

Cruise: 0C415-3		Leg: 3		Cast: CTD #1 (0-200)		Type: Test Cast											
Date: 7 August 2005		Time: 1839		Lat: 31° 36.54		Long: 65° 38.32		Samplers:									
Date: 7 August 2005		Time: 1855		Lat: 3° 36.68		Long: 65 38.75											
N #	Depth	Niskin Temp	Hellum	Oxygens		DIC/Aik	TOC/TON GLOVES!	Salts	Nuts GLOVES!	Reet N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig.	Flow Cyt. ndpig	SN ¹⁵
				O2 ₁	O2 ₂												
1	200			101		1	1		1	1	13						# 11
2	200											1-1	1-1	1-1	1	1	
3	200			102		2	2		2	2	12						
4	200											2-2	2-2	2-2	2	2	
5	200			103		3	3 *009		3	3	11						
6	200											3-3	3-3	3-3	3	3	
7	200			104		4	4		4	4	10						
8	200											4-4	4-4	4-4	4	4	
9	200			105		5			5	5	9						
10	200												5-5	5-5	5		
11	200			106		6	5		6	6	8						
12	200											5-5	6-6	6-6	6	5	
13	200			107		7			7	7	7		7-7	7-7	7		
14	200			108		8	6		8	8	6						
15	200											6-6	8-8	8-8	8	6	
16	200			109		9			9	9	5		9-9	9-9			
17	200			110		10	7		10	10	4						
18	200											7-7	10-10	10-10	9	7	
19	200			111		11	8		11	11	3						
20	200											8-8	11-11	11-11	10	8	
21	200			112		12	9 x		12	12	2	4-9	12-12	12-12		9	
22	200			113		13	10 x		13	13	1	10-10 ^A				10	
23	200			114		14	11 x		14	14		11-11 [#]					
24	200			115			12 x		15	15		12-12 [#]					
												*3L					

6
14 bottom cap leak - not gas tight
18 not gas tight - spigot leak
4 not gas tight

No Samples Kept

Cruise: OC415-3		Leg: 3		Cast: CTD #2 (0-700m)		Type: A4 center 2073												
Date: 9 August 2005		Time: 1109		Lat: 30° 10.742		Long: 67° 57.115		Samplers: Olga, Tom, Scotty, Megan										
Date: 9 August 2005		Time: 1144		Lat: 30° 10.954		Long: 67° 56.785												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Beet N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	FlowCyt non pig	SN ¹⁵	
				O ₂	O ₂ , O ₂													
1	0	25.0		101		1	1		1	1	13							x 9
2	0											1-1	1-1	1-1	1p	1np		
3	20	24.9		102		2	2		2	2	12							
4	20											2-2	2-2	2-2	2p	2np		
5	40	21.7		103		3	3 pp		3	3	11							
6	40											3-3	3-3	3-3	3p	3np		
7	60	19.9		104		4	4 pp		4	4	10							
8	60											4-4	4-4	4-4	4p	4np		
9	70	19.8		105		5			5	5	9							
10	70												5-5	5-5	5p			
11	80	19.7		106		6	5		6	6	8							
12	80											5-5	6-6	6-6	6p	5np		
13	90	19.8		107		7			7	7	7		7-7	7-7	7p			
14	100	19.8		108		8	6		8	8	6							
15	100											6-6	8-8	8-8	8p	6np		
16	110	19.7		109		9			9	9	5		9-9	9-9				
17	120	19.5		110		10	7		10	10	4							
18	120											7-7	10-10	10-10	9p	7np		
19	140	19.4		111		11	8		11	11	3							
20	140	19.4										8-8	11-11	11-11	10p	8np		
21	200	19.2		112		12	9	EE 1	12	12	2	9-9	200 12-12	12-12		9np		
22	300	19.0		113		13	10	EE 2	13	13	1	10*-10				10np		
23	500	18.4		114		14	11	EE 3	14	14		11*-11						
24	700	15.3		115			12	EE 4	15	15		12*-12						
												*3L						

Cruise: 0C415-3		Leg: 3		Cast: CTD #3 (0-700m)		Type: A4 2072											
Date: 9 August 2005		Time: 1109		Lat: 30° 16. 22 914		Long: 68° 56.25 07.551											
Date: 9 August 2005		Time: 1144		Lat: 30° 10. 22 588		Long: 68° 56.25 07.217											
Samplers: Donglai, Bill, Sybille, Megan, Stephan, Ellen, Valerie, Sara B																	
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Beet N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Flow Cyt non pig	S _N ¹⁵
				O ₂	O ₂ , O ₂												
1	0	26.1		116		15	13		16	1	26						
2	0																x 7
3	20	25.3		117		16	14		17	2	25	13-1	13-1	13-1	11 p	11 np	
4	20																
5	40	23.0		118		17	15 ²²		18	3	24	14-2	14-2	14-2	12 p	12 np	
6	40																
7	60	20.3		119		18	16		19	4	23	15-3	15-3	15-3	13 p	13 np	
8	60																
9	70	20.1		120		19			20	5	22	16-4	16-4	16-4	14 p	14 np	
10	70																
11	80	20.0		121		20	17		21	6	21		17-5	17-5	15 p		
12	80																
13	90	20.1		122		21			22	7	20	17-5	18-6	18-6	16 p	15 np	
14	100	20.0		123		22	18		23	8	19		19-7	19-7	17 p		
15	100																
16	110	20.1		124		23			24	9	18	18-6	20-8	20-8	18 p	16 np	
17	120	19.9		125 ²⁰¹		24	19		25	10	17		21-9	21-9			
18	120																
19	140	19.8		126 ²⁰²		25	20		26	11	16	19-7	22-10	22-10	19 p	17 np	
20	140																
21	200	19.6		127 ²⁰³		26	21		27	12	15	20-8	23-11	23-11	20 p	18 np	
22	300	19.3		128 ²⁰⁴		27	22		28	13	14	21-9	24 ² -12	24-12		19 np	
23	500	18.9		205		28	23		29	14		22 ² -10				20 np	
24	700	16.1		206			24		30	15		23 ² -11					
												24 ² -12					

Cruise: 0C415-3		Leg: 3		Cast: CTD #4 (0-700)		Type: A4		2013										
Date: 9 August 2005		Time: 1952		Lat: 30° 00.239		Long: 68° 09.407		Samplers:										
Date: 9 August 2005		Time: 2034		Lat: 30° 00.188		Long: 68° 09.320												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	POC/TOTN	Salts	Nuts	Beet N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt p15	Flow cyt n p	SN ⁵	
				O ₂	O ₂ , O ₂													
1	0	25.6		207		29	25		31	1	39							
2	0																X8	
3	20	24.1		208		30	26		32	2	38			25 -1	25 -1	25 -1	21 p1	21 np
4	20																	
5	40	21.4		209		31	27 ¹⁰⁰ ₃		33	3	37			26 -2	26 -2	26 -2	22 p	22 np
6	40																	
7	60	20.1		210		32	28		34	4	36			27 -3	27 -3	27 -3	23 p	23 np
8	60																	
9	70	19.9		211		33			35	5	35			28 -4	28 -4	28 -4	24 p	24 np
10	70																	
11	80	19.9		212		34	29		36	6	34			29 -5	29 -5		25 p	
12	80																	
13	90	19.8		213		35			37	7	33			29 -5	30 -6	30 -6	26 p	25 np
14	100	19.8		214		36	30		38	8	32						27 p	
15	100																	
16	110	20.0		215		37			39	9	31			30 -6	32 -8	32 -8	28 p	26 np
17	120	19.8		216		38	31		40	10	30							
18	120																	
19	140	19.8		217		39	32		41	11	29			31 -7	34 -10	34 -10	29 p	27 np
20	140																	
21	200	19.4		218		40	33		42	12	28			32 -8	35 -11	35 -11		28 np
22	300	19.4		219		41	34		43	13	27			33 -9	35 -12	36 -12	30 p	29 np
23	500	18.8		220		42	35		44	14				34 ⁺ -10				30 np
24	700	15.9		221			36		45	15				35 ⁺ -11				
														36 ⁺ -12				
														*3L				

Niskin 2 bottom cap leak
SPIJOT ON NISKIN 15

Cruise: OC415-3		Leg:		Cast: CTD #5 (0-700)		Type: A4 2012												
Date: 9/8/05		Time: 2155		Lat: 30° 00.024		Long: 68° 21.912		Samplers:										
Date: 9 August 2005		Time: 2236		Lat: 30° 00.301		Long: 68° 21.571												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact U+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chia	Flow Cyt pig	FlowCyt nonpig	SW ¹⁵	
				O2	O2, O2													
1	0	26.4		222		43	37		46	1	52							
2	0																	x 7
3	20	25.3		223		44	38		47	2	51							
4	20																	
5	40	22.3		224		45	39 ^{off} 39		48	3	50							
6	40																	
7	60	20.7		1		46	40		49	4	49							
8	60																	
9	70	20.5		2		47			50	5	48							
10	70																	
11	80	20.4		3		48	41		51	6	47							
12	80																	
13	90	20.3		4		49			52	7	46							
14	100	20.1		5		50	42		53	8	45							
15	100																	
16	110	20.0		6		51			54	9	44							
17	120	20.1		7		52	43		55	10	43							
18	120																	
19	140	19.9		8		53	44		56	11	42							
20	140																	
21	200	19.3		10		54	45		57	12	41							
22	300	19.3		11		55	46		58	13	40							
23	500	18.3		12		56	47		59	14								
24	700	16.2		13		57	48		60	15								

r⁰1 Leaking at conventional
niskins leaking after venting

Cruise: 0C415-3		Leg:		Cast: CTD # 6 # 2072		Type: INCUBATION CAST A4 (0-200m)											
Date: 10/08/05		Time: 0416		Lat: 30° 10.820		Long: 30° 10.820		Samplers:									
Date: 10 August 2005		Time: 0434		Lat: 30° 10.956		Long: 30° 10.956											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Bact	FRRF	POC/PON	HPLC	Chla	Flow Cyt		
				O2 ₁	O2 ₂ , O2 ₃							Vol=	Vol=				
1	250																
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12	40																
13	110																
14																	
15																	
16																	
17																	
18																	
19																	
20																	
21																	
22																	
23																	
24	240																

↑
Bottle 32 O₂
FOR STEPHAN

Cruise: OC 415-3		Leg: 3		Cast: CTD# 7 0-700m		Type: A4 2071											
Date: 10/08/05		Time: 0540		Lat: 30° 10.767		Long: 68° 22.189		Samplers:									
Date: 10 August 2005		Time: 0623		Lat: 30° 10.820		Long: 68° 22.542											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	POC N+P	FRRF	POC/PON	HPLC	Chla	Flow Cyt	Flow cyt	SNIS
				Vol= 2L	Vol= 4L								Pig	n.p.			
				O2 ₁	O2 ₂ , O2 ₃												
1	0	26.0		15		57	49		61	1	65	4 u					* 11
2	0											1-49	1-47	1-49	41p	41NP	
3	20	25.9		16		58	50		62	2	64	4 u					
4	20											2-50	2-48	2-50	42p	42NP	
5	40	23.0		17		59	51 x00 ⁰ 5		63	3	63	4 u					
6	40											3-51	3-49	3-51	43p	43NP	
7	60	21.7		18		60	52		64	4	62						
8	60											4-52	4-50	4-52	44p	44NP	
9	70	20.9		19		61			65	5	61						
10	70												5-51	5-53	45p		
11	80	20.6		20		62	53		66	6	60						
12	80											5-53	6-52	6-54	46p	45NP	
13	90	20.5		21		63			67	7	59		7-53	7-55	47p		
14	100	20.3		22		64	54		68	8	58						
15	100											6-54	8-54	8-56	48p	46NP	
16	110	20.0		23		65			69	9	57		9-55	9-57			
17	120	19.8		24		66	55		70	10	56						
18	120											7-55	10-56	10-58	49p	47NP	
19	140	19.7		26		67	56		71	11	55						
20	140											8-56	18-57	11-59	50p	48NP	
21	200	19.4		28		68	57		72	12	54	9-57	9 u	12-60	50p	49NP	
22	300	19.1		29		69	58		73	13	53	10-58	10 u			50NP	
23	500	18.3		30		70	59		74	14		11-59	11 u				
24	700	15.8		31			60		75	15		12-60	12 u				

Cruise: OC 415-3		Leg:		Cast: CTD # 8 (0-700m)		Type: A4 2130												
Date: 10/08/05		Time: 0748		Lat: 30° 21.698		Long: 68° 22.420		Samplers:										
Date: 10 August 2005		Time: 0831		Lat: 30° 22.080		Long: 68° 22.926												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Seet N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chia	Flow Cyt Fig	Flow Cyt N-P	SN15	
				O2	O2, O2													
1	0	26.0		32.48		71	61		76	1	78							*M
2	0											1-61	1-58	1-61	S1P	S1nP		
3	20	25.0		33		72	62		77	2	77							
4	20											2-62	2-59	2-62	S2P	S2nP		
5	40	22.2		34		73	63 * DPP6		78	3	76							
6	40											3-63	3-60	3-63	S3P	S3nP		
7	60	21.3		35		74	64		79	4	75							
8	60											4-64	4-61	4-64	S4P	S4nP		
9	70	21.1		37		75			80	5	74							
10	70												5-62	5-65	S5P			
11	80	20.3		38		76	65		81	6	73							
12	80											5-65	6-63	6-66	S6P	S5nP		
13	90	20.3		39		77			82	7	72		7-64	7-67	S7P			
14	100	20.1		40		78	66		83	8	71							
15	100											6-66	8-65	8-68	S8P	S6nP		
16	110	20.0		41		79			84	9	70		9-66	9-69				
17	120	19.9		42		80	67		85	10	69							
18	120											7-67	10-67	10-70	S9P	S7nP		
19	140	19.9		43		81	68		86	11	68							
20	140											8-68	11-68	11-71	Gap	S8nP		
21	200	19.4		44		82	69		87	12	67	9-69		12-72	S9P	S9nP		
22	300	19.1		45		83	70		88	13	66	10-70				60nP		
23	500	18.5		46		84	71		89	14		11-71						
24	700	15.7		47			72		90	15		12-72						

Cruise: DC415-3			Leg:		Cast: STD # 9			Type: A4 2131									
Date: 10 August 2005			Time: 0947		Lat: 30° 21.583		Long: 68° 9.736		Samplers: Olyx, Tom, Scotty, Sura ² , Ualeny, Elysa, Megan								
Date: 10 August 2005			Time: 1030		Lat: 30° 21.956		Long: 68° 9.744										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt P	Fluocyt np	S _{NIS}
				O ₂	O ₂ , O ₂												
1	0	25.5		49		85	73		91	1	91						XZ
2	0											73-1	69-1	73-1	61 p	61 np	
3	20	24.1		50		86	74		92	2	90						
4	20											74-2	70-2	74-2	62 p	62 np	
5	40	22.2		52		87	75* ¹⁰⁰ ₇		93	3	87						
6	40											75-3	71-3	75-3	63 p	63 np	
7	60	21.1		53		88	76		94	4	88						
8	60											76-4	72-4	76-4	64 p	64 np	
9	70	21.0		54		89			95	5	87						
10	70												73-5	77-5	65 p		
11	80	20.4		55		90	77		96	6	86						
12	80											77-5	74-6	78-6	66 p	65 np	
13	90	20.2		56		91			97	7	85		75-7	77-7	67 p		
14	100	20.0		57		92	78		98	8	84						
15	100											78-6	76-8	80-8	68 p	66 np	
16	110	20.0		58		93			99	9	83		77-9	81-9			
17	120	19.9		60		94	79		100	10	82						
18	120											79-7	78-10	82-10	69 p	67 np	
19	140	19.9		61		95	80		101	11	81						
20	140											80-8	79-11	83-11	70 p	68 np	
21	200	19.5		62		96	81		102	12	80	81-9		84-12		69 np	
22	300	19.3		63		97	82		103	13	79	82* -10				70 np	
23	500	18.5		64		98	83		104	14		83* -11					
24	700	15.7		65			84		105	15		84* -12					
												*3L					

Cruise: 02415-3		Leg:		Cast: CTD #10		Type: A4 2132												
Date: 10 August 2005		Time: 1158		Lat: 30° 21.661		Long: 67° 57.137		Samplers:										
Date: 10 August 2005		Time: 1233		Lat: 30° 21.926		Long: 67° 56.910		Oys, Tom, Scalfy, Qian, Sara B, Megan										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Baer	FRF	POC/PON	HPLC	Chla	Flow Cyt	Flowcyt	SN ¹⁵	
				O2	O2													Vol=
1	0	25.9		66	99		95		106	1	104							
2	0											85-1	80-1	85-1	71p	71np		X ¹⁵
3	20	25.8		67	100		86		107	2	103							
4	20											86-2	81-2	86-2	72p	72np		
5	40	22.4		68	101		87		108	3	102							
6	40											87-3	82-3	87-3	73p	73np		
7	60	21.2		69	102		88		109	4	101							
8	60											88-4	83-4	88-4	74p	74np		
9	80	21.0		72	103				110	5	100							
10	70												84-5	81-5	75p			
11	80	20.8		73	104		89		111	6	99							
12	80											89-5	85-6	90-6	76p	75np		
13	90	20.6		74	105				112	7	98		86-7	91-7	77p			
14	100	20.7		75	106		90		113	8	97							
15	100	20.7										90-6	87-8	92-8	78p	76np		
16	110	20.7		76	107		91		114	9	96		88-9	93-9				
17	120	20.8		77	108		92		115	10	95							
18	120											91-7	89-10	94-10	79p	77np		
19	140	20.7		78	109		93		116	11	94							
20	140											92-8	90-11	95-11	80p	78np		
21	200	20.5		79	110		94		117	12	93	93-9		96-12		79np		
22	300	20.2		80	111		95		118	13	92	94-10				80np		
23	500	20.0		81	112		96		119	14		95-11						
24	700	16.3		82			97		120	15		96-12						

Cruise: DC415-3			Leg:	Cast: CTD # 11	Type: A4	2014	SE of Center											
Date: 10 August 2005			Time: 1513	Lat: 30° 00.067	Long: 67° 57.274	Samplers:												
Date: 10 August 2005			Time: 1558	Lat: 30° 00.199	Long: 67° 57.48	Douglas, Bill, Stephen, Megan, Sara B												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	BWT	FRRF	POC/PON	HPLC	Chla	Flow Cyt	Flow cyt	S _N 15	
				O ₂	O ₂ , O _{2s}													Vol=2L
1	0	26.3		101		113	97 W		121	1	117							X →
2	0											97-1	91-1	97-1	81 p	81 np		
3	20	25.6		102		114	98 W		122	2	116							
4	20											98-2	92-2	98-2	82 p	82 np		
5	40	21.8		103		115	99 * W		123	3	115							
6	40											99-3	93-3	99-3	83 p	83 np		
7	60	20.8		104		116	100 W		124	4	114							
8	60											100-4	94-4	100-4	84 p	84 np		
9	70	20.5		105		117			125	5	113							
10	70												95-5	101-5	85 p			
11	80	20.3		106		118	102 W		126	6	112							
12	80											101-5	96-6	102-6	86 p	85 np		
13	90	20.2		107		119			127	7	111		97-7	103-7	87 p			
14	100	20.2		108		120	103 W		128	8	110							
15	100											102-6	98-8	104-8	88 p	86 np		
16	110	20.2		109		121			129	9	109		99-9	105-9				
17	120	20.2		110		122	104 W		130	10	108							
18	120											103-7	100-10	106-10	89 p	87 np		
19	140	20.2		111		123	104 W		131	11	107							
20	140											104-8	101-11	107-11	90 p	88 np		
21	200	20.1		112		124	105 W	EES	132	12	106	105-9		108-12		89 np		
22	300	19.8		113		125	106 W	EE 6	133	13	105	106-10				90 np		
23	500	19.5		114		126	107 W	EE 7	134	14		107-11						
24	700	17.0		115			108 W	EE 8	135	15		108-12						
												*3L						

10 not gas tight
 1 bottom cap leak after venting

Cruise: 02415-3		Leg: 3		Cast: CTD #12		Type: A4		S1*									
Date: 10 August 2005		Time: 1722		Lat: 20° 05.58		Long: 68° 03.46		Samplers:									
Date: 10 August 2005		Time: 1800		Lat: 30° 05.55		Long: 68° 03.15		Pennis, Bill, Douglas, Stephen, Megan									
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact U+P	FRRF	POC/PON	HPLC	Chla	Flow Cyt	FlowCyt	S15
				O ₂	O ₂ , O ₂							Vol=2L	Vol=4L	p/g	np		
1	0							109	136	1	130						
2	0											109 -1	102 -1	109 -1	91 p	91 np	
3	20							110	137	2	129						
4	20											110 -2	103 -2	110 -2	92 p	92 np	
5	40							111 *70	138	3	128						
6	40											111 -3	104 -3	111 -3	93 p	93 np	
7	60							112	139	4	127						
8	60											112 -4	105 -4	112 -4	94 p	94 np	
9	70							113	140	5	126						
10	70												106 -5	113 -5	95 p		
11	80							118	141	6	125						
12	80											113 -5	107 -6	114 -6	96 p	95 np	
13	90								142	7	124		108 -7	115 -7	97 p		
14	100							114	143	8	123						
15	100											114 -6	109 -8	116 -8	98 p	96 np	
16	110								144	9	122		110 -9	117 -9			
17	120							115	145	10	121						
18	120											115 -7	111 -10	118 -10	99 p	97 np	
19	140							116	146	11	120						
20	140											116 -8	112 -11	119 -11	100 p	98 np	
21	200							117	147	12	119	117 -9		120 -12		99 np	
22	300							118	148	13	118	118 -10				100 np	
23	500							119	149	14		119 -11					
24	700							120	150	15		120 -12					
												*3L					

No oxygens or DIC on this cast,
 Niskin 1 bottom cap leak when vent opened
 " " " " " " " " " " " "
 19 leaking out bottom

Cruise: 0C415-3		Leg:		Cast: #13		*52		Type: A4		(0-700)							
Date: 10 August 2005		Time: 1911		Lat: 30° 10.854		Long: 68° 03.415		Samplers:									
Date: 10 August 2005		Time: 1951		Lat: 30° 10.620		Long: 68° 02.914											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	*Root N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt Pig	Flow C. n.p	SN15
				* O2	O2, O3												
1	0						121		151	1	143						* 11
2	0											121-1	113-1	121-1	101 p	101 np	
3	20						122		152	2	142						
4	20											122-2	114-2	122-2	102 p	102 np	
5	40		135/				123 *DP		153	3	141						
6	40											123-3	115-3	123-3	103 p	103 np	
7	60		130/				124		154	4	140						
8	60											124-4	116-4	124-4	104 p	104 np	
9	70								155	5	139						
10	70												117-5	125-5	105 p		
11	80						125		156	6	138						
12	80											125-5	118-6	126-6	106 p	105 np	
13	90		125/12						157	7	137		119-7	127-7	107 p		
14	100						126		158	8	136						
15	100											126-6	120-8	128-8	108 p	106 np	
16	110								159	9	135		121-9	129-9			
17	120						127		160	10	134						
18	120											127-7	122-10	130-10	109 p	107 np	
19	140		122				128		161	11	133						
20	140											128-8	123-11	131-11	110 p	108 np	
21	200		118				129		162	12	132	129-9		132-12		109 np	
22	300		111/11				130		163	13	131	130-10*				110 np	
23	500		108				131		164	14		131-11*					
24	700		107/10				132		165	15		132-12*					

* 3L

Cruise: 0415-3		Leg: 3		Cast: 53		#14		Type: A4									
Date: 10 August 2005		Time: 2056		Lat: 30° 16.274		Long: 68° 03.504		Samplers:									
Date: 10 August 2005		Time: 2057 2138		Lat: 30° 16.318		Long: 68° 02.857											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bam	FRRF	POC/PON	HPLC	Chla	Flow Cyt	F. C	JNIS
				O2, Vol= 2L	O2, O2, Vol= 4L							Pig	hp				
1	0		151/4				133		166	1	156						
2	0						7					133	124	133-1	111p	111np	* 9
3	20		149				134		167	2	155						
4	20											134	125	134-2	112p	112np	
5	40		141				135 * DPP 12		168	3	154						
6	40											135	126	135-3	113p	113np	
7	60		136				136		169	4	153						
8	60											136	127	136-4	114p	114np	
9	70		196						170	5	152						
10	70												128	137-5	115p		
11	80		183				137		171	6	151						
12	80											137	129	138-6	116p	115np	
13	90		154						172	7	150		130	139-7	117p		
⇒ 14	90						138		173	8	149						
15	100		148/3				138		173	8	149	138	(131)	140-8	118p	116np	
16	110		145						174	9	148		132	141-9			
17	120		143/2				139		175	10	147						
18	120											139	133	142-10	119p	117np	
19	140		139				140		176	11	146						
20	140											140	134	143-11	120p	118np	
21	200		138/1				141		177	12	145	141		144-12		119np	
22	300						142		178	13	144	142				120np	
23	500						143		179	14		143					
24	700						144		180	15		144					

N+P

yes

*131 = 3.7L

Cruise: 0415-3		Leg:		Cast: CTD #15		Type: Eddy Center A4												
Date: 10 August 2005		Time: 2314		Lat: 30° 10.624		Long: 68° 9.470		Samplers:										
Date: 10 August 2005		Time: 2311		Lat: 30° 10.574		Long: 68° 9.115		No samples										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact	FRRF	POC/PON	HPLC	Chla	Flow Cyt			
				O2 ₁	O2 ₂ O2 ₃							Vol=	Vol=					
1																		
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		
23																		
24																		

NO Samples

Cruise: 0C415-3		Leg: 3		Cast: #167 2076		Type: A4 (0-700m)											
Date: 11 August 2005		Time: 0828		Lat: 30° 16.759		Long: 67° 19.830		Samplers:									
Date: 11 August 2005		Time: 0920		Lat: 30° 10.254		Long: 67° 20.566		Valery, Sara B., Elynn, Tom, Megan									
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIk	TOC/TON	Salts	Nuts	Seet N+P	FRF	POC/PON Vol= 2L	HPLC Vol= 2L	Chla	Flow Cyt P	Flowcyt N.P	DNIS
				O2 ₁	O2 ₂												
																	*7
1	0	27.0	#6 ¹⁰¹			127	145		181	1	169						
2	0											145-1	135-1	1-145	121P	121nP	
3	20	26.8	#7 ¹⁰²			128	146		182	2	168						
4	20											146-2	136-2	2-146	122P	122nP	
5	40	21.8	#8 ¹⁰³			129	147 *DOP13		183	3	167						
6	40											147-3	137-3	3-147	123P	123nP	
7	60	21.0	#9 ¹⁰⁴			130	148		184	4	166						
8	60											148-4	138-4	4-148	124P	124nP	
9	70	20.9	#10 ¹⁰⁵			131			185	5	165						
10	70												139-5	5-149	125P		
11	80	20.6	#11 ¹⁰⁶			132	149		186	6	164						
12	80											149-5	140-6	6-150	126P	125nP	
13	90	20.3	#12 ¹⁰⁷			133			187	7	163		141-7	7-151	127P		
14	100	20.1	#13 ¹⁰⁸			134	150		188	8	162			210nL			
15	100											150-6	142-8	8-152	128P	126nP	
16	110	26.0	#14 ¹⁰⁹			135			189	9	161		143-9	9-153			
17	120	19.9	#15 ¹¹⁰			136	151		190	10	160						
18	120											151-7	144-10	10-154	129P	127nP	
19	140	19.8	#16 ¹¹¹			137	152		191	11	159						
20	140											152-8	145-11	11-155	130P	128nP	
21	200	19.6	#17 ¹¹²			138	153	EE 9	192	12	158	153-9		12-156		129nP	
22	300	19.2	#18 ¹¹³			139	154	EE 10	193	13	157	154-10				130nP	
23	500	17.5	#19 ¹¹⁴			140	155	EE 11	194	14		155-11					
24	700	15.3	#20 ¹¹⁵				156	EE 12	195	15		156-12					

210nL for Chla mixing 13

Cruise: 0415-3			Leg: 3		Cast: CTD #18				Type: CTD A4 2074									
Date: 11 August 2005			Time: 1128		Lat: 30° 10.829		Long: 67° 44.946		Samplers: Scotty, Olga, Tom, Sara B. Megan									
Date: 11 August 2005			Time: 1202		Lat: 30° 10.538		Long: 67° 45.109											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bast HTP	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig.	Flowcyt nmply	δN ¹⁵	
				O ₂	O ₂ , O ₂													
1	0	26.3		116		141	157		196		182							X8
2	0											157-1	146-1	157-1	131 p	131 np		
3	20	25.9		117		142	158		197		181							
4	20											158-2	147-2	158-2	132 p	132 np		
5	40	22.3		118		143	159 158		198		180							
6	40											159-3	148-3	159-3	133 p	133 np		
7	60	21.1		119		144	160		199		179							
8	60											160-4	149-4	160-4	134 p	134 np		
9	70	20.7		120		145			200	HTP	178							
10	70												150-5	161-5	135 p			
11	80	20.5		121		146	161		201	HTP	177							
12	80											161-5	151-6	162-6	136 p	135 np		
13	90	20.3		122 207		147			202	HTP	176		152-7	163-7	137 p			
14	100	20.6		123 208		148	162		203	HTP	175							
15	100											162-6	153-8	164-8	138 p	136 np		
16	110	20.3		124		149			204	HTP	174		154-9	165-9				
17	120	20.3		201		150	163		205	HTP	173							
18	120											163-7	155-10	166-10	139 p	137 np		
19	140	20.2		202		151	164		206	HTP	172							
20	140											164-8	156-11	167-11	140 p	138 np		
21	200	20.0		203		152	165		207	HTP	171	165-9		168-12		139 np		
22	300	19.8		204		153	166		208	HTP	170	166-10				140 np		
23	500	19.0		205		154	167		209			168-11						
24	700	18.6		206		155	168		210			168-12						
												* 3L						

Cruise: 014153		Leg:		Cast: CTD #19		Type: A4		2070										
Date: 11 August 2005		Time: 1611		Lat: 30° 10.896		Long: 68° 34.583		Samplers:										
Date: 11 August 2005		Time: 1651		Lat: 30° 11.586		Long: 68° 34.412		Bill, Donglai, Stephan, Megan										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact	FRRF	POC/PON	HPLC	Chla	Flow Cyt	Flowcyt	S _N ¹⁵	
				O ₂	O ₂ , O ₂ , trit													Vol= 2L
1	0	27.1		207 ²²²		1565	169		211		195							X F
2	0											169 -1	157 -1	169 -1	141 p	141 np		
3	20	26.4	107/5	208 ²²³	5	156	170		212		194							
4	20											170 -2	158 -2	170 -2	142 p	142 np		
5	40	22.8	108	209		158	171 ^{np}		213		193							
6	40											170 -3	159 -3	171 -3	143 p	143 np		
7	60	21.4	111/6	210	6	158	172		214		192							
8	60											172 -4	160 -4	172 -4	144 p	144 np		
9	70	21.1	114	211		159			215		191							
10	70												161 -5	173 -5	145 p			
11	80	21.0	118	212		160	173		216		190							
12	80											173 -5	162 -6	174 -6	146 p	145 np		
13	90	20.6		213		162			217		189		163 -7	175 -7	147 p			
14	100	20.8	122/7	214	7	162	174		218		188							
15	100											174 -6	164 -8	176 -8	148 p	146 np		
16	110	20.5		215		163			219		187		165 -9	177 -9				
17	120	20.4	125	216		164	175		220		186							
18	120											175 -7	166 -10	178 -10	149 p	147 np		
19	140		130/8	217	8	165	176		221		185							
20	140	20.2		217		165	176		221		185	178 -8	167 -11	179 -11	150 p	148 np		
21	200	22.1		218		166	177		222		184	178 -9		180 -12		149 np		
22	300	19.9		219		167	178		223		183	178 -10				150 np		
23	500	18.9		220		168	179		224			179 -11						
24	700	16.8	P	221			180		225			180 -12						

Niskin 19 not gas tight

Cruise: 02415-3		Leg:		Cast: CTD #20 (0-700)		Type: A4 2068											
Date: 11 August 2005		Time: 1918		Lat: 30° 10.912		Long: 68° 59.592		Samplers:									
Date: 11 August 2005		Time: 2000		Lat: 30° 11.743		Long: 68° 59.484		Sara B, Elyn, Valerie, Douglas, Scotty, Sybille, Megan									
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Baot N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	FlowCyt np	S _N 15
				O2	O2, O2												
1	0	27.5		1		169	181		226	1	208						X 8
2	0											191 -1	168 -1	181 -1	151 p	151 np	
3	20	26.6		2		170	182		227	2	207						
4	20											192 -2	169 -2	182 -2	152 p	152 np	
5	40	23.3		3		171	183 ¹⁸³		228	3	206						
6	40											183 -3	170 -3	183 -3	153 p	153 np	
7	60	21.8		4		172	184		229	4	205						
8	60											184 -4	171 -4	184 -4	154 p	154 np	
9	70	21.4		5		173			230	5	204						
10	70												172 -5	185 -5	155 p		
11	80	21.2		6		174	185		231	6	203						
12	80											185 -5	173 -6	186 -6	156 p	155 np	
13	90	20.7		7		175			232	7	202		174 -7	187 -7	157 p		
14	100	20.6		8		176	186		233	8	201						
15	100											186 -6	175 -8	188 -8	158 p	156 np	
16	110	20.5		10		177			234	9	200		*176 -9	189 -9			
17	120	20.4		11		178	187		235	10	199						
18	120											187 -7	177 -10	190 -10	159 p	157 np	
19	140			12		179	188		236	11	198						GAS LEAK!
20	140											188 -8	178 -11	191 -11	160 p	158 np	
21	200	19.7		13		180	189		237	12	197	189 -9		192 -12		159 np	
22	300	19.3		15		181	190		238	13	196	190* -10				160 np	
23	500	18.2		16		182	191		239	14		190* -11					
24	700	15.4		17			192		240	15		192* -12					
												*3L					

Niskin 19 not gas tight

*3.25 L
HPLC

Cruise: 02415-3		Leg: 3		Cast: CTD # 21 (0-2000m)		Type: AS 3040											
Date: 13 August 2005		Time: 1054		Lat: 33° 03.648		Long: 63° 09.904		Samplers:									
Date: 13 August 2005		Time: 1210		Lat: 33° 02.618		Long: 63° 08.762		Tom, dgr, Sarah, Scotty, Megan									
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Beet N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt	SN ¹⁵	
				O ₂	O ₂ , O ₂												
1	0	27.2		101		193	193		241	1	221						X 9
2	0											193-7	179-1	193-1			
3	20	27.3		102			194		242	2	220						
4	20						194					194-2	180-2	194-2			
5	40	23.5		103			195 x0.8		243	3	219						
6	40											195-3	181-3	195-3			
7	60	22.3		104			196		244	4	218						
8	60											196-4	182-4	196-4			
9	70	22.0		105					245	5	217						
10	70												183-5	197-5			
11	80	21.6		106			197		246	6	216						
12	80											197-5	184-6	198-6			
13	100			107					247	7	215		185-7	199-7			
14	100	21.0		108			198		248	8	214						
15	100											198-6	186-8	200-8			
16	110	20.9		109					249	9	213			187-9	201-9		
17	120	20.7		110			199		250	10	212						
18	120											199-7	188-10	202-10			
19	140	20.9		111			200		251	11	211						
20	140											200-8	189-11	203-11			
21	200	20.0		112			201	EE 13	252	12	210	201-9		204-12			
22	300	19.5		113			202	EE 14	253	13	209	202-10					
23	500	18.9		114			203	EE 15	254	14		203-11					
24	500			115			204	EE 16	255	15		204-12					
																	X 36

Bottle 24 fired @ 500m, not @ the intended 700m, no samples taken from Niskin 24
 13
 19 leaking from bottom cap after vent open 90
 Bottle 15 was leaking from the bottom
 13

Cruise: 02415-3		3		Leg: 3		Cast: CTD # 22 (0-2000m)		Type: AS 3038								
Date: 13 August 2005		Time: 1458		Lat: 33° 03.638		Long: 63° 34.903		Samplers: Stephen, Bill, Donglin, Scotty, Megan								
Date: 13 August 2005		Time: 1614		Lat: 33° 03.095		Long: 63° 23.700										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Beet N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt	S _{NIS}
				O ₂	O ₂ , O ₂											
1	0	27.8		116				205	256	1	234					X 7
2	0											205-1	190-1	205-1		
3	20	27.2		117				206	257	2	233					
4	20											206-2	191-2	206-2		
5	40	23.1		118				207 *100 ¹⁸	258	3	232					
6	40											207-3	192-3	207-3		
7	60	21.7		119				208	259	4	231					
8	60											208-4	193-4	208-4		
9	70	21.4		120					260	5	230					
10	70												194-5	209-5		
11	80	21.1		121				209	261	6	229					
12	80											209-5	195-6	210-6		
13	90	20.9		124					262	7	228		196-7	211-7		
14	100	20.8		201				210	263	8	227					
15	100											210-6	197-8	212-8		
16	110	20.6		202					264	9	226		198-9	213-9		
17	120	20.0		203				211	265	10	225					
18	120											211-7	199-10	214-10		
19	140	19.9		204				212	266	11	224					
20	140											212-8	200-11	215-11		
21	200	19.6		205				213	267	12	223	213-9		216-12		
22	300	19.2		206				214	268	13	222	214*-10				
23	500	18.2		207				215	269	14		215*-11				
24	700	16.5		208				216	270	15		216*-12*				
												*3L				

niskin 18 not gas tight

* POC 216
torn filter

Cruise: DC415-3		Leg: 3		Cast: CTD #23 (0-2000m)		Type: AS 3036									
Date: 13 August 2005		Time: 1838		Lat: 33° 03.708		Long: 63° 59.900		Samplers: SARAH B., Valery, Ellyn, scotty, Sybille, Olga, Negan							
Date: 13 August 2005		Time: 2016		Lat: 33° 02.172		Long: 63° 58.697									
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	FRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow-Cyt	SN ¹⁵
				O ₂	O ₂ , O ₂										
1	0	27.9		209			217	271	1	247					8
2	0										217-1	201-1	217-1		
3	20	27.3		210			218	272	2	246					
4	20										218-2	202-2	218-2		
5	40	22.3		211			219 ^{+0.0} ₁₉	273	3	245					
6	40										219-3	203-3	219-3		
7	60	26.8		212			220	274	4	244					
8	60										220-4	204-4	220-4		
9	70	20.4		213				275	5	243					
10	70											205-5	221-5		
11	80	20.2		214			221	276	6	242					
12	80										221-5	206-6	222-6		
13	90	20.1		215				277	7	241			207-7	223-7	
14	100	20.2		216			222	278	8	240					
15	100										222-6	208-8	224-8		
16	110	20.2		217				279	9	239			209-9	225-9	
17	120	20.3		218			223	280	10	238					
18	120										223-7	210-10	226-10		
19	140	20.0		219			224	281	11	237					
20	140										224-8	211-11	227-11		
21	200			220			225	282	12	236	225-9		228-12		
22	300	19.3		221			226	283	13	235	226*-10				
23	500	18.6		222			227	284	14		227*-11				
24	700	17.9		223			228	285	15		228*-12				
											*3L				

21 Leaking

Cruise: 02415-3		Leg: 3		Cast: CTD #24 (0-2000m)		Type: AS 3035 Center of AS											
Date: 13 August 2005		Time: 2133		Lat: 33° 03.605		Long: 64° 12.506		Samplers: Olga, Tom, Scotty, Sarah, Sybille									
Date: 13 August 2005		Time: 2259		Lat: 33° 02.996		Long: 64° 12.802											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Bact	FRF	POC/PON	HPLC	Chla	FluorCyt	SW ¹⁵	
				O ₂	O ₂ , O ₂												
1	0	27.3		1		183	229		296	1	260						X/11
2	0											229-1	212-1	229-1			
3	20	26.0		2		184	230		287	2	259						
4	20											230-2	213-2	230-2			
5	40	21.3		3		185	231 ^{x DOP} ₇₀		288	3	258						
6	40											231-3	214-3	231-3			
7	60	20.5		4		186	232		289	4	257						
8	60											232-4	215-4	232-4			
9	70	19.8		5		187			290	5	256						
10	70												216-5	233-5			
11	80	19.8		6		188	233		291	6	255						
12	80											233-5	217-6	234-6			
13	90	20.5		7		189			292	7	254			218-7	235-7		
14	100	20.0		8		190	234		293	8	253						
15	100											234-6	219-8	236-8			
16	110	19.9		10		191			294	9	252			220-9	237-9		
17	120	19.9		11		192	235		295	10	251						
18	120											235-7	221-10	238-10			
19	140	19.9		12		193	236		296	11	250						
20	140											236-8	222-11	239-11			
21	200	19.8		13		194	237		297	12	249	237-9		240-12			
22	300	19.1		15		195	238		298	13	248	238-10					
23	500	18.1		16		196	239		299	14		239-11					
24	700	17.8		17			240		300	15		240-12					
												*36					

Cruise: DC 415-3		Leg:		Cast: CTD #26 (0-2000 m)		Type: AS 3034											
Date: 14/08/05		Time: 0512		Lat: 33° 03.814		Long: 64° 25.008		Samplers: Bill, Douglas, Stephanie, Sybille, Valery, Megan, Elynn									
Date: 14 August 2005		Time: 0622		Lat: 33° 03.880		Long: 64° 24.586											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt	DN15	
				O2	O2, O2												
1	0	27.3		18		197	241		301	1	273						*9
2	0											1-241	1-223	1-241			
3	20	26.1		19		198	242		302	2	272						
4	20											2-242	2-224	2-242			
5	40	21.0		20		199	243 *POP21		303	3	271						
6	40											3-243	3-225	3-243			
7	60	20.3		21		200	244		304	4	270						
8	60											4-244	4-226	4-244			
9	70	20.0		22		201			305	5	269						
10	70											4	5-227	5-245			
11	80	19.9		23		202	245		306	6	268						
12	80											5-245	6-228	6-246			
13	90	19.8		24		203			307	7	267		7-229	7-247			
14	100	19.8		26		204	246		308	8	266						
15	100											6-246	8-230	8-248			
16	110	19.8		28		205			309	9	265		9-231	9-249			
17	120	19.7		29		206	247		310	10	264						
18	120											7-247	10-232	10-250			
19	140	19.7		30		207	248		311	11	263						
20	140											8-248	11-233	11-251			
21	200	19.6		31		208	249		312	12	262	9-249		12-252			
22	300	18.6		32		209	250		313	13	261	10-250*					
23	500	17.6		33		210	251		314	14		11-251*					
24	700	17.4		34			252		315	15		12-252*					
												*3L					

Cruise: 0c415-3		Leg: 3		Cast: CTD #27 (0-2000)		Type: A4 3032											
Date: 14 August 2005		Time: 0839		Lat: 33° 03.688		Long: 64° 49.836		Samplers: Sam B, Valery, Elynn, Scotty, Olga, Megan									
Date: 14 August 2005		Time: 1015		Lat: 33° 04.397		Long: 64° 50.300											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Beet N+P	FRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt	S _N ¹⁵	
				O ₂	O ₂ , O ₂												
1	0	27.3		35			253		316	1	286						
2	0											253 [↑] -1	239 [↑] -1	253 [↑] -1			
3	20			37 [↓]			254 [↓]		317 [↓]	3 [↓]	285 [↓]						
4	20	26.5										254-2	235-2	254-2			
5	40	23.5		38			255 [↑] ₂₂		318	3	284						
6	40											255-3	236-3	255-3			
7	60	21.5		39			256		319	4	283						
8	60											256-4	237-4	256-4			
9	70	20.9		40					320	5	282						
10	70												238-5	257-5			
11	80	20.6		41			257		321	6	281						
12	80											257-5	239-6	258-6			
13	90	20.2		42					322	7	280			240-7	259-7		
14	100	20.1		43			258		323	8	279						
15	100											258-6	241-8	260-8			
16	110	19.9		44					324	9	278			242-9	261-9		
17	120	19.6		45			259		325	10	277						
18	120											259-7	243-10	262-10			
19	140	19.6		46			260		326	11	276						
20	140											260-8	244-11	263-11			
21	200	19.4		47			261	EE 16	327	12	275	261-9		264-12			
22	300	18.9		48			262	EE 17	328	13	274	262 [↑] -10					
23	500	18.2		49			263	EE 18	329	14		263 [↑] -11					
24	700	16.2		51			264	EE 19	330	15		264 [↑] -12					
												x 3L					

Niskin 3 vent open - no samples taken

Niskin 2 bottom cap leak after coming on deck

Cruise: 0C415-3		Leg: 3		Cast: CTD # 28 (0-2000 m)		Type: A4 30 30												
Date: 14 August 2005		Time: 1223		Lat: 33° 03.551		Long: 65° 14.900		Samplers: Olga, Megan, Scotty, Tom										
Date: 14 August 2005		Time: 1328		Lat: 33° 02.857		Long: 65° 14.752		Vol= 2L Vol= 4L										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	But NHP	FRF	POC/PON	HPLC	Chla	Fluor Cyt	SW15		
				O2	O2, O2													
1	0	27.3		52			2 365	331	1	299								
2	0											265-1	245-1	265-1				x/11
3	20	27.0		53			2 366	332	2	298								
4	20											266-2	246-2	266-2				
5	40	27.5		54			2 367	333	3	297								
6	40											267-3	247-3	267-3				
7	60	21.3		55			2 368	334	4	296								
8	60											268-4	248-4	268-4				
9	70	20.7		56				335	5	295								
10	70												249-5	269-5				
11	80	20.5		57			2 369	336	6	294								
12	80											269-5	250-6	270-6				
13	90	20.5		58				337	7	293			251-7	271-7				
14	100	20.2		60			2 370	338	8	292								
15	100											270-6	252-8	272-8				
16	110	20.2		61				339	9	291			253-9	273-9				
17	120	20.2		62			2 371	340	10	290								
18	120											271-7	254-10	274-10				
19	140	19.9		63			2 372	341	11	289								
20	140											272-8	255-11	275-11				
21	200	19.5		64			2 373	342	12	288	273-9			276-12				
22	300	18.8		65			2 374	343	13	287	274-10							
23	500	18.0		66			2 375	344	14		275-11							
24	700	16.0		67			2 376	345	15		276-12							
												*34						

Cruise: 0c415-3		Leg: 3		Cast: CTD # 29 (0- 100 ³⁰⁰)		Type: A4 center Intercalibration w/ WBTI 2070											
Date: 18 August 2005		Time: 2004		Lat: 30° 11.19		Long: 68° 34.12		Samplers: Sara, Valery, Bill, Sybille, Elynn									
Date: 18 August 2005		Time: 2040		Lat: 30° 1.393		Long: 68° 33.714											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Beet N+P	FRFR	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Flowcyt nonpig	S _N ¹⁵
				O ₂	O ₂ , O ₂												
					TRITUM												
1	0	26.4		101		211	277	346	1	312							X 8
2	0											277-1	256-1	277-1	161 p	161 np	
3	20	25.0	107	103	9	212	278	347	2	311							
4	20											278-2	257-2	278-2	162 p	162 np	
5	40	23.7	108	104		213	279	348	3	310							
6	40											279-3	258-3	279-3	163 p	163 np	
7	60	20.5	111	105	10	214	280	349	4	309							
8	60											280-4	259-4	280-4	164 p	164 np	
9	70	19.8	114	106		215		350	5	308							
10	70												260-5	281-5	165 p		
11	80	19.8	118	107		216	281	351	6	307							
12	80											281-5	261-6	282-6	166 p	165 np	
13	90	19.7		108		217		352	7	306			262-7	283-7	167 p		
14	100	19.7	122	109	11	218	282	353	8	305							
15	100											282-6	263-8	284-8	168 p	166 np	
16	110	19.8		110		219		354	9	304			264-9	285-9			
17	120	19.9	125	111		220	283	355	10	303							
18	120											283-7	265-10	286-10	169 p	167 np	
19	140	19.8	130	112	12	221	284	356	11	302							
20	140											284-8	266-11	287-11	170 p	168 np	
21	200	19.4		113		222	285	EE 20	357	12	301	285-9		288-12		169 np	
22	300	19.2		114		223	286	EE 21	358	13	300	286*-10				170 np	
23	500	18.7		116		224	287	EE 22	359	14		287*-11					
24	700	16.2		117			288	EE 23	360	15		288*-12					
												*3L					

u

(0-700m)

Cruise: 0C415-3		Leg: 3	Cast: CTD # 30	Type: A4	2070													
Date: 18 August 2005		Time: 2232	Lat: 30° 05.437	Long: 68° 40.042	Samplers: Tom, Olga, Scotty, Bill; Sybille													
Date: 18 August 2005		Time: 2306	Lat: 30° 05.680	Long: 68° 39.778														
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact	FRRF	POC/PON	HPLC	Chla	Flow Cyt	Flow cyt	SN ¹⁵	
				O ₂	O ₂ , O ₂													Vol= 2L
1	0	25.6		118		215	289		361	1	325							X
2	0											299 -1	267 299 -1	289 -1	171 p	171 np		
3	20	24.3	135	119	E04-2/1	226	290		362	2	324							
4	20											290 -2	268 290 -2	290 -2	172 p	172 np		
5	40	22.2	136	120		227	291 * DOPS		363	3	323							
6	40											291 -3	269 291 -3	291 -3	173 p	173 np		
7	60	20.7	138	121	2	228	292		364	4	322							
8	60											292 -4	290 292 -4	292 -4	174 p	174 np		
9	70	20.0	139	124		229			365	5	321							
10	70												291 293 -5	293 -5	175 p			
11	80	20.0	140	201		230	293		366	6	320							
12	80											293 -5	292 294 -6	294 -6	176 p	175 np		
13	90			202		231			367	7	319		293 -7	295 -7	177 p			
14	100	19.9	141	203	3	232	294		368	8	318							
15	100											294 -6	277 -8	296 -8	178 p	176 np		
16	110			204		233			369	9	317		275 -9	297 -9				
17	120	19.8	143	205		234	295		370	10	316							
18	120											295 -7	276 -10	298 -10	179 p	177 np		
19	140	19.7	145	206	4	235	296		371	11	315							
20	140											296 -8	277 -11	299 -11	180 p	178 np		
21	200	19.5		207		236	297		372	12	314	297 -9		300 -12		179 np		
22	300	18.9		208		237	298		373	13	313	298 * -10				180 np		
23	500	18.6		209		238	299		374	14		299 * -11						
24	700	16.1		210			300		375	15		300 * -12						
												* 3L						

#5 gas tight, leaked from bottom

Cruise: 0C415-3			Leg: 3		Cast: ^{TD#} 32 (0-200m)		Type: A4 2129										
Date: 19 August 2005			Time: 0539		Lat: 30° 21.571		Long: 08° 34.572		Samplers: Sybille, Megan, Bill, Tom, Douglas, Elyn, Wiley								
Date: 19 August 2005			Time: 0632		Lat: 30° 21.035		Long: 08° 34.096										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Wgct N&P	FRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig.	Flow ct nanopy	S _{NIS}
				O ₂	O ₂ , O ₂												
1	0	26.5		211		239	301	376	1	338							
2	0																
3	20	24.7	107	212	5	240	302	377	2	337							
4	20																
5	40	24.0	108	213		241	303*	378	3	336							
6	40																
7	60	22.3	111	214	6	242	304	379	4	335							
8	60																
9	70	21.0	114	215		243		380	5	334							
10	70																
11	80	20.6	118	216		244	305	381	6	333							
12	80																
13	90	20.2		217		245		382	7	332							
14	100	20.2	122	218	7	246	306	383	8	331							
15	100																
16	110	20.1		219		247		384	9	330							
17	120	20.1	125	220		248	307	385	10	229							
18	120																
19	140	20.0	130	221	8	249	308	386	11	328							
20	140																
21	200	19.7		222		250	309	387	12	327							
22	300	18.9		223		251	310	388	13	326							
23	500	18.2		224		252	311	389	14								
24	700	15.7		1			312	390	15								

* 300ml filtered
 Chla 309
 also had jelly
 on filter

Cruise: 0415-3		Leg: 3		Cast: CTD # 33 (0-200m)		Type: A4 2011												
Date: 19 August 2005		Time: 0826		Lat: 29° 59.913		Long: 68° 34.650		Samplers:										
Date: 19 August 2005		Time: 0929		Lat: 29° 59.110		Long: 68° 35.527		Valery, Bill, Sara, Ellyn, Megan										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bnet NHP	FRFR	POC/PON Vol=2L	HPLC Vol=4L	Chla	Flow Cyt pfg	Flow Cyt nm/ug	SN ¹⁵	
				O2	O2, O2 ₃													
1	0	25.3		3		253	313		391	1	351							
2	0											313 -1	289 -1	313 -1	191 p	191 np		x B
3	20		135	3	4	254	314		392	2	350							
4	20	23.4				254	314		392	2	350	314 -2	290 -2	314 -2	192 p	192 np		
5	40	21.4	136	4	5	255	315		393	3	349							
6	40											315 -3	291 -3	315 -3	193 p	193 np		
7	60	20.2	138	5	6	256	316		394	4	348							
8	60											316 -4	292 -4	316 -4	194 p	194 np		
9	70	20.0	139	6	7	257			395	5	347							
10	70												293 -5	317 -5	195 p			
11	80	19.8	140	7	8	258	317		396	6	346							
12	80											317 -5	294 -6	318 -6	196 p	195 np		
13	90	19.8		8	9	259			397	7	345		295 -7	319 -7	197 p			
14	100	19.8	141	9	10	260	318		398	8	344							
15	100											318 -6	296 -8	320 -8	198 p	196 np		
16	110	19.6		10	11	261			399	9	343		297 -9	321 -9				
17	120	19.8	143	11	12	262	319		400	10	342							
18	120											319 -7	298 -10	322 -10	199 p	197 np		
19	140	19.8	145	12	13	263	320		401	11	341							
20	140											320 -8	299 -11	323 -11	200 p	198 np		
21	200	19.5		13	14	264	321	EE 24	402	12	340	321 -9		324 -12		199 np		
22	300	19.0		14	15	265	322	EE 25	403	13	339	322 -10				200 np		
23	500	18.5		15	16	266	323	EE 26	404	14		323 -11						
24	700	16.0		16	17		324	EE 27	405	15		324 -12						
												* 3L						

Niskin #3 Not good tight

Cruise: 0C415-3		Leg: 3		Cast: CTD # 35 (0-1200)		Type: A4 1952												
Date: 19 August 2005		Time: 1804		Lat: 29° 49.146		Long: 68° 33.624		Samplers:										
Date: 19 August 2005		Time: 1908		Lat: 29° 49.014		Long: 68° 33.665		Bill, Valery, Sara, Elynn, Sybille										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Bact NP	FRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig.	Flow cyt nmpy	SN ¹⁵	
				O ₂	O ₂ , O ₂													
1	0	25.40		- 21		- 267	- 325	- 406	- 1	- 364								x 7
2	0											325 -1	300 -1	325 -1	201 p	201 np		
3	20	24.2	107	- 22	504-3/1	- 268	- 326	- 407	- 2	- 363								
4	20											326 -2	301 -2	326 -2	202 p	202 np		
5	40	21.8	108	- 23		- 269	- 327 +28	- 408	- 3	- 362								
6	40											327 -3	302 -3	327 -3	203 p	203 np		
7	60	20.3	111	- 24		- 270	- 328	- 409	- 4	- 361								
8	60											328 -4	303 -4	328 -4	204 p	204 np		
9	70	20.2		- 26		- 271		- 410	- 5	- 360								
10	70												304 -5	329 -5	205 p			
11	80	20.3	114	- 28		- 272	- 329	- 411	- 6	- 359								
12	80											329 -5	305 -6	330 -6	206 p	205 np		
13	90	20.3		- 29		- 273		- 412	- 7	- 358			306 -7	331 -7	207 p			
14	100	20.4	118	- 30		- 274	- 330	- 413	- 8	- 357								
15	100											330 -6	307 -8	332 -8	208 p	206 np		
16	110	20.5		- 31		- 275		- 414	- 9	- 356			308 -9	333 -9				
17	120	20.5	122	- 32		- 276	- 331	- 415	- 10	- 355								
18	120											331 -7	309 -10	334 -10	209 p	207 np		
19	140	20.5	125	- 33	2	- 277	- 332	- 416	- 11	- 354								
20	140											332 -9	310 -11	335 -11	210 p	208 np		
21	200		130	- 34	3	- 278	- 333	- 417	- 12	- 353		333 -9		336 -12		209 np		
22	300	19.2	130	- 35	3	- 279	- 334	- 418	- 13	- 352		334 -10				210 np		
23	500	18.7		- 37		- 280	- 335	- 419	- 14			335 -11						
24	700	15.7		- 38		- 336		- 420	- 15			336 -12						
												x 3 L						

LEAK*

BOTTLE 21 NOT - Drilled when vent closed

Cruise: 02453		Leg: 3		Cast: CTD #37 (0-1200m)		Type: #2188 A4												
Date: 20 August 2005		Time: 0441		Lat: 30° 32.445		Long: 68° 34.564		Samplers: Douglas, Sybille, Stephan, Bill										
Date: 20 August 2005		Time: 0539		Lat: 30° 31.668		Long: 68° 33.794												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bart N+P	FRFR	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Flowcyt nonpig	SN ¹⁵	
				O ₂	O ₂ , O ₂ TATUM													
26.6C1	0	26.6		-55		-295	-349		-436	-1	-390							x7
2	0																	
25.3	3	26	25.3	107	-56	60P-3/7	-296	-350		-437	-2	-389						
	4	26																
	5	40	24.9	108	-57		-297	-351	30	-438	-3	-388						
	6	40																
	7	60	20.9	111	-58		-298	-352		-439	-4	-387						
	8	60																
	9	70	20.3		-60		-299			-440	-5	-386						
	10	70																
	11	80	20.2	114	-61		-300	-353		-441	-6	-385						
	12	80																
	13	90	20.4		-62		-301			-442	-7	-384						
	14	100	20.1	118	-63		-302	-354		-443	-8	-383						
	15	100																
	16	110	20.2		-64		-303			-444	-9	-382						
	17	120	20.0	122	-65		-304	-355		-445	-10	-381						
	18	120																
	19	140	20.1	125	-66	8	-305	-356		-446	-11	-380						
	20	140																
	21	200	20.0	130	-67	9	-306	-357		-447	-12	-379						
	22	300	19.6		-68		-307	-358		-448	-13	-378						
	23	500	18.8		-69		-308	-359		-449	-14							
	24	700	16.2		-70		-360			-450	-15							

N #10 not gas tight!

Cruise: 02415-3		Leg: 3		Cast: CTD# 38 (0-1200)		Type: A4 2306												
Date: 20 August 2005		Time: 0757		Lat: 30° 54.074		Long: 68° 34.597		Samplers: Elynn, Bill, Valery, Sara, Megan										
Date: 20 August 2005		Time: 0858		Lat: 30° 54.274		Long: 68° 34.691												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chia	Flow Cyt pig	Flow cyt nmpig	Sw ¹⁵	
				O ₂	O ₂ , O ₂													
1	0	27.8		-101		-309	-361		-451	-1	-403							
2	0											361-1	333-1	361-1	231 p	231 np		XR
3	20	25.8	135	-103	err-3/10	-310	-362		-452	-2	-412							
4	20											362-2	334-2	362-2	232 p	232 np		
5	40	22.9	136	-104		-311	-363 *31		-453	-3	-401							
6	40											363-3	335-3	363-3	233 p	233 np		
7	60	21.9	138	-105		-312	-364		-454	-4	-400							
8	60											364-4	336-4	364-4	234 p	234 np		
9	70	21.5		-106		-313			-455	-5	-399							
10	70												337-5	365-5	235 p			
11	80		139	-107		-314	-365		-456	-6	-398							
12	80	21.0										365-5	338-6	366-6	236 p	235 np		
13	90	20.5		-108		-315			-457	-7	-397		339-7	367-7	237 p			
14	100	20.5	140	-109		-316	-366		-458	-8	-396							
15	100											366-6	340-8	368-8	238 p	236 np		
16	110	20.3		-110		-317			-459	-9	-395		341-9	369-9				
17	120	20.0	141	-111		-318	-367		-460	-10	-394							
18	120											367-7	342-10	370-10	239 p	237 np		
19	140	19.9	143	-112	11	-319	-368		-461	-11	-393							
20	140											368-8	343-11	371-11	240 p	238 np		
21	200	19.7	145	-113	12	-320	-369		-462	-12	-392	369-9		372-12		239 np		
22	300		148	-114		-321	-370		-463	-13	-391	370*-10				240 np		
23	500	18.2	148	-116		-322	-371		-464	-14		371*-11						
24	700	15.5	149	-117			-372		-465	-15		372*-12						
												*3L						

Niskin 22 leaking lanyard of 23 caught in bottom cap.
 11 not gas tight
 12 leaking from bottom cap - was gas tight

Cruise: 06415-3		Leg: 3		Cast: CTD # 39 (0-1200m)		Type: A4 2310												
Date: 20 August 2005		Time: 1559		Lat: 36° 53.903		Long: 67° 44.707		Samplers: Donglai, Stephan, Bill, Megan, Qian										
Date: 20 August 2005		Time: 1651		Lat: 36° 53.184		Long: 67° 44.420												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Bact N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Flowcyt nonpig	SN ¹⁵	
				O ₂	O ₂ , O ₂													
1	0	28.0		-101	103, 104	-323	-373		-466	-1	-416							
2	0											373-1	344-1	373-1	241 p	241 np		XZ
3	20	27.1		-105		-324	-374		-467	-2	-415							
4	20											374-2	345-2	374-2	242 p	242 np		
5	40	29.5		-106		-325	-375 *32		-468	-3	-414							
6	40											375-3	346-3	375-3	243 p	243 np		
7	60	21.7		-107		-326	-376		-469	-4	-413							
8	60											376-4	347-4	376-4	244 p	244 np		
9	70	21.4		-108		-327			-470	-5	-412							
10	70												348-5	377-5	245 p			
11	80	21.2		-109		-328	-377		-471	-6	-411							
12	80											377-5	349-6	378-6	246 p	245 np		
13	90	20.7		-110		-329			-472	-7	-410		350-7	379-7	247 p			
14	100	20.4		-111		-330	-378		-473	-8	-409							
15	100											378-6	351-8	380-8	248 p	246 np		
16	110	20.2		-112		-331			-474	-9	-408		352-9	381-9				
17	120	20.2		-113		-332	-379		-475	-10	-407							
18	120											*379-7	353-10	382-10	249 p	247 np		
19	140	20.3		-114		-333	-380		-476	-11	-406							
20	140											380-8	354-11	383-11	250 p	248 np		
21	200	19.3		-116		-334	-381 22 1		-477	-12	-405	381-9		384-12		249 np		
22	300	18.9		-117		-335	-382 22 2		-478	-13	-404	382*-10				250 np		
23	500	17.4		-118		-336	-383 22 3		-479	-14		383*-11						
24	700	14.5		-119			-384 22 4		-480	-15		384*-12						
												*3L						

MCN
⁰²
 120
 121
 124 } temp
 28.9

X379 POC
 from filter

Cruise: 02415-3			Leg: 3		Cast: CTB# 40 (0-1200m)		Type: A4 2190										
Date: 20 August 2005			Time: 1955		Lat: 30° 32.465		Long: 68° 09.620		Samplers: Valeri, Serr, Eilyn, Tybille								
Date: 20 August 2005			Time: 2049		Lat: 30° 32.809		Long: 68° 09.235										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Bact N+P	FRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt Pig	Flow cyt nom/ps	SN ¹⁵
				O ₂	O ₂ , O ₂												
1	0	27.6		-201		-337	-385		-481	-1	-429						x 7
2	0											385-1	355-1	385-1	251 p	251 np	
3	20	26.5		-202		-338	-386		-482	-2	-428						
4	20											386-2	356-2	386-2	252 p	252 np	
5	40	24.1		-203		-339	-387 ^{0pp} ₃₃		-483	-3	-427						
6	40											387-3	357-3	387-3	253 p	253 np	
7	60	21.9		-204		-340	-388		-484	-4	-426						
8	60											388-4	358-4	388-4	254 p	254 np	
9	70	21.3		-205		-341			-485	-5	-425						
10	70												359-5	389-5	255 p		
11	80	20.8		-206		-342	-389		-486	-6	-424						
12	80											389-5	360-6	390-6	256 p	255 np	
13	90	20.6		-207		-343			-487	-7	-423		361-7	391-7	257 p		
14	100	20.2		-208		-344	-390		-488	-8	-422						
15	100											390-6	362-8	392-8	258 p	256 np	
16	110	20.2		-209		-345			-489	-9	-421		363-9	393-9*			
17	120	20.2		-210		-346	-391		-490	-10	-420						
18	120											391-7	364-10	394-10	259 p	257 np	
19	140	19.8		-211		-347	-392		-491	-11	-419						
20	140											392-8	365-11	395-11	260 p	258 np	
21	200	19.6		-212		-348	-393		-492	-12	-418	393-9		396-12		259 np	
22	300	19.5		-213		-349	-394		-493	-13	-417	394*-10				260 np	
23	500	18.5		-214		-350	-395		-494	-14		395*-11					
24	700	15.3		-215		-396			-495	-15		396*-12					
												*3L					

* 200ml filtered for 395 chn

Cruise: 06415-3		Leg: 3		Cast: CTD # 41 (0-1200m)		Type: 2130 A4		Samplers: Olga, Tom, Scotty, Sybille											
Date: 20 August 2005		Time: 2234		Lat: 30° 21.594		Long: 68° 21.973													
Date: 20 August 2005		Time: 2324		Lat: 30° 21.517		Long: 68° 21.518													
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Bgt N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Flowopt nonpig	δ ¹⁵ S		
				O ₂	O ₂ , O ₂														
1	0	27.0		-216		-351	-397	-496	-1	-442								x X8	
2	0											397 -1	366 -1	397 -1	261 p	261 np			
3	20	26.6		-217		-352	-398	-497	-2	-441									
4	20											398 -2	367 -2	398 -2	262 p	262 np			
5	40	22.9		-218		-353	-399 *DP34	-498	-3	-440									
6	40											399 -3	368 -3	399 -3	263 p	263 np			
7	60	20.9		-219		-354	-400	-499	-4	-439									
8	60											400 -4	369 -4	400 -4	264 p	264 np			
9	70	20.6		-220		-355		-500	-5	-438									
10	70												370 -5	401 -5	265 p				
11	80	20.8	20.3	-221		-356	-401	-501	-6	-437									
12	80											401 -5	371 -6	402 -6	266 p	265 np			
13	90	20.3		-222		-357		-502	-7	-436			372 -7	403 -7	267 p				
14	100	20.2		-223		-358	-402	-503	-8	-435									
15	100											402 -6	373 -8	404 -8	268 p	266 np			
16	110	20.2		-224		-359		-504	-9	-434			374 -9	405 -9					
17	120	20.0		-1		-360	-403	-505	-10	-433									
18	120												403 -7	375 -10	406 -10	269 p	267 np		
19	140	19.9		-2		-361	-404	-506	-11	-432									
20	140											404 -8	376 -11	407 -11	270 p	268 np			
21	200	19.5		-3		-362	-405	-507	-12	-431		405 -9		408 -12		269 np			
22	300	19.2		-4		-363	-406	-508	-13	-430		406 -10				270 np			
23	500	18.3		-5		-364	-407	-509	-14			407 -11							
24	700	15.9		-6			-408	-510	-15			408 -12							
												*3L							

Cruise: 0645-3		Leg: 3		Cast: CTD # 42 (0700m)		Type: 2070 Sediment Trap B A4												
Date: 21 August 2005		Time: 0432		Lat: 30° 6.995		Long: 68° 29.319		Samplers: Bill, Douglas, Stephan, Syville										
Date: 21 August 2005		Time: 0524		Lat: 30° 6.348		Long: 68° 28.661												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Bact N&P	FRF	POC/PON	HPLC	Chla	Flow Cyt	Flow cyt	8N ¹⁵	
				O ₂	O ₂ , O ₂													Vol= 2L
1	0	25.9		- 7		- 365	- 409		- 511	- 1	- 455							
2	0											409 -1	377 -1	409 -1	271 p	271 np		
3	20	24.3		- 8		- 366	- 410		- 512	- 2	- 454							
4	20											410 -2	378 -2	410 -2	272 p	272 np		
5	40	21.6		- 10		- 367	- 411	*35	- 513	- 3	- 453							
6	40											411 -3	379 -3	411 -3	273 p	273 np		
7	60	20.7		- 11		- 368	- 412		- 514	- 4	- 452							
8	60											412 -4	380 -4	412 -4	274 p	274 np		
9	70	20.3		- 12		- 369			- 515	- 5	- 451							
10	70											✓	381 -5	413 -5	275 p			
11	80	20.1		- 13		- 370	- 413		- 516	- 6	- 450							
12	80											413 -5	382 -6	414 -6	276 p	275 np		
13	90	20.0		- 15		- 371			- 517	- 7	- 449		383 -7	415 -7	277 p			
14	100	19.9		- 16		- 372	- 414		- 518	- 8	- 448							
15	100	19.6										414 -6	384 -8	416 -8	278 p	276 np		
16	110			- 17		- 373			- 519	- 9	- 447		385 -9	417 -9				
17	120	19.8		- 18		- 374	- 415		- 520	- 10	- 446							
18	120											415 -7	386 -10	418 -10	279 p	277 np		
19	140	19.5		- 19		- 375	- 416		- 521	- 11	- 445							
20	140											416 -8	387 -11	419 -11	280 p	278 np		
21	200	19.4		- 20		- 376	- 417		- 522	- 12	- 444	417 -9		420 -12		279 np		
22	300	19.2		- 21		- 377	- 418		- 523	- 13	- 443	418 *-10				280 np		
23	500	18.6		- 22		- 378	- 419		- 524	- 14		419 *-11						
24	700	16.0		- 23			- 420		- 525	- 15		420 *-12						
												*3L						

Cruise: 02415-3			Leg: 3		Cast: CTD # 443 (0-1200m)			Type: 2010 A4										
Date: 21 August 2005			Time: 0712		Lat: 29° 59.961		Long: 68° 47.053		Samplers: Sara, Valery, Ellen, Megan									
Date: 21 August 2005			Time: 0812		Lat: 29° 59.670		Long: 68° 47.406											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	B _{bet} N+P	FRFR	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Flow cyt nonpig	S _{NIS}	
				O ₂	O ₂ , O ₂													
1	6	26.6		.24		-379	-421		.526	.1	.468							x11
2	0								x			421 -1	388 -1	421 -1	281 p	281 np		
3	20	23.8		.26		-380	-422		.527	.2	.467							
4	20											422 -2	389 -2	422 -2	282 p	282 np		
5	40	21.7		.28		-381	-423 *pop 36		.528	.3	.466							
6	40											423 -3	390 -3	423 -3	283 p	283 np		
7	60	20.2		.29		-382	-424		.529	.4	.465							
8	60											424 -4	391 -4	424 -4	284 p	284 np		
9	70	20.1		.30		-383			.530	.5	.464							
10	70												392 -5	425 -5	285 p			
11	80	20.1		.31		-384	-425		.531	.6	.463							
12	80											425 -5	393 -6	426 -6	286 p	285 np		
13	90	20.1		.32		-385			.532	.7	.462			394 -7	427 -7	287 p		
14	100	19.8		.33		-386	-426		.533	.8	.461							
15	100											426 -6	*395 -8	428 -8	288 p	286 np		
16	110			.34		-387			.534	.9	.460			396 -9	429 -9			
17	120			.35		-388	-427		.535	1.0	.459							
18	120											427 -7	397 -10	430 -10	289 p	287 np		
19	140	19.6		.37		-389	-428		.536	1.1	.458							
20	140											428 -8	398 -11	431 -11	290 p	288 np		
21	200	19.3		.38		-390	-429	22 5	.537	1.2	.457	429 -9		432 -12		np		
22	300	19.0		.39		-391	-430	22 6	.538	1.3	.456	430 -10				np		
23	500	18.9		.40		-392	-431	22 7	.539	1.4	x 4	431 -11						
24	700	15.8		.41		-432	22 8	.540	1.5			432 -12						
												x 3 L						

Spring
← STIFF!!

Vertical Cent
offset

Spring on N. is stiff

x 2L HPLC 395

Cruise: 02415-3			Leg: 3		Cast: CTD # 44 (0-1200m)			Type: A4 1950										
Date: 21 August 2005			Time: 0944		Lat: 29° 49.199		Long: 68° 59.613		Samplers: Olga, Valery, Scotty, Tom, Eilyn, Megan									
Date: 21 August 2005			Time: 1046		Lat: 29° 49.354		Long: 68° 59.852											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Beet N&P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig.	Flow cyt nmol/L	S&TS	
				O2	O2, O2													
1	0	26.2		-42		-393	-433		-541	-1	-481							YR
2	0											433-1	399-1	433-1	291 p	291 np		
3	20	24.2		-43		-394	-434		-542	-2	-480							
4	20											434-2	400-2	434-2	292 p	292 np		
5	40	22.8		-44		-395	-435 ³⁰⁰ ₃₇		-543	-3	-479							
6	40											435-3	401-3	435-3	293 p	293 np		
7	60	20.8		-45		-396	-436		-544	-4	-478							
8	60											436-4	402-4	436-4	294 p	294 np		
9	70	20.2		-46		-397			-545	-5	-477							
10	70											403-5	437-5		295 p			
11	80	20.0		-47		-398	-437		-546	-6	-476							
12	80											437-5	404-6	438-6	296 p	295 np		
13	90	20.0		-48		-399			-547	-7	-475		405-7	439-7	297 p			
14	100	20.0		-49		-400	-438		-548	-8	-474							
15	100											438-6	406-8	440-8	298 p	296 np		
16	110	19.9		-51		-401			-549	-9	-473		407-9	441-9				
17	120	20.0		-52		-402	-439		-550	-10	-472							
18	120											439-7	408-10	442-10	299 p	297 np		
19	140	19.9		-53		-403	-440		-551	-11	-471							
20	140											440-8	409-11	443-11	300 p	298 np		
21	200	19.8		-54		-404	-441		-552	-12	-470	441-9		444-12		299 np		
22	300	19.3		-55		-405	-442		-553	-13	-469	442*-10				300 np		
23	500	18.8		-56		-406	-443		-554	-14		443*-11						
24	700	15.4		-57			-444		-555	-15		444*-12						

#16 leaking from bottom atten vent open

Cruise: 02415-3		Leg: 3		Cast: CTD# 45 (0-1200m)		Type: A4 1830												
Date: 21 August 2005		Time: 1654		Lat: 29° 27.506		Long: 69° 24.485		Samplers: Stephen, Bill, Douglas, Meg										
Date: 21 August 2005		Time: 1745		Lat: 29° 26.956		Long: 69° 24.726												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Beet-N/P	FRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Fluor nm pig	S/N ¹⁵	
				O ₂	O ₂ , O ₂													
1	0	28.0		-61		-407	-445		-556	-1	-494							x7
2	0											445 -1	410 -1	445 -1	301 p	301 np		
3	20	26.1		-62		-408	-446		-557	-2	-493							
4	20											446 -2	411 -2	446 -2	302 p	302 np		
5	40	22.9		-63		-409	-447 +0.2%		-558	-3	-492							
6	40											447 -3	412 -3	447 -3	303 p	303 np		
7	60	21.2		-64		-410	-448		-559	-4	-491							
8	60											448 -4	413 -4	448 -4	304 p	304 np		
9	70	20.9		-65		-411			-560	-5	-490							
10	70												414 -5	449 -5	305 p			
11	80	20.7		-66		-412	-449		-561	-6	-489							
12	80											449 -5	415 -6	450 -6	306 p	305 np		
13	90	20.4		-67		-413			-562	-7	-488			416 -7	451 -7	307 p		
14	100	20.3		-68		-414	-450		-563	-8	-487							
15	100											450 -6	417 -8	452 -8	308 p	306 np		
16	110	19.9		-69		-415			-564	-9	-486			418 -9	453 -9			
17	120	19.9		-72		-416	-451		-565	-10	-485							
18	120											451 -7	419 -10	454 -10	309 p	307 np		
19	140	19.8		-73		-417	-452		-566	-11	-484							
20	140											452 -8	420 -11	455 -11	310 p	308 np		
21	200	19.6		-74		-418	-453		-567	-12	-483	453 -9		456 -12		309 np		
22	300	18.0		-75		-419	-454		-568	-13	-482	454 -10				310 np		
23	500	18.0		-76		-420	-455		-569	-14		455 -11						
24	700	14.6		-77			-456		-570	-15		456 -12						
												*3L						

N. 22 leaked from bottom ~~drift~~ - not gas high but lanyard caught

Cruise: 02415-3		Leg: 3		Cast: CTD # 46 (0-1200)		Type: 2066 A4												
Date: 21 August 2005		Time: 2201		Lat: 30° 10.854		Long: 60° 24.546		Samplers: Tom, Olga, Scotty, Sybil										
Date: 21 August 2005		Time: 2258		Lat: 30° 11.143		Long: 60° 24.590												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Baet-NIP	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Fluor cyt Mon p9	SALS	
				O2	O2, O2													
1	0	28.0		101		.421	.457		.571	.1	.507							
2	0											457-1	421-1	457-1	311	p	311	np
3	20	26.0		103		.422	.458		.572	.2	.506							
4	20											458-2	422-2	458-2	312	p	312	np
5	40	24.9		104		.423	.459 ^{NDP} 39		.573	.3	.505							
6	40											459-3	423-3	459-3	313	p	313	np
7	60	22.1		105		.424	.460		.574	.4	.504							
8	60											460-4	424-4	460-4	314	p	314	np
9	70	21.2		106		.425			.575	.5	.503							
10	70												425-5	461-5	315	p		
11	80	20.9		107		.426	.461		.576	.6	.502							
12	80											461-5	426-6	462-6	316	p	315	np
13	90	20.5		108		.427			.577	.7	.501		427-7	463-7	317	p		
14	100	20.3		109		.428	.462		.578	.8	.500							
15	100											462-6	428-8	464-8	318	p	316	np
16	110	20.3		110		.429			.579	.9	.499		429-9	465-9				
17	120	20.2		111		.430	.463		.580	1.0	.498							
18	120											463-7	430-10	466-10	319	p	317	np
19	140	20.1		112		.431	.464		.581	1.1	.497							
20	140											464-8	431-11	467-11	320	p	318	np
21	200	19.5		113		.432	.465		.582	1.2	.496	465-9		468-12			319	np
22	300	19.0		114		.433	.466		.583	1.3	.495	466*-10					320	np
23	500	17.7		116		.434	.467		.584	1.4		467*-11						
24	700	15.3		117		.468			.585	1.5		468*-12						
												*3 L						

Cruise: 06415-3		Leg: 3		Cast: CTD # 47 (0-1200m)		Type: 2068											
Date: 22 August 2005		Time: 0110		Lat: 30° 10.85'		Long: 68° 59.450		Samplers: Tom, Olga, Scotty, S6ille									
Date: 22 August 2005		Time: 0158		Lat: 30° 11.372		Long: 68° 58.495											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Bact	FRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Flow cyt nanog	
				O2	O2, O2s												
1	0	27.3			118	.435	.469		.586								
2	0																
3	20	24.9			119	.436	.470		.587			469 -1	432 -1	469 -1	321 p	321 np	
4	20											470 -2	433 -2	470 -2	322 p	322 np	
5	40	23.6			120	.437	.471 ^{vs 40}		.588								
6	40											471 -3	434 -3	471 -3	323 p	323 np	
7	60	21.2			121	.438	.472		.589								
8	60											472 -4	435 -4	472 -4	324 p	324 np	
9	70	20.8			124	.439			.590								
10	70												436 -5	473 -5	325 p		
11	80	20.6			201	.440	.473		.591								
12	80											473 -5	437 -6	474 -6	326 p	325 np	
13	90	20.2			202	.441			.592				438 -7	475 -7	327 p		
14	100	20.0			203	.442	.474		.593								
15	100											474 -6	439 -8	476 -8	328 p	326 np	
16	110	19.9			204	.443			.594				440 -9	477 -9			
17	120	19.9			205	.444	.475		.595								
18	120											475 -7	441 -10	478 -10	329 p	327 np	
19	140	19.8			206	.445	.476		.596								
20	140											476 -8	442 -11	479 -11	330 p	328 np	
21	200	19.7			207	.446	.477		.597			477 -9		480 -12		329 np	
22	300	19.2			208	.447	.478		.598			478* -10				330 np	
23	500	18.1			209	.448	.479		.599			479* -11					
24	700	15.9			210		.480		.600			480* -12					
												* 3L					

Cruise: 06415-3			Leg: 3		Cast: CTD # 48			Type: 2069									
Date: 27 August 2005			Time: 0759		Lat: 30° 10.810		Long: 68° 47.033		Samplers: Bill, Donglai, Stephan, Sybille								
Date: 22 August 2005			Time: 0359		Lat: 30° 10.445		Long: 68° 45.642										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Sec	FRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt Dig	Flow cyt monop	SWS
				O2	O2, O2												
1	6	27.3		207	211	-449	-481		601		-533						
2	0											481-1	443-1	481-1	331	p	331 np
3	20			208	212	450	482		602		532						
4	20	24.0			212	450	482		602		532	482-2	444-2	482-2	332	p	332 np
5	40	22.9			213	451	483	41	603		531						
6	40											483-3	445-3	483-3	333	p	333 np
7	60	20.3			214	452	484		604		530						
8	60											484-4	446-4	484-4	334	p	334 np
9	70	20.0			215	453			605		529						
10	70												447-5	485-5	335	p	
11	80	19.8			216	454	485		606		528						
12	80											485-5	448-6	486-6	336	p	335 np
13	90	19.9			217	455			607		527		449-7	487-7	337	p	
14	100	19.9			218	456	486		608		526						
15	100											486-6	450-8	488-8	338	p	336 np
16	110	19.9			219	457			609		525		451-9	489-9			
17	120	19.9			220	458	487		610		524						
18	120											487-7	452-10	490-10	339	p	337 np
19	140	19.6			221	459	488		611		523						
20	140											488-8	453-11	491-11	340	p	338 np
21	200	19.6			222	460	489		612		522	489-9		492-12		339	np
22	300	19.1			223	461	490		613		521	490-10				340	np
23	500	18.8			224	462	491		614		520	491-11					
24	700	16.3			225	463	492		615		519	492-12					
												43L					

#3 leaking

HPLC N# : 3.2L

Chla N#13: half full

Cruise: 0C415-3		Leg:		Cast: CTD #49		Type: 2069A									
Date: 22 August 2005		Time: 0506		Lat: 68° 40.22 30° 10.716		Long: 68° 40.882		Samplers:							
Date: 22 August 2005		Time: 0519		Lat: 30° 10.004		Long: 68° 40.721		No water samples.							
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Bact	FRRF	POC/PON	HPLC	Chla	Flow Cyt
				O2	O2, O3										
1	200														
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
21															
22															
23															
24	200														

No water samples

Cruise: 04153		Leg: 3		Cast: CTD # 51 (0-1200m)		Type: 2070 A4 Center		Samplers: Silyn, Douglas, Sara, Valery, Mary										
Date: 22 August 2005		Time: 0658		Lat: 30° 10.736		Long: 69° 34.981												
Date: 22 August 2005		Time: 0800		Lat: 30° 9.925		Long: 69° 34.898												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chia	Flow Cyt pig	Flow cyt nonpig	SW ¹⁵	
				O2 ₁	O2 ₂													
1	0	25.9		-3		-463	-493		-616	-1	-546							x11
2	0											493 -1	454 -1	493 -1	341 p	341 np		
3	20			-4		-464	-494		-617	-2	-545							
4	20	24.2				-465	-495	42	-618	-3	-544	494 -2	455 -2	494 -2	342 p	342 np		
5	40	23.3		-5		-465	-495		-618	-3	-544	495 -3	456 -3	495 -3	343 p	343 np		
6	40																	
7	60	21.7		-6		-466	-496		-619	-4	-543							
8	60											496 -4	457 -4	496 -4	344 p	344 np		
9	70	20.3		-7		-467			-620	-5	-542							
10	70												458 -5	497 -5	345 p			
11	80	20.0		-8		-468	-497		-621	-6	-541							
12	80											497 -5	459 -6	498 -6	346 p	345 np		
13	90	19.9		-10		-469			-622	-7	-540		460 -7	499 -7	347 p			
14	100	19.8		-11		-470	-498		-623	-8	-539							
15	100											498 -6	461 -8	500 -8	348 p	346 np		
16	110	19.8		-12		-471			-624	-9	-538		462 -9	501 -9				
17	120	19.7		-13		-472	-499		-625	-10	-537							
18	120											499 -7	463 -10	502 -10	349 p	347 np		
19	140	19.6		-15		-473	-500		-626	-11	-536							
20	140											500 -8	464 -11	503 -11	350 p	348 np		
21	200	19.5		-16		-474	-501	27 9	-627	-12	-535	501 -9		504 -12		349 np		
22	300	19.0		-17		-475	-502	27 10	-628	-13	-534	502 * -10				350 np		
23	500	18.3		-18		-476	-503	27 11	-629	-14		503 * -11						
24	700	15.9		-19			-504	27 12	-630	-15		504 * -12						
												436						

20-Stephen
Niskin 3 - not good height

Cruise: DC415-3		Leg: 3		Cast: STD # 52		10-1200m		Type: A4		2071		Samplers: Volen, Oly, Ell, n, Scotty, Sara, Tom, Megan						
Date: 22 August 2005		Time: 0920		Lat: 30° 10.686		Long: 68° 22.150												
Date: 22 August 2005		Time: 1019		Lat: 30° 9.896		Long: 68° 22.380												
N #	Depth	Niskln Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Bect NPP	FRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt Pig.	Flow cyt nmpj	SN ^{tr}	
				O ₂	O ₂ , O ₃													
1	0	27.3		- 21		- 477	- 505		- 631		- 559							X B
2	0											505 -1	465 -1	505 -1	351 p	351 NP		
3	20	25.4		- 22		- 478	- 506		- 632		- 558							
4	20											506 -2	466 -2	506 -2	352 p	352 NP		
5	40	23.8		- 23		- 479	- 507	493	- 633		- 557							
6	40											507 -3	467 -3	507 -3	353 p	353 NP		
7	60	20.7		- 24		- 480	- 508		- 634		- 556							
8	60											508 -4	468 -4	508 -4	354 p	354 NP		
9	70	20.3		- 26		- 481			- 635		- 555							
10	70												469 -5	509 -5	355 p			
11	80	20.2		- 28		- 482	- 509		- 636		- 554							
12	80											509 -5	470 -6	510 -6	356 p	355 NP		
13	90	20.1		- 29		- 483			- 637		- 553		471 -7	511 -7	357 p			
14	100	20.0		- 30		- 484	- 510		- 638		- 552							
15	100											510 -6	472 -8	512 -8	358 p	356 NP		
16	110	19.9		- 31		- 485			- 639		- 551		473 -9	513 -9				
17	120	19.8		- 32		- 486	- 511		- 640		- 550							
18	120											511 -7	474 -10	514 -10	359 p	357 NP		
19	140	19.8		- 33		- 487	- 512		- 641		- 549							
20	140											512 -8	475 -11	515 -11	360 p	358 NP		
21	200	19.3		- 34		- 488	- 513		- 642		- 548	513 -9		516 -12		359 NP		
22	200	19.0		- 35		- 489	- 514		- 643		- 547	514 * -10				360 NP		
23	500	18.1		- 37		- 490	- 515		- 644			515 * -11						
24	700	15.2		- 38			- 516		- 645			516 * -12						
												*3L						

F₃ Leaking from the bottom

niskin 3 leaking from bottom after opening

Cruise: 0C415-3		Leg:		Cast: CTD # 53 (0-1200m)		Type: A4 2072													
Date: 22 August 2005		Time: 1140		Lat: 30° 10.57		Long: 68° 09.71		Samplers: Tom, Olga, Sara, Scotty, Megan											
Date: 22 August 2005		Time: 1224		Lat: 30° 10.099		Long: 68° 09.883													
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Beet	FRFF	POC/PON Vol= 2L	HPLC Vol= 4L	Chia	Flow Cyt p	Flow cyt np	SN ¹⁵		
				O ₂	O ₂ , O ₂														
1	0	28.3		39		491	517		646		572							x7	
2	0										577	577-1	476-1	517-1	361 p	361 np			
3	20	26.0		40		492	518		647		571	578	578-2	477-2	518-2	362 p	362 np		
4	20											579	579-3	478-3	519-3	363 p	363 np		
5	40	24.2		41		493	519 *DOP		648		570	579	579-3	478-3	519-3	363 p	363 np		
6	40											579	579-4	479-4	520-4	364 p	364 np		
7	60	21.8		42		494	520		649		569			480-5	521-5	365 p			
8	60											579	579-4	479-4	520-4	364 p	364 np		
9	70	21.3		43		495			650		568								
10	70													480-5	521-5	365 p			
11	80	20.9		44		496	521		651		567								
12	80											579	579-5	481-6	522-6	366 p	365 np		
13	90	20.7		45		497			652		566			482-7	523-7	367 p			
14	100	20.7		46		498	522		653		565								
15	100											579	579-6	483-8	524-8	368 p	366 np		
16	110	20.5		47		499			654		564			484-9	525-9				
17	120	20.5		48		500	523		655		563								
18	120											579	579-7	485-10	526-10	369 p	367 np		
19	140	20.5		49		501	524		656		562								
20	140											579	579-8	486-11	527-11	370 p	368 np		
21	200	20.1		51		502	525		657		561				528-12		369 np		
22	300	19.7		52		503	526		658		560						370 np		
23	500	18.5		53		504	527		659										
24	700	15.5		54		504	528		660				579	579-12					
																			*3L

Niskin 3
7
12 leaking from bottom after opening

Cruise: OC415-3		Leg:		Cast: CTD #54		Type: A4 2074												
Date: 22 August 2005		Time: 1452		Lat: 30° 10.700		Long: 67° 44.682		Samplers:										
Date: 22 August 2005		Time: 1543		Lat: 30° 10.356		Long: 67° 45.074		Gian, Bill, Stephan, Jonglai, Megan										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Bact N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt p	Flowcyt np	SW ¹⁵	
				O ₂	O ₂ , O ₂													
1	0	28.5		61		505	529		661	1	585							x 11
2	0											529 -1	487 -1	529 -1	371 p	371 np		
3	20	27.6		62		506	530		662	2	584							
4	20											530 -2	488 -2	530 -2	372 p	372 np		
5	40	24.3		63		507	531 ⁴⁸⁵		663	3	583							
6	40											531 -3	489 -3	531 -3	373 p	373 np		
7	60	22.5		64		508	532		664	4	582							
8	60											532 -4	490 -4	532 -4	374 p	374 np		
9	70	22.0		65		509			665	5	581							
10	70												491 -5	533 -5	375 p			
11	80	21.8		66		510	533		666	6	580							
12	80											533 -5	492 -6	534 -6	376 p	375 np		
13	90	21.5		67		511			667	7	579 579		493 -7	535 -7	377 p			
14	100	21.0		68		512	534		668	8	578							
15	100											534 -6	494 -8	536 -8	378 p	376 np		
16	110	20.9		69		513			669	9	577		495 -9	537 -9				
17	120	20.8		72		514	535		690	10	576							
18	120											535 -7	496 -10	538 -10	379 p	377 np		
19	140	20.5		73		515	536		691	11	575							
20	140											536 -8	497 -11	539 -11	380 p	378 np		
21	200	19.8		74		516	537		692	12	574	537 -9		540 -12		379 np		
22	300	19.4		75		517	538		693	13	573	538 -10				380 np		
23	500	17.3		76		518	539		694	14		539 -11						
24	700	14.5		77			540		695	15		540 -12						
												x 3L						

#15 Leaking from bottom and cap

Cruise: 02415-3		Leg: 3		Cast: CTD # 56 (0-1200m)		Type: A4 Sediment trap / pp assay												
Date: 23 August 2005		Time: 1617		Lat: 29° 58.542		Long: 68° 58.688		Samplers: Bill, Stephen, Douglas, Momen										
Date: 23 August 2005		Time: 1707		Lat: 29° 59.026		Long: 68° 58.422												
N #	Depth	Niskin Temp	Hellum	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact- N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt Pig	Flow cyt nonpig	SNT	
				O2 ₁	O2 ₂ O2 ₃													
1	0	27.8		-103		-519	-541		-626	-1	-598							✓
2	0											541-1	498-1	541-1	381 p	381 np		
3	20	26.6		-104		-520	-542		-677	-2	-597							
4	20											542-2	499-2	542-2	382 p	382 np		
5	40	24.6		-105		-521	-543	^{ndp} 46	-678	-3	-596							
6	40											543-3	500-3	543-3	383 p	383 np		
7	60	21.0		-106		-522	-544		-679	-4	-595							
8	60											544-4	501-4	544-4	384 p	384 np		
9	70	20.6		-107		-523			-680	-5	-594							
10	70												502-5	545-5	385 p	385 np		
11	80	20.3		-108		-524	-545		-681	-6	-593							
12	80											545-5	503-6	546-6	386 p	386 np		
13	90	19.9		-109		-525			-682	-7	-592			504-7	547-7	387 p	'	
14	100	19.9		-110		-526	-546		-683	-8	-591							
15	100											546-6	505-8	548-8	388 p	388 np		
16	110	19.3		-111		-527			-684	-9	-590			506-9	549-9			
17	120	19.7		-112		-528	-547		-685	-10	-589							
18	120											547-7	507-10	550-10	389 p	389 np		
19	140	19.6		-113		-529	-548		-686	-11	-588							
20	140											548-8	508-11	551-11	390 p	388 np		
21	200	19.5		-114		-530	-549	22 13	-687	-12	-587	549-9		552-12		389 p		
22	300	19.3		-116		-531	-550	22 14	-688	-13	-586	550-10				390 np		
23	500	18.5		-117		-532	-551	22 15	-689	-14		551-11						
24	700	14.8		-118		532	-552	22 16	-690	-15		552-12						
												*32						

Bottle 2 not closed vent open not gas tight



Cruise: DC415-3		Leg: 3	Cast: CTD # 57 (0-1200m)		Type: A4 1778													
Date: 23 August 2005		Time: 2326	Lat: 29° 16.734		Long: 67° 57.140	Samplers: Olga, Tom, Bill, Scotty, Sybille												
Date: 24 August 2005		Time: 0012	Lat: 29° 16.782		Long: 67° 56.844													
N #	Depth	Niskin Temp	Heilium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Baet N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig.	Flow cyt nonpig	Suis	Surface water samples
				O2	O2, O2													
1	0	28.0		-119	553	-553		-691	-1	-611							x8	x The most sample.
2	0										553-1	509-1	553-1	391 p	391 np			x you can't
3	20	27.0		-120	554	-554		-692	-2	-610								
4	20										554-2	510-2	554-2	392 p	392 np			
5	40	23.5		-121	555	-555	⁴⁷	-693	-3	-609								
6	40										555-3	511-3	555-3	393 p	393 np			
7	60	22.0		-124	556	-556		-694	-4	-608								
8	60										556-4	512-4	556-4	394 p	394 np			
9	70	21.3		-201	557			-695	-5	-607								
10	70											513-5	557-5	395 p				
11	80	20.8		-202	558	-557		-696	-6	-606								
12	80										557-5	514-6	558-6	396 p	395 np			
13	90	20.4		-203	559			-697	-7	-605			515-7	559-7	397 p			
14	100	20.2		-204	560	-558		-698	-8	-604								
15	100										558-6	516-8	560-8	398 p	396 np			
16	110			-205	561			-699	-9	-603			517-9	561-9				
17	120	20.3		-206	562	-559		-700	-10	-602								
18	120										559-7	518-10	562-10	399 p	397 np			
19	140	20.2		-207	563	-560		-701	-11	-601								
20	140										560-8	519-11	563-11	400 p	398 np			
21	200	19.1		-208	564	-561		-702	-12	-600	561-9		564-12		399 np			
22	300	19.0		-209	565	-562		-703	-13	-599	562-10				400 np			
23	500	17.2		-210	566	-563		-704	-14		563-11							
24	700	13.9		-211		-564		-705	-15		564-12							
											x36							

Handwritten notes on the right side of the table, including "x The most sample" and "x you can't".

Cruise: 08415-3		Leg: 3		Cast: CTD # 58		Type: A4 18984													
Date: 24 August 2005		Time: 0632		Lat: 29° 38.368		Long: 108° 22.251													
Date: 24 August 2005		Time: 0729		Lat: 29° 38.172		Long: 108° 22.032													
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Beet N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Flowcyt nonpig	S.N.'s	SURFACE SAMPLES	
				O2 ₁	O2 ₂ , O2 ₃														
1	0	28.2		-212		-	-565		-706	-1	-624								
2	0											565	-1	520	-1	564 ⁵⁶⁵ -1	401 p	401 np	x 7 X AS MUCH X AS POSSIBLE
3	20	25.6		-213		-	-566		-707	-2	-623								
4	20											566	-2	521	-2	565 ⁵⁶⁶ -2	402 p	402 np	
5	40	23.4		-215		-	-567 ^{x 0.48}		-708	-3	-622								
6	40											567	-3	522	-3	566 ⁵⁶⁷ -3	403 p	403 np	
7	60	21.7		-216		-	-568		-709	-4	-621								
8	60											568	-4	523	-4	567 ⁵⁶⁸ -4	404 p	404 np	
9	70	20.9		-217		-			-710	-5	-620								
10	70													524	-5	568 ⁵⁶⁹ -5	405 p		
11	80	20.6		-218		-	-569		-711	-6	-619								
12	80											569	-5	525	-6	569 ⁵⁷⁰ -6	406 p	405 np	
13	90	20.3		-219		-			-712	-7	-618			526	-7	570 ⁵⁷¹ -7	407 p		
14	100	20.2		-220		-	-570		-713	-8	-617								
15	100											570	-6	527	-8	571 ⁵⁷² -8	408 p	406 np	
16	110	20.1		-221		-			-714	-9	-616			528	-9	572 ⁵⁷³ -9			
17	120	19.9		-222		-	-571		-715	-10	-615								
18	120											571	-7	529	-10	573 ⁵⁷⁴ -10	409 p	407 np	
19	140	19.8		-223		-	-572		-716	-11	-614								
20	140											572	-8	530	-11	574 ⁵⁷⁵ -11	410 p	408 np	
21	200	19.4		-224		-	-573	22 17	-717	-12	-613	573	-9			575 ⁵⁷⁶ -12	409 np		
22	200	19.2		-1		-	-574	22 18	-718	-13	-612	574	10				410 np		
23	500	18.2		-2		-	-575	22 19	-719	-14		575	11						
24	700	15.2		-3		-	-576	22 20	-720	-15		576	12						
												* 3 L							

Cruise: OC415-3		Leg:		Cast: CTD #59 (0-1200m)		Type: A4 1952												
Date: 24 August 2005		Time: 0910		Lat: 29° 49.173		Long: 68° 34.583												
Date: 24 August 2005		Time: 1009		Lat: 29° 48.863		Long: 68° 34.321												
						Samplers: Sam, Valery, Elynn, Megan												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Air	TOC/TON	Salts	Nuts	Beet- N+P	FRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chia	Flow Cyt p/s	flowcy1 nonp/s	δ ¹⁵	
				O ₂	O ₂ , O ₃													
1	0	26.7		-4		-577	577		-721	-1	-637							
2	0											577 -1	531	-1577	-1	411 p	411 np	x8
3	20	25.1		-5		-578	578		-722	-2	-636							
4	20											578 -2	532 -2	578 -2	412 p	412 np		
5	40	24.0		-6		-579	579	pop 49	-723	-3	-635							
6	40											579 -3	533 -3	579 -3	413 p	413 np		
7	60	21.5		-7		-580	580		-724	-4	-634							
8	60											580 -4	534 -4	580 -4	414 p	414 np		
9	70	20.5		-8		-581	x 48		-725	-5	-633							
10	70												535 -5	580 -5	415 p			
11	80	20.3		-10		-582	581		-726	-6	-632							
12	80											581 -5	536 -6	582 -6	416 p	415 np		
13	90	20.0		-11		-583			-727	-7	-631		537 -7	583 -7	417 p			
14	100	19.9		-12		-584	582		-728	-8	-630							
15	100											582 -6	538 -8	584 -8	418 p	416 np		
16	110	19.8		-13		-585			-729	-9	-629		539 -9	585 -9				
17	120	19.8		-15		-586	583		-730	-10	-628							
18	120											583 -7	540 -10	586 -10	419 p	417 np		
19	140	19.6		-16		-587	584		-731	-11	-627							
20	140											584 -8	541 -11	587 -11	420 p	418 np		
21	200	19.4		-17		-588	585		-732	-12	-626	585 -9		588 -12		419 np		
22	300	19.2		-18		-589	586		-733	-13	-625	586 -10				420 np		
23	500	18.6		-19		-590	587		-734	-14		587 -11						
24	700	15.7		20			588		-735	-15		588 ±12						
												+3L						

Cruise: 2045-3			Leg: 3		Cast: CTD #60 (0-1200m)			Type: A42010 Center										
Date: 24 August 2005			Time: 1150		Lat: 29° 59.948		Long: 68° 46.912		Samplers:									
Date: 24 August 2005			Time: 1237		Lat: 29° 59.864		Long: 68° 47.129		Tom, Olga, Scotty, Sara, Megan									
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Bact NFP	FRFF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt p12	Flow cyt nosp12	δ15	
				O2 ₁	O2 ₂ , O2 ₃													
1	0	27.6		21		533	- 589		- 736	1	- 650						X11	1
2	0											589-1	542-1	589-1	421 p	421 np		2
3	20	26.4		22		534	- 590		- 737	2	- 649							3
4	20											590-2	543-2	590-2	422 p	422 np		4
5	40	25.3		23		535	- 591	X10 ⁵⁰	- 738	3	- 648							5
6	40											591-3	544-3	591-3	423 p	423 np		6
7	60	21.9		24		536	- 592		- 739	4	- 647							7
8	60											592-4	545-4	592-4	424 p	424 np		8
9	70	21.4		25		537			- 740	5	- 646		546-5	593-5	425 p			9
10	80	20.9		26		538	- 593		- 741	6	- 645							10
11	80											593-5	547-6	594-6	426 p	425 np		11
12	70	20.8		29		539			- 742	7	- 644		548-7	595-7	427 p			12
13	100	20.6		30		540	- 594		- 743	8	- 643							13
14	100											594-6	549-8	596-8	428 p	426 np		14
15	110	20.5		31		541			- 744	9	- 642		550-9	597-9				15
16	120	20.5		32		542	- 595		- 745	10	- 641							16
17	120											595-7	551-10	598-10	429 p	427 np		17
18	140	20.5		33		543	- 596		- 746	11	- 640							18
19	140											596-8	552-11	599-11	430 p	428 np		19
20	200	20.2		34		544	- 597		- 747	12	- 639	597-9		600-12		429 np		20
21	300	19.9		35		545	- 598		- 748	13	- 638	598-10				430 np		21
22	500	19.2		37		546	- 599		- 749	14		599-11						22
23	700	16.3		38		547	- 600		- 750	15		600-12						23
24	860	13.5		39		548	- 601		- 751	16		601-13						24
												X3L						

Cruise: DC415-3			Leg:		Cast: CTD #62 (0700m)		Type: A4 Sediment trap - Shallow cast											
Date: 24 August 2005			Time: 1808		Lat: 30° 01.854		Long: 68° 51.636		Samplers: Sara, Valerie, Ellyn, Sybille									
Date: 24 August 2005			Time: 1901		Lat: 30° 01.428		Long: 68° 50.882											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/AIK	TOC/TON	Salts	Nuts	Bact. N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Flow Cyt nanopy	Sw ¹⁵	
				O ₂	O ₂ , O ₂													
1	0	27.2		49		557	610		760	1	663							x
2	0											610-1	553-1	601-1	431 p	431 np		
3	20	25.2		51		558	611		761	2	662							
4	20											611-2	554-2	602-2	432 p	432 np		
5	40	23.6		52		559	612 ⁴⁹⁸		762	3	661							
6	40											612-3	555-3	603-3	433 p	433 np		
7	60	20.8		53		560	613		763	4	660							
8	60											613-4	556-4	604-4	434 p	434 np		
9	70	20.6		54		561			764	5	659							
10	70												557-5	605-5	435 p			
11	80	20.7		55		562	614		765	6	658							
12	80											614-5	558-6	606-6	436 p	435 np		
13	90	20.2		56		563			766	7	657		559-7	607-7	437 p			
14	100	20.0		57		564	615		767	8	656							
15	100											615-6	560-8	608-8	438 p	436 np		
16	110	19.9		58		565			768	9	655		561-9	609-9				
17	120	19.9		60		566	616		769	10	654							
18	120											616-7	562-10	610-10	439 p	437 np		
19	140	19.7		61		567	617		770	11	653							
20	140											617-8	563-11	611-11	440 p	438 np		
21	200	19.6		62		568	618		771	12	652	618-9		612-12	439 np			
22	300	19.2		63		569	619		772	13	651	619 [*] -10			440 np			
23	500	18.8		64		570	620		773	14		620 [*] -11						
24	700	14.8		65			621		774	15		621 [*] -12						
												* 3L						

Cruise: 0215-3		Leg:		Cast: CTD# 63 (0-1200m)		Type: 2184 Af												
Date: 24 August 2005		Time: 2252		Lat: 30° 32.529		Long: 69° 24.523		Samplers: Stephen, Olga, Tom, Scotty, Sybille										
Date: 24 August 2005		Time: 2339		Lat: 30° 33.198		Long: 69° 24.636												
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Baet N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt exp p	Fluor np	S _W ¹⁵	
				O ₂	O ₂ , O ₂													
1	0	28.3		-66		-	-622	-775	-1	-676								x7
2	0										622 -1	564 -1	613 -1	441 p	441 np			
3	20	27.9		-67		-	-623	-776	-2	-675								
4	20										623 -2	565 -2	614 -2	442 p	442 np			
5	40	23.9		-68		-	-624 *52	-777	-3	-674								
6	40										624 -3	566 -3	615 -3	443 p	443 np			
7	60	22.0		-69		-	-625	-778	-4	-673								
8	60										625 -4	567 -4	616 -4	444 p	444 np			
9	70	21.5		-72		-		-779	-5	-672								
10	70											568 -5	617 -5	445 p				
11	80	21.1		-73		-	-626	-780	-6	-671								
12	80										526 -5	569 -6	618 -6	446 p	445 np			
13	90	20.9		-83		-		-781	-7	-670		570 -7	619 -7	447 p				
14	100	20.9		-74		-	-627	-782	-8	-669								
15	100										627 -6	571 -8	620 -8	448 p	446 np			
16	110	20.6		-75		-		-783	-9	-668		572 -9	621 -9					
17	120	20.2		-76		-	-628	-784	-10	-667								
18	120										628 -7	573 -10	622 -10	449 p	447 np			
19	140	20.2		-77		-	-629	-785	-11	-666								
20	140										629 -8	574 -11	623 -11	450 p	448 np			
21	200	19.4		-78		-	-630	-786	-12	-665	630 -9		624 -12		449 np			
22	300	19.0		-79		-	-631	-787	-13	-664	631 -10				450 np			
23	500	17.6		-80		-	-632	-788	-14		632 -11							
24	700	14.2		-81		-	-633	-789	-15		633 -12							
											*36							

Cruise: DC415-3		Leg: 3		Cast: CTD# 65		10-1200m		Type: 2126 A4									
Date: 25 August 2005		Time: 0512		Lat: 30° 21.627		Long: 69° 12.005		Samplers:									
Date: 25 August 2005		Time: 0604		Lat: 30° 21.610		Long: 69° 11.082		Bill, Stephen, Douglas, Sybilie									
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact N+P	FRRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt p.8	Flowcyt np	S _N 15
				O ₂	O ₂ , O ₂												
1	0	27.6		-116		-	-634	-790	-1	-689		→ 575					X #7
2	0											634 -1	634 -1	625 -1	451 p	451 np	
3	20	26.0		-118 206		-	-635	-791	-2	-688		→					
4	20											635 -2	→ 576 -2	626 -2	452 p	452 np	
5	40	24.3		-119		-	-636 ^{sup} 53	-792	-3	-687		→					
6	40											636 -3	→ 577 -3	627 -3	453 p	453 np	
7	60	21.5		-120		-	-637	-793	-4	-686		→					
8	60											637 -4	→ 578 -4	628 -4	454 p	454 np	
9	70	21.1		-121		-		-794	-5	-685							
10	70											→	579 -5	629 -5	455 p		
11	80	20.7		-124		-	-638	-795	-6	-684		→					
12	80											638 -5	580 -6	630 -6	456 p	455 np	
13	90	20.6		-201		-		-796	-7	-683			581 -7	631 -7	457 p		
14	100	20.5		-202		-	-639	-797	-8	-682							
15	100											639 -6	582 -8	632 -8	458 p	456 np	
16	110	20.3		-203		-		-798	-9	-681			583 -9	633 -9			
17	120	20.1		-204		-	-640	-799	-10	-680							
18	120											640 -7	584 -10	634 -10	459 p	457 np	
19	140	19.9		-205		-	-641	-800	-11	-679							
20	140											641 -8	585 -11	635 -11	460 p	458 np	
21	200	19.6		-206		-	-642	-801	-12	-678		642 -9	→	636 -12		459 np	
22	300	19.2		-207		-	-643	-802	-13	-677		643 *10		→		460 np	
23	500	18.6		-208 118		-	-644	-803	-14			644 *11					
24	700	15.2		-209		-	-645	-804	-15			645 *12					
												*3L					

#7 Dripping from Bottom and Cap

Cruise: 0C415-3		Leg:		Cast: CTD #106 (0-1200m)		Type: A4 2068												
Date: 25 August 2005		Time: 0734		Lat: 30° 10.737		Long: 68° 59.454		Samplers:										
Date: 25 August 2005		Time: 0834		Lat: 30° 10.758		Long: 68° 59.193		Valery, Ellyn, Sara, Megan										
N #	Depth	Nisklin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Bact N+P	FRRF	POC/IPON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Flow cyt nonpig	S.W.15	
				O2 ₁	O2 ₂													
1	0	27.2		-101		-646	-646		-805	-1	-702							x8
2	0											646-1	586-1	637-1	461 p	461 np		
3	20	25.4		-103		-647	-647		-806	-2	-701	647-2	587-2	638-2	462 p	462 np		
4	20																	
5	40	22.5		-104		-648	-648 + 100% SA		-807	-3	-700	648-3	588-3	639-3	463 p	463 np		
6	40																	
7	60	20.5		-105		-	-649		-808	-4	-699	649-4	589-4	640-4	464 p	464 np		
8	60																	
9	70	20.3		-106		-			-809	-5	-698							
10	70												590-5	641-5	465 p			
11	80	20.2		-107		-	-650		-810	-6	-697							
12	80											650-5	591-6	642-6	466 p	465 np		
13	90	20.1		-108		-			-811	-7	-696		592-7	643-7	467 p			
14	100	20.0		-109		-	-651		-812	-8	-695							
15	100											651-6	593-8	644-8	468 p	466 np		
16	110	20.0		-110		-			-813	-9	-694		594-9	645-9				
17	120	19.8		-111		-	-652		-814	-10	-693							
18	120											652-7	595-10	646-10	469 p	467 np		
19	140	19.7		-112		-	-653		-815	-11	-692							
20	140											653-8	596-11	647-11	470 p	468 np		
21	200	19.6		-113		-	-654	22 25	-816	-12	-691	654-9		648-12		469 np		
22	300	19.3		-114		-	-655	22 26	-817	-13	-690	655-10				470 np		
23	500	18.7		- 115 210		-	-656	22 29	-818	-14		656-11						
24	700	15.8		- 116 211		-	-657	22 28	-819	-15		657-12						
												*3L						

Cruise: 0C415-3			Leg:		Cast: (CTD) # 67		10-1200m		Type: Sed trap A								
Date: 25 August 2005			Time: 1018		Lat: 29° 56.204		Long: 68° 49.525		Samplers: Bill, Sara, Scotty, Tom, Olga, Megan								
Date: 25 August 2005			Time: 1112		Lat: 29° 55.902		Long: 68° 50.231										
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Aik	TOC/TON	Salts	Nuts	Baet	FRRF	POC/PON	HPLC	Chla	Flow Cyt	Flow Cyt + nomp	STP
				O2	O2, O2												
				2.3	IRTRIVAS					148							
1	0	27.0		-212				-658	-820	1		-658-1	-597 ^x 1	-649-1	471 p	471 np	
2	100	26.0		-213				-659	-821	2		-659-2	-598 ^x 2	-650 ^{re}	472 p	472 np	
3	200	19.5		-215				-660	-822	3							
4	200																
5	300	19.5		-216		587		-661	-823	4		-660-3	-599 ^x 3	-651 ³	473 p	473 np	
6	300																
7	400	19.1		-217		588		-662	-824	5							
8	400																
9	500	19.1		-218		589		-663	-825	6		-662-5				475 np	
10	500				1A	571											
11	600	18.3		-219		572		-664	-826	7		-663-6				476 np	
12	600				2A	572											
13	700	16.4		-220		573		-665	-827	8							
14	700				3A	573											
15	800	13.9		-221		574		-666	-828	9		-665-8				478 np	
16	800				4A	574											
17	850	12.9		-222		575		-667	-829	10		-666-9				479 np	
18	850				5A	575											
19	900	12.2		-223		576		-668	-830	11		-667-10				480 np	
20	900				6A	576											
21	1000	10.8		-224		577		-669	-831	12		-668-11				481 np	
22	1000				7A	577											
23	1200	9.2		-1		578		-670	-832	13		-669-12				482 np	
24	1200				8A	578											

MCN 4
5 } 27.6
6

DIC-1. BBSR
2. Radio carbon
datings

x 3.5 L

Cruise: 0645-3		Leg:		Cast: CTD # 68 (0-1200m)		Type: A4 Center 2070											
Date: 25 August 2005		Time: 1312		Lat: 30° 10.656		Long: 68° 34.514		Samplers: Sara G, Scotty, Olga, Tom, Megan,									
Date: 25 August 2005		Time: 1354		Lat: 30° 10.17		Long: 68° 34.285											
N #	Depth	Niskin Temp	Helium	Oxygens		DIC/Alk	TOC/TON	Salts	Nuts	Bect-N+P	FRF	POC/PON Vol= 2L	HPLC Vol= 4L	Chla	Flow Cyt pig	Flow cyt nonpig	SW ¹⁵
				O ₂	O ₂ , O ₂												
1	0	27.2		- 7			- 671	- 833	- 1	- 715							x 11
2	0											671 -1	606 -1	652 -1	474 p	484 np	
3	20	25.4		- 8			- 672	- 834	- 2	- 714							
4	20											672 -2	601 -2	653 -2	475 p	485 np	
5	40	24.0		- 10			- 673 *35	- 835	- 3	- 713							
6	40											673 -3	602 -3	654 -3	476 p	486 np	
7	60	21.3		- 11			- 674	- 836	- 4	- 712							
8	60											674 -4	603 -4	655 -4	477 p	487 np	
9	70	20.8		- 12				- 837	- 5	- 711							
10	70												604 -5	656 -5	478 p		
11	80	20.5		- 13			- 675	- 838	- 6	- 710							
12	80											675 -5	605 -6	657 -6	479 p	488 np	
13	90	20.2		- 15				- 839	- 7	- 709			606 -7	658 -7	480 p		
14	100	20.3		- 16			- 676	- 840	- 8	- 708							
15	100											676 -6	607 -8	659 -8	481 p	489 np	
16	110	20.2		- 17				- 841	- 9	- 707			608 -9	660 -9			
17	120	20.0		- 18			- 677	- 842	- 10	- 706							
18	120											677 -7	609 -10	661 -10	482 p	490 np	
19	140	19.9		- 19			- 678	- 843	- 11	- 705							
20	140											678 -8	610 -11	662 -11	483 p	491 np	
21	200	19.5		- 20			- 679	- 844	- 12	- 704		679 -9		663 -12		492 np	
22	300	19.1		- 21			- 680	- 845	- 13	- 703		680 *10				493 np	
23	500	18.4		- 22			- 681	- 846	- 14			681 *11					
24	700	15.3		- 23			- 682	- 847	- 15			682 *12					
												43L					