A2. SELECTION OF EQUIPMENT FOR WATER SAMPLING

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This chapter provides information to assist field personnel in selecting the water-collection and -processing equipment[2] that are appropriate to study objectives, data-quality requirements[3], and site conditions. Selection of equipment for collecting or processing water-quality samples depends on the physical constraints and safe operation of the equipment and on its suitability with respect to achievement of study objectives. Criteria for selecting equipment for water sampling depend on (1) the mechanical constraints of the equipment to perform adequately under given environmental conditions, (2) the adequacy of equipment operation to obtain water-quality samples that represent the environmental conditions of the sample source, and (3) the adequacy of the equipment materials and construction to maintain sample integrity and not be a source of leaching and sorption of chemical substances.

- Always operate equipment safely.
- Be thoroughly familiar with requirements for equipment operation and maintenance.
- Be aware of the limitations as well as applications of the equipment with respect to your field site.
- Maintain and test each piece of equipment on a regular schedule. Record test procedures, test results, and repairs in a logbook dedicated to the equipment.

[2]Equipment used for field measurements of physical or chemical properties of water (temperature, dissolved oxygen, specific electrical conductance (conductivity), pH, reduction-oxidation potential, alkalinity, and turbidity) is described in NFM 6; equipment used for biological indicator determination is described in NFM 7; equipment used for bottom-material sampling is described in NFM 8; and safety equipment is described in NFM 9

[3]As used in this publication, the term data-quality requirements refers to that subset of data-quality objectives pertaining specifically to the analytical detection level for concentrations of target analytes and the variability (or error brackets) allowable to fulfill the scientific objectives of the study.