

Appendix G – Screening Matrix Tables

Appendix G provides all screening matrices for guidelines assessed in the SOE report. This Appendix is organized by pathway and receptor type and mirrors the order presented within the main body of the report.

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G.1.0 ECOLOGICAL HEALTH – PROTECTION OF FRESHWATER AQUATIC LIFE

G1.1 Ecological Health – Protection of Freshwater Aquatic Life – Chronic

Figure G1: EPA-SWQ-PAL-CHRONIC Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	2,4-Dichlorophenol (2); Ammonia Un-Ionized (Calcd.) (9); Anthracene (9); Benzo(A)Anthracene (20); Benzo(A)Pyrene (24); Boron Total (1); Chloride Dissolved (56); DDT And Metabolites (2); Dieldrin (20); Fluoranthene (7); Methoxychlor (P,P'-Methoxychlor) (1); Mirex (1); Molybdenum Total (1); Nickel Total (36); Nitrate as Nitrogen (1); Permethrin (3); Phenanthrene (1); Phenol (323); Pyrene (42); Selenium Total (32); Silver Total (74)	Aluminum Dissolved (723); Arsenic Total (223); Cobalt Total (2631); Copper Total (989); Iron Dissolved (7611); Lead Total (1341); Nitrite as Nitrogen (119); Zinc Total (625); pH (Field) (107)	
Moderate (average P95 exceedances are 10X)	Alkalinity Total CaCO3 (30); Ammonia Total (4); Azinphos Methyl (Guthion) (1); Naphthalene (6); Thallium Total (12); Toluene (52); Uranium Total (3)	Cadmium Total (790); Mercury Total (1692); Oxygen Dissolved (3816)	
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines	1,2-Dichlorobenzene (61); Acrolein (2); Aldrin (450); Chlorpyrifos-Ethyl (Dursban) (613); Deltamethrin (156); Demeton (19); Diazinon (47); Dinoseb (19); Endrin (80); Hexachlorobutadiene (113); Malathion (80); Parathion (80); Pentachlorophenol (19); Triallate (Avadex BW) (4); Trifluralin (Treflan) (4)		
No exceedances	1,2,3-Trichlorobenzene; 1,2,4-Trichlorobenzene; 1,2-Dichloroethane; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 2,3,4,6-Tetrachlorophenol; 2,3,6-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-D (Dichlorophenoxyacetic Acid); 2,4-DB (2,4-Dichlorophenoxy)Butanoic Acid); 2-Chlorophenol; 4-Chlorophenol; Acenaphthene; Acridine; Aldicarb; Atrazine; Benzene; Bromacil; Bromoxynil; Captan; Carbamazepine; Carbaryl; Carbofuran; Carbon Tetrachloride; Chlorobenzene; Chloroform; Chlorothalonil; Cyanazine; Cyanide Total; Di-N-Butyl Phthalate; Dicamba (Banvel); Dichloromethane; Diclofop-Methyl (Hoegrass); Diethyl Phthalate; Dimethoate (Cygon); Fluorene; Glyphosate (Roundup); Heptachlor Epoxide; Imidacloprid; Linuron; MCPA; MCPP (Mecoprop); MTBE (Methyl Tertiary Butyl Ether); Metolachlor; Metribuzin; Pentachlorobenzene; Picloram (Tordon); Quinoline; Simazine; Styrene; Tetrachloroethylene; Trichloroethylene; Xylene		

Figure G2: CCME-SWQ-PAL-CHRONIC Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Ammonia Un-Ionized (Calcd.) (6); Anthracene (9); Benzo(A)Anthracene (20); Benzo(A)Pyrene (24); Boron Total (1); Chloride Dissolved (56); Dieldrin (20); Fluoranthene (7); Molybdenum Total (1); Permethrin (3); Phenanthrene (1); Phenol (323); Pyrene (42); Silver Total (74)	Arsenic Total (223); Copper Total (3323); Fluoride Dissolved (1836); Iron Dissolved (7611); Lead Total (1520); Manganese Dissolved (226); Mercury Total (334); Oxygen Dissolved (5148); Selenium Total (98); pH (Field) (107)	
Moderate (average P95 exceedances are 10X)	Ammonia Total (4); Cyanide Total (4); Naphthalene (4); Nickel Total (21); Nitrite as Nitrogen (7); Thallium Total (12); Toluene (17); Uranium Total (3); Zinc Dissolved (13)	Aluminum Total (5619); Cadmium Total (799)	
Substantial (average P95 exceedances are >100X)	Chlorate (28)		
Below detection limits but above guidelines	1,2-Dichlorobenzene (61); Aldrin (450); Chlorpyrifos-Ethyl (Dursban) (613); Deltamethrin (156); Dinoseb (19); Endrin (80); Heptachlor (2); Hexachlorobutadiene (113); Pentachlorophenol (19); Triallate (Avadex BW) (4); Trifluralin (Treflan) (4)		
No exceedances	1,1,2,2-Tetrachloroethane; 1,1,2-Trichloroethane; 1,2,3-Trichlorobenzene; 1,2,4-Trichlorobenzene; 1,2-Dichloroethane; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 2,4-D (Dichlorophenoxyacetic Acid); Acenaphthene; Acridine; Aldicarb; Atrazine; Benzene; Bromacil; Bromoxynil; Carbamazepine; Carbaryl; Carbofuran; Chlorothalonil; Cyanazine; Di-N-Butyl Phthalate; Dicamba (Banvel); Dichloromethane; Diclofop-Methyl (Hoegrass); Dimethoate (Cygon); Fluorene; Glyphosate (Roundup); Imidacloprid; Linuron; MCPA; MTBE (Methyl Tertiary Butyl Ether); Methyl Mercury Dissolved; Metolachlor; Metribuzin; Nitrate as Nitrogen; Pentachlorobenzene; Picloram (Tordon); Quinoline; Simazine; Styrene		

Figure G3: ECCC-SWQ-FEQG Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Copper Dissolved (7); Lead Dissolved (3); Strontium Total (4); Toluene (1); Vanadium Total (6)	Aluminum Total (848); Cobalt Total (2442)	
Moderate (average P95 exceedances are 10X)		Iron Total (2479)	
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines			
No exceedances	Benzene; Bisphenol A; Perfluorooctanesulfonate (PFOS); Quinoline; Triclosan; Xylene		

Figure G4: USEPA-SWQ-PAL-CHRONIC Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Cadmium Dissolved (26); Chloride Dissolved (23); Copper Dissolved (2); DDT And Metabolites (2); Methoxychlor (P,P'-Methoxychlor) (1); Mirex (1); Selenium Total (44)	Hydrogen Sulphide (342); Iron Dissolved (970); pH (Field) (107)	
Moderate (average P95 exceedances are 10X)	Alkalinity Total CaCO3 (30); Azinphos Methyl (Guthion) (1); Cyanide Total (3); Lead Dissolved (19); Zinc Dissolved (9)	Aluminum Total (1981); Oxygen Dissolved (463)	
Substantial (average P95 exceedances are >100X)	Nickel Dissolved (5)		
Below detection limits but above guidelines	Acrolein (2); Demeton (19); Diazinon (47); Heptachlor (80); Heptachlor Epoxide (80); Malathion (80); Parathion (80)		
No exceedances	Alpha-Endosulfan; Arsenic Total; Beta-Endosulfan; Carbaryl; Chlorpyrifos-Ethyl (Dursban); Dieldrin; Endrin; Mercury Dissolved; Nonylphenol; Perfluorooctanesulfonate (PFOS); Perfluorooctanoic Acid (PFOA)		

G.1.2 Ecological Health – Protection of Freshwater Aquatic Life – Acute

Figure G5: EPA-SWQ-PAL-ACUTE Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Cadmium Total (28); Chloride Dissolved (9); Nickel Total (3); Nitrite as Nitrogen (2); Uranium Total (1)	Aluminum Dissolved (296); Copper Total (260); F2 Hydrocarbons (C10-C16) (176); Mercury Total (626)	
Moderate (average P95 exceedances are 10X)		Oxygen Dissolved (617)	
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines	Acrolein (2); Chlorpyrifos-Ethyl (Dursban) (2); Diazinon (47); Parathion (29)		
No exceedances	2,4-DB (2,4-Dichlorophenoxy)Butanoic Acid); Boron Total; Carbaryl; Cyanide Total; F1 Hydrocarbons (C6-C10); Glyphosate (Roundup); MCPP (Mecoprop); Nitrate as Nitrogen		

Figure G6: CCME-SWQ-PAL-ACUTE Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Cadmium Total (29); Chloride Dissolved (9); Manganese Dissolved (1); Uranium Total (1)		
Moderate (average P95 exceedances are 10X)			
Substantial (average P95 exceedances are >100X)	Zinc Dissolved (5)		
Below detection limits but above guidelines	Chlorpyrifos-Ethyl (Dursban) (2)		
No exceedances	Boron Total; Carbaryl; Glyphosate (Roundup); Nitrate as Nitrogen		

Figure G7: ECCC-SWQ-FEQG-Acute Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)			
Moderate (average P95 exceedances are 10X)			
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines			
No exceedances	Benzene; Toluene; Xylene		

Figure G8: USEPA-SWQ-PAL-ACUTE Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Chloride Dissolved (4); Copper Dissolved (1); Cyanide Total (1); Nickel Dissolved (3)	Aluminum Total (640)	
Moderate (average P95 exceedances are 10X)	Lead Dissolved (3); Zinc Dissolved (9)	Oxygen Dissolved (946)	
Substantial (average P95 exceedances are >100X)	Cadmium Dissolved (5)		
Below detection limits but above guidelines	Acrolein (2); Diazinon (47); Parathion (29)		
No exceedances	Aldrin; Alpha-Endosulfan; Arsenic Total; Beta-Endosulfan; Carbaryl; Chlorpyrifos-Ethyl (Dursban); DDT And Metabolites; Dieldrin; Endrin; Gamma-Benzenehexachloride (Lindane) (Gamma-BHC); Heptachlor; Heptachlor Epoxide; Mercury Dissolved; Nonylphenol; Perfluorooctanesulfonate (PFOS); Perfluorooctanoic Acid (PFOA)		

G2.0 ECOLOGICAL HEALTH – PROTECTION OF WILDLIFE

Figure G9: USDOE-SWQ-WL-LOAEL Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Thallium Total (1); Zinc Total (1)	Aluminum Total (643)	
Moderate (average P95 exceedances are 10X)			
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines			
No exceedances	1,2-Dichloroethane; 1,4-Dioxane; Aldrin; Antimony Total; Arsenic Total; Benzene; Benzo(A)Pyrene; Cadmium Total; Chloroform; Copper Dissolved; Di-N-Butyl Phthalate; Dieldrin; Endrin; Ethanol; Gamma-Benzenehexachloride (Lindane) (Gamma-BHC); Heptachlor; Methoxychlor (P,P'- Methoxychlor); Methyl Ethyl Ketone; Nickel Total; Pentachlorophenol; Selenium Total; Tetrachloroethylene; Toluene; Trichloroethylene; Vinyl Chloride; Xylene		

Figure G10: USDOE-SWQ-WL-NOAEL Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Arsenic Total (21); Lead Total (1)	Selenium Total (4332); Zinc Total (625)	
Moderate (average P95 exceedances are 10X)	Di-N-Butyl Phthalate (43); Dieldrin (20); Thallium Total (10)	Benzo(A)Pyrene (86); Cadmium Total (548)	
Substantial (average P95 exceedances are >100X)	Bis(2-Ethylhexyl) Phthalate (45); DDT And Metabolites (4)		Aluminum Total (13162)
Below detection limits but above guidelines	Aldrin (604); Endrin (113); Heptachlor (80); Pentachlorophenol (19)		
No exceedances	1,1,1-Trichloroethane; 1,1-Dichloroethylene; 1,2-Dichloroethane; 1,4-Dioxane; Antimony Total; Benzene; Beryllium Total; Carbon Tetrachloride; Chloroform; Copper Dissolved; Cresols, Total; Cyanide Total; Diethyl Phthalate; Ethanol; Formaldehyde Total; Gamma-Benzenehexachloride (Lindane) (Gamma-BHC); Methoxychlor (P,P'-Methoxychlor); Methyl Ethyl Ketone; Nickel Total; Tetrachloroethylene; Toluene; Trichloroethylene; Vinyl Chloride; Xylene		

G.3.0 ECOLOGICAL HEALTH – PROTECTION OF AGRICULTURAL USE

G.3.1 Ecological Health – Protection of Agricultural Use – Irrigation Water

Figure G11: EPA-SWQ-AG-IRRIGATION Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Boron Total (19); Chloride Dissolved (65); Cobalt Total (2); Copper Total (2); Escherichia Coli (50); Fluoride Dissolved (5); Lead Total (1); MCPA (3); Molybdenum Total (8); Nickel Total (3); Selenium Total (1); Sodium Adsorption Ratio (Calcd.) (9); Vanadium Total (8)	Aluminum Total (602); Iron Total (1422); Manganese Total (1672); Total Dissolved Solids (Calcd.) (220)	
Moderate (average P95 exceedances are 10X)	Cadmium Total (3); Uranium Total (5)		
Substantial (average P95 exceedances are >100X)	Zinc Total (1)		
Below detection limits but above guidelines	Dicamba (Banvel) (175); Diclofop-Methyl (Hoegrass) (4); Simazine (19)		
No exceedances	Aldicarb; Arsenic Total; Atrazine; Beryllium Total; Bromacil; Bromoxynil; Chlorothalonil; Cyanazine; Dinoseb; Linuron; Lithium Total; Metolachlor; Metribuzin		

Figure G12: CCME-SWQ-AG-IRRIGATION Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Arsenic Total (1); Boron Total (19); Chloride Dissolved (65); Cobalt Total (2); Copper Total (2); Fluoride Dissolved (5); Iron Dissolved (10); Lead Total (1); MCPA (6); Nickel Total (3); Selenium Total (1); Vanadium Total (8)	Aluminum Total (602); Manganese Total (1672); Total Dissolved Solids (Calcd.) (220)	
Moderate (average P95 exceedances are 10X)	Cadmium Total (9); Uranium Total (5)		
Substantial (average P95 exceedances are >100X)	Zinc Total (1)		
Below detection limits but above guidelines	Dicamba (Banvel) (203); Diclofop-Methyl (Hoegrass) (23); Simazine (19)		
No exceedances	Aldicarb; Atrazine; Beryllium Total; Bromacil; Bromoxynil; Chlorothalonil; Cyanazine; Dinoseb; Linuron; Lithium Total; Metolachlor; Metribuzin		

G.3.2 Ecological Health – Protection of Agricultural Use – Livestock Water

Figure G13: EPA-SWQ-LIVESTOCK Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Arsenic Total (7); Cadmium Total (1); Copper Total (1); Fluoride Dissolved (5); Lead Total (2); Phenol (564); Sulphate Dissolved (2); Toluene (1); Total Dissolved Solids (Calcd.) (8); Uranium Total (1); Vanadium Total (8)	Aluminum Total (602)	
Moderate (average P95 exceedances are 10X)	Zinc Total (1)		
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines	Hexachlorobenzene (77)		
No exceedances	1,2-Dichloroethane; Aldicarb; Atrazine; Beryllium Total; Boron Total; Bromacil; Bromodichloromethane; Bromoxynil; Calcium Dissolved; Captan; Carbaryl; Carbofuran; Carbon Tetrachloride; Chloroform; Chlorothalonil; Chlorpyrifos-Ethyl (Dursban); Cobalt Total; Cyanazine; Deltamethrin; Dibromochloromethane; Dicamba (Banvel); Dichlorobromomethane; Dichloromethane; Diclofop-Methyl (Hoegrass); Dimethoate (Cygon); Dinoseb; Glyphosate (Roundup); MCPA; Mercury Total; Metolachlor; Metribuzin; Molybdenum Total; Nickel Total; Nitrate and Nitrite as Nitrogen; Nitrite as Nitrogen; Picloram (Tordon); Selenium Total; Simazine; Triallate (Avadex BW); Trichloroethylene; Trifluralin (Treflan)		

Figure G14: CCME-SWQ-AG-LIVESTOCK Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Arsenic Total (7); Cadmium Total (1); Copper Total (1); Fluoride Dissolved (5); Lead Total (2); Phenol (564); Sulphate Dissolved (2); Toluene (1); Total Dissolved Solids (Calcd.) (8); Uranium Total (1); Vanadium Total (8)	Aluminum Total (602)	
Moderate (average P95 exceedances are 10X)	Zinc Total (1)		
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines	Hexachlorobenzene (77)		
No exceedances	1,2-Dichloroethane; Aldicarb; Atrazine; Beryllium Total; Boron Total; Bromacil; Bromoxynil; Calcium Dissolved; Carbaryl; Carbofuran; Chlorothalonil; Chlorpyrifos-Ethyl (Dursban); Cobalt Total; Cyanazine; Deltamethrin; Dibromochloromethane; Dicamba (Banvel); Dichlorobromomethane; Dichloromethane; Diclofop-Methyl (Hoegrass); Dimethoate (Cygon); Dinoseb; Endrin; Glyphosate (Roundup); Heptachlor; MCPA; Mercury Total; Metolachlor; Metribuzin; Molybdenum Total; Nickel Total; Nitrate and Nitrite as Nitrogen; Nitrite as Nitrogen; Picloram (Tordon); Selenium Total; Simazine; Triallate (Avadex BW); Trichloroethylene; Trifluralin (Treflan)		

G.4.0 HUMAN HEALTH – PROTECTION OF DRINKING WATER

Figure G15: HC-DW-MAC Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Arsenic Total (54); Atrazine (2); Barium Total (5); Benzene (2); Benzo(A)Pyrene (9); Chromium Total (10); Fluoride Dissolved (1); Mercury Total (3); Nitrite as Nitrogen (1); Toluene (1)	Aluminum Total (1222); Lead Total (689); Manganese Total (3037)	
Moderate (average P95 exceedances are 10X)	Cadmium Total (3); Uranium Total (3)		
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines	Antimony Total (3); Vinyl Chloride (60)		
No exceedances	1,1-Dichloroethylene; 1,2-Dichloroethane; 1,4-Dichlorobenzene; 1,4-Dioxane; 2,4,6-Trichlorophenol; 2,4-D (Dichlorophenoxyacetic Acid); Boron Total; Bromoxynil; Carbon Tetrachloride; Chlorate; Chlorpyrifos-Ethyl (Dursban); Copper Total; Cyanide Total; Dicamba (Banvel); Dichloromethane; Dimethoate (Cygon); Glyphosate (Roundup); Malathion; Metribuzin; Nitrate as Nitrogen; Nitrilotriacetic Acid - Nta; Pentachlorophenol; Perfluorooctanesulfonate (PFOS); Selenium Total; Strontium Total; Tetrachloroethylene; Trichloroethylene; Trihalomethanes; Xylenes (O,M,P)		

Figure G16: USEPA-DW-MCL Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Arsenic Total (54); Barium Total (5); Benzene (2); Beryllium Total (1); Chromium Total (1); Dichloromethane (7); Mercury Total (2); Nitrite as Nitrogen (1); Uranium Total (1)	Lead Total (115)	
Moderate (average P95 exceedances are 10X)	Cadmium Total (10); Thallium Total (3)		
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines	1,2-Dibromo-3-Chloropropane (125); Antimony Total (3); Benzo(A)Pyrene (77); Perfluorooctanesulfonate (PFOS) (261); Vinyl Chloride (60)		
No exceedances	1,1,1-Trichloroethane; 1,1,2-Trichloroethane; 1,1-Dichloroethylene; 1,2,4-Trichlorobenzene; 1,2-Dichlorobenzene; 1,2-Dichloroethane; 1,2-Dichloropropane; 1,4-Dichlorobenzene; 2,4-D (Dichlorophenoxyacetic Acid); Alachlor; Atrazine; Carbofuran; Carbon Tetrachloride; Chlorate; Chlorobenzene; Copper Total; Cyanide Total; Dinoseb; Endrin; Fenoprop(Silvex)(2,4,5-Tp); Fluoride Dissolved; Gamma-Benzenehexachloride (Lindane) (Gamma-BHC); Glyphosate (Roundup); Heptachlor; Heptachlor Epoxide; Hexachlorobenzene; Hexachlorocyclopentadiene; Methoxychlor (P,P'-Methoxychlor); Nitrate as Nitrogen; Pentachlorophenol; Perfluorooctanoic Acid (PFOA); Picloram (Tordon); Selenium Total; Simazine; Styrene; Tetrachloroethylene; Toluene; Trichloroethylene; Trihalomethanes; Xylenes (O,M,P)		

Figure G17: USEPA-DW-MCLG Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Barium Total (5); Beryllium Total (1); Chromium Total (1); Mercury Total (2); Nitrite as Nitrogen (1); Thallium Total (30); Uranium Total (1)		
Moderate (average P95 exceedances are 10X)	Cadmium Total (10)		
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines	Antimony Total (3)		
No exceedances	1,1,1-Trichloroethane; 1,1,2-Trichloroethane; 1,1-Dichloroethylene; 1,2,4-Trichlorobenzene; 1,2-Dichlorobenzene; 1,4-Dichlorobenzene; 2,4-D (Dichlorophenoxyacetic Acid); Atrazine; Carbofuran; Chlorate; Chlorobenzene; Copper Total; Cyanide Total; Dinoseb; Endrin; Fenoprop(Silvex)(2,4,5-Tp); Fluoride Dissolved; Gamma-Benzenhexachloride (Lindane) (Gamma-BHC); Glyphosate (Roundup); Hexachlorocyclopentadiene; Methoxychlor (P,P'-Methoxychlor); Nitrate as Nitrogen; Pentachlorophenol; Picloram (Tordon); Selenium Total; Simazine; Styrene; Toluene; Xylenes (O,M,P)		

Figure G18: WHO-DW Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Arsenic Total (54); Barium Total (14); Benzene (1); Cadmium Total (25); Chromium Total (10); Fluoride Dissolved (1); Nickel Total (24); Uranium Total (1)	Lead Total (246)	
Moderate (average P95 exceedances are 10X)			
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines	1,2-Dibromo-3-Chloropropane (42); 1,2-Dibromoethane (45); Benzo(A)Pyrene (77); Hexachlorobutadiene (114); Vinyl Chloride (153)		
No exceedances	1,2-Dichlorobenzene; 1,2-Dichloroethane; 1,2-Dichloropropane; 1,4-Dichlorobenzene; 1,4-Dioxane; 2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-D (Dichlorophenoxyacetic Acid); 2,4-DB (2,4-Dichlorophenoxy)Butanoic Acid); Alachlor; Aldicarb; Antimony Total; Boron Total; Bromodichloromethane; Bromoform; Carbofuran; Carbon Tetrachloride; Chlorate; Chloroform; Chlorpyrifos-Ethyl (Dursban); Copper Total; Cyanazine; DDT And Metabolites; Dibromochloromethane; Dichloromethane; Dichloroprop(2,4-DP); Dimethoate (Cygon); Endrin; Gamma-Benzenhexachloride (Lindane) (Gamma-BHC); MCPP (Mecoprop); Mercury Total; Methoxychlor (P,P'-Methoxychlor); Metolachlor; Nitrate as Nitrogen; Nitrilotriacetic Acid - Nta; Nitrite as Nitrogen; Pentachlorophenol; Selenium Total; Simazine; Styrene; Toluene; Trichloroethene; Trifluralin (Treflan); Xylene		

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Figure G19: ICBM-SWQ-IU(DW+O-Derived) Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Ammonia Total (55); Benzene (3); Benzo(K)Fluoranthene (3); Beryllium Total (3); Boron Total (1); Chrysene (23); Heptachlor Epoxide (1); Hexachlorobenzene (2); Molybdenum Total (1)	Nickel Total (1237)	
Moderate (average P95 exceedances are 10X)	Bis(2-Ethylhexyl) Phthalate (36); Butylbenzyl Phthalate (22); Heptachlor (1); Methoxychlor (P,P'-Methoxychlor) (2); Zinc Dissolved (33)	Benzo(A)Anthracene (664); Benzo(A)Pyrene (2193); Benzo(B)Fluoranthene (960); Dibenzo(A,H) Anthracene (1433); Indeno (1,2,3-C,D)Pyrene (661); Thallium Total (3488)	
Substantial (average P95 exceedances are >100X)		Cadmium Total (10131)	Arsenic Total (13757)
Below detection limits but above guidelines	Acrolein (2); Acrylonitrile (2); Antimony Total (3); Benzidine (167); Bis(2-Chloroethyl) Ether (77); Hexachlorobutadiene (294); Hexachlorocyclopentadiene (77); Hexachloroethane (168); Pentachlorophenol (31); Vinyl Chloride (160)		
No exceedances	Acenaphthene; Alpha-Endosulfan; Beta-Endosulfan; Bromodichloromethane; Carbon Tetrachloride; Cyanide Total; Dibromochloromethane; Diethyl Phthalate; Dimethyl Phthalate; Fenoprop(Silvex)(2,4,5-Tp); Isophorone; Nitrobenzene; Pentachlorobenzene; Strontium Total; Tetrachloroethylene; Trichloroethylene		

Figure G20: USEPA-SWQ-DW+O Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Barium Total (18); Benzene (1); Benzo(A)Anthracene (36); Benzo(B)Fluoranthene (73); Bis(2-Ethylhexyl) Phthalate (5); DDT And Metabolites (4); Heptachlor (1); Heptachlor Epoxide (1); Indeno (1,2,3-C,D)Pyrene (37); Methoxychlor (P,P'-Methoxychlor) (1); P,P'-DDE (1); Toluene (1); pH (Field) (38)	Dibenzo(A,H) Anthracene (343); Thallium Total (142); Total Dissolved Solids (Calcd.) (3292)	
Moderate (average P95 exceedances are 10X)	Aldrin (2); Cyanide Total (8); Zinc Total (1)	Benzo(A)Pyrene (634); Manganese Total (7360)	Arsenic Total (13648)
Substantial (average P95 exceedances are >100X)	Dieldrin (21)		
Below detection limits but above guidelines	1,1,2,2-Tetrachloroethane (1); 1,2,4-Trichlorobenzene (304); 1,2-Diphenylhydrazine (77); 2,4-Dinitrotoluene (77); Acrolein (2); Acrylonitrile (2); Antimony Total (3); Benzidine (167); Benzo(K)Fluoranthene (77); Bis(2-Chloroethyl) Ether (77); Hexachlorobenzene (281); Hexachlorobutadiene (286); Hexachloroethane (77); N-Nitroso-Di-N-Propylamine (168); P,P'-DDD (TDP) (122); Pentachlorophenol (19); Vinyl Chloride (153)		
No exceedances	1,1,1-Trichloroethane; 1,1,2-Trichloroethane; 1,1-Dichloroethylene; 1,2-Dichlorobenzene; 1,2-Dichloroethane; 1,2-Dichloropropane; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-D (Dichlorophenoxyacetic Acid); 2,4-Dichlorophenol; 2,4-Dimethylphenol; 2-Chloronaphthalene; 2-Chlorophenol; Acenaphthene; Alpha-Endosulfan; Anthracene; Beta-Endosulfan; Bromoform; Butylbenzyl Phthalate; Carbon Tetrachloride; Chlorobenzene; Chloroform; Chrysene; Copper Total; Di-N-Butyl Phthalate; Dichlorobromomethane; Diethyl Phthalate; Dimethyl Phthalate; Dinitrophenols; Endrin; Fenoprop(Silvex)(2,4,5-Tp); Fluoranthene; Fluorene; Gamma-Benzenehexachloride (Lindane) (Gamma-BHC); Hexachlorocyclopentadiene; Isophorone; N-Nitrosodiphenylamine; Nickel Total; Nitrate as Nitrogen; Nitrobenzene; Pentachlorobenzene; Phenol; Pyrene; Selenium Total; Tetrachloroethylene; Trichloroethylene		

Figure G21: USEPA-SWQ-O Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Benzo(A)Anthracene (33); Benzo(B)Fluoranthene (72); Bis(2-Ethylhexyl) Phthalate (5); DDT And Metabolites (4); Heptachlor (1); Heptachlor Epoxide (1); Indeno (1,2,3-C,D)Pyrene (33); Methoxychlor (P,P'-Methoxychlor) (1); P,P'-DDE (1); Thallium Total (34)	Arsenic Total (2835); Benzo(A)Pyrene (610); Dibenzo(A,H) Anthracene (330); Manganese Total (3776)	
Moderate (average P95 exceedances are 10X)	Aldrin (2); Zinc Total (1)		
Substantial (average P95 exceedances are >100X)	Dieldrin (21)		
Below detection limits but above guidelines	1,2,4-Trichlorobenzene (122); Benzidine (165); Benzo(K)Fluoranthene (77); Hexachlorobenzene (281); Hexachlorobutadiene (286); Hexachloroethane (77); P,P'-DDD (TDP) (122); Pentachlorophenol (19); Vinyl Chloride (55)		
No exceedances	1,1,1-Trichloroethane; 1,1,2,2-Tetrachloroethane; 1,1,2-Trichloroethane; 1,1-Dichloroethylene; 1,2-Dichlorobenzene; 1,2-Dichloroethane; 1,2-Dichloropropane; 1,2-Diphenylhydrazine; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-D (Dichlorophenoxyacetic Acid); 2,4-Dichlorophenol; 2,4-Dimethylphenol; 2,4-Dinitrotoluene; 2-Chloronaphthalene; 2-Chlorophenol; Acenaphthene; Acrolein; Acrylonitrile; Alpha-Endosulfan; Anthracene; Antimony Total; Benzene; Beta-Endosulfan; Bis(2-Chloroethyl) Ether; Bromoform; Butylbenzyl Phthalate; Carbon Tetrachloride; Chlorobenzene; Chloroform; Chrysene; Cyanide Total; Di-N-Butyl Phthalate; Dichlorobromomethane; Diethyl Phthalate; Dimethyl Phthalate; Dinitrophenols; Endrin; Fenoprop(Silvex)(2,4,5-Tp); Fluoranthene; Fluorene; Gamma-Benzenehexachloride (Lindane) (Gamma-BHC); Hexachlorocyclopentadiene; Isophorone; N-Nitroso-Di-N-Propylamine; N-Nitrosodiphenylamine; Nickel Total; Nitrobenzene; Pentachlorobenzene; Phenol; Pyrene; Selenium Total; Tetrachloroethylene; Toluene; Trichloroethylene		

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Figure G22: HC-DW-AO Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Chloride Dissolved (21); Sodium Dissolved/Filtered (23); Sulphate Dissolved (4)	Total Dissolved Solids (Calcd.) (220)	
Moderate (average P95 exceedances are 10X)			Iron Total (14162); Manganese Total (12116)
Substantial (average P95 exceedances are >100X)	Zinc Total (1)		
Below detection limits but above guidelines			
No exceedances	Copper Total; MTBE (Methyl Tertiary Butyl Ether); Pentachlorophenol; Xylenes (O,M,P)		

Figure G23: EPA-SWQ-RA Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	Escherichia Coli (50); pH (Field) (38)		
Moderate (average P95 exceedances are 10X)		Turbidity (Field) (1190)	
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines			
No exceedances			

Figure G24: HC-SWQ-RA Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	pH (Field) (2)		
Moderate (average P95 exceedances are 10X)		Turbidity (Field) (1190)	
Substantial (average P95 exceedances are >100X)			
Below detection limits but above guidelines			
No exceedances			

Figure G25: USEPA-SWQ-RA Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	2,4-Dichlorophenol (1)		
Moderate (average P95 exceedances are 10X)		Iron Total (14162)	
Substantial (average P95 exceedances are >100X)	Zinc Total (1)		
Below detection limits but above guidelines	2-Chlorophenol (166); 4-Chlorophenol (12)		
No exceedances	2,3,4,6-Tetrachlorophenol; 2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-Dimethylphenol; 2,6-Dichlorophenol; Acenaphthene; Copper Total; Hexachlorocyclopentadiene; Nitrobenzene; Pentachlorophenol; Phenol		

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Figure G26: ICBM-SWQ-IU Screening Matrix

Guideline Screening Matrix	Rare <25% of sites and <25% of the samples per site	Common Exceedances are variable and do not fit in category 1 or 3	Very Common > 75% of sites and >75% of the samples per site
Marginal (average P95 exceedances are 1X)	2,4-Dichlorophenol (1); Ammonia Total (55); Ammonia Un-Ionized (Calcd.) (9); Anthracene (9); Barium Total (18); Benzene (3); Benzo(K)Fluoranthene (3); Beryllium Total (3); Boron Total (1); Cadmium Dissolved (8); Chloride Dissolved (56); Chromium Total (10); Chrysene (23); Dichloromethane (7); Endrin (1); Fluoranthene (7); Heptachlor Epoxide (1); Hexachlorobenzene (2); Mirex (1); Molybdenum Total (1); Nickel Dissolved (2); Nitrate as Nitrogen (1); P,P'-DDD (TDP) (1); Permethrin (3); Phenanthrene (1); Phenol (564); Pyrene (42); Silver Total (74); Sulphate Dissolved (16); Total Dissolved Solids (Calcd.) (8); Vanadium Total (8)	Aluminum Dissolved (1281); Cobalt Total (2575); Copper Dissolved (7876); Copper Total (3000); Fluoride Dissolved (1836); Hydrogen Sulphide (342); Iron Dissolved (7611); Lead Total (917); Nickel Total (1237); Selenium Total (4181); Zinc Total (2031); pH (Field) (607)	
Moderate (average P95 exceedances are 10X)	Aldrin (2); Alkalinity Total CaCO ₃ (30); Azinphos Methyl (Guthion) (1); Bis(2-Ethylhexyl) Phthalate (36); Butylbenzyl Phthalate (22); Di-N-Butyl Phthalate (43); Heptachlor (1); Lead Dissolved (15); Methoxychlor (P,P'-Methoxychlor) (2); Naphthalene (6); Nitrite as Nitrogen (7); Toluene (52); Uranium Total (3); Zinc Dissolved (33)	Benzo(A)Anthracene (664); Benzo(A)Pyrene (2193); Benzo(B)Fluoranthene (960); Dibenzo(A,H) Anthracene (1433); Indeno (1,2,3-C,D)Pyrene (661); Manganese Total (7360); Mercury Total (4482); Thallium Total (3488)	Iron Total (14162)
Substantial (average P95 exceedances are >100X)	DDT And Metabolites (4); Dieldrin (21)	Cadmium Total (10131)	Aluminum Total (13162); Arsenic Total (13757)
Below detection limits but above guidelines	1,1,2,2-Tetrachloroethane (1); 1,2,4-Trichlorobenzene (304); 1,2-Dibromo-3-Chloropropane (125); 1,2-Dibromoethane (45); 1,2-Dichlorobenzene (61); 1,2-Diphenylhydrazine (77); 2,4-Dinitrotoluene (77); 2-Chlorophenol (166); 4-Chlorophenol (12); Acrolein (2); Acrylonitrile (2); Antimony Total (3); Benzidine (167); Bis(2-Chloroethyl) Ether (77); Chlorpyrifos-Ethyl (Dursban) (613); Deltamethrin (156); Demeton (19); Diazinon (47); Dinoseb (19); Hexachlorobutadiene (294); Hexachlorocyclopentadiene (77); Hexachloroethane (168); Malathion (80); N-Nitroso-Di-N-Propylamine (168); P,P'-DDE (89); Parathion (80); Pentachlorophenol (31); Triallate (Avadex BW) (4); Trifluralin (Treflan) (4); Vinyl Chloride (160)		
No exceedances	1,1,1-Trichloroethane; 1,1,2-Trichloroethane; 1,1-Dichloroethylene; 1,2,3-Trichlorobenzene; 1,2-Dichloroethane; 1,2-Dichloropropane; 1,3-Dichlorobenzene; 1,4-Dichlorobenzene; 1,4-Dioxane; 2,3,4,6-Tetrachlorophenol; 2,4,5-Trichlorophenol; 2,4,6-Trichlorophenol; 2,4-D (Dichlorophenoxyacetic Acid); 2,4-DB (2,4-Dichlorophenoxy)Butanoic Acid; 2,4-Dimethylphenol; 2,6-Dichlorophenol; 2-Chloronaphthalene; Acenaphthene; Acridine; Alachlor; Aldicarb; Alpha-Endosulfan; Arsenic Dissolved; Atrazine; Beta-Endosulfan; Bisphenol A; Bromacil; Bromodichloromethane; Bromoform; Bromoxynil; Calcium Dissolved; Captan; Carbamazepine; Carbaryl; Carbofuran; Carbon Tetrachloride; Chlorate; Chlorobenzene; Chloroform; Chlorothalonil; Cyanazine; Cyanide Total; Dibromochloromethane; Dicamba (Banvel); Dichlorobromomethane; Dichloroprop(2,4-DP); Diclofop-Methyl (Hoegrass); Diethyl Phthalate; Dimethoate (Cygon); Dimethyl Phthalate; Dinitrophenols; Diuron; Ethanol; Fenoprop(Silvex)(2,4,5-Tp); Fluorene; Formaldehyde Total; Gamma-Benzenehexachloride (Lindane) (Gamma-BHC); Glyphosate (Roundup); Imidacloprid; Isophorone; Linuron; MCPA; MCPP (Mecoprop); MTBE (Methyl Tertiary Butyl Ether); Mercury Dissolved; Methyl Mercury Dissolved; Metolachlor; Metribuzin; N-Nitrosodiphenylamine; Nitrate and Nitrite as Nitrogen; Nitrilotriacetic Acid - Nta; Nitrobenzene; Nonylphenol; Pentachlorobenzene; Perfluorooctanesulfonate (PFOS); Phorate (Thimet); Picloram (Tordon); Quinoline; Simazine; Strontium Total; Styrene; Terbufos; Tetrachloroethylene; Trichloroethylene; Triclosan; Trihalomethanes; Xylene; Xylenes (O,M,P)		

