

## Environmental Laboratory Performance – Problems/Solutions

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In general, there has been a perception in recent years that data quality produced by the environmental lab industry, to support federal and state government restoration and compliance work, is not what it used to be. A primary factor in creating this perception is the increased number of criminal/civil legal cases brought against laboratory companies and their staff and the increased number of contractual suspensions/debarments pursued against environmental laboratory companies. In some parts of the country, regional Department of Justice officials have declared environmental crimes, as committed by environmental labs in falsifying data, as an area of increased emphasis and vigilance. For their part, the lab industry has reacted, in some cases claiming unfair and inconsistent contract procurement and management practices but also by putting in place ethics and data integrity programs. As the executing office for the USACE HTRW Laboratory Validation program, in recent years our auditors have documented a diminished level of expertise at the “bench”, as well as numerous “questionable” method procedural practices which place data quality at risk to promote sample throughput.

An analysis of the industry reveals the following trends since the mid-80's: the number of labs has diminished in response to decreased demand for fixed-lab environmental services; unit pricing by labs has decreased, in some cases reflecting an increased operational efficiency (e.g. through computer automation), however in some cases solely to gain low-bid awards for work that can not possibly be performed at bid prices; higher salary/experienced staff has been laid-off to affect the bottom-line; and general experience and expertise has dropped throughout the industry as chemists have moved to the pharmaceutical and other more profitable industries.

The situation has occurred for USACE HTRW Program execution when environmental program customers budgets are limited, and QA functions are easy target as dollars devoted for purposes of laboratory QA take away from dollars that could be spent on contaminant clean-up. To provide the most efficient response to this situation in terms of QA resources, the HTRW CX is pursuing the following initiatives: (1) consolidation of contractor requirements for environmental analysis across DOD (EDQW) and across the federal government as a whole (IDQTF); (2) identification and creation of training programs for environmental staff focusing on the areas of technical capability and data integrity (ethics); (3) partnering with the private sector on a variety of initiatives of mutual benefit; (4) re-evaluation of current procurement strategies, possibly evolving to a “best value” approach instead of a low-bid approach; (5) development of performance-based measurement systems; and (6) revised audit practices which should reveal questionable lab practices early in project execution. Taken as a whole, the goal is to limit the very costly instances where an “autopsy” must be done on project data to determine what is usable and what must be resampled/reanalyzed, if this is even possible.