

Guidance Document for the Remediation of Contaminated Soils



**New Jersey Department of Environmental Protection
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Guidance Document for the Remediation of Contaminated Soils

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Acronyms/Abbreviations

AA	Atomic Adsorption Spectroscopy (inorganics anal.)
A-280	Amendments to SDWA which establish MCLs
ACGH	American Conf. of Governmental Industrial Hygienists
ACL	Alternate Cleanup Levels
ACM	Asbestos Containing Material
ACO	Administrative Consent Order
ADI	Acceptable Daily Intake
AE	Acid Extractable Compounds (AE+10) Part of BN/AE
A/E	Architectural/Engineering
AHERA	Federal Asbestos Hazard Emergency Abatement Act
AHPA	Archaeological Resources Protection Act of 1979
AIC	Acceptable Intake for Chronic Exposure
AIS	Acceptable Intake for Subchronic Exposure
AOC	Area of concern (or contamination)
APF	Assigned Protection Factor
ARARS	Applicable or Relevant and Appropriate Requirements Include Federal or State standards, requirements criteria, or limitations.
ASTM	American Society for Testing and Materials
ASTSWMO	Association of State and Territorial Solid Waste Management Officials
ATSDR	Agency for Toxic Substances and Disease Registry (CDC)
ATTIC	Alternative Treatment Technology Information Center
AWQC	Ambient Water Quality Criteria
BA	Biological Assessment
BCF	Bioconcentration Factor
BDAT	Best Demonstrated Available Technology
BEI	Biological Exposure Indices
BOD	Biological Oxygen Demand
BN	Base Neutral Compounds (BN+10, BNE) Part of BN/AE
BN/AE	Base Neutral/Acid Extractable Compounds, semivolatiles
BTAG	Biological Technical Assistance Group
BTEX	Benzene, Toluene, Ethyl benzene, xylenes (also BTX)
BTU	British Thermal Units (heat unit)
CA	Cooperative Agreement
CAA	Clean Air Act (Federal)
CAFRA	Coastal Area Facility Review Act (DEP)
CAG	Carcinogen Assessment Group (EPA)
CAMU	Corrective Action Management Unit (RCRA)
CaPAH	Carcinogen Polycyclic Aromatic Hydrocarbons
CBI	Confidential Business Information
CC	Calibration Compound
CDC	Center for Disease Control
CDDs	Chlorinated Dibenzo-p-dioxins
CDFs	Chlorinated Dibenzofurans
CDI	Chronic Daily Intake
CEAM	Center for Exposure Assessment Modeling
CEC	Cation Exchange Capacity
CEPP	Chemical Emergency Preparedness Program
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act

Acronyms/Abbreviations (continued)

CERCLIS	CERCLA Information System
CFR	Code of Federal Regulations
CGA	Combustible Gas Analyzer
Ci	Curie (radiation unit)
CIR	Color Infrared
CLP	Contract Laboratory Program
CM	Corrective Measures
CO	Contracting Officer
COD	Chemical Oxygen Demand
CPM	Critical Path Method also Certified Public Manager
CRP	Community Relations Plan
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit under the CLP
CRS	Cultural Resources Survey
CTRL	Chronic Toxicity Reference Level
CV	Coefficient of Variation
CVAA	Cold Vapor Atomic Adsorption Spectroscopy
CWA	Clean Water Act
CZMA	Coastal Zone Management Act of 1972
D	Absorbed Dose (radiation)
DCF	Dose Conversion Factor
DL	Detection Limit
DNAPL	Dense Non-Aqueous Phase Liquid
DNPB	Dinitrophenyl Hydrazine
DO	Dissolved Oxygen
DOC	Department of Commerce (Federal)
DoD	Department of Defense
DOI	Department of the Interior (Federal)
DOT	Department of Transportation
DPCC/DCR	Discharge Prevention, Containment and Countermeasure Plan/Discharge Cleanup and Removal Plan
DQO	Data Quality Objectives
DRE	Destruction and Removal Efficiency
DTW	Domestic Treatment Works
EA	Endangerment Assessment (also Environ. Assess.)
EC50	Median effective concentration during a bioassay
ECD	Electron Capture Detector
ECRA	Environmental Cleanup Responsibility Act (New Jersey)
EDD	Enforcement Decision Document
EE/CA	Engineering Evaluation/Cost Analysis
EEM	Environmental Evaluation Manual (EPA)
EHS	Extremely Hazardous Substance
EIS	Environmental Impact Statement
EO	Executive Order
EM	Electromagnetic (usually refers to a type of geophysics survey) also Environmental Media
EMSL	Environmental Monitoring Support Laboratory, Las Vegas
EPA	Environmental Protection Agency (Federal-USEPA)
EP	Extraction Procedure
EPCRA	Emergency Planning and Community Right-to-Know Act
EPIC	Environmental Photographic Interpretation Center

Acronyms/Abbreviations (continued)

EPTOX	Extraction Procedure Toxicity Test (leachability Test)
ERA	Expedited Response Action
ERRIS	Emergency and Remedial Response Information System
ERT	Environmental Response Team
ESA	Endangered Species Act of 1973 (Federal)
ESD	Document which Explains Significant Differences to ROD
ESI	Expanded site investigation
FCC	Fiscal Control Center
FEMA	Federal Emergency Management Agency
FID	Flame Ionization Detector
FFS	Focused Feasibility Study
FIT	Field Investigation Team
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
FMS	Financial Management System
foc	Fraction Organic Carbon in Soil
FPXRF	Field Portable X-Ray Fluorescence (inorganics)
FS	Feasibility Study (See RAA also)
FSP	Field Sampling Plan
FTS	Federal Telephone System
FWPCA	Federal Water Pollution Control Act
FWS	U.S. Fish and Wildlife Service
FY	Fiscal Year
GAC	Granular Activated Carbon
GAO	General Accounting Office
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectroscopy
GFAA	Graphite Furnace Atomic Absorption Spectroscopy
GIS	Geographic Information System also General Information Submission (ECRA)
GPC	Gel Permeation Chromatography
GPR	Ground Penetrating Radar
HAP	Hazardous Air Pollutants
HEA	Health and Environmental Assessment
HEAST	Health Effects Assessment Summary Tables
HEEP	Health and Environmental Effects Profile
HHEM	Human Health Evaluation Manual (EPA replaces SPHEM)
HI	Hazard Index (for noncarcinogens)
HMR	Hazardous Materials Regulations
HMTA	Hazardous Materials Transportation Act (Federal)
HOC	Halogenated Organic Compounds
HPLC	High Pressure Liquid Chromatography
HSL	Hazardous Substance List
HSO	Health and Safety Officer
HSWA	Hazardous and Solid Waste Amendments (to SARA)
HQ	EPA Headquarters
HRS	Hazard Ranking System
HRSD	Hazardous Response Support Division
HWS	Hazardous waste sites
IA	Innovative Alternatives
IAG	Inter-Agency Agreement
ICP	Inductively Coupled Plasma Atomic Emission Spectrophotometry

Acronyms/Abbreviations (continued)

ID	Infrared Detector
IDL	Instrument Detection Limit
IDLH	Immediately Dangerous to Life or Health
IEMP	Interim Environmental Monitoring Plan (during design)
IEUBK	Integrated Exposure Uptake Biokinetic Model - EPA model used to develop residential direct contact lead soil cleanup criteria
IFB	Invitation for bids
IG	Inspector General
IRIS	Integrated Risk Information System
IRL	Interagency review letter
IRM	Interim or Initial Remedial Measure
ISAL	Interim Soil Action Level(s)
ISRA	Industrial Site Recovery Act (1070)
ISV	In Situ Vitrification
Kd	Soil/Water Partition Coefficient
Koc	Organic Carbon Absorption Coefficient
Kow	Octanol/Water Partition Coefficient
KPEG	Potassium Hydroxide/Polyethylene glycol
kV	Kilovolts
LAER	Lowest Achievable Emission Rate
LC50	Median lethal concentration in a bioassay
LD50	Dose causing 50% mortality in bioassay
LDR	Land Disposal Restrictions
LEL	Lower Explosive Limit
LOAEL	Lowest Observable Adverse Effect Level
LOD	Limit of Detection
LOE	Level of Effort
LOL	Limit of Linearity
LOQ	Limit of Quantitation
LQG	Large Quantity Generator (NJDEPE-RCRA)
MACT	Maximum Achievable Control Technology
MA7CD10	Minimum average 7 consecutive day flow with a statistical recurrence interval of 10 years
MBE	Minority Business Enterprise
MCL	Maximum Contaminant Level (for drinking water)
MCLG	Maximum Contaminant Level Goals (for drinking water)
MDL	Method Detection Limit
MEK	Methyl Ethyl Ketone (2-Butanone)
MeV	Million electron volts
MGD	Million Gallons per Day
MOA	Memorandum or Agreement
MOU	Memorandum of Understanding
MPRSA	Marine Protection Research and Sanctuaries Act
MRATS	Major Remedial Action Tracking System (NJDEP)
MS	Mass Spectrometer
MS/MSD	Method Spike/Method Spike Duplicate (QA/QC term)
MSCA	Multi-Site Cooperative Agreement
MSHA	Mine Safety and Health Administration
MSDS	Material Safety Data Sheet
MSP	Medical Surveillance Plan
MTBE	Methyl Tertiary Butyl Ether
MUL	Maximum Use Limit (respiratory protection)

Acronyms/Abbreviations (continued)

NAAQS	National Ambient Air Quality Standards
NAPL	Non-Aqueous Phase Liquid
NBS	National Bureau of Standards
NCP	National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300)
NEIC	National Enforcement Information Center
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Poll.
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act of 1966
NIOSH	National Institute for Occupational Safety and Health
NJAC	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
NJR	New Jersey Register
NJSA	New Jersey Statutes Annotated
NJAPCA	New Jersey Air Pollution Control Act
NJPCA	New Jersey Pesticide Control Act
NJPDES	New Jersey Pollutant Discharge Elimination System
NJWPCA	New Jersey Water Pollution Control Act
NOAA	National Oceanographic and Atmospheric Administration
NOAEC	No-observable-adverse-effect-level
NOEC	No-observable-effect-concentration
NOAEL	No-observed-adverse-effect-level
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPS	National Park Service
NRC	Nuclear Regulatory Commission
NRHP	National Register of Historic Places
NTGS	National Technical Guidance Studies
NTIS	National Technical Information Service
NVLAP	National Voluntary Laboratory Approval Program
NWI	National Wetlands Inventory
OERR	Office of Emergency and Remedial Response
O&M	Operation and Maintenance
OMB	Office of Management and Budget
ORD	Office of Research and Development (EPA - Cinn., Ohio) To order EPA publications call (513) 569-7562
OSC	On-Scene Coordinator
OSHA	Occupational Safety and Health Administration, U.S. Department of Labor
OSWER	Office of Solid Waste and Emergency Response
OU	Operable Unit
OVA	Organic Vapor Analyzer
OWPE	Office of Waste Programs Enforcement
PA	Preliminary Assessment
PAC	Project Activity Code
PAH	Polycyclic (Polynuclear) Aromatic Hydrocarbon
PA/SI	Preliminary Assessment/Site Investigation
PCB	Polychlorinated Biphenyls. Syn. - Arochlors
PCE	Tetrachloroethylene, Syn. - Perchloroethylene, Perc
pCi	Picocurie (equiv. 10^{-12} Curie radiation)
PCDD	Polychlorinated Dibenzodioxins
PCDF	Polychlorinated Dibenzofurans

Acronyms/Abbreviations (continued)

PEG	Polyethylene Glycol (KPEG - hydrodechlorination)
PEL	Permissible Exposure Limit
PF	Protection Factor
PHA	Public Health Assessment
PHC	Petroleum Hydrocarbons (see TPH)
PID	Photoionization Detector
pKa	Acid Dissociation Constant
PO	Project Officer
POETS	Point of entry treatment system (for potable water)
POHC	Principal Organic Hazardous Constituent (emissions)
POP	Project Operations Plan
POTW	Publicly Owned Treatment Works
PP	Proposed Plan (Equiv. to PRAP)
PP	Priority Pollutant List, PP+40 - with 40 Tentatively Identified Compounds
ppb	Parts per billion (ug/Kg, ng/g)
PPE	Personal Protective Equipment
ppm	Parts per million (mg/Kg, ug/g) also Priority Pollutant Metals (PPM)
ppt	Parts per trillion (ng/Kg, pg/g) also Parts per thousand (salinity)
PRAP	Proposed Remedial Action Plan (Equiv. to PP)
PRM	Project Response Matrix
PRP	Potentially Responsible Party
PSI	Pounds per square inch
PTFE	Polytetrafluoroethylene (Teflon - trademark)
PUF	Polyurethane foam sampling media (air sampling media)
PVC	Polyvinyl Chloride
q ₁ [*]	Cancer Potency Factor, risk mg/kg body Wt. per day
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan (also QAPjP)
QAPMP	Quality Assurance Project Management Plan
RA	Regional Administrator (EPA)
RAA	Remedial Alternative Analysis from Section 5 of 7:26E (Equiv. to FS)
RAGS	Risk Assessment Guidance for Superfund
RAS	Routine Analytical Services
RAWP	Remedial Action Workplan, required as per 7:26E-6.2
RBE	Relative Biological Effectiveness
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RD/RA	Remedial Design/Remedial Action
REL	Recommended Exposure Limit
REM	Remedial Planning Contractor (for EPA)
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RfD	Reference Dose, toxicity value for noncarcinogens
RfD _{dt}	Developmental Reference Dose
RfD _s	Subchronic Reference Dose
RFP	Request for Proposals
RFQ	Request for Qualifications
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study

Acronyms/Abbreviations (continued)

RIWP	Remedial Investigation Work Plan
RMCL	Recommended Maximum Contaminant Level
RMP	Risk Management Plan
RME	Reasonable Maximum Exposure
ROD	Record of Decision
RPD	Relative Percent Difference $\%RPD=100 \times 2(X_1 - X_2)/(X_1 + X_2)$
RPM	Remedial Project Manager (EPA)
RQ	Reportable Quantity
RSCRC	Regional Superfund Community Relations Coordinator
RSD	Risk Specific Dose also Relative Standard Deviation (%)
RTK	Right To Know (Act)
SAP	Sampling and Analysis Plan
SAS	Special Analytical Services
SASS	Source Assessment Sampling System
SARA	Superfund Amendments and Reauthorization Act
SCBA	Self Contained Breathing Apparatus
SCS	Soil Conservation Service
SDWA	Safe Drinking Water Act
SEAM	Superfund Exposure Assessment Manual (EPA)
SES	Site Evaluation Submission (ECRA)
SF	Slope Factor
SI	Site Investigation or inspection
SIA	Standard Intake Assumption
SIC	Standard Industrial Classification
SITE	Superfund Innovative Technology Evaluation Program
SLCP	Secondary Landfill Conventional Parameters
SMP	Site Management Plan
SOP	Standard Operating Procedure
SOW	Scope of Work or Statement of Work
SPHEM	Superfund Public Health Evaluation Manual (HHEM - new)
SPOC	Single Point of Contact
SQC	Sediment Quality Criteria
SQG	Small Quantity Generator (NJDEPE-RCRA)
SQL	Sample Quantitation Limit
SSC	Superfund State Contract
STEL	Short Term Exposure Limit
SVE	Soil Vacuum (Vapor) Extraction
SVOC	Semivolatile Organic Compounds (same as BN/AE)
SW-846	EPA Test Methods for Evaluating Solid Wastes
SWDA	Solid Waste Disposal Act
SWMU	Solid Waste Management Unit (RCRA)
TAL	Target Analyte List (Inorganics)
TAT	Technical Assistance Team
TBA	Tertiary (Tert) Butyl Alcohol
TBC	To be Considered (refers to ARARs)
TC	Toxicity Characteristic
TCDD	Tetrachlorodibenzo-p-dioxin, usually 2,3,7,8-TCDD
TCDF	Tetrachlorodebenzofuran
TCA	1,1,1-Trichloroethane
TCE	Trichloroethylene, Syn. - Trichloroethene
TCL	Target Compound List (TCL+30)

Acronyms/Abbreviations (continued)

TCLP	Toxicity Characteristic Leaching Procedure
TCPA	Toxic Catastrophe Prevention Act (New Jersey)
TEF	Toxicity Equivalency Factor (risk compared to TCDD)
TEGD	Technical Enforcement Guidance Document (EPA, 1986)
TIC	Tentatively Identified Compounds from Mass Spec. Library Search. Syn. - Non-Target Compounds also Total Ion Chromatogram
TLV	Threshold Limit Value (respiratory protection)
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TSCA	Toxic Substances Control Act
TOX	Total Organic Halogen analysis
TPH	Total Petroleum Hydrocarbons (see PHC)
TRIS	Toxic Release Inventory System
TWA	Time Weighted Average
UCL	Upper Confidence Limit (usually 95%)
UCS	Unconfined Compressive Strength
UEL	Upper Explosive Limit
UGST	Underground Storage Tank (also UST)
USACE	U.S. Army Corps of Engineers (also COE)
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
USEPA	United States Environmental Protection Agency
USGS	U.S. Geological Survey
UV	Ultraviolet
VO	Volatile Organics (VOC, VOA, VO+10)
VOC	Volatile Organic Compounds
VOST	Volatile Organic Sampling Train (air sampling)
VSP	Vertical Seismic Profiling
VTSR	Verified Time of Sample Receipt
WA	Wilderness Act also Work Assignment
WBE	Women's Business Enterprise
WHO	World Health Organization
WP	Work Plan
WPCA	Water Pollution Control Act
WQC	Water Quality Criteria
WSRA	Wild and Scenic Rivers Act
XRF	X-Ray Fluorescence, Syn. (FPXRF) - Field Portable XRF