

## Data Quality Objectives and Useability for Risk-Based Evaluations

Criteria	What Is Needed	Why Is It Needed
Laboratory Chemical Analytical Data	Practical Quantitation Level is at least half the most stringent risk-based cleanup level	Avoids concentration of non-detects exceeding the residential risk-based level.
	Method Reporting Level is at least 10-fold less than the most stringent risk-based cleanup level	Relative concentrations and frequency of detections verify fate/transport model predictions; Provides better estimate of the representative concentration (95% UCL); Necessary for distinguishing background from release area.
	QA/QC Evaluation for Impacts to Results	Cumulative Risk Decision is dependent upon the type and degree of data bias for analytical data results.
	Match the Method to the Problem: Chemical Diversity vs Analytical Short-comings	Eliminate false positive and false negative results for COC selection/quantitation; Minimize matrix interference in quantitation/identification.
Sampling	3-D Location, AND Frequency	Necessary for “finding” the maximum concentration of all COCs which fractionate differentially; Necessary for “finding” the concentrations in between the maximum and the un-impacted area for 95% UCL calculations; Necessary for non-default values to be used in fate/transport modeling; Necessary for validating modeling outcomes; Necessary for distinguishing contaminant levels due to source vs. ambient background; Necessary for identifying and evaluating all complete exposure pathways; Necessary for distinguishing “hot spots” from remainder of distribution.
	Methodology	Necessary for minimizing and identifying data bias; Necessary for refining direct contact exposure concentrations
Receptor Evaluation	Type and Activities	Necessary for addressing critical areas of exposure; Necessary for applying appropriate “intake” factors, <i>e.g.</i> special groups include daycare centers, construction workers, recreational users.
Risk-based Report	Detailed Justification of Data Uses/Assumptions	Clarifying information is paramount to verifying your conclusions, <i>i.e.</i> consistent format and pertinent data summary, complete with “detailed backup attachments”.