Appendix I

Environmental Quality Guidelines

Summary of Existing Canadian Environmental Quality Guidelines

These guidelines supersede previously published Canadian environmental quality guidelines (EQGs). The user is strongly advised to consult the appropriate chapter and/or fact sheet in this document for specific information pertaining to each EQG or range of EQGs listed in this table. Guideline values are listed under chemical names, which are cross-referenced with common names, abbreviations, and/or families of chemicals as appropriate. Units for each EQG are as indicated for each column unless otherwise noted in the table.

Parameter	Chapter 1	Chapter 2	Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community	Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
				Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	AgrL[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
Acenaphthene [See Polycyclic aromatic hydrocarbons (PAHs)]																
Acenaphthylene [See Polycyclic aromatic hydrocarbons (PAHs)]																
Acridine [See Polycyclic aromatic hydrocarbons (PAHs)]																
Aesthetics			Narrative													
Aldicarb		9		1	0.15	54.9	11									
Aldrin + Dieldrin		0.7		No EQG[j]												
Algae, blue-green [See Cyanobacteria]																
Aliphatic chlorinated hydrocarbons[bp] (each)												0.1[y]	5[y]	50[y]	50[y]	
Aliphatics nonchlorinated (each)												0.3[y]	—	—	—	
Aluminum		100 [a,r]		5–100		5000[n]	5000[n]									
Ammonia (total)				see factsheet[s]												
Ammonia (un-ionized)				19[s]												
Aniline				2.2												
Anthracene [See Polycyclic aromatic hydrocarbons (PAHs)]																
Antimony		6 (IMAC)										20[y]	20[y]	40[y]	40[y]	
Antimony–125		100 $Bq \cdot L^{-1}$ [k]														
Aquatic plants			Narrative													
Aroclor 1254 [See Polychlorinated biphenyls (PCBs)]																
Arsenic		25 (IMAC)		5.0	12.5	100	25	5900	17 000	7240	41 600	12	12	12	12	
Atrazine		5 (IMAC)		1.8		10	5									
Azinphos-methyl		20														
Barium		1000										750	500	2000	2000	
Bendiocarb		40														
Benz[*a*]anthracene [See Polycyclic aromatic hydrocarbons (PAHs)]																
Benzene		5		370	110							0.05	0.5	5	5	

Continued

Parameter	Chapter 1	Chapter 2		Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community		Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
					Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)		($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	Agri.[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
Benzo(*b*)fluoranthene [See Polycyclic aromatic hydrocarbons (PAHs)]																	
Benzo(*k*)fluoranthene [See Polycyclic aromatic hydrocarbons (PAHs)]																	
Beryllium							100[ff]	100[ff]					4[j]	4[j]	8[j]	8[j]	
2,2-Bis(*p*-chlorophenyl)-1,1-dichloroethane [See DDD]																	
2,2-Bis(*p*-chlorophenyl)-1,1,1-trichloroethane [See DDT]																	
Blue-green algae [See Cyanobacteria]																	
Boron		5000 (IMAC)					500–6000[ff]	5000[ff]					2[j,z]	—	—	—	
Bromacil					5.0		0.2	1100									
Bromate		10 (IMAC)[y]															
Bromoform [See Halogenated methanes, Tribromomethane]																	
Bromoxynil		5 (IMAC)			5.0		0.33	11									
Cadmium		5			0.017	0.12	5.1	80	600	3500	700	4200	1.4	10	22	22	
Calcium								1 000 000[ff]									
Captan					1.3			13									
Carbaryl		90			0.20	0.32		1100									
Carbofuran		90			1.8			45									
Carbon monoxide	1 h: 15 000–35 000 8 h: 6000–20 000 1 a: no EQG[j]																
Carbon tetrachloride [See Halogenated methanes, Tetrachloromethane]																	
Cerium-141		100 $Bq \cdot L^{-1}$[k]															
Cerium-144		20 $Bq \cdot L^{-1}$[k]															
Cesium-134		7 $Bq \cdot L^{-1}$[k]															
Cesium-137		10 $Bq \cdot L^{-1}$[k]															
Chemical characteristics				Narrative													
Chloramines [See Reactive chlorine species]																	
Chlordane					No EQG[j]			No EQG[j]	4.50	8.87	2.26	4.79					
Chloride			≤250 000				100 000–700 000[ff]										
Chlorinated benzenes																	
Monochlorobenzene		80	≤30		1.3	25							0.1[z]	1[z]	10[z]	10[z]	
1,2-Dichlorobenzene		200	≤3		0.70	42							0.1[z]	1[z]	10[z]	10[z]	
1,3-Dichlorobenzene					150								0.1[z]	1[z]	10[z]	10[z]	
1,4-Dichlorobenzene		5	≤1		26								0.1[z]	1[z]	10[z]	10[z]	
1,2,3-Trichlorobenzene					8.0								0.05[z]	2[z]	10[z]	10[z]	
1,2,4-Trichlorobenzene					24	5.4							0.05[z]	2[z]	10[z]	10[z]	

Continued

Parameter	Chapter 1	Chapter 2		Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community		Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
					Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)		($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	Agri.[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
1,3,5-Trichlorobenzene													0.05[j]	2[j]	10[j]	10[j]	
1,2,3,4-Tetrachlorobenzene					1.8								0.05[j]	2[j]	10[j]	10[j]	
1,2,3,5-Tetrachlorobenzene													0.05[j]	2[j]	10[j]	10[j]	
1,2,4,5-Tetrachlorobenzene													0.05[j]	2[j]	10[j]	10[j]	
Pentachlorobenzene					6.0								0.05[j]	2[j]	10[j]	10[j]	
Hexachlorobenzene								0.52					0.05[j]	2[j]	10[j]	10[j]	
Chlorinated ethanes																	
1,1-Dichloroethane													0.1[j]	5[j]	50[j]	50[j]	
1,2-Dichloroethane		5 (IMAC)			100			5[n]					0.1[j]	5[j]	50[j]	50[j]	
1,1,1-Trichloroethane													0.1[j]	5[j]	50[j]	50[j]	
1,1,2-Trichloroethane													0.1[j]	5[j]	50[j]	50[j]	
1,1,2,2-Tetrachlorethane													0.1[j]	5[j]	50[j]	50[j]	
Chlorinated ethenes																	
Monochloroethene (Vinyl chloride)		2															
1,1-Dichloroethene (Dichloroethylene)		14											0.1[j]	5[j]	50[j]	50[j]	
1,2-Dichloroethene													0.1[j]	5[j]	50[j]	50[j]	
1,1,2-Trichloroethene (Trichloroethylene, TCE)		50			21			50[n]					0.1	3	31	31	
1,1,2,2-Tetrachloroethene (Tetrachloroethylene, PCE)		30			111								0.1	0.2	0.5	0.6	
Chlorinated methanes [See Halogenated methanes]																	
Chlorinated phenols																	
Monochlorophenols					7[n]								0.05[j]	0.5[j]	5[j]	5[j]	
Dichlorophenols					0.2[n]								0.05[j]	0.5[j]	5[j]	5[j]	
2,4-Dichlorophenol		900	≤0.3										0.05[j]	0.5[j]	5[j]	5[j]	
Trichlorophenols					18[n]								0.05[j]	0.5[j]	5[j]	5[j]	
2,4,6-Trichlorophenol		5	≤2										0.05[j]	0.5[j]	5[j]	5[j]	
Tetrachlorophenols					1[n]								0.05[j]	0.5[j]	5[j]	5[j]	
2,3,4,6-Tetrachlorophenol		100	≤1										0.05[j]	0.5[j]	5[j]	5[j]	
Pentachlorophenol (PCP)		60	≤30		0.5[n]								7.6	7.6	7.6	7.6	
Chlorinated propane (1,2-dichloropropane)													0.1[j]	5[j]	50[j]	50[j]	
Chlorinated propene (1,2-dichloropropene (cis and trans))													0.1[j]	5[j]	50[j]	50[j]	
Chlorine, reactive [See Reactive chlorine species]																	
Chloroform [See Halogenated methanes, Trichloromethane]																	
4-Chloro-2-methyl phenoxy acetic acid [See MCPA]																	
Chlorothalonil					0.18	0.36	5.8	170									
Chlorpyrifos		90			0.0035	0.002		24									
Chromium		50							37 300	90 000	52 300	160 000	64	64	87	87	
Trivalent chromium (Cr(III))					8.9	56	4.9	50									
Hexavalent chromium (Cr(VI))					1.0	1.5	8	50					0.4	0.4	1.4	1.4	
Chrysene [See Polycyclic aromatic hydrocarbons (PAHs)]																	

Continued

Parameter	Chapter 1	Chapter 2		Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community		Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
					Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)		($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	AgrL[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
Clarity				Narrative													
Cobalt							50[ff]	1000[ff]					40[y]	50[y]	300[y]	300[y]	
Cobalt-60		2 $Bq \cdot L^{-1}$[k]															
Coliforms, fecal (*Escherichia coli*)		Narrative		Narrative			100 per 100 mL[rr]										
Coliforms, total		Narrative					1000 per 100 mL[rr]										
Coliphages				Narrative													
Colour			≤15 TCU[m]		Narrative	Narrative		Narrative									
Conductivity													2[y] [dS/m]	2[y] [dS/m]	4[y] [dS/m]	4[y] [dS/m]	
Copper			≤1000		2–4[ff]		200–1000	500–5000	35 700	197 000	18 700	108 000	63	63	91	91	
Cyanazine		10 (IMAC)			2.0		0.5	10									
Cyanide		200			5[ff]								0.9	0.9	8.0	8.0	
Cyanobacteria (Blue-green algae)				Narrative				Narrative									
Cyanobacterial toxins (as Microcystin - LR)		1.5															
2,4-D [See 2,4-Dichlorophenoxyacetic acid]					See also Phenoxy herbicides[o]		See also Phenoxy herbicides[o]										
DDAC (Didecyl dimethyl ammonium chloride)					1.5												
DDD (2,2-Bis (*p*-chlorophenyl)-1,1-dichloroethane; Dichloro diphenyl dichloroethane)									3.54	8.51	1.22	7.81					14.0[j]
DDE (1,1-Dichloro-2,2-bis(*p*-chlorophenyl)-ethene, Diphenyl dichloro ethylene									1.42	6.75	2.07	374					14.0[j]
DDT (2,2-Bis(*p*-chlorophenyl)-1,1,1-trichloroethane; Dichloro diphenyl trichloroethane)					No EQG[j]			No EQG[j]	1.19	4.77	1.19	4.77	0.7	0.7	12	12	14.0[j]
Debris						Narrative											
Deltamethrin					0.0004			2.5									
Deposited bedload sediment [See Total particulate matter]																	
Diazinon		20															
Dibenz*(a,h)*anthracene [See Polycyclic aromatic hydrocarbons (PAHs)]																	
Dibromochloromethane [See Halogenated methanes]																	
Di-*n*-butyl phthalate [See Phthalate esters]																	
Dicamba		120			10		0.006	122									
Dichlorobenzene [See Chlorinated benzenes]																	
Dichlorobromomethane [See Halogenated methanes]																	
1,1-Dichloro-2,2-bis(*p*-chlorophenyl)-ethene [See DDE]																	
Dichloro diphenyl dichloroethane [See DDD]																	
Dichloro diphenyl trichloroethane [See DDT]																	
Dichloroethane [See Chlorinated ethanes]																	

Continued.

Parameter	Chapter 1	Chapter 2		Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community		Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
					Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)		($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	AgrL[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
Dichloroethene [See Chlorinated ethenes]																	
Dichloroethylene [See Chlorinated ethenes, 1,1-Dichloroethene]																	
Dichloromethane [See Halogenated methanes]																	
Dichlorophenols [See Chlorinated phenols]																	
2,4-Dichlorophenoxyacetic acid (2,4-D) [See also Phenoxy herbicides]		100 (IMAC)			See also Phenoxy herbicides[o]		See also Phenoxy herbicides[o]										
1,2-dichloropropane [See chlorinated propane]																	
1,2-dichloropropene [See chlorinated propene]																	
Diclofop-methyl		9			6.1		0.18	9									
Didecyl dimethyl ammonium chloride [See DDAC]																	
Dieldrin									2.85	6.67	0.71	4.30					
Dieldrin + Aldrin [See Aldrin + Dieldrin]																	
Diethylene glycol [See Glycols]																	
Di(2-ethylhexyl) phthalate [See Phthalate esters]																	
Dimethoate		20 (IMAC)			6.2			3									
Di-*n*-butyl phthalate [See Phthalate esters]																	
Di-*n*-octyl phthalate [See Phthalate esters]																	
Dinoseb		10			0.05		16	150									
Diphenyl dichloro ethylene [See DDE]																	
Diquat		70															
Dissolved gas supersaturation					Narrative	Narrative											
Dissolved oxygen [See Oxygen, dissolved]																	
Dissolved solids [See Total dissolved solids]																	
Diuron		150															
Endosulfan					0.02[n]												
Endrin					No EQG[j]			No EQG[j]	2.67	62.4	2.67	62.4					
Enterococci				Narrative													
Escherichia coli [See Coliforms, fecal]																	
Ethylbenzene			≤2.4		90	25		2.4					0.1	1.2	20	20	
Ethylene glycol [See Glycols]																	
Fecal coliforms [See Coliforms, fecal]																	
Fluoranthene [See Polycyclic aromatic hydrocarbons (PAHs)]																	
Fluorene [See Polycyclic aromatic hydrocarbons (PAHs)]																	
Fluoride		1500					1000	1000–2000					200[p]	400[p]	2000[p]	2000[p]	
Inorganic fluorides					0.12	No EQG[j]											

Continued

Parameter	Chapter 1	Chapter 2		Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community		Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
					Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)		($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	Agri.[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
Glycols																	
Ethylene glycol					192 000								960	960	960	960	
Diethylene glycol																	
Propylene glycol					500 000												
Glyphosate		280 (IMAC)			65			280[ff]									
Grease and oil [See Oil and grease]																	
Halogenated methanes																	
Monochloromethane (Methyl chloride)					insufficient data		insufficient data										
Dichloromethane (Methylene chloride)		50			98.1			50[ff]					0.1[y]	5[y]	50[y]	50[y]	
Trichloromethane (Chloroform)					1.8			100[ff]					0.1[y]	5[y]	50[y]	50[y]	
Tetrachloromethane (Carbon tetrachloride)		5			13.3			5[ff]					0.1[y]	5[y]	50[y]	50[y]	
Monobromomethane (Methyl bromide)																	
Tribromomethane (Bromoform)								100[ff]									
Dichlorobromomethane								100[ff]									
Dibromochloromethane								100[ff]									
Trihalomethanes (total)		100 (IMAC)															
HCBD [See Hexachlorobutadiene]																	
Heptachlor (Heptachlor epoxide)					No EQG[j]			No EQG[j]	0.60	2.74	0.60	2.74					
Hexachlorobenzene [See Chlorinated benzenes]																	
Hexachlorobutadiene (HCBD)					1.3												
Hexachlorocyclohexane [See Lindane]																	
Hydrogen fluoride	1 h: no EQG[j] 24 h: 1.1 7 d: 0.5																
Hypochlorous acid [See Reactive chlorine species]																	
Indeno(1,2,3-c,d)pyrene [See Polycyclic aromatic hydrocarbons (PAHs)]																	
Inorganic fluorides [See Fluoride]																	
Iodine–125		10 $Bq \cdot L^{-1}$[k]															
Iodine–131		6 $Bq \cdot L^{-1}$[k]															
3-Iodo-2-propynyl butyl carbamate [See IPBC]																	
IPBC (3-Iodo-2-propynyl butyl carbamate)					1.9												
Iron			≤300		300[ff]		5000[ff]										
Iron–59		40 $Bq \cdot L^{-1}$[k]															
Lead		10			1–7[ff]		200[ff]	100	35 000	91 300	30 200	112 000	70	140	260	600	
Lead–210		0.1 $Bq \cdot L^{-1}$[k]															
Lindane (Hexachlorocyclohexane)					0.01			4[ff]	0.94	1.38	0.32	0.99	0.01[y]	—	—	—	
Linuron					7.0		0.071										
Lithium							2500[ff]										

Continued.

Parameter	Chapter 1	Chapter 2		Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community		Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
					Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)		($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	AgrL[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
Malathion		190															
Manganese			≤50				200[ff]										
Manganese–54		200 $Bq \cdot L^{-1}$[k]															
MCPA (4-Chloro-2-methyl phenoxy acetic acid; 2-Methyl-4-chloro phenoxy acetic acid)					2.6	4.2	0.025	25									
Mercury		1			0.1[ff]			3[ff]	170	486	130	700	6.6	6.6	24	50	see Methylmercury
Methoxychlor		900															
Methyl bromide [See Halogenated methanes, Monobromomethane]																	
Methyl chloride [See Halogenated methanes, Monochloromethane]																	
2-Methyl-4-chloro phenoxy acetic acid [See MCPA]																	
Methylene chloride [See Halogenated methanes, Dichloromethane]																	
Methylmercury																	33.0[f]
2-Methylnaphthalene [See Polycyclic aromatic hydrocarbons (PAHs)]																	
Metolachlor		50 (IMAC)			7.8		28	50									
Metribuzin		80			1.0		0.5	80									
Molybdenum					73		10–50[ff]	500[ff]					5[f]	10[f]	40[f]	40[f]	
Molybdenum–99		70 $Bq \cdot L^{-1}$[k]															
Monobromomethane [See Halogenated methanes]																	
Monochloramine [See Reactive chlorine species]																	
Monochlorobenzene [See Chlorinated benzenes]																	
Monochloroethene [See Chlorinated ethenes]																	
Monochloromethane [See Halogenated methanes]																	
Monochlorophenols [See Chlorinated phenols]																	
Naphthalene [See Polycyclic aromatic hydrocarbons (PAHs)]																	
Nickel					25–150[ff]		200[ff]	1000[ff]					50	50	50	50	
Niobium–95		200 $Bq \cdot L^{-1}$[k]															
Nitrate		45 000			Narrative[ff]												
Nitrate + Nitrite								100 000[ff]									
Nitrilotriacetic acid (NTA)		400															
Nitrite		3200			60[ff]			10 000[ff]									
Nitrite + Nitrate [See Nitrate + Nitrite]																	
Nitrogen dioxide	1 h: 400–1000 24 h: 200–300 1 a: 60–100																

Continued

Parameter	Chapter 1	Chapter 2		Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community		Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
					Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)		($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	Agri.[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
Nonylphenol and its ethoxylates					1.0[cc]	0.7[cc]			1.4[dd] $mg \cdot kg^{-1}$ dw[ee]		1.0[dd] $mg \cdot kg^{-1}$ dw[ee]		5.7	5.7	14	14	
NTA [See Nitrilotriacetic acid]																	
Nuisance organisms				Narrative													
Odour			Inoffensive														
Oil and grease				Narrative									See Canada wide Standard				
Organotins																	
Tributyltin					0.008	0.001		250[ff]									
Tricyclohexyltin								250[ff]									
Triphenyltin					0.022			820[ff]									
Oxygen, dissolved					5500–9500	>8000											
Ozone	1 h: 100–300 24 h: 30–50 1 a: 30																
PAHs [See Polycyclic aromatic hydrocarbons (PAHs)]																	
Paraquat (as dichloride)		10 (IMAC)															
Parathion		50															
Particulate matter <2.5 µm (PM <2.5)	1 h: no EQG[j] 24 h: 15 1 a: no EQG[j]																
Particulate matter <10 µm (PM <10)	1 h: no EQG[j] 24 h: 25 1 a: no EQG[j]																
Pathogens (aquatic)				Narrative													
PCBs [See Polychlorinated biphenyls (PCBs)]																	
PCDD/Fs [See Polychlorinated dibenzo-*p*-dioxins/dibenzo furans																	
PCE [See Chlorinated ethenes, 1,1,2,2-Tetrachloroethene]																	
PCP [See Chlorinated phenols, Pentachlorophenol]																	
Pentachlorobenzene [See Chlorinated benzenes]																	
Pentachlorophenol [See Chlorinated phenols]																	
PH			6.5–8.5[k]	5.0–9.0[k]	6.5–9.0[z]	7.0–8.7[k] +narrative							6 to 8[y]	6 to 8[y]	6 to 8[y]	6 to 8[y]	
Phenanthrene [See Polycyclic aromatic hydrocarbons (PAHs)]																	
Phenolic compounds, nonchlorinated[ll]													0.1[y]	1[y]	10[y]	10[y]	
Phenols					4.0		2						3.8	3.8	3.8	3.8	
Phenoxy herbicides					4[ff]		100[ff]										
Phorate		2															

Continued

Parameter	Chapter 1	Chapter 2		Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community		Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
					Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)		($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	Agr.[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
Phthalic acid esters (each)													30[j]	—	—	—	
Phthalate esters																	
Di-*n*-butyl phthalate					19												
Di(2-ethylhexyl) phthalate					16												
Di-*n*-octyl phthalate																	
Picloram		190 (IMAC)			29		190[k]										
PM <2.5 [See Particulate matter <2.5 µm]																	
PM <10 [See Particulate matter <10 µm]																	
Polychlorinated biphenyls (PCBs)					No EQG[l]	No EQG[l]			34.1	277	21.5	189	0.5	1.3	33	33	mammalian: 0.79 ng TEQ·kg^{-1} diet ww[l] avian: 2.4 ng TEQ·kg^{-1} diet ww[m]
Aroclor 1254									60[y]	340[y]	63.3[y]	709[y]					
Polychlorinated dibenzo-*p*-dioxins/dibenzo furans (PCDD/Fs)					No EQG[l]	No EQG[l]			0.85 ng TEQ·kg^{-1} dw[n,w]	21.5 ng TEQ·kg^{-1} dw[n,w]	0.85 ng TEQ·kg^{-1} dw[n,w]	21.5 ng TEQ·kg^{-1} dw[n,w]	4 ng TEQ·kg^{-1}	4 ng TEQ·kg^{-1}	4 ng TEQ·kg^{-1}	4 ng TEQ·kg^{-1}	mammalian: 0.71 ng TEQ·kg^{-1} diet ww[o] avian: 4.75 ng TEQ·kg^{-1} diet ww[o,p]
Polycyclic aromatic hydrocarbons (PAHs)																	
Acenaphthene					5.8				6.71	88.9	6.71	88.9					
Acenaphthylene									5.87	128	5.87	128					
Acridine					4.4												
Anthracene					0.012				46.9	245	46.9	245					
Benzo(*a*)anthracene					0.018				31.7	385	74.8	693	0.1[y]	1[y]	10[y]	10[y]	
Benzo(*a*)pyrene		0.01			0.015				31.9	782	88.8	763	0.1	0.7	0.7	0.7	
Benzo(*b*)fluoranthene													0.1[y]	1[y]	10[y]	10[y]	
Benzo(*k*)fluoranthene													0.1[y]	1[y]	10[y]	10[y]	
Chrysene									57.1	862	108	846					
Dibenz(*a,h*)anthracene									6.22	135	6.22	135	0.1[y]	1[y]	10[y]	10[y]	
Fluoranthene					0.04				111	2355	113	1494					
Fluorene					3.0				21.2	144	21.2	144					
Indeno(1,2,3-c,d)pyrene													0.1[y]	1[y]	10[y]	10[y]	
2-Methylnaphthalene									20.2	201	20.2	201					
Naphthalene					1.1	1.4			34.6	391	34.6	391	0.1	0.6	22	22	
Phenanthrene					0.4				41.9	515	86.7	544	0.1[y]	5[y]	50[y]	50[y]	
Pyrene					0.025				53.0	875	153	1398	0.1[y]	10[y]	100[y]	100[y]	
Quinoline					3.4								0.1[y]	—	—	—	
Propylene glycol [See Glycols]																	
Pyrene [See Polycyclic aromatic hydrocarbons (PAHs)]																	

Continued

Parameter	Chapter 1	Chapter 2		Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community		Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
					Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)		($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	Agri.[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
Quinoline [See Polycyclic aromatic hydrocarbons (PAHs)]																	
Radium-224		2 $Bq \cdot L^{-1}$[k]															
Radium-226		0.6 $Bq \cdot L^{-1}$[k]															
Radium-228		0.5 $Bq \cdot L^{-1}$[k]															
Reactive chlorine species (Hypochlorous acid and monochloramine)					0.5	0.5											
Chloramines		3000															
Ruthenium-103		100 $Bq \cdot L^{-1}$[k]															
Ruthenium-106		10 $Bq \cdot L^{-1}$[k]															
Salinity					Narrative												
Selenium		10			1.0[n]		20–50[n]	50[n]									
Silver					0.1[n]								1	1	3.9	3.9	
													20[p]	20[p]	40[p]	40[p]	
Simazine		10 (IMAC)			10		0.5	10									
Sodium		≤200 000															
Sodium adsorption ratio													5[p]	5[p]	12[p]	12[p]	
Streambed substrate [See Total particulate matter]																	
Strontium-90		5 $Bq \cdot L^{-1}$[k]															
Styrene					72												
Sulphate		≤500 000						1 000 000[n]					0.1[j]	5[p]	50[p]	50[p]	
Sulphide ($as H_2S$)		≤50															
Sulphur dioxide	1 h: 450–900 24 h: 150–800 1 a: 30–60																
Sulphur (elemental)													500[p]	—	—	—	
Suspended particulates [See Total suspended particulates]																	
Suspended sediments [See Total particulate matter]																	
Taste		Inoffensive															
TCE [See Chlorinated ethenes, 1,1,2-Trichloroethene]																	
Tebuthiuron					1.6		0.27	130									
Temperature		≤15°C		Narrative	Narrative	Narrative											
Terbufos		1 (IMAC)															
Tetrachlorobenzene [See Chlorinated benzenes]																	
Tetrachloroethane [See Chlorinated ethanes]																	
Tetrachloroethene [See Chlorinated ethenes]																	
Tetrachloroethylene [See Chlorinated ethenes, 1,1,2,2-Tetrachloroethene]																	
Tetrachloromethane [See Halogenated methanes]																	
Tetrachlorophenols [See Chlorinated phenols]																	

Continued

Parameter	Chapter 1	Chapter 2		Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community		Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
					Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)		($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	Agri.[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
Thallium					0.8								1	1	1	1	
Thiophene													0.1[y]	—	—	—	
Thorium-228		2 $Bq \cdot L^{-1}$[k]															
Thorium-230		0.4 $Bq \cdot L^{-1}$[k]															
Thorium-232		0.1 $Bq \cdot L^{-1}$[k]															
Thorium-234		20 $Bq \cdot L^{-1}$[k]															
Tin													5[z]	50[z]	300[z]	300[z]	
Toluene			≤24		2.0	215		24					0.1	0.8	0.8	0.8	
Total dissolved solids			≤500 000				500 000–3 500 000	3 000 000									
Total particulate matter																	
Deposited bedload sediment					Narrative	Narrative											
Streambed substrate					Narrative	Narrative											
Suspended sediments					Narrative	Narrative											
Turbidity		1 NTU[j]	≤5 NTU[j]	Narrative	Narrative	Narrative											
Total petroleum hydrocarbons [See oil and grease]																	
Total suspended particulates	1 h: no EQG[l] 24 h: 120–400 1 a: 60–70																
Toxaphene					No EQG[l]	No EQG[l]		No EQG[l]	0.1[x]		0.1[x]						6.3
Triallate					0.24			230[m]									
Tribromomethane [See Halogenated methanes]																	
Tributyltin [See Organotins]																	
Trichlorobenzene [See Chlorinated benzenes]																	
Trichloroethane [See Chlorinated ethanes]																	
Trichloroethene [See Chlorinated ethenes]																	
Trichloroethylene [See Chlorinated ethenes, 1,1,2-Trichloroethene]																	
Trichloromethane [See Halogenated methanes]																	
Trichlorophenol [See Chlorinated phenols]																	
Tricyclohexyltin [See Organotins]																	
Trifluralin		45 (IMAC)			0.20			45									
Trihalomethanes [See Halogenated methanes]																	
Triphenyltin [See Organotins]																	
Tritium		7000 $Bq \cdot L^{-1}$[k]															
Turbidity [See Total particulate matter]																	
Uranium		20 (IMAC)					10[n]	200[n]									
Uranium-234		4 $Bq \cdot L^{-1}$[k]															
Uranium-235		4 $Bq \cdot L^{-1}$[k]															
Uranium-238		4 $Bq \cdot L^{-1}$[k]															

Continued

Parameter	Chapter 1	Chapter 2		Chapter 3	Chapter 4		Chapter 5		Chapter 6				Chapter 7				Chapter 8
	Air	Water: Community		Water: Recreation and aesthetics	Water: Aquatic life		Water: Agriculture		Sediment				Soil				Tissue Residue
					Freshwater	Marine	Irrigation	Livestock	Freshwater		Marine						
	1 h, 8 h or 24 h, 1 a[a] ($\mu g \cdot m^{-3}$)	MAC, IMAC[b] ($\mu g \cdot L^{-1}$)	AO[c] ($\mu g \cdot L^{-1}$)		($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	($\mu g \cdot L^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	ISQG[d] ($\mu g \cdot kg^{-1}$)	PEL[e] ($\mu g \cdot kg^{-1}$)	Agri.[f] ($mg \cdot kg^{-1}$)	Res./Park[g] ($mg \cdot kg^{-1}$)	Comm.[h] ($mg \cdot kg^{-1}$)	Industrial[i] ($mg \cdot kg^{-1}$)	($\mu g \cdot kg^{-1}$ diet ww)
Vanadium							100[n]	100[n]					130	130	130	130	
Vinyl chloride [See Chlorinated ethenes, Monochloroethene]																	
Waterborne pathogens				Narrative													
Xylene			≤300										0.1	1	17	20	
Zinc			≤5000		30		1000–5000[n]	50 000[n]	123 000	315 000	124 000	271 000	200	200	360	360	
Zinc-65		40 $Bq \cdot L^{-1}$[k]															
Zirconium-95		100 $Bq \cdot L^{-1}$[k]															

[a] 1 h, 8 h or 24 h, 1 a: 1-hour, 8-hour, or 24-hour, and 1-year averaging times. For hydrogen fluoride, a 7-day averaging time was used instead of annual averaging.
[b] MAC: Maximum acceptable concentration. IMAC: Interim maximum acceptable concentration. The guideline listed is the MAC unless otherwise noted in parentheses.
[c] AO: Aesthetic objective.
[d] ISQG: Interim sediment quality guideline.
[e] PEL: Probable effect level.
[f] Agri.: Agricultural land uses.
[g] Res./Park: Residential/Parkland uses.
[h] Comm.: Commercial land uses.
[i] Industrial: Industrial land uses.
[j] No EQG: No environmental quality guideline is recommended; see environmental quality guidelines for other media where appropriate.
[k] $Bq \cdot L^{-1}$: Becquerels per litre.
[l] The tissue residue guideline is for total DDT, which is equal to DDD + DDE + DDT.
[m] TCU: True colour units.
[n] No units for pH.
[o] The aquatic life guideline of 4.0 $\mu g \cdot L^{-1}$ for phenoxy herbicides is based on data for ester formulations of 2,4-dicholorophenoxyacetic acid.
[p] NTU: Nephelometric turbidity units.
[q] A health-based guideline for aluminium in drinking water has not been established. However, water treatment plants using aluminium-based coagulants should optimize their operations to reduce residual aluminium levels in treated water to the lowest extent possible as a precautionary measure. *Operational guidance values* of less than 100 $\mu g \cdot L^{-1}$ total aluminium for conventional treatment plants and less than 200 $\mu g \cdot L^{-1}$ total aluminium for other types of treatment systems are recommended. Any attempt to minimize aluminium residuals must not compromise the effectiveness of disinfection processes or interfere with the removal of disinfection by-product precursors.
[r] Guideline modified / released: April 1999
[s] Guideline modified / released: March 2001
[t] Values are expressed as toxic equivalency (TEQ) units, based on WHO 1998 TEF values for mammals.
[u] Values are expressed as toxic equivalency (TEQ) units, based on WHO 1998 TEF values for birds.
[v] Sediment quality guideline for Aroclor 1254: Provisional; 1% TOC; adoption of severe effect level of 34 $\mu g \cdot g^{-1}$ TOC from Ontario (Persaud et al. 1993).
[w] Values are expressed as toxic equivalency (TEQ) units, based on WHO 1998 TEF values for fish.
[x] Sediment quality guideline for Toxaphene: Provisional; 1% TOC; adoption of the chronic sediment quality criterion of 0.01 $\mu g \cdot g^{-1}$ TOC of the New York State Department of Environmental Conservation (NYSDEC 1994).
[y] This interim remediation criterion (CCME1991) was put in place prior to development of the soil protocol (CCME1996). The criterion should be used until superseded by a full guideline. For more information consult Chapter 7:Soil, especially Table 1 "Canadian Soil Quality Guidelines" and Table 2 "Historical record of interim remediation criteria for soil and soil quality guidelines".
[z] Hot water soluble boron.
[aa] Guidelines are for each chemical and include:
- 2,4-dimethylphenol
- 2,4-dinitrophenol
- 2-methyl 4,6-dinitrophenol
- nitrophenol (2-,4-)
- cresol

[bb] Aliphatic chlorinated hydrocarbons include:
- chloroform
- dichloroethane (1,1- 1,2-), dichloroethene (1,1- 1,2-)
- dichloromethane
- 1,2-dichloropropane, 1,2-dichloropropene (cis and trans)
- 1,1,2,2-tetrachloroethane, carbon tetrachloride
- trichloroethane (1,1,1- 1,1,2-)

[cc] Expressed on a TEQ basis using NP TEFs, see nonylphenol factsheet in Table 2.
[dd] Provisional; use of equilibrium partitioning approach.
[ee] Expressed on a TEQ basis using NP TEFs; assumes 1% TOC.
[ff] No fact sheet created. For more information on this guideline, please refer to *Canadian Water Quality Guidelines* (CCREM 1987).

Appendix J

Handout: Envirosoil & PERC

Appendix J Handout: Envirosoil & PERC

December 04, 2002

Envirosoil & PERC

Subject: Application to Department of Environment and Labour (NSDEL) to treat soils contaminated with dry cleaning fluids (PERC). PERC are a degreasing agent used in situations like dry cleaning and mechanic shop degreasering (brake fluids, etc.).

Questions: *1. Are there any sites in HRM contaminated with PERC?*
Yes! There is the old Bagnells site on Tacoma Drive and a site on the Hammonds Plains Road. The later has resulted in contaminated well water in the community. Other known sites exist in Truro and Bridgewater.

2. Are there any other sites?
Yes very likely! The American Association of Dry Cleaners indicates that 92% of dry cleaning sites in the USA are contaminated. Thus, in HRM and the Province other contaminated sites will likely be uncovered in future years.

3. What is happening with these contaminated sites?
Two possibilities! The sites are left abandoned with no possibility for future development. Or, the contaminated soil is trucked to Ontario or Quebec for landfill or incineration.

4. What materials are currently treated by Envirosoil?
Envirosoil currently treats soils contaminated with gasoline, diesel, and lubricants. They also treat soils contaminated with coal, coal tar, Bunker C Oil, and creosotes (PAH's). Additionally, they treat oil impacted drilling muds used in offshore oil and gas exploration.

5. What is the treatment process?
Envirosoil uses a low temperature thermal desorption (LLTD) plant to treat these materials. The treatment process for each material varies slightly. For treatment of soils contaminated with dry cleaning fluids, there is a need to add lime to the dry scrubber process.

6. What is the environmental monitoring process for Envirosoil?
According to the specified standards of the Provincial Department of Environment and Labour (NSDEL), surface and groundwater is independently collected and monitored every month. Stack emissions operate according to NSDEL approval specifications and with continuous on-site monitoring. Independent emissions testing is conducted every two years.

7. Who is Envirosoil Limited?
Envirosoil is part of the Municipal Group of Companies who employ approximately 1,000 persons in the province. The addition of PERC to soil processing at Envirosoil would add about three (3) full time seasonal employees to the operation.

Appendix K

Guidelines: Community Liaison Committee

Appendix K Guidelines: Community Liaison Committee

GUIDELINES FOR THE FORMATION OF A COMMUNITY LIAISON COMMITTEE

PREAMBLE

The following guidelines are presented to assist Proponents and community representatives in establishing a Community Liaison Committee. Conditions of Release under the *Environmental Act* may necessitate further guidance by the Department.

The earlier the formation of the Committee, the more likely it will be that the Committee will be able to address in a timely and sensitive fashion the issues which may be raised by a particular project. Proponents are encouraged to establish, where warranted, a Community Liaison Committee as early as possible in the planning states of the proposed undertaking.

PURPOSE AND STRUCTURE

A Community Liaison Committee is an advisory body to the project Proponent and provides input on matters regarding operations or approvals/permits that have or are perceived to have environmental impacts. Community representatives provide an avenue for the exchange of information on the project to interested individuals.

The Community Liaison Committee is intended to be an ongoing mechanism established with the following terms of reference:

(a) For consultation between the Proponent and the residents of the area on the final design and operational stages of an approved undertaking as stipulated in the Conditions of Release, which impact or are perceived to impact on the environment and the quality of life of the resident in the area;
(b) The establishment of a forum for ongoing dialogue between the facility operators and area representatives for consideration of any issues of public concern;
(c) A means for the facility operator to provide information to, consult with, and obtain advice from a body representative of the community; and

(d) A provision whereby the residents can bring any issues which occasion public concern to the attention of the facility operators.

A Committee may choose to establish additional terms of reference that address specific issues of interest to the community.

It is the Proponent's responsibility to hold an organizational meeting with any interested parties to determine the make-up and mandate of the Committee. Interested parties or representatives could be ascertained during the public consultation review process. The Committee should be kept to a manageable size, in most cases no greater than ten members.

Members of the Committee may be chosen from individuals or groups representing the geographic area which will be impacted by the project. However, if there are specific groups impacted by the project who do not reside within the immediate area, the Proponent, in consultation with the Community Liaison Committee, may decide to select additional members.

The Proponent is to be represented at all Committee meetings.

The Committee shall ensure that the views of the Committee are made available to the public in an appropriate manner. This could include the posting of minutes in a public place in the affected area or the provision of minutes to interested parties.

Where the Committee is established by Conditions of Release under the *Environmental Act* notice of the formation of said Committee shall be made known to the residents of the affected area and include a list of Committee members.

The selection of a Chairperson shall be the responsibility of the Proponent. This may be achieved through an election by CLC members, the appointment of Co-chairs, the selection of an impartial third party, or through another process chosen by the Proponent.

The mandate and membership of the Committee is to be reviewed on an annual basis.

The Committee shall establish a schedule of meetings.

PROCEDURES

The Proponent shall be responsible for the provision of meeting space, copying of minutes (copies to be sent to regulatory agencies) and, where applicable, an annual meeting and annual reporting.

Appendix L

Existing Operating Permit

NOVA SCOTIA

Department of the Environment & Labour

Central Regional Office

Suite 224, Sunnyside Mall Tel: (902) 424-8108
1595 Bedford Highway Fax: (902) 424-0597
Bedford NS B4A 3Y4 File: 92100-30-/BED-29

August 13, 2002

Dan Monk, P. Eng.
Envirosoil Limited
P.O. Box 48100
Bedford, N.S.
B4A 3Z2

Dear Mr. Monk : Dan

RE: Approval to Operate and Reclaim - Oily Soil Treatment Facility
Approval No. 2002-026440

Enclosed please find the approval to operate and reclaim your oily soil treatment facility Approval Number 2002-026440 for Envirosoil Ltd., 315 Rocky Lake Drive, Bedford, Halifax Regional Municipality. The approval relates to an application for amendment to Approval # 92-004 (Amendment #3) permitting treatment of soil contaminated with polycyclic aromatic hydrocarbons. Approval # 92-004 (Amendment #3) is now replaced by this approval.

Strict adherence to the attached terms and conditions is imperative in order to validate this approval.

This Approval or a copy is to be kept on-site at all times. All personnel involved in the Approval Holder's operation must be made fully aware of the terms and conditions of this approval. Failure to comply with the Terms or Conditions of an Approval is an offence.

Should you have any questions, please contact me in the Central Region, Bedford Office at (902) 424-2560.

Yours truly,

B. Matlock

Bernard Matlock, P. Eng.
Regional Engineer

cc S. Cameron
S. Morash

Eimas #: 2002-026440

NOVA SCOTIA
Department of Environment and Labour

APPROVAL

Province of Nova Scotia
***Environment Act*, S.N.S. 1994-95, c.1**

APPROVAL HOLDER: Envirosoil Ltd.

APPROVAL NO: 2002-026440 (Amendment #4 of 92-004)

EFFECTIVE DATE: 2002/08/13

EXPIRY DATE: 2012/08/13

Pursuant to Part V of the *Environment Act*, S.N.S. 1994-95, c.1 as amended from time to time, approval is granted to the Approval Holder subject to the Terms and Conditions attached to and forming part of this Approval, for the following activity:

Operation of an Oily Soil Treatment Facility to be situated at 315 Rocky Lake Drive, Bedford, Halifax Regional Municipality in the Province of Nova Scotia

Administrator for D. Hiltz
Date Signed Aug 13/02