

Bucolic town tackles toxic sludge

By **Elizabeth Rains**

ELMIRA – The company calls it the envirodome. The environmentalists call it the toxidome.

The building sits atop Church Street hill, just above Canagagigue Creek on the eastern edge of this southern Ontario town. Uniroyal Chemical Ltd. uses the ribbed metal structure to store deadly waste. It is flanked on two sides by cemeteries.

The 14,000 people of Elmira will be candidates for the cemeteries if the waste ever escapes, says a local environmentalist.

“If the winds are blowing into town, people will die in the streets. They will fall over,” said Alan Marshall, who heads the Elmira Environmental Hazards Team, one of two local citizen groups that fight Uniroyal pollution. They may soon be joined in the fight by a U.S.-Canada anti-pollution watchdog, the International Joint Commission.

Marshall lives southeast of the envirodome, near an area of Mennonite farms. The fertile pastureland is dotted with herds of black and white cows. The environment ministry shut down many farm wells in 1989 because of high levels of NDMA, a carcinogen. But cows still wander down to Canagagigue Creek to lap up the noxious water.

Elmira, itself, consists of well-kept historical homes, some dating back 100 years or more. Arthur Street runs through its middle. At the south end of this quaint, four-block shopping road sits a small triangular park with a gazebo. Townspeople gather there each Canada Day for a picnic, just a short walk from Uniroyal’s toxic-storage bin. Mennonites, dressed in black, often pass the steel structure in horse-drawn buggies.

The envirodome-to use the company’s term-is not really shaped like a dome. The grey, peak-roofed building looks like an airplane hanger. Uniroyal built it to store 32,000 tonnes of chemical-laden soil excavated from the east side of the creek.

The sticky mixture contains more than 100 contaminants. The most lethal are 2,4-D; 2,4,5-T; DDT; dioxins

and furans, said William Puschalowsky, a medical researcher and expert on toxic substances at the University of Ottawa. These are among the prime soil contaminants cited by Uniroyal and are all both toxins and carcinogens.

The dioxins and furans are particularly scary, Puschalowsky said. “I wouldn’t worry about the carcinogenic effects. Dioxins and furans will kill you faster than any cancer.”

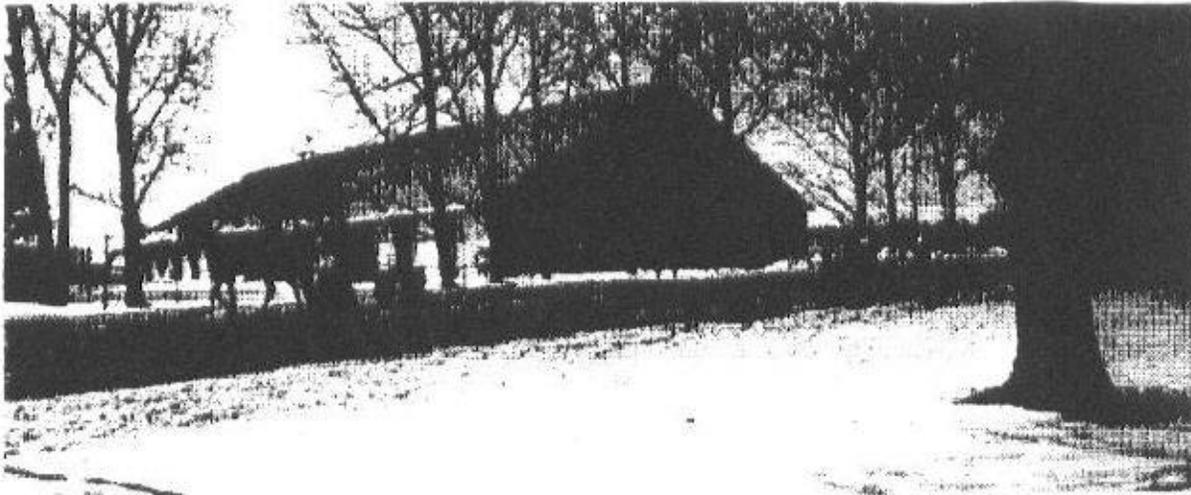
The wastes date from 1941, when Uniroyal’s parent company, Dominion Rubber, took over a footwear plant that had been abandoned during the Great Depression. The federal government needed aniline and diphenylamine. The company rolled into production with the baneful chemicals, which kept bombs from exploding prematurely during the Second World War.

In the ’60s the company produced agent orange, which Uniroyal general manager David Ash, who has a PhD in chemistry, calls a “common herbicide.” The defoliant, which cleared jungles for American troops in Vietnam, is a dioxin.

Today Uniroyal manufactures about 100 chemical products – everything from motor oil additives to fungicides for grain seeds to synthetic butter flavor for popcorn.

Ash said the Uniroyal facilities – a jumble of industrial buildings and smokestacks along the west bank of the creek – are good for the community. The Elmira operation employs 225 people. “There’s the tax base,” he said, “and we have the policy of buying locally whenever we can.”

But Douglas Hallett, president of Eco Logic in nearby Rockwood, said Elmira would do better if Uniroyal destroyed its waste instead of keeping it in the envirodome. Eco Logic is a waste processing company that converts organic contaminants into hydrogen chloride, which is recyclable, and water. Uniroyal recently rejected its bid to treat the envirodome waste. The process – with



Mennonite father and daughter travelling past the Uniroyal "toxidome."

a price tag around \$20 million – would have created 50 jobs, Hallett said.

He stressed that no means of storing waste, including the envirodome, lasts forever. "Someday somebody's got to get rid of it."

Environmentalists have clamored for that, but so far, the toxic sludge has only been moved around.

For 28 years, the company randomly dumped chemicals along the creek. "The whole site was covered with pits and settling ponds," explained Susan Bryant, president of Assuring Protection for Tomorrow's Environment (APT Environment), the town's largest anti-pollution group.

In 1969, under orders from the province, Uniroyal excavated some of the chemical-laden soil and buried it in two polyethylene-lined pits. In 1993, the company moved that waste temporarily, according to an agreement with the Environment Ministry – to the envirodome. In December 1997, Uniroyal gave the ministry a new proposal, which asked that it be allowed to seal the greasy dirt in plastic and leave it in the building.

The "entombment" plan had environmentalists fuming. Following a public meeting in November, more than 1,000 people signed a protest petition within three weeks.

"We were outraged," said Barbara Zupko, a master's student in community psychology at Wilfrid Laurier University in Waterloo, who helped organize the petition campaign.

Bryant, who has worked with APT Environment since its inception in 1989, said residents had believed that the earlier agreement, which said the envirodome would be temporary, meant the waste would be treated or removed. "We never felt 'dispose of' meant 'leave it.'"

Yet general manager Ash said entombing the envirodome is a safe, permanent form of waste disposal. Furthermore, he said, the \$250,000 price is cost-effective.

Henry Regier, who just retired as a fisheries ecologist and professor at the University of Toronto, said the real costs would probably go far beyond that amount. Regier was an advisor to the International Joint Commission, created by a 1909 U.S.-Canada treaty to oversee the environment of the Great Lakes. He said when businesses measure cost-effectiveness in managing pollution, they should include costs to the community and the wider environment. That can raise the price of a seemingly inexpensive option much higher.

The environmentalists agree and say the company should destroy the waste. Bryant said toxic liquid could escape through the floor of the envirodome. It would seep into the creek and feed more chemicals to the cows. It would then travel downstream to the Grand River and poison the public water system, she said.

Ash insisted that can't happen. The floor of the dome is three layers thick: plastic, sand and plastic. Liquid that drains from the waste collects on the first liner, where it is pumped into Uniroyal's treatment plant. The treated water – greatly reduced in toxicity – goes into the creek. About 130 litres of leachate seep from the dirt each day.

If the top liner were to leak, Ash said, the liquid would be caught by the lower layer of plastic. He said the nickle-thick liners will last about 160 years.

But Sylvia Berg said they aren't good enough. She spent much of her eight years on Elmira council (she resigned last fall) crusading to clean up the environment. "We're not sure if the liners will last for five years, 10 years, eight years, 15 years."

The plastic is the same type that lined Uniroyal's pits in 1969, but thicker. The old "woven polyethylene underliners," were cited for leaks in a 1989 study by Morrison Beatty Ltd., a hydrogeology contractor that worked for Uniroyal.

Berg also pointed out that the "tarp" the company proposes as a cover for the toxic muck has only a 50-year lifespan, according to Uniroyal's specifications. "Who knows if that company will still be in existence in 50 years time?"

And who knows if the building, itself, will last, said APT Environment board member Shannon Purves-Smith. "It's sitting there waiting for a tornado to come along, rip off the roof and spew this stuff all over Elmira."

Mike Leduc, a specialist in severe weather for Environment Canada, said the chance of a tornado hitting the Elmira area is very small, but much larger than the chance anywhere else in Canada.

The land between Windsor and Sarnia, going north-east to Barrie, gets about 10 tornadoes a year. It is the most active tornado region in Canada, he explained. Elmira sits in the middle of this strip.

"It is fortunate most tornadoes are small," Leduc said. The worst sweep across only about 50 square kilometres.

However, he added, a tornado like the one that killed 12 people in Barrie in 1985 or the one that ravaged Grand Valley farms in '96 could rip off the roof of a

steel, factory-type building. A building sitting on a hill, like the top of Church Street, is more vulnerable than one in a valley.

Ash insisted the risk of a tornado is minuscule, but added that the company is aware of public sentiment: "There are things at play here that go beyond what's technically correct. There are the feelings of people in the community that they don't want this waste in their community, even if the company and its engineers think it's safe."

The future of the envirodome is being discussed in closed-door meetings involving Uniroyal, the ministry, APT Environment, the township of Woolwich, the regional municipality of Waterloo and the Uniroyal Public Advisory Committee, a business and community group that advises the Environment Ministry. This may alter or kill the entombment plan, Ash said. The decision is expected at the end of this month.

If Uniroyal proceeds with entombment, its deadly sludge may turn from a small town problem into an international problem, said Regier. The International Joint Commission has proposed to extend its jurisdiction beyond the Great Lakes to their basins, which include rivers and smaller waterways such as the Canagagigue, he said. The plan, expected to go to the U.S. and Canadian governments for approval in April, calls for "virtual elimination of persistent toxic substances."

That includes the contents "of the toxidome," said Regier.