



MEMORANDUM

TO: All Alaska Certified Drinking Water
Microbiology Labs

DATE: April 19, 2017

FROM: Patryce D. McKinney, MBA 
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Alaska SDWA Certification Authority

SUBJECT: Drinking Water Microbiology Analyst
Qualifications

All Drinking Water Microbiology Analysts must meet two parts of an Initial Demonstration of Capability (IDC) before they are considered qualified to run compliance samples.

Per the EPA's Manual for the Certification of Laboratories Analyzing Drinking Water (EPA 815-R-05-004) (LCM) Chapter V, section 1.2 *"The analyst should have a minimum of 30 days of on-the job training in drinking water microbiology under an experienced analyst... Before analyzing compliance samples, the analyst should demonstrate acceptable results on unknown samples."* Analysts are not considered qualified by the Laboratory Certification Program (LCP) until these requirements are completed, documented, and submitted and approved by the LCP.

First, the analyst must have 30 days of documented on-the-job training in drinking water microbiology.

DOs:

- ☺ Do document 30 individual days (e.g. on a calendar or training matrix)
- ☺ Do give a brief, but specific, description of the training for each day (e.g. Set up Colilert Samples)
- ☺ Must be drinking water microbiology specific

DON'Ts:

- ☹ Don't document a date range
- ☹ Don't count training days that only include general lab or other regulatory tasks such, as billing or wastewater testing

Second, the analyst must demonstrate acceptable results on unknown samples.

DOs:

- ☺ Do run an unknown sample or sample set for each analyte/method pair for which the lab seeks analyst qualification
- ☺ Do use PTs from a TNI (The NELAC Institute) approved vendor, or set up an in-house blind following Chapter V, section 7.2 of the LCM

LCM Chapter V. Section 7.2 states “*For methods used to test the presence or absence of an organism in a sample, each PT set should contain ten samples, all shipped at the same time...The set should include samples, in various combinations, that contain total coliforms, fecal coliforms, E. coli, non-coliforms, and at least one blank. Each set should be used only with a single analytical method. To be acceptable, a laboratory should correctly analyze a minimum of nine of the ten samples, with no false-negative result.*”

- ☺ Do treat all PTs and in-house blinds as routine samples
- ☺ Do follow the method and SOPs, and document PTs or in-house blinds as you would a routine sample.
 - ☺ The **exception** is for fermentation method samples.
 - For vendor samples, report turbid samples that do not show gas or color change as negative, but note on the bench sheet the sample is a PT and any other sample would be invalidated.
 - For in-house blind samples report turbid samples that do not show gas or color change as invalid, as you would a routine sample. This will be considered acceptable if they meet all other criteria.
- ☺ Create in-house blind samples as a set of ten 100mL samples that contain, in various combinations, with at least one of each, total coliforms, *E. coli*, non-coliforms, and unspiked blank.
 - ☺ Do create a key which includes the date and time the samples were made, the initials of the analyst making them, and which organism each sample is spiked with (or blank)
 - ☺ Do fill out bench sheets or log books as you would for routine samples, including analyst’s observations (e.g. Colilert sample yellow, no fluorescence) and interpretations (total coliform positive, *E. coli* negative)
 - ☺ Do submit the key, as well as any bench sheets, log books and results associated with analysis, to the Laboratory Certification Program

DON'Ts:

- ☹ Don’t use special procedures for running a PT or in-house blind. Samples that are treated differently from routine samples will not be acceptable and must be redone, regardless of the results. (e.g. If the lab’s SOP is to put all fermentation method samples showing turbidity without gas or color change through the confirmation steps before invalidating, the analyst must put the PT or in-house blind samples through confirmation.)
- ☹ Don’t list just the expected results on the key
- ☹ Don’t let the analyst performing the in-house blind see the key before the sample results are graded

If you have any questions about training documentation or setting up in-house blind samples, please contact the LCP at 907-375-8209 or declabcert@alaska.gov.

Thank you.