

The Emerging Contaminants Workgroup is in the process of developing a plan to investigate certain unregulated chemicals in the surface and groundwaters of the Santa Ana River region. The group, comprised of two dozen different water and wastewater agencies, believes it would be valuable to hear from those with significant practical experience before recommending any long-term monitoring program for such pollutants.

On July 31st, the Workgroup meeting will focus on the issue of "Analytical Methods for Emerging Contaminants." Because there are no approved standard methods for most EC's, there is general concern regarding the validity of related monitoring data particularly if used in a regulatory environment.

Your expertise would lend considerable insight to the discussion and will undoubtedly make it more productive. We would like to give a short presentation (30-40 minutes) to help frame the issues for the group. Below are several questions that will help guide your remarks. It may be easiest to consider each of the questions in relation to groups of EC's: 1) analgesics [acetaminophen, ibuprofen]; 2) hormones [estradiol, testosterone]; 3) antibiotics [amoxicillin, Triclosan]; 4) pesticides [chlorpyrifos, DEET]; 5) pharmaceuticals [Lipitor, fluoxetine]; 6) narcotics [morphine, codeine]; 7) antihistamines [cimetidine, ranitidine]; 8) flame retardants [BDE's, Tris-xxx-phosphates], 9) stimulants [caffeine, methamphetamine].

- 1) In general, what analytical methods are used to detect the complex organic molecules that make up most EC's? Do these methods differ significantly from those used to measure for more commonly regulated chemicals such as the Priority Pollutants identified in the California Toxics Rule?
- 2) In general, what sort of Method Detection Levels (MDLs) are achievable for representative EC's? And, what sort of Practical Quantitation Levels (PQLs) or laboratory Reporting Levels (RLs) are achievable? What level of intralaboratory and interlaboratory precision should be expected at this stage of the analytical method development process?
- 3) What is required for a method to be approved by EPA under 40 CFR Part 136? What is required for the Department of Public Health to approve a new analytical method? Where are these agencies with respect to certifying new methods for the so-called "Emerging Contaminants?"
- 4) In your experience, are some of the chemicals most commonly identified as "markers" for man-made pollution (ibuprofen, caffeine, estradiol, etc) provide more accurate and reliable data than others? Are some of these same chemicals significantly easier to analyze?
- 5) How difficult is it to find a well-qualified laboratory capable of analyzing for various EC's and providing reliable results? Can you provide some representative costs to analyze some of the EC's mentioned above?
- 6) To what extent does matrix interference reduce the accuracy and precision of new methods to analyze EC's? Please provide an example or two.