

TN-368 CTD Cast Sheet

Station Number: A5
 Start time (UTC): 00:04
 Start date (UTC): 2019-07-06

CTD cast #: 001
 End time (UTC): 00:25
 End date (UTC): 2019-07-06

Transect #: 1
 Bottom Depth: 81
 Initials: W2

WS
HS

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	70						✓			✓	✓		
10mab	2	70		✓				✓			✓	✓		
WS	3	60				✓			✓	✓	✓	✓		
HS	4	60		✓				✓		✓	✓	✓		
WS	5	40				✓			✓	✓	✓	✓		
HS	6	40		✓				✓		✓	✓	✓		
WS	7	27				✓			✓	✓	✓	✓		✓
HS	8	27		✓				✓		✓	✓	✓		✓
WS	9	16		✓		✓			✓	✓	✓	✓		
HS	10	16		✓				✓		✓	✓	✓		✓
WS	11	10		✓		✓			✓	✓	✓	✓		
HS	12	10		✓				✓		✓	✓	✓		✓
WS	13	sfc				✓		✓		✓	✓	✓		✓
HS	14	sfc		✓				✓		✓	✓	✓		✓
CS	15	sfc												
ZS	16	sfc		✓										
	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
 CS
 Sfc ✓
 10 ✓
 16 ✓
 27 ✓
 16 ✓
 27 ✓
 30 ✓
 40 ✓
 60 ✓
 70 ✓
 70 ✓

TN-368 CTD Cast Sheet

Station Number: A6
 Start time (UTC): 0112
 Start date (UTC): 2019-07-06

CTD cast #: 002
 End time (UTC): 0134
 End date (UTC): 2019-07-06

Transect #: 1
 Bottom Depth: 90
 Initials: WZ

Floater ID	Bottle	Target Depth	TOI	Nuts	HC	Chl a vol	Chl b vol	BSI	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1	78												
ZS, HS	10mab	78	✓	✓										
WS	10mab	78						✓			✓	✓		
ZS, HS	10mab	78												
WS	ZS, HS	60	✓	✓		✓		✓			✓	✓		
	5	60												
	6	60												
	7	40												
ZS, HS	8	40	✓	✓		✓								
WS	9	40						✓			✓	✓		
HS	10	30		✓		✓								
WS	11	30						✓			✓	✓		
ZS, HS	12	20	✓	✓		✓	✓		✓	✓			✓	✓
WS	13	20						✓			✓	✓		
HS	14	10	✓	✓		✓					✓	✓		
WS	15	10						✓						
ZS, HS	16	sfc	✓	✓		✓	✓		✓	✓			✓	✓
WS	17	sfc						✓			✓	✓		
	18	sfc												
	19	sfc												
	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
 ZS sfc 10, 20, 30, 40, 60, 78, 78
 sfc 20, 40, 60, 78, 78

TN-368 CTD Cast Sheet

Station Number: A8 CTD cast #: 004 Transect #: 1
 Start time (UTC): 03:11:40 End time (UTC): 03:31 Bottom Depth: 120
 Start date (UTC): 2019-07-06 End date (UTC): 2019-07-06 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	110												
ZS, HS 10mab	2	110	✓	✓										
WS	3	100						✓			✓	✓		
ZS, HS	4	100	✓	✓										
WS	5	80						✓			✓	✓		
ZS, HS	6	80	✓	✓										
WS	7	60						✓			✓	✓		
ZS, HS	8	60	✓	✓		✓								
WS	9	40						✓			✓	✓		
ZS, HS	10	40	✓	✓		✓								
WS chlmax	11	30						✓			✓	✓		
HS	12	30		✓		✓	✓		✓	✓			✓	✓
WS	13	20						✓			✓	✓		
ZS, HS	14	20	✓	✓		✓								
WS	15	10						✓			✓	✓		
HS	16	10		✓		✓								
WS	17	sfc						✓			✓	✓		
ZS, HS	18	sfc	✓	✓		✓	✓		✓	✓			✓	✓
	19	sfc												
	20	sfc												
	21	sfc												
	22													
	23													
	24													
	Sampler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab
 Sfc, 10, 20, 30, 40, 60, 80, 100, 110, 110
 Sfc, 110
 Sfc

TN-368 CTD Cast Sheet

Station Number: A9 CTD cast #: 005 Transect #: 1
 Start time (UTC): 4:32:22 End time (UTC): _____ Bottom Depth: 129
 Start date (UTC): 2019-07-06 End date (UTC): 2019-07-06 Initials: TS

Floater ID	Bottle	Target Depth	TOI	Nuts	14C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1													
	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													

ABORTED CAST
 SALINITY DIFFERENCE
 ~3 PSU.
 Recovered to clear

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

TN-368 CTD Cast Sheet

Station Number: A9 CTD cast #: 006 Transect #: 1
 Start time (UTC): 04:46:45 End time (UTC): 05:23:39 Bottom Depth: 129
 Start date (UTC): 7/6/2019 End date (UTC): 7/6/2019 Initials: ZS

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

Sampling depths – Fixed: Sfc, 10, ~~20~~²², 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab
 23

TN-368 CTD Cast Sheet

Station Number: A10 CTD cast #: 007 Transect #: 1
 Start time (UTC): 05:51 End time (UTC): 06:09 Bottom Depth: 137
 Start date (UTC): 07/06/2019 End date (UTC): 07/06/2019 Initials: 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
10mab	1	127 ✓	✓											
ZS, HS 10mab	2	127 ✓		✓				Top Value NOT closed						
WS	3	100 ✓	✓					✓			✓	✓		
ZS, HS	4	100 ✓		✓				Top Value NOT closed.						
WS	5	80 ✓						✓			✓	✓		
ZS, HS	6	80 ✓	✓	✓										
WS	7	60 ✓						✓			✓	✓		
ZS, HS	8	60 ✓	✓	✓										
WS	9	40 ✓						✓			✓	✓		
ZS, HS	10	40 ✓	✓	✓		✓								
WS Chlmax	11	30 ✓						✓			✓	✓		
HS Chlmax	12	30 ✓		✓		✓			✓	✓			✓	✓
WS	13	20 ✓						✓			✓	✓		
ZS, HS	14	20 ✓	✓	✓		✓								
WS	15	10 ✓						✓			✓	✓		
HS	16	10 ✓		✓		✓								
WS	17	5 ✓						✓			✓	✓		
ZS	18	5 ✓	✓											
HS	19	5 ✓		✓		✓	✓		✓	✓			✓	✓
	20	5 ✓												
	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

31 127

TN-368 CTD Cast Sheet

Station Number: A11 CTD cast #: 008 Transect #: 1
 Start time (UTC): 06:57 End time (UTC): 7:15 Bottom Depth: 150
 Start date (UTC): 7/6/19 End date (UTC): 7/6/19 Initials: 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	10mab	140 ✓		✓										
HS		120 ✓		✓										
WS		100 ✓						✓			✓	✓		
HS		100 ✓		✓										
WS		80 ✓						✓			✓	✓		
HS		80 ✓		✓										
WS		60 ✓						✓			✓	✓		
HS		60 ✓		✓										
WS		40 ✓						✓			✓	✓		
HS		40 ✓		✓		✓								
WS		30 ✓						✓			✓	✓		
HS		30 ✓		✓		✓								
WS	Chl max	22 ✓						✓			✓	✓		
WS	Chl max	22 ✓		✓		✓			✓	✓			✓	✓
WS		10 ✓						✓			✓	✓		
HS		10 ✓		✓		✓								
WS		Sfc ✓						✓			✓	✓		
		Sfc ✓												
ZS, HS		Sfc ✓	✓	✓		✓	✓		✓	✓			✓	✓
		Sfc ✓												
	Sam													
	pler													

Sampling depths – Fixed: Sfc, 10, ²²20, 30, 40, 60, 80, 100, 120, ¹⁴⁰150, 200, 250, 300
 Floating: Chl max, 10mab
 24 140

bottle partially out of water when closed. Max heard it and it fixed leak check.

TN-368 CTD Cast Sheet

Station Number: A12 CTD cast #: 009 Transect #: 1
 Start time (UTC): 8:00 End time (UTC): 8:36 Bottom Depth: 271
 Start date (UTC): 7/6/2019 End date (UTC): 7/6/2019 Initials: AS HW

Floater ID	Bottle	Target Depth	TOI	Nuts	°C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
HS	1	262		✓										
HS	2	250		✓										
HS	3	200		✓										
HS	4	150		✓										
	5	120												
ZS, HS	6	120	✓	✓										
WS	7	100						✓			✓	✓		
ZS, HS	8	100	✓	✓										
WS	9	80						✓			✓	✓		
ZS, HS	10	80	✓	✓		✓								
WS	11	60						✓			✓	✓		
ZS, HS	12	60	✓	✓		✓								
WS	13	40						✓			✓	✓		
ZS, HS	14	40	✓	✓		✓								
WS	15	30						✓			✓	✓		
HS	16	30		✓		✓			✓	✓			✓	✓
WS	17	18						✓			✓	✓		
ZS, HS	18	18	✓	✓		✓							✓	✓
WS	19	10						✓			✓	✓		
HS	20	10		✓		✓								
WS	21	sfc						✓			✓	✓		
ZS, HS	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 sfc ✓ 10 ✓ 20 ✓ 30 ✓ 40 ✓ 60 ✓ 80 ✓ 100 ✓ 120 ✓
 18 ✓ 18 ✓ 262 ✓
 30

TN-368 CTD Cast Sheet

Station Number: A13 CTD cast #: 010 Transect #: 1
 Start time (UTC): 9:23 End time (UTC): 10:01 Bottom Depth: 479
 Start date (UTC): 7/6/2019 End date (UTC): 7/6/2019 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		✓										
HS	5	120		✓										
HS	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						✓			✓	✓		
HS	16	20		✓		✓								
WS	17	20						✓			✓	✓		
HS	18	10		✓		✓								
WS	19	10						✓			✓	✓		
	20	Sfc												
	21	Sfc												
	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

25

461

Sfc ✓ 10 ✓ 20 ✓ 30 ✓ 40 ✓ 50 ✓ 60 ✓ 80 ✓ 100 ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓

PRODUCTIVITY

TN-368 CTD Cast Sheet

Station Number: A14 CTD cast #: 011 Transect #: 1
 Start time (UTC): 10:46 End time (UTC): 11:26 Bottom Depth: ~75691
 Start date (UTC): 7/6/2019 End date (UTC): 7/6/2019 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, HS, WS	6	100	✓	✓	✓			✓			✓	✓		
ZS, HS, WS	7	80	✓	✓	✓			✓			✓	✓		
ZS, HS, WS	8	57	✓	✓	✓	✓		✓			✓	✓		
ZS, HS, WS, Chl max	9	38	✓	✓	✓	✓		✓			✓	✓	✓	✓
WS, CS, chl max	10	38												
CS, chl max	11	38												
CH, chl max	12	38												
CH, chl max	13	38												
WS, HS	14	25		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
ZS, WS, CS	15	25												
WS, HS, CS	16	25	✓											
WS, HS	17	16		✓	✓	✓		✓			✓	✓		
WS, HS	18	11		✓	✓	✓		✓			✓	✓	✓	✓
WS	19	11												
WS, HS	20	6		✓	✓	✓		✓			✓	✓		
CS	21	surf												
CS	22	surf												
HS, WS	23	surf		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ZS, WS	24	surf	✓											
	Sam pler													

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

Floating: Chl max, 10mab

38 m

Handwritten notes and corrections at the bottom of the page, including a list of sampling depths with checkmarks and some scribbled-out text. The list includes: 0, 6, 11, 16, 25, 38, 57, 80, 100, 120, 150, 200, 250, 300. There are also some numbers like 38, 57, 80, 100, 120, 150, 200, 250, 300 written vertically and some other markings.

grazing water collection

TN-368 CTD Cast Sheet

Station Number: A14 CTD cast #: 012 Transect #: 1
 Start time (UTC): 12:55 End time (UTC): 13:02 Bottom Depth: 686
 Start date (UTC): 2019-07-06 End date (UTC): 2019-07-06 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	38												
	2													
	3													
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													
	16													
	17													
	18													
	19													
	20													
	21													
	22													
	23													
	24		38											
	Sam pler													

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

TN-368 CTD Cast Sheet

Productivity cast

Station Number: A15 CTD cast #: 013 Transect #: 1
 Start time (UTC): 13:47 End time (UTC): _____ Bottom Depth: 1113
 Start date (UTC): 2019-07-06 End date (UTC): 2019-07-06 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		✓										
HS	2	250		✓										
HS	3	200		✓										
HS	4	150		✓										
HS	5	120		✓										
HS, WS	6	100		✓	✓			✓			✓	✓		
HS, WS	7	80		✓	✓	✓		✓			✓	✓		
HS, WS	8	60		✓	✓	✓		✓			✓	✓	✓	
HS, WS	9	40		✓	✓	✓		✓	✓	✓	✓	✓	✓	
WS	10	40												
CS	11	40												
CS	12	40												
WS, HS	13	26		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
WS	14	26												
CS	15	26												
CS	16	26												
WS, HS	17	17		✓	✓	✓		✓			✓	✓		
WS, HS	18	12		✓	✓	✓		✓	✓	✓	✓	✓	✓	
WS	19	12												
WS	20	6		✓	✓			✓			✓	✓		
CS	21	sfc												
CS	22	sfc												
WS, HS	23	sfc		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
WS, WS	24	sfc	✓											
	Sampler													

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

Floating: Chl max, 10mab

~~0 0 12 26 40 60~~
 WS 0 0 12 26 40 60
 CS 0 26 40
 CS 0 26 40

productivity cast

TN-368 CTD Cast Sheet

Station Number: A16 CTD cast #: 014 Transect #: 1
 Start time (UTC): 15:13 End time (UTC): 15:43 Bottom Depth: 1837
 Start date (UTC): 2019-07-06 End date (UTC): 2019-07-06 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		✓										
HS	2	250		✓										
HS	3	200		✓										
HS	4	150		✓										
ZS, HS	5	120	✓	✓										
ZS, HS, WS	6	100	✓	✓	✓			✓			✓	✓		
ZS, HS, WS	7	80	✓	✓	✓	✓		✓			✓	✓		
ZS, HS, WS	8	60	✓	✓	✓	✓		✓			✓	✓		
WS, HS	9	43		✓	✓	✓		✓			✓	✓		
ZS, WS	10	43	✓											
CS	11	43												
CS	12	43												
WS, HS	13	29		✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
CS, WS	14	29												
CS	15	29												
WS, HS	16	19			✓	✓		✓			✓	✓		
WS	17	19		✓										
WS, HS	18	12		✓	✓			✓			✓	✓		
ZS, HS, WS	19	9	✓	✓	✓	✓		✓			✓	✓		
WS	20	4		✓	✓			✓			✓	✓		
CS	21	sfc												
CS	22	sfc												
WS, HS	23	sfc		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
ZS, WS	24	sfc	✓											
	Sampler													

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

CM
 4 ✓ 9 ✓ 12 ✓ 19 ✓ 29 ✓ 43 ✓
 19 ✓ 29 ✓ 43 ✓
 29 ✓ 43 ✓
 29 ✓ 43 ✓
 CS
 CS
 200 ✓
 200 ✓

TN-368 CTD Cast Sheet

Station Number: A17 CTD cast #: 015 Transect #: 1
 Start time (UTC): 16:28 End time (UTC): 17:05 Bottom Depth: 2126
 Start date (UTC): 2019-07-06 End date (UTC): 2019-07-06 Initials: WZ/RS

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	NH4	1	500 ✓		✓									
HS		2	300 ✓		✓									
HS		3	250 ✓		✓									
HS		4	200 ✓		✓									
HS		5	150 ✓		✓									
HS		6	120 ✓		✓									
WS		7	100 ✓					✓			✓	✓		
HS		8	100 ✓		✓	✓								
WS		9	80 ✓					✓			✓	✓		
HS		10	80 ✓		✓	✓								
WS		11	60 ✓					✓			✓	✓		
HS		12	60 ✓		✓	✓								
WS		13	40 ✓					✓			✓	✓		
HS		14	40 ✓		✓	✓								
WS	CHL	15	28 ✓					✓			✓	✓		
HS	CHL	16	28 ✓		✓	✓			✓	✓			✓	✓
WS		17	20 ✓					✓			✓	✓		
HS		18	20 ✓		✓	✓								
WS		19	10 ✓					✓			✓	✓		
HS		20	10 ✓		✓	✓								
WS		21	Sfc ✓					✓			✓	✓		
		22	Sfc ✓											
		23	Sfc ✓											
ZS, HS		24	Sfc ✓	✓	✓	✓	✓		✓	✓			✓	✓
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300 500
Floating: Chl max, 10mab
 28 Chl
 Sfc 10 20 30 40 60 80 100
 Sfc
 Sfc
 Sfc

Forgot to start Archiving data
noticed at 190m. restarted cast. Cost 40 mins

TN-368 CTD Cast Sheet

Station Number: A18 CTD cast #: 016 Transect #: 1
 Start time (UTC): ~~17:47~~ 17:38 End time (UTC): 18:33 Bottom Depth: 2292
 Start date (UTC): 7/6/19 End date (UTC): 7/6/19 Initials: ZS

Floater ID	Bottle	Target Depth	TOI	Nuts	14C	Chl a vol	Chl b vol	BSI	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1	300 ✓		✓										
	2	250 ✓	✓	✓										
	3	200 ✓		✓										
	4	150 ✓		✓										
	5	120 ✓		✓										
	6	100 ✓	✓	✓										
	7	100 ✓						✓			✓	✓		
	8	80 ✓	✓	✓		✓								
	9	80 ✓						✓			✓	✓		
	10	60 ✓	✓	✓		✓								
	11	60 ✓						✓			✓	✓		
	12	40 ✓	✓	✓		✓							✓	✓
	13	40 ✓						✓			✓	✓		
Chlmax	14	32 ✓		✓		✓			✓	✓			✓	✓
Chlmax	15	32 ✓						✓			✓	✓		
	16	20 ✓	✓	✓		✓							✓	✓
	17	20 ✓						✓			✓	✓		
	18	10 ✓		✓		✓								
	19	10 ✓						✓			✓	✓		
	20	Sfc ✓									Slight dip out of bottom cap orig			
	21	Sfc ✓												
	22	Sfc ✓												
	23	Sfc ✓						✓			✓	✓		
	24	Sfc ✓	✓	✓		✓	✓		✓	✓			✓	✓
	Sam pler													

Sampling depths – Fixed: Sfc, 10, 20, ³²30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab
 28

TN-368 CTD Cast Sheet

Station Number: A5 CTD cast #: 017 Transect #: 3
 Start time (UTC): 02:15 End time (UTC): 02:25 Bottom Depth: 83
 Start date (UTC): 2019-07-07 End date (UTC): 2019-07-07 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	sfc												✓
	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

TN-368 CTD Cast Sheet

Station Number: A6 CTD cast #: 018 Transect #: 3
 Start time (UTC): 03:03 End time (UTC): 13:10 Bottom Depth: 90
 Start date (UTC): 2019-07-07 End date (UTC): 2019-07-07 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	sfc												✓
	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

TN-368 CTD Cast Sheet

Station Number: A7 CTD cast #: 019 Transect #: 3
 Start time (UTC): 03:55 End time (UTC): 04:02 Bottom Depth: 100
 Start date (UTC): 2019-07-07 End date (UTC): 2019-07-07 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			No bottle										
	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

TN-368 CTD Cast Sheet

Station Number: A8 CTD cast #: 020 Transect #: 3
 Start time (UTC): 04:43 End time (UTC): 04:52 Bottom Depth: 121
 Start date (UTC): 2019-07-07 End date (UTC): 2019-07-07 Initials: 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
	1	Sfc												✓
	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

TN-368 CTD Cast Sheet

Station Number: A9 CTD cast #: 021 Transect #: 3
 Start time (UTC): 05:32 End time (UTC): 05:42 Bottom Depth: 130
 Start date (UTC): 2019-07-07 End date (UTC): 2019-07-07 Initials: 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
	1													
	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													

NO Bottles

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

TN-368 CTD Cast Sheet

Station Number: A10 CTD cast #: 022 Transect #: 3
 Start time (UTC): 06:25 End time (UTC): 06:36 Bottom Depth: 137
 Start date (UTC): 2019-07-07 End date (UTC): 2019-07-07 Initials: CS

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														
	3														
	4														
	5	NO Bottles									- NO DAUPR video file recorded <				
	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

TN-368 CTD Cast Sheet

Station Number: A11 CTD cast #: 023 Transect #: 3
 Start time (UTC): 07:18 End time (UTC): 07:27 Bottom Depth: 151
 Start date (UTC): 2019-07-07 End date (UTC): 2019-07-07 Initials: TS

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													
	3													
	4													
	5													
	6													
	7													
	8													
	9													
	10													
	11													
	12													
	13													
	14													
	15													
	16													
	17													
	18													
	19													
	20													
	21													
	22													
	23													
	24													
	Sampler													

No Bottles

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

TN-368 CTD Cast Sheet

Station Number: A12 CTD cast #: 024 Transect #: 3
 Start time (UTC): 08:13 End time (UTC): 8:29 Bottom Depth: ~272
 Start date (UTC): 2019/07/07 End date (UTC): 2019/07/07 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	Sfc												✓
	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
261

TN-368 CTD Cast Sheet

Station Number: A13 CTD cast #: 025 Transect #: 3
 Start time (UTC): 9:14 End time (UTC): 9:38 Bottom Depth: ~477
 Start date (UTC): 2013/07/07 End date (UTC): 2013/07/07 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													
	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													

NO BOTTLES

Sampling depths – Fixed: Sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab
461

PRODUCTIVITY (no grazing)

TN-368 CTD Cast Sheet

Station Number: A14 CTD cast #: 026 Transect #: 3
 Start time (UTC): 10:18 End time (UTC): 10:55 Bottom Depth: ~692
 Start date (UTC): 2019/07/07 End date (UTC): 2019/07/07 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	300		✓										
	2	250		✓										
	3	200		✓										
	4	150		✓										
	5	120		✓										
	6	100		✓	✓			✓				✓		
	7	80		✓	✓			✓				✓		
	8	57		✓	✓	✓		✓				✓		
	9	57												
	10	37		✓	✓	✓		✓				✓	✓	✓
	11	37												
	12	37												
	13	25		✓	✓	✓		✓	✓	✓		✓	✓	✓
	14	25												
	15	25												
	16	25												
	17	10		✓	✓	✓		✓				✓		
	18	11		✓	✓	✓		✓				✓		
	19	11												
	20	6		✓	✓	✓		✓				✓		
	21	sfc												
	22	sfc												
	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
 57

TN-368 CTD Cast Sheet

Station Number: A15 CTD cast #: 027 Transect #: 3
 Start time (UTC): 11:52 End time (UTC): 12:17 Bottom Depth: ~111.2
 Start date (UTC): 2019/07/07 End date (UTC): 2019/07/07 Initials: HO

Floater ID	Bottle	Target Depth	TOI	Nuts	14C	Chl a vol	Chl b vol	BSi	HPLC ID	HPLC vol	CO ₂	C/N	FCM	IFCB
	1													
	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													

NO
 BOTTLES
 !!

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

productivity

TN-368 CTD Cast Sheet

Station Number: A16 CTD cast #: 028 Transect #: 3
 Start time (UTC): 13:07 End time (UTC): _____ Bottom Depth: 1821
 Start date (UTC): 2019/07/07 End date (UTC): 2019/07/07 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	300		✓										
	2	250		✓										
	3	200		✓										
	4	150		✓										
	5	120		✓										
	6	100		✓	✓			✓				✓		
	7	80		✓	✓			✓				✓		
	8	60		✓	✓	✓		✓				✓		
	9	49		✓	✓	✓		✓				✓		
	10	49												
	11	32		✓	✓	✓		✓				✓	✓	✓
	12	32												
	13	32												
	14	21		✓	✓	✓		✓	✓	✓		✓	✓	✓
	15	21												
	16	21												
	17	13		✓	✓	✓		✓				✓		
	18	10		✓	✓	✓		✓				✓		
	19	10												
	20	5		✓	✓			top cap ✓				✓		
	21	sfc												
	22	sfc												
	23	sfc												
	24	sfc	✓	✓										
	Sampler													

Bottle 21 did NOT close properly. the hoop was caught by the cable and did not release the string. Water sample was not affected.

Sampling depths – Fixed: sfc, 10, 20, 30, 40, 60, 80, 100, 120, 150, 200, 250, 300 ✓
 Floating: Chl max, 10mab 0, 5, 10, 13, 21, 32, 49 ✓
 CS 0 10, 21, 32, 49 ✓
 CS 0 21, 32 ✓
 0 21, 32 ✓

TN-368 CTD Cast Sheet

Station Number: A17 CTD cast #: 029 Transect #: 3
 Start time (UTC): 14:38 End time (UTC): 15:01 Bottom Depth: 2119
 Start date (UTC): 2019-07-07 End date (UTC): 2019-07-07 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			No bottle										
	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

Productivity cast

TN-368 CTD Cast Sheet

Station Number: A12 CTD cast #: 030 Transect #: 4
 Start time (UTC): 19:13 End time (UTC): 19:39 Bottom Depth: 272
 Start date (UTC): 2019-07-07 End date (UTC): 2019-07-07 Initials: 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
	1	262 ✓		✓										
	2	250 ✓		✓										
	3	197 ✓		✓										
	4	150 ✓		✓										
	5	120 ✓		✓	✓			✓				✓		
	6	100 ✓		✓	✓			✓				✓		
	7	80 ✓		✓	✓	✓		✓				✓		
	8	60 ✓		✓		✓								
	9	49 ✓			✓			✓				✓		
	10	49 ✓				✓								
	11	49 ✓		✓										
	12	32 ✓		✓	✓	✓		✓				✓	✓	✓
	13	21 ✓												
	14	21 ✓												
	15	21 ✓												
	16	21 ✓				✓			✓	✓			✓	✓
	17	21 ✓		✓	✓			✓				✓		
	18	14 ✓		✓	✓	✓		✓				✓		
	19	10 ✓		✓	✓	✓		✓				✓		
	20	5 ✓		✓	✓			✓				✓		
	21	stc ✓												
	22	stc ✓												
	23	stc ✓			✓			✓				✓		
	24	stc ✓	✓	✓		✓	✓		✓	✓			✓	✓
	Sampl								✓				✓	✓

262

Sampling depths – Fixed: ~~Stc, 10, 20, 30, 40~~, 60, 80, 100, 120, 150, 200, 250, 300
 Floating: Chl max, 10mab ~~Stc~~ 5 10 14 21 32 49

⋮
⋮
⋮