Exam Question

What is the purpose of drinking water treatment?

a. To protect public health
b. To compete with bottled water vendors
c. To provide revenue to municipalities
d. None of the above

asdwa

Exam Question

What was required by the 1991 Lead and Copper Rule?

a. All large water systems (>50,000 persons served) had to determine OCCT
b. Smaller water systems exceeding Action Level were to determine OCCT
c. All systems had to meet a certain 90th percentile for lead and copper a customers' taps
d. All of the above

asdwa

Exam Question

Corrosion Control Treatment (CCT) is creating and maintaining water quality conditions near and at the user's tap which minimize the release of lead and copper.

a. True
b. False

asdwa

Exam Question

The LCR and CCT have been effective in lowering levels of lead at customers' taps.

a. True
b. False

asdwa

Exam Question

Which of the following is considered to be a CCT:

a. pH and DIC/alkalinity adjustment
b. Addition of orthophosphate
c. Addition of a blended phosphate
d. Adding silica
e. All of the above

asdwa

Exam Question

Which of the following statements about CCT is NOT true?

a. Effectiveness of CCT method is determined by water chemistry
b. CCT is specific to each system
c. There is one method of CCT that is effective in all systems
d. Some systems are limited by the type of chemical that can be used

asdwa

Exam Question

Evaluating CCT is critical for which of the following?

a. Planning a change in water source
b. Action Level Exceedance
c. Planning a change in treatment
d. Regulatory directive
e. All of the above

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Exam Question

Which of the following phosphates are not used in water treatment?

a. Orthophosphate
b. Blended phosphate
c. Liquid phosphate
d. Rock phosphate

asdwa

Exam Question

What is reactive phosphate?

a. Polyphosphate
b. Any phosphate
c. One that reacts with lead
d. Orthophosphate

asdwa

Exam Question

How should solubility curves be used?

a. To see trends
b. To determine absolute numbers
c. To clearly predict what minerals will form in pipe scales
d. All of the above

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Exam Question

All systems need to monitor the same set of water quality parameters.

a. True
b. False

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KNOWLEDGE CHECK

High priority data needs include:

a. Lead and Copper Rule tap and WQP data
b. Alkalinity/DIC, pH
c. Materials inventory
d. (a) and (c) only
e. All of above

asdwa

Exam Question

Trending and evaluation are only necessary following an upset or ahead of change.

a. True

b. False

asdwa

Exam Question

Creating time series plots for each POE is a good first step for analyzing water quality data.

a. True

b. False

asdwa

Exam Question

Which of the following is NOT an important reason to review historic disinfectant residual data?

a. To determine if target levels are met at point of entry
b. To discover geographic trends
c. To identify evidence of biological activity
d. To minimize residual levels

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Exam Question

How are Control Charts useful?

a. They focus on trends, allowing for corrections
b. They focus on the outliers

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Exam Question

Which of the following changes to operations could impact lead or copper concentrations at customer taps?

a. Main breaks
b. Change in treatment
c. Change in source
d. All of the above

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Exam Question

If elevated lead is observed, which is the more appropriate reaction:

a. Immediately change the chemical dose
b. Investigate possible reasons for the change

asdwa

Exam Question

Which of the following can contribute lead to water at customer taps?

a. Lead service lines
b. Lead solder on copper pipes
c. Galvanized pipes
d. All of the above

asdwa

Exam Question

Both dissolved and particulate lead contribute to Total lead measured at customers' taps and so both are important to control.

a. True
b. False

asdwa

Exam Question

Which of the following is NOT determined by pipe scale analysis?

a. pH of water
b. The mineralogical and elemental composition of scale
c. Physical morphology of scale
d. All of the Above
e. B and C

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Exam Question

What is the best way to determine if a proposed change will result in a significant water quality change influencing corrosion?

a. Desktop study
b. Harvested pipe study
c. Scale analysis
d. Jar testing

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Exam Question

Which of the following water quality changes could impact existing CCT so require further study?

a. Change in finished pH
b. Change in finished temperature
c. Change in finished ORP
d. Change in finished DIC
e. A, C and D

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Exam Question

What are lead or copper concerns about blending in a finished water?

a. Scales could change
b. Inhibitor might be different
c. Taste could be different
d. All of the above
e. a and b
f. a and c

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Exam Question

What are lead or copper concerns about changing from free chlorine to chloramines?

a. Scales could change
b. ORP could change
c. pH could change
d. All of the above
e. None of the above

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Exam Question

Which treatment change will likely require CCT re-evaluation?

a. Adding PAC
b. Adding low pressure membranes
c. Change from free chlorine to chloramines
d. Change in orthophosphate vendor

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Exam Question

Which treatment change will not likely require CCT re-evaluation?

a. Adding PAC
b. Change in source water
c. Change from free chlorine to chloramines
d. Change in polyphosphate vendor

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Exam Question

True or false?

These changes in water quality might occur in a raw water source change:

a. Iron or manganese change
b. Chloride to sulfide mass ratio change
c. Dissolved oxygen change
d. TDS change
e. pH, alkalinity, DIC

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Exam Question

All treatment and source changes require a harvested pipe loop study to determine OCCT.

a. True
b. False

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Exam Question

Which of the following must be weighed to justify a change in CCT based on the CCS?

a. Unintended impacts on other regulated parameters
b. Complexity of new system
c. Corrosion control objectives
d. All of the above

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