



Taseko Prosperity Gold-Copper Project

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B.1 Human Health Toxicity Values

CoPC	Non-Carcinogen		Carcinogenic	
	TDI		SF _{oral}	
	mg/kg-d	Reference	(mg/kg-d) ⁻¹	Reference
Antimony	0.0004	EPA 2007	NA	NA
Arsenic	0.0003	EPA 2007	2.80	HC 2004
Barium	0.016	HC 2004	NA	NA
Beryllium	0.002	EPA 2007	NA	NA
Boron	0.2	EPA 2007	NA	NA
Chromium (Total)	0.001	HC 2004	NA	NA
Cobalt	0.02	EPA 2004	NA	NA
Copper	0.03	HC 2004	NA	NA
Lead	0.0036	HC 2004	NA	NA
Manganese	0.14	EPA 2007	NA	NA
Mercury - Inorganic	0.0003	HC 2004	NA	NA
Mercury – Methylmercury ^a	0.0002 ^b	HC 2007	NA	NA
	0.00047 ^c	HC 2007	NA	NA
Nickel	0.02	EPA 2007	NA	NA
Selenium	0.005	EPA 2007	NA	NA
Silver	0.005	EPA 2007	NA	NA
Zinc	0.3	EPA 2007	NA	NA

NOTES:
^a only relevant to fish VEC. ^b TDI for toddlers and pregnant mothers. ^c TDI for general population. NA – not applicable

B.1.1 References

- EPA (United States Environmental Protection Agency). 2004. Region 9: Preliminary Remediation Goals (PRG) Table, October 2004.
- EPA (United States Environmental Protection Agency). 2007. Integrated Risk Information System (IRIS) Database. United States Environmental Protection Agency. Available on-line at: <http://www.epa.gov/iris/>.
- HC (Health Canada). 2004. Federal Contaminated Site Risk Assessment in Canada, Part II: Health Canada Toxicological Reference Values. Environmental Health Assessment Services, Safe Environments Programme.
- HC (Health Canada). 2007. Human Health Risk Assessment of Mercury in Fish and Health Benefits of Fish Consumption. Bureau of Chemical Safety Food Directorate Health Products and Food Branch.

B.2 Human Health Risk Calculation Example - Operations

B.2.1 Non-carcinogens

Hazard Quotient Derivation

$$HQ = \frac{CDI}{TDI}$$

Where:

HQ = hazard quotient

CDI = chronic daily intake (mg metal/kg body weight-day)

TDI = tolerable daily intake (mg metal/kg body weight-day)

If the exposure dose is less than the safe dose (i.e., $HQ < 1.0$), then the concentration of chemicals in the environment would not pose a health risk. However, in the human health risk assessment another 5 fold safety factor is added, and the exposure dose must only be 20% of the safe dose ($HQ < 0.2$). These are the very conservative government (both federal and provincial) benchmarks used to define an acceptable level of risk. A HQ benchmark of 0.2, assumes 80% of an individual's intake of CoPCs will come from off-site exposures (i.e., an individual is exposed in an area that is not within the mine footprint). If the calculated total HQ is less than 0.2, then intake of CoPCs from site exposures does not exceed the tolerable level and no adverse health effects are expected. The example risk calculation below uses mean data from the operations phase.

COPC	Toddler - Mean						Adult - Mean						Reference
	Intake Rate	[Metal]	EDI	TDI	HQ	Risk	Intake Rate	Metal	EDI	TDI	HQ	Risk	
	kg/d	mg/kg	mg/kg-d	mg/kg-d			kg/d	Conc.		mg/kg-d			
Arsenic	0.002	0.003943	4.78E-07	0.0003	0.001593	No risk	0.005	0.003943	2.79E-07	0.0003	0.00093	No risk	IRIS
Chromium (Total)	0.002	0.061521	7.46E-06	0.001	0.007457	No risk	0.005	0.061521	4.35E-06	0.001	0.004351	No risk	IRIS
Copper	0.002	0.6793	8.23E-05	0.03	0.002745	No risk	0.005	0.6793	4.8E-05	0.03	0.001601	No risk	HC 2004

B.2.2 Carcinogens

Incremental Lifetime Cancer Risk Derivation

$$\text{ILCR} = \text{CDI} * \text{CSF}$$

Where:

ILCR = Incremental Lifetime Cancer Risk

CDI = Chronic daily intake (mg/kg -day)

CSF = Cancer Slope Factor (mg /kg-day)⁻¹

The ILCR estimates the incremental probability that an individual will develop cancer as a result of lifetime exposure to a substance (e.g., arsenic). The incremental lifetime cancer risk is in addition to the probability of developing cancer due to ambient exposures. Given the conservatism associated with the derivation of cancer slope factors and unit risks, Health Canada and British Columbia have recommended a benchmark cancer risk level of 1-in-100,000 (1E-05) for the purposes of assessing carcinogenic substances.

Accordingly, cancer risks are deemed negligible when the estimated ILCR is ≤ 1 -in-100,000 (1E-05). This government cancer benchmarks for risk assessment is based in policy, on the idea that this rate of cancer from exposure to environmental chemical concentrations would not affect the current Canadian cancer incidence rate of approximately 40%. This means that more than one in three British Columbians are at risk of getting cancer in their lifetime, and the results of the cancer risk assessment would not change this for individuals exposed to chemicals from the Project. The example risk calculation below uses mean data from the operations phase.

COPC	Adult - Mean						ICLR Reference
	Intake Rate	[Metal]	EDI	TDI	ILCR	Risk	
	kg/d	mg/kg	mg/kg-d	mg/kg-d			
Arsenic	0.005	0.003943	2.08E-07	2.80E+00	5.83E-07	No risk	HC, 2004

B.3 Ecological VEC Descriptions

The following descriptions provide details of the ecology and physical attributes that are relevant to the ecological risk assessment. Some of these parameters are estimates (e.g., food ingestion rate, water intake rate) that were derived using equations from sources supported/provided by the US EPA and CCME (i.e., Nagy's (1987) equations for food ingestion rates).

B.3.1 Moose

In Canada, the geographic distribution of moose follows, but is not confined to, the boundaries of the boreal forest. Moose are highly dimorphic between sexes, with cows weighing much less than bulls. The average body weight (for both sexes) is 435 kg, although bulls of the northern subspecies, *a. a. gigans* can weigh as much as 800 kg (Dewey et al. 2000; NWF 2005; CWS and CWF 2007). Although seasonal home ranges are surprisingly small for a large herbivorous animal (5 to 10 km²), annual home ranges can be up to 40 km² or more depending on habitat and food availability (BC MOE 2000; Lawson and Rodgers 1997 in NatureServe 2006). Seasonal migration usually follows an elevation gradient, as moose seek higher grounds in summer and lower elevations in winter. Moose are entirely herbivorous, consuming an estimated 18.6 kg/day (ww) of food, comprised of a mixture of terrestrial (80%) and aquatic (20%) vegetation. In winter, the diet consists primarily of conifer and hardwood twigs and shrubs (CWS and CWF 2007; NatureServe 2006; Dewey et al. 2000). The summer diet is more variable, consisting of leaves, twigs, bark, roots, and shoots of woody plants, as well as some grasses. Additionally, a considerable portion of the summer diet is aquatic vegetation (e.g., lilies, pondweed, etc.), which moose will occasionally dive underwater to retrieve (CWS and CWF 2007; NatureServe 2006, Dewey et al. 2000). Based on its consumption of these foods, the moose is estimated to incidentally ingest 1.43E-01 kg/day of dry soil and 1.08E-01 kg/day dry sediment. Water intake is estimated to be approximately 23.5 L/day.

B.3.2 Snowshoe Hare

The snowshoe hare is an herbivore weighing approximately 1.35 kg (EPA 1993). The snowshoe hare tends to inhabit forests, swamps, and riverside thickets (EPA 1993). Home ranges vary from 3 to 7 ha (Shefferly 1999). A frequent prey item, the snowshoe hare may be a keystone species in boreal forests, maintaining food webs (CWS and CWF 2005). Active year-round, it feeds on herbaceous plants and leaves from shrubs in summer, and small twigs, buds, and bark in winter; it will eat meat occasionally, if available (CWS and CWF 2005). The snowshoe hare consumes approximately 0.26 kg of wet weight food per day and 0.13 L of water or its equivalent per day. The snowshoe hare's diet is modeled as including 95% terrestrial plant material and 5% small mammal or bird carrion. Based on its consumption of these foods, the snowshoe hare is estimated to incidentally ingest 3.58E-03 kg/day of dry soil.

B.3.3 Muskrat

The muskrat weighs approximately 1.17 kg and is a highly aquatic rodent, living in saltwater and brackish marshes, freshwater creeks, streams, lakes, marshes, and ponds (EPA 1993). Home ranges vary in configuration depending on aquatic habitat and range from approximately 0.048 to 0.17 ha (EPA 1993). Muskrat are prey for many species including foxes, hawks, minks, and otters, and feed mainly on aquatic vegetation, although they also consume terrestrial vegetation, benthic invertebrates, young birds, reptiles, amphibians, and fish (EPA 1993). Active year-round (EPA 1993), muskrats consume approximately 0.12 kg of wet weight food per day and 0.11 L of water or its equivalent per day. The muskrat is one of the most valuable fur animals in North America (EPA 1993). The muskrat's diet is modeled as including 12.5% terrestrial plant material, 80% aquatic plant material, 2.5% terrestrial mammals, 2.5% fish and

2.5% benthic invertebrates. Based on its consumption of these foods, the muskrat is estimated to incidentally ingest $9.93\text{E-}05$ kg/day of dry soil, and $2.05\text{E-}03$ kg/day of dry sediment.

B.3.4 Mink

The mink, which weighs approximately 0.85 kg, is a small member of the weasel family and is the most abundant and widely distributed carnivorous mammal in North America (EPA 1993). Mink are active year-round and are associated with aquatic habitats such as rivers, streams, lakes, ditches, swamps, marshes and backwater areas (EPA 1993). Home ranges vary considerably but are in the range of 7.8 to 380 ha (EPA 1993). Feeding extensively on small mammals, fish, amphibians, and crustaceans, as well as birds, reptiles, and insects depending on the season (EPA 1993), mink consume approximately 0.22 kg of wet weight food per day and 0.09 L of water or its equivalent per day. The mink's diet is modeled as including 55% small mammal or bird prey, 35% freshwater fish, and 10% benthic invertebrates. Based on its consumption of these foods, the mink is estimated to incidentally ingest $3.58\text{E-}04$ kg/day of dry soil, and $7.77\text{E-}04$ kg/day of dry sediment.

B.3.5 Masked Shrew

The masked shrew, which weighs approximately 0.005 kg (EPA 1993), is the most widely distributed shrew in North America, and is found throughout most of Canada (Lee 2001). It is common in moist environments and is found in open and closed forests, meadows, riverbanks, lakeshores, and willow thickets (Lee 2001). Home range sizes are 0.2 to 0.6 ha (Saunders 1988). Masked shrews are preyed upon by many small predators such as weasels, hawks, falcons, owls, domestic cats, foxes, snakes, and short-tailed shrews (Lee 2001). The masked shrew does not hibernate (NWF 2003) and feeds year-round on insects (dormant insects in winter) (NWF 2003; Lee 2001) including insect larvae, ants, beetles, crickets, grasshoppers, spiders, harvestmen, centipedes, slugs, and snails, but will also consume seeds and fungi (Lee 2001). It consumes approximately 0.003 kg of wet-weight food per day and 0.001 L of water or its equivalent per day. The masked shrew's diet is modeled as including 2.5% terrestrial plant material and 97.5% terrestrial invertebrates. Based on its consumption of these foods, the masked shrew is estimated to incidentally ingest $4.44\text{E-}05$ kg/day of dry soil.

B.3.6 Grizzly Bear

The grizzly bear weighs approximately 225 kg (CWS and CWF 2005). It occupies a variety of habitats, preferring open areas such as tundra, alpine meadows, and coastlines (Ballenger and Dewey 2002). Not a true hibernator, the grizzly bear enters its den around mid-November and emerges in March to early May (CWS and CWF 2005). Home range sizes vary with food supply from approximately 200 to 1800 km² (CWS and CWF 2005). Grizzly bear diets rely heavily on vegetation, consisting of berries, roots of the legume *Hedysarum*, and leafy plants (CWS and CWF 2005). When available, they will supplement their diet with newborn ungulates, invertebrates and salmon (CWS and CWF 2005). Grizzly bears consume approximately 16.1 kg of wet weight food per day and 13 L of water or its equivalent per day. The grizzly bear's diet is modeled as including 85% terrestrial plant material, 2.5% terrestrial invertebrates, and 12.5% small mammals. Based on its consumption of these foods, the grizzly bear is estimated to incidentally ingest $1.67\text{E-}01$ kg/day of dry soil. Fish, however, are not included in the model grizzly bear diet, since consumption of fish would be a seasonal feature, and the fish (e.g., Pacific salmon) are unlikely to contain site-originated CoPCs. The greatest threat to grizzly bears is human encroachment on their habitat. The grizzly bear is blue-listed in BC (CDC 2007) and is federally designated as of Special Concern (COSEWIC 2006). Although the grizzly bear would not normally be recommended as a receptor for ERAs (due to its large home range), its importance in the regional ecosystem, conservation concern, and known presence at the minesite warranted its inclusion.

B.3.7 Canada Goose

The Canada goose is a large, primarily herbivorous waterfowl that weighs approximately 3.7 kg (EPA 1993); however, several varieties exist, and body weights may range from as little as 1 kg (for the small "cackling" variety) to 8 kg (for the "giant" variety). The migratory Canada goose breeds in forested areas near lakeshores and coastal marshes from the Arctic tundra through temperate climates, and forages primarily in open fields (EPA 1993). Mean home ranges during the breeding season are approximately 983 ha, and may vary from 290 to 2830 ha in size (EPA 1993). The Canada goose consumes approximately 0.8 kg of wet weight food per day and 0.14 L of water or its equivalent per day. The Canada goose's diet is modeled as including 99% terrestrial plant material and 1% soil invertebrates. Based on its consumption of these foods, the Canada goose is estimated to incidentally ingest 2.60E-02 kg/day of dry soil.

B.3.8 Mallard

The mallard duck is found nesting near woodland lakes and streams, or in freshwater and tidal marshes, and adapts well to human activity in urban areas. The mallard duck weighs approximately 1.16 kg. Home range sizes vary from approximately 40 to 1400 ha (EPA 1993). The mallard duck feeds primarily on aquatic invertebrates as ducklings and adults during the breeding season and on aquatic and terrestrial plants during the nonbreeding season (CWS and CWF 2005). Breeding females consume approximately 0.61 kg of wet weight food per day and 0.07 L of water or its equivalent per day. The duck's diet is modeled as including 12.5% terrestrial plant material, 12.5% aquatic plant material, and 75% benthic invertebrates. Based on its consumption of these foods, the duck is estimated to incidentally ingest 4.38E-04 kg/day of dry soil, and 1.24E-02 kg/day of dry sediment.

B.3.9 Willow Ptarmigan

The willow ptarmigan is a member of the grouse family weighing approximately 0.63 kg (CWS and CWF 2005); it is the largest and most numerous of the ptarmigan species (Cornell Lab of Ornithology 2003). It lives year-round throughout the Arctic tundra, in the summer inhabiting treeline areas, Arctic valleys, and coastal tundra, and in the fall moving down slopes or south into forested areas (CWS and CWF 2005). Winter home ranges of white-tailed ptarmigan (*Lagopus leucurus*), which inhabit the Cascade and Rocky Mountains of North America (CWS and CWF 2005), are approximately 24 to 390 ha in size (Giesen and Braun 1992). Ptarmigan spend most of their lives on the ground and are mainly herbivorous, feeding on willow seeds, buds and twigs throughout the year, and any other vegetation that might be available (CWS and CWF 2005). Ptarmigan, especially chicks, will also feed on insects when they are available (CWS and CWF 2005). Willow ptarmigan are estimated to consume approximately 0.23 kg of wet-weight food per day and 0.04 L of water or its equivalent per day. They are valued for their meat and hunted by local residents (CWS and CWF 2005). The willow ptarmigan's diet is modeled as including 75% plant material and 25% soil invertebrates. Based on its consumption of these foods, the willow ptarmigan is estimated to ingest 2.69E-03 kg/day of dry soil.

B.3.10 Short-eared Owl

The short-eared owl weighs approximately 0.35 kg. Although widespread throughout North America (Doan 1999), the short-eared owl is blue-listed in BC (CDC 2007) and federally designated as a species of special concern (COSEWIC 2006). Found in open, treeless areas, this migratory species is a daylight and twilight hunter found in marshes and bogs and uses similar habitats during the summer and winter (Doan 1999). Short-eared owls have relatively small home ranges of approximately 15 to 200 ha (Lewis 2005) during the breeding season. Short-eared owls nest on the ground on dry sites in open country where small mammal prey is abundant (Doan 1999). In addition to small mammals such as voles and

mice, short-eared owls prey upon birds and occasionally insects (Lewis 2005). They consume approximately 0.09 kg of wet weight food per day and 0.03 L of water or its equivalent per day. The short-eared owl's diet is modeled as including 95% small mammals and 5% terrestrial invertebrates. Based on its consumption of these foods, the short-eared owl is estimated to incidentally ingest 3.63E-04kg/day of dry soil.

B.3.11 References

- Ballenger, L. and T. Dewey. 2002. *Ursus arctos*. Animal Diversity Web. Online: http://animaldiversity.ummz.edu/site/accounts/information/Ursus_arctos.html.
- BC MOE (British Columbia Ministry of Environment). 2000. Moose in British Columbia: Ecology, Conservation, and Management. MELP 851536.0300
- Cornell Lab of Ornithology. 2003. All About Birds. Online Bird Guide. Accessed 2005 and 2006 at http://birds.cornell.edu/programs/AllAboutBirds/Bird_Guide/.
- COSEWIC (Committee on the Status of Endangered Wildlife in Canada). 2006. Canadian Species at Risk. August 2006. Committee on the Status of Endangered Wildlife in Canada. Ottawa, ON.
- CWS and CWF (Canadian Wildlife Service and Canadian Wildlife Federation). 2005 and 2006. Hinterland Who's Who. Accessed at various times in 2005 and 2006 at <http://www.hww.ca>.
- Dewey, T. 2005. *Felis silvestris*. Animal Diversity Web. Accessed November 29, 2005 at http://animaldiversity.ummz.umich.edu/site/accounts/information/Felis_silvestris.html.
- Doan, N. 1999. *Asio flammeus*. Animal Diversity Web. Accessed March 22, 2005 http://animaldiversity.ummz.edu/site/accounts/information/Asio_flammeus.html.
- EPA (United States Environmental Protection Agency). 1993. Wildlife Exposure Factors Handbook. Office of Health and Environmental Assessment, Office of Research and Development. Washington, D.C. December 1993.
- Giesen, K.M. and C.E. Braun. 1992. Winter home range and habitat characteristics of White-tailed Ptarmigan in Colorado. *The Wilson Bulletin* 104(2):263-272. Accessed March 22, 2005 at <http://elibrary.unm.edu/sora/Wilson/v104n02/p0263-p0272.pdf>.
- Lee, W. 2001. *Sorex cinereus*. Animal Diversity Web. Accessed March 22, 2005 at http://animaldiversity.ummz.edu/site/accounts/information/Sorex_cinereus.html.
- Lewis, D. P. 2005. The Owl Pages. Accessed March 22, 2005 at <http://www.owlpages.com>.
- NatureServe. 2006. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.1. NatureServe, Arlington, Virginia. Accessed March, 2007 at <http://www.natureserve.org/explorer>.
- Nagy, K.A. 1987. Field metabolic rate and food requirement scaling in mammals and birds. *Ecological Monographs* 57: 111-128.
- NWF (National Wildlife Federation). 2003. eNature. Accessed February 9, 2005 at http://www.enature.com/guides/select_group.asp.
- NWF (National Wildlife Federation). 2005. Enature Fieldguides: Moose. <http://www.enature.com/fieldguides/detail.asp?shapeID=1033andcurGroupID=5andlgfromWhere=andcurPageNum=4>. Accessed March, 2007
- Saunders, D.A. 1988. Adirondack Mammals. State University of New York, College of Environmental Science and Forestry. 216pp. Accessed March 21, 2005 at: http://www.esf.edu/aec/adks/mammals/masked_shrew.htm.

Shefferly, N. 1999. *Lepus americanus*. Animal Diversity Web. Accessed February 17, 2005 at http://animaldiversity.ummz.edu/site/accounts/information/Lepus_americanus.html.

B.4 Ecological Toxicity Values

The following table presents ecological toxicity values used in the ecological risk assessment for the Masked Shrew.

Constituent	Test Species	Test Species Body Weight (kg wet)	Body Weight Reference	Effect	Reference	Endpoint	Daily Dose (mg/kg-day)	Total Uncertainty Factor (a)	Chronic LOAEL - Test Species (b) (mg/kg-day)	Receptor Species	Body Weight Scaling Factor	Reference Toxicity Dose (mg/kg-day)
Inorganics												
Antimony	Mouse	0.03	USEPA (1988)	lifespan, longevity	Schroeder et al. (1968b), Sample et al. (1996)	chronic LOAEL	1.25	1	1.25E+00	Masked Shrew	1.1134971	1.391871326
Arsenic	Mouse	0.03	USEPA (1988)	reproduction	Schroeder & Mitchner (1971), Sample et al. (1996)	chronic LOAEL	1.26	1	1.26E+00	Masked Shrew	1.1134971	1.403006297
Barium	Rat	0.35	USEPA (1988)	growth, hypertension	Perry et al. (1983), Sample et al. (1996)	chronic NOAEL	5.1	0.2	2.55E+01	Masked Shrew	1.2903451	32.90380046
Beryllium	Rat	0.35	USEPA (1988)	longevity, weight loss	Schroeder & Mitchner (1975), Sample et al. (1996)	chronic LOAEL	6.6	1	6.60E+00	Masked Shrew	1.2903451	8.516277767
Boron	Rat	0.35	USEPA (1988)	reproduction	Weir & Fisher (1972), Sample et al. (1996)	chronic LOAEL	93.6	1	9.36E+01	Masked Shrew	1.2903451	120.7763029
Chromium III or Total	Mouse	0.03	USEPA (1988)	reproduction	Elbetieha & Al-Hamood (1997), Zahid et al (1990), (2000)	chronic LOAEL	5	1	5.00E+00	Masked Shrew	1.1134971	5.567485304
Cobalt	Rat	0.35	USEPA (1988)	reproduction	Mollenhauer et al. (1985), ATSDR (2004)	chronic LOAEL	13.25	1	1.33E+01	Masked Shrew	1.2903451	17.09707279
Copper	Mink	1	USEPA (1993e)	reproduction	Aulerich et al. (1982), Sample et al. (1996)	chronic LOAEL	15.14	1	1.51E+01	Masked Shrew	1.3742375	20.80595596
Lead	Rat	0.35	USEPA (1988)	reproduction	Azar et al. (1973), Sample et al. (1996)	chronic LOAEL	80	1	8.00E+01	Masked Shrew	1.2903451	103.2276093
Manganese	Rat	0.35	USEPA (1988)	reproduction	Laskey et al. (1982), Sample et al. (1996)	chronic LOAEL	284	1	2.84E+02	Masked Shrew	1.2903451	366.458013
Total Mercury	Mink	1	USEPA (1993e)	reproduction	Aulerich et al. (1974), Sample (1996)	chronic NOAEL	1	0.2	5.00	Masked Shrew	1.3742375	6.87118757
Nickel	Rat	0.35	USEPA (1988)	reproduction	Ambrose et al. (1976), Sample et al. (1996)	chronic LOAEL	80	1	8.00E+01	Masked Shrew	1.2903451	103.2276093
Selenium	Rat	0.35	USEPA (1988)	reproduction	Rosenfeld & Beath (1954), Sample et al. (1996)	chronic LOAEL	0.33	1	3.30E-01	Masked Shrew	1.2903451	0.425813888
Silver	Mouse	0.03	USEPA (1988)	hypoactivity	Rungby and Danscher (1984), ATSDR (1990)	subchronic LOAEL	18.1	5	3.62E+00	Masked Shrew	1.1134971	4.03085936
Zinc	Rat	0.35	USEPA (1988)	reproduction	Schlicker & Cox (1968), Sample et al. (1996)	chronic LOAEL	320	1	3.20E+02	Masked Shrew	1.2903451	412.9104372

B.5 Phytotoxicity Benchmark Values

The following example provides phytotoxicity benchmarks compared to mean data from the operations phase.

CoPC	Soil Concentration (mg/kg)	Phytotoxicity Screening Benchmark (mg/kg)	EHQ for Phytotoxicity
Boron	9.40	0.5	^a 18.8
Copper	287.49	225	^b 1.3
^a Efroymson, R.A., M.E. Will, G. W. Suter and A.C. Wooten. 1997. Toxicological benchmarks for screening contaminants of potential concern for effects on terrestrial plants: 1997 revision. Oak Ridge National Laboratory report ES/ER/TM-85/R3.			
^b OME. 2004. Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act. Table 3. March, 2004.			