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TOXIC TENTACLES THREATEN NIAGARA FRONTIER, LAKE ONTARIO AND THE ST. LAWRENCE RIVER

One American and two Canadian citizen groups have joined together to ensure that the highly toxic, leaking "S"-Area dump perched on the edge of the Niagara River and owned by Hooker Chemical (Occidental) is prevented from continuing to poison the adjacent soils, bedrock, river and drinking water systems vital to the health and economical well-being of residents on both sides of the border.

Pollution Probe (Toronto), Operation Clean-Niagara (Niagara-on-the-Lake) and the Ecumenical Task Force (Niagara Falls, New York), unwilling to quietly witness destruction of the Niagara River, Lake Ontario and the St. Lawrence River, are spearheading growing public and professional concern over deterioration of these bodies of water by submitting a compelling legal case to achieve plaintiff-intervenor status in the American governments' lawsuit against Hooker. Three years ago, the U.S. federal government and the State of New York launched a lawsuit against Hooker and the City of Niagara Falls, N.Y. regarding the "S"-Area landfill used by Hooker between 1947 and 1975 to dump more than 70,000 tonnes of chemical waste.

The "S"-Area dump represents a major environmental disaster of international significance. Although the dump is situated on the American side, it must be recognized that hazardous wastes respect no political boundaries- they move according to the laws of physics, not according to the statutes of a nation, and as such can endanger the health and environment of both Americans and Canadians.

The "S"-Area dump can be best visualized as a giant spreading amoeba whose toxic tentacles have penetrated far and deeply in many directions into the surrounding environment. It is now known that one toxic tentacle of the dump is slowly sliding under the Niagara River towards Canada. Just how far and how deeply the contamination from "S" dump has reached has yet to be determined before it is possible to identify, implement and monitor an effective clean-up program.

At present, the characterization of the contents of the dump and hence the migration pattern of the various chemicals from the site is so incomplete as to make it impossible to identify the outer boundaries of the contamination in the adjacent soils, bedrock and drinking water systems. It is sheer folly to assume that any clean-up plan for the "S" dump will be effective in the absence of a full understanding of the extent of the damage. To use a medical analogy, no surgeon would cut open a patient until all diagnostic work is done and the doctor has identified the extent of the problem. If the problem is a malignant tumour, nothing short of complete eradication of the affected area will ensure recovery of the patient.

There are several reasons why American and Canadian citizen groups want direct participation in the clean-up settlement. The extreme hazard of the dump, its documented migration, and the enormous scope of its impact as its toxic contents are released into the Canadian and American environment make it vital that citizens on both sides of the border gain access to these clean-up proceedings.

Those citizens sustaining potential injury from the improper clean-up of the "S" dump include over 1 1/2 million Americans and four million Canadians who take their drinking water from Lake Ontario. Millions more use water from the St. Lawrence River system which flows through part of New York State and the province of Quebec. Also affected will be all those who use these waters for

fishing, recreation, tourism and industrial uses. Because the citizen groups represent citizens who are suffering direct injury from the leaking dump or who are likely to suffer injury in the future, we feel that we have a legitimate right to seek complete clean-up of the dump so that it no longer poses a threat to human health and the environment. Furthermore, by assembling a team of legal and technical experts, the citizen groups have been able to identify far-reaching international implications that are not addressed by the existing lawsuit.

In filing their legal and technical papers, the citizen groups have brought startling new information to the attention of a U.S. federal court regarding the extreme danger to both American and Canadian residents posed by the "S"-Area landfill. The legal and technical team assembled by the citizens' groups include an American lawyer, a hydrogeologist, a chemist specializing in contaminant movement, a water treatment specialist experienced in trace organics removal, and an environmental toxicologist. Significant findings of the technical team include:

- Chemicals from the dump, which become dissolved in groundwater and are known as leachate, move in several directions from the dump. One direction of leachate movement is directly south through the permeable fill material to the Niagara River 400 feet away.

- Another major pathway for the movement of leachate is through a highly porous sand window in the dump and downward through the bedrock below the dump. The bedrock, which is fractured dolomite, contains many interconnected cavities in which the contaminated groundwater moves freely. Hence the contaminated groundwater moves deeply into the bedrock and northwest to the Niagara River to discharge between Niagara Falls and the Whirlpool Rapids.

- Even more startling than the leachate movement is the migration of the dump itself deep into the bedrock. One test well dug 25 feet into the bedrock at the "S" site revealed a black tarry substance indicating that atleast one toxic tentacle of waste had penetrated far into the bedrock. Whereas contaminated groundwater generally moves northwest in the bedrock from the dump, the tarry, non-dissolved materials that comprise the dump itself move by gravity to the south towards Canada. In essence, the dump is slowly sliding down through the bedrock, under the Niagara River and towards the Canadian bedrock aquifer. If these toxic organics reach the berock aquifer on the Canadian side of the river, they could poison the Canadian domestic wells which intercept this bedorck aquifer.

- The detection of mirex (a chemical manufactured solely by Hooker in Niagara Falls) in environmental samples in the St. Lawrence River indicates that the zone of impact is extremely widespread, extending beyond the Niagara River and Lake Ontario.

- Both leachate and tarry toxics from the "S" dump have infiltrated the Water Treatment Plant which supplies drinking water to 86,000 Niagara Falls, N.Y. residents, and thousands of international visitors. The treated water leaving the Water Treatment Plant contains higher concentrations of certain "S" landfill chemicals than the raw water drawn from the Niagara River, indicating that "S" wastes have penetrated the water plant facilities.

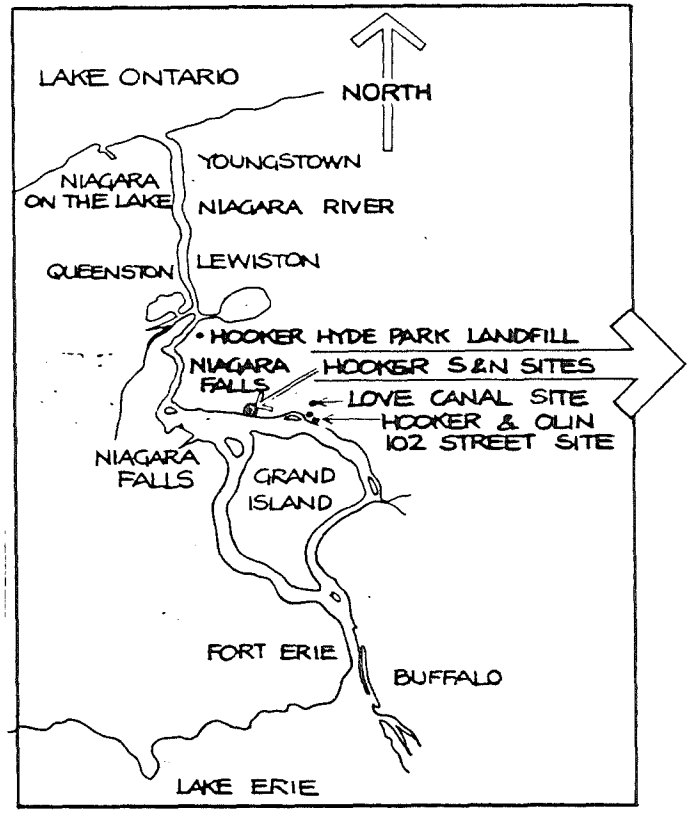
- Even though there are five distinct classes and one undefined grouping of compounds listed as buried in the "S" dump, the indicator chemicals selected by the parties to monitor contaminant movement all fall into one class - organochlorines. The other classes of compounds, which account for almost half the wastes, have been virtually ignored by the parties, even though these compounds may be migrating more extensively than the organochlorines. For example, the organic phosphates present in "S" are more water soluble than organochlorines, and hence will move further from the site. Furthermore, a lack of monitoring wells dug into the bedrock makes it impossible to adequately assess the extent of contaminant movement into the berock.

- About 1000 tons of phenol and trichlorophenol wastes are buried at "S". Because these chemicals are relatively soluble in groundwater, they migrate easily from the dumpsite. Furthermore, these phenolic residues contain as manufacturing by-products highly toxic chlorinated diphenyl ethers and chlorinated dibenzo-p-dixons, particularly the 2,3,7,8-tetrachlorodibenzo-p-dioxin isomer (TCDD) which is the most toxic man-made chemical known.

- The analysis undertaken by the parties for TCDD in the groundwater and Water Treatment Plant of Niagara Falls, N.Y. is useless because the detection limit used was 1 to 10 parts per billion whereas TCDD's maximum water solubility is only 0.6 parts per billion. To infer that testing to date proves TCDD is absent from the groundwater is absurd. Such a misleading conclusion provides a false sense of security and ignores the serious threat to human health of chronic TCDD exposure by drinking water, even if concentrations are well below its maximum water solubility.

- "S"-Area chemicals known to be dumped at this site include TCDD, Lindane, Trichloroethylene, Mirex, phenols, toluenes, chlorobenzenes, endosulfan, C-46 and C-56. In downstream communities such as Toronto, the treated drinking water has been observed to contain lindane, phenols, toluene and chlorinated benzenes, all of which occur in the "S" dump.

- Chronic low-level exposure to the conglomeration of chemicals present in "S"-Area landfill cause a wide spectrum of health effects, including cancer, birth defects, genetic damage, hormonal and metabolic imbalances, allergies, nervous dysfunction and suppression of the immune system necessary to combat disease.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HOOKER HYDE PARK LANDFILL
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HOOKER S&N SITES
LOVE CANAL SITE
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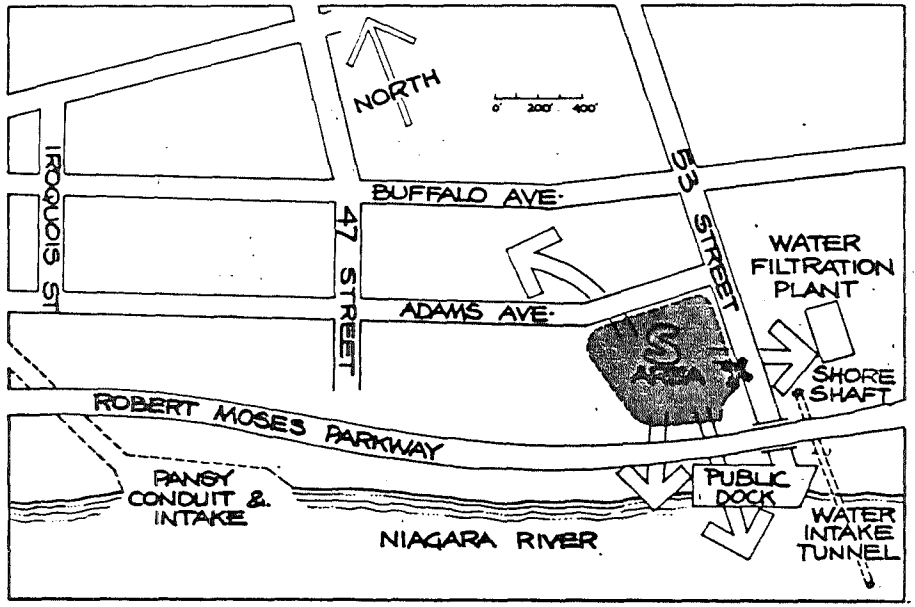
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ROBERT MOSES PARKWAY
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