

Microbiology Laboratory Analyst Training

Kentucky Division of Water
Laboratory Certification Program



To Protect and Enhance Kentucky's Environment

Document Management

Record keeping, quality assurance, action response to positive lab results, BARF form information



Legal Defensibility

DWCM Chapter V; 8.1¹

- Compliance data is made legally defensible by keeping thorough and accurate records.
- QAP and SOPs should describe policies and procedures currently utilized by laboratory (including record retention and storage).
- Laboratory should follow chain-of-custody procedures.



Record Maintenance

DWCM Chapter V; Section 8¹

- The laboratory should maintain easy accessible records for five years or until the next certification data audit is completed, whichever is longer.
 - Raw data, calculations, quality control data
- Client water systems should be notified before disposing of records in order to request copies.
- Laboratory should maintain preventive maintenance and repair activity records for all instruments and equipment.
- Files may be electronic or hardcopy.



Analytical Records

DWCM Chapter V; 8.4¹

- All data should be recorded in ink.
 - If changes are made, original entry should still be legible with strike through and initials and date.
- Laboratory should not use arrows or dittos in QC logs or sample logs to reference repetitive information.
- In order to fully recreate data, analysts initials, date, time, lot numbers of reagents, lot numbers of bottles/ trays, lot numbers of sterile/ reagent grade water, observations, etc. should be maintained for samples and quality control tests
- Regarding sample information, the following should be readily available:
 - Sample identification
 - Date and time analysis begins
 - Name of laboratory and analyst's initials performing analysis
 - Analytical technique or method used
 - All QC items
 - The result of analyses



Bacteriological Analysis Report Form

- Form should be completed for every compliance bacteriological sample.
- Form should be submitted to KYDOW electronically or in person by 10th day of month following sampling event.
- Guidance on filling out form can be found at:
 - <https://eec.ky.gov/Environmental-Protection/Forms%20Library/Instructions-BACT%20Form.doc>



SAMPLE CATEGORY = TC
DISTRIBUTION SAMPLING

KENTUCKY DIVISION OF WATER / DRINKING WATER RESULTS BACTERIOLOGICAL ANALYSIS REPORT FORM

General Information -- This Section To Be Completed By Collector

Rev. 01/22/2019

PWS ID	K Y	Compliance Period (MMYYYY)	
PWS Name		PWS Contact	
PWS Address		PWS Phone	
		Collector Name	
			Signature/Date

General Information -- This Section To Be Completed By Lab

Lab ID		Lab Receipt Date (MMDDYYYY)		Total Coliform Analysis Method Code	
		Analysis Start Date (MMDDYYYY)			
		Analysis Read Date (MMDDYYYY)		E Coli Analysis Method Code	
Lab Analyst		Lab Supervisor			
	Signature/Date		Signature/Date		

Sample Information -- This Section To Be Completed By Collector

Analysis Information -- This Section To Be Completed By Lab

Sample Type (RT, RP, TG, CO, or SP) (See Key)	Special Sample Reason (A, B, C, D, or E) (See Key)	Replacement Sample? (Y or Blank)	Location Code (See Instructions)	Repeat Location Code (DN, UP, or OR) (See Key)	Sample Time (24 hr)	Free Chlorine (Required for all disinfectants except Chloramine)	Total Chlorine (Required when disinfectant is Chloramine)	Lab Sample Number	Analysis Start Time (24 hr)	Result (Total Coliform Count - or - TNTC - or - CNFG - or - TCNG) (See Key)	Total Coliform (P/A)	E Coli (P/A)	Lab Sample Number of Original Sample (Required for RP, TG, CO, and/or Replacement Samples) (See Instructions)

Reporting Positive Compliance Samples

- Notify PWS
 - PWS must collect three repeat samples for every positive routine compliance sample
 - Upstream
 - Original
 - Downstream
 - If any repeat is positive this process begins again.
- Email Rodney Ripberger the Positive Sample Notification Form after a Total Coliform Positive and after completing Repeat analysis (rodney.ripberger@ky.gov)
- If sample is E.coli Positive, contact Dr. Pass (606-356-6494) within 24 hours, as well as complete the above steps.
- Be aware of situations that trigger assessments under the Revised Total Coliform Rule. A quick reference from KYDOW can be found at: <https://eec.ky.gov/Environmental-Protection/Water/Drinking/Documents/RTCR%20Assessment%20Triggers%20Quick%20Reference.pdf>



Reporting Positive Non-Compliance Samples

- For a Positive “Special”
 - Notify PWS
- For Line Break Samples
 - If Positive, notify PWS
 - Repeat sample needed from original line break site.
 - If Negative
 - Notify PWS
 - On a weekday, fax BARF form to appropriate DOW Regional Office
 - On a weekend, notify DOW using afterhours hotline in order to lift boil water advisory (1-800-928-2380) and fax BARF form to the appropriate DOW Regional Office on the next working day.

