

Eddy Center!

RB1904 CTD Cast Sheet

Station Number: NS10 CTD cast #: 061 Transect #: 18
 Start time (UTC): 18:25:59 End time (UTC): ~19:10 Bottom Depth: 290
 Start date (UTC): 20190518 End date (UTC): 20190518 Initials: HO

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
10mab	1	279		✓										
	2	250		✓										
	3	200		✓										
	4	150		✓										
	5	120		✓										
	6	100		✓								✓		
ZS	7	80	✓	✓								✓		
ZS HS	8	60	✓	✓		✓								
WS	9	60										✓		
WS ZS HS	10	40	✓	✓		✓			✓	✓		✓	✓	
DC	11	40												
DC	12	40												
WS ZS HS	13	30	✓	✓		✓			✓	✓		✓	✓	
DC	14	30												
DC	15	30												
CP	16	30												
CP	17	30												
WS	18	20		✓		✓			✓	✓		✓	✓	✓
WS	19	10										✓		
HS	20	10		✓		✓			✓	✓			✓	
	21	sfc												
DC	22	sfc												
DC	23	sfc												
WS ZS HS	24	sfc	✓	✓		✓	✓		✓	✓		✓	✓	✓
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300

Floating: Chl max, 10mab

279 p/sfc
 279 p/sfc
 10 20 30 240 60
 It 30 40
 PC30
 PC30

grazing water

NO DAVPR

RB1904 CTD Cast Sheet

Station Number: NS10 CTD cast #: 062 Transect #: 18
Start time (UTC): 20:40:07 End time (UTC): 20:48 Bottom Depth: 290
Start date (UTC): 20190518 End date (UTC): 20190518 Initials: HO

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1	30												
	2													
	3													
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													
	16													
	17													
	18													
	19													
	20													
	21													
	22													
	23													
	24													
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
Floating: Chl max, 10mab

RB1904 CTD Cast Sheet

Station Number: A12 CTD cast #: 063 Transect #: 19
 Start time (UTC): 23:45 End time (UTC): 23:52 Bottom Depth: 279
 Start date (UTC): 2019-05-18 End date (UTC): 2019-05-1 Initials: WZ

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1													
	2	Bad profile, likely caused by												
	3	clogged tube.												
	4	CTD brought back												
	5	on deck for cleaning												
	6													
	7													
	8													
	9													
	10													
	11	profile to be retaken												
	12													
	13													
	14													
	15													
	16													
	17													
	18													
	19													
	20													
	21													
	22													
	23													
	24													
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab

retake of 03

RB1904 CTD Cast Sheet

Station Number: A12 CTD cast #: 064 Transect #: 19
 Start time (UTC): 00:17 End time (UTC): 00:49 Bottom Depth: 285
 Start date (UTC): 2019-05-19 End date (UTC): 2019-05-19 Initials: WZ

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
10 mab	1	271		✓										
	2	200		✓										
	3	150		✓										
	4	120		✓										
WS	5	100						✓				✓		
ZS	6	80		✓										
WS	7	80						✓				✓		
ZS HS	8	60		✓		✓								
WS	9	60						✓				✓		
HS ZS	10	40		✓		✓								
WS	11	40						✓				✓		
HS	12	25		✓		✓			✓	✓			✓	✓
WS	13	25						✓				✓		
HS ZS	14	13		✓		✓			✓	✓			✓	✓
WS	15	13						✓				✓		
DC	16	13												
DC	17	13												
HS	18	8		✓		✓								
WS	19	8						✓				✓		
HS ZS	20	sfc		✓		✓	✓		✓	✓			✓	✓
	21	sfc												
DC	22	sfc												
DC	23	sfc												
WS	24	sfc						✓				✓		
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab

00 ✓ 8 ✓ 13 ✓ 25 ✓ 40 ✓ 60 ✓ 80 ✓
 00 ✓ 8 ✓ 13 ✓ 25 ✓
 00 ✓ 13 ✓
 00 ✓ 13 ✓

271 ✓

RB1904 CTD Cast Sheet

Station Number: EW10 CTD cast #: 065 Transect #: 19
 Start time (UTC): 0142 End time (UTC): 0218 Bottom Depth: 272
 Start date (UTC): 20190520 End date (UTC): 20190510 Initials: MS

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1	266 ✓		✓										
	2	200 ✓		✓										
	3	150 ✓		✓										
	4	120 ✓		✓										
WS	5	100 ✓		✓								✓		
	6	80 ✓		✓										
WS	7	80 ✓										✓		
HS	8	60 ✓		✓		✓								
WS	9	60 ✓										✓		
HS	10	40 ✓		✓		✓								
WS	11	40 ✓										✓		
HS	12	30 ✓		✓		✓								
WS	13	20 ✓										✓		
HS	14	19 ✓		✓		✓			✓	✓			✓	✓
WS	15	19 ✓										✓		
DC	16	19 ✓												
WS	17	10 ✓										✓		
HS	18	10 ✓		✓		✓								
WS	19	surf ✓										✓		
	20	surf ✓												
	21	surf ✓												
	22	surf ✓												
ZS HS	23	surf ✓		✓		✓	✓		✓	✓			✓	✓
DC	24	surf ✓												
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab Chl max down ~ 21m.
 SUNA OK entire cast!

RB1904 CTD Cast Sheet

Station Number: NS4 CTD cast #: 066 Transect #: 19
 Start time (UTC): 6310 End time (UTC): _____ Bottom Depth: 308
 Start date (UTC): 20190519 End date (UTC): 20190519 Initials: MS

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1	297 ✓		✓										
	2	250 ✓		✓										
	3	200 ✓		✓										
	4	150 ✓		✓										
	5	120 ✓		✓										
WS	6	100 ✓		✓								✓		
WS	7	80 ✓										✓		
HS	8	80 ✓		✓										
	9	80												
HS	10	60		✓		✓								
WS	11	60										✓		
HS	12	40 ✓		✓		✓								
WS	13	40 ✓										✓		
HS	14	30 ✓		✓		✓								
WS	15	30 ✓										✓		
HS	16	24 ✓		✓		✓			✓	✓			✓	✓
DC	17	24 ✓										✓		
WS	18	24 ✓												
WS	19	10 ✓										✓		
HS	20	10 ✓		✓		✓								
HS 25	21	SURF ✓		✓		✓	✓		✓	✓			✓	✓
	22	SURF ✓												
WS	23	SURF ✓										✓		
DC	24	SURF ✓												
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300

Floating: Chl max, 10mab *chl max @ 24*

SUNYA OK WHOLE CAST.

RB1904 CTD Cast Sheet

Station Number: NS10 CTD cast #: 067 Transect #: 25
 Start time (UTC): 10:19 End time (UTC): 10:48 Bottom Depth: 289
 Start date (UTC): 2019-05-19 End date (UTC): 2019-05-19 Initials: WZ

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
10mab	1	280		✓										
	2	250		✓										
	3	200		✓										
	4	150		✓										
	5	120		✓										
	6	100		✓	✓			✓				✓		
	7	80		✓	✓	290		✓				✓		
ZS	8	80												
WS/HS	9	51		✓	✓	290		✓				✓		
ZS	10	51												
WS/HS	11	34		✓	✓	290		✓				✓		
ZS	12	34												
WS/HS	13	22		✓	✓	290		✓	567 562	539 539		✓	✓	✓
DC	14	22												
DC	15	22												
ZS	16	22												
WS/HS	17	14		✓	✓	290		✓				✓		
	18	14												
WS/HS	19	10		✓	✓	290		✓				✓		
	20	10												
WS/HS	21	sfc		✓	✓	290	290	✓	569 570	548 548		✓	✓	✓
DC	22	sfc												
DC	23	sfc												
ZS	24	sfc												
	Sam pler													

Sampling depths – Fixed: ~~Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300~~

Floating: Chl max, 10mab

0 10 14 22 34 51 280
 DC 0 22
 DC 0 22
 ZS 0 10 14 22 34 51 80

RB1904 CTD Cast Sheet

Station Number: A12 CTD cast #: 068 Transect #: 25
 Start time (UTC): 12:20 End time (UTC): 12:28 Bottom Depth: 273
 Start date (UTC): 2019-05-19 End date (UTC): 2019-05-19 Initials: WZ

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1													
	2	Abandoned												
	3													
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													
	16													
	17													
	18													
	19													
	20													
	21													
	22													
	23													
	24													
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab

RB1904 CTD Cast Sheet

Station Number: A12 CTD cast #: 069 Transect #: 25
 Start time (UTC): 12:30 End time (UTC): 12:59 Bottom Depth: 275
 Start date (UTC): 2019-05-19 End date (UTC): 2019-05-19 Initials: WJ2

• BTL Update -MS

Floater ID	Bottle	Target Depth	TOT	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
10mab	1	262	262	✓										
	2	200	200	✓										
	3	150	149	✓										
	4	120	120	✓										
	5	100	100		✓			✓				✓		
	6	80	79	✓	✓			✓				✓		
	7	80	79											
WS/HS	8	68	67	✓	✓	290		✓				✓		
	9	68	67											
WS/HS	10	45	44	✓	✓	290		✓				✓		
	11	45	44											
WS/HS	12	29	28	✓	✓	290		✓				✓		
	13	29	28											
WS/HS	14	19	17	✓	✓	290		✓				✓		
	15	19	17											
WS/HS	16	14	13	✓	✓	290		✓				✓		
JT	17	14	13											
JT	18	14	13											
	19	14	13											
WS/HS	20	7	5	✓	✓	290		✓	571	539		✓	✓	✓
	21	7	5											
WS/HS	22	sfc	3	✓	✓	290	290	✓	572	548		✓	✓	✓
ZS	23	sfc	3											
	24	sfc	3											
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab

O 7^v 14^v 19^v 29^v 45^v 68^v 80^v 262^v
 JT 14^v
 JT 14^v
 O 7^v 14^v 19^v 29^v 45^v 68^v

zooplankton grazing water collection

RB1904 CTD Cast Sheet

Station Number: A12 CTD cast #: 070 Transect #: 25
 Start time (UTC): 14:36 End time (UTC): 14:44 Bottom Depth: 273
 Start date (UTC): 2019-05-19 End date (UTC): 2019-05-19 Initials: WZ

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1	14												
	2	14												
	3	14												
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													
	16													
	17													
	18													
	19													
	20													
	21													
	22	14												
	23	14												
	24	14												
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab

RB1904 CTD Cast Sheet

Station Number: AS CTD cast #: 071 Transect #: 32
 Start time (UTC): 0307 End time (UTC): 0321 Bottom Depth: 82
 Start date (UTC): 20190520 End date (UTC): 20190520 Initials: MS

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
WS	1	72 ✓						✓				✓		
	2	72 ✓		✓										
WS	3	60 ✓						✓				✓		
	4	60 ✓		✓										
HS	5	50 ✓		✓		✓								
HS	6	40 ✓		✓		✓								
WS	7	40 ✓						✓				✓		
HS	8	31 ✓		✓		✓			✓	✓			✓	✓
WS	9	31 ✓						✓				✓		
	10	31 ✓												
WS	11	20 ✓						✓				✓		
HS	12	20 ✓		✓		✓								
WS	13	10 ✓						✓				✓		
HS	14	10 ✓		✓		✓								
WS	15	surf						✓				✓		
WS HS	16	surf	✓	✓		✓	✓		✓	✓			✓	✓
	17	surf												
	18	surf												
	19													
	20													
	21													
	22													
	23													
	24													
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
Floating: Chl max, 10mab

RB1904 CTD Cast Sheet

Station Number: A6
 Start time (UTC): 04:14.49
 Start date (UTC): 20190520

CTD cast #: 072
 End time (UTC): 04:43:47
 End date (UTC): 20190520

Transect #: 82
 Bottom Depth: 90
 Initials: HO

	Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	10mab	1	80		✓										
WS	10mab	2	80						✓				✓		
ZS	10mab	3	80	✓											
HS		4	60		✓		290	290							
WS		5	60						✓				✓		
ZS		6	60	✓											
HS		7	40		✓		290	290		575	1088			✓	
WS		8	40						✓				✓		
ZS		9	40	✓											
HS		10	30		✓		290	290		576	548			✓	
WS		11	30						✓				✓		
ZS		12	30												
HS		13	20		✓		290	290		577	539			✓	✓
WS		14	20						✓				✓		
ZS		15	20	✓											
HS		16	10		✓		290	290							
WS		17	10						✓				✓		
ZS		18	10												
HS		19	sfc		✓		290	290		578	548			✓	✓
WS		20	sfc						✓				✓		
ZS		21	sfc	✓											
		22													
		23													
		24													
	Sampler														

sfc 10 20 30 40 60 80

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab

80

RB1904 CTD Cast Sheet

 Station Number: A7

 CTD cast #: 073

 Transect #: 32

 Start time (UTC): 05:26:33

 End time (UTC): 05:48:59

 Bottom Depth: ~100

 Start date (UTC): 20190520

 End date (UTC): 20190520

 Initials: HO

 HS
WS

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	10 mab	90		✓										
WS	10 mab	90						✓				✓		
	10 mab	90												
HS		80		✓										
WS		80						✓				✓		
		80												
HS		60		✓		290								
WS		60						✓				✓		
		60												
HS		40		✓		290								
WS		40						✓				✓		
		40												
HS		30		✓		290								
WS		30						✓				✓		
		30												
HS		20		✓		290			579	539			✓	✓
WS		20						✓				✓		
		20												
HS		10		✓		290								
WS		10						✓				✓		
		10												
ZS		sfc	✓											
WS		sfc						✓				✓		
HS		sfc		✓		290	290		580	548			✓	✓
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
Floating: Chl max, 10mab

RB1904 CTD Cast Sheet

Station Number: A8 CTD cast #: 074 Transect #: 32
 Start time (UTC): 06:39:41 End time (UTC): 07:01:10 Bottom Depth: 121
 Start date (UTC): 20190520 End date (UTC): 20190520 Initials: Hb

HS
ZS

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	10 mab	111		✓		290								
ZS	10 mab	111	✓											
HS	3	100		✓		290			581	548			✓	
WS	4	100						✓				✓		
ZS	5	100	✓											
HS	6	80		✓		290								
WS	7	80						✓				✓		
ZS	8	80	✓											
HS	9	60		✓		290								
WS	10	60						✓				✓		
ZS	11	60	✓											
HS	12	40		✓		290								
WS	13	40						✓				✓		
ZS	14	40	✓											
HS	15	30		✓		290								
WS	16	30						✓				✓		
HS	17	20		✓		290			582	539			✓	✓
WS	18	20						✓				✓		
ZS	19	20	✓											
HS	20	10		✓		290	290							
WS	21	10						✓				✓		
HS	22	sfc		✓		290	290		583	539			✓	✓
WS	23	sfc						✓				✓		
ZS	24	sfc	✓											
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
Floating: Chl max, 10mab

RB1904 CTD Cast Sheet

Station Number: A9 CTD cast #: 075 Transect #: 32
 Start time (UTC): 07:53 End time (UTC): 08:07 Bottom Depth: 130
 Start date (UTC): 2019-05-20 End date (UTC): 2019-05-20 Initials: WJ2

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS 10mab	1	118		✓										
HS	2	100		✓				✓				✓		
HS	3	80		✓		✓								
WS	4	80						✓				✓		
HS	5	60		✓		✓								
WS	6	60						✓				✓		
HS	7	40		✓		✓								
WS	8	40						✓				✓		
HS	9	30		✓		✓								
WS	10	30						✓				✓		
HS chl max	11	14		✓		✓			✓				✓	✓
chl max	12	14						✓				✓		
HS	13	10		✓		✓								
WS	14	10						✓				✓		
HS	15	sfc		✓		✓	✓		✓				✓	✓
WS	16	sfc	✓					✓				✓		
ZS	17	sfc	✓											
	18													
	19													
	20													
	21													
	22													
	23													
	24													
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
Floating: Chl max, 10mab
 0 10 14 30 40 60 80 118
 0 14

RB1904 CTD Cast Sheet

Station Number: A10 CTD cast #: 076 Transect #: 32
 Start time (UTC): 10:07 End time (UTC): 10:29 Bottom Depth: 138
 Start date (UTC): 2019-05-20 End date (UTC): 2019-05-20 Initials: WZ

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS 10mab	1	127		✓										
ZS	2	127	✓											
HS	3	100		✓				✓				✓		
ZS	4	100	✓											
HS	5	80		✓		✓		✓				✓		
ZS	6	80	✓											
WS/HS	7	58		✓	✓	✓		✓				✓		
ZS	8	58	✓											
WS/HS	9	39		✓	✓	✓		✓				✓		
ZS	10	39	✓											
WS/HS	11	25		✓	✓	✓		✓				✓		
DC	12	25												
DC	13	25												
ZS	14	25	✓											
WS/HS	15	16		✓	✓	✓		✓				✓		
chl max	DC	14												
chl max	DC	14												
WS/HS	18	12		✓	✓	✓		✓	✓	✓		✓	✓	✓
	19	12												
WS/HS	20	6		✓	✓	✓		✓				✓		
WS/HS	21	sfc		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
DC	22	sfc	✓											
DC	23	sfc												
ZS	24	sfc												
	Sam pler													

Sampling depths – Fixed: ~~Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300~~

Floating: Chl max, 10mab 0 6 12 16 25 39 58 127 ✓
 DC 0 7 14 25 ✓
 DC 0 14 25 ✓
 ZS 0 12 25 39 58 80 100 127 ✓

RB1904 CTD Cast Sheet

Station Number: A11 CTD cast #: 077 Transect #: 32
 Start time (UTC): 11:26 End time (UTC): 11:42 Bottom Depth: 150
 Start date (UTC): 2019-05-20 End date (UTC): 2019-05-20 Initials: WZ

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS 10mab	1	140		✓										
HS	2	120		✓										
HS	3	100		✓										
WS	4	100						✓				✓		
HS	5	80		✓		✓								
WS	6	80						✓				✓		
HS	7	60		✓		✓								
WS	8	60						✓				✓		
WS, HS	9	52		✓		✓		✓	✓	✓		✓	✓	✓
HS	10	40		✓		✓								
WS	11	40						✓				✓		
HS	12	30		✓		✓								
WS	13	30						✓				✓		
HS	14	20		✓		✓						✓		
WS	15	20						✓				✓		
HS chl max	16	14		✓		✓			✓	✓			✓	✓
WS chl max	17	14						✓				✓		
HS	18	sfc	✓	✓		✓	✓		✓	✓			✓	✓
WS	19	sfc						✓				✓		
	20	sfc												
	21													
	22													
	23													
	24													
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
Floating: Chl max, 10mab
 0 ✓ 14 ✓ 20 ✓ 30 ✓ 40 ✓ 60 ✓ 80 ✓ 100 ✓ 140 ✓
 0 ✓ 14 ✓ 52 ✓

RB1904 CTD Cast Sheet

Station Number: A12 CTD cast #: 078 Transect #: 32
 Start time (UTC): 1258 End time (UTC): 1323 Bottom Depth: 273
 Start date (UTC): 2019-05-20 End date (UTC): 2019-05-20 Initials: MS

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	263 ✓		✓										
HS	2	200 ✓		✓										
HS	3	150 ✓		✓										
HS	4	120 ✓	✓	✓										
HS	5	100 ✓	✓	✓	✓			✓			✓	✓		
HS, WS	6	80 ✓		✓	✓			✓			✓	✓		
ZS	7	80 ✓	✓											
HS, WS	8	60 ✓		✓	✓	✓		✓			✓	✓		
ZS	9	60 ✓	✓											
HS, WS	10	42 ✓		✓	✓	✓		✓			✓	✓		
ZS	11	42 ✓	✓											
HS, WS	12	29 ✓		✓	✓	✓		✓			✓	✓		
	13	29 ✓												
HS, WS	14	20 ✓		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
ZS	15	20 ✓	✓											
HS, WS	16	13 ✓		✓	✓	✓		✓			✓	✓		
	17	13 ✓												
HS, WS	18	9 ✓		✓	✓	✓		✓			✓	✓		
	19	9 ✓												
HS, WS	20	4 ✓		✓	✓	✓		✓			✓	✓		
	21	4 ✓												
HS, WS	22	surf ✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ZS	23	surf ✓	✓											
	24	surf ✓												
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300

Floating: Chl max, 10mab Chl Max @ 20m

3 deployments – first recovered to clean tubing of fouling. second to rearrange deployment line. Third was successful.

RB1904 CTD Cast Sheet

Station Number: A13 CTD cast #: 079 Transect #: 32
 Start time (UTC): 1430 End time (UTC): _____ Bottom Depth: ~480
 Start date (UTC): 20190520 End date (UTC): 20190520 Initials: MS

Cast Max depth 466m

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	300 ✓	✓	✓										
HS	2	250 ✓	✓	✓										
HS	3	200 ✓	✓	✓										
HS	4	150 ✓	✓	✓										
HS, ZS	5	120 ✓	✓	✓										
HS, WS, ZS	6	100 ✓	✓	✓	✓			✓			✓	✓		
HS, WS, ZS	7	80 ✓	✓	✓	✓			✓			✓	✓		
HS, WS	8	60 ✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
ZS	9	60 ✓	✓	✓										
ZS, HS, WS	10	38 ✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CS	11	38 ✓	✓											
CS	12	38 ✓	✓											
HS, WS	13	25 ✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ZS	14	25 ✓	✓											
CS	15	25 ✓	✓											
CS	16	25 ✓	✓											
HS, WS	17	16 ✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
HS, WS	18	10 ✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HS, WS	19	8 ✓	✓	✓	✓	✓	✓	✓			✓	✓		
HS, WS	20	4 ✓	✓	✓	✓	✓	✓	✓			✓	✓		
HS, WS	21	surf ✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ZS	22	surf ✓	✓	✓										
CS	23	surf ✓	✓											
CS	24	surf ✓	✓											
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab *chl max 22*

tubes cleared

RB1904 CTD Cast Sheet

Station Number: A 18 CTD cast #: 080 Transect #: 33
 Start time (UTC): 17:33:58 End time (UTC): 18:17:57 Bottom Depth: 2286
 Start date (UTC): 20190520 End date (UTC): 20190520 Initials: HO

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	300		✓										
HS	2	250		✓										
HS	3	200		✓										
HS	4	150		✓										
ZS, HS	5	120	✓	✓										
ZS, WS	6	100	✓	✓				✓				✓		
ZS, WS	7	80	✓	✓				✓				✓		
DC	8	60												
WS, DC	9	60						✓				✓		
ZS, HS	10	60	✓	✓		✓			✓	✓			✓	
WS	11	40						✓				✓		
ZS, HS	12	40	✓	✓		✓			✓	✓			✓	✓
DC	13	32												
WS, DC	14	32						✓				✓		
CP grab	15	32												
CP grab	16	32												
ZS, HS	17	32	✓	✓		✓			✓	✓			✓	✓
ZS, HS	18	20	✓	✓		✓			✓	✓			✓	✓
WS	19	20						✓				✓		
HS	20	10		✓		✓			✓	✓			✓	
WS	21	10						✓				✓		
DC	22	sfc												
WS, DC	23	fc						✓				✓		
ZS, HS	24	sfc	✓	✓		✓	✓		✓	✓			✓	✓
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab

sfc 10 20 32 40 60
 sfc 32 60
 sfc 32
 3.2
 3.2

* bottle 11 caught w/ topline opened to flow or leaked to flow + sky

grabbing water

RB1904 CTD Cast Sheet

Station Number: A18 CTD cast #: 81 Transect #: 33
Start time (UTC): 19:46:25 End time (UTC): 19:57:10 Bottom Depth: 2318
Start date (UTC): 20190520 End date (UTC): 20190520 Initials: HO

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1	32												
	2													
	3													
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													
	16													
	17													
	18													
	19													
	20													
	21													
	22													
	23													
	24													
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
Floating: Chl max, 10mab

RB1904 CTD Cast Sheet

Station Number: A17 CTD cast #: 082 Transect #: 33
 Start time (UTC): ~20:50 End time (UTC): 21:35 Bottom Depth: 2132
 Start date (UTC): 20190520 End date (UTC): 20190520 Initials: HS + WZ

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	300 [✓]		✓										
	2	250 [✓]		✓										
	3	200 [✓]		✓										
	4	150 [✓]		✓										
	5	120 [✓]		✓										
	6	100 [✓]		✓										
WS	7	100 [✓]						✓				✓		
HS	8	80 [✓]		✓										
WS	9	80 [✓]						✓				✓		
HS	10	60 [✓]		✓		✓								
WS	11	60 [✓]						✓				✓		
HS	12	40 [✓]		✓		✓								
WS	13	40 [✓]						✓				✓		
HS	14	29 [✓]		✓		✓			✓	✓			✓	✓
WS	15	29 [✓]						✓				✓		
DC	16	29 [✓]												
WS	17	20 [✓]						✓				✓		
HS	18	20 [✓]		✓		✓								
WS	19	10 [✓]						✓				✓		
HS	20	10 [✓]		✓		✓								
	21	Sfc [✓]												
DC	22	Sfc [✓]												
WS	23	Sfc [✓]						✓				✓		
ZS, HS	24	Sfc [✓]	✓	✓		✓	✓		✓	✓			✓	✓
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300

Floating: Chl max, 10mab

✓ Sfc 33
 DC 33

RB1904 CTD Cast Sheet

 Station Number: A16

 CTD cast #: 083

 Transect #: 33

 Start time (UTC): 22:00

 End time (UTC): 23:21

 Bottom Depth: 1820

 Start date (UTC): 20190520

 End date (UTC): 20190520

 Initials: W2

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	300		✓										
↓	2	250		✓										
↓	3	200		✓										
↓	4	150		✓										
ZS, HS	5	120	✓	✓										
ZS, WS	6	100	✓	✓				✓				✓		
WS	7	80						✓				✓		
ZS, HS	8	80	✓	✓										
WS	9	60						✓				✓		
ZS, HS	10	60	✓	✓		✓								
WS	11	40						✓				✓		
ZS, HS	12	40	✓	✓		✓								
WS chl max	13	32						✓				✓		
HS chl max	14	32		✓		✓			✓	✓			✓	✓
chl max DC	15	32												
ZS, HS	16	20	✓	✓		✓								
WS	17	20						✓				✓		
HS	18	10		✓		✓								
WS	19	10						✓				✓		
ZS, HS	20	sfc	✓	✓		✓	✓		✓	✓			✓	✓
	21	sfc												
	22	sfc												
WS	23	sfc						✓				✓		
DC	24	sfc												
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab

0[✓] 10[✓] 20[✓] 32[✓] 40[✓] 60[✓] 80[✓]
 DC 0[✓] 0[✓] 0[✓] 32[✓] 32[✓]

RB1904 CTD Cast Sheet

Station Number: A15 CTD cast #: 084 Transect #: 33
 Start time (UTC): 0015 End time (UTC): 0055 Bottom Depth: 1145
 Start date (UTC): 20190521 End date (UTC): 20190521 Initials: MS

CAST TO 500m. Bottle start @ 300m

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	300 ✓		✓										
	2	250 ✓		✓										
	3	200 ✓		✓										
	4	150 ✓		✓										
	5	120 ✓		✓										
WS, HS	6	100 ✓		✓				✓				✓		
WS	7	80 ✓						✓				✓		
HS	8	80 ✓		✓										
WS	9	60 ✓						✓				✓		
HS	10	60 ✓		✓		✓								
WS	11	40 ✓						✓				✓		
HS	12	40 ✓		✓		✓								
WS	13	35 ✓						✓				✓		
HS	14	35 ✓		✓		✓			✓	✓			✓	✓
DC	15	35 ✓												
HS	16	20 ✓		✓		✓								
WS	17	20 ✓						✓				✓		
HS	18	10 ✓		✓		✓								
WS	19	10 ✓						✓				✓		
WS, HS	20	Surf ✓	✓	✓		✓	✓		✓	✓			✓	✓
	21	Surf ✓												
	22	Surf ✓												
WS	23	Surf ✓						✓				✓		
DC	24	Surf ✓												
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 150, 200, 250, 300
Floating: Chl max, 10mab *Chl max ~ 34 0027 March 000m -*

RB1904 CTD Cast Sheet

Station Number: A14 CTD cast #: 085 Transect #: 33
 Start time (UTC): 0140 End time (UTC): 0219 Bottom Depth: 695
 Start date (UTC): 20190521 End date (UTC): 20190521 Initials: _____

Cast depth 500 - first bottle @ 300m.

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	300 ✓		✓										
	2	250 ✓		✓										
	3	200 ✓		✓										
	4	150 ✓		✓										
ZS, HS	5	120 ✓	✓	✓										
ZS, HS, WS	6	100 ✓	✓	✓				✓				✓		
WS	7	80 ✓						✓				✓		
ZS, HS	8	80 ✓	✓	✓										
WS	9	60 ✓						✓				✓		
ZS, HS	10	60 ✓	✓	✓		✓								
WS	11	40 ✓						✓				✓		
ZS, HS	12	40 ✓	✓	✓		✓								
WS	13	²³ 24 ✓						✓				✓		
ZS, HS	14	²³ 24 ✓	✓	✓		✓			✓	✓			✓	✓
	15	20 ✓												
	16	20 ✓												
WS	17	10 ✓						✓				✓		
HS	18	10 ✓		✓		✓								
WS	19	surf ✓						✓				✓		
	20	surf ✓												
	21	surf ✓												
	22	surf ✓												
	23	surf ✓												
ZS, HS	24	surf ✓	✓			✓	✓		✓	✓			✓	✓
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab *Chl max 24*

RB1904 CTD Cast Sheet

Station Number: A18 CTD cast #: 086 Transect #: 39
 Start time (UTC): 10:05 End time (UTC): 10:43 Bottom Depth: 2284
 Start date (UTC): 2019-05-21 End date (UTC): 2019-05-21 Initials: WZ

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	300		✓										
↓	2	250		✓										
↓	3	200		✓										
↓	4	150		✓										
↓	5	120		✓										
↓	6	100		✓	✓			✓				✓		
↓	7	80		✓	✓			✓				✓		
WS/HS	8	62		✓	✓	✓		✓				✓	✓	✓
WS/HS	9	41		✓	✓	✓		✓	✓	✓		✓	✓	✓
JT	10	41												
JT	11	41												
DC	12	41												
DC	13	41												
WS/HS	14	27		✓	✓	✓		✓				✓	✓	✓
DC	15	27												
DC	16	27												
	17	27												
WS/HS	18	17		✓	✓	✓		✓				✓		
WS/HS	19	12		✓	✓	✓		✓				✓		
WS/HS	20	6		✓	✓	✓		✓				✓		
DC	21	6												
DC	22	6												
WS/HS	23	sfc	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
	24	sfc	✓											
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300 ✓

Floating: Chl max, 10mab 0 6 12 17 27 41 62

JT 41
 JT 41
 DC 6 27 41
 DC 6 27 41

grazing water collection

RB1904 CTD Cast Sheet

Station Number: A18

CTD cast #: 087

Transect #: 39

Start time (UTC): 12:11

End time (UTC): 12:21

Bottom Depth: 2278

Start date (UTC): 2019-05-21

End date (UTC): 2019-05-21

Initials: WZ

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1	41												
	2	41												
	3	41												
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													
	16													
	17													
	18													
	19													
	20													
	21													
	22													
	23													
	24	41												
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
Floating: Chl max, 10mab

RB1904 CTD Cast Sheet

Station Number: A 18 CTD cast #: 088 Transect #: 47
 Start time (UTC): 0117 End time (UTC): _____ Bottom Depth: 2282
 Start date (UTC): 20190521 End date (UTC): 20190521 Initials: ms

CAST TO 500M, then up to 300.

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	300 ✓		✓										
	2	250 ✓		✓										
	3	200 ✓		✓										
	4	150 ✓		✓										
	5	120 ✓		✓										
WS, HS	6	100 ✓		✓				✓				✓		
WS	7	80 ✓						✓				✓		
HS	8	80 ✓		✓										
WS	9	60 ✓						✓				✓		
HS	10	60 ✓		✓		✓							✓	
HS	11	55 ✓		✓		✓	✓		✓	✓			✓	✓
HS	12	40 ✓		✓		✓	✓		✓	✓			✓	✓
WS	13	40 ✓						✓				✓		
HS	14	30 ✓		✓		✓	✓		✓	✓			✓	✓
WS	15	30 ✓						✓				✓		
HS	16	20 ✓		✓		✓	✓		✓	✓			✓	
WS	17	20 ✓						✓				✓		
HS	18	10 ✓		✓										
WS	19	10 ✓						✓				✓		
HS	20	SURF ✓		✓		✓	✓		✓	✓			✓	✓
WS	21	SURF ✓						✓				✓		
	22	SURF ✓												
ZS	23	SURF ✓												
ZS	24	SURF ✓												
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab ~ 36m Chl max
AFTER CAST, FLUSHED PRIMARY AND SECONDARY TIC/CO₂ WITH 1% TRITON-X FOR 5 MINUTES, THEN RINSED - MSURE??

RB1904 CTD Cast Sheet

Station Number: A17 CTD cast #: 089 Transect #: 47
 Start time (UTC): 0259 End time (UTC): _____ Bottom Depth: 2125
 Start date (UTC): 20190522 End date (UTC): 20190522 Initials: MS

Run CAST TO 500m, then up to 300m. to start bottles.

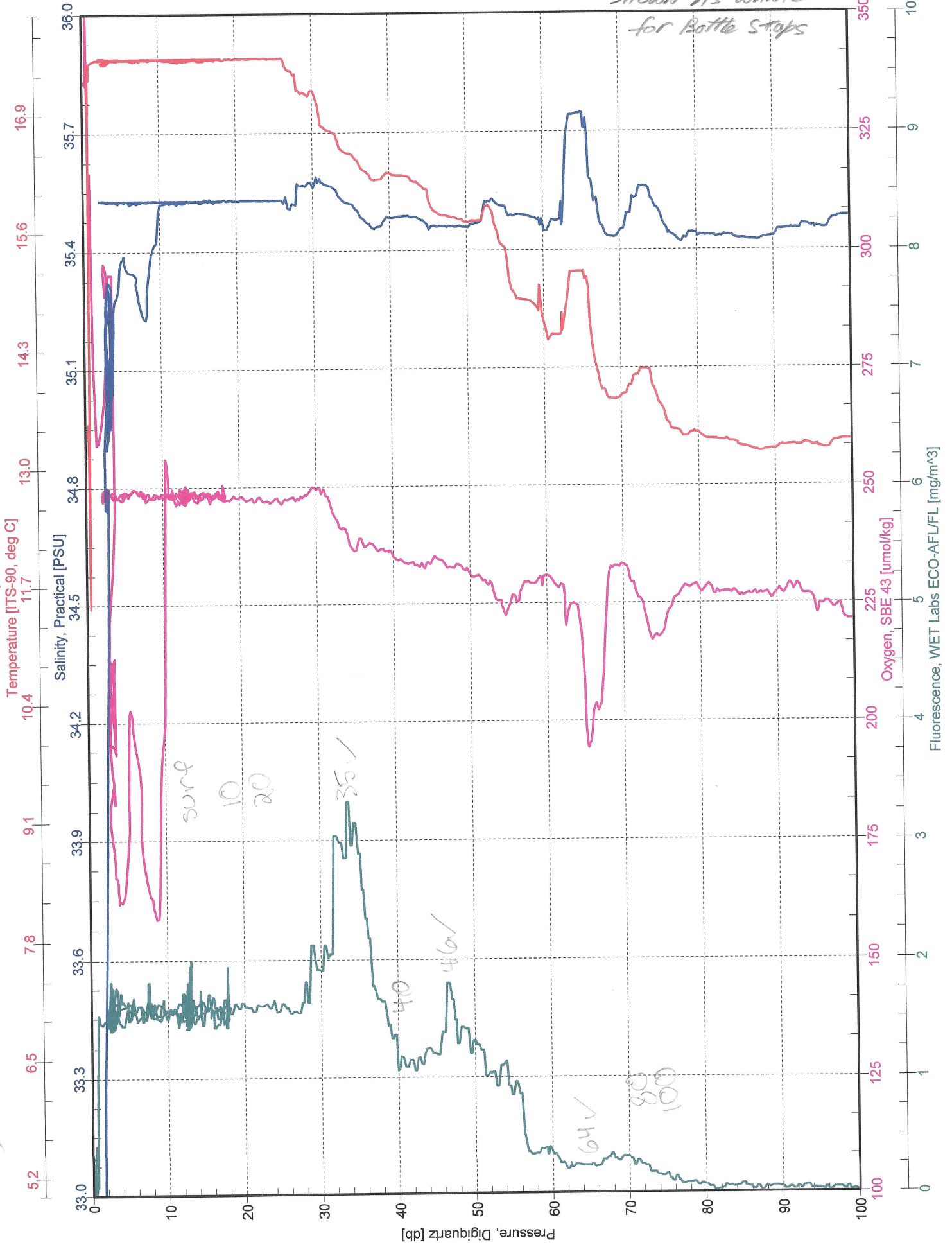
Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	300	✓	✓										
	2	250	✓	✓										
	3	200	✓	✓										
	4	150	✓	✓										
	5	120	✓	✓										
WS, HS	6	100	✓	✓				✓				✓		
WS	7	80	✓					✓				✓		
HS	8	80	✓	✓										
WS	9	64	✓					✓				✓		
HS	10	64	✓	✓		✓							✓	
WS	11	46	✓					✓				✓		
HS	12	46	✓	✓		✓			✓	✓			✓	✓
	13	40	✓											
HS	14	40	✓	✓		✓								
WS	15	33	✓					✓				✓		
HS	16	33	✓	✓		✓			✓	✓			✓	✓
WS	17	20	✓					✓				✓		
HS	18	20	✓	✓		✓								
WS	19	10	✓					✓				✓		
HS	20	10	✓	✓		✓								
	21	SURF												
	22	SURF												
WS	23	SURF						✓				✓		
HS WS	24	SURF	✓	✓		✓	✓		✓	✓			✓	✓
	Sam pler													

Chl max @ 34m. Secondary Chl peak @ 46m
Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab *powered on in air, ACCQ STARTED BEFORE ROSETTE IS IN WATER*

Make
 1 - HOLD @ 12m. Sdif = -0.004
 2 hold @ 17m
 3 start down to 500m.
 4 -

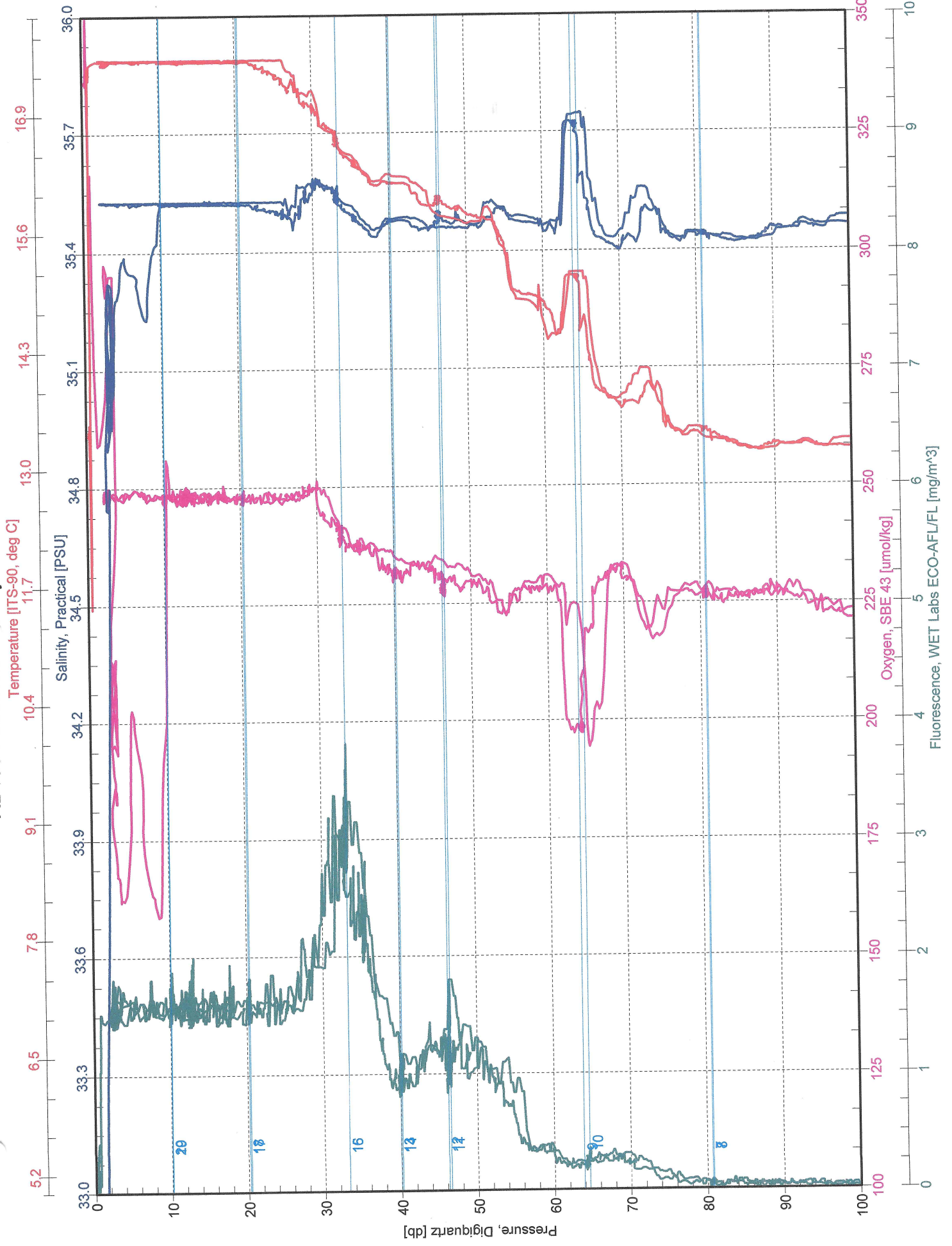
RB1904-089.hex: 1 Primary Sensors O-S-F-T

STN 089
SHOWN AS WANTED
for Bottle Stops



RB1904-089.hex: Primary Sensors O-S-F-T

STN 089
SHOWN AS SAMPLED.



RB1904 CTD Cast Sheet

Station Number: A16 CTD cast #: 090 Transect #: 47
 Start time (UTC): 04:46:04 End time (UTC): 05:30:15 Bottom Depth: 1825
 Start date (UTC): 20190522 End date (UTC): 20190522 Initials: Ho

Floater ID	Bottle	Target Depth	TOI	Nuts	¹⁴ C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	300		✓										
	2	250		✓										
	3	200		✓										
	4	150		✓										
	5	120		✓										
↓	6	100		✓										
WS	7	100						✓				✓		
HS	8	80		✓										
WS	9	80						✓				✓		
HS	10	60		✓		✓								
WS	11	60						✓				✓		
HS	12	40		✓		✓			✓	✓			✓	✓
WS	13	40						✓				✓		
HS	14	30		✓		✓								
WS	15	30						✓				✓		
HS	16	20		✓		✓								
WS	17	20						✓				✓		
HS	18	10		✓		✓								
WS	19	10						✓				✓		
HS	20	Sfc	✓	✓		✓	✓		✓	✓			✓	✓
WS	21	Sfc						✓				✓		
	22	Sfc												
	23													
	24													
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
Floating: Chl max, 10mab