

October 30, 1998

To: 'E'

From: Janice R. Ward, Acting Chief, Office of Water Quality

Subject: Approval of a Water Quality Analytical Method for the  
Determination of Arsenic and Selenium in Water and Sediment

The Office of Water Quality has approved a new water-quality analytical method for the determination of arsenic and selenium in water and sediment, pending Director's Approval of the draft Open File Report (OFR). This water-quality analytical methods approval follows the procedure specified in OWQ Tech Memo 98.05. The draft OFR is entitled:

"Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory – Determination of Arsenic and Selenium in Water and Sediment by Graphite Furnace-Atomic Absorption Spectrometry" by Sandra R. Jones and John R. Garbarino.

This method replaces the previous hydride generation atomic absorption method for both arsenic and selenium.

The draft OFR contains precision and accuracy information based upon U.S. Geological Survey (USGS) Standard Reference Water Samples (SRWS), spiked reagent, ground, and surface waters, and comparison of determinations by both the superceded hydride generation atomic absorption method and the new graphite furnace atomic absorption method. Some interferences have been identified with high conductivity, high sulfate, and high iron or aluminum concentrations. The NWQL Standard Operating Procedure specifies how those interferences are overcome. The method reporting limit is 1 microgram/liter (ug/L) and the analytical range is up to 50 ug/L. New method codes have been assigned to these determinations. Please consult the NWQL Catalog at <http://wwwnwql.cr.usgs.gov/usgs> for more information.