WATER COLUMN TIME SERIES PROTOCOL
DIC (Dissolved Inorganic Carbon) Sample Collection
Moorea Coral Reef LTER

General: These samples are analyzed in the Laboratory of Dr. Andrew Dixon at Scripps Institute of Oceanography or Victoria Fabry at California State University, San Marcos. Thee labs provide the shipping box, bottles and accessories for this collection. The major concern in collecting samples is to minimize the carbon dioxide exchange between the sample and the air.

Get Together:

Saturated Hg Cl2 solution
Pipette set at 120 µl and pipette tip
20 ml syringe
Kimwipes and kimwipes wrapped around wooden sticks (about 8 inches long)
Apiezon "L" grease in a plastic, 20 ml syringe
Numbered Glass bottles with the same numbered glass stopper
Rubber bands and clips

Procedure:

1. Clean the stopper and bottle top with kimwipes. Do not rinse the bottles.
2. Grease the stopper by putting 4-5 thin lines of Apeason L grease vertically around it.
3. DIC should always be the first sample type drawn from the Niskin Bottle. Allow water to flow through the tubing on to the deck until air bubbles disappear.
4. Insert the tube to the bottom of the bottle and allow the bottle to overflow at least 1.5 times the filling time. Do not rinse the bottle. Slowly remove the tube so that the bottle is fill to overflowing.
5. Using the 20 ml syringe, remove about 20 mls of water from the bottle. This will leave an air space of about 6 ml. A 6 to 12 ml air space is critical. It must not be more.
6. Add 120 µl Mercuric Chloride
7. Swab the sample bottle joint to remove excess water
8. Insert the stopper, making sure the grease covers the entire joint as it spreads out.
9. Install the clip and band: This takes two people. One person stretches the band over the top of the stopper, holding it down with their thumbs. The second person inserts the clip in the spaces provided by the first persons thumbs and snaps the clip in place at least one click. Two clicks in better.
10. Fill out the data sheet, noting preliminary temperature and salinity if known (about 36.1 o/oo in Moorea).
11. Store the bottles in a refrigerator if possible (except during shipping) and ship back to California for analysis.