

05.01.01/28/98-01942



North Carolina
Department of Health and Human Services
Division of Epidemiology
P.O. Box 29601 • Raleigh, NC 27626-0601

James B. Hunt Jr., Governor

H. David Bruton, M.D., Secretary

January 28, 1998

Mr. Aaron Bernhardt, Environmental Scientist
Baker Environmental, Inc.
Airport Office Park, Building 3
420 Rouser Road
Coraopolis, Pennsylvania 15108

Dear Mr. Bernhardt:

I am writing in response to your request for a health risk evaluation of the analytical results of the fish and crab samples that were collected from Courthouse Pond and Powerline Pond at Site 65 and Courthouse Bay at Site 73. Based upon my review of these results, I offer the following health risk evaluation:

1. Methylene chloride, acetone, toluene, di-n-butyl phthalate, 2-butanone, and toluene were found in the fish and crab sampled from these two sites. Although elevated concentrations of methylene chloride and acetone were reported, all of these volatile organic chemicals are considered to be common laboratory contaminants (USEPA December 1989 *Risk Assessment Guidance for Superfund Volume I Human Health Evaluation Manual (Part A)*). Volatile organic chemicals typically do not bioconcentrate in fish and crab tissues because of their relatively low bioconcentration factors. Since all of these chemicals are common laboratory contaminants and volatile organic chemicals do not typically bioconcentrate in fish and crab tissues, these chemicals were most likely introduced into the samples in the laboratory. Based upon my review of the literature and the sampling data submitted, the concentrations measured for the above-mentioned chemicals are not likely to be representative of exposure concentrations.
2. The arsenic concentrations reported for fish and crab from these two sites were below the average levels typically reported for fish and seafood of 4 to 5 mg/kg (April 1993 *Toxicological Profile for Arsenic*, Agency for Toxic Substances and Disease Registry).
3. For Site 65, elevated DDD and DDE were reported in the whole body analysis of one bluegill. However, DDD and DDE were reported as nondetect or at very low concentrations for three composites of bluegill (two fillet, 1 whole), two composites of

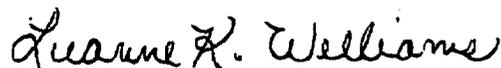
Aaron Bernhardt
January 28, 1998
Page Two

largemouth bass (one fillet, one whole), and three composites of redear sunfish (one fillet, two whole). Compared to fillet samples, higher DDD and DDE concentrations were found in the whole body samples. Since the whole body analysis includes analysis of both muscle and fatty tissues (where DDD and DDE can concentrate), higher levels would be expected to be reported in the whole body analysis. The DDD and DDE concentrations reported for all fish were below the average concentrations reported for the United States in 1984 of 60 ug/kg for DDD and 190 ug/kg for DDE (May 1994 *Toxicological Profile for 4,4'-DDT, 4,4'-DDE, 4,4'-DDD*, Agency for Toxic Substances and Disease Registry). The DDD and DDE concentrations reported in this one composite of bluegill do not appear to be representative of the average concentrations present in the edible portion of fish at this site.

4. For Site 65, elevated antimony and beryllium concentrations were found in the whole body samples for some fish, but were not detected in the fillet samples. Typically, low levels of antimony and beryllium are found in fish. According to the September 1992 *Toxicological Profile for Antimony* (Agency for Toxic Substances and Disease Registry), "Antimony does not appear to accumulate in fish and other aquatic animals". The antimony and beryllium detected in the whole fish analyses most likely came from the dirt or sediment that was present on the surface of the fish during analysis or from nonmuscular portions of the fish. The antimony and beryllium concentrations reported do not appear to be representative of the average concentrations present in the edible portion of fish at this site.
5. The remaining analyte concentrations were well within normal and acceptable concentrations.

In summary, the concentrations reported for these two sites may not be representative of the concentrations present in the edible portion of fish and crab found at this site. Based upon the information submitted by Baker Environmental, Inc., consumption of the fish and crab should not pose a significant health risk. Please do not hesitate to call me if you have any questions at 919-715-6429.

Sincerely,



Luanne K. Williams, Pharm.D., Toxicologist
Medical Evaluation and Risk Assessment Branch
Occupational and Environmental Epidemiology Section

LKW/rm