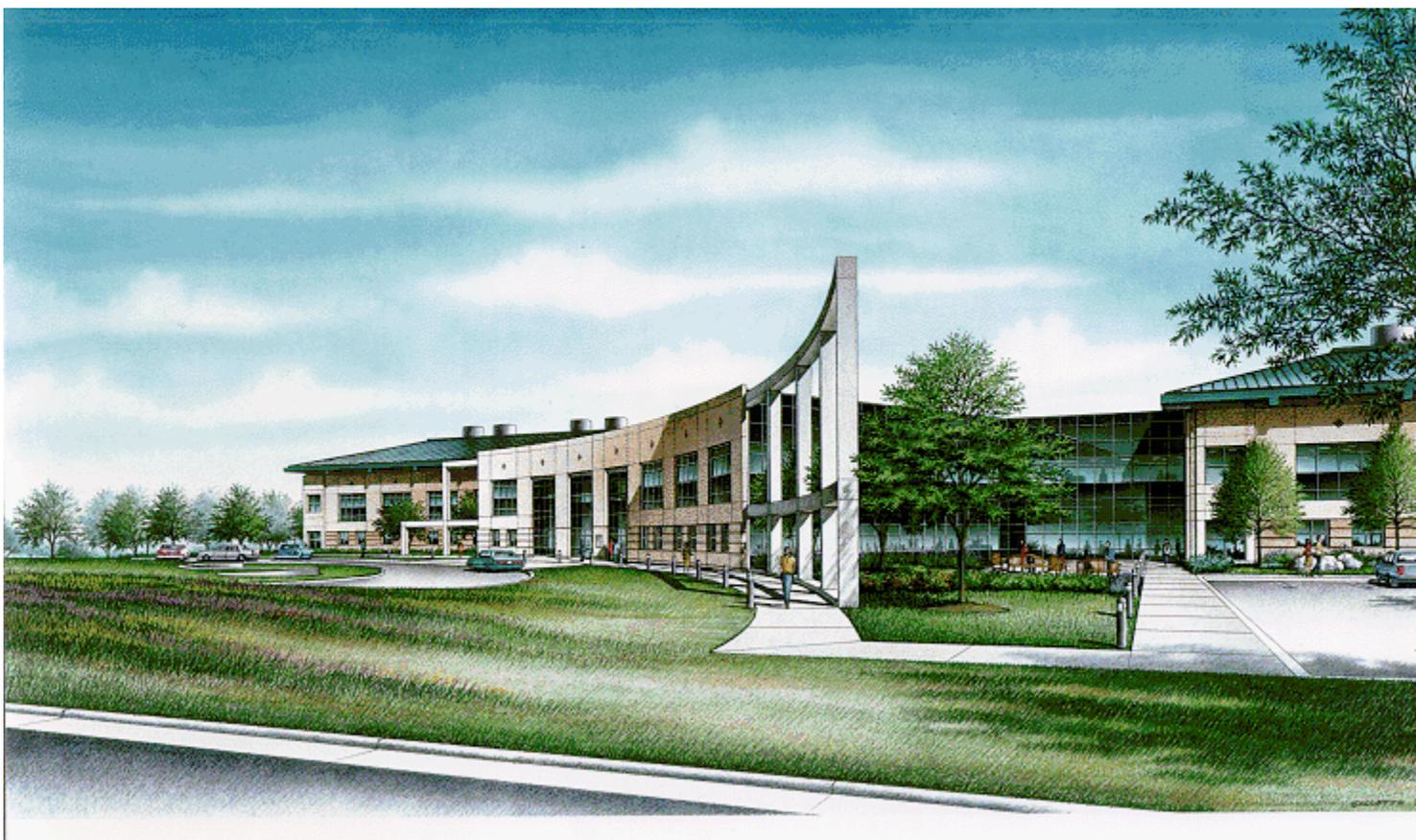


USGS BREAKS GROUND FOR NEW LABORATORY



ARTIST'S SKETCH of the new U.S. Geological Survey National Water Quality Laboratory under construction on the Denver Federal Center campus. The two-story building consists of two laboratory wings with a gross area of 145,000 square feet. The General Services Administration says construction will be completed early in 1999. Photo courtesy of HOK, Houston.

Ground was broken by the U.S. Geological Survey August 7 in a ceremony to mark construction of a new building for the National Water Quality Laboratory at the Denver Federal Center in Lakewood. It's the first completely new building constructed in 30 years at the Federal Center campus.

Guests were welcomed by Douglas Posson, Regional Director, USGS, who said the building will serve the Survey's mission well into the 21st century. He was followed by David Rickert, Chief, USGS Office of Water Quality, who said the Laboratory will provide a state-of-the-art facility for the NWQL operation, which is responsible for analyzing the quality of the Nation's water.

Polly Baca, Regional Administrator for the U.S. General Services Administration, said the contemporary design will provide energy efficiency, functionality, safety, and convenience for its occupants.



DISHING THE DIRT – Polly Baca, Regional Administrator, U.S. General Services Administration, and Douglas Posson, Regional Director, U.S. Geological Survey, team up to turn the first shovel August 7 in a groundbreaking ceremony for the new National Water Quality Laboratory at the Denver Federal Center.



CAKEWALK – Refreshments were served to mark the official groundbreaking for the National Water Quality Laboratory.

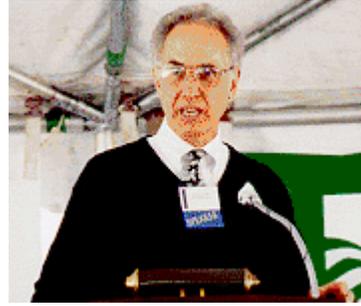
GSA awarded \$22 million for construction. The Laboratory is slated for completion March 14, 1999. The building is designed with two laboratory wings to facilitate materials flow and interaction among the programs. It includes a warehouse, administration area, surface parking, and landscaping. The two-story building, containing 145,000 square feet, was designed for GSA by HOK in Houston. The construction contract was awarded in mid-July to Blackinton & Decker, Inc., Denver.

Pete Rogerson, former NWQL Chief, said the new analytical production facility is "without peer." He called the design "flexible," and added, "it's a powerful and compelling statement that the USGS is a major player in the Nation's water-quality arena and will continue to be so for the foreseeable future." Rogerson said the "staff is excited about the prospects of consolidating analytical operations in a modern building."

The NWQL moved to its present facility on Ward Road in the early 1970s. Prior to that, it was housed in Building 25 at the Denver Federal Center. After a fire destroyed the laboratory, GSA called for emergency bids, resulting in the present leased space. Following expiration of the lease and subsequent lease extensions, GSA decided in 1994 to return the NWQL to a new building at the Federal Center. GSA requested specifications, and design work was soon underway.

The new Laboratory will include four projects for the National Research Program, which also shares the present space on Ward Road. Rogerson said he is "pleased that the long-term relations between the Central Region Branch of Regional Research and the NWQL will continue."

A DYNAMIC WORK ENVIRONMENT – David A. Rickert, Chief, Office of Water Quality, addresses guests during the groundbreaking ceremony for the Survey's new Laboratory building. Rickert said the building would provide "a dynamic work environment that emphasized cooperation, coordination, and responsiveness."



The NWQL determines organic and inorganic constituents in samples of ground and surface water, river and lake sediment, aquatic plant and animal material, and precipitation collected in the United States and its territories by the USGS. The Laboratory serves national programs involved with water chemistry, water- resources issues, and species identification of biological samples.

Heightened concerns about water quality and about the possible effects of toxic chemicals at trace and ultratrace concentrations have contributed to an ongoing demand for objectively obtained and analyzed data using well-documented procedures.

New Senior Chemist Named in Office of Water Quality

The Office of Water Quality (OWQ) is pleased to announce that Pete Rogerson is now a senior chemist in the OWQ. Pete joined the U.S. Geological Survey (USGS) in November 1986 as the first chemist for the newly created Methods Research and Development Program at the National Water Quality Laboratory (NWQL). Beginning in September 1988, Pete served as Chief of the Program. In January 1992, Pete became Chief of the NWQL.

During Pete's tenure as Chief, the NWQL has (1) established an outstanding fiscal control system and Working Capital Fund for improved management of the NWQL; (2) implemented a number of important new low-level methods into standard production; (3) increased the annual sample income from \$8.5 million to \$12 million while eliminating backlogs of results; and (4) greatly improved the documentation of methods and the quality of analyses. Pete has also been instrumental in coordinating with the General Services Administration for construction of the new laboratory facility.

In his new position, Pete will bring his environmental and analytical knowledge into the OWQ to advise the USGS on the types and levels of chemicals that we need to measure to meet public needs and to provide leadership for planning the development of new field and laboratory methods and the required quality-control data. In this capacity, Pete will provide USGS leadership for collaborative methods development activities with the U.S. Environmental Protection Agency and Environment Canada, will represent the Survey on the Interagency Method and Data Comparability Board of the new Water-Quality Monitoring Council, and will serve as the Department of the Interior representative to the National Environmental Laboratory Accreditation Conference (NELAC).



by David A. Rickert

Bob Williams accepts Laboratory Chief job

The Office of Water Quality (OWQ) is pleased to announce that Bob Williams has accepted an assignment as Chief of the NWQL. Bob brings unique qualifications to this job because of his experience in the Water Resources Division.

Bob began his career in 1972 as a Hydrologic Field Assistant in the Colorado District. He later spent 15 years as Chief of various District projects and 1 year as Chief of the Environmental Assessment Unit.

In 1992, Bob became Assistant Chief of the NWQL. In that assignment, he worked interactively with District Chiefs, District water-quality specialists, National Water-Quality Assessment Program (NAWQA) personnel, Regional water-quality specialists, and headquarters staff. The work required an understanding of District activities and needs coupled with knowledge of NWQL operations and capabilities.

In 1995, Bob became Chief of the Earth Science Investigations Program for the Yucca Mountain project. In this position, he gained experience in working with Federal agencies, universities, and the private sector. He also gained insights about the need for timeliness of results and the value of sound quality assurance and quality control.

For the past year, Bob has served as a liaison between the OWQ, the NWQL, and NAWQA. During this time, Bob worked with the groups to establish and maintain effective communications between Division offices and programs and between Division hydrologists, chemists, and biologists.

Bob is accepting a challenging task given the NWQL's upcoming move to a new facility, the uncertainty of District budgets, and the increasing need of the NWQL to measure constituents at very low levels.



by David A. Rickert

Patton acting head in Methods

Charles J. Patton, research chemist, is the new acting chief of the Methods Research and Development Program. Patton replaced Bill Foreman September 29 with a 120-day detail.

The rotating assignments have been in effect since May 25 when Mark Sandstrom stepped down as program chief to return to research. A Bureau-wide vacancy announcement was issued for the program chief's position, and a selection is forthcoming.

Inorganic Chemistry Program reorganized

The Inorganic Chemistry Program at the Laboratory was reorganized April 7, from four to three units, in response to a reduced staff and workload. The previous four units--Plasma, Majors, Nutrients, and Atomic Absorption Spectrometry (AAS)--were reduced to three by integrating the duties of AAS into the remaining units.

Responsibilities assigned to the new units by Merle Shockey, Program Chief, are as follows:

Plasma-Trace metals and cation analysis by inductively coupled plasma, inductively coupled plasma-mass spectrometry, in-bottle digestion for whole water trace elements, and tissue preparation and analysis.

Majors-Trace metals by graphite furnace-atomic absorption spectrometry, arsenic, selenium, antimony by hydride, pH and conductance, alkalinity, chemical oxygen demand, fluoride, cyanide, acidity, color, turbidity, and vanadium (colorimetric method).

Nutrients-Nitrate, nitrite, orthophosphate, ammonia, Kjeldahl nitrogen, phosphorus, ion chromatography (chloride and sulfate), low-level ion chromatography, residue on evaporation, suspended solids, silica (colorimetric method), and preparation of bottom material.

Contacts in the program are as follows:

- Merle Shockey (mshockey), Program Chief, 303-467-8101
- Harold Ardourel (ardourel), Assistant Chief, 467-8105
- Ed Zayhowski (zayhowsk), Supervisor, Plasma Unit, 467-8150
- Glenda Brown (gebrown), Supervisor, Majors Unit, 467-8122
- Juan Vasquez (jvasquez), Supervisor, Nutrients Unit, 467-8113



STUDENT TRAINING – Ken Werner, physical science technician, keeps a watchful eye on Nhu Trieu while she exchanges solvent as part of a sediment extraction. Nhu was taking part in student training administered by the High School Internship Program. She was a student at Arvada Senior High School earlier this year when she completed 86 hours of training in laboratory procedures taught by Organic Chemistry Program personnel at NWQL. Nhu is now attending the University of Colorado at Boulder. In addition, Nancy Ingalls took part in the College Internship Program this year at NWQL while completing studies at Regis University in Denver. High school and college students earn credits at NWQL while gaining job experience in environmental analyses.

Updated biological reference data slated for Web

One of the goals of the Biological Unit has been to release data in a format suitable for the Biological Data Analysis System (BDAS) developed for the National Water-Quality Assessment Program (NAWQA). This format requires a sort number representing phylogenetic order. Phylogenetic order places the taxonomic names in a list based on their evolution and rank in the taxonomic tree. The NAWQA Study Units can filter and group their data using this order.

NWIS-II (National Water Information System) provided a list in Ingres of over 220,000 North American taxonomic names with order, rank, and parent of each. However, the names, spelling, and order of the list was incomplete and outdated. Many parts of the tree, including entire branches, were missing. Others had been renamed or determined to belong to another branch. To provide NWQL customers with the best current scientific nomenclature, this reference list had to be updated.

The fish reference list was updated before any data were released. It contains over 10,000 references and will grow as new Study Units encounter new fish. The problem with the invertebrate and algal reference list was formidable. Therefore, data were released in an interim format until a solution could be found. Painstakingly, a reference list with the proper order is being established. This involves taking each name and tracing the tree structure to verify that it is in the proper place and all parents and grandparents exist. As each new name is encountered, it is placed in the tree at the proper place. The reference list is in a continual state of update, but the rate of change should diminish.

There is still much work to be done, but eventually a reference list in Ingres will represent all the taxa that have been encountered by the Study Units in the proper phylogenetic order! These reference lists will be placed on the World Wide Web in the Biological Unit area so they can be of use to all interested USGS employees.



by Sandy Turner

Survey collaborates on fish QA/QC

Representatives of the U.S. Geological Survey met recently to outline a strategy for ensuring fish taxonomic quality assurance and quality control (QA/QC) for the National Water-Quality Assessment Program (NAWQA). The meeting involved staff from NAWQA, the NWQL, and the Florida Caribbean Science Center (FCSC).

The FCSC is highly regarded in the United States for its expertise on fish taxonomy. A fish taxonomic specialist will be hired at the FCSC--part of the new Biological Resources Division of USGS--to work with NAWQA biologists to develop and implement study-unit specific QA/QC plans. The specialist will also review data prior to its submission to the NWQL's Biological Quality Assurance Unit (BQAU), the laboratory's QA/QC oversight group for biology.

The BQAU is responsible for the following:

- Develop Web-based software for field collections of fish and the directory of taxonomic resources expertise in ichthyology,
- Ensure proper taxonomic use in the fish population data base,
- Create additional data-management tools to ensure electronic accessibility of information on study-unit fish QA/QC plans, and
- Provide a variety of data formats for analysis.

Long-range plans include developing guidelines to maintain on-site reference collections of fishes as well as planning for electronic public access to NAWQA fish data via the World Wide Web.

Questions regarding fish taxonomic QA/QC will be handled by the BQAU with information support by the fish taxonomic specialist at FCSC.



by Allison Brigham

New titles in print

Jones, S.R., and McLain, B.J., 1997, Methods of analysis by the U.S. Geological Survey National Water Quality Laboratory--Determination of molybdenum in water by graphite furnace atomic absorption spectrophotometry: U.S. Geological Survey Open-File Report 97-198, 25 p.

Moulton, S.R., II, and Harris, S.C., 1997, New species of southwestern Nearctic microcaddisflies (Trichoptera: Hydroptilidae): Proc. Entomol. Soc. Wash., v. 99, no. 3, July 1997, p. 494-501.



SAMPLE HANDLING – Pat Timme and Rob Prokop, Laboratory Operations Program, label sample bottles as part of the log-in process. The numbered labels help to identify the samples as they are routed throughout the laboratory.

Seminar schedule for 1997

Denver Metro area visitors from USGS branches and district offices are encouraged to stop by the NWQL conference room and join the staff for the Laboratory Seminar Series. If interested in presenting a seminar at the Lab, contact Jon Raese (jwraese) for scheduling and speaking arrangements.

SEPTEMBER

"Environmental Reference Materials--Issues and Perspectives"

Chuck Wibby, Environmental Resource Associates, Arvada, Colo.

10 a.m. Wednesday, September 17

"Isolation, Particle Size, and Organic Composition of Colloids from Ground and Surface Water"

Colleen Rostad, Research Chemist, USGS National Research Program

10 a.m. Tuesday, September 23

OCTOBER

"Quality Control of NAWQA Algal Data: Observations on Consistency and Accuracy of Biological Data"

John Kingston, Biologist, Production Program, NWQL

10 a.m. Wednesday, October 8

"Occurrence and Distribution of Semivolatile Organic Compounds in the United States: Analytical Methods and Initial Results"

Ed Furlong, Research Chemist, Methods Research and Development Program, NWQL

10 a.m. Wednesday, October 15

"Using Photophysiological Parameters To Characterize Algal Scalar Processes"

David Millie, Research Aquatic Biologist and Phycologist,

U.S. Department of Agriculture

10 a.m. Thursday, October 23

NOVEMBER

"Chemistry of Natural Organic Matter in Water"

Jerry Leenheer, Hydrologist, USGS National Research Program 10 a.m. Wednesday, November 12

"Method Validation Compared to Method Performance: Examples from a C-18 Solid-Phase Extraction GC/MS Method (Schedule 2001)"

Mark Sandstrom, Research Chemist, Methods Research and Development Program, NWQL

10 a.m. Wednesday, November 19

DECEMBER

"Interpretation of Laboratory QA/QC Data: Inorganics (Part 1 of 2 Parts)"

Kim Pirkey, Chemist, Quality Management Program, NWQL

10 a.m. Tuesday, December 2

"Interpretation of Laboratory QA/QC Data: Organics (Part 2 of 2 Parts)"

Kim Pirkey, Chemist, Quality Management Program, NWQL

10 a.m. Thursday, December 4

"Determination of Four Arsenicals in the Environment"

Mark Burkhardt, Chemist, and John Garbarino, Research Chemist,
Methods Research and Development Program, NWQL

10 a.m. Tuesday, December 9

What's in a name?

We are thinking about changing our *Newsletter* nameplate. The present emphasis on "Newsletter" seems rather silly and trite. However, we would retain the phrase "National Water Quality Laboratory Newsletter" as a secondary heading.

Primary emphasis should be on one or two key words. For example, would you vote for one of the following:

- Water Logs
- Water Lines
- Watermark
- Watershed
- Water-Quality Notes
- Flow Lines

Suggestions for a new name are welcome. Send your ideas to the attention of the editor; our address is in the masthead. Or send Geomail to jwraese@usgs.gov.

Correction

The last issue of the Newsletter (v. 5, no. 3, July 1997) contained an error on page 2 in the article entitled "New method for low-level volatile organic compounds developed by NWQL chemists." The last paragraph contains the following sentence: "On the basis of extensive internal quality assurance and expert technical review, data produced by Schedule 9090 after October 1, 1997, will be considered approved and can be entered into WATSTORE (Water Data Storage and Retrieval System)." The date is incorrect and should have read "October 1, 1996."

Newsletter Staff

Jon Raese, Editor

The National Water Quality Laboratory Newsletter, is published quarterly by the National Water Quality Laboratory, U.S. Geological Survey, Box 25046, MS-407, Denver Federal Center, Denver, CO 80225-0046. For copies, call Jon W. Raese (303) 236-3464.

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