512 Attachment 1

Menominee Indian Tribe

Table 1
Acute Water Quality Criteria for Protection of Aquatic Life in Ambient Water

Tribe requires and EPA recommends that metals criteria be expressed as dissolved concentrations. Baseline sampling related to certain point and nonpoint source discharge proposals will include a requirement by the Department for measurement of dissolved and total organic carbon.

Chemical	CMC (µg/L)	Conversion Factor (CF)
Arsenic (III)	[a,b]339.8	1.000
Chromium (VI)	[a,b]16.02	0.982
Cyanide	[c]22	N/A
Dieldrin	[d]0.24	N/A
Endrin	[d]0.086	N/A
Lindane	[d]0.95	N/A
Mercury (II)	[a,b]1.694	0.85
Parathion	[d]0.065	N/A
Selenium	[d]20	N/A

[a] CMC = CMC^{tr}.
[b] CMC^{d} = (CMC^{tr}) CF. The CMC^{d} shall be rounded to two significant digits.
[c] CMC should be considered free cyanide as CN.
[d] CMC = CMC^{t}.

NOTES:

The term "N/A" means not applicable.
CMC is criterion maximum concentration.
CMC^{tr} is the CMC expressed as total recoverable.
CMC^{d} is the CMC expressed as a dissolved concentration.
CMC^{t} is the CMC expressed as a total concentration.

Chemical	m_A	b_A	Conversion Factor (CF)
Cadmium[a,b]	1.128	-3.6867	0.85
Chromium (III)[a,b]	0.819	+3.7256	0.316
Copper[a,b]	0.9422	-1.700	0.960
Nickel[a,b]	0.846	+2.255	0.998
Pentachlorophenol[c]	1.005	-4.869	N/A
Zinc[a,b]	0.8473	+0.884	0.978

[a] $CMC^{tr} = \exp \{m_A [\ln (\text{hardness})] + b_A\}$.
[b] $CMC^{d} = (CMC^{tr})$ CF. The CMC^{d} shall be rounded to two significant digits.
[c] $CMC^{t} = \exp m_A \{[pH] + b_A\}$. The CMC^{t} shall be rounded to two significant digits.

NOTES:
The term "exp" represents the base e exponential function.
The term "N/A" means not applicable.
CMC is criterion maximum concentration.
CMC^{tr} is the CMC expressed as total recoverable.
CMC^{d} is the CMC expressed as a dissolved concentration.
CMC^{t} is the CMC expressed as a total concentration.

[60 FR 15387, March 23, 1995, as amended at 65 FR 35286, June 2, 2000]

Table 2
Chronic Water Quality Criteria for Protection of Aquatic Life in Ambient Water

EPA recommends that metals criteria be expressed as dissolved concentrations.

Chemical	CCC (µg/L)	Conversion Factor (CF)
Arsenic (III)	[a,b]147.9	1.000
Chromium (VI)	[a,b]10.98	0.962
Cyanide	[c]5.2	N/A
Dieldrin	[d]0.056	N/A
Endrin	[d]0.036	N/A
Mercury (II)	[a,b]0.9081	0.85
Parathion	[d]0.013	N/A
Selenium	[a,b]5	0.922

[a] CC = CCC^{tr}.
[b] CCC^{d} = (CCC^{tr}) CF. The CCC^{d} shall be rounded to two significant digits.
[d] CCC should be considered free cyanide as CN.
[d] CCC = CCC^{t}.

NOTES:
The term "N/A" means not applicable.
CCC is criterion continuous concentration.
CCC^{tr} is the CCC expressed as total recoverable.
CCC^{d} is the CCC expressed as a dissolved concentration.
CCC^{t} is the CCC expressed as a total concentration.

Chemical	m_c	b_c	Conversion Factor (CF)
Cadmium[a,b]	0.7852	-2.715	0.850
Chromium (III)[ab]	0.819	+0.6848	0.860
Copper[a,b]	0.8545	-1.702	0.960
Nickel[a,b]	0.846	+0.0584	0.997
Pentachlorophenol[c]	1.005	-5.134	N/A
Zinc[a, b]	0.8473	+0.884	0.986

[a] $CCC^{tr} = \exp \{m_c [\text{In hardness})] + b_c\}$.
[b] $CCC^{d} = (CCC^{tr})$ (CF). The CCC^{d} shall be rounded to two significant digits.
[c] $CMC^{t} = \exp \{m_A [pH] + b_A\}$. The CMC^{t} shall be rounded to two significant digits.

NOTES:
The term "exp" represents the base e exponential function.
The term "N/A" means not applicable.
CCC is criterion continuous concentration.
CCC^{tr} is the CCC expressed as total recoverable.
CCC^{d} is the CCC expressed as a dissolved concentration.
CCC^{t} is the CCC expressed as a total concentration.

Table 3
Water Quality Criteria for Protection of Human Health

Note: Consistent with the heavy reliance of the MITW members and residents on the water resources of the MITW Indian Reservation, HCVs shall be applicable to all new or increased discharges.

HNVs may be applied where applicable to GLI and non-GLI waters at the discretion of the department.

	HNV (µg/L)		HCV (µg/L)	
Chemical	**Drinking**	**Nondrinking**	**Drinking**	**Nondrinking**
Benzene	1.9E1	5.1E2	1.2E1	3.1E2
Chlordane	1.4E-3	1.4E-3	2.5E-4	2.5E-4
Chlorobenzene	4.7E2	3.2E3		
Cyanides	5.0E2	4.8E4		
DDT	2.0E-3	2.0E-3	1.5E-4	1.5E-4
Dieldrin	4.1E-4	4.1E-4	6.5E-6	6.5E-6
2, 4-Dimethylphenol	4.5E2	8.7E3		
2, 4-Dinitrophenol	5.5E1	2.8E3		
Hexachlorobenzene	4.6E-2	4.6E-2	4.5E-4	4.5E-4
Hexachloroethane	6.0	7.6	5.3	6.7
Lindane	4.7E-1	5.0E-1		
Mercury[1]	1.8E-3	1.8E-3		
Methylene chloride	1.6E3	9.0E4	4.7E1	2.6E3
2, 3, 7, 8-TCDD	6.7E-8	6.7E-8	8.6E-9	8.6E-9
Toluene	5.6E3	5.1E4		
Toxaphene			6.8E-5	6.8E-5
Trichloroethylene			2.9E1	3.7E2

[1] Includes methylmercury.

[60 FR 15387, March 23, 1995, as amended at 62 FR 11731, March 12, 1997; 62 FR 52924, October 9, 1997]

Table 4
Water Quality Criteria for Protection of Wildlife

Chemical	Criteria (µg/L)
DDT and metabolites	1.1E-5
Mercury (including methylmercury)	1.3E-3
PCBs (class)	1.2E-4
2, 3, 7, 8-TCDD	3.1E-9

[60 FR 15387, March 23, 1995, as amended at 62 FR 11731, March 12, 1997]

Table 5
Pollutants of Initial Focus in the Great Lakes Water Quality Initiative

Pollutants that are bioaccumulative chemicals of immediate concern (BCCs):

Chlordane	Lindane; gamma-hexachlorocyclohexane; gamma-BHC
4, 4'-DDD; p, p'-DDD; 4, 4'-TDE; p. p'-TDE	Mercury
4, 4'-DDE; p, p'-DDE	Mirex
4, 4'-DDT; p, p'-DDT	Octachlorostyrene
Dieldrin	PCBs; polychlorinated biphenyls
Hexachlorobenzene	Pentachlorobenzene
Hexachlorobutadiene; hexachloro-1, 3-butadiene	Photomirex
Hexachlorocyclohexanes; BHCs	2, 3, 7, 8-TCDD; dioxin
alpha-Hexachlorocyclohexane; alpha-BHC	1, 2, 3, 4-Tetrachlorobenzene
beta – Hexachlorocyclobexane; beta-BHC	1, 2, 4, 5-Tetrachlorobenzene
delta-Hexachlorocyclohexane; delta-BHC	Toxaphene

Table 6
Additional Pollutants That Are BCCs of Concern

Pollutants that are bioaccumulative chemicals of concern:

Acenaphthene	Cadmium
Acenaphthylene	Carbon tetrachloride; tetrachloromethane
Acrolein; 2-propenal	Chlorobenzene
Acrylonitrile	p-Chloro-m-cresol; 4-chloro-3-methylphenol
Aldrin	Chlorodibromomethane
Aluminum	Chlorethane
Anthracene	2-Chloroethyl vinyl ether
Antimony	Chloroform; trichloromethane
Arsenic	2-Chloronaphthalene
Asbestos	2-Chlorophenol
1, 2-Benzanthracene; benz[a]anthracene	4-Chlorophenyl phenyl ether
Benzene	Chlorpyrifos
Benzidine	Chromium
Benzo(a) pyrene; 3, 4-benzopyrene	Chrysene
3, 4-Benzofluoranthene; benzo(b)fluoranthene	Copper
11, 12-Benzofluoranthene; benzo(k)fluoranthene	Cyanide
1, 12-Benzoperylene; benzo[ghi]perylene	2, 4-D; 2, 4-Dichlorophenoxyacetic acid
Berytliam	DEHP; di(2-ethylhexyl) phthalate
Bis (2-chloroethoxy) methane	Diazinon
Bis (2-chloroethyl) ether	1, 2:5, 6-Dibenzanthracene; dibenz[a,h] anthracene
Bis (2-chloroisopropyl) ether	Dibutyl phthalate; di-n-butyl phthalate
Bromoform; uibomomethane	1, 2-Dichlorobenzene
4-Bromophenyl phenyl ether	1, 3-Dichlorobenzene
Butyl benzyl phthalate	1, 4-Dichlorobenzene
3, 3'- Dichlorobenzidine	Dichlorobromomethane; bromodichloromethane
1, 1-Dichlorcethane	1, 2-Dichloroethane
1, 1-Dichloroethylene; vinylidene chloride	1, 2-trans-Dichloroethylene
2, 4-Dichlorophenol	1, 2-Dichloropropane

1, 3-Dichloropropene; 1, 3-dichloropropylene	Diethyl phthalate
2, 4-Dimethylphenol; 2, 4-xytenol	Dimethyl phthalate
4, 6-Dinitro-o-cresol; 2-methyl-4, 6-dinitrophenol	2, 4-Dinitrophenol
2, 4-Dinitrotoluene	2, 6-Dinitrototuene
Dioctyl phthalate; di-n-octyl phthalate	1, 2-Diphenylhydrazine
Endosulfan; thiodan	alpha-Endosulfan
beta-Endosulfan	Endosulfan sulfate
Endrin	Endrin aldehyde
Ethylbenzene	Fluoranthene
Fluorene; 9H-fluorene	Fluoride
Guthion	Heptachlor
Heptachlor epoxide	Hexachlorocyclopentadiene
Hexachloroethane	Indeno [1, 2, 3-cd] pyrene; 2, 3-o-phenylene pyrene
Isophorone	Lead
Malathion	Methoxychlor
Methyl bromide; bromomethane	Methyl chloride; chloromethane
Methylene chloride; dichloromethane	Napthalene
Nickel	Nitrobenzene
2-Nitrophenol	4-Nitrophenol
N-Nitrosodimethylamine	N-Nitrosodiphenylamine
N-Nitrosodipropylamine; N-nitrosodi-n-propylamine	Parathion
Pentachlorophenol	Phenanthrene
Phenol	Iron
Pyrene	Selenium
Silver	1, 1, 2, 2-Tetrachloroethane
Tetrachloroethylene	Thallium
Toluene; methylbenzene	1, 2, 4-Trichlorobenzene
1, 1, 1-Trichloroethane	1, 1, 2-Trichloroethane
Trichloroethylene; trichloroethene	2, 4, 6-Tricholorophenol
Vinyl chloride; chloroethylene; chloroethene	Zinc