

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Waste Management

DOCUMENT NUMBER: 258-2182-773

EFFECTIVE DATE: Upon publication of notice as final in the *Pennsylvania Bulletin*

TITLE: Management of Fill

AUTHORITY: This document is established in accordance with the Act of July 7, 1980, as amended, 35 P.S. §§ 6018.101 *et seq.*, known as the Solid Waste Management Act (SWMA); the Act of June 22, 1937, as amended, 35 P.S. §§ 691.1 *et seq.*, known as the Clean Streams Law; the Act of April 9, 1929, Section 1917-A of the Administrative Code, 71 P.S. § 510-17; the Act of July 18, 1995, 35 P.S. §§ 6026.101 *et seq.*, known as the Land Recycling and Environmental Remediation Standards Act.

POLICY: This policy is designed to replace the Department of Environmental Protection's (DEP or Department) existing Clean Fill Policy dated August 7, 2010.

PURPOSE: This policy provides DEP's procedures for determining whether material is clean fill or regulated fill. Regulated fill may not be used unless a SWMA permit is secured by the individual or entity using the regulated fill.

APPLICABILITY: This policy shall be used to evaluate whether material qualifies as clean fill or regulated fill. This policy does not apply to mine land reclamation activities subject to a permit. Excavation, movement or reuse of fill material within a project area or right-of-way of a project is not an activity that requires a SWMA permit.

DISCLAIMER: The policies and procedures outlined in this guidance document 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. There is no intent on the part of the DEP to give the rules in these policies 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.

PAGE LENGTH: 17 pages

DEFINITIONS:

Act 2 - The Land Recycling and Environmental Remediation Standards Act, Act of May 18, 1995 (P.L. 4, No. 1995-2), 35 P.S. §§ 6026.101 et seq.

Clean fill - Uncontaminated, nonwater-soluble, nondecomposable inert solid material. The term includes soil, rock, stone, dredged material, used asphalt, and brick, block or concrete from construction and demolition activities that is separate from other waste and recognizable as such. (25 Pa. Code §§ 271.101 and 287.101) The term does not include materials placed in or on the waters of the Commonwealth unless otherwise authorized.

Environmental due diligence - Investigative techniques, including, but not limited to, visual property inspections, electronic data base searches, review of ownership and use history of property, Sanborn maps, environmental questionnaires, transaction screens, analytical testing, environmental assessments or audits.

Historic fill - Material (excluding landfills, waste piles and impoundments) used to bring an area to grade prior to 1988 that is a conglomeration of soil and residuals, such as ashes from the residential burning of wood and coal, incinerator ash, coal ash, slag, dredged material and construction and demolition waste. The term does not include iron or steel slag that is separate from residuals if it meets the coproduct definition and the requirements of 25 Pa. Code § 287.8. The term does not include coal ash that is separate from residuals if it is beneficially used in accordance with 25 Pa. Code § 287.661 - 287.666.

Regulated fill - Soil, rock, stone, dredged material, used asphalt, historic fill, and brick, block or concrete from construction and demolition activities that is separate from other waste and recognizable as such that has been affected by a spill or release of a regulated substance and the concentrations of regulated substances exceed the values in Appendix B, Tables FP-1a (Organic Constituents) and FP-1b (Metals and Inorganic Constituents).

Regulated substance - The term shall include hazardous substances and contaminants regulated under the Hazardous Sites Cleanup Act, and substances covered by the Clean Streams Law, the Air Pollution Control Act, the Solid Waste Management Act, the Infectious and Chemotherapeutic Waste Law, and the Storage Tank and Spill Prevention Act.

Release - Spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping or disposing of a regulated substance into the environment in a manner not authorized by the Department of Environmental Protection. The term includes the abandonment or discarding of barrels, containers, vessels and other receptacles containing a regulated substance.

Uncontaminated material - Material unaffected by a spill or release of a regulated substance, or if affected by a spill or release, the concentrations of regulated substances are below the numerical values specified in Appendix B, Tables FP-1a and FP-1b.

REFERENCES:

25 Pa. Code Chapters 287 to 299 (residual waste regulations)

25 Pa. Code Chapters 271 to 285 (municipal waste regulations)

Solid Waste Management Act, 35 P.S. §§ 6018.101 et seq.

Land Recycling and Environmental Remediation Standards Act, 35 P.S. §§ 6026.101 et seq.

TECHNICAL GUIDANCE:

FILL DETERMINATION

- 1) To determine whether fill is clean or regulated, a person must perform environmental due diligence.¹
 - a) If due diligence shows no evidence of a release of a regulated substance, the material may be managed as clean fill under this policy.
 - b) If due diligence shows evidence of a release, the material must be tested to determine if it qualifies as clean fill. Testing must be performed in accordance with Appendix A.
 - i) If testing reveals that the material contains concentrations of regulated substances that are below the appropriate numerical limits for residential use in Appendix B, Tables FP-1a and FP-1b, the material must be managed as clean fill.
 - ii) If testing reveals that the material contains concentrations of regulated substances that exceed the numerical limits for residential use in Appendix B, Tables FP-1a and FP-1b, the material must be managed as regulated fill.
- 2) A person may not blend or mix materials to become clean fill. Materials that contain regulated substances that are intentionally released may not be managed under this policy.

MANAGEMENT OF REGULATED FILL

- 1) Materials identified as regulated fill are waste and must be managed in accordance with the Department's municipal or residual waste regulations, whichever is applicable, based on 25 Pa. Code §§ 287.2 or 271.2. Regulated fill may be beneficially used under General Permit WMGR096 (regulated fill as defined in Guidance Document 258-2182-773 (Management of Fill)) if the materials and the proposed activities for the fill meet the conditions of that permit. A person may apply for an industry-wide beneficial use general permit for the beneficial use of regulated fill in lieu of this general permit.
- 2) Regulated fill may not be placed on a greenfield property not planned for development, or on a property currently in residential use or planned for residential use unless otherwise authorized.
- 3) Fill containing concentrations of regulated substances that exceed the values in Tables GP-1a and GP-1b of General Permit WMGR096 may not be managed under the provisions of this policy or General Permit WMGR096, but must be otherwise managed in accordance with the provisions of the Department's municipal or residual waste regulations.
- 4) A general permit is not required for remediation activities undertaken entirely on an Act 2 site pursuant to the requirements of Section 902 of the Land Recycling and Environmental Remediation Standards Act. A general permit is also not required if regulated fill from an Act 2 site is used as construction material at a receiving site that is being remediated to attain an Act 2

¹ Analytical assessment, testing or sampling is only required if visual inspection or reviews of historic property use indicates evidence of a release of a regulated substance.

standard as long as the procedural and substantive requirements of Act 2 are met. Regulated substances contained in the regulated fill must be incorporated into the notice of intent to remediate and the final report. Movement of regulated fill between Act 2 sites must be documented in both the sending and receiving sites' cleanup plans and final reports. Placement of the regulated fill may not cause the receiving site undergoing remediation to exceed the selected Act 2 standard.

MANAGEMENT OF CLEAN FILL

- 1) Use of material as clean fill does not require a permit under the Solid Waste Management Act and regulations, and it may be used in an unrestricted or unregulated manner under this Act and its regulations. The use of materials as clean fill is still regulated under other environmental laws and regulations. A person using materials as clean fill under this policy is still subject to and must comply with all applicable requirements governing the placement or use of material as clean fill, such as Chapter 102 (Erosion and Sediment Control) and Chapter 105 (Dam Safety and Waterway Management).
- 2) Any person placing clean fill which has been affected by a release of a regulated substance on a property must certify the origin of the fill material and results of analytical testing to qualify the material as clean fill on Form FP-001 (Certification of Clean Fill). Form FP-001 must be retained by the owner of the property receiving the clean fill.
- 3) Best management practices (BMP) must be followed prior to demolition activities to remove materials like lead-based paint surface, friable asbestos and hazardous materials such as mercury switches, PCB ballasts and fluorescent light bulbs from a building if the brick, block, or concrete is used as clean fill.
- 4) Clean fill may not contain any free liquids based on visual inspection, and shall not create public nuisances (for example objectionable odors) to users of the receiving property or adjacent properties.

Appendix A

Sampling and Analyses for Regulated Material to be Used as Fill

Sampling of regulated material proposed to be used as fill shall be done either by composite samples or by discrete samples. Sampling in either case shall be random and representative of the entire fill material being sampled. Sampling shall be in accordance with the most current version of the EPA RCRA Manual, SW-846 (*Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. Office of Solid Waste and Emergency Response*).

- (a) Sampling based on composite sampling procedures shall include the following:
 - (i) For volumes of material equal to or less than 125 cubic yards, a total of ten samples shall be collected and analyzed as follows:
 - (A) For analysis of all substances other than volatile organic compounds (VOCs), the samples shall be analyzed in two composites of four samples each, in accordance with the most current version of the USEPA Manual, SW-846.
 - (B) Two samples shall be selected from the eight samples for analysis of VOCs. The samples shall be based on field screening of the eight samples to select those samples that are most likely to contain the highest concentrations of VOCs.
 - (C) Two grab samples shall be taken from the same areas in the material from which the two samples used for field screening of VOCs were taken, in accordance with Method 5035 from the most current version of the USEPA Manual, SW-846.
 - (ii) For volumes of material greater than 125 cubic yards and less than or equal to 3,000 cubic yards, a total of 15 samples shall be collected and analyzed as follows:
 - (A) For analysis of all substances other than VOCs, the samples shall be analyzed in three composites of four samples each.
 - (B) Three samples shall be selected from the 12 samples for analysis of VOCs. The samples shall be based on field screening of the 12 samples to select those samples that are most likely to contain the highest concentrations of VOCs.
 - (C) Three grab samples shall be taken from the same areas in the material from which the three samples used for field screening of VOCs were taken, in accordance with EPA Method 5035, referenced in subparagraph (i)(C).
 - (iii) For each additional 3,000 cubic yards of material or part thereof over the initial 3,000 cubic yards, 15 additional samples shall be collected and analyzed as follows:
 - (A) For analysis of all substances other than VOCs, the samples shall be analyzed in three composites of four samples each.
 - (B) Three samples for analysis of VOCs shall be selected from the 12 samples for analysis of VOCs. The samples shall be based on field screening of the

12 samples to select those samples that are most likely to contain the highest concentrations of VOCs.

- (C) Three grab samples shall be taken from the same areas in material from which the three samples used for field screening of VOCs were taken, in accordance with EPA Method 5035, referenced in subparagraph (i)(C).
- (b) Sampling based on discrete sampling procedures shall include the following:
- (i) For volumes of material equal to or less than 125 cubic yards, a minimum of ten samples shall be collected and analyzed. For volumes of material greater than 125 cubic yards and less than or equal to 3,000 cubic yards, a minimum of 15 samples shall be collected and analyzed. For each additional 3,000 cubic yards of material or part thereof over the initial 3,000 cubic yards, a minimum of 15 additional samples shall be collected and analyzed.
 - (ii) For VOCs analysis, grab sampling procedures shall be the procedures described in subsection (a) for the equivalent volumes of material sampled.
- (c) Evaluation of results:
- (i) For a composite sample taken in accordance with subsection (a), the measured numeric value for a parameter shall be less than or equal to the numerical limit listed in Appendix B, Table FP-1a or FP-1b for that parameter in order for the material to qualify as clean fill, or in Table GP-1a or GP-1b of General Permit WMGR096 for that parameter in order for the fill material to qualify as regulated fill.
 - (ii) For a grab sample, taken in accordance with subsections (a) and (b), the measured numeric value for a parameter shall be less than or equal to the numerical limit listed in Appendix B, Table FP-1a or FP-1b for that parameter in order for the material to qualify as clean fill, or in Table GP-1a or GP-1b of General Permit WMGR096 for that parameter for the fill material to qualify as regulated fill.
 - (iii) For discrete samples required in subsection (b), the measured numeric values for a substance in 75% of the discrete samples shall be equal to or less than the numerical limit listed in Appendix B, Table FP-1a or FP-1b, or in Table GP-1a or GP-1b of General Permit WMGR096 for that parameter with no single sample exceeding more than twice the concentration limit for a parameter.
- (d) In lieu of subsection (c), a person may use 95% Upper Confidence Limit (UCL) of the arithmetic mean to determine whether a fill material meets the appropriate concentration limits for use as clean or regulated fill. The calculated 95% UCL of the arithmetic mean must be below the appropriate concentration limit for clean or regulated fill. Sampling shall be random and representative of the material being sampled. The minimum number of samples shall be determined in accordance with EPA-approved methods on statistical analysis of environmental data, as identified in 25 Pa. Code, § 250.707(e) (relating to statistical tests). The application of the 95% UCL of the arithmetic mean shall comply with the following performance standards:

- (i) The null hypotheses (H_0) shall be that the true fill arithmetic average concentration is at or above the regulated fill appropriate concentration limit, and the alternative hypothesis (H_a) shall be that the true fill arithmetic average concentration is below the regulated fill appropriate concentration limit.
- (ii) The underlying assumptions of the statistical method shall be met, such as data distribution.
- (iii) Compositing cannot be used for volatile organic compounds.
- (iv) The censoring level for each nondetect shall be the assigned value randomly generated that is between zero and the limit related to the practical quantitation limit (PQL).
- (v) Tests shall account for spatial variability, unless otherwise approved by the Department.
- (vi) Statistical testing shall be done individually for each parameter present in the fill.
- (vii) Where a fill has distinct physical, chemical or biological characteristics, or originates from different areas, the statistical testing shall be done separately.
- (viii) The following information shall be documented:
 - (A) A description of the original areas of the fill and physical, chemical and biological characteristics of the fill.
 - (B) A description of the underlying assumptions of the statistical method.
 - (C) Documentation showing that the sample data set meets the underlying assumptions of the statistical method.
 - (D) Documentation of input and output data for the statistical test, presented in tables or figures, or both, as appropriate.
 - (E) An interpretation and conclusion of the statistical test.

Appendix B

Table FP-1a
Chemical Concentration Limits For Organics

PARAMETER	Chemical Abstract Services Registry Number	Current Clean Fill Total Analysis (mg/kg)	*Proposed Clean Fill Total Analysis (mg/kg)
ACENAPHTHENE	83-32-9	2700	2700
ACENAPHTHYLENE	208-96-8	2500	2500
ACEPHATE	30560-19-1	0.9	0.9
ACETALDEHYDE	75-07-0	0.23	0.23
ACETONE	67-64-1	41	370
ACETONITRILE	75-05-8	1.9	1.5
ACETOPHENONE	98-86-2	200	200
ACETYLAMINOFLUORENE, 2- (2AAF)	53-96-3	0.069	0.07
ACROLEIN	107-02-8	0.00062	0.00047
ACRYLAMIDE	79-06-1	0.00057	0.00066
ACRYLIC ACID	79-10-7	0.051	0.039
ACRYLONITRILE	107-13-1	0.0087	0.01
ALACHLOR	15972-60-8	0.077	0.077
ALDICARB	116-06-3	0.12	0.05
ALDRIN	309-00-2	0.10	0.47
ALLYL ALCOHOL	107-18-6	0.58	0.0075
AMINOBIHENYL, 4	92-67-1	0.0012	0.0012
AMITROLE	61-82-5	0.029	0.029
AMMONIA	7664-41-7	360	360
AMMONIUM SULPHAMATE	7773-06-0	24	24
ANILINE	62-53-3	0.16	0.12
ANTHRACENE	120-12-7	350	350
ATRAZINE	1912-24-9	0.13	0.13
BAYGON (PROPOXUR)	114-26-1	0.057	0.057
BENOMYL	17804-35-2	880.00	880
BENTAZON	25057-89-0	16	2.9
BENZENE	71-43-2	0.13	0.13
BENZIDINE	92-87-5	0.078	0.018
BENZO[A]ANTHRACENE	56-55-3	25	5.7
BENZO[A]PYRENE	50-32-8	2.5	0.57
BENZO[B]FLUORANTHENE	205-99-2	25	5.7
BENZO[GHI]PERYLENE	191-24-2	180	180
BENZO[K]FLUORANTHENE	207-08-9	250	57
BENZOIC ACID	65-85-0	2900	2900
BENZOTRICHLORIDE	98-07-7	0.012	0.012

* Based on the current Chapter 250 standards.

Appendix B

Table FP-1a
Chemical Concentration Limits For Organics

PARAMETER	Chemical Abstract Services Registry Number	Current Clean Fill Total Analysis (mg/kg)	*Proposed Clean Fill Total Analysis (mg/kg)
BENZYL ALCOHOL	100-51-6	400	650
BENZYL CHLORIDE	100-44-7	0.051	0.059
BHC, ALPHA	319-84-6	0.046	0.046
BHC, BETA	319-85-7	0.22	0.22
BHC, DELTA	319-86-8	11	**
BHC, GAMMA (LINDANE)	58-89-9	0.072	0.072
BIPHENYL, 1,1	92-52-4	790	790
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.0039	0.0045
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	8.0	8
BIS(CHLOROMETHYL)ETHER	542-88-1	0.00001	0.000012
BIS[2-ETHYLHEXYL] PHTHALATE	117-81-7	130	130
BISPHENOL A	80-05-7	700	700
BROMACIL (BROMAX)	314-40-9	2	1.8
BROMOCHLOROMETHANE	74-97-5	1.6	1.6
BROMODICHLOROMETHANE	75-27-4	3.40	2.7
BROMOMETHANE	74-83-9	0.54	0.54
BROMOXYNIL	1689-84-5	63	63
BROMOXYNIL OCTANOATE	1689-99-2	360	360
BUTADIENE, 1,3	106-99-0	0.0062	0.0078
BUTYL ALCOHOL, N	71-36-3	12.00	44
BUTYLATE	2008-41-5	51.0	58
BUTYLBENZENE, N	104-51-8	950	950
BUTYLEBENZENE, SEC	135-98-8	350	350
BUTYLEBENZENE, TERT	98-06-6	270	270
BUTYLBENZYL PHTHALATE	85-68-7	10000	3000
CAPTAN	133-06-2	12	18
CARBARYL	63-25-2	41	220
CARBAZOLE	86-74-8	21	21
CARBOFURAN	1563-66-2	0.87	0.87
CARBON DISULFIDE	75-15-0	160	130
CARBON TETRACHLORIDE	56-23-5	0.26	0.26
CARBOXIN	5234-68-4	53	53
CHLORAMBEN	133-90-4	1.6	1.6
CHLORDANE	57-74-9	49	49
CHLORO-1, 1-DIFLUOROETHANE, 1	75-68-3	2300	1800

* Based on the current Chapter 250 standards.

**No chemical concentration limit exists in Chapter 250.

Appendix B

**Table FP-1a
Chemical Concentration Limits For Organics**

PARAMETER	Chemical Abstract Services Registry Number	Current Clean Fill Total Analysis (mg/kg)	*Proposed Clean Fill Total Analysis (mg/kg)
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	0.065	0.049
CHLOROACETOPHENONE, 2	532-27-4	0.0093	0.033
CHLOROANILINE, P	106-47-8	19.00	0.42
CHLOROBENZENE	108-90-7	6.1	6.1
CHLOROBENZILATE	510-15-6	1.60	4
CHLOROBUTANE, 1	109-69-3	2300	230
CHLORODIBROMOMETHANE	124-48-1	3.20	2.5
CHLORODIFLUOROMETHANE	75-45-6	2.6	2800
CHLOROETHANE	75-00-3	5.00	5
CHLOROFORM	67-66-3	2.50	2
CHLORONAPHTHALENE, 2	91-58-7	6200	6200
CHLORO[D]NITROBENZENE, [2-]P	100-00-5	4.9	4.9
CHLOROPHENOL, 2	95-57-8	4.40	4.4
CHLOROPRENE	126-99-8	0.45	0.35
CHLOROPROPANE, 2	75-29-6	21	16
CHLOROTHALONIL	1897-45-6	15	54
CHLOROTOLUENE, O	95-49-8	20	20
CHLORPYRIFOS	2921-88-2	23	2.3
CHLORSULFURON	64902-72-3	25	25
CHLORTHAL-DIMETHYL (DACTHAL) (DCPA)	1861-32-1	650	110
CHRYSENE	218-01-9	230	230
CRESOL(S)	1319-77-3	3.1	3.1
CRESOL, O-(METHYLPHENOL, 2-)	95-48-7	64	30
CRESOL, M-(METHYLPHENOL, 3-)	108-39-4	36	36
CRESOL, P-(METHYLPHENOL, 4-)	106-44-5	4.2	4.2
CRESOL, P-CHLORO-M	59-50-7	37	37
CROTONALDEHYDE	4170-30-3	0.00099	0.0044
CROTONALDEHYDE, TRANS	123-73-9	0.00099	0.0044
CUMENE (ISOPROPYL BENZENE)*	98-82-8	780	600
CYCLOHEXANONE	108-94-1	1400	5000
CYFLUTHRIN	68359-37-5	33	33
CYROMAZINE	66215-27-8	84	84
DDD, 4,4'	72-54-8	6.8	31
DDE, 4,4'	72-55-9	41	41
DDT, 4,4'	50-29-3	53	53
DI(2-ETHYLHEXYL)ADIPATE	103-23-1	10000	10000
DIALATE	2303-16-4	0.15	0.64

* Based on the current Chapter 250 standards.

Appendix B

**Table FP-1a
Chemical Concentration Limits For Organics**

PARAMETER	Chemical Abstract Services Registry Number	Current Clean Fill Total Analysis (mg/kg)	*Proposed Clean Fill Total Analysis (mg/kg)
DIAMINOTOLUENE, 2,4	95-80-7	0.0042	0.0034
DIAZINON	333-41-5	0.082	<i>0.14</i>
DIBENZO[A,H]ANTHRACENE	53-70-3	2.50	0.57
DIBROMO-3-CHLOROPROPANE, 1,2	96-12-8	0.0092	0.0092
DIBROMOBENZENE, 1,4	106-37-6	150	150
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	0.0012	0.0012
DIBROMOMETHANE	74-95-3	3.7	<i>14</i>
DI-N-BUTYLPHTHALATE, N	84-74-2	1500	1500
DICHOLOR-2-B[Y]UTENE, 1,4	764-41-0	0.0009	0.00067
DICHLOROBENZENE, 1,2	95-50-1	59	59
DICHLOROBENZENE, 1,3	541-73-1	61	61
DICHLOROBENZENE, P	106-46-7	10	10
DICHLOROBENZIDINE, 3,3'	91-94-1	8.3	8.3
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	100	100
DICHLOROETHANE, 1,1	75-34-3	0.65	<i>0.75</i>
DICHLOROETHANE, 1,2	107-06-2	0.10	0.1
DICHLOROETHYLENE, 1,1	75-35-4	0.19	0.19
DICHLOROETHYLENE, CIS-1,2-*	156-59-2	1.6	1.6
DICHLOROETHYLENE, TRANS-1,2	156-60-5	2.3	2.3
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	0.076	0.076
DICHLOROPHENOL, 2,4	120-83-2	1	1
DICHLOROPHOXYACETIC ACID, 2,4- (2,4-D)	94-75-7	1.8	1.8
DICHLOROPROPANE, 1,2	78-87-5	0.11	0.11
DICHLOROPROPENE, 1,3	542-75-6	0.12	0.12
DICHLOROPROPIONIC ACID (DALAPON), 2,2	75-99-0	5.30	5.3
DICHLORVOS	62-73-7	0.012	<i>0.054</i>
DICYCLOPENTADIENE	77-73-6	0.12	3.2
DIELDRIN	60-57-1	0.11	0.11
DIETHYL PHTHALATE	84-66-2	160	<i>910</i>
DIFLUBENZIRON	35367-38-5	52	52
DIMETHOATE	60-51-5	0.28	0.28
DIMETHOXYBENZIDINE, 3,3	119-90-4	16	16
DIMETHYLAMINOAZOBENZENE, P	60-11-7	0.037	0.037
DIMETHYLANILINE, N,N	121-69-7	4.1	4.1
DIMETHYLBENZIDINE, 3,3	119-93-7	0.4	0.33
DIMETHYLPHENOL, 2,4	105-67-9	32	32

* Based on the current Chapter 250 standards.

Appendix B

**Table FP-1a
Chemical Concentration Limits For Organics**

PARAMETER	Chemical Abstract Services Registry Number	Current Clean Fill Total Analysis (mg/kg)	*Proposed Clean Fill Total Analysis (mg/kg)
DINITROBENZENE, 1,3	99-65-0	0.049	0.049
DINITROPHENOL, 2,4	51-28-5	0.21	0.83
DINITROTOLUENE, 2,4	121-14-2	0.050	0.05
DINITROTOLUENE, 2, 6,- (2,6-DNT)	606-20-2	1.10	1.1
DINOSEB	88-85-7	0.290	0.29
DIOXANE, 1,4	123-91-1	0.073	0.084
DIPHENAMID	957-51-7	12	12
DIPHENYLAMINE	122-39-4	12	53
DIPHENYLHYDRAZINE, 1,2	122-66-7	0.15	0.15
DIQUAT	85-00-7	0.24	0.24
DISULFOTON	298-04-4	0.078	0.18
DIURON	330-54-1	0.86	6.3
ENDOSULFAN	115-29-7	30.00	110
ENDOSULFAN I (ALPHA)	959-98-8	110	110
ENDOSULFAN II (BETA)	33213-65-9	130	130
ENDOSULFAN SULFATE	1031-07-8	70	70
ENDOTHALL	145-73-3	4.1	4.1
ENDRIN	72-20-8	5.5	5.5
EPICHLOROHYDRIN	106-89-8	0.056	0.042
ETHEPHON	16672-87-0	2.1	2.1
ETHION	563-12-2	39	39
ETHOXYETHANOL, 2-(EGEE)	110-80-5	7.80	5.9
ETHYL ACETATE	141-78-6	220	850
ETHYL ACRYLATE	140-88-5	0.12	0.54
ETHYL BENZENE	100-41-4	46	46
ETHYL DIPROPYL THIOCARBAMATE, S-(EPTC)	759-94-4	65	65
ETHYL ETHER	60-29-7	53	210
ETHYLMETHACRYLATE	97-63-2	14	55
ETHYLENE GLYCOL	107-21-1	170	170
ETHYLENE THIOUREA (ETU)	96-45-7	0.034	0.032
ETHYL P-NITROPHENYL PHENYLPHOSPHOROTHIOATE	2104-64-5	0.12	0.12
FENAMIPHOS	22224-92-6	0.17	0.06
FENVALERATE (PYDRIN)	51630-58-1	94	94
FLUOMETURON (FLUORNETRON IN EPA FEB 96)	2164-17-2	2.5	2.5
FLUORANTHENE	206-44-0	3200	3200
FOSETYL-AL	039148-24-8	9700	9700

* Based on the current Chapter 250 standards.

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**Table FP-1a
Chemical Concentration Limits For Organics**

PARAMETER	Chemical Abstract Services Registry Number	Current Clean Fill Total Analysis (mg/kg)	*Proposed Clean Fill Total Analysis (mg/kg)
FLUORENE	86-73-7	3000	3000
FLUOROTROCHLOROMETHANE (FREON 11)	75-69-4	87	87
FONOFOS	944-22-9	2.9	2.9
FORMALDEHYDE	50-00-0	12	12
FORMIC ACID	64-18-6	210	0.071
FURAN	110-00-9	0.42	<i>1.6</i>
FURFURAL	98-01-1	1.4	1.4
GLYPHOSATE	1071-83-6	620	620
HEPTACHLOR	76-44-8	0.68	0.68
HEPTACHLOR EPOXIDE	1024-57-3	1.1	1.1
HEXACHLOROBENZENE	118-74-1	0.96	0.96
HEXACHLOROBUTADIENE	87-68-3	1.20	<i>10</i>
HEXACHLOROCYCLOPENTADIENE	77-47-4	91	91
HEXACHLOROETHANE	67-72-1	0.560	0.56
HEXANE	110-54-3	500	<i>1400</i>
HEXYTHIAZOX (SAVEY)	78587-05-0	820	820
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.000098	<i>0.00011</i>
HYDROQUINONE	123-31-9	20	0.16
INDENO[1,2,3-CD]PYRENE	193-39-5	25	5.7
IPRODIONE	36734-19-7	430	430
ISOBUTYL ALCOHOL	78-83-1	76	290
ISOPHORONE	78-59-1	1.90	1.9
KEPONE	143-50-0	0.56	0.56
MALATHION	121-75-5	34	<i>170</i>
MALEIC HYDRAZIDE	123-33-1	47	47
MANEB	12427-38-2	2	2
MERPHOS OXIDE	78-48-8	6.6	6.6
METHACRYLONITRILE	126-98-7	0.031	0.025
METHAMIDOPHOS	10265-92-6	0.022	0.022
METHANOL	67-56-1	58.00	99
METHOMYL	16752-77-5	3.20	3.2
METHOXYCHLOR	72-43-5	630	630
METHOXYETHANOL, 2	109-86-4	0.41	0.47
METHYL ACETATE	79-20-9	690	690
METHYL ACRYLATE	96-33-3	27	27
METHYL CHLORIDE	74-87-3	0.038	0.38

* Based on the current Chapter 250 standards.

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**Table FP-1a
Chemical Concentration Limits For Organics**

PARAMETER	Chemical Abstract Services Registry Number	Current Clean Fill Total Analysis (mg/kg)	*Proposed Clean Fill Total Analysis (mg/kg)
METHYL ETHYL KETONE (2-BUTANONE)	78-93-3	54	76
METHYL ISOBUTYL KETONE	108-10-1	2.90	45
METHYL METHACRYLATE	80-62-6	26.0	20
METHYL METHANESULFONATE	66-27-3	0.083	0.083
METHYL PARATHION	298-00-0	0.42	0.21
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	120	47
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	0.28	0.28
METHYLENE BIS(2-CHLOROANILINE), 4,4'	101-14-4	3.9	1.7
METHYLNAPHTHALENE, 2	91-57-6	2900	600
METHYLSTYRENE, ALPHA	98-83-9	120	460
NAPHTHALENE*	91-20-3	25	25
NAPHTHYLAMINE, 1	134-32-7	0.30	0.3
NAPHTHYLAMINE, 2	91-59-8	0.01	0.012
NAPROPAMIDE	15299-99-7	860	860
NITROANILINE, M	99-09-2	0.033	0.17
NITROANILINE, O	88-74-4	0.038	2
NITROANILINE, P	100-01-6	0.031	0.49
NITROBENZENE	98-95-3	0.79	3.2
NITROPHENOL, 2	88-75-5	5.90	5.9
NITROPHENOL, 4	100-02-7	4.1	4.1
NITROPROPANE, 2	79-46-9	0.000260	0.00029
NITROSODIETHYLAMINE, N	55-18-5	0.000018	0.000079
NITROSODIMETHYLAMINE, N	62-75-9	0.000041	0.000019
NITROSO-DI-N-BUTYLAMINE, N	924-16-3	0.0033	0.015
NITROSODI-N-PROPYLAMINE, N	621-64-7	0.0013	0.0013
NITROSODIPHENYLAMINE, N	86-30-6	20.00	20
NITROSO-N-ETHYLUREA, N	759-73-9	0.000054	0.000092
OCTYL PHTHALATE, DI-N	117-84-0	4400	8800
OXAMYL (VYDATE)	23135-22-0	2.60	2.6
PARATHION	56-38-2	130	130
PCB-1016 (AROCLOR)	12674-11-2	15	15
PCB-1221 (AROCLOR)	11104-28-2	0.63	0.16
PCB-1232 (AROCLOR)	11141-16-5	0.50	0.13
PCB-1242 (AROCLOR)	53469-21-9	16	4
PCB-1248 (AROCLOR)	12672-29-6	9.90	9
PCB-1254 (AROCLOR)	11097-69-1	4.40	4.4

* Based on the current Chapter 250 standards.

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**Table FP-1a
Chemical Concentration Limits For Organics**

PARAMETER	Chemical Abstract Services Registry Number	Current Clean Fill Total Analysis (mg/kg)	*Proposed Clean Fill Total Analysis (mg/kg)
PCB-1260 (AROCLOR)	11096-82-5	30	9
PEBULATE	1114-71-2	300	300
PENTACHLOROBENZENE	608-93-5	180	180
PENTACHLORONITROBENZENE	82-68-8	5.00	5
PENTACHLOROPHENOL	87-86-5	5.00	5
PHENACETIN	62-44-2	12.00	12
PHENANTHRENE	85-01-8	10000	10000
PHENOL	108-95-2	66.00	33
PHENYLENEDIAMINE, M	108-45-2	3.10	3.1
PHENYLPHENOL, 2	90-43-7	490	500
PHORATE	298-02-2	0.41	1.6
PHTHALIC ANHYDRIDE	85-44-9	2300	2300
PICLORAM	1918-02-1	7.4	7.4
PRONAMIDE	23950-58-5	3.1	170
PROPANIL	709-98-8	9.2	9.2
PROPHAM	122-42-9	17	2.4
PROPYLBENZENE, N	103-65-1	290	290
PROPYLENE OXIDE	75-56-9	0.049	0.049
PYRENE	129-00-0	2200	2200
PYRIDINE	110-86-1	0.11	0.41
QUINOLINE	91-22-5	0.018	0.074
QUIZALOFOP (ASSURE)	76578-14-8	47	47
RONNEL	299-84-3	280	280
SIMAZINE	122-34-9	0.15	0.15
STRYCHNINE	57-24-9	0.89	0.89
STYRENE	100-42-5	24	24
TEBUTHIURON	34014-18-1	83	83
TERBACIL	5902-51-2	2.2	2.2
TERBUFOS	13071-79-9	0.12	0.055
TETRACHLOROBENZENE, 1,2,4,5	95-94-3	5.1	5.1
TETRACHLORODIBENZO-P-DIOXIN, 2,3,7,8-(TCDD)	1746-01-6	0.00012	0.00014
TETRACHLOROETHANE, 1,1,1,2	630-20-6	18	18
TETRACHLOROETHANE, 1,1,2,2	79-34-5	0.0093	0.026
TETRACHLOROETHYLENE (PCE)	127-18-4	0.43	0.43
TETRACHLOROPHENOL, 2,3,4,6	58-90-2	450.00	1700
TETRAETHYL LEAD	78-00-2	0.0046	0.0046

* Based on the current Chapter 250 standards.

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**Table FP-1a
Chemical Concentration Limits For Organics**

PARAMETER	Chemical Abstract Services Registry Number	Current Clean Fill Total Analysis (mg/kg)	*Proposed Clean Fill Total Analysis (mg/kg)
TETRAETHYLDITHIOPYROPHOSPHATE	3689-24-5	0.73	2.7
THIOFANOX	39196-18-4	0.12	0.12
THIRAM	137-26-8	47	47
TOLUENE	108-88-3	44	44
TOLUIDINE, M	108-44-1	0.13	0.17
TOLUIDINE, O	95-53-4	0.32	0.42
TOLUIDINE, P	106-49-0	0.32	0.32
TOXAPHENE	8001-35-2	1.20	1.2
TRIALATE	2303-17-5	240	240
TRIBROMOMETHANE (BROMOFORM)	75-25-2	4.4	3.5
TRICHLORO- 1,2,2-TRIFLUOROETHANE, 1,1,2	76-13-1	26000	10000
TRICHLOROBENZENE, 1,2,4	120-82-1	27	27
TRICHLOROBENZENE, 1,3,5	108-70-3	31	31
TRICHLOROETHANE, 1,1,1	71-55-6	7.20	7.2
TRICHLOROETHANE, 1,1,2	79-00-5	0.15	0.15
TRICHLOROETHYLENE (TCE)	79-01-6	0.17	0.17
TRICHLOROPHENOL, 2,4,5	95-95-4	2300	2300
TRICHLOROPHENOL, 2,4,6	88-06-2	3.1	11
TRICHLOROPHENOXYACETIC ACID, 2,4,5- (2,4,5-T)	93-76-5	1.50	1.5
TRICHLOROPHENOXYPROPIONIC ACID, 2,4,5- (2,4,5-TP)(SILV	93-72-1	22	22
TRICHLOROPROPANE, 1,1,2	598-77-6	3.1	3.1
TRICHLOROPROPANE, 1,2,3	96-18-4	1.6	3.2
TRICHLOROPROPENE, 1,2,3	96-19-5	11	0.12
TRIFLURALIN	1582-09-8	0.96	1.9
TRIMEHTYL BENZENE, 1,3,4- (TRIMETHYL BENZENE, 1,2,4-)	95-63-6	9	8.4
TRIMETHYL BENZENE, 1,3,5	108-67-8	2.8	2.3
TRINITROTOLUENE, 2,4,6	118-96-7	0.023	0.023
VINYL ACETATE	108-05-4	6.50	5
VINYL BROMIDE (BROMOMETHANE)	593-60-2	0.068	0.073
VINYL CHLORIDE	75-01-4	0.03	0.027
WARFARIN	81-81-2	2.60	2.6
XYLENES (TOTAL)	1330-20-7	990	990
ZINEB	12122-67-7	29	29

* Based on the current Chapter 250 standards.

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Table FP-1b
Chemical Concentration Limits For Metals and Inorganics

PARAMETER	Chemical Abstract Services Registry Number	Existing Clean Fill Total Analysis (mg/kg)	*Proposed Clean Fill Total Analysis (mg/kg)
ANTIMONY	7440-36-0	27	27
ARSENIC	7440-38-2	12	12
BARIUM AND COMPOUNDS	7440-39-3	8,200	8200
BERYLLIUM	7440-41-7	320	320
BORON AND COMPOUNDS	7440-42-8	6.7	1900
CADMIUM	7440-43-9	38	38
CHLORIDES		NA	NA
CHROMIUM III	16065-83-1	190,000	190000
CHROMIUM VI	18540-29-9	94	190
COBALT	7440-48-4	8.1	50
COPPER	7440-50-8	8,200	8100
CYANIDE FREE	57-12-5	200	200
LEAD	7439-92-1	450	450
MANGANESE	7439-96-5	31,000	2000
MERCURY	7439-97-6	10	10
NICKEL	7440-02-0	650	650
NITRATE NITROGEN		na	NA
NITRITE NITROGEN		na	NA
SELENIUM	7782-49-2	26	26
SILVER	7440-22-4	84	84
SULFATE		na	NA
THALLIUM	7440-28-0	14	14
TIN	7440-31-5	240	130000
VANADIUM	7440-62-2	1,500	1500
ZINC	7440-66-6	12,000	12000

* Based on the current Chapter 250 standards.