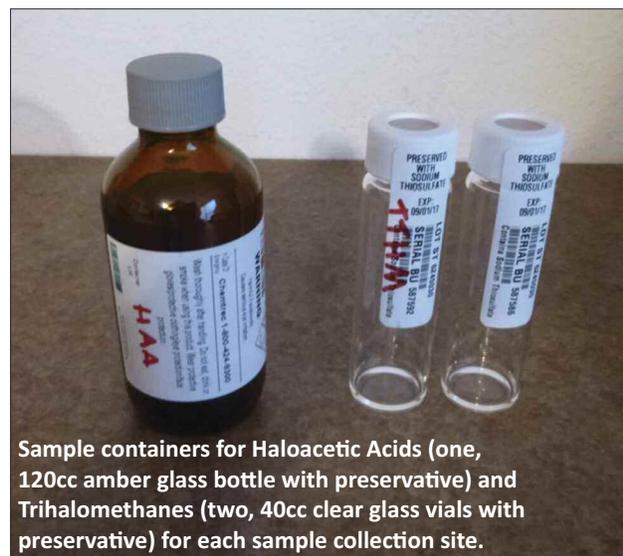


# Important Changes in Sample Collection and Preservation Requirements from KDHE Laboratories



Sample containers for Haloacetic Acids (one, 120cc amber glass bottle with preservative) and Trihalomethanes (two, 40cc clear glass vials with preservative) for each sample collection site.

Over the past few months, most water systems in Kansas received two letters from the Kansas Department of Health and Environment (KDHE) regarding water sample collections and submitting reports. Perhaps your system received routine sample bottles from the KDHE laboratory in January; you may have noticed that the collection instructions changed. It is important for your system to be aware of these changes, especially by the person who collects water samples for the water system.

The first notice that KDHE mailed to water systems was dated November 27, 2019. The notice was in regards to changes to sample collection, handling, and preservation requirements for inorganic and organic samples. These changes went into effect on January 1, 2020 and stem from a laboratory audit conducted by the U.S. Environmental Protection Agency (EPA). During the audit, EPA discovered that the KDHE laboratory had been analyzing samples for

compliance that did not meet all of the thermal preservation requirements. Therefore, the KDHE laboratory will be implementing the following changes.

Inorganic and organic water samples are analyzed for the following contaminants:

- ◆ synthetic organics (pesticides)
- ◆ haloacetic acids (disinfection byproducts)
- ◆ trihalomethanes (disinfection byproducts)
- ◆ volatile organics
- ◆ nitrates

For the samples listed above, the KDHE laboratory requires that they meet the following criteria:

If the sample(s) arrive at the laboratory less than 24 hours after collection, then:

- ◆ Samples must be received with evidence of cooling (wet ice or frozen “ThermaSafe PolarPacks”) and
- ◆ Samples cannot be frozen.

For example, if your system prefers to hand-deliver samples to the laboratory on the same day that they are collected, you must make an attempt to chill the samples in transport. Pack the samples in the styrofoam cooler provided by the laboratory and surround the samples with either the “ThermaSafe PolarPacks” (which have been placed in a freezer overnight) or with zip-lock bags of wet ice (double-bagged to prevent leakage). As long as laboratory staff observe frozen ice packs or bags of wet ice in the cooler when the samples arrive, the samples are acceptable.

If the samples arrive at the laboratory more than 24 hours after collection, then:

- ◆ Samples must be within the required temperature range for the testing method; most commonly less than 6°C (43 degrees F.) and
- ◆ Samples cannot be frozen.

Type of Report	Frequency submitted to KDHE	Systems Submit to KDHE	KDHE creates report on systems' behalf using data from KHEL
Coliform bacteria	Monthly		X
Maximum Residual Disinfectant Level (MRDL)	Monthly		X
Groundwater Rule 4-log Certification Disinfectant Residuals	Monthly	X	
Turbidity-Disinfection-CT	Monthly	X	
Stage 2 HAA/TTHM Compliance report	Quarterly		X
Total Organic Carbon	Quarterly		X
Bromate (systems using ozone)	Quarterly	X	
POE chlorine dioxide/chlorite readings	Quarterly	X	
Chlorite - 3 sample set from distribution	Quarterly	X	
Lead and Copper - Customer Notification Certificate of Delivery	Must arrive to KDHE 90 days after the end of the monitoring period	X	
Consumer Confidence Report (CCR) Certificate of Delivery & copy of CCR	Must arrive to KDHE by July 1st	X	



Sample container for Nitrates (one, 125cc round, white plastic bottle) to be collected at point(s)-of-entry.



Sample container for Synthetic Organics (three, 1 Liter amber glass bottles with preservative) to be collected at point(s)-of-entry.



Sample container for Volatile Organics (two, 40cc clear glass vials with preservative, vial of 50% hydrochloric acid and a pipette) to be collected at point(s)-of-entry.

For systems that are shipping their inorganic and organic water samples to the KDHE laboratory, the important thing to understand is that these samples must arrive at the laboratory with a temperature of less than 6°C. The sample bottles are temperature tested when they are received at the laboratory. If the samples arrive warmer than 6°C, they will be rejected for testing and resampling will need to occur. Make sure you are chilling the samples in a refrigerator or in a cooler with wet ice before shipping the samples. And be mindful of weather conditions when you prepare to collect inorganic and organic samples. In the summer months, your system may want to pack the cooler with extra ice packs or with additional bags of wet ice.

The main reason for chilling these types of samples is to minimize bacterial action. If there are any bacteria present in the sample, by lowering the temperature of the water, the bacteria are less likely to consume the contaminants that are being measured during the analysis.

This notice indicates that if you have any questions, to contact Rob Gavin at KDHE at [rob.gavin@ks.gov](mailto:rob.gavin@ks.gov) or (785) 296-0643. I spoke with Rob regarding the notice and asked him about the most frequently asked questions he has received. They are:

**1. Are systems required to chill their monthly bacteriological samples?**

No, bacteriological samples are not required to be chilled. Only the samples that are listed in the table on the previous page are required to be chilled.

**2. Will the KDHE laboratory provide the necessary materials for handling/shipping?**

Yes, the KDHE laboratory will provide the styrofoam cooler and “ThermaSafe PolarPacks” to keep the samples chilled during shipping.

**3. Are these samples required to arrive at the KDHE laboratory within 24 hours of collection?**

No, the holding time for these samples vary, but samples should arrive at the laboratory within 48 hours of collection.

**4. Will these changes lead to an increase in shipping costs?**

The only change to shipping costs would be for nitrate samples. Before, systems were able to ship these samples in a small cardboard box. But now, these samples will need to be in a cooler with ice packs or wet ice. The heavier shipping materials will lead to an increase in shipping costs. Especially for systems that are required to collect nitrate samples quarterly.

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Sample Type	Collection Time Frame
Any type of Monthly Sample(s) (e.g. Bacteriological)	The first day and the last day of the month
Raw water samples for the Groundwater Rule	Within weeks of the occurrence of a positive Revised Total Coliform Rule (RTCR) sample
Lead and Copper distribution samples – six month schedule	January 1 <sup>st</sup> - June 30 <sup>th</sup> first 6 months of a year July 1 <sup>st</sup> - December 31 <sup>st</sup> second 6 months of a year
Lead and Copper distribution samples - annual schedule	June 1 <sup>st</sup> - September 30 <sup>th</sup> each year
Lead and Copper distribution samples - once every three years schedule	June 1 <sup>st</sup> - September 30 <sup>th</sup> within the year of the 3-year period for which the water system is required to collect
HAA/TTHM - quarterly	First day - last day of the <b>month</b> within the quarter that the water system is required to collect
HAA/TTHM - annual	First day - last day of the <b>month</b> within the Third Quarter (July, August, or September) that the water system is required to collect
HAA/TTHM - once every three years schedule	First day - last day of the <b>month</b> within the Third Quarter (July, August, or September) within the year of the 3-year period for which the water system is required to collect
Quarterly samples that are not HAA/TTHM	First day - last day of the quarter
Surface Water water samples - Pesticide full panel samples - annual	May 1 <sup>st</sup> - June 30 <sup>th</sup> each year
Surface Water water systems - Pesticide full panel samples - once every three years	May 1 <sup>st</sup> - June 30 <sup>th</sup> within the 3-year period for which the water system is required to collect

The second notification that was mailed out to water systems was dated January 2, 2020 and was signed by Dianne Sands, KDHE. The purpose of the letter was to inform water systems that for compliance sampling, there is a required timeframe in which samples must be collected for the different types of water samples. If samples are collected one day or more too early or too late, systems may incur a violation that will require public notice. On the back side of the letter, was a table that listed the different types of compliance sampling and the required time frame for each one. Not all water systems are required to collect all the sample types listed in the table above.

I would encourage systems to pay extra attention to the time frame for HAA/TTHM samples. For each water system that is required to sample for these contaminants, there is a specific month during the third quarter (July, August, or September) in which these samples need to be collected. KDHE obtained this month from each system’s Stage 2 Disinfection Byproducts (DBP) monitoring plan. In the plan, systems had to identify either a “peak historical month,” meaning the month in which systems received the highest HAA/TTHM sample results, historically. Or systems could identify their warmest water temperature month. Disinfection byproducts tend to increase in warmer water. Systems that purchase water from a wholesale system use the same peak historical month as the wholesaler. For systems that monitor for HAA/TTHM quarterly, the peak historical month in the third quarter, will determine the month within the first, second and fourth quarters that the system is required to sample (Jul/Oct/Jan/Apr,

Aug/Nov/Feb/May, or Sept/Dec/Mar/Jun). If for some reason your system is unable to collect samples for HAA/TTHM during the month that your system is required to (e.g. wholesale system is conducting a free chlorine burnout), contact KDHE as soon as possible to see if sampling can be delayed without incurring a monitoring violation.

This notice from KDHE also included a reminder about deadlines for submitting reports to KDHE. Any monthly reports must be received by KDHE by the 10th day following the end of each month. Required quarterly reports must be received by KDHE the 10th day of the month following the end of each quarter (April 10th, July 10th, October 10th, and January 10th). If reports arrive late, systems will incur a violation that will require public notice. For water systems using the KDHE laboratory to analyze their compliance samples, the table on page 88 explains the different types of reports, the frequency, and identifies which reports are required to be submitted to KDHE by the system.

Finally, at the end of the notice, there is a paragraph which includes the following statement, “It is a system’s responsibility to know their compliance monitoring schedules.” If your system uses the KDHE laboratory for analysis of compliance samples, the laboratory has your monitoring schedule and the majority of the time, they ship sampling kits to your system to use within the required time frame(s). However, systems need to be aware of their monitoring schedules and if your system does not receive sample bottles from the KDHE laboratory as expected, it is your system’s responsibility to contact KDHE before the end of the required time frame to avoid incurring a monitoring violation. Also, if your system receives sample containers from the KDHE laboratory that look unfamiliar or do not fall within the timeframe of your monitoring schedule, do not feel obligated to collect those samples. Call KDHE prior to collecting the samples and inquire as to why you have received those sample bottles.

I encourage water system representatives to read through these notices from KDHE more than once and if you have any questions, please contact either Rob Gavin or Dianne Sands at KDHE or feel free to contact KRWA staff.

*Monica Wurtz began work with KRWA in October 2013. She previously worked at the Kansas Department of Health and Environment and also worked at US EPA Region 7 for four years. Monica is considered a national expert on various drinking water regulations.*





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