Basic Sample Handling Guidelines

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Environmental Protection Agency sets standards for the quality of water and its sources.
Representative samples

Sampling locations
Sampling techniques
Representative samples
Containers
Sample preservation, volume, holding time.
Documentation
Submitting samples
Sampling Don’ts

- Bottle re-sterilized
- Cracked bottle or cap
- POU device
- Excess
- Rinsing sampling bottle
- Car dash
Sample Rejection Criteria:

- Date/time not given
- Too old
- \( \leq 100\text{mL} \)
- Frozen
- Excess \( \text{Cl}_2 \)
Tests with Short Holding Times

CWA Bacterials – t. coliforms, fecal & E. coli – ideally < 8 hrs
SDWA Bacterials – up to 30 hours.
BOD – All types - <48 Hours
Hex Cr - <24 Hours
Filterable (Ortho) P - <24 Hours
Turbidity - <24 Hours
Nitrite N - <48 Hours
Sample Bottles
Sampling Information Needed

Facility name and location
Site location
Bottle number
Collector’s name
Date and time
Grab or composite (with time and volume information)
Preservative

Any unusual circumstances should be identified.

Remember to include a chain of custody form.
Standard Methods for the Examination of Water and Wastewater and EPA Manual

Standard Methods provided by American Public Health Association, American Water Works Association and Water Pollution Control Federation
Quality Performance

Training (Initial and Ongoing)

SOP (Standard Operating Protocol)

QASP (Quality Assurance Sampling Plan)

Biosafety

System Controls and Charting

Assessment
Elements of Quality Assurance

Management activities that focuses on providing confidence in the data or product.

Training (IDC and DOC)
SOP & QASP
Biosafety
System Controls and Charting
Reporting results
QA reports
Assessment and Quality Improvement
<table>
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<tr>
<th>Basic QC Elements for Environmental Lab</th>
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<tbody>
<tr>
<td><strong>Reagent water</strong></td>
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<td><strong>Air in workplace</strong></td>
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<td><strong>Thermometers</strong></td>
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<td><strong>Balance</strong></td>
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<td><strong>Weights</strong></td>
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‘Clean collection’ of sample is vital. And so is clean analytical space.

**Quality Control**
Material needs vary test by test, but the need to maintain a clean work space and well documented analytical preparation is universal.

Analysis is void if these objectives are not met.
Guidance contacts

http://www/iowadnr.gov
http://www.ieha.net
http://www.shl.uiowa.edu