

# EXTRACTIONS



a newsletter from **O'CONNOR ASSOCIATES**

Number 15, March 1993

## **ALBERTA TO IDENTIFY POLLUTERS**

Who should pay to clean up contaminated land in Alberta? Current legislation does not explicitly prohibit the contamination of land or require contaminated land to be cleaned up. In a limited way, Alberta Environment has creatively used existing laws by issuing Water Quality Control Orders under the Clean Water Act for leaking underground tanks or Chemical Control Orders under the Hazardous Chemicals Act for spills. To put more teeth into environmental protection laws, the Contaminated Sites Liability Issues Task Force has recommended a draft Alberta Environmental Protection and Enhancement Act.

Rather than explicitly defining the "person responsible for a contaminated site," the Task Force recommended a two-step process for determining liability. First, the Director may designate an area as a contaminated site and notify "any of the persons responsible for the contaminated site that the Director considers appropriate." The Act permits the Director to include not only the current owner but also tenants and previous owners. Second, to deal with the clean-up, the Director may issue an environmental protection order that spells out the measures needed to restore the contaminated site and apportions costs. If no person can be identified as responsible, or the one responsible cannot pay, the Environment Minister may set up programs to pay for the clean-up. The draft Act is under review and probably will not become law until 1994.

[from *Environmental Law Centre News Brief*, Vol. 7, No. 4, 1992]

## **HOME BUILT FROM RECYCLABLES**

A home built almost entirely with building products derived from recycled materials has been built in Missoula, Montana. The US Center for Resourceful Building Technology completed the house with floor tiles made from auto windshield glass, carpeting from plastic pop bottles, carpet underlay from rubber tires, wallboard from recycled newsprint, and exterior paving bricks from oil-tainted soil. In addition, the show home contains materials that "demonstrate an efficient use of virgin resources" such as I-joists that reduce wood requirements by 50%.

[from *Calgary Herald*, Jan. 30, 1993]

## **WICHITA WINS \$100 000**

For its Environmental Cleanup Program, Wichita, Kansas won \$100 000 as one of ten 1992 Innovations in State and Local Government Awards from the Ford Foundation. Wichita showed leadership by quickly cleaning up a contaminated aquifer in a six-square-mile area in the city's core. While the contamination posed no immediate threat to local drinking water, the city feared that a potentially slow Superfund cleanup process would further erode property values. City officials organized a \$20 million cleanup and encouraged the state, private firms, and the banks to provide financial support. Wichita will use its Ford Foundation grant to produce information about its approach for other cities and to develop workshops for city managers.

[from *Groundwater Newsletter*, Vol. 21, No. 18, Sept. 30, 1992]

## **HOT (TUB) DEBATE**

Ozone or chlorine? Which is best for disinfecting hot tubs? An article in *Homes & Ideas* recently advocated using ozone to keep hot tubs free from bacteria in the belief that the traditional chlorine methods produced carcinogenic by-products. However, there may also be dangers from ozone, as John Shaw, P.Eng., of Alberta's Environmental Health Services was quick to point out:

"There are certainly concerns about the long-term health effects of some chemical by-products from the chlorination of water, but these have not been proven for humans and the risks are very, very small compared with the microbiological hazards that can occur without disinfection. Further, as Professor Steve Hrudey of the University of Alberta Faculty of Medicine has pointed out, ozonation also produces undesirable chemical by-products for which we just do not have as much information as we do for chlorine. So, with ozonation, we are stepping into unknown waters, so to speak, believing that our lack of knowledge means there are no problems. This is a real leap of faith."

[from *Homes & Ideas*, Issue 6, 1992]

## **PHOTOFINISHING WASTE REDUCTION**

As environmental agencies tighten wastewater standards photofinishing operators must explore new technologies for removing silver from spent fixer. Current technologies recover 80 to 95% of the silver from spent photographic fixer using electrolysis and iron ion exchange. Sometimes the water is reclaimed from the waste fixer by evaporation and the residual silver-bearing sludge ends up in a landfill; however, in smaller operations, the silver often ends up in the wastewater at concentrations exceeding 100 mg/L.

Currently, a Greater Vancouver Regional District (GVRD) by-law limits silver concentrations in wastewater to 1 mg/L (based on "one-operating-day" composite samples). The GVRD plans to regulate photofinishing waste under a Code of Practice for Photofinishers that will permit up to 5 mg/L of silver. Responding to these regulations, TRS Photo Solutions of North Vancouver, BC has developed a silver-removal service for photofinishers using a patented process from the University of Alberta. The firm removes the silver from a customer's batch of spent fixer by precipitation and filtering, adjusts the pH, and returns the reconditioned fixer to the customer for reuse. The process costs about 50 cents/L (up to 50% less than the cost of new chemicals) and it removes one more source of water pollution. One customer has successfully reused the same batch of fixer 70 times.

[from Don Esplen, TRS Photo Solutions and  
Neal Carley, P.Eng., GVRD]

## **A METHANOL FIRST**

Last October Robertson/Mohawk opened the first commercial methanol fuel station in Western Canada, providing Calgary motorists with a cleaner-burning fuel. This M-85 fuel is a blend of 85% methanol and 15% gasoline. Most methanol customers are fleet users, but now that methanol is becoming more available, individuals can consider using this fuel as a safe, cost effective, and environmentally friendly alternative to gasoline. Since neither the federal nor Alberta government has taxed M-85, it went on sale at 27.4 cents/L when gasoline prices were 43.9 cents/L.

Novacor Chemicals opened a similar facility at Sahali Mohawk in Kamloops in November. These projects are supported by many organizations including the Canadian Oxygenated Fuels Association; Energy, Mines and Resources Canada; Energy, Mines and Petroleum Resources BC; and Alberta Energy.

Chrysler, General Motors, Ford, and Volkswagen make cars that run on M-85, gasoline, or any blend of the two. When running on methanol, these flexible-fuelled cars produce 60% less tailpipe emissions per km than the best gasoline-fuelled cars.

[from Canadian Oxygenated Fuels Association press releases]

## **SMOG FREE**

The City of Calgary has kicked off a free program for drivers to find out whether their cars pass emission standards. SMOG FREE (Save Money on Gas From Reduced Exhaust Emissions) is supported by a grant from Environment Canada. The program is unique because it is the first city-wide voluntary emission-testing program initiated by the private sector. About 100 automotive dealers and independents will do the voluntary testing.

[from *Petro-Canada's Environmental Update*, Dec. 1992]

## **O'CONNOR UPDATE**



Paul R. Loney, P.Eng., has joined O'Connor Associates' Mississauga office. Paul has worked for more than 11 years on civil and environmental engineering projects in Canada, the United States, and Bermuda. His experiences include multi-phase environmental audits at a wide variety of industrial sites; remedial investigations and feasibility studies for sites contaminated with PCBs, VOCs, and pesticides; design of secure landfill facilities for hazardous waste; and determination of health and safety requirements for hazardous waste sites. In his new position, Mr. Loney contributes to O'Connor Associates' environmental engineering and business development activities. He maintains an interest in public groundwater supply issues through the American Water Works Association.

---

**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, 1000, 639 - 5th Avenue S.W., Calgary, Alberta, Canada, T2P 0M9. We welcome your comments.