New Chemistry Manuals Issued

The 2000 edition of the Laboratory Manual for Chemical Analyses of Public Drinking Water was mailed to all certified laboratories the last week of December 1999. If you have not yet received yours, please call Jacqueline at (614) 644-4245. If you would like additional copies, you may either photocopy from your copy or obtain them from the Ohio EPA web site at: http://www.epa.ohio.gov/ddagw/chemman.pdf

New quality control forms were also mailed in a separate envelope. You must begin using these new forms when you receive them. Use these forms as master copies to make additional copies.

There was one error in the manual (so far): EPA method 353.2 was left off the approved methods listing for nitrate and nitrite. This method is acceptable. Additional clarifications will be in this and future newsletters.

Who Reads This Newsletter?

If you receive this newsletter and you are a city, county or laboratory administrator and are not directly working in the laboratory, please pass it on to the persons who actually work in the drinking water laboratory.

If you get this newsletter and you actually work in the laboratory, please pass it on to all the analysts. You might consider making copies for all approved analysts, posting it on a bulletin board or passing a copy around.

You should keep these newsletters in a file or in a three ring binder. Procedural and administrative changes, as well as new requirements are included in each newsletter. Failure to implement changes and/or new items noted in these newsletters will result in deviations during a survey and could adversely affect laboratory certification.

Alkalinity Test Update

In past editions of the Pipeline and in the latest laboratory manual, it was noted that when chlorine levels are greater than or equal to 1 mg/L, you must dechlorinate the sample with 0.1N or 10% sodium thiosulfate. One to three drops were to be used based on chlorine concentrations. Since that information was disseminated, we have learned that adding more than one drop of sodium thiosulfate to the sample may result in false alkalinity test results. To prevent this, you should only add one drop of sodium thiosulfate to each sample for dechlorination.
Fluoride/pH Standards

We have seen several laboratories having difficulties obtaining acceptable slopes for pH and/or fluoride tests only to discover that the laboratories had used standards from two or more different manufacturers in the same slope series. Use only one brand of standards for each slope determination. For example: if you are using “Red Bird” brand fluoride standards, use all “Red Bird” brand standards. Do not mix one or two “Orion” brand standards with ‘Red Bird’ standards.

Proficiency Tests

All laboratories that are certified for nitrate, nitrite, sulfate, cyanide, primary metals and organics will be required to participate in the proficiency test program. Letters have been sent to all laboratories that fall into this group outlining requirements and timetables. If your laboratory is certified for any of the above tests, and you have not received a proficiency testing program letter by late February 2000, please contact Jim Evans at (614) 644-4222 for a copy. Microbiological laboratories will be notified of the requirements/timelines at a later date.

StablCal Safety

There has been some concern over the safety of StablCal stabilized formazin turbidity standards produced by Hach Company. Hach has supplied this office with information that shows that these turbidity standards are considered safe by Hach. There are no regulatory restrictions on this material. It does not meet the USEPA definition of a hazardous waste. According to Hach, it is not explosive, flammable, toxic or corrosive or possess any other properties that would regulate it under 49 CFR, hazardous materials transportation.

Fluoride Testing Information

(The following article was submitted by Edwin Guasp, Chief of Labs for the City of Cleveland. We thank Mr. Guasp for his information and recommend that all laboratories using both IC and electrode methods follow the recommendations he outlines)

The Compliance Laboratory (CL) for the City of Cleveland Water Department (CWD) is conducting a drinking water comparison between the following Fluoride (F-) testing methods: EPA 300.0 (SM 4110 B), using ion chromatography (IC); and EPA 340.2 (SM 4500F-C), using ion specific electrodes (ISE). Historically, IC technology has not been recommended for F-analysis in drinking water due to resolution problems between the F- peak and initial water elution “dip”. New and advanced IC columns have been developed to allow for this analysis providing good resolution between the water ‘dip” and the F- peak.

However a common and often overlooked problem with the IC method is the ability of the F-ions to form complexes with common drinking water polyvalent cations such as aluminum, iron and other trace metals. Approved analysts need to be reminded that the IC method does not detect complex F- in water samples and using fluoride buffers with CDTA to break F- metal complexes could be damaging to IC separation columns, if used.

Preliminary tap water data collected from all four CWD water plants between July and December 1999 show that F- values using the IC method are, 80-90% of the time, lower when compared to ISE data. Although average percent difference by ISE method was between 5-9.5%, each water plant shows 20 - 50% of samples with higher than 10% difference between methods. It is suspected that F- complexation with trace metals is the cause for such differences. These results could imply a low reliability on F- data using the IC method. It is recommended that all certified laboratories employing EPA method 300.0 to report data, conduct a comparison study between ISE and IC methodologies to check on differences.

Submission of Results for Public Water Systems

As a reminder, certified laboratories are required to report the results of drinking water tests performed for public water systems to the Ohio EPA. It is not an option for public water system clients to report drinking water results instead of the laboratory. If a laboratory has questions about this requirement, contact a drinking water representative at (614) 644-2752.
Information about Completing New Ohio EPA Reporting Forms

Instruction sheets for completing the Ohio EPA reporting forms revised in October, 1999 and a question and answer sheet about reporting are available on the Ohio EPA website www.epa.state.oh.us/ddagw or by request at (614) 644-2752. The instruction sheets apply to drinking water results that are not being electronically reported to the Ohio EPA using the DRINK system. Assistance in using the DRINK system may be obtained by calling a DRINK system administrator at (614) 644-2752.

Drinking Water Methods Update

The December 1, 1999 Federal Register includes an update to approved methods and certification requirements for drinking water testing which became effective on January 3, 2000. This Federal Register may be reviewed by accessing the USEPA website (www.epa.gov/fedreg). The Ohio EPA may not necessarily allow the use of all of the methods listed as approved in the Federal Register. The Ohio EPA will be revising its regulations for the additional methods which may be used for performing drinking water testing in Ohio.

Based on this update, the following revisions are being implemented:

**Microbiological Analysis:** The minimum incubation time for reading the Colisure test for total coliforms is reduced from 28 hours to 24 hours.

**Inorganic Analysis:** The holding time for chlorinated, unacidified nitrate samples held at 4°C is extended to 14 days.

**Synthetic Organic Chemical Analysis:** EPA Method 515.3 is added for analysis of chlorinated acid pesticides. EPA Method 549.1 for diquat is replaced with EPA Method 549.2. Since the only difference between these two methods is that a pH adjustment step is omitted from EPA 549.2, recertification is not required. If there are any questions about this information, contact the laboratory certification office at (614) 644-4245.

Sample Submission Report Clarification

For microbiological tests reported on the new Microbiological Sample Submission Report (SSR), the “Date of Analysis” refers to the date the testing begins, i.e. for membrane filter, the date the sample is filtered; for MMO-MUG, the date the reagent is added to the sample. We are aware that previous material sent, specifically: “Instructions for Reporting Drinking Water Microbiological Results to the Ohio EPA on the Microbiological Sample Submission Report (SSR)” conflicts with this. We are working to correct this. Report the date analysis begins for the “Date of Analysis”.

**DRINK Method Codes**

If your laboratory is submitting hard copies of chemical results, please remember to use the correct DRINK method code(s) on the chemical sample submission report forms (SSRs), and not the common laboratory method name. For example, if your laboratory is using EPA 200.7 to analyze for nickel, than you should use 78 as the code in the method column on the inorganic SSR. The Division of Drinking and Ground Waters provided the list of common laboratory methods and their corresponding DRINK ID codes to the laboratories. If you need an additional copy of the DRINK codes, please call 614-644-2752 and ask to speak with someone in the Water Quality Section, or visit the Division’s web page at www.epa.state.oh.us/ddagw/ddagwmain.html and look under ‘What’s New’.