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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

Office of Superfund
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Date: February 1, 1995

Ms. Brenda Norton, PE
Atlantic Division, Naval Facilities Engineering Command
Environmental Quality Division
Code: 1822
Building N 26, Room 54
1510 Gilbert Street
Norfolk, Va 23511-2699

Re: Naval Weapons Station - Yorktown, Va.
Forwarding of new ecological screening levels

Dear Ms. Norton:

Enclosed please find a copy of the new draft BTAG Screening Levels for use in ecological risk screening. The draft BTAG Screening Levels (BSLs) are to now be utilized for ecological risk screening, replacing the previous use of NOAA screening levels. Please note, if a BTAG sediment screening level value for a fauna exposure is not listed for a particular contaminant, then the first default value to be used in ecological sediment screening for that particular contaminant is the BTAG soil screening value for fauna exposure. If neither a BTAG soil or sediment screening value is listed for a particular contaminant, then the default value to be utilized for ecological sediment screening reverts back to the Region III *Selecting Exposure Routes and Contaminants of Concern by Risk-Based Screening* (COCRBS) Tables, where the residential soil screening value is to be used for ecological risk screening for the particular contaminant.

The same sequence of determining default values should be followed if a BTAG soil screening level value for a fauna exposure is not listed for a particular contaminant, i.e. then the first default value to be used in ecological soil screening is the BTAG sediment screening value for fauna exposure and so on.

If you have any questions concerning the use of the draft BTAG Screening Levels, please feel free to call me at the telephone number listed above,

Sincerely,

Robert Thomson

Robert Thomson, PE
VA/WV Superfund Federal Facilities (3HW71)

Region III BTAG Screening Levels

(all values in ppb, unless otherwise noted)

Interim Draft Date: 01/19/95

Contaminant	Aquatic				Soil		Sediment (data for Effects Range-Low, unless otherwise noted)		BCF
	Marine		Fresh						
	Flora	Fauna	Flora	Fauna	Flora	Fauna	Flora	Fauna	
INORGANICS									
Aluminum			460.0 (a)*	200.0 (a)*					231(F)*
Ammonia	39.0 (a)*	17.0 (c)*		17.0 (c)*					
Antimony		500.0 (p,c)		30.0 (p,c)	480.0				
Arsenic (total)				874.0 (c)	5,000.0			8,200.0	
Ar^{+3}	19.0 (c)	36.0 (c)		190.0 (c)				57,0 (AET)	3(I); 4(F)
Ar^{+5}	13.0 (c)		48.0 (a)						3(I); 3(F)
Barium				10,000.0 (a)		440,000.0			17,000(Pl); 900(I);8(F)
Beryllium			100,000.0 (a)	5.3 (c)	20.0				19(F); 100(I,Pl)
Boron		12,000.0 (a)	75,000.0 (c)*	53,000.0 (c)	0.5				4(Pl); 198(F)
Cadmium		9.3 (c)	1.1 (c)*	0.15 (c)*	2.5 mg/kg		676 (TEL)		10,000(I); 4,900(F)
Chromium (total)					20.0	7.5	5.0	260,000.0 mg/kg(AET)	1,000,000(I); 1,000(Pl)
Cr^{+3}		10,300.0 (a)		210.0 (c)*				81,000.0	192(I)
Cr^{+6}		50.0 (c)	2.0 (c)	1.0 (c)				< 81,000.0	3.4(F); 192(I)
Cobalt					100.0*	165.0 mg/m^3; 1,500.0 mg/kg			40(F)
Copper		2.9 (a)		6.5 (a)*		40.0		34,000	51.20(23.53)(Pl)
Cyanide		1.0 (a)		5.2 (c)					

a - acute; c - chronic; p - proposed; * - value is dependant on hardness and/or pH; F - fish; I - invertebrate; Pl - plant; AET - Apparent Effect Threshold; TEL - Threshold Effects Level

Region III BTAG Screening Levels

(all values in ppb, unless otherwise noted)

Interim Draft Date: 01/19/95

Contaminant	Aquatic				Soil		Sediment (data for Effects Range-Low, unless otherwise noted)		BCF
	Marine		Fresh						
	Flora	Fauna	Flora	Fauna	Flora	Fauna	Flora	Fauna	
Fluorides			2,000.0 (a)	2,700.0 (a)					significant bioaccumulation is noted in aquatic species
Iron				320.0 (c)	100,000.0				
Lead	5.1 (c)*			1.0 (c)*	12.5	10.0		46,700	17.5(I)*; 726(F)*
Manganese	200.0 (c)*	10.0 (c)*				330,000.0			35(F); 300(Pl)
Mercury		0.025 (c)*		0.012 (c)*		58.0		150.0	23,661(I); 7,000(F)
Nickel		8.3 (c)*		14.77 (c)*	2,500.0			20,900.0	40,000(Pl)*; 100(F)*
Phosphorus		0.1 (c)		2.4 (a)					2,000(F)
Selenium		3.0 (c)	522.0 (a)	3.0 (c)		260.0			28,870(I); 470(F)
Silver	1.9 (a)	0.0001 (c)	1.9 (a)	0.0001 (c)	0.0098			733 (TEL)	34,000(Pl); 150(F)
Strontium						120,000.0			
Thallium		20.0 (c)		40.0 (c)	1.0				130(F); 18(I)
Tin						890.0			high bioaccumulation has been noted but no value available
Uranium						2,300.0			
Vanadium		< 10.0 mg/kg		< 10.0 mg/kg		58,000.0			
Zinc	86.0 (c)	86.0 (c)	110.0 (c)*	110.0 (h,c)*		4,800.0		150,000.0	50,000(Pl)*; 100,000(I)*; 2,000(F)*

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Region III BTAG Screening Levels

(all values in ppb, unless otherwise noted)

Interim Draft Date: 01/19/95

Contaminant	Aquatic				Soil		Sediment (data for Effects Range-Low, unless otherwise noted)		BCF
	Marine		Fresh						
	Flora	Fauna	Flora	Fauna	Flora	Fauna	Flora	Fauna	
CHLORINATED DIOXINS & PCBS									
2,3,7,8-TCDD				< 0.00001 (c)					
Polychlorinated Biphenyls (PCBs)		0.03 (c)	0.1 (a)	0.014 (c)		0.04 ppm		22.7	340,000(I); 270,000(F)
SEMI-VOLATILES									
Benzidine				2,500.0 (a)					
Benzoic Acid								650.0 (AET)	
Benzyl Alcohol								57.0 (AET)	
4-Chloroaniline		29,700.0 (a)							
Dibenzofuran								540.0 (AET)	
1,2-Diphenylhydrazine				270.0 (a)					
2-Hexanone				428,000.0 (a)					6
Isophorone		12,900.0 (a)		117,000.0 (a)					
Methyl Ethyl Ketone (MEK)				3,220,000.0 (a)					significant bioaccumulation expected
Methyl Isobutyl Ketone (MIBK)				460,000.0 (a)		100,000.0			5(estimated)

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Region III BTAG Screening Levels

(all values in ppb, unless otherwise noted)

Interim Draft Date: 01/19/95

Contaminant	Aquatic				Soil		Sediment (data for Effects Range-Low, unless otherwise noted)		BCF
	Marine		Fresh						
	Flora	Fauna	Flora	Fauna	Flora	Fauna	Flora	Fauna	
SEMI-VOLATILE - NITROAROMATICS									
2,4-Dinitrotoluene		370.0 (c)		230.0 (c)					
Nitrobenzene		6,680.0 (a)		27,000.0 (a)					
N-Nitrosodiphenylamine		3.3×10^6 (a)		5,850.0 (a)				28.0 (AET)	
SEMI-VOLATILE - ORGANOHALIDES									
Aldrin		1.3 (a)		3.0 (a)		100.0			
Bromochloromethane						3.0×10^6			7(estimated)
Bromodichloromethane						450.0 mg/kg			1.37
Chlordane		0.004 (c)		0.0043 (a)		< 100.0			
Chloroform				1,240.0		8,000.0			1.4(F)
2-Chloronaphthalene		7.5 (a)		1,600.0 (a)					
DDD		0.68 (a)		0.6 (a)		< 100.0			47,900(I); 6,210(Pl); 52,500(F)
DDE		14.0 (a)		1,050.0 (a)		< 100.0		2.2	59,000(I); 10,000(Pl); 81,000(F)
DDT	5,000.0 (a)	0.001 (c)	5,000.0 (a)	0.001 (c)		4.0		0.008 mg/kg	100,000(F); 690,000(I); 21,580(Pl)
1,2-Dibromo-3-Chloropropane									11(estimated)
Dieldrin		0.0019 (c)		0.0019 (c)		< 100.0			6,000(F)

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Region III BTAG Screening Levels

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Interim Draft Date: 01/19/95

Contaminant	Aquatic				Soil		Sediment (data for Effects Range-Low, unless otherwise noted)		BCF
	Marine		Fresh						
	Flora	Fauna	Flora	Fauna	Flora	Fauna	Flora	Fauna	
Endosulfan		0.0087 (c)		0.056 (c)					
Endosulfan Alpha-		0.0087 (c)		0.056 (c)					
Endosulfan Beta-		0.0087 (c)		0.056 (c)					
Endrin		0.0023 (c)		0.0023 (c)		< 100.0			1,000(F)
Endrin Aldehyde									significant bioaccumulation expected
Heptachlor		0.0036 (c)		0.0038 (c)					
Heptachlor Epoxide		0.0036 (c)		0.0038 (c)		< 100.0			66,000(I); 14,400(F); 1,600(Pl)
Hexachlorobenzene		129.0 (c)		3.68 (p,c)				0.38 (AET)	1,800(I); 1,200(F)
Hexachlorobutadiene		32.0 (a)		9.3 (c)				11.0 (AET)	
Hexachlorocyclohexane		0.34 (a)		100.0 (a)					
Hexachlorocyclopentadiene		7.0 (a)		5.2 (c)					
Hexachloroethane		940.0 (a)		540.0 (c)					
Kepone		7.0 (a)		7.0 (a)					9,750(F);
Lindane		0.16 (a)		0.08 (c)		< 100.0			183(I); 1,613(F)
Methoxychlor		0.03 (c)		0.03 (c)		< 100.0			
Mirex		0.001 (c)		0.001 (c)					2,200(Pl); 2,580(F), 71,400(I)
Pentachlorobenzene		129.0 (c)		50.0 (c)		100.0			3,400(F)

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Region III BTAG Screening Levels

(all values in ppb, unless otherwise noted)

Interim Draft Date: 01/19/95

Contaminant	Aquatic				Soil		Sediment (data for Effects Range-Low, unless otherwise noted)		BCF
	Marine		Fresh						
	Flora	Fauna	Flora	Fauna	Flora	Fauna	Flora	Fauna	
1,2,4,5-Tetrachlorobenzene		129.0 (c)		50.0 (c)		100.0			
Toxaphene		0.0002 (c)		0.0002 (c)					
Tribromomethane		1,000.0 (a)				1,147.0 mg/kg			37.4(F-estimated)
2,4,6-Trichloroaniline		1,000.0 (a)		1,000.0 (a)					
SEMI-VOLATILE - ORGANOPHOSPHATES									
Chlorpyrifos		0.0056 (c)		0.041 (c)					
Malathion		0.1 (c)		0.1 (c)					
Parathion Mixture		0.013 (c)						31.0 (AET)	
SEMI-VOLATILE - PHENOLICS									
2-Chlorophenol				970.0 (a)		100.0			
2,4-Dichlorophenol				365.0 (c)		100.0			
2,6-Dichlorophenol						100.0			
2,4-Dimethyphenol				2,120.0 (a)		100.0		29.0 (AET)	151(F)
Dinitrophenol		4,850.0 (a)		150.0 (c)		100.0			
2-Methyl Phenol [0-Cresol]						100.0		63.0 (AET)	
4-Methyl Phenol [p-Cresol]						100.0		670.0 (AET)	
4-Nirophenol		4,850.0 (a)		150.0 (c)		100.0			

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Region III BTAG Screening Levels

(all values in ppb, unless otherwise noted)

Interim Draft Date: 01/19/95

Contaminant	Aquatic				Soil		Sediment (data for Effects Range-Low, unless otherwise noted)		BCF
	Marine		Fresh						
	Flora	Fauna	Flora	Fauna	Flora	Fauna	Flora	Fauna	
Pentachlorophenol		7.9 (c)		13.0 (c)		100.0		360.0 (AET)	
Phenol		5,800.0(a); 100.0		79.0 (a)		100.0			200(Pl); 277(I); 1.9(F)
2,3,4,6-Tetrachlorophenol						100.0			
2,4,5-Trichlorophenol		11.0 (p,c)		63.0 (p,c)		100.0			
2,4,6-Trichlorophenol				970.0 (c)		100.0			
SEMI-VOLATILE - PHTHALATES									
Butyl Benzyl Phthalate (BBP)		3.4 (c)		3.0 (c)			Range from 5.3 mg/kg (DEP) to 260.0 mg/kg (DBP)		663(F)
Di(2-Ethylhexyl) Phthalate (DEHP)		360.0 (p,c)		30.0 (c)					2,680(F); 50(I)
Diethyl Phthalate (DEP)		3.4 (c)		3.0 (c)					117(F)
Dimethyl Phthalate (DMP)		3.4 (c)		3.0 (c)					
Dioctyl Phthalate		3.4 (c)		3.0 (c)					
N-Butyl Phthalate (DBP)		3.4 (c)		3.0 (c)					
SEMI-VOLATILE - PAHS									
-Low Molecular Weight									
Acenaphthene		710.0 (c)		520.0 (c)		100.0		16.0	
Acenaphthylene		300.0 (a)				100.0		44.0	

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Region III BTAC Screening Levels

(all values in ppb, unless otherwise noted)

Interim Draft Date: 01/19/95

Contaminant	Aquatic				Soil		Sediment (data for Effects Range-Low, unless otherwise noted)		BCF
	Marine		Fresh						
	Flora	Fauna	Flora	Fauna	Flora	Fauna	Flora	Fauna	
Anthracene				0.1 (c)		100.0			16,800(F); 912(I)
Fluorene		300.0 (a)		430.0 (c)		100.0		19.0	short-term expected
Naphthalene		2,350.0 (a)		100.0 (c)		100.0		160.0	3.0(I,F)
Phenanthrene		4.6 (p,c)		6.3 (p,c)		100.0		240.0	
-High Molecular Weight									
Benzo (a) Anthracene		8.13 (c)		6.3 (c)		100.0		261.0	134,248(I); 9,200(F)
Benzo (a) Pyrene		0.21 ng/ml (a)				20,000		430.0	930(F); 5,258(Pl); 132,248(I)
Chrysene		300.0 (a)				100.0		384.0	minimal to moderate bioaccumulation expected in aquatic organisms
Dibenzo (a,h) Anthracene		300.0 (a)				100.0		63.4	
Fluoranthene		16.0 (c)		3,980.0 (a)		100.0		600.0	bioaccumulation expected
Pyrene		300.0 (a)				100.0		665.0	970(F)
Benzo (b) Fluoranthene		300.0 (a)				100.0		3,200.0 (AET)	
Benzo (k) Fluoranthene		300.0 (a)				100.0			
Benzo (g,h,i) Perylene		300.0 (a)				100.0		670.0 (AET)	
Creosote (mixture)				3,510.0 (a)					
Indeno (1,2,3-CD) Pyrene		300.0 (c)				100.0		600.0 (AET)	
2-Methylnaphthalene		300.0 (c)						70.0	

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Region III BTAG Screening Levels

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Interim Draft Date: 01/19/95

Contaminant	Aquatic				Soil		Sediment (data for Effects Range-Low, unless otherwise noted)		BCF
	Marine		Fresh						
	Flora	Fauna	Flora	Fauna	Flora	Fauna	Flora	Fauna	
VOLATILE - AROMATIC / HALOGENATED									
Benzene	20,000.0 (c)	700.0 (c)	20,000.0 (c)	5,300.0 (a)		100.0			
Bis (2-Chloroethoxy) Methane		6,400.0(c)		11,000.0 (a)					
Carbon Tetrachloride		50,000.0 (a)		35,200.0 (a)		< 300.0			1.48(F)
Chlorobenzene	341,000.0 (a)	129.0 (c)	6,630.0 (a)	50.0 (c)		100.0			
Chlorodibromomethane		6,400.0 (c)		11,000.0 (a)					
Chloroform				1,240.0 (c)		< 300.0			
1,2-Dibromoethane				18,000.0 (a)					< 1(F)
Dibromomethane		6,400.0 (c)		11,000.0 (a)					
1,2-Dichlorobenzene		129.0 (c)		763.0 (c)		< 100.0		35.0 (AET)	560(F); 4.17(Pl)
1,3-Dichlorobenzene				2,300.0					740(F)
1,4-Dichlorobenzene		129.0 (c)		763.0 (c)		< 100.0		110.0 (AET)	720(F)
Dichlorobromomethane		6,400.0 (c)		11,000.0 (a)					
Dichlorodifluoromethane		6,400.0 (c)		11,000.0 (a)					
1,1-Dichloroethane		320,000.0 (a)		160,000.0 (a)		< 300.0			1.2(F)
1,2-Dichloroethane		113,000.0 (a)		218,000.0 (a)		870.0 mg/kg			0.3(F)
1,1-Dichloroethylene	712,000.0 (a)		798,000.0 (a)	74,000.0 (a)					no significant bioaccumulation

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Interim Draft Date: 01/19/95

Contaminant	Aquatic				Soil		Sediment (data for Effects Range-Low, unless otherwise noted)		BCF
	Marine		Fresh						
	Flora	Fauna	Flora	Fauna	Flora	Fauna	Flora	Fauna	
1,2-Dichloroethylene cis and trans		224,000.0 (a)		11,600.0 (a)		< 300.0			cis - 15; trans - 22
Dichloropropene		790.0 (a)		244.0 (c)		300.0			7(F)
1,3-Dinitrobenzene			1,200.0 (a)						
Ethylbenzene		430.0 (a)		32,000.0 (a)		100.0			37.5(F)
Ethylene Dichloride		113,000.0 (a)		20,000.0 (c)					
Methylene Chloride		6,400.0 (c)		11,000.0 (a)		< 300.0			5(estimated)
Pentachloroethane		281.0 (c)		1,100.0 (c)					
Propylene Dichloride		3,040.0 (c)		5,700.0 (c)		< 300.0			
Styrene						100.0			13.5(F)
Tetrachloroethane	6,230.0 (a)	9,020.0 (a)	146,000.0 (a)	9,320.0 (a)		< 300.0			1(F)
Tetrachloroethylene		450.0 (c)		840.0 (c)		< 300.0			49(F)
Toluene		1,050.0 (a)		3,700.0 (a)		100.0			26(F)
Trichlorobenzene		129.0 (c)		50.0 (c)		< 100.0		40.0	2,800(F)
Trichloroethane		31,200.0 (a)		9,400.0 (c)		< 300.0			8.9(F)
Trichloroethylene		2,000.0 (a)		21,900.0 (c)		< 300.0			39(F)
Trichlorofluoromethane		6,400.0 (c)		11,000.0 (a)					

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Interim Draft Date: 01/19/95

Contaminant	Aquatic				Soil		Sediment (data for Effects Range-Low, unless otherwise noted)		BCF
	Marine		Fresh						
	Flora	Fauna	Flora	Fauna	Flora	Fauna	Flora	Fauna	
Vinyl Chloride		224,000.0 (a)		11,600.0 (a)		300.0			40(Pl); 10(F)
Xylene		13,500.0 (a); 6,000.0		13,000.0 (a); 6,000.0					6(I), 2.2(F)
VOLATILE - MISCELLANEOUS									
Acetone				9,000,000.0 (a)					0.69(F)
Acrolein		55.0 (a)		21.0 (c)					
Acrylonitrile				2,600.0 (c)					
Carbon Disulfide						10.0 mg/cu			

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