



NEVADA DIVISION OF
**ENVIRONMENTAL
PROTECTION**

A division of the
Nevada Department of Conservation & Natural Resources

STATE OF NEVADA
Joe Lombardo, Governor
Vinson Guthreau, Director
Jennifer L. Carr, Administrator

901 S. Stewart Street, Suite 4001
Carson City, Nevada 89701
p: 775-687-4670 f: 775-687-5856
ndep.nv.gov

Date: June 16, 2026

To: Certified Laboratory Directors, Quality Assurance Officers, and Samplers

From: Jasmine Curiel, Nevada Laboratory Certification Program Supervisor

Re: **Sample Handling, Transportation, and Preservation for Drinking Water Compliance Samples**

The Nevada Laboratory Certification Program (LCP) wishes to remind all individuals handling drinking water compliance samples that they must follow requirements outlined in the *Manual for the Certification of Laboratories Analyzing Drinking Water Criteria, 5th Edition (MCLADW)* to prevent sample rejection.

NAC 445A.0612: *Adoption by reference of certain publications related to sample collection procedures, analytical methodologies and requirements for certification.*

1(e): Manual for the Certification of Laboratories Analyzing Drinking Water: Criteria and Procedures, Quality Assurance.

If samples are received within 24 hours of collection but there is no evidence that the chilling process has been initiated, such as the samples arriving on ice the laboratory is required to reject the samples.

For chemistry samples shipped overnight, if samples are received outside the 24 hours and do not meet the temperature requirements specified in the method, the laboratory is required to reject the samples.

It is recommended to have samplers, when feasible, collect samples later in the day, before dropping them with the carrier, and select an overnight service with morning delivery to remain within the 24 hour window.

Chemistry Sample Collection Supplement 1 to: MCLADW Chapter IV Critical Elements for Chemistry:

Section 6. Sample Collection, Handling, and Preservation

Sample temperatures need to be recorded upon receipt at the laboratory. Samples that arrive at the laboratory within 24 hours of sample collection due to the close proximity of a public water system to the laboratory, may not yet have reached the appropriate temperature by the time they arrive at the laboratory. These samples should be considered acceptable ONLY if packed on ice or with frozen gel/ice packs immediately after sample collection and hence, delivered while the samples are in the process of reaching an appropriate equilibrium temperature.

MCLADW Chapter IV Section 6. Sample Collection, Handling, and Preservation

6.1: Rejection of samples

The laboratory's rejection criteria should be documented in writing in the laboratory's QA Plan or in an SOP. The laboratory should reject any sample taken for compliance purposes which does not meet the criteria in 6.2 through 6.6 of the MCLADW. The laboratory must notify the authority requesting the analyses and ask for a resample. If resampling is not possible and the sample is analyzed, the sample data should be clearly identified in the data package as being unusable for its intended purpose. In addition, the inadmissibility of these sample data need to be clearly communicated to all end data users.

6.2 Sample Containers and Preservation

The laboratory must measure and record the temperature of the sample when it arrives when temperature preservation is required by the method. The use of "blue ice" is discouraged because it generally does not maintain the temperature of the sample at $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ or less. If blue ice is used, it should be frozen at the time of sampling, the sample should be chilled before packing, and special notice taken at sample receipt to be certain the required temperature has been maintained.

6.3 Maximum Holding Times

Samples must be analyzed within the maximum holding times required by the method.

6.4 Sample Collection and Transport

There must be strict adherence to correct sampling procedures, sample handling, complete identification of the sample, and prompt transfer of the sample to the laboratory when required by the method. When the laboratory is not responsible for sample collection and transport, it must verify that the paperwork, preservatives, containers, and holding times are correct as required by the methods or reject the sample. The rejection criteria should be documented in writing.

6.5 Sample Collector

The sample collector should be trained in sampling procedures and have complete written sample instructions for each type of sample to be collected. The samplers are to be able to demonstrate proper sampling technique.

6.6 Sample Report Form

The sample collection report form should contain, at a minimum, the ID, location, date and time of collection, collector's name, preservation added and shipping requirements, container and volume, sample type, analysis, and any special remarks concerning the sample. Indelible ink should be used.

Microbiology Sample Collection Supplement 1 to: MCLADW Chapter V Critical Elements for Microbiology Section 6. Sample Collection, Handling, and Preservation

The time from sample collection to placement of the sample in the incubator for total coliforms and fecal coliforms in surface water sources, and heterotrophic bacteria in drinking water, must not exceed 8 hours for samples being analyzed in compliance with the Surface Water Treatment Rule (40 CFR 141.74 (a)(1)).

MCLADW Chapter V Section 6. Sample Collection, Handling, and Preservation

Paragraphs 6.1-6.5 are applicable to those laboratories that collect samples. However, all laboratories should make an effort to ensure proper sample collection; all laboratories are responsible for paragraph 6.6.

6.1 Sample Collector

The sample collector should be trained in aseptic sampling procedures and, if required, approved by the appropriate regulatory authority or its designated representative.

6.2 Sampling

6.2.1 (For TCR) Samples must be representative of the water distribution system. Water taps used for sampling should be free of aerators, strainers, hose attachments, mixing type faucets, and purification devices. Cold water taps should be used. The service line must be cleared before sampling by maintaining a steady water flow for at least 2 minutes (until a steady water temperature is achieved). At least 100mL of sample must be collected, allowing at least a 1-inch air space to facilitate mixing of the sample by shaking. Immediately after collection, a sample information form should be completed (see paragraph 6.5). If a sample bottle is filled too full to allow for proper mixing, do not pour off and discard a portion of the sample. Rather, pour the entire sample into a larger sterile container, mix properly, and proceed with the analysis.

6.2.2 (For SWTR) Source water samples must be representative of the source of supply. Collected not too far from the point of intake, but at a reasonable distance from the bank or shore. The sample volume should be sufficient to perform all the tests required.

6.2.3 (For coliphage analysis under GWR) A 100 mL sample volume is required for the assay. Collection of an additional 100 mL water sample would allow for sample re-analysis, if necessary. To ensure sufficient sample volume, an additional 50 mL water sample should be collected.

6.2.4 (For *E. coli* & enterococci under GWR) A 100 mL sample volume is required for the assay.

Additionally, **40 CFR 141.402 (e)(1)**: Any ground water source sample required under paragraph (a) of this section must be collected at a location prior to any treatment of the ground water source unless the State approves sampling location after treatment.

6.3 Sample Icing

6.3.1 (Bacterial Samples) Samplers are encouraged, but not required, to hold drinking water samples at < 10°C during transit to the laboratory. Source water samples required by the SWTR must be held at < 10°C during transit (see *Standard Methods*, Section 9060B). Laboratories should reject samples that have been frozen.

6.3.2 (Coliphage analysis under GWR) Ship samples at < 10°C using wet ice, Blue Ice®, or similar products to maintain temperature, and store at 1°C to 5°C. Samples should not be frozen.

6.3.3 For SWTR samples and coliphage samples, sample temperature upon receipt should be recorded. A sample that has a temperature upon receipt >10°C, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.

6.4 Sample Holding/Travel Time

6.4.1 For the analysis of total coliforms in drinking water, the time between sample collection and the placement of sample in the incubator must not exceed 30 hours (40 CFR 141.21 (f)(3)). All samples received in the laboratory should be analyzed on the day of receipt. If the laboratory receives the sample late in the day, the sample may be refrigerated overnight as long as analysis begins within 30 hours of sample collection.

6.4.2 The time from sample collection to placement of the sample in the incubator for total coliforms and fecal coliforms in surface water sources, and heterotrophic bacteria in drinking water, must not exceed eight hours (40 CFR 141.74 (a)(1)).

6.4.3 (For coliphage analysis) The time between sample collection and the placement of sample in the incubator must not exceed 48 hours. The time from sewage sample collection to analysis of QC spiking suspensions may not exceed 24 hours, unless re-titered and titer has not decreased by more than 50%. If titer has not decreased by more than 50%, the sample can be stored for up to 72 hours.

6.4.4 (For *E. coli* & enterococci under GWR) The time between sample collection and the placement of sample in the incubator must not exceed 30 hours.

6.5 Sample Information Form

After collection, the sampler should enter on a sample information form, in indelible ink, the following information:

- Name of system (public water system site identification number, if available)
- Sample identification (if any)
- Sample site location

- Sample type (e.g., routine distribution system sample, repeat sample, raw or process water, other special purpose sample)
- Date and time of collection
- Analysis requested
- Disinfectant residual
- Name of sampler
- Any remarks

6.6 Chain-of-Custody

Sample collectors and laboratories must follow applicable State regulations pertaining to chain-of-custody.

If there are additional questions or clarification needed, please don't hesitate to contact me at jcuriel@ndep.nv.gov or your facility manager.

Thank you,

Jasmine Curiel
Supervisor
Laboratory Certification Program-BSDW
NDEP-DCNR
9805 Double R. Blvd, Suite 200
Reno, NV 89521