

SOLID WASTE LANDFILL TECHNOLOGY

A DOCUMENTED FAILURE

HIGH DENSITY POLYETHYLENE LINERS (HDPE) ARE NOT EFFECTIVE BARRIERS TO LANDFILL LEACHATE.

Two major classes of chemicals are responsible for HDPE failure. Aromatic hydrocarbons such as benzene and naphthalene, “permeate excessively and cause package deformation,” and halogenated hydrocarbons such as trichlorethylene and methylene chloride can permeate HDPE and cause, “softening, swelling, and part deformation.”

*Marlex Polyethylene TIB 2 Packaging Properties, Plastics Division,
Phillips 66 Company, Bartlesville, OK 74004*

The “best demonstrated available technology” for composite liners (clay and plastic) allow leakage rates from .02 to 1.0 gallons per acre per day. This would result in 730 to 36,500 gallons per year from a 100 acre landfill.

*Geoservices Inc. Background Document on Bottom Liner Performance
in Double-lined landfills and Surface Impoundments, April 1987*

LANDFILL CAPS ARE SUBJECT TO NATURAL ELEMENTS AND LEAKAGE

Lightning bolts striking the ground typically five million volts and 2,500 to 220,000 amperes can bore holes in the ground eight inches in diameter and fifteen feet deep. In western North Carolina, an average number of lightning strikes per hundred acres is 2.96 per year.

AT&T Telecommunication Electrical Protection, AT&T Technologies, Inc. 1985

Burrowing animals can move 5.3 tons of soil to the surface per acre per year. “Similar activity would have a dramatic impact on landfill cap integrity...synthetic liners, measured in mils are not likely to impede these same animals.” Clay presents little barrier to such animals.

Johnson & Dudderar, WASTE AGE, March 1988, p.108-111

LEAK TESTING OF NEW LANDFILL LINERS REVEALS MAJOR FLAWS

Tests of the new municipal solid waste liner after burial by an Arizona contractor revealed that even with the most careful construction and quality assurance testing at every stage of emplacement, the liners had holes and punctures.

American City and County, July 1991

EVEN EPA PREDICTS FAILURE OF THE NEW LANDFILL TECHNOLOGY

“First, even the best liner and leachate collection systems will ultimately fail due to natural deterioration...”

Federal Register p.33345 August 30, 1988

BLUE RIDGE ENVIRONMENTAL DEFENSE LEAGUE

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