

May 29/84
BX 87

In response to continued and/or increased
dumping at the Burlington Municipal Dump Site,

my concerns are:

① the air quality in the area of my residence.

296 Merle Ave., Burlington

② the possibility that contaminated ground water
could surface in my area, possibly in the

case of heavy rain.

③ That we will accept the statement: "All

levels of contaminants are below guideline

levels at this, or similar, dump site."

The case that a particular chemical parameter

is greater than a guideline concentration value

is indeed a threat. However, possibly a greater

threat, is the total interaction of all the

chemical parameters in trace or at less than

guideline levels. Little is known of these

interactions, and no research (to my knowledge)

has been done in this area. Therefore, levels

must be mentioned, as well as, the number

Information that may be beneficial in regarding points ① and ②.

I'm referring to ①: There are three environmental parameters that I believe should be considered:

- ① Revealing Waste
 - ② Immersion layer Situations
 - ③ Type and Quality of the dump site "cases"
- Some possible contaminants that are airborne have been attached and published, i.e., by

Dewalle, Chian and Hammerberg "Gas Production from Solid

Waste in Landfills" from the ASCE. Journal of the Environmental Engineering Division. June, 1978.

"... although Methane, CO₂, Hydrogen and Nitrogen are the main components in the gas phase, other

constituents such as: Argon (0.01% - 0.05%), Hydrogen Sulphide (0.0017% - 0.91%), Mercaptan Sulphur (0.70.33%), Sulphides (0.41% - 1.80%), Disulphides (0.93% - 1.65%), Propane (0.0079%),

Octane (0.206%), Isobutane (0.004%), Acetane (0.292% - 0.45%), n-butane (0.006%), Hexane (0.128%), Isopentane (0.010%), n-pentane (0.014%), Nonane (0.064%), Toluene (0.05% - 0.09%) and Benzene (0.08% - 0.11%) can also be present

in landfill gases.

I'm referring to (2): Several factors must be investigated in relation to the surfacing of contaminated ground water, i.e.,

- (i) water table level and movements
- (ii) landfill surface runoff
- (iii) seasonal variations in (ii) and in nearby creeks
- (iv) the long term environmental problem of more contaminated creeks entering Hamilton Harbour and Lake Ontario
- (v) review records of dumping at landfill to investigate whether or not there are chemicals buried in the landfill that are not being detected at present but which could surface in the future
- (vi) elevation of the dump site vs Burlington homes.

Possible contaminants in the soil and water from dumpsites include: those in the EPA priority pollutant list, plus, tetrahydrofurans, dibenzofurans, benzothiazolones, Carbon disulphides to only name a few.

My recommendations:

- 1) must guard against the dumping of any chlorinated solvents (ie chlorinated ethylenes, chloroform, etc.). Chlorinated organic contaminants must be monitored due to the large number of these which have carcinogenic or mutagenic properties.
- 2) testing of leachate and air quality at dump site to determine the current levels and number of contaminants present at this time.
- 3) monitoring the number of contaminants detected
- 4) testing leachate at different times of the year due to seasonal changes in chemical concentration due to elevated water levels which can uncover new contamination sources to site leaching processes
- 5) abide by previous decision to close this dump site since it's reached capacity

Thilo Sutherland