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## Competitive Sourcing at the NWQL

BY GREG MOHRMAN, CHIEF, NWQL

On August 4, NWQL employees assembled for a Town Hall meeting led by the USGS Associate Director for Water, Robert Hirsch. The purpose of the meeting was to inform NWQL employees that a streamlined A-76 study, announced in March 2006 for a group of physical science technicians, had been halted before the competition was completed.

In addition, employees were told that a decision had been made to have the entire laboratory reviewed and placed under an A-76 study.

Also participating in the discussion were Tim Miller, Chief of the Office of Water Quality, and Greg Mohrman.

Competitive Sourcing, commonly referred to as “A-76,” is the Office of Management and Budget (OMB) Circular A-76 that establishes Federal policy for the competition of commercial activities. Under the President’s Management Agenda, much emphasis has been placed and directives given to executive branch departments, including the U.S. Department of the Interior, to hold public/private competitions. The stated purpose of such competitions is to maximize the value Americans realize from their tax-dollar investments.

A Preliminary Planning Team (PPT) was quickly assembled and given the task of defining what the scope of the study should be. Moreover, the PPT would need to get the plan approved to facilitate a formal study announcement for publication in the government’s Federal Business Opportunities

(FedBizOps) directory before the end of fiscal year 2006. The PPT accomplished its work; it received approval for the recommended approach from Bob Hirsch and Tim Miller, and the official announcement required by OMB was made on September 29, 2006.

The OMB mandates a 12-month period for so-called “standard” studies; therefore, the final performance decision for the NWQL will be made late in September 2007.

The process begins with the development of a Performance Work Statement (PWS), which is subsequently used by Federal and commercial entities to formulate a proposal and associated cost.

*...The employees are committed to continued mission success...*

The government’s proposal is developed by incumbent employees and is termed the Most Efficient Organization (MEO). The MEO competes directly with commercial proposals, and award is made to the Lowest Price Technically Acceptable offer. The A-76 process requires commercial offers to demonstrate substantially lower cost than the government’s MEO to win the competition.

The NWQL is in the process of creating the PWS Team, which will use a contract consultant to assist in developing the PWS for this study. As the process continues, an MEO Team will be identified and will take on the task of formulating the government’s bid for carrying out the work requirements

*(continued on following page)*

specified in the PWS. Toward the end of the process, the MEO proposal will be placed into direct competition with offers received from the private sector.

The process defined for the standard study will require an investment of time from managers, supervisors, and employees over the next 12 months as various teams are created and begin their assigned tasks. The very nature of competing for the work currently performed by Federal employees understandably is disconcerting and obviously can be a distraction. However, without diminishing the reality of these impacts, the employees of the NWQL are committed to continued mission success of the Laboratory and in all aspects of our science, customer service, interaction, and consultation.



## Fall sample shipping schedule

The NWQL will be closed for the Veterans Day Holiday on Friday, November 10. There will be a sample pickup on Saturday, November 11. Normal business will resume on Monday, November 13.

The NWQL will also be closed on Thursday, November 23, in observance of the Thanksgiving Day Holiday. Normal business will resume on Friday, November 24. There will be sample pick-up on Saturday, November 25.

As always, customers have the option of keeping samples refrigerated and then shipping them after the holidays.

## GSA discusses impacts of hospital development on Federal Center

Representatives of the NWQL and other managers in the Central Region met with the General Services Administration (GSA) August 14 for a briefing on development of a hospital and mass transit center.

Greg Mohrman, Lab Chief, said a construction fence will be built on the site to prevent direct access to the Denver Federal Center (DFC) and building 95, somewhat allaying concerns regarding security. GSA said construction workers would only be able to access the site from outside the Federal Center.

The time table for construction has slipped, and transfer of the land to Lakewood is slated for February 2007. Construction would start shortly thereafter. Meanwhile, remediation work has been completed and geotechnical coring is underway.

The new Routt Street, which is part of the DFC master plan, will be located to the west, farther away from building 95 than first planned. It will be west of the existing street that borders the NWQL on the west side.

Air contamination is a major concern. Mohrman is pushing for an engineering and meteorological assessment in case mitigation might be called for to prevent potential impacts to building 95. Air intakes are on the west side of building 95.

The prairie dog colony in the construction area also was discussed. Plans call for a large-scale relocation of the prairie dogs to another site in Jefferson County. Details were not provided.

Mohrman said the briefing was helpful and the GSA seemed receptive to suggestions and comments.



Photos by Gary Cottrell

## Garbarino, Montoya lauded

John Garbarino, research chemist, and James Montoya, information technology specialist, received 30-year and 20-year pins and certificates, respectively, at a Town Hall meeting for NWQL employees last month. The awards were presented by Lab Chief Greg Mohrman.

# Methods being developed for hormones in water, sediment, and biosolid samples using a new gas chromatograph–tandem mass spectrometer

The NWQL is developing, validating, and implementing four new methods for selected sex hormones and other sterols in water, sediment, and biosolid matrices (see table 1).

These methods will include 19 analytes (see table 2) consisting of natural and synthetic estrogens, androgens, and progestins. Although estrogens and progestins typically are associated with females, and androgens typically are associated with males, both males and females can produce all three classes of compounds.

For the filtered (2434) and unfiltered (4434) water methods, analytes are isolated on a C18 solid-phase extraction (SPE) disk and eluted with methanol. Extracts are cleaned up by SPE, and the analytes are derivatized to make them stable for analysis by gas chromatography with tandem mass spectrometry (GC/MS/MS). For the solids (6434) and suspended sediment on filters (7434) methods, the analytes are extracted by pressurized solvent extraction and isolated by SPE. Extracts are cleaned up by multisorbent SPE, and the analytes are similarly derivatized and analyzed by GC/MS/MS.

The new tandem MS/MS instrument is used to enhance qualitative and quantitative detection of the analytes at low (nanograms per liter) concentrations in dirty matrices, such as wastewater effluent and biosolids. The tandem MS/MS works by first selecting and isolating one or more “precursor” ions in the first MS and then fragmenting the “precursor” ion in an argon collision cell to produce one or more characteristic “product” ions that are isolated in the second MS and detected. This MS/MS approach filters out many other unwanted ions (interferences), thereby producing

*(continued on following page)*

**Table 1.** New methods for hormones, sterols.

NWQL method/ schedule	Applicable matrices	Units	Anticipated availability as custom method*
2434	Filtered water	nanograms/liter	Feb. 2007
4434	Unfiltered water	nanograms/liter	Feb. 2007
6434	Solids including bed sediment, soil, biosolids, and suspended sediment not adhered to filters	nanograms/kilogram dry weight	June 2007
7434	Suspended sediments on filters	nanograms/liter	June 2007

\*Availability as approved U.S. Geological Survey method anticipated within another 6 months of this date.

**Table 2.** Analytes, class, and source of hormone, sterol.

Analyte	Class	Source or use
<i>cis</i> -Androsterone	Natural androgen	Testosterone metabolite, used in deer repellent
4-Androsten-3,17-dione	Natural androgen	Testosterone precursor, illicit steroid
Cholesterol	Natural sterol	Ubiquitous, produced by animals and plants
3- <i>beta</i> -Coprosterol	Natural sterol	Carnivore fecal indicator, useful sewage tracer
Diethylstilbestrol	Synthetic estrogen	Pharmaceutical
Epitestosterone	Natural androgen	Human androgen
Equilenin	Natural estrogen	Equine estrogen, hormone replacement therapy
Equilin	Natural estrogen	Equine estrogen, hormone replacement therapy
17- <i>alpha</i> -Estradiol	Natural estrogen	Low occurrence in humans, common in other species
17- <i>beta</i> -Estradiol	Natural estrogen	Principal estrogen in humans, strong estrogen
Estriol	Natural estrogen	Metabolite of 17- <i>beta</i> -estradiol
Estrone	Natural estrogen	Metabolite of 17- <i>beta</i> -estradiol
17- <i>alpha</i> -Ethinylestradiol	Synthetic estrogen	Used in oral contraceptives, very strong estrogen
11-Ketotestosterone	Natural androgen	Very strong androgen
Mestranol	Synthetic estrogen	Used in oral contraceptives, metabolized to ethinylestradiol prior to excretion
Norethindrone (19-Norethisterone)	Synthetic progestin	Used in oral contraceptives
Progesterone	Natural progestin	Principal human progestational hormone
Stanolone	Natural androgen	Testosterone metabolite, very strong androgen
Testosterone	Natural androgen	Principal human androgen, strong androgen

enhanced signal-to-noise response, and, thus, lower detection levels in complex matrices compared to standard GC/MS instruments.

These four new methods also will use an isotope dilution quantification procedure comparable to that found in some U.S. Environmental Protection Agency methods—for example, USEPA method 8290 for polychlorinated dioxins and furans (U.S. Environmental Protection Agency, 1994). Isotope dilution uses isotopically labeled analogs of the analytes that are added to the sample just prior to extraction. Analytes then are quantified on the GC/MS/MS relative to the isotope dilution surrogates. This method of quantification automatically corrects for any procedural losses in the reported analyte concentration. Of the 19 analytes, 13 deuterium-labeled analogs currently are available for use as isotope dilution surrogates, and all 19 analytes are quantified using the isotope dilution procedure. The isotope dilution surrogates will be reported (in percent recovered) along with the analyte concentrations in the National Water Information System data base. However, these surrogate measurements will reflect absolute (uncorrected) recoveries, whereas reported analyte concentrations are automatically recovery corrected by using this isotope dilution procedure.

USGS staff developing these methods include James Gray, Bill Foreman, Ed Furlong, and Mark Burkhardt, NWQL Methods Research and Development Program; Chris Lindley, NWQL Analytical Services; and Larry Barber, National Research Program. Implementation of a comparable custom method for hormones/steroid compounds that are isolated using the USGS's polar organic chemical integrative sampler (Alvarez and Huckins, 2004) is planned for late 2007 or early 2008.

• BILL FOREMAN AND JAMES GRAY

## References Cited

Alvarez, D., and Huckins, J., 2004, Polar organic chemical integrative sampler (POCIS)—Description and application: U.S. Geological Survey, Columbia Environmental Research Center document available electronically only and accessed September 21, 2006, at <http://www.cerc.usgs.gov/pubs/center/pdfDocs/POCIS.pdf#search=%22POCIS%22>

U.S. Environmental Protection Agency, 1994, SW-846 Test methods for evaluating solid waste, physical/chemical methods—Method 8290: Polychlorinated dibenzodioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) by high-resolution gas chromatography/high-resolution mass spectrometry (HRGC/HRMS): Office of Solid Waste, 71 p., accessed September 21, 2006, at <http://www.epa.gov/epaoswer/hazwaste/test/pdfs/8290.pdf>



**MAKING A POINT**—Blake McCurdy (second from left), representing Waters Corporation, provides on-site training and instrument orientation recently at the National Water Quality Laboratory for a new gas chromatograph–tandem mass spectrometer. Also shown (from left) are Bill Foreman, research chemist, Methods Research and Development Program (MRDP); James Gray, chemist, MRDP; and Chris Lindley, chemist, Gas Chromatography/Mass Spectrometry Unit. The dedicated team is working to validate, document, and implement four official methods for determining hormones in water, sediment, and biosolid samples.

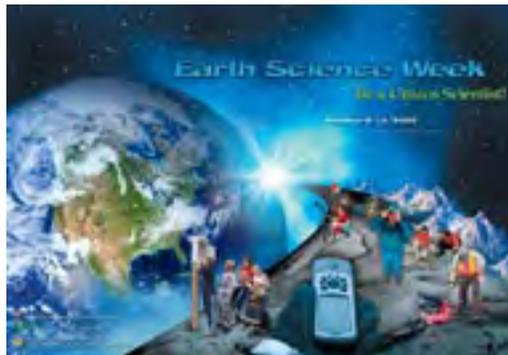


**COOL INSTRUMENT**—Chemist Chris Lindley checks out the newly installed Quattro Micro™GC, manufactured by Waters Corporation. Lindley's enthusiasm for the new instrument is palpable as he looks forward to analyzing samples for determining sex hormones and other sterols in water, sediment, and biosolid matrices. Initial implementation of the method would be limited until its success can be demonstrated to the NWQL and to the Office of Water Quality.

# Earth Science Week

BY P. PATRICK LEAHY,  
ACTING DIRECTOR, USGS

An exceptional wildfire season, the anniversary of Hurricane Katrina, human health concerns, and increased awareness of global climate change are several reasons to emphasize the importance of understanding Earth and its inter-related processes. Earth Science Week offers an excellent opportunity to connect with our communities in ways that lead to collaborative relationships, improved education, and informed decisionmaking. We can help create Citizen Scientists for mutual benefit and useful achievement.



October 8–14 is Earth Science Week. This year’s theme, “Be a Citizen Scientist!,” encourages the public to learn about the planet on which we live by using the fundamental approaches of science: observation, data collection, and interpretation. As the role of earth science in meeting society’s needs continues to grow, we see all sectors of society—government, private industry, and individuals—turning to science to understand some of the most important challenges our Nation faces. A science-literate society can assist in improving the quality of life for all as we strive to understand how Earth processes interact to affect the health, safety, and well being of the world around us.

The USGS is pleased to be a sponsor and major material contributor to this international event organized by the American Geological Institute. We have an upfront and noticeable presence in Earth Science Week due to your many contributions and continuing interest. Because of growing interest, an increased number of packets are being sent to our major centers (major distribution and contact information shown below). This year’s toolkit packets include numerous useful resources, such as posters, flyers, USGS fact sheets, a DVD on our national parks, and an instructional activities calendar with a different activity for each month. I hope that many in our GS community that have students in school or are active with our science and science education associations will avail themselves to this resource. I encourage all centers and programs to contribute to the activities of the week and would be delighted to learn of any activities you may be conducting in support of this national event.

Complete information about Earth Science Week and related events may be found at: <http://www.usgs.gov/earthscience/> and <http://www.earthsciweek.org>.

## Major Distribution & Contact List

Contact Person	Location	Email	Telephone
Gene Jackson	Central Region	gajackson@usgs.gov	(303) 202 4621
Elizabeth Colvard	Western Region	ecolvard@usgs.gov	(650) 329-4498
Cheryl O’Brien	Eastern Region	crobrien@usgs.gov	(703) 648-5929
Carrie Jucht	EROS Data Center	cjucht@usgs.gov	(605) 594-6800

## News briefs

The U.S. Senate has confirmed Mark D. Myers to the post of Director, U.S. Geological Survey, by unanimous consent. Myers is a former State Geologist and Director of the State of Alaska Division of Geological and Geophysical Survey. For details, see news release from the U.S. Department of the Interior at URL <http://usgs.gov/director/myers.doc>

\* \* \*

Two staff members from Senator Ken Salazar’s office toured the NWQL August 21. They were briefed on the Laboratory’s mission, the operation of the Laboratory, and the support that the NWQL provides for water-quality studies.

\* \* \*

Brian Waidman, Chief of Staff for the new Secretary of the Interior, Dirk Kempthorne, toured the NWQL August 6.

\* \* \*

Daniel Bizu, records manager, reminds the staff that library books have been moved into the center of the NWQL mail room, and that “For Sale” books are located on the west side of the mail room.

\* \* \*

The fiscal year 2007 Project Briefs for the NWQL Methods Research and Development Program are available on the USGS-visible web page at [http://wwwnwql.cr.usgs.gov/USGS/meth/Proj\\_Briefs\\_07.html](http://wwwnwql.cr.usgs.gov/USGS/meth/Proj_Briefs_07.html)

## New publications

(NWQL authors in **boldface**)

## Reports

Persistent URL added to following report announced in the July 2006 issue of Water Logs:

**Burkhardt, M.R., Zaugg, S.D., Smith, S.G., and ReVello, R.C., 2006**, Determination of wastewater compounds in sediment and soil by pressurized solvent extraction, solid-phase extraction, and capillary-column gas chromatography/mass spectrometry: U.S. Geological Survey Techniques and Methods, book 5, chap. B2, 33 p. Available online at URL <http://pubs.water.usgs.gov/tm5b2/>

**Editor's Note:** The following two reports are focused specifically on emerging contaminants. Authors used the wastewater indicator and pharmaceutical compound methods provided by the National Water Quality Laboratory:

Wilkison, D.H., Armstrong, D.J., Norman, R.D., Poulton, B.C., **Furlong, E.T.**, and **Zaugg, S.D.**, 2006, Water quality in the Blue River basin, Kansas City metropolitan area, Missouri and Kansas, July 1998 to October 2004: U.S. Geological Survey Scientific Investigations Report 2006-5147, viii, 170 p. Available online at URL <http://pubs.usgs.gov/sir/2006/5147/>

Wilkison, D.H., Armstrong, D.J., Norman, R.D., Poulton, B.C., **Furlong, E.T.**, and **Zaugg, S.D.**, 2006, Water quality in the Blue River basin, Kansas City metropolitan area, Missouri and Kansas, July 1998 to October 2004: U.S. Geological Survey Fact Sheet 2006-3103, 6 p. Available online at URL <http://pubs.usgs.gov/fs/2006/3103/>

## Journal Articles

Garrison, V.H., **Foreman, W.T.**, Genualdi, S., Griffin, D.W., Kellogg C.A., Majewski, M.S., Mohammed, A., Ramsubhag, A., Shinn, E.A., Simonich, S.L., and Smith, G.W., 2006, Saharan dust—A carrier of persistent organic pollutants, metals and microbes to the Caribbean? *Revista Biologia Tropical* (in press).

Gibs, Jacob, Stackelberg, P.E., **Furlong, E.T.**, Meyer, M.T., **Zaugg, S.D.**, and Lippincott, R.L., in press, Reaction of trace level organic wastewater related compounds with total chlorine residual in drinking water as a function of time: *The Science of the Total Environment*.

Kinney, C.A., **Furlong, E.T., Zaugg, S.D., Burkhardt, M.R., Werner, S.L., Cahill, J.D.**, and Jorgensen, G.R., 2006, Survey of organic wastewater contaminants in biosolids destined for land application: *Environmental Science & Technology*, published on Web 9/13/2006, 9 p. This *ES&T* article will be published in a special issue on emerging contaminants Dec. 1, 2006. Related news item on the topic and link to article at URL [http://pubs.acs.org/subscribe/journals/esthag-w/2006/sep/science/nl\\_composting.html](http://pubs.acs.org/subscribe/journals/esthag-w/2006/sep/science/nl_composting.html)

Majewski, M.S., Zamora, C., **Foreman, W.T.**, and Kratzer, C.R., 2006, Contribution of atmospheric deposition to pesticide loads in surface water runoff: U.S. Geological Survey Open-File Report 2005-1307, available electronically only at <http://pubs.usgs.gov/of/2005/1307/>

Mast, M.A., **Foreman, W.T.**, and **Skaates, S.V.**, 2006, Organochlorine compounds and current-use pesticides in snow and lake sediment in Rocky Mountain National Park, Colorado, and Glacier National Park, Montana, 2002–03: U.S. Geological Survey Scientific Investigations Report 2006-5119, 54 p. Available electronically only at <http://pubs.water.usgs.gov/sir2006-5119/>

Mast, M.A., **Foreman, W.T.**, and **Skaates, S.V.**, 2006, Current-use pesticides and organochlorine compounds in precipitation and lake sediment from two high-elevation National Parks in the Western U.S.: *Archives of Environmental Contamination and Toxicology* (in press).

Van Metre, P.C., Horowitz, A.J., Mahler, B.J., **Foreman, W.T.**, Fuller, C.C., **Burkhardt, M.R.**, Elrick, K.A., **Furlong, E.T.**, Skrobialowski, S., Smith, J.J., Wilson, J.T., and **Zaugg, S.D.**, 2006, The impact of Hurricanes Katrina and Rita on the chemistry of bottom sediments in Lake Pontchartrain, Louisiana, USA: *Environmental Science and Technology* (in press).

## Presentations

**Foreman, W.T.**, Majewski, M.S., Zamora, C., and Kratzer, C., 2006, Pesticide concentrations in rainfall and resulting runoff: Abstracts of 232nd American Chemical Society National Meeting, September 10–14, 2006, San Francisco, Calif., abstract no. AGRO 229.

**Foreman, W.T.**, Van Metre, P.C., Plumlee, G.S., Mahler, B.J., **Furlong, E.T.**, **Burbank, T.L.**, **Burkhardt, M.R.**, **Madsen, J.E.**, **Markovchick, D.J.**, Skrobialowski, S.C., Wilson, J.T., and **Zaugg, S.D.**, 2006, Organic contaminants in New Orleans, Louisiana, floodwater mud and Lake Pontchartrain sediment samples following Hurricanes Katrina and Rita: Abstracts of 232nd American Chemical Society National Meeting, September 10–14, 2006, San Francisco, Calif., abstract no. DSTR 15.

Majewski, M.S., Zamora, C., **Foreman, W.T.**, and Kratzer, C., 2006, Wet and dry atmospheric deposition of pesticides in the San Joaquin Valley, California: Abstracts of 232nd American Chemical Society National Meeting, September 10–14, 2006, San Francisco, Calif., abstract no. AGRO 228.

Plumlee, G.S., Meeker, G., Demas, C.R., **Foreman, W.T.**, Lovelace, J.K., Hageman, P.L., Morman, S.A., Lamothe, P.J., Sutley, S., Breit, G.N., Brownfield, I., **Furlong, E.T.**, Goldstein, H., Adams, M., and Rosenbauer, R.J., 2006, Sources, mineralogy, chemistry, environmental reactivity, and metal bioaccessibility of flood sediments deposited in the New Orleans area by hurricanes Katrina and Rita: Abstracts of 232nd American Chemical Society National Meeting, September 10–14, 2006, San Francisco, Calif., abstract no. DSTR 14.

**Sandstrom, M.W., Fehlberg, K.M.**, Battaglin, W.A., 2006, Determination of soybean rust fungicides in surface-water samples by solid-phase extraction GC/MS: Abstract for presentation at the 27th Society of Environmental Toxicology and Chemistry (SETAC) North American Annual Meeting, Montreal, Quebec, Canada, November 5–9, 2006.

## Frequently asked questions

***New analytical method uses pressurized liquid extraction to enhance the preparation of sediment and soil samples to determine semivolatile organic compounds and polycyclic aromatic hydrocarbons***

### ***What does the new method offer?***

The new method was developed to determine 38 semivolatile organic compounds (SVOCs) and polycyclic aromatic hydrocarbons (PAHs) in solid samples, such as sediment and soil. It uses a pressurized liquid extraction (PLE) system that has several advantages over conventional Soxhlet extraction. These include increasing automation of the extraction process; reducing the time required for extraction; and using less solvent than is used, for example, for comparable preparations in other NWQL schedules, such as schedules 2502 and 2505. Cleanup of the extract is also simplified because the compounds are isolated using disposable solid-phase extraction (SPE) cartridges that replace the more commonly used gel permeation chromatography.

Environmental sediment samples typically require extensive cleanup of the extract to provide a low matrix background that is amenable to analysis and still retains the compounds of interest. By coupling PLE and SPE, complex matrices can be extracted, matrix interferences minimized, and full-scan gas chromatography–mass spectrometry (GC–MS) analysis performed.

### ***What are the features of the new method?***

The new accelerated PLE method is suitable to determine 38 SVOCs and PAHs (NWQL schedule 5506) and 25 alkylated PAH homolog groups (NWQL schedule 5507) in sediment and soil by GC/MS.

A sample is extracted to determine the method compounds in microgram-

per-kilogram ( $\mu\text{g}/\text{kg}$ ) concentrations. At least 25 grams (g) of bed sediment (stream and lake-beds), soil, or aqueous suspended sediment (minimum of 0.5 g) are required.

The method can be used for compounds that are (1) extracted from sediment samples using high-pressure water/isopropyl alcohol efficiently, (2) able to be partitioned from the resulting water/isopropyl alcohol extract onto the divinylbenzene/vinylpyrrolidone copolymer organic phase, (3) volatile and thermally stable for GC, (4) sufficiently stable from chemical and thermal degradation, and (5) amenable to electron impact MS analysis.

### ***How are data reported?***

The method detection limit (MDL) for each compound is used to determine the minimum reporting levels (MRLs). The MRLs have been set at two to five times the calculated MDL. Qualitatively identified compound concentrations that are less than the MRL are reported using the “E” remark code to indicate that the concentration has been estimated. The lowest quantitative threshold for reporting data has been set at 1 percent of the MRL. Compounds that are not detected are reported as being less than the MRL. Concentrations of alkylated PAH homolog groups that meet qualitative identification criteria are always reported as estimated with the “E” remark code because there are no authentic standards.

If the result is greater than the highest concentration standard in the calibration curve, the sample is diluted into the range of the calibration curve and reanalyzed.

Concentrations for field samples are reported in micrograms per kilogram dry sediment to two significant figures. Quality-control reference material and set spike samples are reported as percent recovered.

### ***What is the new method number, and laboratory and parameter codes?***

The U.S. Geological Survey (USGS) method number is O-5506-06 (NWQL schedule numbers 5506 and 5507) for sediment and soil. A list of the analytes, laboratory and parameter codes, reporting limits, units, and sampling containers used for samples is available on the NWQL USGS-visible web site at <http://nwql.cr.usgs.gov/usgs/catalog/index.cfm>.

Click on LIMS Catalog (upper right corner). Choose a search category, schedule number in this instance, and enter schedule number 5506 to access detailed information about SVOCs and PAHs in sediment and soil. Enter schedule number 5507 for all the compounds included in schedule 5506 plus the analysis of 25 alkylated PAH homolog groups associated with the parent compounds in schedule 5506.

### ***What procedures are required for shipping samples to the NWQL?***

At least 25 g of sample should be collected, placed into a clear glass bottle (bottle type BGC) (No. Q410FLD in One Stop Shopping catalog at URL <http://1stop.usgs.gov/>), chilled, and maintained at 4°C or less using the protocols outlined in the USGS national field manual for the collection of water-quality data (U.S. Geological Survey, variously dated). Sample sizes with less material likely will have elevated reporting levels.

Ship samples by overnight carrier to the NWQL as soon as possible after collection. Sediment and soil samples must be shipped on ice.

### ***May any Water Science Center use the new methods?***

Yes. On 10 April 2006 the Office of Water Quality approved the new water-quality analytical method for the determination of semivolatile organic

*(continued on following page)*

compounds and polycyclic aromatic hydrocarbons in solids, such as soil and sediment.

### *How do I obtain a copy of the new method?*

Zaugg and others (2006) may be downloaded from the USGS web site (<http://pubs.usgs.gov/tm/2006/tm5b3>), requested by E-mail to the author ([sdzaugg@usgs.gov](mailto:sdzaugg@usgs.gov)) or [LabHelp@usgs.gov](mailto:LabHelp@usgs.gov), or calling 1-866-ASK-NWQL.

## References

U.S. Geological Survey, variously dated, National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A1 (Rev. 1/2005), A2 (Rev. 3/2003), A3 (Rev. 4/2004), A4 (Rev. 9/1999), A5 (Rev. 4/2004), and A5.6.4 (Rev. 1/2005), accessed 28 June 2006, at URL <http://water.usgs.gov/owq/FieldManual>

Zaugg, S.D., Burkhardt, M.R., Burbank, T.L., Olson, M.C., Iverson, J.L., and Schroeder, M.P., 2006, Determination of semivolatile organic compounds and polycyclic aromatic hydrocarbons in solids by gas chromatography/mass spectrometry: U.S. Geological Survey Techniques and Methods, book 5, chap. B3, vii + 44 p., available online at URL <http://pubs.water.usgs.gov/tm5B3>

• STEVEN ZAUGG, MARK BURKHARDT, TERESA BURBANK, MARY OLSON, JANA IVERSON, MICHAEL SCHROEDER, and ALLISON BRIGHAM

The NWQL summer picnic was held September 14 on the patio of building 95 in celebration of the Central Lab's 30th anniversary. Laboratory employees were joined by retirees, former employees, members of the Branch of Quality Systems and Office of Water Quality, National Research Program scientists in building 95, students from a water-quality training course at the NWQL, and representatives from the General Services Administration (see accompanying photographs by Doug Mynard).



## Tom Maloney reassigned

Tom Maloney stepped down as chief of the Quality Assurance Section, effective July 23, because of lingering health concerns related to his motorcycle accident last year. Maloney has assumed a technical position responsible for developing

the Laboratory's updated Quality Management System manual and the Data and Information Management Plan. He will also serve as a technical report reviewer.

Maloney reports to Merle Shockey, assistant lab chief.

Meanwhile, John Garbarino is the acting chief of the Quality Assurance Section while a replacement chief is recruited. Garbarino is a research chemist in the Methods Research and Development Program.

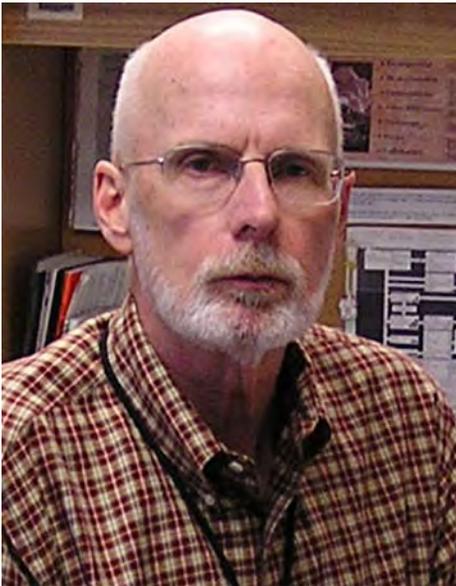


Photo by Barb Kemp

### LEAVING FEDERAL SERVICE—

Robert (Bob) Green, chief of the Methods Research and Development Program, has decided to call it a career and to retire from Federal service on October 31. (We're not sure why he chose Halloween to "call it quits.") Green's career spans his time as professor of chemistry at West Virginia University and the University of Arkansas, a Navy civilian researcher, and head of the chemistry division in the Research Department at China Lake, in California. Since joining the NWQL in 1998, "Green has been instrumental in supporting and encouraging principal investigators in his program," said Greg Mohrman, Chief of the NWQL. Mohrman added that Green also reshaped the internal culture to be more project driven, "a change that has paid dividends for the NWQL and its customers."

## Newsletter Staff

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