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FACTS

Hudson River PCBs Reassessment Phase 2 Low Resolution Coring Report Tracking Changes in Sediment Inventory

The Phase 2 Low Resolution Coring Report is a companion volume to the Data Evaluation and Interpretation Report (DEIR), which was delivered to the public in February 1997. The findings of the DEIR were based, in part, on high-resolution analysis of sediment cores and in part on water column analysis. Both high and low resolution coring are important to our understanding of the river's PCB problem, and when viewed together, give us a fuller picture of where the PCBs are, how long they've been there, where they come from, and what happens to them in the sediments.

High vs. Low Resolution Coring

In high resolution coring, the sediment core is sliced into many samples. (A core is taken by pushing a hollow cylinder down into the river bottom, which removes a long column of river sediment for analysis.) The top of the core is sliced into four wafers, each less than one inch thick. The rest of the core is cut into slices roughly 1.6 inches thick. Thus a two-foot core could be sliced into as many as seventeen different samples.

In low resolution coring, a two-foot core is typically cut three times, yielding three samples for PCB analyses and a smaller bottom section for radio nuclides (radioactive elements present in the sediment that are essential to the dating of the cores.) Each of the PCB samples is then stirred to crate a thoroughly homogeneous blend which is then also analyzed. Field sampling for the low resolution core study was conducted in August 1994. Approximately 150 sediment cores were taken from which about 450 samples were extracted.

The Low Resolution coring program has two main objectives:

1) To obtain new estimates of sediment PCB amounts at a number of locations in the Thompson Island Pool for comparison against the existing PCB sediment database constructed from a 1984 NYSDEC survey; and

2) To refine estimates on the amount of PCBs present in a limited number of historic hot spot locations in the Upper Hudson below the Thompson Island Dam defined by a 1976-78 NYSDEC survey.

Analysis of samples taken in 1994 will allow EPA to compare estimated PCB amounts in the Upper Hudson today with data gathered from the NYSDEC surveys.

The low resolution coring work will give us more information on the amount of PCBs lost and gained in the sediments, their distribution and levels of dechlorination, and how the action of moving water impacts the river bottom by scouring out some areas and redistributing PCBs or by covering contaminated sediments with clean deposits.