓	60.5	43	477																					
3		✓	35	35	478			X	XX	X	XX							X	X	X	X					
4		✓	35	35	479																					
5		✓	25	25	480			XX	XX	X	X							X	X	X	X					
6		✓	25	25	481																					
7		✓	15	15	482			X	XX	X	X							X	X	X	X					
8		✓	15	15	483																					
9		✓	5	5	484	X		X	XX	X	X							X	X	X	X					
10		✓	5	5	485							XX	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 this in the comments column.

Rosette Log for IOS Cruise ID 2017-93

Ship: CCGS Sir Wilfrid Laurier

Event # 157

Station: SEC-5

CTD File: 2017-93-

UTC Date (ddmmmyyy) 18 JUL 2017

UTC Time 16:52

Lat (N) 68° 7.699

Ice Coverage 10

Weather/Sea State

Lon (W) 167° 29.714

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

Watchkeeper(s) 50

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: 4.20 Bottom Salinity: 32.39 Comments	
1	1	✓	6.5	45	486	X		X	XX	X	X											X					
2	2	✓	6.5	45	487		XX																				
3	4	✓	35	35	488			X	XX	X	X											X					
4	5	✓	35	35	489		XX																				
5	7	✓	25	25	490			X	XX	X	X											X					
6	8	✓	25	25	491		XX																				
7	10	✓	15	15	492			X	XX	X	X											X					
8	11	✓	15	15	493		XX																				
9	13	✓	5	5	494	X		X	XX	X	X		X									X					
10	14	✓	5	5	495		XX					XX															Suspect 1st glass bottle Replaced
11	3	✓	40	40	496																		X	X	X		
12	6	✓	30	30	497																		X	X	X		
13	9	✓	20	20	498																		X	X	X		
14	12	✓	15	15	499																		X	X	X		
15	15	✓	5	5	500																		X	X	X		
16	16	✓	5	5	501																						
17	17	✓	2	3	502																		X	X	X		
18	18	✓	2	3	503																						
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

Event # 162

Station: SEC-4

CTD File: 2017-93-0

UTC Date (ddmmmyyyy) 10 JUL 2017

UTC Time 18:57

Lat (N) 68° 07'33"

Ice Coverage 10

Weather/Sea State 966 Rys

Lon (W) 167° 52.014

Water Depth(Sounder) 53 m (includes 5m ship draft)

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: 3.74 Bottom Salinity: 32.76 Comments
1	1	✓	6.4-5	49	504	X		X	X X	X	X							X	X	X	X					
2	2	✓	6.4-5	49	505																					
3	3	✓	35	35	506			X	X X	X	X							X	X	X	X					
4	4	✓	35	35	507																					
5	5	✓	25	25	508			X	X X	X	X							X	X	X	X		X	X	X	
6	6	✓	25	25	509																					
7	8	✓	15	15	510			X	X X	X	X							X	X	X	X					
8	9	✓	15	15	511																					
9	10	✓	5	5	512	X		X	X X	X	X							X	X	X	X					
10	11	✓	5	5	513							X X	X													
11	7	✓	22	22	514							X X	X													Chl-a/phaeococcs ~30 µg/L
12																										
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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

60

Event # 168

Station: SEC-3

CTD File: 2017-93-

UTC Date (ddmmmyyy) 18 JUL 2017

UTC Time 21:45

Lat (N) 67° 53.870

Ice Coverage 10

Weather/Sea State 13kts, Cloudy

Lon (W) 168° 13.802

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

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: 4.14 Bottom Salinity: 32.89 Comments
1	1	✓	60.4-5	55	515	X		X	X X	X	X							X	X	X	X					
2	2	✓	60.4-5	55	516		X X																			
3	4	✓	35	35	517			X	X X	X	X							X	X	X	X					
4	5	✓	35	35	518		X X																			
5	6	✓	25	25	519			X	X X	X	X							X	X	X	X					
6	7	✓	25	25	520		X X																			
7	8	✓	15	15	521			X	X X	X	X							X	X	X	X					
8	9	✓	15	15	522		X X																			
9	10	✓	5	5	523	X		X	X X	X	X							X	X	X	X					
10	11	✓	5	5	524		X X					X X														
11	3	✓	50	50	525													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.