Table 5. Maximum Contaminant Levels, Secondary Maximum Contaminant Levels, and Health Advisory Levels for physical properties and chemical constituents detected in water samples collected from domestic wells completed in alluvial aquifers in eastern Iowa and southern Minnesota, June–July 1998

[USEPA, U.S. Environmental Protection Agency; MCL, Maximum Contaminant Level; SMCL, Secondary Maximum Contaminant Level; HAL, Health Advisory Level; µg/L, micrograms per liter; mg/L, milligrams per liter; pCi/L, picocuries per liter; E, estimated; --, not applicable; <, less than]

Constituent	MCL[1]	SMCL[1]	HAL[1]	Number of samples exceeding USEPA regulation	Sample concentration range
Major ions, dissolved (mg/L)					
pH (standard units)	--	Physical properties 6.5–8.5	--	1	5.9 – 7.4
Chloride	--	250	--	0	<0.1 – 113
Sulfate	500	250	--	0	<0.1 – 106
Fluoride	4	2.0	--	0	<0.1 – 1.6
Trace metals, dissolved (mg/L)					
Iron	--	300	--	17	<0.10 – 10,700
Manganese	--	50	--	16	<0.4 – 654
Nutrients, dissolved (mg/L)					
Nitrite as nitrogen	1.0	--	--	0	<0.01 – 0.12
Nitrite plus nitrate as nitrogen	10	--	--	4	<0.05 – 22.0
Ammonia as nitrogen	--	--	30	0	<0.02 – 6.28
Radiochemical isotopes, (pCi/L)					
Radon-222	[2]300	--	--	18	53 – 2,146
Pesticides and pesticide metabolites, dissolved (mg/L)					
2,4-D	70	--	70	0	<.150
2,4,5-T	--	--	70	0	<.035
Aldicarb	7.0	--	7.0	0	<.550
Aldicarb sulfone	7.0	--	7.0	0	<.021
Aldicarb sulfoxide	7.0	--	7.0	0	<.021
Atrazine	3.0	--	[3]3.0	0	<0.001 – 0.26
Bentazon	--	--	200	0	<0.014 – 0.22
Bromacil	--	--	90	0	<.035
Butylate	--	--	350	0	<.002
Carbaryl	--	--	700	0	<.008
Carbofuran	40	--	40	0	<.003
Chloramben	--	--	100	0	<.014
Chlorpyrifos	--	--	20	0	<.004
Cyanazine	--	--	1.0	0	<.004
Diazinon	--	--	.6	0	<.002
Dicamba	--	--	200	0	<.002
Dinoseb	7.0	--	7.0	0	<.003
Disulfoton	--	--	.3	0	<.017
Diuron	--	--	10	0	<.017

Table 5. Maximum Contaminant Levels, Secondary Maximum Contaminant Levels, and Health Advisory Levels for physical properties and chemical constituents detected in water samples collected from domestic wells completed in alluvial aquifers in eastern Iowa and southern Minnesota, June–July 1998—Continued

Constituent	MCL[1]	SMCL[1]	HAL[1]	Number of samples exceeding USEPA regulation	Sample concentration range
Pesticides and pesticide metabolites, dissolved (mg/L)—Continued					
Fluometron	--	--	90	0	<0.035
Fonofos	--	--	10	0	<.003
Lindane	.2	--	.2	0	<.004
Malathion	--	--	200	0	<.005
MCPA	--	--	10	0	<.17
Methomyl	--	--	200	0	<.017
Metolachlor	--	--	70	0	< 0.002 – 0.015
Metribuzin	--	--	100	0	<.004
Oxamyl	200	--	200	0	<.210
Picloram	500	--	500	0	<.05 – .17
Prometon	--	--	[3]100	0	< 0.018 – 0.191
Pronamide	--	--	50	0	<.003
Propachlor	--	--	90	0	<.007
Propham	--	--	100	0	<.035
Simazine	4.0	--	4.0	0	<.005
Tebuthiuron	--	--	500	0	<0.01 – 0.01
Terbacil	--	--	90	0	<.007
Terbufos	--	--	.9	0	<.013
Trifluralin	--	--	5.0	0	<.002
Volatile organic compounds, total (mg/L)					
Benzene	5.0	--	--	0	<.40
Benzene, 1,2,4-trichloro-	70	--	70	0	<.752
Benzene, O-dichloro-	600	--	600	0	<.192
Benzene, ethyl-	700	--	700	0	<.120
Bromoform	100/[4]80	--	--	0	<.416
Carbon tetrachloride	5.0	--	--	0	<.352
Chloroform	100/[4]80	--	--	0	< 0.052 – 16.8
Ethane, 1,1,2,2-tetrachloro-	--	--	70	0	<.176
Ethane, 1,1,1-trichloro-	200	--	200	0	<.256
Ethane, 1,2-dichloro-	5.0	--	--	0	<.536
Ethane, 1,1-dichloro-	7.0	--	7.0	0	<.264
Ethane, hexachloro-	--	--	1.0	0	<1.45
Ether, methyl-tert-butyl-	--	--	20 – [5]200	0	<.664
Ethylene, tetrachloro-	5.0	--	--	0	<.408
Ethylene, trichloro-	5.0	--	--	0	<.152

Table 5. Maximum Contaminant Levels, Secondary Maximum Contaminant Levels, and Health Advisory Levels for physical properties and chemical constituents detected in water samples collected from domestic wells completed in alluvial aquifers in eastern Iowa and southern Minnesota, June–July 1998—Continued

Constituent	MCL[1]	SMCL[1]	HAL[1]	Number of samples exceeding USEPA regulation	Sample concentration range
Volatile organic compounds, total (mg/L)—Continued					
Hexachlorobutadiene	--	--	1.0	0	<0.568
Methane, bromochloro-	--	--	10	0	<.176
Methane, dibromochloro-	100/[4]80	--	60	0	< 0.182 – 3.10
Methane, dichlorobromo-	100/[4]80	--	--	0	< 0.048 – 7.00
Methane, dichlorodifluoro-	--	--	1,000	0	<.552
Naphthalene	--	--	20	0	<1.00
Propane, 1,2,3-trichloro-	--	--	40	0	<.648
Propane, dibromochloro-	.2	--	--	0	<1.00
Propane, 1,2-dichloro-	5.0	--	--	0	<.272
Styrene	100	--	100	0	<.168
Toluene	1,000	--	1,000	0	E 0.02 – 0.18
Toluene, o-chloro-	--	--	100	0	<.168
Toluene, p-chloro-	--	--	100	0	<.224
Vinyl chloride	2.0	--	--	0	<.448
Xylene	10,000	--	10,000	0	<.256

[1]U.S. Environmental Protection Agency (1999).

[2]1991 proposed National Primary Drinking-Water Regulation for radionuclides.

[3]Under review.

[4]1994 proposed regulation for disinfectants and disinfection by-products. Total for all trihalomethanes combined cannot exceed the 80-µg/L level.

[5]If cancer classification is accepted, the lifetime HAL is 0.02 µg/L; otherwise, it is 0.2 µg/L.