

SYNOPSIS
CARGO 3

Nov 7-9,2007

Science crew: Sterner (Chief Scientist), Brovold, Seegers, Michelle McCrackin (ASU)

We successfully sampled CD-1 and WM and deployed the bottle array at WM. Cores were taken for Stark and McCrackin at several other sites. Cloudy throughout the cruise, with calm to 2 foot seas most of the time. Surface temp was about 8 C and a thermocline was present at (40-60 m?, depending on station).

Core Chemistry –

11/7/07 12:42 am - Collected water column samples at CD-1 (5m, 15m, 25m, 50m, and 250m). Used 5m, 15m, and 25m samples for PI curves.

11/8/07 10:29 am - Collected water column samples at WM (2m, 5m, 10m, 20m, 30m, 40m, 60m, and 80m). Used 2m, 10m, and 30m samples for PI curves.

Note: 1 completely full carboy (20L) is sufficient to do all of the core chemistries, however, anything additional such as the bottle arrays and on- deck incubations will require additional water to be collected.

Size fractionation of seston. – Fractions <80, <40, <20, <10, <5, <2, and <0.7um

SAMPLE	FRACTION	VOL FILT	#REPS	MEDIA
14C DIC GC method	80		2	glass vial /crimped top
14C DIC	80		1	brown vial
14C DOC	80		1	brown vial
15N PON	80	1000-2000	2	25mm GF/F filter
CHN	80	1000	2	25mm GF/F filter
PP	80	1000	2	25mm GF/F filter
Chla	80	200	2	25mm CN filter
Respiration	80		1	500 mL bottle
NO3	80		1	125 mL bottle
Si	80		1	60 mL bottle
DOC/TDP	0.7		2	60 mL bottle
NH4	0.7		1	500 mL bottle
Chla	40	200	2	25mm CN filter
Chla	20	200	2	25mm CN filter
CHN	10	1000	2	25mm GF/F filter
PP	10	1000	2	25mm GF/F filter
Chla	10	200	2	25mm CN filter
Chla	5	200	2	25mm CN filter

CHN	2	1000-1500	2	25mm GF/F filter	
PP	2	1000	2	25mm GF/F filter	
Chla	2	200	2	25mm CN filter	
HPLC1	80	1000	1-2	47mm GF/F filter	
DNA 1	whole	250	2	47mm 0.2 um PC filter	

Processed all CD-1 depths and the 3 PI curve depths at station WM on board ship. The remaining water from WM was processed upon returning to the lab. We need to increase our filtering capacity by adding an additional pump and more towers to our inventory.

SPEC PH – Not run this cruise

P-I curves – Curves were run on whole and 2 micron filtered water at three depths at both sites (5, 15, 25 m, CD-1 and WM 2, 10, 30m). The final WM curve was run the following day with the inoculum being held in the on-deck incubator over night. All incubations were 2 hr. Light taken 2-3 X per day. Average all values for a single day for the curves run that particular day.

Bottle array – Deployed and retrieved on Nov 8 at WM. New vacuum couplings worked great and the electrical tape on the dark bottles solved all past problems of foil ripping and bags getting lost. Cable-tying bottles into cages is somewhat clumsy – we should look for a faster way to fix them in place, which could save ½ hr from total set up time. Took OC samples (1 mL sample, 250 uL 6 N HCl) from bottles at end.

Pico genetics – for George Bullerjahn at BGSU - 500 mls of whole water was collected directly from the niskins at three locations (Harbor mouth, CD-1, and WM) at a depth of 5m. Two reps of 250 mls each of whole water was then filtered onto 47mm 0.2 um PC filters. Samples were folded and placed into 2 mL cryovials and frozen in liquid N for the duration of the cruise. Stored in the -70C freezer in lab.

Grazing - Bridget please fill in.

Cores, Stark – Becky please fill in.

Water samples for Becky Stark-

Stern B – (11/7/07 9:03am) collected whole water for Becky at 5m (2L), 23m (2L), and 29m (2L and 8L) and 4 sediment cores.

Stern C – (11/7/07 9:20am) collected whole water for Becky at 5m (2L), 28m (2L), 37m (2L), and 42m (2L and 8L) and 4 sediment cores.

WM – (11/8/07 10:29am) collected whole water for Becky at 5m (2L), 30m (2L), 50m (2L), 100m (2L), 120m (2L), 140m (2L), 160m (2L), and 179m (8L) and 4 sediment cores.

Cotner G – (11/9/07 00:18am) collected whole water for Becky at ??? depths and 4 sediment cores.

Cores, McCrackin – Michelle please fill in.

Respiration -- Becky please fill in