



Maine Volunteer River Monitoring Program (VRMP)

Appendix L

IDEXX Lab QA-QC Steps (from VRMP QAPP Appendix 11)

Program-Wide SAP Appendix (applicable to groups using IDEXX *E. coli* and/or total coliform bacteria methods)

From:

Maine DEP (Maine Department of Environmental Protection). 2009. Maine Volunteer River Monitoring Program [VRMP] - Quality Assurance Program Plan. Doc #: DEPLW-0984. Portland, ME. <http://www.maine.gov/dep/blwq/docstream/vrmp/publication.htm>

Appendix L-1

IDEXX Colilert Bacteria Analysis Method - Sterility Checks, Blanks, Positive and Negative Controls -

At the start of each sampling season, each local volunteer laboratory using the IDEXX Colilert method will be assessed by VRMP staff:

1. Using a QA/QC checklist developed in partnership with the Department of Health and Human Services Laboratory Certification Officer (see QA/QC Checklist for IDEXX Colilert [Maine VRMP] in Appendix 11 of the VRMP QAPP).
2. Having sterility check, blank, positive, and negative control tests performed on pre/unused sample media and related equipment by Nelson Analytical (Springvale, ME) – a laboratory is certified by the NELAC Institute for the similar method Colilert. Nelson Analytical sterility checks all IDEXX Colilert® supplies and reagents before they are utilized by volunteer laboratories in the VRMP.
 - a. These assessments include testing each lot of the Quanti-Tray 2000 units, sample vessels and single-use pipettes. Each lot of Colilert® media is used before the listed expiration date and stored in a cool (20-30 °C) dry place out of direct sunlight. Each lot is quality checked using a positive culture to ensure growth of the target organism, and all Quanti-Tray cells must exhibit fluorescence, the expected reaction to the target organism. Each lot of media is also tested using two negative controls to demonstrate the media does not support the growth of non-target organisms. Each laboratory also processes one blank (distilled water and media) for each group of samples processed.
 - b. The data quality objective for blanks is <10 MPN. For each laboratory 10% of the laboratory samples are duplicated and the RPD regularly assessed.

Appendix L-2

QA/QC Checklist for IDEXX Colilert -- Maine Volunteer River Monitoring Program

Laboratory Name and ID: _____							
Dates of Document Assessment: _____							
Date of On Site Assessment: _____							
Assessor (Initials) Completing Checklist: _____							
	Documents COMPLIANT			Onsite COMPLIANT			Comments and Corrective Actions
	Y	N	NA	Y	N	NA	
IDEXX Colilert-18 or Colilert- 24 with Quanti-Tray®/2000							
Is media stored at 4 to 30°C without exposure to direct light?							
Is unopened media older than 12 months discarded?							
Is Quanti-Tray®/2000 (counting range of 2,419 per 100 mL) used for analysis?							(Note: Dilutions are rarely necessary when this tray is used.)
Is the appropriate fluorescence Quanti-Tray®/2000 comparator available and is it stored in the dark at 2-30°C?							Expired comparators must be discarded.
Is incubator capable of maintaining 35 ± 0.5°C?							
Are only glassware or plasticware that will not auto-fluoresce used during this analysis?							
Are samples dechlorinated (if chlorine is present) and cooled to 10°C immediately after collection?							
Is sample holding time of 6 hours being met?							
Once Colilert Snap Pack is separated from strip, is it tapped to ensure that all of the powder is at the bottom part of the pack prior to opening it?							
Is powder always added to 100 mL of sample or sample dilutions?							
Is sample gently mixed after Colilert media is added and prior to pouring into Quanti-Tray®/2000?							(Note: All media may not dissolve during mixing. It should, however, be completely dissolved after incubation.)
Is sample incubated 18 – 22 hrs. for Colilert-18; or 22 – 28 hrs. for Colilert-24 at 35 ± 0.5°C with fluorescence determined immediately upon removal from incubator?							
Is fluorescence checked in a dark environment by holding a 6 watt UV lamp with a 365 nm wavelength three to five inches away from sample?							
If an effluent sample has a background color when collected, has the inoculated/incubated sample been compared to a control blank?							Note: Blank consists of an aliquot of the same sample in the same type of container that has not been inoculated and was held at room temperature.

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Laboratory Name and ID: _____							
Dates of Document Assessment: _____							
Date of On Site Assessment: _____							
Assessor (Initials) Completing Checklist: _____							
	Documents COMPLIANT			Onsite COMPLIANT			Comments and Corrective Actions
	Y	N	NA	Y	N	NA	
IDEXX Colilert-18 or Colilert- 24 with Quanti-Tray®/2000							
For samples with E. coli, is fluorescence at least equal to the level of that in the comparator?							(Typically the florescence will be much greater in positive samples.)
Is MPN properly calculated using the IDEXX MPN table?							
Are blanks analyzed for each lot of media and Quanti-Tray® containers?							
Are positive and negative controls analyzed for each lot of media used?							
Are used Quanti-Trays® and sample collection containers to which Colilert-18 was added autoclaved at 121°C for 15-30 minutes at 15 pounds of pressure prior to disposal?							
Quanti-Tray sealer checked every two months during sampling season by adding food-coloring dye to 100 mL of water sealed in tray and observing for leakage.							