

Table S1. Terrestrial environment CoPC screening of site soil concentration (mg/kg dry weight)

Chemical	N	Site Range	Reference Range	Site > Reference? ^a	Residential Screening Level ^d	CoPC Flag (Y/N)	Rational for Selection or Deletion
Aluminum	51	1,180-16,600	1640-12400	no	13,688	N	No REF
Antimony	40	0.38-14.8	0.17-0.6	≥50% ND Site	5.5	N	Yes ASL
Arsenic	75	1.3-93.6	4.2-35	no	0.8	C	No REF
Barium	40	357-7,090	109-622	yes	960	N	Yes ASL
Cadmium	474	0.4-388	0.24-3.6	yes	14	N	Yes ASL
Chromium	40	4.9-24	4.9-19.3	no	41	N	No REF/BSL
Cobalt	40	4.2-27	7.3-20.6	no	274	N	No REF/BSL
Copper	40	9.8-109	14.3-46.5	yes ^b	548	N	No BSL
Fluoride	12	0.4-1.3	0.3-0.5	yes	821	N	No BSL
Iron	51	2,650-35,000	5,750-72,600	no	4,106	N	No REF
Lead	468	8.5-48,300	8.8-142	yes	400	N	Yes ASL
Manganese	40	280-1,000	250-4,080	no	329	N	No REF
Mercury	12	0.1-1.7	0.05-0.18	yes	2.6	N	No BSL
Molybdenum	40	0.35-3.3	0.27-2.8	≥50% ND Site	68	N	No BSL
Nickel	40	17.3-56.8	23.5-51.4	no	270	N	No REF/BSL
Selenium	30	0.3-3.0	0.5-1.0	≥50% ND Site	68	N	No BSL
Silver	40	0.14-8.3	0.05-0.25	yes	68	N	No BSL
Strontium	20	36.2-90.1	9.3-63.6	yes	8,213	N	No BSL
Thallium	12	0.11-1.3	0.1-0.24	yes	0.9	N	Yes ASL
Tin	27	3.9-6.0	ND	≥50% ND Site	8,213	N	No BSL
Vanadium	40	7.9-31.8	5.6-19.2	yes ^c	96	N	No BSL
Zinc	479	37.4-64,300	72.5-753	yes	4,100	N	Yes ASL

Notes-

CoPC - chemical of potential concern

ND - not detected

C - screening level based on cancer with a carcinogenic risk limit of 1×10^{-6}

N - screening level based on noncarcinogenic health effects with a target hazard quotient of 0.1

Reason for selection

ASL - above screening levels

Reasons for deletion

BSL - below screening level

REF - below or consistent with reference levels

^a Results of statistical comparison. Bold indicates chemicals for which statistical testing indicated site concentrations to be greater than reference concentrations at a significance level of $\alpha = 0.10$.

^b Assumptions of ANOVA model were not met, thus conclusions result from non-parametric p-value.

^c Assumptions of ANOVA model were met, thus conclusions result from parametric p-value.

^d Residential screening toxicity values represent arctic zone soil cleanup levels (from 18 AAC 75.341, Table B1) divided by 10. Where no Table B1 value exists, screening values were calculated based on residential formulas and input parameters (DEC 2008).

Table S2. Freshwater environment CoPC screening for stream surface water (µg/L)

Chemical	N	Site	Reference	Site >	Drinking	Fish			CoPC	Rational for
		Range	Range	Reference? ^a	Water	Consumption	Screening	Flag		
					Screening		Level ^c		(Y/N)	Selection or
					Level ^c					Deletion
Aluminum	229	6.5-4,060	17.3-2,770	no	3,650	N			No	REF
Antimony	13	0.14-0.6	ND-0.08	>50%ND Site	0.6	N	1.4	N	No	BSL
Arsenic	13	ND	ND-2.2	>50%ND Site	5	C	0.018	C	No	ND/REF ^d
Barium	13	12.2-266	86.1-222	^b	200	N			No	REF
Cadmium	228	0.03-0.4	ND-0.07	>50%ND Site	0.5	N			No	BSL
Chromium	17	ND	0.17-3.7	>50%ND Site	10	N			No	ND/BSL
Cobalt	13	0.09-0.33	0.12-2.72	no	73	N			No	BSL/REF
Copper	17	0.3-1.23	0.6-5.4	no	130	N	130	N	No	BSL/REF
Fluoride	30	40-120	30-40	yes	219,000	N			No	BSL
Iron	229	6.0-10,300	64.2-6,710	^b	1,095	N			No	REF
Lead	229	0.018-7.3	0.02-1.9	>50%ND Site	1.5	N			Yes	ASL
Manganese	17	0.72-36	4.87-128	no	87.6	N	5	N	No	BSL/REF ^d
Mercury	13	ND	ND	>50%ND Site	0.2	N	0.005	N	No	ND/BSL
Molybdenum	13	0.37-2.27	0.02-0.17	yes	18.25	N			No	BSL
Nickel	13	0.26-6.71	1.06-10.5	no	10	N	61	N	No	BSL/REF
Selenium	28	0.067-1.2	ND	100%ND Ref	5	N	17	N	No	BSL
Silver	13	ND	ND-0.03	>50%ND Site	18	N			No	ND/BSL
Strontium	13	19.4-172	32.5-81.1	no	2,190	N			No	BSL/REF
Thallium	28	0.04-0.55	ND-0.014	>50%ND Site	0.2	N	0.17	N	Yes	ASL
Tin	13	1.2-5.3	ND	>50%ND Site	2,190	N			No	BSL
Vanadium	13	0.67-0.93	0.16-5.6	>50%ND Site	26	N			No	BSL/REF ^d
Zinc	229	1.0-60	0.31-9.8	>50%ND Site	1,100	N	910	N	No	BSL

Notes-

CoPC - chemical of potential concern

ND - not detected

C - screening level based on cancer with a carcinogenic risk limit of 1×10^{-6}

N - screening level based on noncarcinogenic health effects with a target hazard quotient of 0.1

Reason for selection

ASL - above screening levels

Reasons for deletion

BSL - below screening level

ND - not detected in any site sample

REF - below or consistent with reference levels

^a Results of statistical comparison. Bold indicates chemicals for which statistical testing indicated site concentrations to be greater than reference concentrations at a significance level of $\alpha = 0.10$.

^b Comparison not made because 90 percent confidence interval for the site mean concentration spans zero, due to small sample size and/or high variability.

^c Screening levels represent arctic zone drinking water cleanup levels (from 18 AAC 75.345, Table C) divided by 10. Where no Table C value exists, screening values were calculated based on residential drinking water formulas and input parameters (DEC 2008).

^d The maximum site concentration of the analyte was less than the maximum reference concentration.

^e Screening levels represent the AWQC protective for human consumption of fish/shellfish and domestic drinking water usage from the water body (DEC03A). The AWQC were modified, when necessary, to assume a target hazard quotient of 0.1. The arsenic screening toxicity value is a federal ambient water quality criteria (USEPA02D) and assumes a target risk of 10–6. The ARAR represents the Washington State cleanup level for surface water and is protective of bioaccumulation into, and human consumption of, seafood (ECOLO96A).