Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # ITP-25 **UTC Date (ddmmmyyyy)** 08 | 08 | 2008 **Ice Coverage** ___/10 **Water Depth(below hull)**_____m

Station ICE CAMP SWISS CHEESE **UTC Time** all afternoon (11:30 – 17:30) **In Air pressure (before/after)** _____/_____ **Sound Speed**_____

CTD File 200830- (Next to CB16) **Lat (N)** Lat 78·00 N **Lon (W)** Lon 139·58W **~~CTD Operator~~** _____

Samplers: Alice/Krishna/Hugh/Brian/Kenny/Melissa/Gerty/Kelly/Will/Mike.

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-44 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
8015	ice/water	1.5m	1		Site	2 (60m)							✓✓			✓✓		1	✓✓	✓✓	✓✓	✓✓	✓✓			
8016	ice/water	1.5m	2		Site	1 (0m)							✓✓			✓✓		2	✓✓	✓✓	✓✓	✓✓	✓✓			
8017	top	core 1	3										✓					3	✓		*	✓				
8018	mid-1	1	4			Site 1 core (0m)							✓					4	✓		*	✓				
8019	mid-2	1	5										✓					5	✓		*	✓				
8020	bot-2	1	6										✓					6	✓	✓✓	*	✓				
8021	top	core 2	7										✓					7	✓		*	✓				
8022	mid-1	2	8			Site 3 core (60m)							✓					8	✓		*	✓				
8023	mid-2	2	9										✓					9	✓		*	✓				
8024	bot-2	2	10										✓					10	✓	✓✓	*	✓				
8025	brine hole 1m		11		→	Site 1 (0m)							✓					11	✓		*					
8026	brine hole 2m		12		→	Site 1 (0m)												12								
			13															13								
			14															14								
			15															15								
			16															16								
			17															17								
			18															18								
			19															19								
			20															20								
			21															21								
			22															22								
			23															23								
			24															24								

* sal measured w/ portable salinometer

- did not sample b/c of freeze up & excess snow fell into hole (pretty much chunky mass)

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # 50 **UTC Date** (ddmmmyyyy) 08 / 08 / 2008 **Ice Coverage** 10 /10 **Water Depth(below hull)** 3763 m

Station CB-16N **UTC Time** **In Air pressure (before/after)** -0.78 / -0.81 **Sound S** 7

CTD File 200830-050 **Lat (N)** 79 0.359 **Lon (W)** 139 57.989 **CTD**

Samp #	Target Property	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	~~DOC-14 (WHOI)~~	DIC	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	~~Nl-~~	I-129	~~Cs-137~~
		1					07.318	4.6							1		2						
	0				7352, 7452	✓		4.5						✓	2		✓		✓	✓			
		3					302	4.7							3								
		4 ✓	✓	✓	7232		6	4.3							4								
	00	5	✓	✓	9827		42	4.7							5							✓	
	600				352		1	4.0			✓	✓			6							✓	
0	800	7 ✓	✓		1224.			.7			✓	✓			7								
		8	✓	✓	9114.7223		27	3.4			✓	✓			8								
		9					17								9								
162							1				✓	✓			10				✓	✓		✓	
0	7	1	✓		7404		31	3						✓	11				✓	✓		✓	
		12 ✓	✓		9081			2.7							12		✓					✓	
	3	1			3978			4			✓	✓		✓	13				✓	✓		✓	
			✓		9054.9026		421					✓			14								
		15					2	5							15				✓	✓			
	32	16	✓	✓			10	5.6			✓	✓			16		✓						
	2							5.6				✓			17								
							19	5.6						✓	18								
	2	19			8982		3	5.4			✓	✓			19	✓						✓	
		20 ✓	✓					5.4					✓✓		20								
			✓				102	5			✓	✓	✓		21								
74	4	22					40	1			✓	✓	✓		22				✓	✓			
0							412	5.1			✓	✓	✓		23								
1076	5	24 ✓	✓	✓	741	✓	327	5		✓	✓	✓	✓										

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

17

mixing 30, up 1 DOC up 2, 30 secs

3 bottles

30

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # 49 **UTC Date (ddmmmyyyy)** 07 | 08 | 2008 **Ice Coverage** 10/10 **Water Depth(below hull)** 3758 m

Station NE1 **UTC Time** 17:29 **In Air pressure (before/after)** -0.71 / -0.82 **Sound Speed** 1475 m/s

CTD File 200830-30 **Lat (N)** 80 1.739 **Lon (W)** 140 4.014 **CTD Operator** ET/SL

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
1029	Bot-5	3748	✓1	✓✓			✓	422	4.7									1		(2)	✓					
1030		3100	✓2	✓✓			(3)	27,6,305	4.6								✓	2								
1031		2500	✓3	✓✓	✓*	7352	✓	4	4.6									3								
1032		2000	✓4	✓✓				13	4.6									4								
1033		1500	✓5	✓✓	✓	7637		17	4.5									5								
1034		1000	✓6	✓✓		7383		16	4.2					✓	✓			6								
1035		800	✓7	✓✓	✓	7475		101	4.1					✓	✓			7								
1036		600	✓8	✓✓		7488		12	3.7					✓	✓			8								
1037		450	✓9	✓✓	*	9066		1	3.6									9								
1038	Tmax	400	✓10	✓✓	✓	7222 9837		127	3.3					✓	✓			10				✓	✓			
1039	34.75	311	✓11	✓✓	✓	9047		303	3.4								✓	11				✓	✓			
1040	34.6	271	✓12	✓✓			✓	7	4.0									12								
1041	34.4	227	✓13	✓✓	✓	7201	(2)	310,411	4.3					✓	✓		✓	13				✓	✓			
1042	34	181	✓14	✓✓	✓	7357	✓	24	4.8					✓	✓		✓	14								
1043	33.5	162	✓15	✓✓			✓	19	5.2									15				✓	✓			
1044	33.1	140	✓16	✓✓	✓✓	410, 7353	✓	28	4.8					✓	✓		✓	16				✓	✓			
1045	32.9	142	✓17	✓✓			✓	413	5.3					✓	✓			17								
1046	32.6	125	✓18	✓✓			(2)	26,23	5.3								✓	18								
1047	32.3	98	✓19	✓✓	✓	7332	✓	125	4.8					✓	✓			19	✓							
1048	Tmax	71	✓20	✓✓				417	4.9							✓	✓	20								
1049	Cmax	51	✓21	✓✓				105	4.9					✓	✓	✓✓		21								
1050		40	✓22	✓✓				22	5.2							✓		22								
1051	Tmax	18	✓23	✓✓				122	4.8					✓	✓	✓		23								
1052		5	✓24	✓✓			✓	114	5.0					✓	✓	✓	✓	24	✓	(2)	✓	✓	✓			

CFC dup removed.

CFC dup added

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

mixing 30m up, DIC, DIC, ALK

* .. lower priority.

13 w/ 2 low prior

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # 48 **UTC Date (ddmmmyyyy)** 07/08/2008 **Ice Coverage** 10/10 **Water Depth(below hull)** 3748 m

Station NE2 **UTC Time** 06:50 **In Air pressure (before/after)** 0.77/-0.17 **Sound Speed** 1479

CTD File 200830- **Lat (N)** 81 1.220 N **Lon (W)** 140 6.296 **CTD Operator** EF/WR

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	~~DIC-14 (WHOI)~~	~~DOC-14 (WHOI)~~	DIC	~~DIC-13 (K. Brown)~~	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129 / Cs-137
1005	Bot+10	3742	1	√√	√*	8980	√	311	4.6									1		(2)	√√				
1006		3086	2	√√			↓	407	4.6									2							
1007		2500	3	√√	√	8978	↓	318	4.5									3							
1008		2000	4	√√	√*	7417	(3)	205, 102, 106	4.5									4							
1009		1500	5	√√	√	410	√	308	4.3									5							
1010		1000	6	√√	√	1224		428	4.1					(√)	√			6		√√					
1011		800	7	√√	√√	7201, 7504		424	3.9					(√)	√			7							
1012		500	8	√√	√	9024		117	3.2					(√)	√			8							
1013		450	9	√√	√	7676		11	2.5									9	√			√	√		
1014	Tmax	386 (3)	10	√√				328	3.6									10	√			√	√		
1015	34.75	310	11	√√	√√	7629, 7357		17	3.5					√	√		(√)	11	√			√	√		
1016	34.6	270	12	√√	√	7772		104	3.6									12			√				
1017	34.4	225	13	√√	√	7383	↓	316	4.1					(√)	√		(√)	13	√			√	√		
1018	34	174	14	√√	√	7552	(2)	306, 401	4.9					(√)	√		(√)	14							
1019	33.5	153	15	√√	√	7475	√	325	4.8									15	√			√	√		
1020	33.1	141	16	√√	√√	9114, 7488		421	4.6					(√)	√		(√)	16		√√		√	√		
1021	32.9	135	17	√√				2	4.9					(√)	√			17							
1022	32.6	120	18	√√				107	4.8								(√)	18							
1023	32.3	98	19	√√	√	9066		8	4.7					(√)	√			19							
1024	Tmax	67	20	√√				9	5.2							√		20							
1025	Tmin	56	21	√√			(2)	119, 327	5.2							√		21							
1026	Cmax	52	22	√√			√	403	5.2					√	√	√		22		√√					
1027	Tmax	28	23	√√			↓	402	5.1			(√)		√	√	√		23			√				
1028		5	24	√√			√	115	5.3					√	√	√	√	24	√	(2)	√	√	√		

* snagged & missed 310 m, fired at 308 m

** missed T-max 386, bottle fired at 310. Therefore, both bottle 10 & 11, fired at 310 m.

→ leaky at bottom

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

Analysis: 30s, 4pt, DIC, 4pt 30 mL

* lower priority

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # 47 (Calibration cast) **UTC Date** (ddmmmyyyy) 06 | 08 | 2008 **Ice Coverage** 9 /10 **Water Depth(below hull)** 3447 m

Station NF-3 **UTC Time** 1924 **In Air pressure (before/after)** -0.75/-0.77 **Sound Speed** 1479 m/s

CTD File 200830-30 **Lat (N)** 82° 0.230' **Lon (W)** 139° 59.855' **CTD Operator** K.S.

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
996		1000	✓ 1	✓✓			✓✓	320,313	4.4									1		✓✓	✓✓					
997		800	✓ 2	✓✓			✓✓	3, 108	4.3									2		✓✓	✓✓					
998		600	✓ 3	✓✓			✓✓	121 120	4.2									3		✓✓	✓✓					
999		380	✓ 4	✓✓			✓✓	314,304	4.0									4		✓✓	✓✓					
1000		180	✓ 5	✓✓			✓✓	126,103	5.1									5		✓✓	✓✓					
1001		126	✓ 6	✓✓			✓✓	426 118	5.4									6		✓✓	✓✓					
1002		100	✓ 7	✓✓			✓✓	124,20	5.3									7		✓✓	✓✓					
1003		50	✓ 8	✓✓			✓✓	425 315	5.2							✓✓		8		✓✓	✓✓					
1004		10	✓ 9				✓✓	418 110	5.2							✓✓		9		✓✓	✓✓					
			10															10								
			11															11								
			12															12								
			13															13								
			14															14								
			15															15								
			16															16								
			17															17								
			18															18								
			19															19								
			20															20								
			21															21								
			22															22								
			23															23								
			24															24								

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # 46 **UTC Date (ddmmmyyyy)** 06 | 08 | 2008 **Ice Coverage** 10/10 **Water Depth(below hull)** 3524 m

Station NE3 **UTC Time** 14:12 **In Air pressure (before/after)** -0661 -0.74 **Sound Speed** 1479

CTD File 200830- **Lat (N)** 81 59.430 **Lon (W)** 140 0954 **CTD Operator** EF/MF

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
972	Bot	3506	1 ✓	VV			(3)	311,327,14	4.6									1		(2)	V					
973		3100	2 ✓	VV	V	7629	V	407	4.6								(V)	2			V					
974		2500	3 ✓	VV	V	41[illegible]		318	4.6									3								
975		2000	4 ✓	VV	V	9054		405	4.6									4	V			V	V			
976		1500	5 ✓	VV	V	7383		107	4.5									5		VV						
977		1000	6 ✓	VV	V	1224		106	4.2					(V)	(V)			6								
978		800	7 ✓	VV	VV	7166, 7222	(2)	308, 403	4.1					(V)	(V)			7								
979		500	8 ✓	VV	V	7504		428	3.7					(V)	(V)			8								
980		450	9 ✓	VV	V	7201		434	3.6									9								
981	Tmax	353	10 ✓	VV	VV	9837, 7433		117	3.4					(V)	(V)			10	V			V	V			
982	34.75	299	11 ✓	VV	V	8820		11	3.5									11	V			V	V			
983	34.6	257	12 ✓	VV	V	9024		328	3.8								V	12								
984	34.4	217	13 ✓	VV	V	9047		17	4.1					(V)	(V)		V	13	V			V	V			
985	34	164	14 ✓	VV	V	8978		104	4.5					(W)	(W)		V	14								
986	33.5	144	15 ✓	VV	V	7352		306	4.8									15	V			V	V			
987	33.1	131	16 ✓	VV	VV	7676, 9069		316	4.3					(W)	(V)		V	16	V			VV	VV			
988	32.9	127	17 ✓	VV			(2)	401, 402	5.2					(W)	(V)		V	17								
989	32.6	116	18 ✓	VV	·			325	5.3									18	V	W		V	V			
990	32.3	100	19 ✓	VV	V	7417		421	4.4					(W)	(D)		V	19								
991	Tmax	69	20 ✓	VV				2	4.9							V		20	V			V	V			
992	Cmax	54	21 ✓	VV				107	4.9					(W)	(V)	VV		21								
993	Tmin	44	22 ✓	VV	V	7637		8	4.5							V		22								
994	Tmax	23	23 ✓	VV	·			4	5.0					(W)	V	V		23			V					
995		5	24	VV			V	119	5.2			V		(W)	V	V	V	24	V	(2)	V	V	V			

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments: Mix. 30 rec 1↑, 2↓, 1↑, 30sec

Rosette Log for IOS Cruise ID 2008-30 **Ship:** *CCGS Louis S St-Laurent*

Cast # 45 **UTC Date** (ddmmmyyyy) 05 | 08 | 2008 **Ice Coverage** 8 /10 **Water Depth(below hull)** 2918 m

Station NW3 **UTC Time** 15:33 **In Air pressure (before/after)** -0.73 / -0.74 **Sound Speed** 1479

CTD File 200830- 045 **Lat (N)** 83 01.788 **Lon (W)** 149 59.498 **CTD Operator** EF/WB

→ 18 samples take niskin (17,18) away from cast 44

Samp #	Target Property	Depth(m)	Niskin # (21)	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	~~DIC-14 (WHOI)~~	~~DOC-14 (WHOI)~~	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	~~NH4~~	~~I-129~~	~~Cs-137~~
948	Bot-20	2890	✓ 1	✓✓		X	(3)	320,111,115	4.6									1	✓	(2)	✓	✓	✓			
949		2500	✓ 2	✓✓	✓	7383	✓	313	4.4								✓	2	✓							
950		2000	✓ 3	✓✓	✓	1224		3	4.4									3	✓	✓✓✓						
951		1500	✓ 4	✓✓	✓	7353		108	3.1									4	✓							
952		1200	✓ 5	✓✓		X		121	4.3									5	✓							
953		1000	✓ 6	✓✓	✓	7222	(2)	120,409	4.3					✓	✓			6	✓		✓					
954		800	✓ 7	✓✓	✓✓	7504,7357	✓	314	4.1					✓	✓			7	✓							
955		500	✓ 8	✓✓	✓	7552		304	3.7					✓	✓			8	✓							
956		450	✓ 9	✓✓	✓	9054		126	3.8									9	✓							
957	tmax	354	✓ 10	✓✓	✓✓	7201		103	3.4					✓	✓			10	✓							
958	34.75	280	✓ 11	✓✓	✓	7166	✓	426	3.6									11								
959	34.6	246	✓ 12	✓✓	✓	9066	(2)	118,116	3.7								✓	12								
960	34.4	205	✓ 13	✓✓	✓	7223	✓	124	4.0					✓	✓		✓	13		✓✓✓						
961	34	156	✓ 14	✓✓	✓	9061		20	4.6					✓	✓		✓	14								
962	33.5	137	✓ 15	✓✓	✓	7488		425	4.5									15								
963	33.1	123	✓ 16	✓✓	✓✓	9114,7475		315	4.5					✓✓	✓		✓	16			✓					
964	32.9	115	✓ 17	✓✓		X		110	4.8					✓✓	✓		✓	17								
965	32.6	104	✓ 18	✓✓				418	4.8									18								
966	32.3	85	✓ 19	✓✓	✓	7629		309	4.5					✓✓	✓		✓	19								
967	Tmax	64	✓ 20	✓✓				113	4.0							✓	✓	20				✓	✓			
968	Cmax	49	✓ 21	✓✓				109	3.8				✓	✓✓	✓	✓✓	✓	21								
969	Tmin	31	✓ 22	✓✓	✓	410		123	4.1							✓	✓	22		✓✓✓						
970	Tmax	18	✓ 23	✓✓				5	4.0					✓✓	✓	✓	✓	23			✓					
971		5	24	✓✓			✓	112	4.3				✓✓	✓✓	✓	✓	✓	24	✓	(2)	✓	✓	✓			

- DO taken after ~5mins.

CFC
- no dup taken
- added by Ness.

} added by Chad - CDOM/DOC

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments: → Mixing 30secs, up 1, DN2, UP1, 30secs

15 12

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

ITP-23
Ice station Moonscape (ISM)

Cast # ITP-23 **UTC Date** (ddmmmyyyy) 04 | Aug | 2008 **Ice Coverage** 9 /10 **Water Depth(below hull)** _____ m

Station ICE STATION Moonscape **UTC Time** All afternoon 13:00 – 19:00 Local **In Air pressure (before/after)** ____/____ **Sound Speed** _____

CTD File 200830- ___ **Lat (N)** 81° 44.2 N **Lon (W)** 150° 56.3 W **~~CTD Operator~~**

Samplers: Alice/Kristina/Kenny/Mike Nes/Brian

Samp #	Target Property in Core	Depth (m) down core (cm)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
8001	ice/water	1.5 m	1	←		1.5m from top of core hole	water samples						√√					1	√√	√√	√√	√	√√			
8002	ice/water	1.5 m	2	←									√√					2	√√	√√	√√	√√	√√			
8003	top	10-30cm	3	CORE 1									√					3	√	√	√	√				
8004	top	10-30cm	4	CORE 2				site 1 (0m)					√					4	√		√	√				
8005	mid	60-80cm	5	1				ice cores					√					5	√	√√	√	√				
8006	mid	60-80cm	6	2				1 + 2					√					6	√	√√	√	√				
8007	bot	bottom-20	7	1									√					7	√		√	√				
8008	bot	bottom-20	8	2									√					8	√	√√	√	√				
8009	top	10-30	9	CORE 3									√					9	√		√	√				
8010	top	10-30	10	CORE 4				site 2 (20m)					√					10	√		√	√				
8011	mid	90-110	11	3				ice cores					√					11	√		√	√				
8012	mid	90-110	12	4				3 + 4					√					12	√		√	√				
8013	bot	bot-20	13	3									√					13	√		√	√				
8014	bot	bot-20	14	4									√					14	√	√√	√	√				
			15															15								
			16															16								
			17															17								
			18															18								
			19															19								
			20															20								
			21															21								
			22															22								
			23															23								
			24															24								

Auger Line Site

- 8001 ice/water 1.5m — site 1 (0m)
- 8002 ice/water 1.5m — site 2 (20m)
- 8003–8008 — site 1 (0m)
- 8009–8014 — site 2 (20m)

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

* ICE samples melted overnight in air tight tedlar bags, homogenized, and distributed into sample bottles.

CORE 1/2 → 1.38 m, 1.52 m } pumping @ ice/water interface

CORE 3/4 → 2.13 m, 2.05 m } pumping just above ice/water interface

water sals on salinometer

ice sals on Alice's salinity meter (too low for salinometer)

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # 44 **UTC Date (ddmmmyyyy)** 05 | AUG | 2008 **Ice Coverage** 7/10 **Water Depth(below hull)** 3169 m

Station NW 2 **UTC Time** 04:07 **In Air pressure (before/after)** -0.71 -0.72 **Sound Speed** 1479

CTD File 200830-044 **Lat (N)** 82 0.28 **Lon (W)** 149 57.738 **CTD Operator** KS

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
924	Bot		✓1	VV			V	311	4.5									1		(2)	VV					
925		3100	✓2	VV	V	1224	V	327	4.5								(✓)	2	V							
926		2500	✓3	VV		7383	(3)	14,107,412	4.5									3								
927		2000	✓4	VV		7635	V	407	4.3									4	V							
928		1500	✓5	VV		9054		318	4.2									5								
929		1000	✓6	VV		7433		405	4.0					(✓)	(✓)			6	V			V	V			
930		800	✓7	VV	V	7332, 7417		107	3.7					(✓)	(✓)			7	V							
931		500	✓8	VV		7552.		106	3.4					(✓)	(✓)			8		VV						
932		450	✓9	VV		9837	V	308	3.2									9	V							
933	tmax	367	✓10	VV	✓	7488, 9024	(2)	403, 8.	2.9					(✓)	(✓)			10								
934	34.75	302	✓11	VV		7676.	V	428.	3.6								(✓)	11			✓					
935	34.6	269	✓12	VV		7352		424.	3.4									12		VV						
936	34.4	222	✓13	VV		7629		114	3.9					(✓)	(✓)		(✓)	13								
937	34	173 ✓	14	VV		8980		11	4.5					(✓)	(✓)		(✓)	14								
938	33.5	158 ✓	15	VV		9047.		328	4.6									15								
939	33.1	147 ✓	16	VV	✓	9061, 7223		17	4.3					(✓)	(✓)		V	16				V	V			
940	32.9	137 ✓	17	VV		9069	V	104	4.4					(✓)	(✓)			17								
941	32.6	119 ✓	18	VV		410.	(2)	306 9	4.4								V	18								
942	32.3	112 ✓	19	VV		9114	V	316	4.3					(✓)	(✓)			19								
943	Tmax	73 ✓	20	VV	V	8978		401	4.1							V		20								
944	Tmax	55 ✓	21	VV	V	7475		402	3.8				✓	(✓)		V		21								
945	Cmin	44 ✓	22	VV				325	4.9					(✓)	(✓)	VV		22			✓					
946	Tmax	20 ✓	23	VV				421	4.9					(✓)	(✓)	V		23		VV						
947		5 ✓	24	VV	V	9906	V	2	4.1				VV	VV	V	V	V	24	V	(2)	V	V	V			

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

mix 30sec wpl, dn2, up1 30sec

Δ 34.7 to 34.75? { 500, 450, tmax, 34.75, 34.6 } ?

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # 43 **UTC Date (ddmmmyyyy)** 04 | 08 | 2008 **Ice Coverage** 8 /10 **Water Depth(below hull)** 3796 m

Station NW1 **UTC Time** 07:04 **In Air pressure (before/after)** -0.78 / -0.83 **Sound Speed** 1479

CTD File 200830- **Lat (N)** 81 1.714 **Lon (W)** 149 50.994 **CTD Operator** EF/NB (A+ teams)

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
900	Bot	3783	1 ✓	✓✓			✓	320	4.5									1		2	✓					
901		3100	2 ✓	✓✓	✓	9024	(3)	111, 9, 114	4.5								(✓)	2								
902		2500	3 ✓	✓✓	✓	7637	✓	115	4.4									3			✓					
903		2000	4 ✓	✓✓	✓	8978		313	4.4									4	✓							
904		1500	5 ✓	✓✓	✓	7629		3.	4.3					(✓)				5		✓✓					✓	
905		1000	6 ✓	✓✓	✓	9054		106	3-8					(✓)	✓			6							✓	
906		800	7 ✓	✓✓	✓✓	9114, 8980		121	3.6					(✓)	(✓)			7							✓	
907		500	8 ✓	✓✓	✓	7433	(2)	120, 123.	3-3					(✓)	(✓)			8							✓	
908	Tmax	408 ✓	9 ✓	✓✓	✓✓	7417, 7353		409.	3.0					(✓)	(✓)			9							✓	
909		400 ✓	10 ✓	✓✓	✓	7332		314	3.1.									10								
910	34.7	299	11 ✓	✓✓	✓	7201		304	3.4								✓	11	✓			✓	✓			
911	34.6	274	12 ✓	✓✓	✓	7357		126	3.4									12								
912	34.4	235	13 ✓	✓✓	✓	41 D.		103	4.0					(✓)	(✓)		✓	13	✓			✓	✓			
913	34	194	14 ✓	✓✓	✓	7222		426.	4.5					(✓)	(✓)		✓	14	✓			✓	✓			
914	33.5	173	15 ✓	✓✓	✓	7488		118	4.5									15								
915	33.1	159	16 ✓	✓✓	✓✓	7475, 7504.		116	4.4					✓✓	✓		✓	16	✓	✓✓		✓	✓			
916	32.9	145	17 ✓	✓✓	✓	7352		124	4.5					✓✓	✓			17								
917	32.6	124	18 ✓	✓✓	.		(2)	50.5	5.5								✓	18								
918	32.3	97	19 ✓	✓✓	✓	7676		425	5.5					(✓)	(✓)			19								
919	Tmax	69	20 ✓	✓✓	✓	7223		315	5.2							(✓)		20								
920	Tmin	51	21 ✓	✓✓				110	5.6					✓		✓✓		21								
921 C	Cmax	34	22 ✓	✓✓				416	5.6					(✓✓)	(✓)	✓✓		22			✓					
922	Tmax	24	23 ✓	✓✓				309	5.3					(✓)	(✓)	✓		23		✓✓						
923		5	24 ✓	✓✓	✓	7166	✓	113	5.5			(✓)		(✓)	(✓)	(✓)	(✓)	24	✓	(2)	✓	✓	✓			

XCTD 0-15 Shigo

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

MIXING 30 sec. up 1, dn 2, up 1, 30 secs

Rosette Log for IOS Cruise ID 2008-30 **Ship:** *CCGS Louis S St-Laurent*

Cast # 42 **UTC Date** (ddmmmyyyy) 03 | 08 | 2008 **Ice Coverage** 5 /10 **Water Depth(below hull)** 3817 m

Station CB11b **UTC Time** 16:49 **In Air pressure (before/after)** -0.84 / -0.85 **Sound Speed** 1479

CTD File 200830-42 **Lat (N)** 80 1.267 **Lon (W)** 149 87.209 **CTD Operator** EF/WD

* = low priority

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
876	Bottom	3795	✓1	✓✓			✓	320	4.7									1		(2)	✓					
877		3100	✓2	✓✓	✓	7332	(3)	111, 110, 112	4.7								✓	2				✓	✓			
878		2500	✓3	✓✓	✓	9054	✓	109	4.6									3			✓					
879		2000	✓4	✓✓	✓	7352		114	4.5									4								
880		1500	✓5	✓✓	✓	7417		313	4.1									5								
881		1000	✓6	✓✓	✓✓	9114		115	4.0					✓	✓			6								
882		800	✓7	✓✓	✓	9065, 7676		-3	4.0					✓	✓			7								
883		500	✓8	✓✓	✓	7222		108	3.4					✓	✓			8								
884	Tmax	429	✓9	✓✓	✓✓	9061, 9837		121	3.2					✓	✓			9				✓	✓			
885		394	✓10	✓✓	✓	7552	(2)	120, 118	3.2									10								
886	34.7	310	✓11	✓✓	✓	7357		123	3.3								✓	11				✓✓	✓✓			
887	34.6	282	✓12	✓✓	✓*	1224		409	3.8									12								
888	34.4	246	✓13	✓✓	✓	9066		314	3.2					✓✓	✓		✓	13				✓	✓			
889	34	205	✓14	✓✓	✓	7504		304	4.7					✓✓	✓		✓	14				✓	✓			
890	33.5	182	✓15	✓✓	✓	7383		126	4.7									15								
891	33.1	163	✓16	✓✓	✓✓	8980, 7166		103	4.7					✓✓	✓		✓	16				✓	✓			
892	32.9	147	✓17	✓✓	✓	8978		426	4.8					✓✓	✓			17			✓					
893	32.6	123	✓18	✓✓				118	4.8								✓	18				✓	✓			
894	32.3	96	✓19	✓✓	✓	9047	(2)	116, 309	4.7					✓✓	✓	✓		19								
895	Tmax	60	✓20	✓✓	✓	7223		124	4.2					✓✓	✓			20	✓							
896	Tmin	52	✓21	✓✓				230	4.3							✓		21								
897	Cmax	33	✓22	✓✓				5	4.3				✓			✓		22								
898	Tmax	24	✓23	✓✓				425	4.6					✓✓	✓	✓		23								
899		5	✓24		✓*	7627	✓	315	4.5				✓✓	✓✓	✓	✓	✓	24	✓	(1)	✓	✓	✓			

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

wait 30sec, up 1, down 2, up 1, wait 30sec, close

} no dups needed on cDOM.

Rosette Log for IOS Cruise ID 2008-30

Ship: *CCGS Louis S St-Laurent*

Cast # 41 | UTC Date (ddmmmyyyy) 03 | 08 | 2008 | Ice Coverage 5/10 — in an open pool but on average it has been more or less 4-6/10. | Water Depth(below hull) 3819 m

Station CB-11 | UTC Time 4:41 | In Air pressure (before/after) -80/-69 | Sound Speed 1479 m/s

CTD File 200830-041 | Lat (N) 79° 1.046 | Lon (W) 149° 53.491 | CTD Operator K.S./M.D

*HUGH! *

NOTE

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC (WHOI)	DOC (WHOI)	DIC (K. Brown or (OSU)	C-13 (K. Brown)	CDOM	DOC	SARBO	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
852	Bot-20	3745	1	✓✓			③	311, 402, 323	4.7										1		②✓	✓					
853		3100	2	✓✓	✓	7552	✓	327	4.6									✓	2	✓	✓	①	✓	✓			
854		2500	3	✓✓	✓	9024	|	14	4.6										3								
855		2000	4	✓✓	✓	7475	|	107	4.5										4		✓						
856		1500	5	✓✓	✓	7383	|	412	4.4										5								
857		1000	6	✓✓	✓✓	9066, 7332	|	407	4.2					✓	✓				6								
858		800	7	✓✓	✓	1224	|	318	4.0					✓	✓				7								
859		500	8	✓✓	✓	7433	|	405	3.5					✓	✓				8		✓	✓					
860	tmax	436	9	✓✓	✓✓	7488; 7357	|	102	3.2					✓	✓				9	✓			✓	✓			
861		400 (336)	10	✓✓	✓	7637	|	106	3.3										10								
862	34.7 (34)	319 (338)	11	✓✓	✓	7166	|	308	3.3									✓	11	✓			✓	✓			
863	34.6	292	12	✓✓			✓	403	3.8										12								
864	34.4	252	13	✓✓	✓	8980	③	8, 421, 119	4.5					✓	✓			✓	13	✓			✓	✓			
865	34	212	14	✓✓	✓	7201	✓	458	4.6					✓	✓			✓	14	✓			✓	✓			
866	33.5	193	15	✓✓			|	424	4.9										15								
867	33.1	174	16	✓✓	✓✓	9837, 7353	|	117	4.8					✓	✓			✓	16	✓	✓		✓	✓			
868	32.9	161	17	✓✓			|	11	4.7					✓	✓				17								
869	32.6	138	18	✓✓			|	328	4.8									✓	18	✓		✓	✓	✓			
870	32.3	111	19	✓✓	✓	7504	|	17	4.6					✓	✓		✓	✓	19	✓			✓	✓			
871	tmax	70	20	✓✓	✓	41D	|	104	4.1					✓	✓			✓	20	✓			✓	✓			
872	chlmax	45	21	✓✓			✓	306	5.1								✓✓	✓	21	✓			✓	✓			
873	tmin	32	22	✓✓			②	9, 2	5.3								✓	✓	22	✓			✓	✓			
874	20/tmax	20	23	✓✓			✓	316	5.3					✓	✓		✓	✓	23	✓	✓	✓	✓	✓			
875		5	24	✓✓			✓	401	5.4			✓		✓	✓		✓	✓	24	✓	②	✓	✓	✓			

please fill case of deep water for Kelly

*botta dripp.
botta dripp.
botta dripp.

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

Trans #2 cleaned and put back on VO. So now IT is primary.

Always from now on: #22-24: wait 30 sec, up 1, down 2, up 1, wait 30 sec & close.

Bot: 3810 utc+ 6:08
lat. 79° 0.756
long. 149 51.133

Greenberg

(4)

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # 40 **UTC Date** (ddmmmyyyy) 02 | 08 | 2008 **Ice Coverage** ___/10 **Water Depth(below hull)** 940 m

Station CB-10a **UTC Time** 1636 **In Air pressure (before/after)** -0.95 / -0.98 **Sound Speed** 1479

CTD File 200830-40 **Lat (N)** 78 17.537 **Lon (W)** 154 05.994 **CTD Operator** EF / WB / Attean

~1000 ~6 5 with $HgCl_2$ 5 without

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137	CARBO
831	Bot	916	1 ✓	✓✓														1	(10)								
832	Bot	916	2 ✓	✓✓			(3)	320, 118, 113	4.3									2		(3)	✓	✓✓	✓✓				
833		800	3 ✓	✓✓	✓	7504	✓	110	4.1					✓	✓		✓	3			✓						✓
834		600	4 ✓	✓✓				111	3.9									4									
835		500	5 ✓	✓✓	✓	9837		112	3.7					✓	✓			5									✓
836	Tmax	445	6 ✓	✓✓	✓✓	7353, ~~[illegible]~~ 7357		109	3.6					✓	✓			6				✓	✓				✓
837		400	7 ✓	✓✓				114	3.8									7									
838	34.7	327	8 ✓	✓✓				115	3.8								✓	8									
839	34.6	296	9 ✓	✓✓			(2)	313, 116	4.2									9				✓	✓				
840	34.4	262	10 ✓	✓✓			✓	3	4.6					✓	✓		✓	10									✓
841	34	231	11 ✓	✓✓				108	5.2					✓✓	✓			11									✓
842	33.5	209	12 ✓	✓✓				121	5.4								✓	12									
843	33.1	192	13 ✓	✓✓	✓	7637		120	5.4					✓✓	✓			13									✓
844	32.9	173	14 ✓	✓✓				418	5.4					✓✓	✓			14									✓
845	32.6	142	15 ✓	✓✓				123	5.4									15									
846	32.3	115	16 ✓	✓✓	✓	7201			5.0					✓✓	✓			16	✓		✓						✓
847	Tmax	89	17 ✓	✓✓			✓	314	4.9					✓✓	✓	✓		17	✓								✓
848	Cmax	58	18 ✓	✓✓			(2)	304, 124	5.3							✓✓		18									
849	Tmin	47	19 ✓	✓✓			✓	126	5.4							✓		19	✓								
850	Tmax	15	20 ✓	✓✓			✓	103	5.2					✓✓	✓	✓	✓	20	✓	(3)	✓	✓	✓				✓
851		5	21 ✓				✓	426	5.3					✓✓	✓	✓	✓	21	✓	(3)	✓	✓	✓				✓
			22															22									
			23															23									
			24															24									

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments: CDOM dups from 0-200m w/ one set filtered, the other not.

MIXING 30S, UP 1, DN 2, UP 1

(F)

Geochem (3)

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # 39 **UTC Date (ddmmmyyyy)** 02 | 08 | 2008 **Ice Coverage** 1 /10 **Water Depth(below hull)** 2297 m

Station CB-10a2 **UTC Time** 12:28 **In Air pressure (before/after)** -1.021 / -1.03 **Sound Speed** 1479

CTD File 200830- 039 **Lat (N)** 78 20.370 **Lon (W)** 153 21.067 **CTD Operator** EY/WD

~1800

DONT Forget!

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137	CARBO
807	Bot	2295	1 ✓	✓✓			②	311, 306	4.7									1		③	✓						
8		1500	2 ✓	✓✓	✓✓	9061, 9024	②	402.9	4.6									2		③	✓						
9		1200	3 ✓	✓✓			✓	325	4.5									3		③	✓						
810		1000	4 ✓	✓✓	✓	7383		327	4.3					✓	✓		✓	4		③	✓	✓	✓		✓		✓
1		900	5 ✓	✓✓	✓	9222		14	4.2									5							✓		
2		600	6 ✓	✓✓	✓	7475		107	3.9									6							✓		
3		500	7 ✓	✓✓	✓	9066		412	3.7					✓	✓			7							✓		✓
4	tmax	446	8 ✓	✓✓	✓✓	7352, 7488		407	3.5					✓	✓			8				✓	✓		✓		✓
5		400	9 ✓	✓✓	✓	7166		318	3.7									9							✓		
6	34.75	344	10 ✓	✓✓	✓	7332		405	3.5									10							✓		
7	34.6	296	11 ✓	✓✓	✓	7223		102	3.9								✓	11							✓		
8	34.4	260	12 ✓	✓✓	✓	8980		106	4.3					✓	✓		✓	12				✓	✓				✓
9	34	224	13 ✓	✓✓	✓	1224		308	4.9					✓	✓		✓	13			✓						✓
820	33.7	214	14 ✓	✓✓				403	5.0									14									
1	33.41	202	15 ✓	✓✓			✓	119	5.1									15									
2	33.1	187	16 ✓	✓✓	✓	8978	③	8, 316, 122	5.1					✓	✓		✓	16									✓
3	32.9	169	17 ✓	✓✓			✓	421	5.4					✓	✓		✓	17									✓
4	32.6	139	18 ✓	✓✓	✓	418		428	4.9					✓	✓		✓	18							✓		
5	32.3	115	19 ✓	✓✓	✓	7433		424	4.7					✓	✓		✓	19									✓
6	tmax	88	20 ✓	✓✓	✓	7629		117	4.3					✓	✓	✓	✓	20	✓		✓				✓		✓
7	chlmax	50	21 ✓	✓✓				11	5.2							✓	✓	21									
8	tmin	44	22 ✓	✓✓				328	5.3							✓	✓	22									
9	20/tmin	22	23 ✓	✓✓				17	5.2					✓	✓	✓	✓	23	✓	✓							✓
830	5	5	24	✓✓	✓✓	7552, 9047	✓	104	4.8					✓	✓	✓	✓	24	✓	③	✓	✓	✓		✓		✓

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments: CDOM dups from Geochem w/ one set filtered, the other Filter-free

> Nitrite 30 sec, NP1, DN2, NP2, 30

6

Cs / I

(2)

Rosette Log for IOS Cruise ID 2008-30 **Ship:** *CCGS Louis S St-Laurent*

Cast # 38 **UTC Date (ddmmmyyyy)** 02 | 08 | 2008 **Ice Coverage** 6 /10 **Water Depth(below hull)** 2281 m

Station CB-10a2 **UTC Time** 10:44 **In Air pressure (before/after)** -0.941 -0.98 **Sound Speed** 1479

CTD File 200830- 038 **Lat (N)** 78 20.170 **Lon (W)** 153 21.451 **CTD Operator** EF/NB

@ 1800 m - 1500 m

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC (WHOI)	DOC (WHOI)	DIC (K. Brown or IOS)	C-13 (K. Brown)	CDOM	DOC	CARBO	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
783		1000	1																1								✓
784		↓	2																2								
785		↓	3																3								
786		↓	4																4			✓					
787		800	5																5								
788		↓	6																6								
789		↓	7																7								
790		↓	8																8			✓					
791		600	9																9								
792		↓	10																10								
793		↓	11																11								
794		↓	12																12			✓					
795		400	13																13								
796		↓	14																14								
797		↓	15																15								
798		↓	16																16			✓					
799		300	17																17								
800		↓	18																18								
801		↓	19																19								
802		↓	20																20			✓					
803		5	21																21								
804		↓	22																22								
805		↓	23																23								
806		↓	24																24			✓					✓

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

Bottle firing: Stop 30 sec, 1 up down 2, 1 up, wait 30 sec then close.

Rosette Log for IOS Cruise ID 2008-30 **Ship:** *CCGS Louis S St-Laurent*

Cast # 37 **UTC Date (ddmmmyyyy)** 02 | 08 | 2008 **Ice Coverage** 0/10 **Water Depth(below hull)** 3197 m

Station CB-10 **UTC Time** 06:54 **In Air pressure (before/after)** -0.94 -0.97 **Sound Speed** 1479

CTD File 200830-037 **Lat (N)** 78 19.753 **Lon (W)** 153 01.256 **CTD Operator** EF/NB

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC (WHOI)	DOC (WHOI)	DIC (K. Brown or IOS)	C-13 (K. Brown)	CDOM	DOC	CARBO	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
759	Bott	3090	1 ✓	✓✓			(3)	422, 20, 22	4.4										1		(3)	✓					
760		2000	2 ✓	✓✓			✓	27	4.3										2			✓✓					
761		1500	3 ✓	✓✓	✓	7637		6	4.2										3								
762		1200	4 ✓	✓✓				305	3.9										4								
763		1000	5 ✓	✓✓				4	3.9					✓	✓	✓		✓	5				✓	✓			
764		800	6 ✓	✓✓	✓	7201		13	3.6					✓	✓	✓			6								
765		600	7 ✓	✓✓				17	3.3										7								
766		500	8 ✓	✓	✓	7347		16	3.2					✓	✓	✓			8								
767	tMax	417	9 ✓	✓✓	✓✓	9837, 7353	✓	101	3.0					✓	✓	✓			9	✓			✓	✓			
768		400	10 ✓	✓✓			(2)	12, 5	3.2										10								
769	34.7	331	11 ✓	✓✓			✓	1	3.1										11								
770	34.6	299	12 ✓	✓✓				127	4.3									✓	12	✓	✓	✓	✓	✓			
771	34.4	260	13 ✓	✓✓				303	4.6					✓	✓	✓		✓	13	✓	✓	✓	✓	✓			
772	34	226	14 ✓	✓✓				7	5.1					✓	✓	✓		✓	14	✓	✓	✓	✓	✓			
773	33.5	208	15 ✓	✓✓				310	5.3									✓	15	✓	✓	✓	✓	✓			
774	33.1	187	16 ✓	✓✓	✓	9054		411	5.5					✓	✓	✓		✓	16	✓	✓	✓	✓	✓			
775	32.9	172	17 ✓	✓✓				24	5.5					✓	✓	✓		✓	17	✓	✓	✓	✓	✓			
776	32.6	141	18 ✓	✓✓				19	5.4										18	✓	✓	✓	✓	✓			
777	32.3	114	19 ✓	✓✓	✓	7504		28	5.2					✓	✓	✓		✓	19	✓			✓	✓			
778	tMax	83	20 ✓	✓✓				413	4.8					✓	✓	✓	✓	✓	20	✓			✓	✓			
779	chl-a	64	21 ✓	✓✓			✓	26	4.8								✓	✓	21								
780	tMin	58	22 ✓	✓✓			(2)	23, 425	4.8					✓	✓	✓	✓	✓	22	✓	✓	✓	✓	✓			
781 20	tMax	19	23 ✓	✓✓			✓	125	5.1					✓	✓	✓	✓	✓	23	✓	✓	✓✓	✓	✓			
782	5	5	24 ✓	✓✓			✓	417	5.2					✓	✓	✓	✓	✓	24	✓	(3)	✓	✓	✓			

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

do stop, up 1 dn 2, up 1 (30) 7

(30)

mark "f"

CDOM dups from 0–200m w/ one set filtered, the other set not.

drip, not tight

(1)

45

Surface Zodiac

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # SZ 3-CB9 **UTC Date** (ddmmmyyyy) 1 | Jul | 2008 **Ice Coverage** 8 /10 **Water Depth(below hull)** 3818 m

Station _____ **UTC Time** _____ **In Air pressure (before/after)** ____/____ **Sound Speed** 1479

CTD File 200830-____ ? **Lat (N)** _____ **Lon (W)** _____ **CTD Operator** SZ / KY

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
	0		1									✓						1	✓	✓	✓	✓	✓			
	5		2									✓						2	✓	✓	✓	✓	✓			
	10		3									✓						3	✓	✓	✓	✓	✓			
			4															4								
			5															5								
			6															6								
			7															7								
			8															8								
			9															9								
			10															10								
			11															11								
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			23															23								
			24															24								

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

SBE 19 1) One cast for all samples 2x 2m, 2x 6m, 2x 11m

2) one cast to ~40m

part calibration cast, part geochem for O-77 do

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # 36 **UTC Date** (ddmmmyyyy) 01 | 08 | 2008 **Ice Coverage** 8 /10 **Water Depth(below hull)** 3818 m

Station CB9 **UTC Time** 10:05 **In Air pressure (before/after)** -1.08 / -1.66 **Sound Speed** 1479

CTD File 200830- **Lat (N)** 77 58.931 **Lon (W)** 150 16.866 **CTD Operator**

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137	POM	DOC WHOI	
742		800	1 ✓															1											
743		600	2 ✓															2											
744		400	3 ✓															3											
745		220	* 4 ✓	✓✓			✓✓	414,408	5.3									4		✓✓	✓✓								
746		160	* 5 ✓	✓✓				10,423	5.5									5											
747		120	* 6 ✓	✓✓			✓✓	301,415	5.2									6			✓✓								
748	Tmax	77	7 ✓	✓✓	✓	7201	✓	419	4.6	✓✓	✓Z	✓		✓	✓		✓	7	✓		✓	✓	✓					✓	7
749		70	8 ✓	✓✓			✓	326	4.6							✓		8			✓						✓		8
750		60	* 9 ✓	✓✓			✓✓	410,324	5.4									9			✓✓								9
751	Chlmax	45	10 ✓	✓✓			✓	404.	4.9	✓	✓	✓	✓				✓	10	✓		✓	✓	✓					✓	10
752		45	11 ✓	✓✓			✓	323.	5.0							✓✓		11			✓						✓		11 ← slow drips
753		37	12 ✓	✓✓	✓	7637	✓	21	5.2								✓	12	✓		✓	✓	✓		✓				12
754		30	* 13 ✓	✓✓			✓✓	18,302	5.2									13			✓✓								13
755		25	14 ✓	✓✓			✓	25.	5.2	✓	✓F	✓		✓	✓			14			✓							✓	14
756		20	15 ✓	✓✓				322	4.8							✓		15									✓		15
757		5	16 ✓	✓✓				321	4.7	✓	✓	✓	✓✓	✓	✓		✓	16	✓	3	✓	✓	✓					✓	16
758		5	17 ✓	✓✓	✓	7357	✓	312	4.6							✓		17							✓				
			18															18											
			19															19											
			20															20											
			21															21											
			22															22											
			23															23											
			24															24											

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

* cup 1 dn 2 up 1

Cs / I

Rosette Log for IOS Cruise ID 2008-30 **Ship:** *CCGS Louis S St-Laurent*

Cast # 35 **UTC Date** (ddmmmyyyy) 01 | 08 | 2008 **Ice Coverage** 9 /10 **Water Depth(below hull)** 3818 m

Station CB-9 **UTC Time** 08:18 **In Air pressure (before/after)** -0.94 / -1.06 **Sound Speed** 1479

CTD File 200830-035 **Lat (N)** 77 58.644 **Lon (W)** 150 11.860 **CTD Operator** EF / WB

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
718		1000	1 ✓															1								✓
719		↓	2 ✓															2								↓
720		↓	3 ✓															3								↓
721		↓	4 ✓															4			✓					↓
722		800	5 ✓															5								✓
723		↓	6 ✓															6								↓
724		↓	7 ✓															7								↓
725		↓	8 ✓															8			✓					↓
726		600	9 ✓															9								✓
727		↓	10 ✓															10								↓
728		↓	11 ✓															11								↓
729		↓	12 ✓															12			✓					↓
730		400	13 ✓															13								✓
731		↓	14 ✓															14								↓
732		↓	15 ✓															15								↓
733		↓	16 ✓															16			✓					↓
734		300	17 ✓															17								✓
735		↓	18 ✓															18								↓
736		↓	19 ✓															19								↓
737		↓	20 ✓															20			✓					↓
738		5	21 ✓															21								✓
739		↓	22 ✓															22								↓
740		↓	23 ✓															23								↓
741		↓	24 ✓															24			✓					↓

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

30 sec, up 1 down 2 up 1 ↓, 30 sec

Part 1 of full cast

Rosette Log for IOS Cruise ID 2008-30 Ship: *CCGS Louis S St-Laurent*

Cast # 034 **UTC Date (ddmmmyyyy)** 01 / Aug / 2008 **Ice Coverage** 8 /10 **Water Depth(below hull)** 3818 m

Station CB-9 **UTC Time** 0052 **In Air pressure (before/after)** -1.0 / -1.1 **Sound Speed** 1479 m/s

CTD File 200830- 034 **Lat (N)** 75° 0.176' **Lon (W)** 150° 10.510' **CTD Operator** S.Z./K.Y./K.Z./M.D.

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC-14 (WHOI)	DOC-14 (WHOI)	DIC	DIC-13 (K. Brown)	CDOM	DOC	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137	DOC (WHOI)
695	Bot	3806	1 ✓	✓✓	✓	7383	✓	422	4.4	✓	✓	✓✓	✓					1	✓	(3)	✓	✓	✓				✓
696		3100	2 ✓	✓✓	✓	7222	✓	22	4.5	✓✓	✓	✓					✓	2							✓		✓✓
697		2500	(3) ✓	✓✓			✓	27	4.5	✓	✓✓F2	✓						3									✓✓
698		2500	4 ✓	✓✓	✓	7475	(3)	20,413, 2	4.4									4			✓✓				✓		
699		2000	5 ✓	✓✓	✓✓	9066, 7353	✓	6	4.3	✓	✓	✓						5							✓		✓✓
700		1500	6 ✓	✓✓	✓	9887		305	4.2	✓	✓✓	✓						6							✓		✓✓
701		1000	7 ✓	✓✓	✓	9054		4	4.0	✓	✓2	✓		✓	✓			7							✓		✓✓
702		800	(8) ✓	✓✓				13	3.8	✓	✓F	✓		✓	✓			8									✓✓
703		800	9 ✓	✓✓	✓	7504		17	3.7									9							✓		✓✓
704		600	10 ✓	✓✓	✓	7166		16	3.5	✓✓	✓2	✓						10							✓		✓✓
705		500	(11) ✓	✓✓				101	3.3	✓	✓✓	✓	✓	✓	✓			11	✓			✓	✓				✓✓
706		500	12 ✓	✓✓	✓	9114		12	3.2									12			✓✓				✓		✓✓
707	TMax	442	13 ✓	✓✓	✓	1224		5	3.1	✓	✓	✓		✓	✓			13	✓			✓	✓		✓		✓✓
708		400	14 ✓	✓✓	✓	8978		1	3.1	✓	✓F	✓						14							✓		✓✓
709	34.7	328(345)	15 ✓	✓✓	✓	9061	✓	127	3.2	✓	✓✓	✓						15	✓			✓	✓		✓		✓✓
710	34.6	299	16 ✓	✓✓	✓✓	7417, 4102dee	(2)	303, 26	3.6	✓✓	✓	✓					✓	16									
711	34.4	261	17 ✓	✓✓	✓	7676	✓	7	4.0	✓	✓F	✓		✓	✓		✓	17	✓			✓	✓		✓		✓✓
712	34	226	18 ✓	✓✓	✓	7552		310	4.2	✓	✓2	✓	✓	✓	✓			18							✓		✓✓
713	33.5	207	19 ✓	✓✓	✓✓	9047, 9069		411	4.4	✓✓	✓	✓						19									✓✓
714	33.1	189	20 ✓	✓✓	✓	7433		24	4.5	✓	✓✓	✓✓		✓	✓			20									✓✓
715	32.9	171	21 ✓	✓✓	✓	7621		19	4.5	✓✓	✓F	✓		✓	✓			21									✓✓
716	32.6	139	22 ✓	✓✓	✓✓	7338, 7223		28	4.2	✓	✓	✓						22	✓	✓	✓	✓	✓				✓✓
717	32.3	115	23 ✓	✓✓	✓	8980	✓	23	4.2	✓	✓2	✓		✓	✓		✓	23	✓	3	✓	✓	✓		✓		✓✓
			24															24									

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

Bot 12 is high

→ tripped @ 345, hit the space bar with clipboard (I think)

Not sampled.

34.7S @ 4.4

Rosette Log for IOS Cruise ID 2008-30 **Ship:** *CCGS Louis S St-Laurent*

Cast # 33 **UTC Date** (ddmmmyyyy) 31 | 07 | 2008 **Ice Coverage** 9.5 /10 **Water Depth(below hull)** 3805 m

Station CB-12 **UTC Time** 3:20 **In Air pressure (before/after)** 97 / 1.13 **Sound Speed** 1479 m/s

CTD File 200830- 033 **Lat (N)** 77° 40.697' **Lon (W)** 146° 44.723' **CTD Operator** K.S/S.Z/M.D

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC (WHOI)	DOC (WHOI)	DIC (K. Brown or IOS)	C-13 (K. Brown)	CDOM	DOC	CARBO	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
671		3100	✓ 1	✓✓	✓**	7201	③	320, 105, 315	4.6									✓	1	✓	③	②	✓	✓		✓	
672		2500	✓ 2	✓✓	✓**	7383	✓	108	4.6										2			✓				✓	
673		2000	✓ 3	✓✓	✓**	7222	✓	109	4.5										3							✓	
674		1500	✓ 4	✓✓	✓	7232	✓	110	4.4										4							✓	
675		1000	✓ 5	✓✓	✓	7475	②	111, 112	4.1					✓	✓				5							✓	
676		800	✓ 6	✓✓	✓	9069	✓	113	3.9					✓	✓				6							✓	
677		500	✓ 7	✓✓	✓	9066		114	3.3					✓	✓				7							✓	
678	tmax	424	✓ 8	✓✓	✓	7629		115	3.3					✓	✓				8	✓			✓	✓		✓	
679		400	✓ 9	✓✓	✓*	7353		116	3.4										9							✓	
680	34.7	310	✓ 10	✓✓	✓*	9837		313	3.6										10							✓	
681	34.6	283	✓ 11	✓✓				3	3.9					✓	✓			✓	11	✓			✓	✓			
682	34.4	246	✓ 12	✓✓	✓*	7637		118	4.3										12								
683	34	204	✓ 13	✓✓	✓*	9054		124	4.8					✓	✓			✓	13							✓	
684	33.5	180	✓ 14	✓✓				120	4.9										14								
685	33.1	161	✓ 15	✓✓	✓✓	9047, 7504		123	5.1					✓	✓			✓	15								
686	32.9	146	✓ 16	✓✓				418	5.1					✓	✓				16								
687	32.6	126	✓ 17	✓✓				409	5.0									✓	17								
688	32.3	104	✓ 18	✓✓	✓	7352		314	5.0					✓	✓				18							✓	
689	tmax	75	✓ 19	✓✓	✓	9024		304	4.2					✓	✓		✓		19							✓	
690	dz MAX	60	✓ 20	✓✓			✓	124	5.1								✓✓		20								
691	tmin	48	✓ 21	✓✓			②	103, 309	5.2								✓		21		↓	↓					
692	tmax/20	20	✓ 22	✓✓			✓	126	5.2					✓	✓				22		↓	✓					
693		5	✓ 23	✓✓			✓	426	5.3					✓	✓		✓	↓	23	✓	③	②	✓	✓		✓	
694		5	✓ 24	✓✓			✓	401	5.3										24								

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

Geoclean 5

tension eruption at 83rd @ bottom on way up Full water

9→13

WB added Aug 3rd

1 fresh 2 free

Cs / I ①

~~1 Calibration Cast~~

Rosette Log for IOS Cruise ID 2008-30

Cast # 32 **UTC Date** (ddmmmyyyy) 31 | Jul | 2008 **Ice Coverage** 9 /10 **Water Depth(below hull)** 3805 m

Station CB-12 **UTC Time** 0148 **In Air pressure (before/after)** -.98 / -1.06 **Sound Speed** 1479

CTD File 200830-032 **Lat (N)** 77 41.30 **Lon (W)** 146 44.472 **CTD Operator** KS / MD / ww

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC (WHOI)	DOC (WHOI)	DIC (K. Brown or IOS)	C-13 (K. Brown)	CDOM	DOC	CARBO	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
647		1000	1 ✓	vv			✓												1								✓
648		↓	2 ✓	vv			✓												2								✓
649		↓	3 ✓	vv			✓												3								✓
650		↓	4 ✓	vv			✓												4			✓					✓
651		800	5 ✓	vv			✓												5								✓
652		↓	6 ✓	vv			✓												6								✓
653		↓	7 ✓	vv			✓												7								✓
654		↓	8 ✓	vv			✓												8			✓					✓
655		600	9 ✓	vv			✓												9								✓
656		↓	10 ✓	vv			✓												10								✓
657		↓	11 ✓	vv			✓												11								✓
658		↓	12 ✓	vv			✓												12		③	✓				✓	✓
659		400	13 ✓	vv			✓												13								✓
660		↓	14 ✓	vv			✓												14								✓
661		↓	15 ✓	vv			✓												15								✓
662		↓	16 ✓	vv			✓												16			✓					✓
663		300	17 ✓	vv			✓												17								✓
664		↓	18 ✓				✓												18								✓
665		↓	19 ✓				✓												19								✓
666		↓	20 ✓				✓												20			✓					✓
667		5	21 ✓				✓												21								✓
668		↓	22 ✓				✓												22								✓
669		↓	23 ✓				✓												23								✓
670		↓	24 ✓				✓												24			✓					✓

just 1 from this cast

lost water, carbuoy was open

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

stop 30 sec, up 1, down 2, up 1, 30 sec

single only

Rosette Log for IOS Cruise ID 2008-30

Cast # 31 **UTC Date (ddmmmyyyy)** 30 | 07 | 2008 **Ice Coverage** 0/10 **Water Depth(below hull)** 3819 m

Station CB8 **UTC Time** 16:18 **In Air pressure (before/after)** -1.09 / -1.09 **Sound Speed** 1479 m/s

CTD File 200830- **Lat (N)** 76 59.866 **Lon (W)** 150 2.576 **CTD Operator** EF (A+ team)

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	DIC (WHOI)	DOC (WHOI)	DIC (K. Brown or IOS)	C-13 (K. Brown)	CDOM	DOC	CARBO	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	NH4	I-129	Cs-137
623	Bottom	3814	1 ✓	✓✓			✓	311	4.5										1		(3)	✓					
624		3100	2 ✓					306	4.6									✓	2	✓		✓	✓	✓			
625		2500	3 ✓	✓✓	✓	8980		9	4.6										3								
626		2000	4 ✓	✓✓			✓	402	4.6										4								
627		1500	5 ✓	✓✓			(3)	325, 11, 425	4.5										5								
628		1000	6 ✓	✓✓			✓	327	4.2					✓	✓				6								
629		800	7 ✓	✓✓	✓	7223		14	4.0					✓	✓				7								
630		500	8 ✓	✓✓				107	3.7					✓	✓				8			✓					
631	Tmax	459	9 ✓	✓✓	✓✓	7433, 7357		412	3.7					✓	✓				9	✓			✓	✓			
632		400	10 ✓	✓✓			✓	318, 328	3.6										10								
633	34.75	372	11 ✓																11								
634	34.7	353	12 ✓	✓✓				405	3.8										12								
635	34.6	326	13 ✓	✓✓				102	4.2									✓	13	✓			✓	✓			
636	34.4	285	14 ✓	✓✓				106	4.6					✓	✓				14								
637	34	252	15 ✓	✓✓				308	5.1					✓	✓			✓	15								
638	33.5	231	16 ✓	✓✓				403	5.4										16				✓	✓			
639	33.1	206	17 ✓	✓✓	✓	7488		119	5.3					✓	✓				17								
640	32.9	186	18 ✓	✓✓			✓	8, 17	5.4					✓	✓				18								
641	(32.5)	148	19 ✓	✓✓				316	5.2										19								
642	32.3	113	20 ✓	✓✓	✓	7165		122	5.0					✓	✓				20								
643	Tmax	60	21 ✓	✓✓				421	4.6					✓	✓		✓✓		21			✓					
644	Tmin	47	22 ✓	✓✓				428	4.4								✓		22								
645		20	23 ✓	✓✓				424	4.7					✓	✓		✓		23								
646		5	24 ✓	✓✓			✓	117	4.7					✓	✓		✓		24	✓	(3)		✓	✓			

* fired at 2006.

* did not close

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

Rosette Log for IOS Cruise ID 2008-30

Cast # 30 **UTC Date (ddmmmyyyy)** 30 | 07 | 2008 **Ice Coverage** 0 /10 **Water Depth(below hull)** 3823 m

Station CB-7 **UTC Time** 08 10 **In Air pressure (before/after)** -1.09 / -1.07 **Sound Speed** 1479

CTD File 200830-030 **Lat (N)** 75 59.79 **Lon (W)** 149 58.618 **CTD Operator** EF (A+ Team)

Samp #	Target Property	Depth(m)	Niskin #	Bottle Integrity	CFC	CFC Syringe #	Oxygen	Oxy Flask #	Oxy draw temp	~~DIC (WHOI)~~	~~DOC (WHOI)~~	DIC (K. Brown or IOS)	C-13 (K. Brown)	CDOM	DOC	~~CARBO~~	Chl-a	BAC	Niskin #	ALK	NUT	SAL	O18	Ba	~~NH4~~	~~I129~~	~~Cs-137~~
599	Bottom	3818	1 ✓	✓✓			✓	320	4.2										1		(3)	✓					
600		3100	2 ✓	✓✓			3	315, 103, 104	4.0									(✓)	2	✓	|	✓✓	✓	✓			
601		2500	3 ✓	✓✓	✓	9114	✓	105	4.0										3		|	|					
602		2000	4 ✓	✓✓				108	4.0										4		|	|					
603		1500	5 ✓					109	3.7										5		|	|					
604		1000	6 ✓	✓✓				110	4.0					✓	✓				6		✓	✓					
605		800	7 ✓	✓✓	✓	7552		111	3.8					✓	✓				7		✓	✓					
606		500	8 ✓	✓✓				112	3.3					✓	✓				8		✓	✓					
607	tmax	452	9 ✓	✓✓	✓✓	7676, 410		113	3.2					✓	✓				9	✓	✓	✓	✓	✓			
608		406	10 ✓	✓✓				115	3.3										10		✓	✓					
609	34.75	358	11 ✓																11								
610	34.7	346	12 ✓	✓✓				116	3.4										12		✓	✓					
611	34.6	318	13 ✓	✓✓				313	4.1									(✓)	13	✓	|	|	✓	✓			
612	34.4	279	14 ✓	✓✓				8	4.6					✓	✓				14	|	|	|	|	|			
613	34	242	15 ✓	✓✓				118	5.0					✓	✓			(✓)	15	|	|	|	|	|			
614	33.5	220	16 ✓	✓✓				121	3.4									(✓)	16	|	|	|	|	|			
615	(33.1)	200	17 ✓	✓✓	✓	7417	✓	120	5.4					✓	✓			(✓)	17	|	|	✓✓	|	|			
616	32.9	185	18 ✓	✓✓			2	123, 126	5.5					✓	✓			(✓)	18	|	|	|	|	|			
617	32.6	156	19 ✓	✓✓			✓	418	5.5									(✓)	19	|	|	|	|	|			
618	32.3	130	20 ✓	✓✓	✓	9061	✓	409	5.2					✓	✓			(✓)	20	|	|	|	|	|			
619	(tmax)	99	21 ✓	✓✓			✓	314	4.7					✓	✓		✓	(✓)	21	|	|	|	|	|			
620	tmin	48	22 ✓	✓✓			2	304, 117	4.8					✓	✓		✓	(✓)	22	|	✓	|	✓✓	✓✓			
621	20	20	23 ✓	✓✓			✓	124	4.6					✓	✓		✓	(✓)	23	|	|	|	|	|			
622	5	5	24 ✓	✓✓			✓	309	4.5			✓		✓	✓		✓	(✓)	24	✓	(3)	✓	✓	✓			

Bottle integrity: First test lower petcock then test top valve. Check means pass, 'x' means failed.

Comments:

Please take tmax (Niskin 9)

~4m below absolute tmax (to make sure bottle + CTD are in same regime)

~4m

Tmax (448 +4) ⇒ 452

NOTE !!

1 Fresh 2 brown