

February 1, 2002

To: Water Resources Discipline

From: Peter F. Rogerson, Senior Chemist  
Office of Water Quality

For: LeRoy Schroder, Chief  
Branch of Quality Systems

Subject: Approval of a Water Quality Analytical Method for the Determination of Organophosphate Pesticides in Filtered Water by the National Water Quality Laboratory

The Office of Water Quality (OWQ) has approved a new Water Quality Analytical Method developed by the National Water Quality Laboratory (NWQL) for the determination of organophosphate pesticides and degradates in filtered water. This new method uses solid-phase extraction for sample preparation and capillary-column gas chromatography / flame photometric detection for determination of 25 pesticides and degradates. The new method number is O-1402-01 and can be requested through the NWQL as Schedule 1402. The 25 method compounds are listed in the attached Spreadsheet, along with their Parameter and Method Codes.

Estimated method detection limits range from 0.004 to 0.012 ug/L for the 25 analytes. Most of the compounds were determined with good precision and accuracy, but 7 compounds demonstrated poor recovery, high variance, or short holding times. Those 7 compounds are reported with the "E" data qualifier, and are so indicated in the attached Spreadsheet.

Data users are cautioned that analyte concentrations reported from this method are for filtered water only. This may underestimate the total concentration of some compounds that may sorb to suspended material in the water.

This method approval process follows the technical procedure specified in OWQ Tech Memo 98.05, except that this method is described in a Water Resources Investigations Report instead of an Open File Report. The method performance is described in:

Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory – Determination of Organophosphate Pesticides in Water by C-18 Solid-Phase Extraction and Capillary-Column Gas Chromatography with Flame Photometric Detection, by Virendra K. Jha and Duane S. Wydoski. U.S. Geological Survey Water Resources Investigations Report 01-XXXX (number to be assigned upon Director's approval).

When approved by the Director, the report will be made available through the NWQL web site at: <http://wwwnwql.cr.usgs.gov/USGS/pubs.html> .

Information about this new method will be available through the NWQL web site <http://wwwnwql.cr.usgs.gov/USGS> on February 4, 2002. Please click on LIMS Catalog and request Schedule 1402.

If you have questions about the new analytical method, or would like a copy of the report, when it is available, please contact Mark Burkhardt ([mrburk@usgs.gov](mailto:mrburk@usgs.gov), (303) 236-3250) or Duane Wydoski ([dwydoski@usgs.gov](mailto:dwydoski@usgs.gov), (303) 236-3240) at the NWQL.

If you have questions about the method approval process, please contact Pete Rogerson ([rogerson@usgs.gov](mailto:rogerson@usgs.gov), (303) 236-1836).