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Recommended standard operating procedures

The procedures detailed in the following pages have been prepared by the members of the DOE CO₂ survey science team. They are intended to provide standard procedures for measurements of CO₂ parameters made as part of the DOE sponsored survey.

1. Procedures for sampling and analysis

- SOP 1 Water sampling for the parameters of the oceanic carbon dioxide system
- SOP 2 Determination of total dissolved inorganic carbon in sea water
- SOP 3 Determination of total alkalinity in sea water
- SOP 4 Determination of $p(\text{CO}_2)$ in air that is in equilibrium with a discrete sample of sea water
- SOP 5 Determination of $p(\text{CO}_2)$ in air that is in equilibrium with a continuous stream of sea water
- SOP 6 Determination of the pH of sea water using a glass / reference electrode cell
- SOP 7 Determination of the pH of sea water using the indicator dye *m*-cresol purple

2. Procedures for calibrations, etc.

- SOP 11 Gravimetric calibration of the volume of a gas loop using mercury
- SOP 12 Gravimetric calibration of volume delivered using water
- SOP 13 Gravimetric calibration of volume contained using water
- SOP 14 Electronic calibration of the UIC Model 5011 coulometer

3. Procedures for computations, quality control, etc.

SOP 21 Applying air buoyancy corrections

SOP 22 Preparation of control charts

SOP 23 Statistical techniques used in quality assessment

SOP 24 Calculation of the fugacity of carbon dioxide in the pure gas or in air