

EXTRACTIONS



a newsletter from **O'CONNOR ASSOCIATES** 25 years of great science

Number 42 July 2004

REMEMBERING MARY O'CONNOR



O'Connor Associates' employees and friends

In memory of Mary O'Connor (1946-2004), O'Connor Associates organized a 5 km run and walk with proceeds donated to Unit 47 (the Tertiary and Palliative Care Cancer Unit) of the Foothills Hospital. The non-competitive 5 km run/walk took place on Sunday, May 2, 2004. The event was a huge success with over 334 participants and donations that totalled over \$70 000.

Mike O'Connor, President of O'Connor Associates Environmental Inc., said, "It was Mary's wish that the wonderful staff at Unit 47 be recognized for their dedication, kindness, and the outstanding care they provided during her illness."

Many O'Connor Associates employees shaved their heads to raise additional funds with other run and walk participants joining them at the last minute. The "cue-balls" alone managed to raise almost \$30 000. More details and pictures of the event are available at www.oconnor.ca.

By donating the proceeds of the run directly to the unit, O'Connor Associates hopes to help the unit acquire the non-medical supplies and equipment that would make it easier for the staff to do their jobs and provide additional comfort for the patients of Unit 47 and their families.

O'Connor Associates would like to extend special thanks to all the sponsors, participants, and volunteers for making this event a success. We appreciate the support from our employees and the environmental consulting community as a whole and hope that this will become an annual fundraising event.

GOLFING TOWARD A GREENER ENVIRONMENT

Researchers at the University of Wisconsin-Madison have found an environmentally friendly use for the increasing number of scrap tires: grind them up and place the rubber bits beneath golf course greens.

Their studies have shown that ground tires, instead of producing contamination, can actually absorb excess chemicals from fertilizers and pesticides, preventing them from leaching into groundwater.

The U.S. Environmental Protective Agency estimated that Americans discarded 240 million scrap tires in 2001, most of which were stockpiled, creating several hazards: they collect rainwater, create breeding grounds for mosquitoes, and have a tendency to catch on fire.

“Tires are a waste material,” says Jae (Jim) Park, a professor of civil and environmental engineering at UW-Madison, “and we need to have safe ways to dispose of them.”

He and his team found that tire chips can absorb nitrate — one of the main chemicals in fertilizers — without affecting the health or quality of the grass. The findings also suggest that tire chips could be useful as landfill barriers.

[From <http://www.sciencedaily.com/releases/2003/11/031110054225.htm>]

GROUND TEMPERATURES CAN ESTIMATE WATER FLOW

Scientists studying water tables in the Southwest with an eye towards conservation have discovered an unusual way to measure how fast water moves from the ground surface to the water table. They analyze borehole measurements of ground temperature between the surface and the water table and use an elaborate heat and water transport model.

“How rapidly this water moves determines the amount of water that can be pumped without using more water than can be replenished by precipitation and streams, which has remarkable impacts for irrigation,” said Jim Constantz, U.S. Geological Survey, California.

He and his colleagues examined deep temperature data under Yucca Mountain and French Flat, Nevada, and shallower temperature data in the Rio Grande Basin of New Mexico. Comparing temperature-based measurements of water movement for mountainous, valley, and intermediate locations showed a wide range in rates of water movement toward the underlying water table. Beneath desert streams, the downward movement of water was as high as several feet a day, while in deep arid basins the movement of water was no more than a fraction of an inch a year or less.

In the future, routine measurements of ground temperature may lead to widespread identification of the cumulative rates of water movement toward the water table, permitting water to be pumped at a rate that does not exceed the rate of ground water recharge. This could lead to the sustainability of ground-water resources for future generations in the Southwest, according to Constantz.

[from <http://www.asa-cssa-sssa.org/press/journals/vzj/0302constantz.html>]

NEW CLEANUP MONITORING TECHNIQUE

Professor Barbara Sherwood Lollar, founder and director of University of Toronto’s Stable Isotope Laboratory in the department of geology, has developed a more efficient way to monitor and improve the process for cleaning up ground water pollution.

Sherwood Lollar is one of the first researchers in the world to successfully apply the process to investigate pollution controls in ground water. The method, known as compound-specific stable carbon isotope analysis, uses mass spectrometer technology to directly monitor the biodegradation of ground water contaminants in just a few steps. Currently scientists use a lengthy, complex method to measure how bacterial populations in ground water break down pollutants.

“Ground water contamination from gasoline and chlorinated solvents — those commonly used in industrial processes, photographic development, and dry cleaning — represents one of the most urgent challenges facing environmental scientists, industrial interests, government regulators, and society,” she says.

Sherwood Lollar and her international colleagues are currently testing this process at industrial, residential, and landfill sites in Toronto, in other sites across North America, and in the United Kingdom.

[from <http://www.news.utoronto.ca/bin/19990329d.asp>]

EXTRACTIONS IS ON THE INTERNET

To have your EXTRACTIONS delivered in electronic format via email, please email circulation@oconnor-associates.com with the subject line “Electronic Mailing List”.

You can view current and back issues of EXTRACTIONS on our web page at www.oconnor-associates.com/publications/, and send your comments on EXTRACTIONS to editor@oconnor-associates.com.

EXTRACTIONS (ISSN 0835-6645) is published periodically by O’Connor Associates Environmental Inc. for professionals involved in environmental management. Information presented in EXTRACTIONS is believed to be accurate in all respects, but O’Connor Associates Environmental Inc. does not warrant it to be so. If you know of others who might like to receive EXTRACTIONS, please send their names and addresses to Extractions Editor, 200, 318-11th Avenue S.E., Calgary, Alberta, Canada, T2G 0Y2. We welcome your comments.