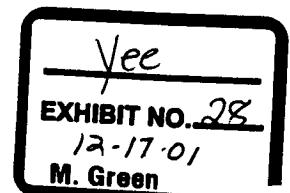


Part IX

Tables



AR 017360

WAC 173-340-900 Tables.

Footnotes:

Table 720-1
Method A Cleanup Levels for Ground Water.^a

Hazardous Substance	CAS Number	Cleanup Level
Arsenic	7440-38-2	5 ug/liter ^b
Benzene	71-43-2	5 ug/liter ^c
Benzo(a)pyrene	50-32-8	0.1 ug/liter ^d
Cadmium	7440-43-9	5 ug/liter ^e
Chromium (Total)	7440-47-3	50 ug/liter ^f
DDT	50-29-3	0.3 ug/liter ^g
1,2 Dichloromethane (EDC)	107-06-2	5 ug/liter ^h
Ethylbenzene	100-41-4	700 ug/liter ⁱ
Ethylene dibromide (EDB)	106-93-4	0.01 ug/liter ^j
Gross Alpha Particle Activity		15 pCi/liter ^k
Gross Beta Particle Activity		4 mrem/yr ^l
Lead	7439-92-1	15 ug/liter ^m
Lindane	58-89-9	0.2 ug/liter ⁿ
Methylene chloride	75-09-2	5 ug/liter ^o
Mercury	7439-97-6	2 ug/liter ^p
MTBE	1634-04-4	20 ug/liter ^q
Naphthalenes	91-20-3	160 ug/liter ^r
PAHs (carcinogenic)		See benzo(a)pyrene ^d
PCB mixtures		0.1 ug/liter ^s
Radium 226 and 228		5 pCi/liter ^t
Radium 226		3 pCi/liter ^u
Tetrachloroethylene	127-18-4	5 ug/liter ^v
Toluene	108-88-3	1,000 ug/liter ^w
Total Petroleum Hydrocarbons ^x		
[Note: Must also test for and meet cleanup levels for other petroleum components—see footnotes!]		
Gasoline Range Organics		
Benzene present in ground water		800 ug/liter
No detectable benzene in ground water		1,000 ug/liter
Diesel Range Organics		
Heavy Oils		500 ug/liter
Mineral Oil		500 ug/liter
1,1,1 Trichloroethane	71-55-6	200 ug/liter ^y
Trichloroethylene	79-01-6	5 ug/liter ^z
Vinyl chloride	75-01-4	0.2 ug/liter ^{aa}
Xylenes	1330-20-7	1,000 ug/liter ^{bb}

- a Caution on misusing this table. This table has been developed for specific purposes. It is intended to provide conservative cleanup levels for drinking water beneficial uses at sites undergoing routine cleanup actions or those sites with relatively few hazardous substances. This table may not be appropriate for defining cleanup levels at other sites. For these reasons, the values in this table should not automatically be used to define cleanup levels that must be met for financial, real estate, insurance coverage or placement, or similar transactions or purposes. Exceedances of the values in this table do not necessarily mean the ground water must be restored to those levels at all sites. The level of restoration depends on the remedy selected under WAC 173-340-350 through 173-340-390.
- b Arsenic. Cleanup level based on background concentrations for state of Washington.
- c Benzene. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- d Benzo(a)pyrene. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61), adjusted to a 1×10^{-5} risk. If other carcinogenic PAHs are suspected of being present at the site, test for them and use this value as the total concentration that all carcinogenic PAHs must meet using the toxicity equivalency methodology in WAC 173-340-708(S).
- e Cadmium. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.62).
- f Chromium (Total). Cleanup level based on concentration derived using Equation 720-1 for hexavalent chromium. This is a total value for chromium III and chromium VI. If just chromium III is present at the site, a cleanup level of 100 ug/l may be used (based on WAC 246-290-310 and 40 C.F.R. 141.62).
- g DDT (dichlorodiphenyltrichloroethane). Cleanup levels based on concentration derived using Equation 720-2.
- h 1,2 Dichloroethane (ethylene dichloride or EDC). Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- i Ethylbenzene. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- j Ethylene dibromide (1,2 dibromoethane or EDB). Cleanup level based on concentration derived using Equation 720-2, adjusted for the practical quantitation limit.
- k Gross Alpha Particle Activity, excluding uranium. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.15).
- l Gross Beta Particle Activity, including gamma activity. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.15).
- m Lead. Cleanup level based on applicable state and federal law (40 C.F.R. 141.80).
- n Lindane. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- o Methylene chloride (dichloromethane). Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- p Mercury. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.62).
- q Methyl tertiary-butyl ether (MTBE). Cleanup level based on federal drinking water advisory level (EPA-822-F-97-009, December 1997).
- r Naphthalenes. Cleanup level based on concentration derived using Equation 720-1. This is a total value for naphthalene, 1-methyl naphthalene and 2-methyl naphthalene.
- s PCB mixtures. Cleanup level based on concentration derived using Equation 720-2, adjusted for the practical quantitation limit. This cleanup level is a total value for all PCBs.
- t Radium 226 and 228. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.15).
- u Radium 226. Cleanup level based on applicable state law (WAC 246-290-310).

- v Tetrachloroethylene. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- w Toluene. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- x Total Petroleum Hydrocarbons (TPH). TPH cleanup values have been provided for the most common petroleum products encountered at contaminated sites. Where there is a mixture of products or the product composition is unknown, samples must be tested using both the NWTPH-Gx and NWTPH-Dx methods and the lowest applicable TPH cleanup level must be met.
- Gasoline range organics means organic compounds measured using method NWTPH-Gx. Examples are aviation and automotive gasoline. The cleanup level is based on protection of ground water for noncarcinogenic effects during drinking water use. Two cleanup levels are provided. The higher value is based on the assumption that no benzene is present in the ground water sample. If any detectable amount of benzene is present in the ground water sample, then the lower TPH cleanup level must be used. No interpolation between these cleanup levels is allowed. The ground water cleanup level for any carcinogenic components of the petroleum (such as benzene, EDB and EDC) and any noncarcinogenic components (such as ethylbenzene, toluene, xylenes and MTBE), if present at the site, must also be met. See Table 830-1 for the minimum testing requirements for gasoline releases.
- Diesel range organics means organic compounds measured using NWTPH-Dx. Examples are diesel, kerosene, and #1 and #2 heating oil. The cleanup level is based on protection from noncarcinogenic effects during drinking water use. The ground water cleanup level for any carcinogenic components of the petroleum (such as benzene and PAHs) and any noncarcinogenic components (such as ethylbenzene, toluene, xylenes and naphthalenes), if present at the site, must also be met. See Table 830-1 for the minimum testing requirements for diesel releases.
- Heavy oils means organic compounds measured using NWTPH-Dx. Examples are #6 fuel oil, bunker C oil, hydraulic oil and waste oil. The cleanup level is based on protection from noncarcinogenic effects during drinking water use, assuming a product composition similar to diesel fuel. The ground water cleanup level for any carcinogenic components of the petroleum (such as benzene, PAHs and PCBs) and any noncarcinogenic components (such as ethylbenzene, toluene, xylenes and naphthalenes), if present at the site, must also be met. See Table 830-1 for the minimum testing requirements for heavy oil releases.
- Mineral oil means non-PCB mineral oil, typically used as an insulator and coolant in electrical devices such as transformers and capacitors measured using NWTPH-Dx. The cleanup level is based on protection from noncarcinogenic effects during drinking water use. Sites using this cleanup level must analyze ground water samples for PCBs and meet the PCB cleanup level in this table unless it can be demonstrated that: (1) The release originated from an electrical device manufactured after July 1, 1979; or (2) oil containing PCBs was never used in the equipment suspected as the source of the release; or (3) it can be documented that the oil released was recently tested and did not contain PCBs. Method B (or Method C, if applicable) must be used for releases of oils containing greater than 50 ppm PCBs. See Table 830-1 for the minimum testing requirements for mineral oil releases.
- y 1,1,1 Trichloroethane. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- z Trichloroethylene. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61).
- aa Vinyl chloride. Cleanup level based on applicable state and federal law (WAC 246-290-310 and 40 C.F.R. 141.61), adjusted to a 1×10^{-5} risk.
- bb Xylenes. Cleanup level based on xylene not exceeding the maximum allowed cleanup level in this table for total petroleum hydrocarbons and on prevention of adverse aesthetic characteristics. This is a total value for all xylenes.

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**Table 740-1
Method A Soil Cleanup Levels
for Unrestricted Land Uses ***

Hazardous Substance	CAS Number	Cleanup Level
Arsenic	7440-38-2	20 mg/kg ^h
Benzene	71-43-2	0.03 mg/kg ^c
Benzo(a)pyrene	50-32-8	0.1 mg/kg ^d
Cadmium	7440-43-9	2 mg/kg ^e
Chromium		
Chromium VI	18540-29-9	19 mg/kg ^{fi}
Chromium III	16065-83-1	2,000 mg/kg ^{fi}
DDT	50-29-3	3 mg/kg ^g
Ethylbenzene	100-41-4	6 mg/kg ^h
Ethylene dibromide (EDB)	106-93-4	0.005 mg/kg ⁱ
Lead	7439-92-1	250 mg/kg ^j
Lindane	58-89-9	0.01 mg/kg ^k
Methylene chloride	75-09-2	0.02 mg/kg ^l
Mercury (inorganic)	7439-97-6	2 mg/kg ^m
MTBE	1634-04-4	0.1 mg/kg ⁿ
Naphthalenes	91-20-3	5 mg/kg ^o
PAHs (carcinogenic)		See benzo(a)pyrene ^d
PCB Mixtures		1 mg/kg ^p
Tetrachloroethylene	127-18-4	0.05 mg/kg ^q
Toluene	108-88-3	7 mg/kg ^r
Total Petroleum Hydrocarbons*		
[Note: Must also test for and meet cleanup levels for other petroleum components—see footnotes!]		
Gasoline Range Organics		
Gasoline mixtures without benzene and the total of ethyl benzene, toluene and xylene are less than 1% of the gasoline mixture		100 mg/kg
All other gasoline mixtures		30 mg/kg
Diesel Range Organics		
Heavy Oils		2,000 mg/kg
Mineral Oil		4,000 mg/kg
1,1,1 Trichloroethane	71-55-6	2 mg/kg ¹
Trichloroethylene	79-01-6	0.03 mg/kg ^u
Xylenes	1330-20-7	9 mg/kg ^v

Footnotes:

- a **Caution on misusing this table.** This table has been developed for specific purposes. It is intended to provide conservative cleanup levels for sites undergoing routine cleanup actions or for sites with relatively few hazardous substances, and the site qualifies under WAC 173-340-7491 for an exclusion from conducting a simplified or site-specific terrestrial ecological evaluation, or it can be demonstrated using a terrestrial ecological evaluation under WAC 173-340-7492 or 173-340-7493 that the values in this table are ecologically protective for the site. This table may not be appropriate for defining cleanup levels at other sites. For these reasons, the values in this table should not automatically be used to define cleanup levels that must be met for financial, real estate, insurance coverage or placement, or similar transactions or purposes. Exceedances of the values in this table do not necessarily mean the soil must be restored to these levels at a site. The level of restoration depends on the remedy selected under WAC 173-340-350 through 173-340-390.
- b **Arsenic.** Cleanup level based on direct contact using Equation 740-2 and protection of ground water for drinking water use using the procedures in WAC 173-340-747(4), adjusted for natural background for soil.
- c **Benzene.** Cleanup level based on protection of ground water for drinking water use, using the procedures in WAC 173-340-747(4) and (6).
- d **Benzo(a)pyrene.** Cleanup level based on direct contact using Equation 740-2. If other carcinogenic PAHs are suspected of being present at the site, test for them and use this value as the total concentration that all carcinogenic PAHs must meet using the toxicity equivalency methodology in WAC 173-340-708(8).
- e **Cadmium.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4), adjusted for the practical quantitation limit for soil.
- fi **Chromium VI.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- fi **Chromium III.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4). Chromium VI must also be tested for and the cleanup level met when present at a site.
- g **DDT (dichlorodiphenyltrichloroethane).** Cleanup level based on direct contact using Equation 740-2.
- h **Ethylbenzene.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- i **Ethylene dibromide (1,2 dibromoethane or EDB).** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4) and adjusted for the practical quantitation limit for soil.
- j **Lead.** Cleanup level based on preventing unacceptable blood lead levels.
- k **Lindane.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4), adjusted for the practical quantitation limit.
- l **Methylene chloride (dichloromethane).** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- m **Mercury.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- n **Methyl tertiary-butyl ether (MTBE).** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- o **Naphthalenes.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4). This is a total value for naphthalene, 1-methyl naphthalene and 2-methyl naphthalene.
- p **PCB Mixtures.** Cleanup level based on applicable federal law (40 C.F.R. 761.61). This is a total value for all PCBs.

- q **Tetrachloroethylene.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- r **Toluene.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- s **Total Petroleum Hydrocarbons (TPH).**
TPH cleanup values have been provided for the most common petroleum products encountered at contaminated sites. Where there is a mixture of products or the product composition is unknown, sample must be tested using both the NWTPH-Gx and NWTPH-Dx methods and the lowest applicable TPH cleanup level must be met.
- **Gasoline range organics** means organic compounds measured using method NWTPH-Gx. Examples are aviation and automotive gasoline. The cleanup level is based on protection of ground water for noncarcinogenic effects during drinking water use using the procedures described in WAC 173-340-747(6). Two cleanup levels are provided. The lower value of 30 mg/kg can be used at any site. When using this lower value, the soil must also be tested for and meet the benzene soil cleanup level. The higher value of 100 mg/kg can only be used if the soil is tested and found to contain no benzene and the total of ethyl benzene, toluene and xylene are less than 1% of the gasoline mixture. No interpolation between these cleanup levels is allowed. In both cases, the soil cleanup level for any other carcinogenic components of the petroleum [such as EDB and EDC], if present at the site, must also be met. Also, in both cases, soil cleanup levels for any noncarcinogenic components [such as toluene, ethylbenzene, xylenes, naphthalene, and MTBE], also must be met if these substances are found to exceed ground water cleanup levels at the site. See Table 830-1 for the minimum testing requirements for gasoline releases.
 - **Diesel range organics** means organic compounds measured using method NWTPH-Dx. Examples are diesel, kerosene, and #1 and #2 heating oil. The cleanup level is based on preventing the accumulation of free product on the ground water, as described in WAC 173-340-747(10). The soil cleanup level for any carcinogenic components of the petroleum [such as benzene and PAHs], if present at the site, must also be met. Soil cleanup levels for any noncarcinogenic components [such as toluene, ethylbenzene, xylenes and naphthalenes], also must be met if these substances are found to exceed the ground water cleanup levels at the site. See Table 830-1 for the minimum testing requirements for diesel releases.
 - **Heavy oils** means organic compounds measured using NWTPH-Dx. Examples are #6 fuel oil, bunker C oil, hydraulic oil and waste oil. The cleanup level is based on preventing the accumulation of free product on the ground water, as described in WAC 173-340-747(10) and assuming a product composition similar to diesel fuel. The soil cleanup level for any carcinogenic components of the petroleum [such as benzene, PAHs and PCBs], if present at the site, must also be met. Soil cleanup levels for any noncarcinogenic components [such as toluene, ethylbenzene, xylenes and naphthalenes], also must be met if found to exceed the ground water cleanup levels at the site. See Table 830-1 for the minimum testing requirements for heavy oil releases.
 - **Mineral oil** means non-PCB mineral oil, typically used as an insulator and coolant in electrical devices such as transformers and capacitors, measured using NWTPH-Dx. The cleanup level is based on preventing the accumulation of free product on the ground water, as described in WAC 173-340-747(10). Sites using this cleanup level must also analyze soil samples and meet the soil cleanup level for PCBs, unless it can be demonstrated that: (1) The release originated from an electrical device that was manufactured after July 1, 1979; or (2) oil containing PCBs was never used in the equipment suspected as the source of the release; or (3) it can be documented that the oil released was recently tested and did not contain PCBs. Method B must be used for releases of oils containing greater than 50 ppm PCBs.
- See Table 830-1 for the minimum testing requirements for mineral oil releases.
- t **1,1,1 Trichloroethane.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- u **Trichloroethylene.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- v **Xylenes.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4). This is a total value for all xylenes.

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Table 745-1
Method A Soil Cleanup Levels for Industrial Properties.^a

Hazardous Substance	CAS Number	Cleanup Level
Arsenic	7440-38-2	20 mg/kg ^b
Benzene	71-43-2	0.03 mg/kg ^c
Benzo(a)pyrene	50-32-8	2 mg/kg ^d
Cadmium	7440-43-9	2 mg/kg ^e
Chromium		
Chromium VI	18540-29-9	19 mg/kg ^f
Chromium III	16065-83-1	2,000 mg/kg ^g
DDT	50-29-3	4 mg/kg ^h
Ethylbenzene	100-41-4	6 mg/kg ⁱ
Ethylene dibromide (EDB)	106-93-4	0.005 mg/kg ^j
Lead	7439-92-1	1,000 mg/kg ^k
Lindane	58-89-9	0.01 mg/kg ^l
Methylene chloride	75-09-2	0.02 mg/kg ^m
Mercury (inorganic)	7439-97-6	2 mg/kg ⁿ
MTBE	1634-04-4	0.1 mg/kg ^o
Naphthalene	91-20-3	5 mg/kg ^p
PAHs (carcinogenic)		See benzo(a)pyrene ^d
PCB Mixtures		10 mg/kg ^q
Tetrachloroethylene	127-18-4	0.05 mg/kg ^r
Toluene	108-88-3	7 mg/kg ^s
Total Petroleum Hydrocarbons ^a		
[Note: Must also test for and meet cleanup levels for other petroleum components—see footnotes!]		
Gasoline Range Organics		
Gasoline mixtures without benzene and the total of ethyl benzene, toluene and xylene are less than 1% of the gasoline mixture		100 mg/kg
All other gasoline mixtures		30 mg/kg
Diesel Range Organics		2,000 mg/kg
Heavy Oils		2,000 mg/kg
Mineral Oil		4,000 mg/kg
1,1,1 Trichloroethane	71-55-6	2 mg/kg ^t
Trichloroethylene	79-01-6	0.03 mg/kg ^u
Xylenes	1330-20-7	9 mg/kg ^v

Footnotes:

- a** Caution on misusing this table. This table has been developed for specific purposes. It is intended to provide conservative cleanup levels for sites undergoing routine cleanup actions or for industrial properties with relatively few hazardous substances, and the site qualifies under WAC 173-340-7491 for an exclusion from conducting a simplified or site-specific terrestrial ecological evaluation, or it can be demonstrated using a terrestrial ecological evaluation under WAC 173-340-7492 or 173-340-7493 that the values in this table are ecologically protective for the site. This table may not be appropriate for defining cleanup levels at other sites. For these reasons, the values in this table should not automatically be used to define cleanup levels that must be met for financial, real estate, insurance coverage or placement, or similar transactions or purposes. Exceedances of the values in this table do not necessarily mean the soil must be restored to these levels at a site. The level of restoration depends on the remedy selected under WAC 173-340-350 through 173-340-390.
- b** Arsenic. Cleanup level based on protection of ground water for drinking water use, using the procedures in WAC 173-340-747(4), adjusted for natural background for soil.
- c** Benzene. Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4) and (6).
- d** Benzo(a)pyrene. Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4). If other carcinogenic PAHs are suspected of being present at the site, test for them and use this value as the total concentration that all carcinogenic PAHs must meet using the toxicity equivalency methodology in WAC 173-340-708(8).
- e** Cadmium. Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4), adjusted for the practical quantitation limit for soil.
- f1** Chromium VI. Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- f2** Chromium III. Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4). Chromium VI must also be tested for and the cleanup level met when present at a site.
- g** DDT (dichlorodiphenyltrichloroethane). Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- h** Ethylbenzene. Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- i** Ethylene dibromide (1,2 dibromoethane or EDB). Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4) and adjusted for the practical quantitation limit for soil.
- j** Lead. Cleanup level based on direct contact.
- k** Lindane. Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4), adjusted for the practical quantitation limit.
- l** Methylene chloride (dichloromethane). Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- m** Mercury. Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- n** Methyl tertiary-butyl ether (MTBE). Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- o** Naphthalenes. Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4). This is a total value for naphthalene, 1-methyl naphthalene and 2-methyl naphthalene.

- p **PCB Mixtures.** Cleanup level based on applicable federal law (40 C.F.R. 761.61). This is a total value for all PCBs. This value may be used only if the PCB contaminated soils are capped and the cap maintained as required by 40 C.F.R. 761.61. If this condition cannot be met, the value in Table 740-1 must be used.
- q **Tetrachloroethylene.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- r **Toluene.** Cleanup level based on protection of ground water for drinking water use, using the procedure described in WAC 173-340-747(4).
- s **Total Petroleum Hydrocarbons (TPH).** TPH cleanup values have been provided for the most common petroleum products encountered at contaminated sites. Where there is a mixture of products or the product composition is unknown, samples must be tested using both the NWTPH-Gx and NWTPH-Dx methods and the lowest applicable TPH cleanup level must be met.
- **Gasoline range organics** means organic compounds measured using method NWTPH-Gx. Examples are aviation and automotive gasoline. The cleanup level is based on protection of ground water for noncarcinogenic effects during drinking water use using the procedures described in WAC 173-340-747(6). Two cleanup levels are provided. The lower value of 30 mg/kg can be used at any site. When using this lower value, the soil must also be tested for and meet the benzene soil cleanup level. The higher value of 100 mg/kg can only be used if the soil is tested and found to contain no benzene and the total of ethyl benzene, toluene and xylene are less than 1% of the gasoline mixture. No interpolation between these cleanup levels is allowed. In both cases, the soil cleanup level for any other carcinogenic components of the petroleum [such as EDB and EDC], if present at the site, must also be met. Also, in both cases, soil cleanup levels for any noncarcinogenic components [such as toluene, ethylbenzene, xylenes, naphthalene, and MTBE], also must be met if these substances are found to exceed ground water cleanup levels at the site. See Table 830-1 for the minimum testing requirements for gasoline releases.
- **Diesel range organics** means organic compounds measured using method NWTPH-Dx. Examples are diesel, kerosene, and #1 and #2 heating oil. The cleanup level is based on preventing the accumulation of free product on the ground water, as described in WAC 173-340-747(10). The soil cleanup level for any carcinogenic components of the petroleum [such as benzene and PAHs], if present at the site, must also be met. Soil cleanup levels for any noncarcinogenic components [such as toluene, ethylbenzene, xylenes and naphthalenes], also must be met if these substances are found to exceed the ground water cleanup levels at the site. See Table 830-1 for the minimum testing requirements for diesel releases.
- **Heavy oils** means organic compounds measured using NWTPH-Dx. Examples are #6 fuel oil, bunker C oil, hydraulic oil and waste oil. The cleanup level is based on preventing the accumulation of free product on the ground water, as described in WAC 173-340-747(10) and assuming a product composition similar to diesel fuel. The soil cleanup level for any carcinogenic components of the petroleum [such as benzene, PAHs and PCBs], if present at the site, must also be met. Soil cleanup levels for any noncarcinogenic components [such as toluene, ethylbenzene, xylenes and naphthalenes], also must be met if found to exceed the ground water cleanup levels at the site. See Table 830-1 for the minimum testing requirements for heavy oil releases.
- **Mineral oil** means non-PCB mineral oil, typically used as an insulator and coolant in electrical devices such as transformers and capacitors, measured using NWTPH-Dx. The cleanup level is based on preventing the accumulation of free product on the ground water, as described in WAC 173-340-747(10). Sites using this cleanup level must also analyze soil samples and meet the soil cleanup level for PCBs, unless it can be demonstrated that: (1) The release originated from an electrical device that was manufactured after July 1, 1979; or (2) oil containing PCBs was never used in the equipment suspected as the source of the release; or (3) it can be documented that the oil released was recently tested and did not contain PCBs. Method B or C must be used for releases of oils containing greater than 50 ppm PCBs. See Table 830-1 for the minimum testing requirements for mineral oil releases.
- t **1,1,1 Trichloroethane.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- u **Trichloroethylene.** Cleanup level based on protection of ground water for drinking water use, using the procedures described in WAC 173-340-747(4).
- v **Xylenes.** Cleanup level based on protection of ground water for drinking water use, using the procedure in WAC 173-340-747(4). This is a total value for all xylenes.

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Table 747-1
Soil Organic Carbon-Water Partitioning Coefficient
(Koc) Values: Nonionizing Organics.

Hazardous Substance	Koc (ml/g)
Acenaphthene	4,898
Aldrin	48,685
Anthracene	23,493
Benz(a)anthracene	357,537
Benzene	62
Benzo(a)pyrene	968,774
Bis(2-chloroethyl)ether	76
Bis(2-ethylhexyl)phthalate	111,123
Bromoform	126
Butyl benzyl phthalate	13,746
Carbon tetrachloride	152
Chlordane	51,310
Chlorobenzene	224
Chloroform	53
DDD	45,800
DDE	86,405
DDT	677,934
Dibenzo(a,h)anthracene	1,789,101
1,2-Dichlorobenzene (o)	379
1,4-Dichlorobenzene (p)	616
Dichloroethane-1,1	53
Dichloroethane-1,2	38
Dichloroethylene-1,1	65
Trans-1,2 Dichloroethylene	38
Dichloropropane-1,2	47
Dichloropropene-1,3	27
Dieldrin	25,546
Diethyl phthalate	82
Di-n-butyl phthalate	1,567
EDB	66
Endrin	10,811
Endosulfan	2,040
Ethyl benzene	204
Fluoranthene	49,096
Fluorene	7,707
Heptachlor	9,528
Hexachlorobenzene	80,000
α-HCH (α-BHC)	1,762
β-HCH (β-BHC)	2,139
γ-HCH (Lindane)	1,352
MTBE	11
Methoxychlor	80,000
Methyl bromide	9
Methyl chloride	6
Methylene chloride	10
Naphthalene	1,191
Nitrobenzene	119
PCB-Arochlor 1016	107,285
PCB-Arochlor 1260	822,422
Pentachlorbenzene	32,148

Pyrene	67,992
Styrene	912
1,1,2,2,-Tetrachloroethane	79
Tetrachloroethylene	265
Toluene	140
Toxaphene	95,816
1,2,4-Trichlorobenzene	1,659
Trichloroethane-1,1,1	135
Trichloroethane-1,1,2	75
Trichloroethylene	94
o-Xylene	241
m-Xylene	196
p-Xylene	311

Sources: Except as noted below, the source of the Koc values is the 1996 EPA Soil Screening Guidance: Technical Background Document. The values obtained from this document represent the geometric mean of a survey of values published in the scientific literature. Sample populations ranged from 1-65. EDB value from ATSDR Toxicological Profile (TP 91/13). MTBE value from USGS Final Draft Report on Fuel Oxygenates (March 1996). PCB-Arochlor values from 1994 EPA Draft Soil Screening Guidance.

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Table 747-2
 Predicted Soil Organic Carbon-Water Partitioning
 Coefficient (Koc) as a Function of pH: Ionizing Organics.

Hazardous Substance	Koc Value (ml/g)		
	pH = 4.9	pH = 6.8	pH = 8.0
Benzoic acid	5.5	0.6	0.5
2-Chlorophenol	398	388	286
2,4-Dichlorophenol	159	147	72
2,4-Dinitrophenol	0.03	0.01	0.01
Pentachlorophenol	9,055	592	410
2,3,4,5-Tetrachlorophenol	17,304	4,742	458
2,3,4,6-Tetrachlorophenol	4,454	280	105
2,4,5-Trichlorophenol	2,385	1,597	298
2,4,6-Trichlorophenol	1,040	381	131

Source: 1996 EPA Soil Screening Guidance: Technical Background Document. The predicted Koc values in this table were derived using a relationship from thermodynamic equilibrium considerations to predict the total sorption of an ionizable organic compound from the partitioning of its ionized and neutral forms.

Table 747-3
 Metals Distribution Coefficients (Kd).

Hazardous Substance	Kd (L/kg)
Arsenic	29
Cadmium	6.7
Total Chromium	1,000
Chromium VI	19
Copper	22
Mercury	52
Nickel	65
Lead	10,000
Selenium	5
Zinc	62

Source: Multiple sources compiled by the Department of Ecology.

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Table 747-4
Petroleum EC Fraction Physical / Chemical Values.

Fuel Fraction	Equivalent Carbon Number ¹	Water Solubility ² (mg/L)	Molecular Weight ³ (g/mol)	Henry's Constant ⁴ (cc/cc)	Gram Formula Weight ⁵ (mg/mol)	Density ⁶ (mg/l)	Soil Organic Carbon-Water Partitioning Coefficient K _{oc} ⁷ (L/kg)
ALIPHATICS							
EC 5 - 6	5.5	36.0	81.0	33.0	81,000	670,000	800
EC > 6 - 8	7.0	5.4	100.0	50.0	100,000	700,000	3,800
EC > 8 - 10	9.0	0.43	130.0	80.0	130,000	730,000	30,200
EC > 10 - 12	11.0	0.034	160.0	120.0	160,000	750,000	234,000
EC > 12 - 16	14.0	7.6E-04	200.0	520.0	200,000	770,000	5.37E+06
EC > 16 - 21	19.0	1.3 E-06	270.0	4,900	270,000	780,000	9.55E+09
EC > 21 - 34	28.0	1.5E-11	400.0	100,000	400,000	790,000	1.07E+10
AROMATICS							
EC > 8 - 10	9.0	65.0	120.0	0.48	120,000	870,000	1,580
EC > 10 - 12	11.0	25.0	130.0	0.14	130,000	900,000	2,510
EC > 12 - 16	14.0	5.8	150.0	0.053	150,000	1,000,000	5,010
EC > 16 - 21	19.0	0.51	190.0	0.013	190,000	1,160,000	15,800
EC > 21 - 34	28.0	6.6E-03	240.0	6.7E-04	240,000	1,300,000	126,000
TPH COMPONENTS							
Benzene	6.5	1,750	78.0	0.228	78,000	876,500	62.0
Toluene	7.6	526.0	92.0	0.272	92,000	866,900	140.0
Ethylbenzene	8.5	169.0	106.0	0.323	106,000	867,000	204.0
Total Xylenes ⁸ (average of 3)	8.67	171.0	106.0	0.279	106,000	875,170	233.0
n-Hexane ⁹	6.0	9.5	86.0	74.0	86,000	659,370	3,410
MTBE ¹⁰		50,000	88.0	0.018	88,000	744,000	10.9
Naphthalenes	11.69	31.0	128.0	0.0198	128,000	1,145,000	1,191

Sources:

- Equivalent Carbon Number. Gustafson, J.B. et al., *Selection of Representative TPH Fractions Based on Fate and Transport Considerations. Total Petroleum Hydrocarbon Criteria Working Group Series, Volume 3* (1997) [hereinafter *Criteria Working Group*].
- Water Solubility. For aliphatics and aromatics EC groups, *Criteria Working Group*. For TPH components except n-hexane and MTBE, *1996 EPA Soil Screening Guidance: Technical Background Document*.
- Molecular Weight. *Criteria Working Group*.
- Henry's Constant. For aliphatics and aromatics EC groups, *Criteria Working Group*. For TPH components except n-hexane and MTBE, *1996 EPA Soil Screening Guidance: Technical Background Document*.
- Gram Formula Weight (GFW). Based on 1000 x Molecular Weight.
- Density. For aliphatics and aromatics EC groups, based on correlation between equivalent carbon number and data on densities of individual hazardous substances provided in *Criteria Working Group*. For TPH components except n-hexane and MTBE, *1996 EPA Soil Screening Guidance: Technical Background Document*.
- Soil Organic Carbon-Water Partitioning Coefficient. For aliphatics and aromatics EC groups, *Criteria Working Group*. For TPH components except n-hexane and MTBE, *1996 EPA Soil Screening Guidance: Technical Background Document*.
- Total Xylenes. Values for total xylenes are a weighted average of m, o and p xylene based on gasoline composition data from the *Criteria Working Group* (m = 51% of total xylene; o = 28% of total xylene; and p = 21% of total xylene).
- n-Hexane. For values other than density, *Criteria Working Group*. For the density value, *Hawley's Condensed Chemical Dictionary*, 11th ed., revised by N. Irving Sax and Richard J. Lewis (1987).
- MTBE. *USGS Final Report on Fuel Oxygenates* (March 1996).

Table 747-5
Residual Saturation Screening Levels for TPH.

Fuel	Screening Level (mg/kg)
Weathered Gasoline	1,000
Middle Distillates (e.g., Diesel No. 2 Fuel Oil)	2,000
Heavy Fuel Oils (e.g., No. 6 Fuel Oil)	2,000
Mineral Oil	4,000
Unknown Composition or Type	1,000

Note: The residual saturation screening levels for petroleum hydrocarbons specified in Table 747-5 are based on coarse sand and gravelly soils; however, they may be used for any soil type. Screening levels are based on the presumption that there are no preferential pathways for NAPL to flow downward to ground water. If such pathways exist, more stringent residual saturation screening levels may need to be established.

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Table 749-1
Simplified Terrestrial Ecological Evaluation – Exposure
Analysis Procedure under WAC 173-340-7492(2)(a)(ii).^a

<p>Estimate the area of contiguous (connected) undeveloped land on the site or within 500 feet of any area of the site to the nearest 1/2 acre (1/4 acre if the area is less than 0.5 acre). "Undeveloped land" means land that is not covered by existing buildings, roads, paved areas or other barriers that will prevent wildlife from feeding on plants, earth-worms, insects or other food in or on the soil.</p>																					
<p>1) From the table below, find the number of points corresponding to the area and enter this number in the box to the right.</p>																					
<table border="1"> <thead> <tr> <th>Area (acres)</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>0.25 or less</td> <td>4</td> </tr> <tr> <td>0.5</td> <td>5</td> </tr> <tr> <td>1.0</td> <td>6</td> </tr> <tr> <td>1.5</td> <td>7</td> </tr> <tr> <td>2.0</td> <td>8</td> </tr> <tr> <td>2.5</td> <td>9</td> </tr> <tr> <td>3.0</td> <td>10</td> </tr> <tr> <td>3.5</td> <td>11</td> </tr> <tr> <td>4.0 or more</td> <td>12</td> </tr> </tbody> </table>	Area (acres)	Points	0.25 or less	4	0.5	5	1.0	6	1.5	7	2.0	8	2.5	9	3.0	10	3.5	11	4.0 or more	12	
Area (acres)	Points																				
0.25 or less	4																				
0.5	5																				
1.0	6																				
1.5	7																				
2.0	8																				
2.5	9																				
3.0	10																				
3.5	11																				
4.0 or more	12																				
<p>2) Is this an industrial or commercial property? See WAC 173-340-7490(3)(c). If yes, enter a score of 3 in the box to the right. If no, enter a score of 1.</p>																					
<p>3) Enter a score in the box to the right for the habitat quality of the site, using the rating system shown below^b. (High = 1, Intermediate = 2, Low = 3)</p>																					
<p>4) Is the undeveloped land likely to attract wildlife? If yes, enter a score of 1 in the box to the right. If no, enter a score of 2. See footnote c.</p>																					
<p>5) Are there any of the following soil contaminants present: Chlorinated dioxins/furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, pentachlorobenzene? If yes, enter a score of 1 in the box to the right. If no, enter a score of 4.</p>																					
<p>6) Add the numbers in the boxes on lines 2 through 5 and enter this number in the box to the right. If this number is larger than the number in the box on line 1, the simplified terrestrial ecological evaluation may be ended under WAC 173-340-7492 (2)(a)(ii).</p>																					

Footnotes:

- a It is expected that this habitat evaluation will be undertaken by an experienced field biologist. If this is not the case, enter a conservative score (1) for questions 3 and 4.
- b **Habitat rating system.** Rate the quality of the habitat as high, intermediate or low based on your professional judgment as a field biologist. The following are suggested factors to consider in making this evaluation:
Low: Early successional vegetative stands; vegetation predominantly noxious, nonnative, exotic plant species or weeds. Areas severely disturbed by human activity, including intensively cultivated croplands. Areas isolated from other habitat used by wildlife.
High: Area is ecologically significant for one or more of the following reasons: Late-successional native plant communities present; relatively high species diversity; used by an uncommon or rare species; priority habitat (as defined by the Washington Department of Fish and Wildlife); part of a larger area of habitat where size or fragmentation may be important for the retention of some species.
Intermediate: Area does not rate as either high or low.
- c Indicate "yes" if the area attracts wildlife or is likely to do so. Examples: Birds frequently visit the area to feed; evidence of high use by mammals (tracks, scat, etc.); habitat "island" in an industrial area; unusual features of an area that make it important for feeding animals; heavy use during seasonal migrations.

Table 749-2
Priority Contaminants of Ecological Concern for Sites
that Qualify for the Simplified Terrestrial Ecological
Evaluation Procedure.^a

Priority contaminant	Soil concentration (mg/kg)	
	Unrestricted land use ^b	Industrial or commercial site
METALS:^c		
Antimony	See note d	See note d
Arsenic III	20 mg/kg	20 mg/kg
Arsenic V	95 mg/kg	260 mg/kg
Barium	1,250 mg/kg	1,320 mg/kg
Beryllium	25 mg/kg	See note d
Cadmium	25 mg/kg	36 mg/kg
Chromium (total)	42 mg/kg	135 mg/kg
Cobalt	See note d	See note d
Copper	100 mg/kg	550 mg/kg
Lead	220 mg/kg	220 mg/kg
Magnesium	See note d	See note d
Manganese	See note d	23,500 mg/kg
Mercury, inorganic	9 mg/kg	9 mg/kg
Mercury, organic	0.7 mg/kg	0.7 mg/kg
Molybdenum	See note d	71 mg/kg
Nickel	100 mg/kg	1,850 mg/kg
Selenium	0.8 mg/kg	0.8 mg/kg
Silver	See note d	See note d
Tin	275 mg/kg	See note d
Vanadium	26 mg/kg	See note d
Zinc	270 mg/kg	570 mg/kg
PESTICIDES:		
Aldicarb/aldicarb sulfone (total)	See note d	See note d
Aldrin	0.17 mg/kg	0.17 mg/kg
Benzene hexachloride (including lindane)	10 mg/kg	10 mg/kg
Carbofuran	See note d	See note d
Chlordane	1 mg/kg	7 mg/kg
Chlorpyrifos/chlorpyrifos-methyl (total)	See note d	See note d
DDT/DDD/DDE (total)	1 mg/kg	1 mg/kg
Dieldrin	0.17 mg/kg	0.17 mg/kg
Endosulfan	See note d	See note d
Endrin	0.4 mg/kg	0.4 mg/kg
Heptachlor/heptachlor epoxide (total)	0.6 mg/kg	0.6 mg/kg
Hexachlorobenzene	31 mg/kg	31 mg/kg
Parathion/methyl parathion (total)	See note d	See note d
Pentachlorophenol	11 mg/kg	11 mg/kg
Toxaphene	See note d	See note d

OTHER CHLORINATED ORGANICS:		
Chlorinated dibenzofurans (total)	3E-06 mg/kg	3E-06 mg/kg
Dioxins (total)	5E-05 mg/kg	5E-06 mg/kg
Hexachlorophene	See note d	See note d
PCB mixtures (total)	2 mg/kg	2 mg/kg
Pentachlorobenzene	168 mg/kg	See note d
OTHER NONCHLORINATED ORGANICS:		
Acenaphthene	See note d	See note d
Benzo(a)pyrene	30 mg/kg	300 mg/kg
Bis (2-ethylhexyl) phthalate	See note d	See note d
Di-n-butyl phthalate	200 mg/kg	See note d
PETROLEUM:		
Gasoline Range Organics	200 mg/kg	12,000 mg/kg except that the concentration shall not exceed residual saturation at the soil surface.
Diesel Range Organics	460 mg/kg	15,000 mg/kg except that the concentration shall not exceed residual saturation at the soil surface.

Footnotes:

- Caution on misusing these chemical concentration numbers. These values have been developed for use at sites where a site-specific terrestrial ecological evaluation is not required. They are not intended to be protective of terrestrial ecological receptors at every site. Exceedances of the values in this table do not necessarily trigger requirements for cleanup action under this chapter. The table is not intended for purposes such as evaluating sludges or wastes. This list does not imply that sampling must be conducted for each of these chemicals at every site. Sampling should be conducted for those chemicals that might be present based on available information, such as current and past uses of chemicals at the site.
- Applies to any site that does not meet the definition of industrial or commercial.
- For arsenic, use the valence state most likely to be appropriate for site conditions, unless laboratory information is available. Where soil conditions alternate between saturated, anaerobic and unsaturated, aerobic states, resulting in the alternating presence of arsenic III and arsenic V, the arsenic III concentrations shall apply.
- Safe concentration has not yet been established. See WAC 173-340-7492(2)(c).

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Table 749-3

Ecological Indicator Soil Concentrations (mg/kg) for Protection of Terrestrial Plants and Animals. ^a For chemicals where a value is not provided, see footnote b.			
<p>Note: These values represent soil concentrations that are expected to be protective at any MTCA site and are provided for use in eliminating hazardous substances from further consideration under WAC 173-340-7493(2)(a)(i). Where these values are exceeded, various options are provided for demonstrating that the hazardous substance does not pose a threat to ecological receptors at a site, or for developing site-specific remedial standards for eliminating threats to ecological receptors. See WAC 173-340-7493(1)(b)(i), 173-340-7493(2)(a)(ii) and 173-340-7493(3).</p>			
Hazardous Substance ^b	Plants ^c	Soil Biota ^d	Wildlife ^e
METALS:^f			
Aluminum (soluble salts)	50		
Antimony	5		
Arsenic III			7
Arsenic V	10	60	132
Barium	500		102
Beryllium	10		
Boron	0.5		
Bromine	10		
Cadmium	4	20	14
Chromium (total)	42 ^g	42 ^g	67
Cobalt	20		
Copper	100	50	217
Fluorine	200		
Iodine	4		
Lead	50	500	118
Lithium	35 ^h		
Manganese	1,100 ^h		1,500
Mercury, inorganic	0.3	0.1	5.5
Mercury, organic			0.4
Molybdenum	2		7
Nickel	30	200	980
Selenium	1	70	0.3
Silver	2		
Technetium	0.2		
Thallium	1		
Tin	50		
Uranium	5		
Vanadium	2		
Zinc	86 ^h	200	360
PESTICIDES:			
Aldrin			0.1
Benzene hexachloride (including lindane)			6
Chlordane		1	2.7
DDT/DDD/DDE (total)			0.75

Dieldrin			0.07
Endrin			0.2
Hexachlorobenzene			17
Heptachlor/heptachlor epoxide (total)			0.4
Pentachlorophenol	3	6	4.5
OTHER CHLORINATED ORGANICS:			
1,2,3,4-Tetrachlorobenzene		10	
1,2,3-Trichlorobenzene		20	
1,2,4-Trichlorobenzene		20	
1,2-Dichloropropane		700	
1,4-Dichlorobenzene		20	
2,3,4,5-Tetrachlorophenol		20	
2,3,5,6-Tetrachloroaniline	20	20	
2,4,5-Trichloroaniline	20	20	
2,4,5-Trichlorophenol	4	9	
2,4,6-Trichlorophenol		10	
2,4-Dichloroaniline		100	
3,4-Dichloroaniline		20	
3,4-Dichlorophenol	20	20	
3-Chloroaniline	20	30	
3-Chlorophenol	7	10	
Chlorinated dibenzofurans (total)			2E-06
Chloroacetamide		2	
Chlorobenzene		40	
Dioxins			2E-06
Hexachlorocyclopentadiene	10		
PCB mixtures (total)	40		0.65
Pentachloroaniline		100	
Pentachlorobenzene		20	
OTHER NONCHLORINATED ORGANICS:			
2,4-Dinitrophenol	20		
4-Nitrophenol		7	
Acenaphthene	20		
Benzo(a)pyrene			12
Biphenyl	60		
Diethylphthalate	100		
Dimethylphthalate		200	
Di-n-butyl phthalate	200		
Fluorene		30	
Furan	600		
Nitrobenzene		40	
N-nitrosodiphenylamine		20	
Phenol	70	30	
Styrene	300		
Toluene	200		

[Editor's Note: Table 749-3 continues on the next page.]

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Hazardous Substance ^a	Plants ^f	Soil Biota ^d	Wildlife ^e
PETROLEUM:			
Gasoline Range Organics		100	5,000 mg/kg except that the concentration shall not exceed residual saturation at the soil surface
Diesel Range Organics		200	6,000 mg/kg except that the concentration shall not exceed residual saturation at the soil surface

Footnotes:

- a Caution on misusing ecological indicator concentrations. Exceedances of the values in this table do not necessarily trigger requirements for cleanup action under this chapter. Natural background concentrations may be substituted for ecological indicator concentrations provided in this table. The table is not intended for purposes such as evaluating sludges or wastes. This list does not imply that sampling must be conducted for each of these chemicals at every site. Sampling should be conducted for those chemicals that might be present based on available information, such as current and past uses of chemicals at the site.
- b For hazardous substances where a value is not provided, plant and soil biota indicator concentrations shall be based on a literature survey conducted in accordance with WAC 173-340-7493(4) and calculated using methods described in the publications listed below in footnotes c and d. Methods to be used for developing wildlife indicator concentrations are described in Tables 749-4 and 749-5.
- c Based on benchmarks published in *Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Terrestrial Plants: 1997 Revision*, Oak Ridge National Laboratory, 1997.
- d Based on benchmarks published in *Toxicological Benchmarks for Potential Contaminants of Concern for Effects on Soil and Litter Invertebrates and Heterotrophic Process*, Oak Ridge National Laboratory, 1997.
- e Calculated using the exposure model provided in Table 749-4 and chemical-specific values provided in Table 749-5. Where both avian and mammalian values are available, the wildlife value is the lower of the two.
- f For arsenic, use the valence state most likely to be appropriate for site conditions, unless laboratory information is available. Where soil conditions alternate between saturated, anaerobic and unsaturated, aerobic states, resulting in the alternating presence of arsenic III and arsenic V, the arsenic III concentrations shall apply.
- g Benchmark replaced by Washington state natural background concentration.

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Table 749-4
Wildlife Exposure Model for Site-specific Evaluations.*

PLANT	
K _{Plant}	Plant uptake coefficient (dry weight basis)
	Units: mg/kg plant / mg/kg soil
	Value: chemical-specific (see Table 749-5)
SOIL BIOTA Surrogate receptor: Earthworm	
BAF _{Worm}	Earthworm bioaccumulation factor (dry weight basis)
	Units: mg/kg worm / mg/kg soil
	Value: chemical-specific (see Table 749-5)
MAMMALIAN PREDATOR Surrogate receptor: Shrew (<i>Sorex</i>)	
P _{SB (shrew)}	Proportion of contaminated food (earthworms) in shrew diet
	Units: unitless
	Value: 0.50
FIR _{Shrew,DW}	Food ingestion rate (dry weight basis)
	Units: kg dry food / kg body weight - day
	Value: 0.45
SIR _{Shrew,DW}	Soil ingestion rate (dry weight basis)
	Units: kg dry soil / kg body weight - day
	Value: 0.0045
RGAF _{Soil, shrew}	Gut absorption factor for a hazardous substance in soil expressed relative to the gut absorption factor for the hazardous substance in food.
	Units: unitless
	Value: chemical-specific (see Table 749-5)
T _{Shrew}	Toxicity reference value for shrew
	Units: mg/kg - day
	Value: chemical-specific (see Table 749-5)
Home range	0.1 Acres
AVIAN PREDATOR Surrogate receptor: American robin (<i>Turdus migratorius</i>)	
P _{SB (Robin)}	Proportion of contaminated food (soil biota) in robin diet
	Unit: unitless
	Value: 0.52
FIR _{Robin,DW}	Food ingestion rate (dry weight basis)
	Units: kg dry food / kg body weight - day
	Value: 0.207
SIR _{Robin,DW}	Soil ingestion rate (dry weight basis)
	Units: kg dry soil / kg body weight - day
	Value: 0.0215
RGAF _{Soil, robin}	Gut absorption factor for a hazardous substance in soil expressed relative to the gut absorption factor for the hazardous substance in food.
	Units: unitless
	Value: chemical-specific (see Table 749-5)

T _{Robin}	Toxicity reference value for robin
	Units: mg/kg - day
	Value: chemical-specific (see Table 749-5)
Home range	0.6 acres
MAMMALIAN HERBIVORE Surrogate receptor: Vole (<i>Microtus</i>)	
P _{Plant, vole}	Proportion of contaminated food (plants) in vole diet
	Units: unitless
	Value: 1.0
FIR _{Vole,DW}	Food ingestion rate (dry weight basis)
	Units: kg dry food / kg body weight - day
	Value: 0.315
SIR _{Vole,DW}	Soil ingestion rate (dry weight basis)
	Units: kg dry soil / kg body weight - day
	Value: 0.0079
RGAF _{Soil, vole}	Gut absorption factor for a hazardous substance in soil expressed relative to the gut absorption factor for the hazardous substance in food.
	Units: unitless
	Value: chemical-specific (see Table 749-5)
T _{Vole}	Toxicity reference value for vole
	Units: mg/kg - day
	Value: chemical-specific (see Table 749-5)
Home range	0.08 acres
SOIL CONCENTRATIONS FOR WILDLIFE PROTECTION^b	
(1) Mammalian predator:	
$SC_{MP} = (T_{Shrew}) / [(FIR_{Shrew,DW} \times P_{SB (shrew)} \times BAF_{Worm}) + (SIR_{Shrew,DW} \times RGAF_{Soil, shrew})]$	
(2) Avian predator:	
$SC_{AP} = (T_{Robin}) / [(FIR_{Robin,DW} \times P_{SB (Robin)} \times BAF_{Worm}) + (SIR_{Robin,DW} \times RGAF_{Soil, robin})]$	
(3) Mammalian herbivore:	
$SC_{MH} = (T_{Vole}) / [(FIR_{Vole,DW} \times P_{Plant, vole} \times K_{Plant}) + (SIR_{Vole,DW} \times RGAF_{Soil, vole})]$	

Footnotes:

- a Substitutions for default receptors may be made as provided for in WAC 173-340-7493(7). If a substitute species is used, the values for food and soil ingestion rates, and proportion of contaminated food in the diet, may be modified to reasonable maximum exposure estimates for the substitute species based on a literature search conducted in accordance with WAC 173-340-7493(4). Additional species may be added on a site-specific basis as provided in WAC 173-340-7493 (2)(a). The department shall consider proposals for modifications to default values provided in this table based on new scientific information in accordance with WAC 173-340-702(14).
- b Use the lowest of the three concentrations calculated as the wildlife value.

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Table 749-5
Default Values for Selected Hazardous Substances for
use with the Wildlife Exposure Model in Table 749-4.^a

Hazardous Substance	Toxicity Reference Value (mg/kg - d)				
	BAF _{worm}	K _{Plant}	Shrew	Vole	Robin
METALS:					
Arsenic III	1.16	0.06	1.89	1.15	
Arsenic V	1.16	0.06	35	35	22
Barium	0.36		43.5	33.3	
Cadmium	4.6	0.14	15	15	20
Chromium	0.49		35.2	29.6	5
Copper	0.88	0.020	44	33.6	61.7
Lead	0.69	0.0047	20	20	11.3
Manganese	0.29		624	477	
Mercury, inorganic	1.32	0.0854	2.86	2.18	0.9
Mercury, organic	1.32		0.352	0.27	0.064
Molybdenum	0.48	1.01	3.09	2.36	35.3
Nickel	0.78	0.047	175.8	134.4	107
Selenium	10.5	0.0065	0.725	0.55	1
Zinc	3.19	0.095	703.3	537.4	131
PESTICIDES:					
Aldrin	4.77	0.007 ^b	2.198	1.68	0.06
Benzene hexachloride (including lindane)	10.1				7
Chlordane	17.8	0.011 ^b	10.9	8.36	10.7
DDT/DDD/DDE	10.6	0.004 ^b	8.79	6.72	0.87
Dieldrin	28.8	0.029 ^b	0.44	0.34	4.37
Endrin	3.6	0.038 ^b	1.094	0.836	0.1
Heptachlor/heptachlor epoxide	10.9	0.027 ^b	2.857	2.18	0.48
Hexachloro-benzene	1.08				2.4
Pentachloro-phenol	5.18	0.043 ^b	5.275	4.03	
OTHER CHLORINATED ORGANICS:					
Chlorinated dibenzofurans	48				1.0E-05
Dioxins	48	0.005 ^b	2.2E-05	1.7E-05	1.4E-04
PCB mixtures	4.58	0.087 ^b	0.668	0.51	1.8
OTHER NONCHLORINATED ORGANICS:					
Benzo(a)pyrene	0.43	0.011	1.19	0.91	

Footnotes:

- a For hazardous substances not shown in this table, use the following default values. Alternatively, use values established from a literature survey conducted in accordance with WAC 173-340-7493(4) and approved by the department.

K_{Plant}:

- Metals (including metalloid elements): 1.01
- Organic chemicals: $K_{Plant} = 10^{(1.58K - (0.57N \log K_{ow}))}$, where $\log K_{ow}$ is the logarithm of the octanol-water partition coefficient.

BAF_{worm}:

- Metals (including metalloid elements): 4.6
- Nonchlorinated organic chemicals:
 - $\log K_{ow} < 5$: 0.7
 - $\log K_{ow} \geq 5$: 0.9
- Chlorinated organic chemicals:
 - $\log K_{ow} < 5$: 4.7
 - $\log K_{ow} \geq 5$: 11.8

RGAF_{Soil} (all receptors): 1.0

Toxicity reference values (all receptors): Values established from a literature survey conducted in accordance with WAC 173-340-7493(4).

Site-specific values may be substituted for default values, as described below:

K_{Plant}: Value from a literature survey conducted in accordance with WAC 173-340-7493(4) or from empirical studies at the site.

BAF_{worm}: Value from a literature survey conducted in accordance with WAC 173-340-7493(4) or from empirical studies at the site.

RGAF_{Soil} (all receptors): Value established from a literature survey conducted in accordance with WAC 173-340-7493(4).

Toxicity reference values (all receptors): Default toxicity reference values provided in this table may be replaced by a value established from a literature survey conducted in accordance with WAC 173-340-7493(4).

- b Calculated from $\log K_{ow}$ using formula in footnote a.

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Table 830-1
Required Testing for Petroleum Releases.

	Gasoline Range Organics (GRO) (1)	Diesel Range Organics (DRO) (2)	Heavy Oils (DRO) (3)	Mineral Oils (4)	Waste Oils and Unknown Oil (5)
Volatile Petroleum Compounds					
Benzene	X (6)	X (7)			X (8)
Toluene	X (6)	X (7)			X (8)
Ethyl benzene	X (6)	X (7)			X (8)
Xylenes	X (6)	X (7)			X (8)
n-Hexane	X (9)				
Fuel Additives and Blending Compounds					
Dibromoethane, 1-2 (EDB); and Dichloroethane, 1-2 (EDC)	X (10)				X (8)
Methyl tertiary-butyl ether (MTBE)	X (11)				X (8)
Total Lead and Other Additives	X (12)				X (8)
Other Petroleum Components					
Carcinogenic PAHs		X (13)	X (13)		X (8)
Naphthalenes	X (14)	X (14)	X (14)		X (14)
Other Compounds					
Polychlorinated Biphenyls (PCBs)			X (15)	X (15)	X (8)
Halogenated Volatile Organic Compounds (VOCs)					X (8)
Other	X (16)	X (16)	X (16)	X (16)	X (16)
Total Petroleum Hydrocarbons Methods					
TPH Analytical Method for Total TPH (Method A Cleanup Levels) (17)	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx	NWTPH-Dx	NWTPH-Gx & NWTPH-Dx
TPH Analytical Methods for TPH fractions (Methods B or C) (17)	VPH	EPH	EPH	EPH	VPH and EPH

[Editor's Note: See next page for the footnotes associated with Table 830-1.]

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Use of Table 830-1: An "X" in the box means that the testing requirement applies to ground water and soil if a release is known or suspected to have occurred to that medium, unless otherwise specified in the footnotes. A box with no "X" indicates (except in the last two rows) that, for the type of petroleum product release indicated in the top row, analyses for the hazardous substance(s) named in the far-left column corresponding to the empty box are not typically required as part of the testing for petroleum releases. However, such analyses may be required based on other site-specific information. Note that testing for Total Petroleum Hydrocarbons (TPH) is required for every type of petroleum release, as indicated in the bottom two rows of the table. The testing method for TPH depends on the type of petroleum product released and whether Method A or Method B or C is being used to determine TPH cleanup levels. See WAC 173-340-830 for analytical procedures. The footnotes to this table are important for understanding the specific analytical requirements for petroleum releases.

Footnotes:

- (1) The following petroleum products are common examples of GRO: automotive and aviation gasolines, mineral spirits, stoddard solvents, and naphtha. To be in this range, 90 percent of the petroleum components need to be quantifiable using the NWTPH-Gx; if NWTPH-HCID results are used for this determination, then 90 percent of the "area under the TPH curve" must be quantifiable using NWTPH-Gx. Products such as jet fuel, diesel No. 1, kerosene, and heating oil may require analysis as both GRO and DRO depending on the range of petroleum components present (range can be measured by NWTPH-HCID). (See footnote 17 on analytical methods.)
- (2) The following petroleum products are common examples of DRO: Diesel No. 2, fuel oil No. 2, light oil (including some bunker oils). To be in this range, 90 percent of the petroleum components need to be quantifiable using the NWTPH-Dx quantified against a diesel standard. Products such as jet fuel, diesel No. 1, kerosene, and heating oil may require analysis as both GRO and DRO depending on the range of petroleum components present as measured in NWTPH-HCID.
- (3) The following petroleum products are common examples of the heavy oil group: Motor oils, lube oils, hydraulic fluids, etc. Heavier oils may require the addition of an appropriate oil range standard for quantification.
- (4) Mineral oil means non-PCB mineral oil, typically used as an insulator and coolant in electrical devices such as transformers and capacitors.
- (5) The waste oil category applies to waste oil, oily wastes, and unknown petroleum products and mixtures of petroleum and nonpetroleum substances. Analysis of other chemical components (such as solvents) than those listed may be required based on site-specific information. Mixtures of identifiable petroleum products (such as gasoline and diesel, or diesel and motor oil) may be analyzed based on the presence of the individual products, and need not be treated as waste and unknown oils.
- (6) When using Method A, testing soil for benzene is required. Furthermore, testing ground water for BTEX is necessary when a petroleum release to ground water is known or suspected. If the ground water is tested and toluene, ethyl benzene or xylene is in the ground water above its respective Method A cleanup level, the soil must also be tested for that chemical. When using Method B or C, testing the soil for BTEX is required and testing for BTEX in ground water is required when a release to ground water is known or suspected.
- (7)(a) For DRO releases from other than home heating oil systems, follow the instructions for GRO releases in Footnote (6).
- (b) For DRO releases from typical home heating oil systems (systems of 1,100 gallons or less storing heating oil for residential consumptive use on the premises where stored), testing for BTEX is not usually required for either ground water or soil. Testing of the ground water is also not usually required for these systems; however, if the ground water is tested and benzene is found in the ground water, the soil must be tested for benzene.
- (8) Testing is required in a sufficient number of samples to determine whether this chemical is present at concentrations of concern. If the chemical is found to be at levels below the applicable cleanup level, then no further analysis is required.
- (9) Testing for n-hexane is required when VPH analysis is performed for Method B or C. In this case, the concentration of n-hexane should be deleted from its respective fraction to avoid double-counting its concentration. n-Hexane's contribution to overall toxicity is then evaluated using its own reference dose.
- (10) Volatile fuel additives (such as dibromoethane, 1-2 (EDB) (CAS# 106-93-4) and dichloroethane, 1-2 (EDC) (CAS# 107-06-2)) must be part of a volatile organics analysis (VOA) of GRO contaminated ground water. If any is found in ground water, then the contaminated soil must also be tested for these chemicals.
- (11) Methyl tertiary-butyl ether (MTBE) (CAS# 1634-04-4) must be analyzed in GRO contaminated ground water. If any is found in ground water, then the contaminated soil must also be tested for MTBE.
- (12)(a) For automotive gasoline where the release occurred prior to 1996 (when "leaded gasoline" was used), testing for lead is required unless it can be demonstrated that lead was not part of the release. If this demonstration cannot be made, testing is required in a sufficient number of samples to determine whether lead is present at concentrations of concern. Other additives and blending compounds of potential environmental significance may need to be considered for testing, including: tertiary-butyl alcohol (TBA); tertiary-amyl methyl ether (TAME); ethyl tertiary-butyl ether (ETBE); ethanol; and methanol. Contact the department for additional testing recommendations regarding these and other additives and blending compounds.
- (b) For aviation gasoline, racing fuels and similar products, testing is required for likely fuel additives (especially lead) and likely blending compounds, no matter when the release occurred.
- (13) Testing for carcinogenic PAHs is required for DRO and heavy oils, except for the following products for which adequate information exists to indicate their absence: Diesel No. 1 and 2, home heating oil, kerosene, jet fuels, and electrical insulating mineral oils. The carcinogenic PAHs include benzo(a)pyrene, chrysene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene, benzo(k)fluoranthene, benzo(a)anthracene, and benzo(b)fluoranthene.
- (14)(a) Except as noted in (b) and (c), testing for the non-carcinogenic PAHs, including the "naphthalenes" (naphthalene, 1-methylnaphthalene, and 2-methyl-naphthalene) is not required when using Method A cleanup levels, because they are included in the TPH cleanup level.
- (b) Testing of soil for naphthalenes is required under Methods B and C when the inhalation exposure pathway is evaluated.
- (c) If naphthalenes are found in ground water, then the soil must also be tested for naphthalenes.
- (15) Testing for PCBs is required unless it can be demonstrated that: (1) the release originated from an electrical device manufactured for use in the United States after July 1, 1979; (2) oil containing PCBs was never used in the equipment suspected as the source of the release (examples of equipment where PCBs are likely to be found include transformers, electric motors, hydraulic systems, heat transfer systems, electromagnets, compressors, capacitors, switches and miscellaneous other electrical devices); or, (3) the oil released was recently tested and did not contain PCBs.
- (16) Testing for other possible chemical contaminants may be required based on site-specific information.
- (17) The analytical methods NWTPH-Gx, NWTPH-Dx, NWTPH-HCID, VPH, and EPH are methods published by the Department of Ecology and available on the department's Internet web site: <http://www.ecy.wa.gov/programs/tcp/cleanup.html>.

**Model Toxics Control Act
Chapter 70.105D RCW**

Model Toxics Control Act

Chapter 70.105D RCW

Sections

- 70.105D.010 Declaration of policy.
- 70.105D.020 Definitions.
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- 70.105D.900 Short title—1989 c 2.
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- 70.105D.915 Existing agreements—1989 c 2.
- 70.105D.920 Effective date—1989 c 2.
- 70.105D.921 Severability—1989 c 2.

NOTES:

Environmental certification programs—Fees—Rules—Liability: RCW 43.21A.175.

RCW 70.105D.010 Declaration of policy.

(1) Each person has a fundamental and inalienable right to a healthful environment, and each person has a responsibility to preserve and enhance that right. The beneficial stewardship of the land, air, and waters of the state is a solemn obligation of the present generation for the benefit of future generations.

(2) A healthful environment is now threatened by the irresponsible use and disposal of hazardous substances. There are hundreds of hazardous waste sites in this state, and more will be created if current waste practices continue. Hazardous waste sites threaten the state's water resources, including those used for public drinking water. Many of our municipal landfills are current or potential hazardous waste sites and present serious threats to human health and environment. The costs of eliminating these threats in many cases are beyond the financial means of our local governments and

ratepayers. The main purpose of chapter 2, Laws of 1989 is to raise sufficient funds to clean up all hazardous waste sites and to prevent the creation of future hazards due to improper disposal of toxic wastes into the state's land and waters.

(3) Many farmers and small business owners who have followed the law with respect to their uses of pesticides and other chemicals nonetheless may face devastating economic consequences because their uses have contaminated the environment or the water supplies of their neighbors. With a source of funds, the state may assist these farmers and business owners, as well as those persons who sustain damages, such as the loss of their drinking water supplies, as a result of the contamination.

(4) It is in the public's interest to efficiently use our finite land base, to integrate our land use planning policies with our clean-up policies, and to clean up and reuse contaminated industrial properties in order to minimize industrial development pressures on undeveloped land and to make clean land available for future social use.

(5) Because it is often difficult or impossible to allocate responsibility among persons liable for hazardous waste sites and because it is essential that sites be cleaned up well and expeditiously, each responsible person should be liable jointly and severally.

[1994 c 254 § 1; 1989 c 2 § 1 (Initiative Measure No. 97, approved November 8, 1988).]

RCW 70.105D.020 Definitions.

(1) "Agreed order" means an order issued by the department under this chapter with which the potentially liable person receiving the order agrees to comply. An agreed order may be used to require or approve any cleanup or other remedial actions but it is not a settlement under RCW 70.105D.040(4) and shall not contain a covenant not to sue, or provide protection from claims for contribution, or provide eligibility for public

funding of remedial actions under RCW 70.105D.070(2)(d)(xi).

(2) **"Department"** means the department of ecology.

(3) **"Director"** means the director of ecology or the director's designee.

(4) **"Facility"** means (a) any building, structure, installation, equipment, pipe or pipeline (including any pipe into a sewer or publicly owned treatment works), well, pit, pond, lagoon, impoundment, ditch, landfill, storage container, motor vehicle, rolling stock, vessel, or aircraft, or (b) any site or area where a hazardous substance, other than a consumer product in consumer use, has been deposited, stored, disposed of, or placed, or otherwise come to be located.

(5) **"Federal cleanup law"** means the federal comprehensive environmental response, compensation, and liability act of 1980, 42 U.S.C. Sec. 9601 et seq., as amended by Public Law 99-499.

(6) **"Foreclosure and its equivalents"** means purchase at a foreclosure sale, acquisition, or assignment of title in lieu of foreclosure, termination of a lease, or other repossession, acquisition of a right to title or possession, an agreement in satisfaction of the obligation, or any other comparable formal or informal manner, whether pursuant to law or under warranties, covenants, conditions, representations, or promises from the borrower, by which the holder acquires title to or possession of a facility securing a loan or other obligation.

(7) **"Hazardous substance"** means:

(a) Any dangerous or extremely hazardous waste as defined in RCW 70.105.010 (5) and (6), or any dangerous or extremely dangerous waste designated by rule pursuant to chapter 70.105 RCW;

(b) Any hazardous substance as defined in RCW 70.105.010(14) or any hazardous substance as defined by rule pursuant to chapter 70.105 RCW;

(c) Any substance that, on March 1, 1989, is a hazardous substance under section 101(14) of the federal cleanup law, 42 U.S.C. Sec. 9601(14);

(d) Petroleum or petroleum products; and

(e) Any substance or category of substances, including solid waste decomposition products, determined by the director by rule to present a

threat to human health or the environment if released into the environment.

The term hazardous substance does not include any of the following when contained in an underground storage tank from which there is not a release: Crude oil or any fraction thereof or petroleum, if the tank is in compliance with all applicable federal, state, and local law.

(8) **"Independent remedial actions"** means remedial actions conducted without department oversight or approval, and not under an order, agreed order, or consent decree.

(9) **"Holder"** means a person who holds indicia of ownership primarily to protect a security interest. A holder includes the initial holder such as the loan originator, any subsequent holder such as a successor-in-interest or subsequent purchaser of the security interest on the secondary market, a guarantor of an obligation, surety, or any other person who holds indicia of ownership primarily to protect a security interest, or a receiver, court-appointed trustee, or other person who acts on behalf or for the benefit of a holder. A holder can be a public or privately owned financial institution, receiver, conservator, loan guarantor, or other similar persons that loan money or guarantee repayment of a loan. Holders typically are banks or savings and loan institutions but may also include others such as insurance companies, pension funds, or private individuals that engage in loaning of money or credit.

(10) **"Indicia of ownership"** means evidence of a security interest, evidence of an interest in a security interest, or evidence of an interest in a facility securing a loan or other obligation, including any legal or equitable title to a facility acquired incident to foreclosure and its equivalents. Evidence of such interests includes, mortgages, deeds of trust, sellers interest in a real estate contract, liens, surety bonds, and guarantees of obligations, title held pursuant to a lease financing transaction in which the lessor does not select initially the leased facility, or legal or equitable title obtained pursuant to foreclosure and their equivalents. Evidence of such interests also includes assignments, pledges, or other rights to or other forms of encumbrance against the facility

that are held primarily to protect a security interest.

(11) "Operating a facility primarily to protect a security interest" occurs when all of the following are met: (a) Operating the facility where the borrower has defaulted on the loan or otherwise breached the security agreement; (b) operating the facility to preserve the value of the facility as an ongoing business; (c) the operation is being done in anticipation of a sale, transfer, or assignment of the facility; and (d) the operation is being done primarily to protect a security interest. Operating a facility for longer than one year prior to foreclosure or its equivalents shall be presumed to be operating the facility for other than to protect a security interest.

(12) "Owner or operator" means:

(a) Any person with any ownership interest in the facility or who exercises any control over the facility; or

(b) In the case of an abandoned facility, any person who had owned, or operated, or exercised control over the facility any time before its abandonment;

The term does not include:

(i) An agency of the state or unit of local government which acquired ownership or control involuntarily through bankruptcy, tax delinquency, abandonment, or circumstances in which the government involuntarily acquires title. This exclusion does not apply to an agency of the state or unit of local government which has caused or contributed to the release or threatened release of a hazardous substance from the facility;

(ii) A person who, without participating in the management of a facility, holds indicia of ownership primarily to protect the person's security interest in the facility. Holders after foreclosure and its equivalent and holders who engage in any of the activities identified in subsection (13)(e) through (g) of this section shall not lose this exemption provided the holder complies with all of the following:

(A) The holder properly maintains the environmental compliance measures already in place at the facility;

(B) The holder complies with the reporting requirements in the rules adopted under this chapter;

(C) The holder complies with any order issued to the holder by the department to abate an imminent or substantial endangerment;

(D) The holder allows the department or potentially liable persons under an order, agreed order, or settlement agreement under this chapter access to the facility to conduct remedial actions and does not impede the conduct of such remedial actions;

(E) Any remedial actions conducted by the holder are in compliance with any preexisting requirements identified by the department, or, if the department has not identified such requirements for the facility, the remedial actions are conducted consistent with the rules adopted under this chapter; and

(F) The holder does not exacerbate an existing release. The exemption in this subsection (12)(b)(ii) does not apply to holders who cause or contribute to a new release or threatened release or who are otherwise liable under RCW 70.105D.040 (1) (b), (c), (d), and (e); provided, however, that a holder shall not lose this exemption if it establishes that any such new release has been remediated according to the requirements of this chapter and that any hazardous substances remaining at the facility after remediation of the new release are divisible from such new release;

(iii) A fiduciary in his, her, or its personal or individual capacity. This exemption does not preclude a claim against the assets of the estate or trust administered by the fiduciary or against a nonemployee agent or independent contractor retained by a fiduciary. This exemption also does not apply to the extent that a person is liable under this chapter independently of the person's ownership as a fiduciary or for actions taken in a fiduciary capacity which cause or contribute to a new release or exacerbate an existing release of hazardous substances. This exemption applies provided that, to the extent of the fiduciary's powers granted by law or by the applicable governing instrument granting fiduciary powers, the fiduciary complies with all of the following:

(A) The fiduciary properly maintains the environmental compliance measures already in place at the facility;

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(B) The fiduciary complies with the reporting requirements in the rules adopted under this chapter;

(C) The fiduciary complies with any order issued to the fiduciary by the department to abate an imminent or substantial endangerment;

(D) The fiduciary allows the department or potentially liable persons under an order, agreed order, or settlement agreement under this chapter access to the facility to conduct remedial actions and does not impede the conduct of such remedial actions;

(E) Any remedial actions conducted by the fiduciary are in compliance with any preexisting requirements identified by the department, or, if the department has not identified such requirements for the facility, the remedial actions are conducted consistent with the rules adopted under this chapter; and

(F) The fiduciary does not exacerbate an existing release.

The exemption in this subsection (12)(b)(iii) does not apply to fiduciaries who cause or contribute to a new release or threatened release or who are otherwise liable under RCW 70.105D.040 (1) (b), (c), (d), and (e); provided however, that a fiduciary shall not lose this exemption if it establishes that any such new release has been remediated according to the requirements of this chapter and that any hazardous substances remaining at the facility after remediation of the new release are divisible from such new release. The exemption in this subsection (12)(b)(iii) also does not apply where the fiduciary's powers to comply with this subsection (12)(b)(iii) are limited by a governing instrument created with the objective purpose of avoiding liability under this chapter or of avoiding compliance with this chapter; or

(iv) Any person who has any ownership interest in, operates, or exercises control over real property where a hazardous substance has come to be located solely as a result of migration of the hazardous substance to the real property through the ground water from a source off the property, if:

(A) The person can demonstrate that the hazardous substance has not been used, placed, managed, or otherwise handled on the property in

a manner likely to cause or contribute to a release of the hazardous substance that has migrated onto the property;

(B) The person has not caused or contributed to the release of the hazardous substance;

(C) The person does not engage in activities that damage or interfere with the operation of remedial actions installed on the person's property or engage in activities that result in exposure of humans or the environment to the contaminated ground water that has migrated onto the property;

(D) If requested, the person allows the department, potentially liable persons who are subject to an order, agreed order, or consent decree, and the authorized employees, agents, or contractors of each, access to the property to conduct remedial actions required by the department. The person may attempt to negotiate an access agreement before allowing access; and

(E) Legal withdrawal of ground water does not disqualify a person from the exemption in this subsection (12)(b)(iv).

(13) "Participation in management" means exercising decision-making control over the borrower's operation of the facility, environmental compliance, or assuming or manifesting responsibility for the overall management of the enterprise encompassing the day-to-day decision making of the enterprise.

The term does not include any of the following: (a) A holder with the mere capacity or ability to influence, or the unexercised right to control facility operations; (b) a holder who conducts or requires a borrower to conduct an environmental audit or an environmental site assessment at the facility for which indicia of ownership is held; (c) a holder who requires a borrower to come into compliance with any applicable laws or regulations at the facility for which indicia of ownership is held; (d) a holder who requires a borrower to conduct remedial actions including setting minimum requirements, but does not otherwise control or manage the borrower's remedial actions or the scope of the borrower's remedial actions except to prepare a facility for sale, transfer, or assignment; (e) a holder who engages in workout or policing activities primarily to protect the holder's security interest in the facility; (f) a holder who prepares a

facility for sale, transfer, or assignment or requires a borrower to prepare a facility for sale, transfer, or assignment; (g) a holder who operates a facility primarily to protect a security interest, or requires a borrower to continue to operate, a facility primarily to protect a security interest; and (h) a prospective holder who, as a condition of becoming a holder, requires an owner or operator to conduct an environmental audit, conduct an environmental site assessment, come into compliance with any applicable laws or regulations, or conduct remedial actions prior to holding a security interest is not participating in the management of the facility.

(14) "Person" means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, state government agency, unit of local government, federal government agency, or Indian tribe.

(15) "Policing activities" means actions the holder takes to insure that the borrower complies with the terms of the loan or security interest or actions the holder takes or requires the borrower to take to maintain the value of the security. Policing activities include: Requiring the borrower to conduct remedial actions at the facility during the term of the security interest; requiring the borrower to comply or come into compliance with applicable federal, state, and local environmental and other laws, regulations, and permits during the term of the security interest; securing or exercising authority to monitor or inspect the facility including on-site inspections, or to monitor or inspect the borrower's business or financial condition during the term of the security interest; or taking other actions necessary to adequately police the loan or security interest such as requiring a borrower to comply with any warranties, covenants, conditions, representations, or promises from the borrower.

(16) "Potentially liable person" means any person whom the department finds, based on credible evidence, to be liable under RCW 70.105D.040. The department shall give notice to any such person and allow an opportunity for comment before making the finding, unless an emergency requires otherwise.

(17) "Prepare a facility for sale, transfer, or assignment" means to secure access to the facility; perform routine maintenance on the facility; remove inventory, equipment, or structures; properly maintain environmental compliance measures already in place at the facility; conduct remedial actions to clean up releases at the facility; or to perform other similar activities intended to preserve the value of the facility where the borrower has defaulted on the loan or otherwise breached the security agreement or after foreclosure and its equivalents and in anticipation of a pending sale, transfer, or assignment, primarily to protect the holder's security interest in the facility. A holder can prepare a facility for sale, transfer, or assignment for up to one year prior to foreclosure and its equivalents and still stay within the security interest exemption in subsection (12)(b)(ii) of this section.

(18) "Primarily to protect a security interest" means the indicia of ownership is held primarily for the purpose of securing payment or performance of an obligation. The term does not include indicia of ownership held primarily for investment purposes nor indicia of ownership held primarily for purposes other than as protection for a security interest. A holder may have other, secondary reasons, for maintaining indicia of ownership, but the primary reason must be for protection of a security interest. Holding indicia of ownership after foreclosure or its equivalents for longer than five years shall be considered to be holding the indicia of ownership for purposes other than primarily to protect a security interest. For facilities that have been acquired through foreclosure or its equivalents prior to July 23, 1995, this five-year period shall begin as of July 23, 1995.

(19) "Public notice" means, at a minimum, adequate notice mailed to all persons who have made timely request of the department and to persons residing in the potentially affected vicinity of the proposed action; mailed to appropriate news media; published in the newspaper of largest circulation in the city or county of the proposed action; and opportunity for interested persons to comment.

(20) **"Release"** means any intentional or unintentional entry of any hazardous substance into the environment, including but not limited to the abandonment or disposal of containers of hazardous substances.

(21) **"Remedy" or "remedial action"** means any action or expenditure consistent with the purposes of this chapter to identify, eliminate, or minimize any threat or potential threat posed by hazardous substances to human health or the environment including any investigative and monitoring activities with respect to any release or threatened release of a hazardous substance and any health assessments or health effects studies conducted in order to determine the risk or potential risk to human health.

(22) **"Security interest"** means an interest in a facility created or established for the purpose of securing a loan or other obligation. Security interests include deeds of trusts, sellers interest in a real estate contract, liens, legal, or equitable title to a facility acquired incident to foreclosure and its equivalents, and title pursuant to lease financing transactions. Security interests may also arise from transactions such as sale and leasebacks, conditional sales, installment sales, trust receipt transactions, certain assignments, factoring agreements, accounts receivable financing arrangements, easements, and consignments, if the transaction creates or establishes an interest in a facility for the purpose of securing a loan or other obligation.

(23) **"Industrial properties"** means properties that are or have been characterized by, or are to be committed to, traditional industrial uses such as processing or manufacturing of materials, marine terminal and transportation areas and facilities, fabrication, assembly, treatment, or distribution of manufactured products, or storage of bulk materials, that are either:

(a) Zoned for industrial use by a city or county conducting land use planning under chapter 36.70A RCW; or

(b) For counties not planning under chapter 36.70A RCW and the cities within them, zoned for industrial use and adjacent to properties currently used or designated for industrial purposes.

(24) **"Workout activities"** means those actions by which a holder, at any time prior to foreclosure and its equivalents, seeks to prevent, cure, or mitigate a default by the borrower or obligor; or to preserve, or prevent the diminution of, the value of the security. Workout activities include: Restructuring or renegotiating the terms of the security interest; requiring payment of additional rent or interest; exercising forbearance; requiring or exercising rights pursuant to an assignment of accounts or other amounts owed to an obligor; requiring or exercising rights pursuant to an escrow agreement pertaining to amounts owed to an obligor; providing specific or general financial or other advice, suggestions, counseling, or guidance; and exercising any right or remedy the holder is entitled to by law or under any warranties, covenants, conditions, representations, or promises from the borrower.

(25)(a) **"Fiduciary"** means a person acting for the benefit of another party as a bona fide trustee; executor; administrator; custodian; guardian of estates or guardian ad litem; receiver; conservator; committee of estates of incapacitated persons; trustee in bankruptcy; trustee, under an indenture agreement, trust agreement, lease, or similar financing agreement, for debt securities, certificates of interest or certificates of participation in debt securities, or other forms of indebtedness as to which the trustee is not, in the capacity of trustee, the lender. Except as provided in subsection (12)(b)(iii) of this section, the liability of a fiduciary under this chapter shall not exceed the assets held in the fiduciary capacity.

(b) **"Fiduciary"** does not mean:

(i) A person acting as a fiduciary with respect to a trust or other fiduciary estate that was organized for the primary purpose of, or is engaged in, actively carrying on a trade or business for profit, unless the trust or other fiduciary estate was created as part of, or to facilitate, one or more estate plans or because of the incapacity of a natural person;

(ii) A person who acquires ownership or control of a facility with the objective purpose of avoiding liability of the person or any other person. It is prima facie evidence that the fiduciary acquired ownership or control of the facility to

avoid liability if the facility is the only substantial asset in the fiduciary estate at the time the facility became subject to the fiduciary estate;

(iii) A person who acts in a capacity other than that of a fiduciary or in a beneficiary capacity and in that capacity directly or indirectly benefits from a trust or fiduciary relationship;

(iv) A person who is a beneficiary and fiduciary with respect to the same fiduciary estate, and who while acting as a fiduciary receives benefits that exceed customary or reasonable compensation, and incidental benefits permitted under applicable law;

(v) A person who is a fiduciary and receives benefits that substantially exceed customary or reasonable compensation, and incidental benefits permitted under applicable law; or

(vi) A person who acts in the capacity of trustee of state or federal lands or resources.

(26) "Fiduciary capacity" means the capacity of a person holding title to a facility, or otherwise having control of an interest in the facility pursuant to the exercise of the responsibilities of the person as a fiduciary.

[1998 c 6 § 1; 1997 c 406 § 2; 1995 c 70 § 1; 1994 c 254 § 2; 1989 c 2 § 2 (Initiative Measure No. 97, approved November 8, 1988).]

NOTES:

Findings-Intent-1997 c 406: "The legislature finds that:

(1) Engrossed Substitute House Bill No. 1810 enacted during the 1995 legislative session [1995 c 359] authorized establishment of the model toxics control act policy advisory committee, a twenty-two member committee representing a broad range of interests including the legislature, agriculture, large and small business, environmental organizations, and local and state government. The committee was charged with the task of providing advice to the legislature and the department of ecology to more effectively implement the model toxics control act, chapter 70.105D RCW.

(2) The committee members committed considerable time and effort to their charge, meeting twenty-six times during 1995 and 1996 to discuss and decide issues. In addition, the committee created four subcommittees that met over sixty times during this same period. There were also numerous working subgroups and drafting committees formed on an ad hoc basis to support the committee's work. Many members of the public also attended these meetings

and were provided opportunities to contribute to the committee deliberations.

(3) The policy advisory committee completed its work and submitted a final report to the department of ecology and the legislature on December 15, 1996. That report contains numerous recommendations for statutory changes that were agreed to by consensus of the committee members or obtained broad support of most of the committee members. Chapter 406, Laws of 1997 is intended to implement those recommended statutory changes." [1997 c 406 § 1.]

RCW 70.105D.030 Department's powers and duties.

(1) The department may exercise the following powers in addition to any other powers granted by law:

(a) Investigate, provide for investigating, or require potentially liable persons to investigate any releases or threatened releases of hazardous substances, including but not limited to inspecting, sampling, or testing to determine the nature or extent of any release or threatened release. If there is a reasonable basis to believe that a release or threatened release of a hazardous substance may exist, the department's authorized employees, agents, or contractors may enter upon any property and conduct investigations. The department shall give reasonable notice before entering property unless an emergency prevents such notice. The department may by subpoena require the attendance or testimony of witnesses and the production of documents or other information that the department deems necessary;

(b) Conduct, provide for conducting, or require potentially liable persons to conduct remedial actions (including investigations under (a) of this subsection) to remedy releases or threatened releases of hazardous substances. In carrying out such powers, the department's authorized employees, agents, or contractors may enter upon property. The department shall give reasonable notice before entering property unless an emergency prevents such notice. In conducting, providing for, or requiring remedial action, the department shall give preference to permanent solutions to the maximum extent practicable and shall provide for or require adequate monitoring to ensure the effectiveness of the remedial action;

(c) Indemnify contractors retained by the department for carrying out investigations and remedial actions, but not for any contractor's reckless or wilful misconduct;

(d) Carry out all state programs authorized under the federal cleanup law and the federal resource, conservation, and recovery act, 42 U.S.C. Sec. 6901 et seq., as amended;

(e) Classify substances as hazardous substances for purposes of RCW 70.105D.020(7) and classify substances and products as hazardous substances for purposes of RCW 82.21.020(1);

(f) Issue orders or enter into consent decrees or agreed orders that include, or issue written opinions under (i) of this subsection that may be conditioned upon, deed restrictions where necessary to protect human health and the environment from a release or threatened release of a hazardous substance from a facility. Prior to establishing a deed restriction under this subsection, the department shall notify and seek comment from a city or county department with land use planning authority for real property subject to a deed restriction;

(g) Enforce the application of permanent and effective institutional controls that are necessary for a remedial action to be protective of human health and the environment;

(h) Require holders to conduct remedial actions necessary to abate an imminent or substantial endangerment pursuant to RCW 70.105D.020(12)(b)(ii)(C);

(i) Provide informal advice and assistance to persons regarding the administrative and technical requirements of this chapter. This may include site-specific advice to persons who are conducting or otherwise interested in independent remedial actions. Any such advice or assistance shall be advisory only, and shall not be binding on the department. As a part of providing this advice and assistance for independent remedial actions, the department may prepare written opinions regarding whether the independent remedial actions or proposals for those actions meet the substantive requirements of this chapter or whether the department believes further remedial action is necessary at the facility. The department may collect, from persons requesting advice and assistance, the costs incurred by the department in providing such

advice and assistance; however, the department shall, where appropriate, waive collection of costs in order to provide an appropriate level of technical assistance in support of public participation. The state, the department, and officers and employees of the state are immune from all liability, and no cause of action of any nature may arise from any act or omission in providing, or failing to provide, informal advice and assistance; and

(j) Take any other actions necessary to carry out the provisions of this chapter, including the power to adopt rules under chapter 34.05 RCW.

(2) The department shall immediately implement all provisions of this chapter to the maximum extent practicable, including investigative and remedial actions where appropriate. The department shall adopt, and thereafter enforce, rules under chapter 34.05 RCW to:

(a) Provide for public participation, including at least (i) the establishment of regional citizen's advisory committees, (ii) public notice of the development of investigative plans or remedial plans for releases or threatened releases, and (iii) concurrent public notice of all compliance orders, agreed orders, enforcement orders, or notices of violation;

(b) Establish a hazard ranking system for hazardous waste sites;

(c) Provide for requiring the reporting by an owner or operator of releases of hazardous substances to the environment that may be a threat to human health or the environment within ninety days of discovery, including such exemptions from reporting as the department deems appropriate, however this requirement shall not modify any existing requirements provided for under other laws;

(d) Establish reasonable deadlines not to exceed ninety days for initiating an investigation of a hazardous waste site after the department receives notice or otherwise receives information that the site may pose a threat to human health or the environment and other reasonable deadlines for remedying releases or threatened releases at the site;

(e) Publish and periodically update minimum cleanup standards for remedial actions at least as stringent as the cleanup standards under section

121 of the federal cleanup law, 42 U.S.C. Sec. 9621, and at least as stringent as all applicable state and federal laws, including health-based standards under state and federal law; and

(f) Apply industrial clean-up standards at industrial properties. Rules adopted under this subsection shall ensure that industrial properties cleaned up to industrial standards cannot be converted to nonindustrial uses without approval from the department. The department may require that a property cleaned up to industrial standards is cleaned up to a more stringent applicable standard as a condition of conversion to a nonindustrial use. Industrial cleanup standards may not be applied to industrial properties where hazardous substances remaining at the property after remedial action pose a threat to human health or the environment in adjacent nonindustrial areas.

(3) Before November 1st of each even-numbered year, the department shall develop, with public notice and hearing, and submit to the ways and means and appropriate standing environmental committees of the senate and house of representatives a ranked list of projects and expenditures recommended for appropriation from both the state and local toxics control accounts. The department shall also provide the legislature and the public each year with an accounting of the department's activities supported by appropriations from the state toxics control account, including a list of known hazardous waste sites and their hazard rankings, actions taken and planned at each site, how the department is meeting its top two management priorities under RCW 70.105.150, and all funds expended under this chapter.

(4) The department shall establish a scientific advisory board to render advice to the department with respect to the hazard ranking system, cleanup standards, remedial actions, deadlines for remedial actions, monitoring, the classification of substances as hazardous substances for purposes of RCW 70.105D.020(7) and the classification of substances or products as hazardous substances for purposes of RCW 82.21.020(1). The board shall consist of five independent members to serve staggered three-year terms. No members may be employees of the department. Members shall be

reimbursed for travel expenses as provided in RCW 43.03.050 and 43.03.060.

(5) The department shall establish a program to identify potential hazardous waste sites and to encourage persons to provide information about hazardous waste sites.

[1997 c 406 § 3; 1995 c 70 § 2. Prior: 1994 c 257 § 11; 1994 c 254 § 3; 1989 c 2 § 3 (Initiative Measure No. 97, approved November 8, 1988).]

NOTES:

Findings-Intent-1997 c 406: See note following RCW 70.105D.020.

Severability-1994 c 257: See note following RCW 36.70A.270.

RCW 70.105D.040 Standard of liability-Settlement.

(1) Except as provided in subsection (3) of this section, the following persons are liable with respect to a facility:

(a) The owner or operator of the facility;

(b) Any person who owned or operated the facility at the time of disposal or release of the hazardous substances;

(c) Any person who owned or possessed a hazardous substance and who by contract, agreement, or otherwise arranged for disposal or treatment of the hazardous substance at the facility, or arranged with a transporter for transport for disposal or treatment of the hazardous substances at the facility, or otherwise generated hazardous wastes disposed of or treated at the facility;

(d) Any person (i) who accepts or accepted any hazardous substance for transport to a disposal, treatment, or other facility selected by such person from which there is a release or a threatened release for which remedial action is required, unless such facility, at the time of disposal or treatment, could legally receive such substance; or (ii) who accepts a hazardous substance for transport to such a facility and has reasonable grounds to believe that such facility is not operated in accordance with chapter 70.105 RCW; and

(e) Any person who both sells a hazardous substance and is responsible for written instructions for its use if (i) the substance is used according to the instructions and (ii) the use

constitutes a release for which remedial action is required at the facility.

(2) Each person who is liable under this section is strictly liable, jointly and severally, for all remedial action costs and for all natural resource damages resulting from the releases or threatened releases of hazardous substances. The attorney general, at the request of the department, is empowered to recover all costs and damages from persons liable therefore.

(3) The following persons are not liable under this section:

(a) Any person who can establish that the release or threatened release of a hazardous substance for which the person would be otherwise responsible was caused solely by:

(i) An act of God;

(ii) An act of war; or

(iii) An act or omission of a third party (including but not limited to a trespasser) other than (A) an employee or agent of the person asserting the defense, or (B) any person whose act or omission occurs in connection with a contractual relationship existing, directly or indirectly, with the person asserting this defense to liability. This defense only applies where the person asserting the defense has exercised the utmost care with respect to the hazardous substance, the foreseeable acts or omissions of the third party, and the foreseeable consequences of those acts or omissions;

(b) Any person who is an owner, past owner, or purchaser of a facility and who can establish by a preponderance of the evidence that at the time the facility was acquired by the person, the person had no knowledge or reason to know that any hazardous substance, the release or threatened release of which has resulted in or contributed to the need for the remedial action, was released or disposed of on, in, or at the facility. This subsection (b) is limited as follows:

(i) To establish that a person had no reason to know, the person must have undertaken, at the time of acquisition, all appropriate inquiry into the previous ownership and uses of the property, consistent with good commercial or customary practice in an effort to minimize liability. Any court interpreting this subsection (b) shall take into

account any specialized knowledge or experience on the part of the person, the relationship of the purchase price to the value of the property if uncontaminated, commonly known or reasonably ascertainable information about the property, the obviousness of the presence or likely presence of contamination at the property, and the ability to detect such contamination by appropriate inspection;

(ii) The defense contained in this subsection (b) is not available to any person who had actual knowledge of the release or threatened release of a hazardous substance when the person owned the real property and who subsequently transferred ownership of the property without first disclosing such knowledge to the transferee;

(iii) The defense contained in this subsection (b) is not available to any person who, by any act or omission, caused or contributed to the release or threatened release of a hazardous substance at the facility;

(c) Any natural person who uses a hazardous substance lawfully and without negligence for any personal or domestic purpose in or near a dwelling or accessory structure when that person is: (i) A resident of the dwelling; (ii) a person who, without compensation, assists the resident in the use of the substance; or (iii) a person who is employed by the resident, but who is not an independent contractor;

(d) Any person who, for the purpose of growing food crops, applies pesticides or fertilizers without negligence and in accordance with all applicable laws and regulations.

(4) There may be no settlement by the state with any person potentially liable under this chapter except in accordance with this section.

(a) The attorney general may agree to a settlement with any potentially liable person only if the department finds, after public notice and any required hearing, that the proposed settlement would lead to a more expeditious cleanup of hazardous substances in compliance with cleanup standards under RCW 70.105D.030(2)(e) and with any remedial orders issued by the department. Whenever practicable and in the public interest, the attorney general may expedite such a settlement with persons whose contribution is insignificant in amount and toxicity. A hearing shall be required

only if at least ten persons request one or if the department determines a hearing is necessary.

(b) A settlement agreement under this section shall be entered as a consent decree issued by a court of competent jurisdiction.

(c) A settlement agreement may contain a covenant not to sue only of a scope commensurate with the settlement agreement in favor of any person with whom the attorney general has settled under this section. Any covenant not to sue shall contain a reopener clause which requires the court to amend the covenant not to sue if factors not known at the time of entry of the settlement agreement are discovered and present a previously unknown threat to human health or the environment.

(d) A party who has resolved its liability to the state under this section shall not be liable for claims for contribution regarding matters addressed in the settlement. The settlement does not discharge any of the other liable parties but it reduces the total potential liability of the others to the state by the amount of the settlement.

(e) If the state has entered into a consent decree with an owner or operator under this section, the state shall not enforce this chapter against any owner or operator who is a successor in interest to the settling party unless under the terms of the consent decree the state could enforce against the settling party, if:

(i) The successor owner or operator is liable with respect to the facility solely due to that person's ownership interest or operator status acquired as a successor in interest to the owner or operator with whom the state has entered into a consent decree; and

(ii) The stay of enforcement under this subsection does not apply if the consent decree was based on circumstances unique to the settling party that do not exist with regard to the successor in interest, such as financial hardship. For consent decrees entered into before July 27, 1997, at the request of a settling party or a potential successor owner or operator, the attorney general shall issue a written opinion on whether a consent decree contains such unique circumstances. For all other consent decrees, such unique circumstances shall be specified in the consent decree.

(f) Any person who is not subject to enforcement by the state under (e) of this subsection is not liable for claims for contribution regarding matters addressed in the settlement.

(5)(a) In addition to the settlement authority provided under subsection (4) of this section, the attorney general may agree to a settlement with a person not currently liable for remedial action at a facility who proposes to purchase, redevelop, or reuse the facility, provided that:

(i) The settlement will yield substantial new resources to facilitate cleanup;

(ii) The settlement will expedite remedial action consistent with the rules adopted under this chapter; and

(iii) Based on available information, the department determines that the redevelopment or reuse of the facility is not likely to contribute to the existing release or threatened release, interfere with remedial actions that may be needed at the site, or increase health risks to persons at or in the vicinity of the site.

(b) The legislature recognizes that the state does not have adequate resources to participate in all property transactions involving contaminated property. The primary purpose of this subsection (5) is to promote the cleanup and reuse of vacant or abandoned commercial or industrial contaminated property. The attorney general and the department may give priority to settlements that will provide a substantial public benefit, including, but not limited to the reuse of a vacant or abandoned manufacturing or industrial facility, or the development of a facility by a governmental entity to address an important public purpose.

(6) Nothing in this chapter affects or modifies in any way any person's right to seek or obtain relief under other statutes or under common law, including but not limited to damages for injury or loss resulting from a release or threatened release of a hazardous substance. No settlement by the department or remedial action ordered by a court or the department affects any person's right to obtain a remedy under common law or other statutes.

[1997 c 406 § 4; 1994 c 254 § 4; 1989 c 2 § 4 (Initiative Measure No. 97, approved November 8, 1988).]

NOTES:

Findings-Intent-1997 c 406: See note following RCW 70.105D.020.

RCW 70.105D.050 Enforcement.

(1) With respect to any release, or threatened release, for which the department does not conduct or contract for conducting remedial action and for which the department believes remedial action is in the public interest, the director shall issue orders or agreed orders requiring potentially liable persons to provide the remedial action. Any liable person who refuses, without sufficient cause, to comply with an order or agreed order of the director is liable in an action brought by the attorney general for:

(a) Up to three times the amount of any costs incurred by the state as a result of the party's refusal to comply; and

(b) A civil penalty of up to twenty-five thousand dollars for each day the party refuses to comply.

The treble damages and civil penalty under this subsection apply to all recovery actions filed on or after March 1, 1989.

(2) Any person who incurs costs complying with an order issued under subsection (1) of this section may petition the department for reimbursement of those costs. If the department refuses to grant reimbursement, the person may within thirty days thereafter file suit and recover costs by proving that he or she was not a liable person under RCW 70.105D.040 and that the costs incurred were reasonable.

(3) The attorney general shall seek, by filing an action if necessary, to recover the amounts spent by the department for investigative and remedial actions and orders, and agreed orders, including amounts spent prior to March 1, 1989.

(4) The attorney general may bring an action to secure such relief as is necessary to protect human health and the environment under this chapter.

(5)(a) Any person may commence a civil action to compel the department to perform any nondiscretionary duty under this chapter. At least thirty days before commencing the action, the person must give notice of intent to sue, unless a

substantial endangerment exists. The court may award attorneys' fees and other costs to the prevailing party in the action.

(b) Civil actions under this section and RCW 70.105D.060 may be brought in the superior court of Thurston county or of the county in which the release or threatened release exists.

[1994 c 257 § 12; 1989 c 2 § 5 (Initiative Measure No. 97, approved November 8, 1988).]

NOTES:

Severability-1994 c 257: See note following RCW 36.70A.270.

RCW 70.105D.060 Timing of review. The department's investigative and remedial decisions under RCW 70.105D.030 and 70.105D.050 and its decisions regarding liable persons under RCW *70.105D.020(8) and 70.105D.040 shall be reviewable exclusively in superior court and only at the following times: (1) In a cost recovery suit under RCW 70.105D.050(3); (2) in a suit by the department to enforce an order or an agreed order, or seek a civil penalty under this chapter; (3) in a suit for reimbursement under RCW 70.105D.050(2); (4) in a suit by the department to compel investigative or remedial action; and (5) in a citizen's suit under RCW 70.105D.050(5). The court shall uphold the department's actions unless they were arbitrary and capricious.

[1994 c 257 § 13; 1989 c 2 § 6 (Initiative Measure No. 97, approved November 8, 1988).]

NOTES:

*Reviser's note: RCW 70.105D.020 was amended by 1994 c 254 § 2, changing subsection (8) to subsection (9); and was subsequently amended by 1995 c 70 § 1, changing subsection (9) to subsection (15); and was subsequently amended by 1997 c 406 § 2, changing subsection (15) to subsection (16).

Severability-1994 c 257: See note following RCW 36.70A.270.

RCW 70.105D.070 Toxics control accounts.

(1) The state toxics control account and the local toxics control account are hereby created in the state treasury.

(2) The following moneys shall be deposited into the state toxics control account: (a) Those

revenues which are raised by the tax imposed under RCW 82.21.030 and which are attributable to that portion of the rate equal to thirty-three one-hundredths of one percent; (b) the costs of remedial actions recovered under this chapter or chapter 70.105A RCW; (c) penalties collected or recovered under this chapter; and (d) any other money appropriated or transferred to the account by the legislature. Moneys in the account may be used only to carry out the purposes of this chapter, including but not limited to the following activities:

(i) The state's responsibility for hazardous waste planning, management, regulation, enforcement, technical assistance, and public education required under chapter 70.105 RCW;

(ii) The state's responsibility for solid waste planning, management, regulation, enforcement, technical assistance, and public education required under chapter 70.95 RCW;

(iii) The hazardous waste cleanup program required under this chapter;

(iv) State matching funds required under the federal cleanup law;

(v) Financial assistance for local programs in accordance with chapters 70.95, 70.95C, 70.95I, and 70.105 RCW;

(vi) State government programs for the safe reduction, recycling, or disposal of hazardous wastes from households, small businesses, and agriculture;

(vii) Hazardous materials emergency response training;

(viii) Water and environmental health protection and monitoring programs;

(ix) Programs authorized under chapter 70.146 RCW;

(x) A public participation program, including regional citizen advisory committees;

(xi) Public funding to assist potentially liable persons to pay for the costs of remedial action in compliance with cleanup standards under RCW 70.105D.030(2)(e) but only when the amount and terms of such funding are established under a settlement agreement under RCW 70.105D.040(4) and when the director has found that the funding will achieve both (A) a substantially more expeditious or enhanced cleanup than would otherwise

occur, and (B) the prevention or mitigation of unfair economic hardship; and

(xii) Development and demonstration of alternative management technologies designed to carry out the top two hazardous waste management priorities of RCW 70.105.150.

(3) The following moneys shall be deposited into the local toxics control account: Those revenues which are raised by the tax imposed under RCW 82.21.030 and which are attributable to that portion of the rate equal to thirty-seven one-hundredths of one percent.

(a) Moneys deposited in the local toxics control account shall be used by the department for grants or loans to local governments for the following purposes in descending order of priority: (i) Remedial actions; (ii) hazardous waste plans and programs under chapter 70.105 RCW; (iii) solid waste plans and programs under chapters 70.95, 70.95C, 70.95I, and 70.105 RCW; and (iv) funds for a program to assist in the assessment and cleanup of sites of methamphetamine production, but not to be used for the initial containment of such sites, consistent with the responsibilities and intent of RCW 69.50.511. Funds for plans and programs shall be allocated consistent with the priorities and matching requirements established in chapters 70.105, 70.95C, 70.95I, and 70.95 RCW. During the 1999-2001 fiscal biennium, moneys in the account may also be used for the following activities: Conducting a study of whether dioxins occur in fertilizers, soil amendments, and soils; reviewing applications for registration of fertilizers; and conducting a study of plant uptake of metals.

(b) Funds may also be appropriated to the department of health to implement programs to reduce testing requirements under the federal safe drinking water act for public water systems. The department of health shall reimburse the account from fees assessed under RCW 70.119A.115 by June 30, 1995.

(4) Except for unanticipated receipts under RCW 43.79.260 through 43.79.282, moneys in the state and local toxics control accounts may be spent only after appropriation by statute.

(5) One percent of the moneys deposited into the state and local toxics control accounts shall be

allocated only for public participation grants to persons who may be adversely affected by a release or threatened release of a hazardous substance and to not-for-profit public interest organizations. The primary purpose of these grants is to facilitate the participation by persons and organizations in the investigation and remedying of releases or threatened releases of hazardous substances and to implement the state's solid and hazardous waste management priorities. However, during the 1999-2001 fiscal biennium, funding may not be granted to entities engaged in lobbying activities, and applicants may not be awarded grants if their cumulative grant awards under this section exceed two hundred thousand dollars. No grant may exceed sixty thousand dollars. Grants may be renewed annually. Moneys appropriated for public participation from either account which are not expended at the close of any biennium shall revert to the state toxics control account.

(6) No moneys deposited into either the state or local toxics control account may be used for solid waste incinerator feasibility studies, construction, maintenance, or operation.

(7) The department shall adopt rules for grant or loan issuance and performance.

[2000 2nd sp.s. c 1 § 912; 1999 c 309 § 923. Prior: 1998 c 346 § 905; 1998 c 81 § 2; 1997 c 406 § 5; 1994 c 252 § 5; 1991 sp.s. c 13 § 69; 1989 c 2 § 7 (Initiative Measure No. 97, approved November 8, 1988).]

NOTES:

Severability-Effective date-2000 2nd sp.s. c 1: See notes following RCW 41.05.143.

Severability-Effective date-1999 c 309: See notes following RCW 41.45.063.

Construction-Severability-Effective date-1998 c 346: See notes following RCW 50.24.014.

Local governments-Increased service-1998 c 81: "If this act mandates an increased level of service by local governments, the local government may, under RCW 43.135.060 and chapter 4.92 RCW, submit claims for reimbursement by the legislature. The claims shall be subject to verification by the office of financial management." [1998 c 81 § 3.]

Findings-Intent-1997 c 406: See note following RCW 70.105D.020.

Finding-Effective date-1994 c 252: See notes following RCW 70.119A.020.

Effective dates-Severability-1991 sp.s. c 13: See notes following RCW 18.08.240.

RCW 70.105D.080 Private right of action-Remedial action costs. Except as provided in RCW 70.105D.040(4) (d) and (f), a person may bring a private right of action, including a claim for contribution or for declaratory relief, against any other person liable under RCW 70.105D.040 for the recovery of remedial action costs. In the action, natural resource damages paid to the state under this chapter may also be recovered. Recovery shall be based on such equitable factors as the court determines are appropriate. Remedial action costs shall include reasonable attorneys' fees and expenses. Recovery of remedial action costs shall be limited to those remedial actions that, when evaluated as a whole, are the substantial equivalent of a department-conducted or department-supervised remedial action. Substantial equivalence shall be determined by the court with reference to the rules adopted by the department under this chapter. An action under this section may be brought after remedial action costs are incurred but must be brought within three years from the date remedial action confirms cleanup standards are met or within one year of May 12, 1993, whichever is later. The prevailing party in such an action shall recover its reasonable attorneys' fees and costs. This section applies to all causes of action regardless of when the cause of action may have arisen. To the extent a cause of action has arisen prior to May 12, 1993, this section applies retroactively, but in all other respects it applies prospectively.

[1997 c 406 § 6; 1993 c 326 § 1.]

NOTES:

Findings-Intent-1997 c 406: See note following RCW 70.105D.020.

Effective date-1993 c 326: "This act is necessary for the immediate preservation of the public peace, health, or safety, or support of the state government and its existing public institutions, and shall take effect immediately [May 12, 1993]." [1993 c 326 § 2.]

Severability-1993 c 326: "If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected." [1993 c 326 § 3.]

RCW 70.105D.090 Remedial actions-Exemption from procedural requirements.

(1) A person conducting a remedial action at a facility under a consent decree, order, or agreed order, and the department when it conducts a remedial action, are exempt from the procedural requirements of chapters 70.94, 70.95, 70.105, *75.20, 90.48, and 90.58 RCW, and the procedural requirements of any laws requiring or authorizing local government permits or approvals for the remedial action. The department shall ensure compliance with the substantive provisions of chapters 70.94, 70.95, 70.105, *75.20, 90.48, and 90.58 RCW, and the substantive provisions of any laws requiring or authorizing local government permits or approvals. The department shall establish procedures for ensuring that such remedial actions comply with the substantive requirements adopted pursuant to such laws, and shall consult with the state agencies and local governments charged with implementing these laws. The procedures shall provide an opportunity for comment by the public and by the state agencies and local governments that would otherwise implement the laws referenced in this section. Nothing in this section is intended to prohibit implementing agencies from charging a fee to the person conducting the remedial action to defray the costs of services rendered relating to the substantive requirements for the remedial action.

(2) An exemption in this section or in RCW 70.94.335, 70.95.270, 70.105.116, **75.20.025, 90.48.039, and 90.58.355 shall not apply if the department determines that the exemption would result in loss of approval from a federal agency necessary for the state to administer any federal law, including the federal resource conservation and recovery act, the federal clean water act, the federal clean air act, and the federal coastal zone management act. Such a determination by the department shall not affect the applicability of the exemptions to other statutes specified in this section.

[1994 c 257 § 14.]

NOTES:

Reviser's note: *(1) Chapter 75.20 RCW was recodified as chapter 77.55 RCW by 2000 c 107. See

Comparative Table for that chapter in the Table of Disposition of Former RCW Sections, Volume 0.

***(2) RCW 75.20.025 was recodified as RCW 77.55.030 pursuant to 2000 c 107 § 129.

Severability-1994 c 257: See note following RCW 36.70A.270.

RCW 70.105D.900 Short title-1989 c 2. This act shall be known as "the model toxics control act."

[1989 c 2 § 22 (Initiative Measure No. 97, approved November 8, 1988).]

RCW 70.105D.905 Captions-1989 c 2. As used in this act, captions constitute no part of the law.

[1989 c 2 § 21 (Initiative Measure No. 97, approved November 8, 1988).]

RCW 70.105D.910 Construction-1989 c 2. The provisions of this act are to be liberally construed to effectuate the policies and purposes of this act. In the event of conflict between the provisions of this act and any other act, the provisions of this act shall govern.

[1989 c 2 § 19 (Initiative Measure No. 97, approved November 8, 1988).]

RCW 70.105D.915 Existing agreements-1989 c 2. The consent orders and decrees in effect on March 1, 1989, shall remain valid and binding.

[1989 c 2 § 20 (Initiative Measure No. 97, approved November 8, 1988).]

RCW 70.105D.920 Effective date-1989 c 2. (1) Sections 1 through 24 of this act shall take effect March 1, 1989, except that the director of ecology and the director of revenue may take whatever actions may be necessary to ensure that sections 1 through 24 of this act are implemented on their effective date.

*(2) This section does not apply and shall have no force or effect if (a) this act is passed by the legislature in the 1988 regular session or (b) no bill is enacted by the legislature involving hazardous substance cleanup (along with any other subject

matter) between August 15, 1987, and January 1, 1988.

[1989 c 2 § 26 (Initiative Measure No. 97, approved November 8, 1988).]

NOTES:

*Reviser's note: Neither condition contained in subsection (2) was met.

RCW 70.105D.921 Severability-1989 c 2. If any provision of this act or its application to any person or circumstance is held invalid, the remainder of the act or the application of the provision to other persons or circumstances is not affected.

[1989 c 2 § 18 (Initiative Measure No. 97, approved November 8, 1988).]