

May 1, 2000

To: Water Resources Division

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

For: LeRoy Schroder, Chief
Branch of Quality Systems

Subject: Approval of Water Quality Analytical Methods for the Determination of Chloroacetanilide Herbicide Metabolites in Water Using High Performance Liquid Chromatography – Diode Array Detection and High Performance Liquid Chromatography – Mass Spectrometry

The Office of Water Quality (OWQ) has approved two new water-quality analytical methods by the U.S. Geological Survey (USGS) Organic Chemistry Research Group, Lawrence, Kansas for the determination of chloroacetanilide herbicide metabolites in water by solid-phase extraction and high performance liquid chromatography – diode array detection (HPAA) and high performance liquid chromatography – mass spectrometry (LCAA). This water-quality analytical methods approval follows the technical procedure specified in OWQ Tech Memo 98.05. The Open File Report (OFR) is entitled:

Methods of Analysis by the U.S. Geological Survey Organic Geochemistry Research Group - Determination of Chloroacetanilide Herbicide Metabolites in Water Using High-Performance Liquid Chromatography-Diode Array Detection and High-Performance Liquid Chromatography/Mass Spectrometry, by L. R. Zimmerman, K.A. Hostetler, and E. M. Thurman. U.S. Geological Survey OFR 00-182.

Both methods determine 6 chloroacetanilide herbicide metabolites in samples of filtered water. Method reporting limits for HPAA are 0.2 micrograms per liter (ug/L), while reporting limits for LCAA are 0.05 ug/L.

The following list of National Water Information System (NWIS) Parameter Codes and Method Codes have been established for water concentration data from these methods:

Method HPAA (US Geological Survey (USGS) Method Number O-2133-00)

Parameter Code	Method Code	Analyte Name
61029	W	Acetochlor ethane sulfonic acid, water, filtered, ug/L
61030	W	Acetochlor oxanilic acid, water, filtered, ug/L
50009	W	Alachlor ethane sulfonic acid, water, filtered, ug/L
61031	W	Alachlor oxanilic acid, water, filtered, ug/L
61043	W	Metolachlor ethane sulfonic acid, water, filtered, ug/L
61044	W	Metolachlor oxanilic acid, water, filtered, ug/L

Method LCAA (US Geological Survey (USGS) Method Number O-2134-00)

Parameter Code	Method Code	Analyte Name
61029	X	Acetochlor ethane sulfonic acid, water, filtered, ug/L
61030	X	Acetochlor oxanilic acid, water, filtered, ug/L
50009	X	Alachlor ethane sulfonic acid, water, filtered, ug/L
61031	X	Alachlor oxanilic acid, water, filtered, ug/L
61043	X	Metolachlor ethane sulfonic acid, water, filtered, ug/L
61044	X	Metolachlor oxanilic acid, water, filtered, ug/L

The fixed value for the analyzing agency (parameter code 00028) is: 82013 (District Research Water-Quality lab, Lawrence, KS.)

If you would like a copy of the report, please contact Betty Scribner (scribner@usgs.gov) (785) 832-3564. If you have questions about the method approval process, please contact Pete Rogerson (rogerson@usgs.gov) (303) 236-1836.