PCB LANDFILL ENVIRONMENTAL SECURITY
SUMMARY OF FINDINGS

By: Patrick A. Barnes - Science Advisor
Joel O. Kimrey, P.G. - Senior Hydrogeologist

Bad Site for Landfill

- The facility siting investigation failed to appropriately consider the critical nature of the geological setting in locating the landfill. No in-depth geological work was performed to determine actual subsurface flow characteristics.

Bad Engineering Controls

- The system to remove leachate failed to properly consider the type of materials deposited and subsequently does not function.
- Improper stormwater management during construction has allowed a significant amount of water to enter the landfill.
- Pressure from the water in the landfill has resulted in leakage through the bottom liner.
- The poorly designed/installed top liner is also allowing additional water to enter the landfill.
- Water entering and leaving the landfill represents a real threat to groundwater and surface water supplies of the area.
- Significant quantities of PCB's have apparently discharged into the air through the main landfill vent, and immediate action should be taken to install a properly sized carbon absorption filter.

Improper Monitoring

- The State has failed to maintain compliance with the operating/monitoring requirements of the landfill.
- The existing monitoring wells are poorly designed and positioned, and will not properly detect possible release of contaminants from the landfill. The process of establishing additional locations is underway.
- The existing surface water and sediment sampling locations are also poorly located and will not intercept potential releases at the earliest stage. Here to, the establishment of additional locations is underway.

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Recommendations

- Redesign the environmental monitoring network.
- Move immediately towards complete detoxification of the landfill contents.
- Install a carbon adsorption filter on the main landfill vent.

More detailed discussion of these items are available through the PCB Landfill Office in Warrenton - (919) 257-1948.

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BFA Environmental Consultants
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MEMORANDUM BFA #95-017

TO: PCB Landfill Working Group

FROM: Patrick Barnes, Science Advisor
Joel O. Kimrey, P.G., Senior Hydrogeologist

DATE: December 2, 1996

SUBJECT: Air Emissions of PCB and Associated Health Risks

We have performed a cursory review of the U.S. EPA research report on "Fugitive Atmosphere Emissions of PCB's from Hazardous Waste Landfills", as well as the review of that report prepared by Joel Hirschhorn, and, in general, it appears to me that the investigators made up their minds that the Warren County PCB Landfill was going to be the control site regardless of the testing results. They failed to draw the most important conclusion of their study, which is that even so-called controlled landfill represents potentially significant health risks.

It is difficult to believe that the facility was not designed to include gas filters at the main vent opening. I believe that the community should demand an immediate explanation from the State of this apparent disregard for the safety of the citizens of Afton. Moreover, I recommend that community leaders demand, in no uncertain terms, that:

1. The main vent or any uncapped opening to the landfill be fitted with an activated carbon adsorption type filter within 72 hours. The filters should allow for influent and effluent sampling.

2. In addition to the health related sampling recommended by Joel Hirschhorn, additional sediment sampling should be performed by the EPA or the State which includes deposits at the mouth of each major surface drainage feature within 1/2 mile of the site. The PCB's which have been deposited by air emissions may have accumulated in these surface drainage features and thus may still present a threat to the environment.

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