In a new study, researchers at Texas A&M University have compared leachate from municipal landfills with leachate from hazardous waste landfills and they report, "...There is ample evidence that the municipal waste landfill leachates contain toxic chemicals in sufficient concentration to be potentially as harmful as leachate from industrial waste landfills." Specifically, the Texas researchers compared leachate from several municipal landfills with leachate from the notorious Love Canal landfill (and other hazardous waste landfills, such as Kin-Buc in Edison, NJ) and they found the leachates similar in their cancer-causing potential.

Leachate is the liquid that is produced when rain falls on a landfill, sinks into the wastes, and picks up chemicals as it seeps downward. Industries creating "hazardous wastes" (as legally defined under federal law) may not send those wastes to municipal landfills, but must instead send them to special hazardous waste landfills.

When a new municipal landfill is proposed, advocates of the project always emphasize that "no hazardous wastes will enter this landfill." The Texas study shows that even though municipal landfills may not legally receive "hazardous wastes," the leachate they produce is as dangerous as the leachate from hazardous waste landfills.

Dr. Kirk Brown and Dr. K.C. Donnelly at Texas A&M, authors of the new study, examined data on the composition of leachate from 58 landfills. The data they reviewed showed 113 different toxic chemicals in leachate from municipal landfills and 72 toxic chemicals in leachate from hazardous waste landfills. The abundance of toxics in municipal landfills probably occurs because the entire spectrum of consumer products ends up in municipal landfills, whereas hazardous waste landfills serve a limited number of industries within a region.

The actual source of the toxic chemicals in municipal landfills is not known precisely. Under federal law (RCRA Subtitle C) each "small quantity generator" can send up to 2640 pounds per year of legally-hazardous chemicals to municipal landfills. In 1980, the EPA [U.S. Environmental Protection Agency] estimated that 600,000 tons per year of legally-hazardous wastes were going to municipal dumps from 695,000 "small quantity generators."

Illegal dumping may be another source; illegal dumping is impossible to prevent entirely because someone bringing in a truckload of wastes may hide a few gallons, or a few barrels, of hazardous chemicals in the middle of the truckload. The higher the price of legal disposal, the more incentive people have to dump illegally. However, the most likely source of most of the toxic materials in municipal landfills is legally-disposed household products like paint solvents, oils, cleaning compounds, degreasing compounds, and pesticides. "In addition, the final depository of most of the products of our modern industrial society is the municipal waste landfill where the paints, plastics, and pharmaceuticals dissolve and degrade in the acidic anaerobic [oxygen-free] environment, thereby, releasing degradation products which may be even more toxic than the products from which they originated," say Brown and Donnelly.

The findings of Brown and Donnelly will come as no surprise to many researchers who have known for years that municipal leachate is as toxic as the leachate from industrial landfills. For example, in an article entitled, "APPLICATION OF HYDROGEOLOGY TO THE SELECTION OF REFUSE DISPOSAL SITES," Ronald A. Landon reported in 1969 in the JOURNAL OF GROUND WATER, Vol. 7 (Nov.-Dec., 1969), pgs. 9-13, that "Leachate at its source, that is within the landfill, has concentrations and characteristics of many industrial wastes; and in many instances would be better treated as such a waste." (pg. 12)

What Brown and Donnelly have contributed is a quantitative analysis of the toxicity and the carcinogenic potential of leachates from the two types of landfills.

Brown and Donnelly conclude, "The risk calculations based on suspect carcinogens... indicate that the estimated carcinogenic potency for the leachate from some municipal landfills may be similar to the carcinogenic potency of the leachate from the Love Canal landfill."

In industrial landfill leachate, 32 chemicals cause cancer; 10 cause birth defects, and 21 cause genetic damage; in municipal landfill leachate, 32 chemicals cause cancer, 13 cause birth defects, and 22 cause genetic damage.


--Peter Montague

WHAT WE MUST DO, PART 3--BFI: WE'VE GOT THE UPPER HAND.

Five reporters with the Ft. Lauderdale (Fla) SUN SENTINEL investigated the nation's trash haulers in 22 states in 1987 (see HWN #88 and #89), and reported last December that the waste industry is so aggressive and has grown so large that it often outstrips the ability of government to control it.

The SUN SENTINEL team wrote, "Officials concede they often are outflanked by the technical expertise the firms can muster, as well as the complexity of affixing blame for causing contamination."

"These companies often understand the regulations better than the regulators,' said Steven W. Sisk, an EPA [U.S. Environmental Protection Agency] investigator.
John Baker, manager of environmental programs for Waste Management, the largest U.S. waste hauler, says, "In EPA, every two years I'm dealing with new people. The agencies are a little behind in the technical expertise," he said. Mr. Baker blamed low salaries for the turnover.

Richard Oakley, a vice president of Browning-Ferris Industries [BFI], the nation's second-largest hauler, says, "A lot of times when we go for meetings with them, technically we've got the upper hand."

Waste Management and BFI routinely claim that test results showing they've contaminated groundwater are simply "lab error," not evidence of pollution. "Regulators usually accept these claims without independent verification," the SUN SENTINEL reports.

[We'll mail you all 25 stories from the SUN SENTINEL for $12.00.]
--Peter Montague

Descriptor terms: investigations; fl; waste hauling industry; msw; regulations; wmi; epa; john baker; revolving door; bfi; groundwater; water; water pollution; studies; findings; leachate; leaks; toxicity; hazardous waste industry; msw; texas a&m; landfills; cancer; love canal; kin-buc landfill; studies; findings; household hazardous waste; kirk brown; k c donnelly; rcra; epa; illegal dumping; risk assessment; birth defects; developmental disorders;