

SCCWRP Annual Report 1999-00

Interlaboratory comparison of sediment toxicity tests with the amphipod *Eohaustorius estuarius*

Andrew W. Jirik¹, Steven M. Bay and Stan Asato²

¹Port of Los Angeles, San Pedro, CA

²City of Los Angeles, Hyperion Treatment Facility, Playa del Rey, CA

ABSTRACT

An interlaboratory comparison exercise was conducted among seven laboratories in order to document the reproducibility of sediment toxicity measurements conducted during the Bight'98 regional sediment survey. Sediments from four stations in Los Angeles/Long Beach Harbor were tested using a 10-d survival test of the amphipod *Eohaustorius estuarius*. All laboratories successfully performed the sediment test and associated reference toxicant test. While statistically significant differences were found in amphipod mean survival rates among some laboratories for the field-collected sediments, no consistent significant bias was observed. Testing by multiple laboratories did not appear to reduce the precision of the results. The laboratories demonstrated excellent concordance (Kendall's $W = 0.91$) in ranking the field-collected sediments by toxicity. Agreement on classifying the sediments into categories (nontoxic, moderately toxic, and highly toxic) based upon the percent of survival was best for highly toxic sediments. An analysis of test precision based upon the variance among replicates within a test indicated that the measured survival rate for a sample may vary by up to 12 percentage points from the actual response.

Full Text

ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/AnnualReports/1999AnnualReport/29_ar29.pdf