GLOSSARY

Acronym	Definition
%R	Percent recovery
2-D	Two-dimensional
3-D	Three-dimensional
ACLs	Alternate concentration limits
ANOVA	Analysis of variance
ARARs	Applicable or relevant and appropriate requirements
ASAP	Adaptive Sampling and Analysis Program
ASTM	American Society for Testing and Materials
CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CI	Confidence interval
COPCs	Contaminants of potential concern
CTE	Central tendency exposure
CUSUM	Cumulative summation
CV	Coefficient of variation
DCA	Dichloroethane
DDT	Dichloro-diphenyl-trichloroethene
DEFT	Decision error feasibility trial
df	Degrees of freedom
DLs	Detection limits
DO	Dissolved oxygen
DQI	Data quality indicator
DQO	Data quality objectives
EPA	U.S. Environmental Protection Agency
EPCs	Exposure point concentrations
EQL	Estimated quantitation limit
FSP	Field sampling plan
Geo-EAS	Geostatistical Environmental Assessment Software
GIS	Geographic Information System
GPS	Global Positioning System
HRS	Hazard ranking system
HTRW	Hazardous, toxic, and radioactive waste
IAA	Immunoassay analysis
ICV	Initial calibration verification
IDL	Instrument detection limit
IDW	Inverse distance weighted
IQR	Interquartile range
K-S	Kolmogorov-Smirnov

Lc	Critical level
LCL	Lower confidence limit
LD	Limit of detection
LS	Least squares
LSD	Least significant difference
MCLs	Maximum contaminant levels
MDL	Method detection limit
MQL	Method quantitation limit
MQO	Measurement quality objective
MRL	Method reporting limit
MSDS	Material safety data sheet
MTCA	Model Toxics Control Act
ND	Not detected
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
OC	Organochlorine
PA	Preliminary Assessment
PAHs	Polynuclear aromatic hydrocarbons
PARCC	Precision, accuracy, representativeness, comparability, and completeness
PCBs	Polychlorinated biphenyls
PCD	Project controlling document
PCE	Tetrachloroethene
PDM	Percent decision match
PE	Performance evaluation
PQL	Practical quantitation limit
PRGs	Preliminary remediation goals
QA	Quality assurance
QC	Quality control
QL	Quantitation limit
RA	Remedial Action
RAGS	Risk Assessment Guidance for Superfund
RBCs	Risk-based concentrations
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
Redox	Oxidation-reduction potential
RFI	RCRA Facility Investigation
RI/FS	Remedial Investigation/Feasibility Study
RL	Reporting limit
RME	Reasonable maximum exposure
RPD	Relative percent difference
RPM	Remedial project manager
RSD	Relative standard deviation

RT	Regulatory threshold
SAD	Sum of absolute deviations
SAPs	Sampling and analysis plans
SI	Site Investigation
SQL	Sample quantitation limit
SSS	Sample sum of sequences
TCE	Trichloroethene
TCLP	Toxicity characteristic leaching procedure
TIN	Triangular irregular network
TNT	Trinitrotoluene
TPH	Total petroleum hydrocarbons
TPP	Technical project planning
TSCA	Toxic Substance Control Act
UCL	Upper confidence limit
USACE	U.S. Army Corps of Engineers
UTL	Upper tolerance limit
VOCs	Volatile organic compounds
WLS	Weighted least squares

Symbols and Notations

Symbol	Description
α	Significance level of a statistical test
$\forall_{i,j}$	All i and j
b_0	Intercept estimate for linear regression
b_1	Slope estimate for linear regression
$1-\beta$	Power of a statistical test
β_0	True intercept of a regression equation
β_1	True slope of a regression equation
C	Target contaminant concentration or fixed-threshold value
CV	Coefficient of variation
e_i	Sample residual
ε	Population residual
$F_{p,k,q}$	Critical value of the F distribution with k numerator degrees of freedom and q denominator degrees of freedom where 100p% of the distribution

Symbol	Description
	lies below this value
γ	Population correlation coefficient
$\gamma(h)$	Semivariogram function
IQR	Sample interquartile range
H_0	Null hypothesis of a statistical test
H_A	Alternative hypothesis of a statistical test
Ln	Natural logarithm
Log	Base ten logarithm
μ	Population mean
$\hat{\mu}_1$	Minimum variance unbiased estimate (MVUE) of the population mean of a lognormal distribution
n	Number of observations in a sample
ν	Degrees of freedom (df)
p	Sample proportion or probability of an event for the binomial distribution
P	Population proportion of a random variable
$P(X)$	Probability density function of random variable X
$P(X_a \le X \le X_b)$	Probability that the random variable X lies between X_a and X_b
r	Pearson's sample correlation coefficient
R	Sample range
$R(x_i)$	Rank of the i^{th} observation with respect to the other observations
ρ	Spearman's rank order sample correlation coefficient
s	Sample standard deviation
s^2	Sample variance
σ	Population standard deviation
σ^2	Population variance
$t_{p,\nu}$	Critical value of the t distribution with ν degrees of freedom where

Symbol	Description
	100p% of the distribution lies below this value
τ	Kendall's rank order sample correlation coefficient
Θ	A population parameter
θ	A population parameter
w_i	Number of ties in the i^{th} group or i^{th} weighting factor
$\bar{x}$	Sample arithmetic mean
$\tilde{x}$	Sample median
$\vec{x}_i$	A vector $(x_{i1}, x_{i2}, \ldots, x_{im})$
$x_1, x_2, \ldots, x_n$	A set of n observations, a sample
$x_{(1)}, x_{(2)}, \ldots, x_{(n)}$	A set of n observations ordered from least to greatest
$\chi^2_{p,\nu}$	Critical value of the chi-squared distribution with ν degrees of freedom where 100p% of the distribution lies below this value
x_p	100p^{th} percentile or p quantile of a sample
X_p	100p^{th} percentile or p quantile of random variable X
$X, Y, etc.$	Random variables representing populations
Z_p	Critical value of the standard normal distribution where 100p% of the distribution lies below this value