DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Environmental Cleanup and Brownfields

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TITLE: Land Recycling Program Technical Guidance Manual

EFFECTIVE DATE: March 27, 2021

AUTHORITY: The Land Recycling and Environmental Remediations Standards Act (Act 2 of 1995) (35 P.S. §§ 6026.101 et seq.) and the regulations issued pursuant to that legislation at 25 Pa. Code Chapter 250.

POLICY: It is the policy of the Department of Environmental Protection (DEP or Department) to implement Act 2 in accordance with the regulations contained in 25 Pa. Code Chapter 250 and as described in this guidance manual.

PURPOSE: DEP has developed this manual to assist remediators in satisfying the requirements of Act 2 and the regulations published in Chapter 250 of the Pa. Code. The manual provides suggestions and examples of how to best approach site characterization, remediation and demonstration of attainment. This document replaces the *"Land Recycling Program Technical Guidance Manual"* dated June 8, 2002, in its entirety.

APPLICABILITY: The guidance in this manual is applicable to any person or persons conducting a site remediation under Act 2 and who wish to receive the liability protection afforded by Chapter 5 of that Act (35 P.S. §§ 6026.501-6026.506).

DISCLAIMER: The policies and procedures outlined in this guidance are intended to supplement existing requirements. Nothing in the policies or procedures shall affect regulatory requirements.

The policies and procedures herein are not an adjudication or a regulation. DEP does not intend to give this guidance that weight or deference. This document establishes the framework, within which DEP will exercise its administrative discretion in the future. DEP reserves the discretion to deviate from this policy statement if circumstances warrant.

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ACRONYMS

AIHC	American Industrial Health Council
ANOVA	Analysis of Variance
AOC	Area of Concern
API	American Petroleum Institute
ASTM	American Society for Testing and Materials
ATSDR	Agency for Toxic Substances and Disease Registry
AUL	Activity and Use Limitation
BMP	Best Management Practices
BTAG	Biological Technical Assistance Group
BTGS	Pennsylvania Bureau of Topographic and Geologic Survey
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAP	Corrective Action Process
CERCLA	Comprehensive Environmental Response Compensation Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
CO&A	Consent Order & Agreement
CP	Cleanup Plan
CPEC	Constituents of Potential Ecological Concern
CPT	Cone Penetration Technologies
Csat	Carbon Saturation
CSM	Conceptual Site Model
CSSAB	Cleanup Standards Scientific Advisory Board
DCED	Department of Community and Economic Development
DCNR	Department of Conservation and Natural Resources
DEP or PADEP	Pennsylvania Department of Environmental Protection
DNAPL	Dense Non-Aqueous Phase Liquid
DPT	Direct Push Technologies
DQA	Data Quality Analysis
DQO	Data Quality Objectives
E&S	Erosion and Sedimentation
EC	Environmental Covenant
ECB	Environmental Cleanup and Brownfields
EMPR	Equal Marginal Percent Reduction
EPA or USEPA	U.S. Environmental Protection Agency
EQL	Estimated Quantitation Limit
EZ	Enterprise Zone
FR	Final Report
FAQ	Frequently Asked Question
GW	Groundwater
GWMP	Groundwater Management Plan
HEAST	Health Effects Assessment Summary Tables
HHEM	Human Health Evaluation Manual
HSA	Hollow Stem Auger
HSCA	Hazardous Sites Cleanup Act
HVAC	Heating, Ventilation, and Air Conditioning
IEUBK	Integrated Exposure Uptake Biokinetic Model
IQR	Interquartile Range

IRIS	EPA's Integrated Risk Information Systems
ISRP	Industrial Sites Reuse Program
ITRC	Interstate Technology & Regulatory Council
J&E	Johnson and Ettinger
KIZ	Keystone Innovation Zone
KOZ	Keystone Opportunity Zone
LCSM	LNAPL Conceptual Site Model
LIF	Laser-Induced Fluorescence
LNAPL	Light Non-Aqueous Phase Liquid
LNAPL Tn	LNAPL Transmissivity
LOQ	Limit of Quantitation
LRP	Land Recycling Program
LSWC	Lowest Surface Water Quality Criterion
MDL	Method Detection Limit
MEP	Maximum Extent Practicable
MGD	Million Gallons per Day
MLE	Most Likely Exposure
MOA	Memorandum of Agreement
MRF	Mutagenic Risk Adjustment Factor
MSC	Medium-Specific Concentration
MSDS	Material Safety Data Sheet
msl	Mean Sea Level
NAPL	Non-Aqueous Phase Liquid
NCEA	National Center for Environmental Assessment
ND	Nondetect
NFA	No Further Action
NGVD	National Geodetic Vertical Datum
NIOSH	National Institute for Occupational Safety and Health
NIR	Notice of Intent to Remediate
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NR	Non-residential
NRCS	Natural Resources Conservation Service
NSZD	Natural Source Zone Depletion
NWI	National Wetlands Inventory
O&M	Operation and Maintenance
OPP	EPA Office of Pesticide Programs
OSHA	Occupational Safety and Health Administration
OSWER	EPA Office of Solid Waste and Emergency Response
PaGIS	Pennsylvania Geographic Information Systems Mapping Tools
PAH	Polyaromatic Hydrocarbons
PAPL	Pennsylvania Priority List
PCSM	Post-Construction Stormwater Management
PDB	Polyethylene (or passive) Diffusion Bags
PID	Photoionization Detector
PNDI	Pennsylvania Natural Diversity Inventory
POA	Point of Application
POC	Point of Compliance

PPE	Personal Protective Equipment
PPRTV	Provisional Peer-Reviewed Toxicity Values
PQL	Practical Quantitation Limit
PRCP	Postremediation Care Plan
QA	Quality Assurance
QC	Quality Control
QD	Quick Domenico
RA	Risk Assessment
RAR	Risk Assessment Report
RACR	Remedial Action Completion Report
RAGS	Risk Assessment Guidance for Superfund
RAP	Remedial Action Plan
RCRA	Resource Conservation and Recovery Act
RFD	Request for Determination
RIR	Remedial Investigation Report
RL	Reporting Limit
RME	Reasonable Maximum Exposure
RSL	EPA Regional Screening Level
RT	Regulatory Threshold
SCS	Soil Classification System
SDS	Safety Data Sheet
SHS	Statewide Health Standard
SIA	Special Industrial Area
SMCL	Secondary Maximum Contaminant Level
SMP	Soil Management Plan
SOP	Standard Operating Procedure
SPL	Separate Phase Liquid
SPLP	Synthetic Precipitation Leaching Procedure
SQuiRT	Screening Quick Reference Table
SSD	Sub-slab Depressurization
SSL	Soil Screening Level
SSS	Site-specific Standard
SV	Soil Vapor
SVGW	Groundwater Screening Values
SVIA	Indoor Air Screening Values
SVNS	Near-source Soil Gas Screening Values
SVSOIL	Soil Screening Values
SVSS	Sub-slab Soil Gas Screening Values
SVOC	Semi-volatile Organic Compound
SWL5	SWLOAD5 Spreadsheet
SWMA	Solid Waste Management Act
TC	Total Concentration
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TGM	Technical Guidance Manual
TPH	Total Petroleum Hydrocarbons
TSCA	Toxic Substances Control Act
UCL	Upper Confidence Limit
UECA	Uniform Environmental Covenants Act

USGS	United States Geological Survey
UST	Underground Storage Tank
VI	Vapor Intrusion
VOC	Volatile Organic Compound
WRS	Mann-Wilcoxon Rank Sum