SOURCE WATER SAMPLES IN ACCORDANCE § 141.86 SHALL COLLECT LEAD AND COPPER SAMPLES COLLECTED IN ACCORDANCE WITH SUBSEQUENT ROUNDS OF MONITORING THAT MEET THE CRITERIA OF EITHER PARAGRAPH (E)(2)(I) OR (E)(2)(II) OF THIS SECTION.

SUMMARY OF MONITORING REQUIREMENTS FOR WATER QUALITY PARAMETERS 1

<table>
<thead>
<tr>
<th>Monitoring period</th>
<th>Parameters 5</th>
<th>Location</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial monitoring</td>
<td>pH, alkalinity, orthophosphate or silica 5, calcium, conductivity, temperature.</td>
<td>Taps and at entry point(s) to distribution system.</td>
<td>Every 6 months.</td>
</tr>
<tr>
<td>After installation of corrosion control</td>
<td>pH, alkalinity, orthophosphate or silica 5, calcium 6.</td>
<td>Taps and at entry point(s) to distribution system 6.</td>
<td>No less frequently than every two weeks.</td>
</tr>
<tr>
<td>After State specifies parameter values for optimal corrosion control</td>
<td>pH, alkalinity, orthophosphate or silica 5, calcium 6.</td>
<td>Entry point(s) to distribution system 6.</td>
<td>No less frequently than every two weeks.</td>
</tr>
<tr>
<td>Reduced monitoring</td>
<td>pH, alkalinity, orthophosphate or silica 5, calcium 6.</td>
<td>Entry point(s) to distribution system 6.</td>
<td>Every 6 months.</td>
</tr>
<tr>
<td></td>
<td>pH, alkalinity, orthophosphate or silica 5, calcium 6.</td>
<td>Entry point(s) to distribution system 6.</td>
<td>No less frequently than every two weeks.</td>
</tr>
</tbody>
</table>

1 Table is for illustrative purposes; consult the text of this section for precise regulatory requirements.
2 Small and medium-size systems have to monitor for water quality parameters only during monitoring periods in which the system exceeds the lead or copper action level.
3 Orthophosphate must be measured only when an inhibitor containing a phosphate compound is used. Silica must be measured only when an inhibitor containing silicate compound is used.
4 Calcium must be measured only when calcium carbonate stabilization is used as part of corrosion control.
5 Inhibitor dosage rates and inhibitor residual concentrations (orthophosphate or silica) must be measured only when an inhibitor is used.
6 Ground water systems may limit monitoring to representative locations throughout the system.
7 Water systems may further reduce the frequency of monitoring for water quality parameters at the tap from every six months to annually if they have maintained the range of values for water quality parameters reflecting optimal corrosion control during 3 consecutive years of monitoring.
8 Water systems may further reduce the frequency of monitoring for water quality parameters at the tap from annually to once every 3 years if they have maintained the range of values for water quality parameters reflecting optimal corrosion control during 3 consecutive years of annual monitoring. Water systems may accelerate to triennial monitoring for water quality parameters at the tap if they have maintained 90th percentile lead levels less than or equal to 0.005 mg/L, 90th percentile copper levels less than or equal to 0.65 mg/L, and the range of water quality parameters designated by the State under §141.82(f) as representing optimal corrosion control during two consecutive six-month monitoring periods.

40 CFR Ch. I (7–1–11 Edition) § 141.88 MONITORING REQUIREMENTS FOR LEAD AND COPPER IN SOURCE WATER.

(a) Sample location, collection methods, and number of samples. (1) A water system that fails to meet the lead or copper action level on the basis of tap samples collected in accordance with §141.86 shall collect lead and copper source water samples in accordance with the following requirements regarding sample location, number of samples, and collection methods:

(i) Groundwater systems shall take a minimum of one sample at every entry point to the distribution system which is representative of each well after treatment (hereafter called a sampling point). The system shall take one sample at the same sampling point unless
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conditions make another sampling point more representative of each source or treatment plant.

(ii) Surface water systems shall take a minimum of one sample at every entry point to the distribution system after any application of treatment or in the distribution system at a point which is representative of each source after treatment (hereafter called a sampling point). The system shall take each sample at the same sampling point unless conditions make another sampling point more representative of each source or treatment plant.

NOTE TO PARAGRAPH (a)(1)(ii): For the purposes of this paragraph, surface water systems include systems with a combination of surface and ground sources.

(iii) If a system draws water from more than one source and the sources are combined before distribution, the system must sample at an entry point to the distribution system during periods of normal operating conditions (i.e., when water is representative of all sources being used).

(iv) The State may reduce the total number of samples which must be analyzed by allowing the use of compositing. Compositing of samples must be done by certified laboratory personnel. Composite samples from a maximum of five samples are allowed, provided that if the lead concentration in the composite sample is greater than or equal to 0.001 mg/L or the copper concentration is greater than or equal to 0.160 mg/L, then either:

(A) A follow-up sample shall be taken and analyzed within 14 days at each sampling point included in the composite; or

(B) If duplicates of or sufficient quantities from the original samples from each sampling point used in the composite are available, the system may use these instead of resampling.

(2) Where the results of sampling indicate an exceedance of maximum permissible source water levels established under §141.83(b)(4), the State may require that one additional sample be collected as soon as possible after the initial sample was taken (but not to exceed two weeks) at the same sampling point. If a State-required confirmation sample is taken for lead or copper, then the results of the initial and confirmation sample shall be averaged in determining compliance with the State-specified maximum permissible levels. Any sample value below the detection limit shall be considered to be zero. Any value above the detection limit but below the PQL shall either be considered as the measured value or be considered one-half the PQL.

(b) Monitoring frequency after system exceeds tap water action level. Any system which exceeds the lead or copper action level at the tap shall collect one source water sample from each entry point to the distribution system no later than six months after the end of the monitoring period during which the lead or copper action level was exceeded. For monitoring periods that are annual or less frequent, the end of the monitoring period is September 30 of the calendar year in which the sampling occurs, or if the State has established an alternate monitoring period, the last day of that period.

(c) Monitoring frequency after installation of source water treatment. Any system which installs source water treatment pursuant to §141.83(a)(3) shall collect an additional source water sample from each entry point to the distribution system during two consecutive six-month monitoring periods by the deadline specified in §141.83(a)(4).

(d) Monitoring frequency after State specifies maximum permissible source water levels or determines that source water treatment is not needed. (1) A system shall monitor at the frequency specified below in cases where the State specifies maximum permissible source water levels under §141.83(b)(4) or determines that the system is not required to install source water treatment under §141.83(b)(2).

(i) A water system using only groundwater shall collect samples once during the three-year compliance period (as that term is defined in §141.2) in effect when the applicable State determination under paragraph (d)(1) of this section is made. Such systems shall collect samples once during each subsequent compliance period. Triennial samples shall be collected every third calendar year.

(ii) A water system using surface water or (a combination of surface and
§ 141.89 Analytical methods.

(a) Analyses for lead, copper, pH, conductivity, calcium, alkalinity, orthophosphate, silica, and temperature shall be conducted with the methods in §141.23(k)(1).

(1) Analyses for alkalinity, calcium, conductivity, orthophosphate, pH, silica, and temperature may be performed by any person acceptable to the State. Analyses under this section for lead and copper shall only be conducted by laboratories that have been certified by EPA or the State. To obtain certification to conduct analyses for lead and copper, laboratories must:

(i) Analyze Performance Evaluation samples, which include lead and copper, provided by or acceptable to EPA or the State at least once a year by each method for which the laboratory desires certification; and

(ii) Achieve quantitative acceptance limits as follows:

(A) For lead: ±30 percent of the actual amount in the Performance Evaluation sample when the actual amount is greater than or equal to 0.005 mg/L. The Practical Quantitation Level, or PQL for lead is 0.005 mg/L.

(B) For Copper: ±10 percent of the actual amount in the Performance Evaluation sample when the actual amount is greater than or equal to 0.050 mg/L.