**DRAFT RSET WHITE PAPER #1 – Establishment and Use of Detection and Reporting Limits**

**CHEMICAL ANALYTE LIST SUBCOMMITTEE**, T. Thornburg, Chair (tthornburg@anchorenv.com); August 2, 2004

**QUESTION/ISSUE: There are a diversity of reporting limits (RLs) being used in sediment management programs. Best available science has progressed adequately to lower the method detection levels and reporting limits for routine sediment metals and organic contaminants of concern. May one set of method detection limits and reporting limits be identified for all sediment quality programs? May a consistent set of qualifier code definitions be developed and applied, e.g., "U"applied to RLs, for use in all sediment management programs?**

**DISCUSSION:** In Washington State, the SMS, PSDDA and PSAMP, CERCLA and NRDA sediment programs have each identified individual programmatic RLs, i.e., practical quantitation limits. These programmatic limits are identified in Table C-14 of the Puget Sound Estuary Program's (PSEP) Recommended Quality Assurance and Quality Control Guidelines For the Collection of Environmental Data in Puget Sound, April 1997. Additionally, this PSEP protocol identifies different sediment programmatic data qualifiers in Tables D-1 through D-6.

Key considerations in identification of programmatic RLs are to identify sediment chemical guidelines and/or criteria against which sediment data will be compared, laboratory and analytical method capabilities, and associated costs. Some regional scientists have suggested that reduction of RLs is possible and necessary to adequately support development of sediment quality criteria, especially for freshwater sediments.

There is also considerable confusion regarding consistent identification and application of appropriate data qualifiers. Different sets of qualifiers and definitions exist which are generated and applied in various sediment program studies. These data are often later consolidated into SEDQUAL. The "U" qualifier for undetected can be often reported at or near the method detection limit, e.g., for metals or at the RL, e.g., for organics. Recently, EPA Superfund developed a new, modified EPA CLP data qualifier list for work at the Duwamish sediment cleanup site. Finally, application of appropriate data qualifiers is necessary to support sediment quality criteria development, e.g., use of "J" or "E" estimated data.

**REFERENCES:** PSEP QA/QC Protocol (see attachments)

**RECOMMENDATION:** Convene a cross-program panel with RSET staff, and agency and commercial laboratory representatives to discuss development of consolidated recommendations for sediment chemistry analytical methods, reporting limits and data qualifiers.

**PROPOSED LANGUAGE**: None yet.

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