

# Ohio Geology

A Quarterly Publication of the Ohio Department of Natural Resources, Division of Geological Survey

2002, No. 1

## GEOLOGY MAKES HISTORY IN OHIO

by Merrienne Hackathorn

Anyone who has traveled in Ohio has seen the large brown-and-bronze markers denoting historical sites. Ohio's Historical Marker Program, administered by the Ohio Historical Society, began in 1953 as part of the state's Sesquicentennial celebration. Between 1953 and 1998, about 300 markers were placed around the state. As Ohio prepares to celebrate its Bicentennial in 2003, The Ohio Bicentennial Commission, in conjunction with the Ohio Historical Society and with funding from the Longaberger Company of Newark, Ohio, has been working to increase the number of historical markers. There are now approximately 500 markers, and another 200 to 300 are expected by 2003. The Longaberger Legacy Initiative is a competitive grant program through the Ohio Bicentennial Commission that pays for up to two-thirds of the cost each marker. Local sponsors pay the remaining third.

Several sites chosen to receive historical markers in the Ohio Bicentennial Commission's Longaberger Legacy Initiative are geologically significant. In the city of Jackson in Jackson County, a marker honors John Wesley Powell, who lived in the county from 1838 to 1846 (age 4 to age 12). Powell was a Civil War officer, famous explorer of the Colorado River and the Grand Canyon, and second director of the U.S. Geological Survey. He developed his interest in geology while being schooled in Jackson by neighbor George Crookham, who was a farmer, salt boiler, and self-taught naturalist.

Another Jackson County site that has been commemorated is Jefferson Furnace, just west of Oak Hill. Jefferson Furnace was one of 46 charcoal blast-iron furnaces in southeastern Ohio (11 in Jackson County) that operated between 1826 and 1916 (see *Ohio Geology*, Winter 1986). These furnaces used locally mined low-grade iron ore and limestone along with charcoal made from the abundant timber in the area. Local sandstone

was used to construct the furnaces. During the Civil War, Ohio was one of the leading iron producers in the nation. The iron used to sheathe the Union ironclad *Monitor* reportedly was cast at Jefferson Furnace.

On Main Street in Leetonia, Columbiana County, a marker denotes the site of the Cherry Valley coke ovens. The ovens were built in the 1870's and employed almost the entire village of Leetonia during their heyday. Coke is produced by heating coal to remove volatile and gaseous components and is used as a source of fuel for iron and steel production. The facility is the largest of its type in Ohio and one of the largest historic industrial sites in the United States.

A marker at Powhatan Point in Belmont County commemorates the coal industry in the area. The Cleveland and Western Coal Company opened a mine in the Powhatan area in 1922 to mine the Pittsburgh (No. 8) coal. The mine was advantageously located to transport the coal by river or by rail. This mine still ranks as the largest underground mine in Ohio; it covers nearly 22 square miles at a depth of about 120 feet. This mine also was the first in the state to be completely mechanized. Over the years, seven Powhatan underground mines operated in the area. The Powhatan No. 6 mine is still in operation, now owned by the Ohio Valley Coal Co. The dangers of coal mining are well known, and the Powhatan Point area has had its share of disaster. In July 1944, a section of roof collapsed at the Powhatan No. 1 mine. The coal seam ignited and 66 miners were trapped. Rescue operations were unsuccessful, and the mine had to be sealed to extinguish the fire.

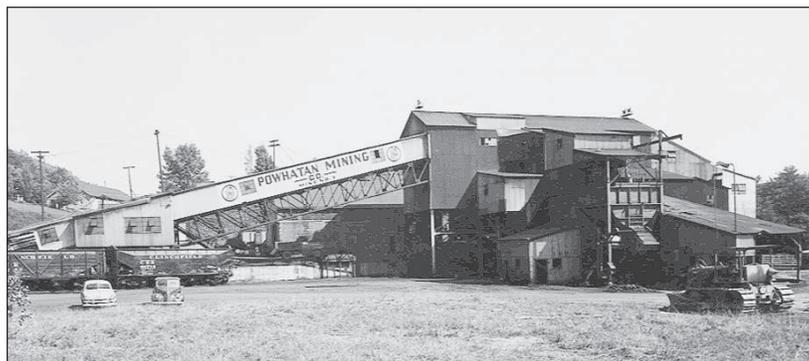
In the city of Berea in Cuyahoga County, the



John Wesley Powell



Jefferson Furnace, circa 1914.



Railroad-car-loading trolley of the Powhatan No. 3 mine, circa 1950.

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Thomas M. Berg, Division  
Chief and State Geologist

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# From The State Geologist...

Thomas M. Berg

## THE OHIO GEOLOGICAL SURVEY WEB SITE

When I think back to the beginning of my 37-year career with two state geological surveys, I am completely amazed by the change in the way we communicate geologic information to our customers. When I began my professional life back in 1965, traditional hard-copy printing of maps and reports was the mode of conveying geologic information. We also did lots of oral presentations at professional meetings, trade association gatherings, and legislative hearings.

Today, we reach an audience that is orders of magnitude larger, and we do it at lightning speed! The digital world and the World Wide Web have astonishingly increased the effectiveness and efficiency of our communications. Here at the Ohio Department of Natural Resources, the Division of Geological Survey has one of the best—and biggest—Web sites. The Survey Web site fills up 3 gigabytes of disk space, contains 576 individual pages, and has 452 different images. There are 670 links to external sites. In addition to the tremendous amount of Geological Survey maps and data, the Web site has back issues of *Ohio Geology*, a list of all Survey publications, contact information for staff members, links to all the college and university geology departments in Ohio, and links to other geological organizations (including the USGS and other state geological surveys), museums, and sources of educational information. A relatively recent addition to the Survey's Web site is the OhioSeis page, at <http://www.ohiodnr.com/OhioSeis/>. The OhioSeis page describes the Ohio Seismic Network, provides up-to-date information on earthquakes originating in or felt in Ohio, and includes links to other sources of earthquake information.

Creating and maintaining these files and information is a mammoth task. Survey Geologist Glenn Larsen is the Division Web Master and is responsible for maintaining our huge site. Lisa Van Doren provides graphic design, and Merrienne Hackathorn helps edit the Web site and keep it current. Glenn, Lisa, and Merrienne, along with Mike Hansen, Jim McDonald, and Rick Pavey, form the Division's Web Force—the team that created the Web site and helps to oversee it. They are doing a fantastic job, and I greatly appreciate all their hard work. What they are doing is helping the Division of Geological Survey meet Governor Taft's commitment to implementation of e-government. Over the next year, we expect to have a lot more information available to our customers online—especially subsurface geologic information.

Readers should be aware that the Geological Survey's Web site URL has changed (again). Check us out at <http://www.ohiodnr.com/geosurvey/>.

## FEDERAL GRANT FOR GREENHOUSE-GAS RESEARCH

The geological surveys of Ohio, Kentucky, Illinois, Indiana, and Kansas have received a \$2.3-million grant from the U.S. Department of Energy (USDOE) to study ways to reduce greenhouse-gas emissions in the region by possibly trapping and storing the gases. The three-year research project will study possible sites for the trapping, or sequestration, of greenhouse gases in geologic formations, rather than releasing them into the atmosphere.

Researchers from the five participating states are developing an interactive database called Midcontinent Interactive Digital Carbon Atlas and Relational dataBase (MIDCARB). The database will contain information on facilities that generate large amounts of CO<sub>2</sub> and the geology of possible sequestration reservoirs. In Ohio, coal-fired electric-utility plants, steel mills, and fertilizer plants generate the largest amounts of CO<sub>2</sub>.

CO<sub>2</sub> emissions may be regulated in the future, so it is imperative that Ohio be prepared to provide environmental regulators, public utility commissions, and Midwestern electric-utility operators the geologic information needed to develop good emissions-management strategies. The creation of MIDCARB is an important first step in the process.

Sequestration of CO<sub>2</sub> in geologic formations is one of several strategies under consideration for reducing the amount of the gas released to the atmosphere. Suitable geologic formations for sequestration may include deeply buried porous sandstones and coal seams. Some sequestration strategies may offer important economic and energy benefits. For example, controlled injection of CO<sub>2</sub> into depleted oil and gas reservoirs could increase oil and natural gas production. Also, injection of CO<sub>2</sub> into deeply buried coal seams would stimulate production of coal-bed methane.

Development of MIDCARB is one of 13 sequestration projects currently funded by the USDOE. Total federal funding to the Division of Geological Survey over the project period is expected to be about \$364,000. For more information on the carbon-sequestration project contact Lawrence H. Wickstrom, 614-265-6598, e-mail: [larry.wickstrom@dnr.state.oh.us](mailto:larry.wickstrom@dnr.state.oh.us). MIDCARB also has a Web site: <http://www.midcarb.org>.

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historical significance of the first quarries in the namesake Berea Sandstone (see *Ohio Geology*, 2001, No. 2) has been recognized. Quarries in the area opened in the late 1830's and operated for nearly a century. They produced high-quality grindstones and building stone. The historical marker is located adjacent to Coe Lake, a former sandstone quarry.



*Sandstone quarry at Berea, date unknown.*

In Lucas County just south of Waterville, a marker notes Roche de Boeuf in the Maumee River, along with the Ohio Electric Railroad (Interurban) Bridge. One of the piers for the bridge rests on Roche de Boeuf, which is an outcrop of Silurian-age Tymochtee Dolomite. When the bridge was built in 1908, it was claimed to be the second-longest reinforced-concrete railroad bridge in the world. Roche de Boeuf is of historical significance as a Native American gathering place and prominent landmark. French fur traders who came to the Maumee Valley in the 1700's gave the outcrop its name, which is translated literally as "Rock of Beef" but is also referred to as "Buffalo Rock." The size of the outcrop has been diminished by erosion and by blasting in the early 20th century, so it is now only about two-thirds of its size when it was first documented. The historical marker is just off U.S. Route 24 near the north entrance of Farnsworth Metropark.

In Logan County, a marker has been erected noting Campbell Hill, the highest point in Ohio (see *Ohio Geology*, Winter 1991). Although its elevation of 1,549 feet above sea level qualifies Campbell Hill as the highest point in the state, the hill rises only about 40 feet above the surrounding land. Campbell Hill is on Ohio Route 533 about a half mile east of U.S. Route 33 on the property of Hi-Point Joint Vocational School.

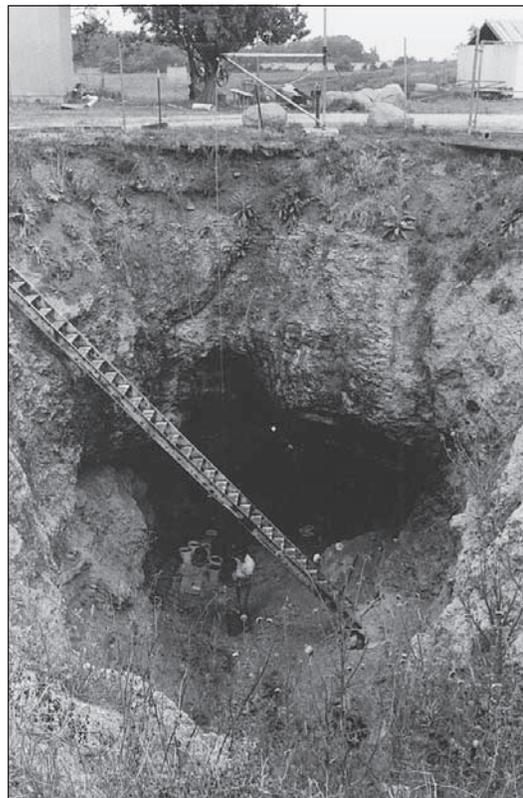
Near Butler in Richland County, a marker recognizes the natural landmark of Hemlock Falls and the former location of the preglacial Groveport River. Hemlock Falls drops 100 feet over a cliff of Black Hand sandstone. The Black Hand Sandstone Member of the Cuyahoga Formation (Mississippian) forms the scenic features of the Mohican area in the north-central part of the state and the Hocking Hills area in the southeastern part of the state. The southwest-flowing Groveport River was the largest tributary of the ancient Teays River (see *Ohio Geology*, Summer 1987). The



*Campbell Hill*

Groveport River drainage was blocked by glacial ice, forcing the water to seek a new course, so the water now flows east in Clear Fork. The Clear Fork gorge was cut when the waters breached the drainage divide. The marker is on land owned by Mohican School in the Out-of-Doors on Bunkerhill North Road.

In Wyandot County, on Ohio Route 568 northwest of Carey, a marker denotes Sheriden Cave at Indian Trail Caverns. Continuing excavation of this 30-foot-deep sinkhole has produced a remarkable array of late Pleistocene fossils, including the first Ohio specimen of a short-faced bear (see *Ohio Geology*, Spring 1992). The sinkhole is adjacent to Indian Trail Caverns, a commercial cave that was owned and operated by the late Richard Hendricks. Mr. Hendricks noticed unusual bones when he



*Sheriden pit at Indian Trail Caverns, circa 1992.*

began removing fill material from the Sheriden pit in July 1990 and notified the Cincinnati Museum of Natural History. Museum staff, university archaeologists, and volunteers have spent many hours excavating the sediment and its treasure trove of bones. In addition to the short-faced bear, remains of extinct animals that have been recovered include peccaries, giant beavers, and elkmoose.

Ohio's Pleistocene glacial heritage also is commemorated by a marker for Cranberry Prairie in Mercer County. Cranberry Prairie was a peat bog that formed in a late Ice-Age lake at the base of the St. John's Moraine. The marker is on Fort Recovery-Minster Road in Granville Township.

A list of historical markers, as well as information on other Ohio Bicentennial activities, is available on the Ohio Bicentennial Commission's Web site at <<http://www.ohio200.com>>. Ohio's Bicentennial will be a 7½-month celebration beginning on March 1, 2003, and culminating in a grand finale homecoming weekend in October 2003.

#### FURTHER READING

- Bownocker, J. A., 1915, Building stones of Ohio: Ohio Division of Geological Survey Bulletin 18, 160 p.
- Collins, H. R., 1986, The Hanging Rock iron region of Ohio: Ohio Division of Geological Survey, Ohio Geology, Winter issue, p. 1-5.
- Crowell, D. L., 1995, History of the coal-mining industry in Ohio: Ohio Division of Geological Survey Bulletin 72, 204 p.
- Hansen, M. C., 1987, The Teays River: Ohio Division of Geological Survey, Ohio Geology, Summer issue, p. 1-6.
- \_\_\_\_\_ 1991, Campbell Hill—Ohio's summit: Ohio Division of Geological Survey, Ohio Geology, Winter issue, p. 1, 3-5.
- \_\_\_\_\_ 1992, Indian Trail Caverns—a window on Ohio's Pleistocene bestiary: Ohio Division of Geological Survey, Ohio Geology, Spring issue, p. 1, 3.
- Stout, Wilber, Ver Steeg, Karl, and Lamb, G. F., 1943, Geology of water in Ohio: Ohio Division of Geological Survey Bulletin 44, 694 p.

## OHIO'S MINERAL INDUSTRIES & THE ENVIRONMENT— NORTH AND SOUTH TEACHERS WORKSHOPS

Last summer, 52 Ohio K-12 teachers—the largest number of participants to date—completed the 15th annual Ohio's Mineral Industries & The Environment, North and South workshops sponsored by the Ohio Department of Natural Resources, Division of Geological Survey and the University of Akron, Department of Geology. The

northern Ohio workshop, conducted June 25-29, 2001, was based at the University of Akron. The southern Ohio workshop, conducted July 9-13, 2001, was based at Survey facilities in central Ohio.

A large number of sponsors again provided financial assistance toward participants' tuition. The Ohio Aggregates & Industrial Minerals Association and nine of its member companies contributed grants totaling over \$13,000. These companies include American Sand & Gravel, Inc., Belden Brick Co., Hanson Aggregates Midwest, Inc., Holmes Limestone Co., Kimble Clay & Limestone Co., Melvin Stone Co., Olen Corp., Shelly Materials, Inc., and Watson Gravel, Inc. Additional financial assistance was provided by the American Coal Foundation, Eastern Section of American Association of Petroleum Geologists, Ohio Geological Society, Ohio Oil and Gas Association, Ohio Chapter of Society for Mining, Metallurgy, and Exploration, Ohio Section of American Institute of Professional Geologists, and Women in Mining. The American Coal Foundation, American Electric Power, American Geological Institute, Mineral Information Institute, Ohio Oil and Gas Association, National Energy Foundation, National Mining Association, National Stone Association, Office of Surface Mining, Reclamation and Enforcement, Society for Mining, Metallurgy and Exploration, and U.S. Geological Survey supplied educational materials.

Inquiry-based learning methods (concept mapping, Venn diagrams, evaluation rubrics, etc.) were used to blend classroom learning with hands-on field experience. In two half-day classroom sessions taught by experienced professionals from academia, industry, and state regulatory agencies, the workshop participants learned about Ohio's geology, mining and use of Ohio's mineral resources, and the regulations that govern mineral



*Southern Ohio workshop participants in the Waterloo Coal Co. operation.*

extraction in Ohio. During three full-day and two half-day field trips, workshop participants saw how current mining practice meets our mineral resource needs and leaves land in an attractive, valuable condition. On the field trips, workshop participants had opportunities to talk with industry representatives, have a first-hand look at current mining and reclamation practice, and to sample a variety of rocks and fossils.

The 21 participants in the northern Ohio workshop observed the mining and reclamation activities at a sand and gravel mine of American Sand & Gravel Co. in Stark County and a shale mine and brick plant of Belden Brick Co. in Tuscarawas County. They toured a mine of Kimble Clay & Limestone Co. in Tuscarawas County that produces coal, clay, and limestone and is also a site of a landfill. They visited the limestone-mining operation of Sandusky Crushed Stone Co. in Erie County, where they had an opportunity to see a blast. They also toured the gypsum mine and wallboard plant of BPB-Celotex in Ottawa County, the limestone quarry and lime plant of Martin Marietta Magnesia Specialties, Inc., in Sandusky County, and a sandstone quarry and dimension-stone plant of Briar Hill Stone Co. in Holmes County. Doug Core, a geologist and oil and gas consultant, led a tour of a working oil and gas pump in Holmes County and explained the economics and environmental concerns of the oil and gas industry. Lastly, the teachers toured an abandoned surface-mine site that is being developed for private housing.

The 31 teachers in the southern Ohio workshop observed the mining operations at a sand and gravel mine of Olen Corp. in Franklin County and the mining and reclamation activities at a coal, clay, and limestone mine of Waterloo Coal Co. in Vinton County, where they witnessed a blast. They visited Buckeye Furnace State Memorial, a reconstructed charcoal-iron furnace; toured a manmade wetland constructed to mitigate acid mine drainage from surface and underground abandoned mine land; and toured the shale mine and brick plant of Bowerston Shale Co. in Licking County. They visited a limestone mine of Martin Marietta Aggregates in Franklin County and a sandstone mine and glass-sand-processing plant of Olgebay Norton Industrial Sands, Inc., in Perry County. Doug Core led a tour of a working oil and gas pump in Licking County for southern workshop participants.

The overwhelming interest and enthusiasm expressed by the teachers during the 2001 workshops, as well as comments from teachers of previous workshops, indicate that the efforts and partnerships of all those involved have been successful. Including last year's 52 teachers, 380 elementary through high school teachers have earned 2 graduate or undergraduate credit hours from participating in the workshops since their inception. An estimated 157,700 Ohio students have benefited from practical information presented to teachers on various aspects of Ohio geology, mineral resources, mining, drilling, and reclamation.

We have learned of the success of two previous workshop participants. Following the teachers work-



*Southern Ohio workshop participants in the shale pit of Bowerston Shale Co.*

shop in 1999, Bob Grove was so inspired by his workshop experience that he enrolled in graduate school at Wright State University and earned a Master of Science degree in geology. He currently teaches both Comprehensive Science and Earth Science at Bishop Hartley High School in Columbus, Ohio. In November 2001, Peggy Myers, a 1997 workshop graduate, was honored at the Disney's American Teacher Awards. Mrs. Myers, a 7th-grade Life Sciences teacher at Canaan Middle School near Plain City, Ohio, was one of three national finalists in the Middle School/Junior High Math/Sciences category honored for innovative and engaging approach to learning in the classroom.

The schedules and the application form for the 2002 Ohio Mineral Industries & the Environment, North and South teachers workshops can be downloaded from the Survey Web site: <<http://www.ohiodnr.com/geosurvey/>>. The northern workshop will be June 24-28, 2002. The southern Ohio workshop will be July 8-12, 2002. To enroll for either workshop, you must register for 2 semester hours of graduate or undergraduate credit through the University of Akron. The estimated fee is \$190 per undergraduate credit hour and \$220 per graduate credit hour (fees subject to change). Following completion of the workshops, participants will be reimbursed a portion of their tuition from a fund underwritten by several Ohio mineral-industry companies and organizations. For additional information please contact Dr. Dave McConnell, Department of Geology, University of Akron, Akron, OH 44325-4101; telephone: 330-972-8047, fax: 330-972-7611, e-mail: dam6@uakron.edu; or Doug Crowell, Division of Geological Survey, Ohio Department of Natural Resources, 4383 Fountain Square Drive, Columbus, OH 43224-1362; telephone: 614-265-6594, e-mail: doug.crowell@dnr.state.oh.us.

## David A. Stith retires



David A. Stith

After more than 34 years of service to the Division of Geological Survey, David A. Stith retired on January 31, 2002. Dave had a head start in geology, as his father was a petroleum geologist. Dave was born in Lexington, Kentucky, and grew up in the Henderson, Kentucky-Evansville, Indiana, area. Dave earned a B.S. degree in Geology from the University of Kentucky in 1962, then served in the U.S. Army from 1963 to 1965, achieving the rank of First Lieutenant. A portion of his service time was spent in Germany. After his military service, Dave worked in the oil patch as a seismic trainee for Petty Geophysical Engineering and as a subsurface geologist for Lone Star Producing Company. He attended graduate school at the University of Oklahoma, earning an M.S. degree in Geology in 1967.

Dave first inquired about employment opportunities at the Survey in an October 20, 1966, letter to the Division. He was advised by then Assistant Chief Horace R. Collins on October 28, 1966, that the Survey did not have any openings for geologists at that time, but that the Survey would contact him if an opening should develop (a response that is still common today). In February 1967, Collins sent a letter to Dave informing him that a position had opened for a carbonate-rock specialist and asking if he was still interested in a position at the Survey. Although Dave had more lucrative employment offers from the petroleum industry, he accepted the Survey's job offer.

Dave began his Survey career in September 1967 as a Geologist 3 in the Regional Geology Section. In February 1969, he was promoted to Geologist 4 and placed in charge of the Division's x-ray diffraction lab, where he would oversee lab operations and provide training and functional supervision of lab technicians. A Division reorganization in April 1969 gave Dave the job title of Supervisor of Physical Laboratory Research. In December 1976, Dave was promoted to Section Head of the Division's Geochemistry Lab. In 1988, Dave also served as Acting Section Head of the Subsurface Geology Group.

With the dismantling of the Division's Geochemistry Lab in the early 1990's, Dave's work focused on supervision of the newly formed Indus-

trial Minerals Group. In 1994, Dave played a lead role in the Survey's hosting of the annual meeting of the Association of American State Geologists at Maumee Bay State Park. Field-trip stops associated with the meeting ran with military precision under Dave's oversight and earned him the admiration of the nation's state geologists, one of whom commented, "A Stith in time saves nine."

In 1998, Dave took on the task of overseeing construction of the Horace R. Collins Laboratory (see *Ohio Geology*, 1999, No. 4). Dave and Repository Operations Manager Ron Rea organized the enormous task of relocating the Survey's large core and sample collection from a rented warehouse facility on the southwest side of Columbus to the new repository at Alum Creek State Park north of Columbus. In July 1999, Dave and the Industrial Minerals Group relocated to offices at the new facility. Dave and Ron organized the sample repository, the equipment storage areas, and the new sample preparation, testing, and examination labs. They also established procedures for operation and maintenance of the Collins Lab and Learning Center.

Over the course of his career, Dave authored or co-authored at least 28 Reports of Investigations, Information Circulars, Geological Notes, GeoFacts, and Open-File Reports. In addition, Dave assisted bedrock-geology mapping personnel in the preparation of many of the 1:24,000-scale open-file maps. The subjects of Dave's publications are diverse and include clay mineralogy, carbonate geochemistry, coal geochemistry, carbonate resources, karst terrains, coal washability, sand and gravel resources, and industrial-mineral-mining permitting procedures.

A retirement celebration was held February 2, 2002, at the Collins Lab. Approximately 40 family members, friends, and colleagues gathered to share memories of Dave's career and wish him well. Dave and his wife, Darla, are looking forward to long vacations, visiting children and grandchildren, and looking for treasure in antique shops across America. Others may assume his duties, but Dave will never be replaced, for he truly is one of a kind.

—Dennis N. Hull and Merrienne Hackathorn

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## List of educational resources updated

An updated *List of educational resources* has been issued by the Survey. This free publication lists nontechnical and technical publications and programs of the Survey that are of interest to teachers, students, and hobbyists, as well as educational materials and programs of other divisions of the Ohio Department of Natural Resources. The list includes an extensive compilation of sources of additional Earth science and educational information in Ohio and on the World Wide Web. To obtain a copy of the *List of educational resources* contact the Ohio Division of Geological Survey, Geologic Records Center, 4383 Fountain Square Dr., B-2, Columbus, OH 43224-1362; telephone: 614-265-6576; fax: 614-447-1918; e-mail: geo.survey@dnr.state.oh.us.



## **Donald E. Guy, Jr., Survey Employee of the Year for 2001**

Donald E. Guy, Jr., senior geologist in the Lake Erie Geology Group, was named Survey Employee of the Year for 2001. Division Chief Thomas M. Berg presented Don with a plaque recognizing his achievement at the Division's annual Christmas luncheon and awards ceremony. Don was chosen as the 2001 recipient by a special committee selected to review nominations submitted by fellow staff members.

Don is well known for his expertise on Lake Erie coastal erosion areas (CEA's) and his willingness to address public concerns about this sensitive issue in a professional manner. He helped map the CEA's and spent countless hours planning and promulgating the CEA program.

Don has worked on many research projects and has presented the results at regional and international meetings and in journal articles. He is frequently quoted in the coastal-region newspa-

pers as the spokesman for the Division of Geological Survey concerning Lake Erie issues. Don also is a great ambassador to teachers and community groups in the coastal counties of northern Ohio; he often speaks to school and public groups on Ohio's geology and on coastal issues.

During 2001, Don took on additional duties of acting supervisor for the Lake Erie Geology Group. Don had to dive into that job and worked hard to keep the Group and its grant-funded projects on an even keel.

Don joined the Survey in 1973 and has bachelor's and master's degrees in geology from Earlham College and Bowling Green State University, respectively. He and his wife live in Sandusky, where they sail and bicycle in their free time. They have one college-age son.

—E. Mac Swinford



Donald E. Guy, Jr.

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## **Larry Wickstrom receives Distinguished Service Award**

Petroleum Geology Group Supervisor Lawrence H. Wickstrom received the Distinguished Service Award for 2000 from the Eastern Section of the American Association of Petroleum Geologists (AAPG). The Award is in recognition of Larry's dedicated leadership and outstanding service to the Eastern Section of AAPG and the profession of petroleum geology.

Larry has B.S. (1980) and M.S. (1982) degrees in geology from Kent State University and joined the Survey in 1983. In 1987, he was named Survey Employee of the Year. In 1990, he was promoted to Senior Geologist and was named Coordinator for the Division's information-technology work. In 1996, Larry became the Supervisor of the Petroleum Geology Group. Larry has been largely responsible for the computerization of the Survey, developing numerous databases, digital mapping

methods, and computer applications.

Larry has been active in AAPG at the national and section levels since 1983. He was President of the Eastern Section in 1998-1999 and served as General Chairman for the Eastern Section AAPG meeting in Columbus in 1998. He was co-author of the paper that won the A. I. Levorsen Memorial Award for Best Paper that year. Larry co-chaired the 2000 AAPG Summit on Sections meeting in Tulsa, Oklahoma, and has coordinated three Petroleum Technology Transfer Council focused-technology workshops. In 2001, Larry began a three-year elected term as Eastern Section Representative to the AAPG Advisory Council, and is an AAPG Visiting Geologist, giving talks at colleges and universities. Larry also is active in the Ohio Geological Society and served as co-chairman for two Society Technical Symposiums.

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## **WATER DATA ON LINE**

Our sister ODNR division, the Division of Water, recently added ground-water-level data from the State Observation Well Network to its Web page, <<http://www.ohiodnr.com/water/>>. This new Internet application allows the user to view and/or retrieve data from the Ohio Observation Well Network Database. Data for some well sites are available from the late 1930's to the present. Several search options offer a wide range of flexibility in viewing and/or retrieving current and historical data, both graphically and numerically. A table of summary statistics is available for each observation well.

In addition to the observation-well data, more than 725,000 water-well drilling records that have been filed with the state since 1945 are on line on the Division of Water's Web site. These records can be searched by county and political township (city corporate limits are ignored) or by well-log number, if known. Also on line is the *Gazetteer of Ohio streams*, a list of streams shown on U.S. Geological Survey topographic maps. The streams are listed both by drainage area and alphabetically. The *Gazetteer* can be viewed on line or downloaded as a pdf (portable document format) file.

## THE INSTITUTE OF INDUSTRIAL TECHNOLOGY

A museum in Newark, Ohio, highlights the important role geology plays in the development of local industries. The Institute of Industrial Technology was created to preserve the industrial heritage of central Ohio and demonstrate its contemporary industry and technology. The museum is housed in the historic Scheidler steam engine factory, at the corner of First Street and Scheidler Avenue in Newark. Exhibits cover more than 20,000 square feet and include interactive displays on area geology and Flint Ridge, early oil and gas developments in Licking County, the growth of the Pure Oil Company, and glass-blowing demonstrations in the Heisey Glass Studio. For more information contact: The Institute of Industrial Technology, 55 South First St., P.O. Box 721, Newark, OH 43058-0721; telephone: 740-349-9277; Web site: <<http://www.iitnewark.org>>.

Four brothers from Newark—Charles, Beman, Rufus, and Henry Dawes—purchased Pure Oil Company in 1914. The company grew through acquisitions and exploration into a leading national operation. Pure Oil Company merged with Union Oil Company in 1965. The Heisey Glass Company was founded by Augustus Heisey in 1896; Heisey located in Newark primarily due to the proximity of excellent glass sands and natural gas supplies. The enterprise was one of the premier glass companies in the country until it ceased production in 1957.

Visitors to the area interested in geology and geology-related industries may also want to visit the National Heisey Museum in Newark, Blackhand Gorge Natural Area near Hanover, and Flint Ridge State Memorial north of Gratiot. Dawes Arboretum south of Newark on Ohio Route 13 was created by the founders of Pure Oil and offers a relaxing botanical auto tour as well as hiking trails.

—Mark E. Wolfe

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## Fossils Of Ohio wins another award

The Paleontological Society announced in the Fall 2001 issue of its newsletter, *Priscum*, that *Fossils of Ohio* has been honored with the Society's Golden Trilobite Award. "This award recognizes excellence in paleontological publication, in this case of a general or popular book." In the same issue of *Priscum*, a review by Dr. Gregory J. Retallack, professor of geology at the University of Oregon, calls *Fossils of Ohio* "an indispensable reference for any one interested in fossils of the North American heartland." To be recognized by a professional paleontological organization of the caliber of The Paleontological Society is high praise indeed.

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## Closeout Sale on Salt Volumes

*Fourth Symposium on Salt* (1974), two-volume set for \$15  
*Fifth Symposium on Salt* (1979), two-volume set for \$15

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