

PARTICULATE SILICA FILTRATION PROCEDURE

GET IT TOGETHER:

- square 500ml PP bottle for measuring sample volume
- 0.6um 47mm Nuclepore membrane filters
- filtration towers with clamps
- forceps
- small petrie dishes
- Sharpie and tape

SAMPLE COLLECTION:

- Use a square 500ml PP bottle to measure sample.
- Rinse bottle and cap 3 times with water from the 4L carboy.
- Fill bottle to brim and cap – this volume is 630ml.
- Filter samples immediately.

SAMPLE FILTERING:

Blank Preparation:

- Fold a blank filter (Nuclepore 0.6um) into quarters and place in a plastic petrie dish. Label the dish with the date and “BLANK”. Do a blank for every set of samples.

Sample Preparation:

- Rinse 47mm clamped filter towers with Nanopure and shake to remove excess water. Do this before every sample.
- Place filter on base with tweezers shiny side up; do not use fingers.
- Carefully place tower on base, do not crease filter, and clamp together.
- Shake sample container, then pour seawater sample into filter funnel. If the sample bottle is filled to the rim, samples are usually the same volume.
- Turn vacuum pump on; vacuum should be around 10 mm Hg. Pump only until filter dries, do not maintain vacuum on dry filters.
- Using forceps, carefully fold filter in half then in quarters and place in plastic petrie dish. Label the dish as per labeling protocol and tape it shut.
- Use foil to wrap dishes from the same station together and place in the “Si ONLY” drying oven (room 2007) at 65°C.

LOG EVERYTHING:

Record ALL information to log sheet. Make a note on the log sheet if any problems were encountered during filtration; i.e. a torn filter, leaking funnel - ANYTHING. Fill out entire log sheet – it may take a little time now, but it’s worth it in the long run! Check your labeling.

CLEAN EVERYTHING:

Rinse all sample bottles 3X with Nanopure and shake out excess water. Rinse all filter towers and frits 3x with Nanopure.