

Altama Elementary School: More Factual and Scientific Inaccuracies from the EPA EPA Refuses to Test School

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At the request of the Glynn Environmental Coalition I reviewed the recent January 29, 2008 EPA PowerPoint presentation to the Glynn County Board of Education. There are factual errors and scientific inaccuracies contained within this presentation.

First, “toxaphene” is a trade name for a toxic and carcinogenic mixture of chlorinated organic chemicals. Toxaphene was never a chemically defined preparation. Camphene from pine stumps was chlorinated until a toxic endpoint was reached using a fly bioassay—a test to see how many flies died in a fixed period of time with a known quantity of toxaphene. Off-grade product with mixed results for fly killing was stored on the Hercules site for many years, or placed into the 009 landfill.

Contamination outside of the 009 landfill repository cells was proven beyond doubt in numerous studies conducted during the mid-1990’s. Toxaphene was found along the transportation route to the landfill, in the neighborhood adjacent the landfill, on the school grounds adjacent the landfill, in the drainage ditch separating the landfill from the school, and outside of the containment cells on landfill grounds.

All of the available science shows beyond doubt that toxaphene, including technical grade and so-called “weathered” toxaphene, is a biocide (kills across species lines), is mutagenic, and causes cancer in laboratory rodents. These studies have been replicated in numerous laboratories with appropriate scientific controls and are not in dispute. However, there are very few scientific studies showing which of the many chemicals in toxaphene are most toxic, most mutagenic, or most carcinogenic. When there are few peer-reviewed and replicated studies proving safety both the Environmental Protection Agency (EPA) and the Agency for Toxic Substances Disease Registry (ATSDR) mandate cleaning up the environment using the most conservative levels (the lowest amounts) of the target chemical. All Federal agencies involved in regulating foreign substances -- the Food and Drug Administration (FDA), United States Department of Agriculture, and Occupational Safety and Health Administration (OSHA) --also use the common-sense and prudent approach of erring on the side of caution when it comes to complex chemicals.

Federal guidelines mandate that potential environmental exposure pathways to toxic chemicals must be defined. Pathways include exposure through air (volatile chemicals and small particles), surface or groundwater (soluble chemicals), or soil. Extensive toxaphene contamination was found on the soil of the elementary school adjacent the 009 Landfill Superfund Site. Further, there was ample evidence of human use (trails, trash) throughout the contaminated areas. Contemporaneous documents defined both past landfill site operations and contaminated spoil piles from the stream placed on school property as sources of the toxaphene on school property. It is a scientific fact that a completed exposure pathway for soil did exist on school grounds. Region 4 EPA’s assertion that only groundwater exposure at this site is relevant is not consistent with the site history. Note that the slides entitled “2006 Groundwater Sampling” and “Toxaphene Exposure Risks” are entirely irrelevant for any discussion of a soil

pathway. It is unclear why EPA is asserting groundwater data in regard to soil sampling issues; there is no logical reason for making a claim for soil safety based on water.

All of the available analytical science shows that toxaphene is a straightforward chemical mixture to analyze and characterize. The EPA has had in place, for decades, scientific methods for quantifying multi-component mixtures. Toxaphene can easily be quantified using gas chromatography with a variety of detectors. These instruments are common to nearly every laboratory, and the techniques are basic. Toxaphene is routinely quantified using this standard equipment and standard EPA methods in laboratories around the country and around the world.

There is no scientific rationale for a special toxaphene method just to monitor toxaphene in Glynn County, Georgia. EPA's assertion that no method existed in 1993 to test for "weathered" toxaphene is nonfactual. Standard EPA methods would have quantified toxaphene at this site in 1993, and were in use at that time at other sites with far less toxaphene.

Risk modeling is a well-established science. When calculating risk the nature of the chemical is taken into consideration, the amount of chemical exposure—concentration of chemical and duration—is factored into the equation, and toxicology effects from animal and human exposure all are assigned values. These models are then placed into the public domain so that other toxicologists can validate the findings. There currently are mathematical risk assessment models for assessing toxaphene risk. EPA asserts in a slide titled "Re-evaluation of Site Risks" that "EPA Region 4 conducted a re-analysis of European toxicity data and determined that weathered toxaphene breakdown products are less toxic than technical toxaphene." If these models are published then the reference should be given, especially since Region 4 EPA is not a third party to this controversy. Region 4 actually created this controversy by using unscientific methodology, which cannot be set aside with non-reviewed internal studies and opinions. No scientist would accept Region 4's statement at face value without seeing the entire EPA mathematical model used for the reassessment.

There is no scientific support for Region 4 EPA's claims that toxaphene in Brunswick, Georgia:

- requires special methods for detection;
- does not require monitoring; and,
- is proven safe based on Region 4's reassessment.

Further, the opinions expressed by EPA Region 4 are contrary to agency guidelines. Unlike other parts of the country, and the world, Glynn County -- likely one of the most toxaphene contaminated areas anywhere -- has not received the benefit of simple scientific analyses for toxaphene in soil. It is reasonable to expect Region 4 to follow the order of their own Inspector General to test the vicinity of the landfill with the EPA's validated methods, rather than rely on data using a discredited technique.

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