

Testing Requirements for a New Public Water Supply Well

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Iowa Administrative Code Rule:

567—43.3(7)“c”. New source water monitoring requirements. Water quality monitoring shall be conducted on all new water sources and results submitted to the department prior to placing the new water source into service.

(1) All sources. Water samples shall be collected from each new water source and analyzed for all appropriate contaminants as specified in 567—Chapter 41 consistent with the particular water system classification. If multiple new sources are being added, compositing of the samples (within a single system) shall be allowed in accordance with the composite sampling requirements outlined in 567—Chapter 41. A single sample may be allowed to meet this requirement, if approved by the department. Subsequent water testing shall be conducted consistent with the water system’s water supply operation permit monitoring schedule.

(2) Groundwater sources. Water samples collected from groundwater sources in accordance with 43.3(7)“c”(1) shall be conducted at the conclusion of the drawdown/yield test pumping procedure, with the exception of bacteriological monitoring. Bacteriological monitoring must be conducted after disinfection of each new well and subsequent pumping of the chlorinated water to waste. Water samples must be analyzed for ammonia. Water samples should also be analyzed for alkalinity, pH, calcium, chloride, copper, hardness, iron, magnesium, manganese, potassium, silica, specific conductance, sodium, sulfate, filterable and nonfilterable solids, and zinc.

Required drinking water contaminants (IAC 567—Chapter 41):

These are the contaminants that are required for compliance monitoring at Iowa public water supply systems. The contaminants vary by system classification; CWS and NTNC are the same except radionuclide analysis is only required at CWS. Analysis must be conducted by a DNR-certified laboratory. When submitting the sample to the laboratory, include the system’s PWSID number, description of the well, the sample type (Special), well number if it’s been assigned as the facility ID (WL##), the sample point (Raw), and request the data be transmitted to the DNR.

- **Community systems (CWS) and Nontransient noncommunity systems (NTNC)**, including homes, schools, daycares, businesses with more than 25 employees, etc.:
 - Inorganic compounds (IOC)
 - Antimony
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Chromium
 - Cyanide
 - Fluoride
 - Mercury
 - Nitrate, as N
 - Nitrite, as N
 - Selenium
 - Sodium
 - Thallium
 - Radionuclide compounds (*only required for CWS; not required for NTNC*)
 - Gross alpha
 - Combined radium 226 and 228
 - Uranium (required if gross alpha level exceeds 15 pCi/L)
 - Synthetic organic compounds (SOC)
 - Alachlor
 - Atrazine
 - 2,4-D
 - Di(2-ethylhexyl)adipate

- Di(2-ethylhexyl)phthalate
 - Diquat
 - Glyphosate
 - Volatile organic compounds (VOC)
 - Benzene
 - Carbon tetrachloride
 - Chlorobenzene (mono)
 - 1,2-Dichlorobenzene (ortho)
 - 1,4-Dichlorobenzene (para)
 - 1,2-Dichloroethane
 - 1,1-Dichloroethylene
 - cis-1,2-Dichloroethylene
 - trans-1,2-Dichloroethylene
 - Dichloromethane
 - 1,2-Dichloropropane
 - Water quality parameters as listed below
 - Bacteria monitoring prior to use
- Pentachlorophenol
 - Picloram
 - Simazine
- Ethylbenzene
 - Styrene
 - Tetrachloroethylene
 - Toluene
 - 1,1,1-Trichloroethane
 - Trichloroethylene
 - 1,2,4-Trichlorobenzene
 - 1,1,2-Trichloroethane
 - Vinyl chloride
 - Xylenes (total)
- **Transient noncommunity systems (TNC)**, including parks, bars, golf courses, businesses with fewer than 25 employees, etc.:
 - Nitrate
 - Nitrite
 - Water quality parameters as listed below
 - Bacteria monitoring prior to use

Water quality parameters

Water quality parameters are collected at the conclusion of the drawdown/yield test pumping procedure.

- **Required:**
 - Ammonia, as N
- **Parameters to determine water quality:**

○ Alkalinity	○ Magnesium	○ Sodium
○ Calcium	○ Manganese	○ Sulfate
○ Chloride	○ pH	○ Total dissolved solids
○ Copper	○ Potassium	○ Total suspended solids
○ Hardness	○ Silica	○ Zinc
○ Iron	○ Specific conductance	

Bacteria monitoring

Bacteria monitoring must be conducted after disinfection of each new well and subsequent pumping of the chlorinated water to waste. The well must be free of coliform bacteria before it's put into use. Refer to AWWA Standard C654-13 – Disinfection of Wells.

- Total coliform bacteria (presence/absence)
- *E. coli* bacteria (presence/absence)