## **Appendix A5-B**. Sample-designation codes and a summary of field-processing requirements for analyses of inorganic constituents in water

[NWQL, National Water Quality Laboratory of the U.S. Geological Survey; mL, milliliters; °C, degrees Celsius; $H_2SO_4$, sulfuric acid; $HNO_3$, nitric acid; <, less than; $K_2Cr_2O_7$, potassium dichromate; NaOH, sodium hydroxide; >, greater than]

| Inorganic constituent[1] | Size and type of sample container[2] | Sample-designation codes of NWQL[1] | Treatment and preservation |
|---|---|---|---|
| Nutrients:<br>Nitrogen and phosphorus (raw) | 125-mL translucent polyethylene bottle. **Field rinse**. | WCA | Raw sample, treated: Add 1 mL of $H_2SO_4$.<br>Chill/maintain at 4°C. |
| Nitrogen and phosphorus (filtered) | 125-mL brown polyethylene bottle. **Field rinse.** | FCC<br><br>FCA | Filtered sample, untreated. Chill/maintain at 4°C.<br><br>Filtered sample: Add 1 mL of $H_2SO_4$.<br>Chill/maintain at 4°C. |
| Anions | 250-mL polyethylene bottle. **Field rinse.** | RU<br><br>FU | Raw sample, untreated.<br><br>Filtered sample, untreated. |
| Cations<br>(major cations, trace elements) | 250-mL polyethylene bottle, acid rinsed. **Field rinse.** | RA<br><br>FA | Raw sample. Acidify with $HNO_3$ to pH<2.<br>Filtered sample. Acidify with $HNO_3$ to pH<2 |
| Mercury | 250-mL glass bottle, (clear), acid rinsed. **Field rinse.** | RAM<br>FAM | Raw sample. Acidify with HCl, 6N, 2 mL, ultrapure<br>Filtered sample. Acidify with HCl, 6N, 2 mL, ultrapure |
| Antimony<br>Arsenic<br>Selenium | 250-mL polyethylene bottle, acid rinsed. **Field rinse.** | RAH | Raw sample.<br>Acidify with $HNO_3$ to pH<2. |
| Cyanide | 250-mL polyethylene bottle. **Field rinse.** | LC0023<br><br>LC0880 | Raw sample. Add NaOH to pH >12. Chill/maintain at 4°C.<br>Filtered sample. Add NaOH to pH >12. Chill/maintain at 4°C. |

[1]List of constituents and sample-designation codes is not complete or comprehensive. Some notable omissions include chemical oxygen demand and sulfide. Check with NWQL for a comprehensive list of analyses and sample designations and instructions. Check National Water Quality Technical Memorandum 97.05 for requirements of the USEPA Drinking Water Program.
[2]Container size is subject to sample-volume and analytical-method requirements. Acid-rinsed bottles must be received from the laboratory capped. Do not use acid-rinsed bottles that arrive uncapped.