## **Russian River Early Warning Project**

## **Toxics Sampling with Macroreticular Resins**

This element of the project involved refining methods developed by the UC Santa Cruz chemistry department to use macroreticular resins to measure ultra-low concentrations. The resins concentrated metals and organic chemicals in water pumped through the columns. The columns were then "stripped" of the chemicals through various elution processes and the eluate analyzed by standard analytical laboratory methods. Two basic sampling strategies could be employed: 1)grab sample where a large sample was collected at a point in time and pumped through the resin columns, and 2)time-integrated sampling where the sampler was set up to draw a sample through the columns on a set schedule for days at a time.

This element of the project involved constructing the columns, setting up a clean room at the SCWA laboratory, performing testing of the methods, and deploying samplers on the Russian River for field sampling.

Photos of the laboratory and samplers follow:



HEPA-filtered positive pressure clean room at the SCWA laboratory where the columns were prepared and eluted in a particle-free environment. The flexible plastic door is not visible in this photo.

Glass wool sediment filter

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Electronic timer that controlled the sample delivery system.

A typical resin column field sampler.



