



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

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DEC 17 2004

OFFICE OF  
WATER

Dear Ms. Egan:

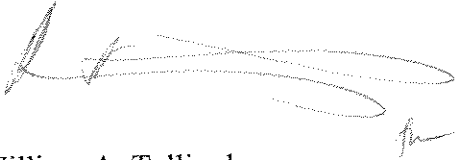
The Statistics and Analytical Support Branch (SASB) and the Office of Ground Water and Drinking Water's Technical Support Center (OGWDW/TSC) have completed technical review of the materials submitted in support of Lachat's QuickChem Method 10-107-04-1-O [Revision Date, August 25, 2003] (ATP Case No's D96-0004, N96-0004) as an alternate test procedure (ATPs) to determine combined nitrate/nitrite or nitrate and nitrite singly for use in wastewater compliance monitoring under the National Pollutant Discharge Elimination System (NPDES) and in drinking water compliance monitoring under national primary drinking water regulations (NPDWR).

We are pleased to inform you that, in the judgement of our technical staff, QuickChem Method 10-107-04-1-O [Revision Date, August 25, 2003] is an acceptable version of approved revisions of EPA Method 353.2. EPA Method 353.2 is listed at Title 40 of the Code of Federal Regulations (40 CFR) Part 136 for NPDES compliance monitoring\* and 40 CFR Part 141 for NPDWR compliance monitoring. QuickChem Method 10-107-04-1-O determines combined nitrate/nitrite or nitrate and nitrite singly by colorimetry using flow injection analysis. A filtered sample is passed through a copperized-cadmium column to reduce nitrate to nitrite. The nitrite originally present in the sample plus reduced nitrate reacts with sulfanilamide under acidic conditions to form a diazonium compound. This compound is then coupled with N-(1-naphthyl) ethylenediamine dihydrochloride to form a reddish-purple azo dye that is measured using a colorimeter. Separate, rather than combined nitrate/nitrite results, are obtained by carrying out the procedure first with, and then without, the copper-cadmium reduction step (to measure nitrate/nitrite and nitrite respectively) and subtracting the result obtained for nitrite from the result obtained for combined nitrate/nitrite to obtain the result for nitrate. The procedures used are equivalent to those used in EPA-approved colorimetric methods such as EPA Method 353.2. Accordingly, QuickChem Method 10-107-04-1-O [Revision Date, August 25, 2003] may be used in place of other NPDES and NPDWR-approved colorimetric methods for determination of combined nitrate/nitrite or nitrate and nitrite singly.

\* EPA Method 353.2 is not currently listed at 40 CFR 136 for determination of nitrate and nitrite singly. However, EPA has proposed adding EPA Method 353.2 to 40 CFR 136 for these analytes, and previously has recommended the use of EPA Method 353.2 for determination of nitrate and nitrite singly (by analyzing  $\text{NO}_3 + \text{NO}_2$ , and subtracting  $\text{NO}_2$ ) for this purpose. EPA's past recommendations extend to QuickChem Method 10-107-04-1-O.

We appreciate Lachat Instruments' continued interest in the development of environmental compliance monitoring methods. If you have any questions regarding these determinations or review of these ATP applications, please contact William Telliard of SASB (202/566-1061) or Herb Brass of OGWDW/TSC (513/569-7936) at your convenience.

Sincerely,



William A. Telliard  
Director of Analytical Methods  
Engineering and Analysis Division (4303 T)



Herb Brass, Ph.D.  
Technical Support Center (MS-140)  
Office of Ground Water and Drinking Water

cc:  
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Quality Assurance Managers (all Regions)  
ATP Coordinators (all Regions)  
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