



RSSLs



I'd never heard of indenopyrene, so I looked it up. The RSSL for indenopyrene is 150 mg/kg. For lead, it's 1600 mg/kg. 1600 mg/kg is 10.7 times bigger than 150 mg/kg. **That means indenopyrene is over 10 ten times as toxic as cyanide in soil!**

1. Choose an unfamiliar contaminant.
2. Compare the RSSL for the contaminant to the RSSL for mercury, arsenic, lead, or cyanide. One way to compare is to divide the larger RSSL by the smaller one. The answer will tell you how much more toxic one is than the other is in water.
3. Fill out one of the sentences below with that information. The one with the smaller RSSL is more toxic. You may want to round your number up or down.
4. Repeat for other contaminants. Which statements seem most impressive?

_____ is _____ times as toxic as _____ in soil.

_____ is _____ times as toxic as _____ in soil.

_____ is _____ times as toxic as _____ in soil.

_____ is _____ times as toxic as _____ in soil.

_____ is _____ times as toxic as _____ in soil.

_____ is _____ times as toxic as _____ in soil.

_____ is _____ times as toxic as _____ in soil.

_____ is _____ times as toxic as _____ in soil.

EPA Residential Soil Screening Levels (RSSLs)

Mercury	5.6 mg/kg	The EPA Region III Soil Screening Levels are widely used for comparison purposes. If a tested level exceeds a screening level, it's not necessarily dangerous, it just signals a need for more testing. RSSLs are measured in mg of the toxin per kg of soil. epa.gov/reg3hwmnd/risk/human/rb-concentration_table/Generic_Tables/
Arsenic	0.39 mg/kg	
Lead	400 mg/kg	
Cyanide	1600 mg/kg	

TABLE 6

**SUMMARY OF METALS RESULTS
SURFACE AND SUBSURFACE SOIL SAMPLES
RHOADES SALVAGE SITE
MILTON, VERMONT**

SAMPLE LOCATION SAMPLE NUMBER SAMPLE DEPTH	SB-08 R01-081020GL- 0020 12 inches	SS-09 R01-081020GL- 0021 6 inches	SB-09 R01-081020GL- 0022 12 inches	SB-10 R01-081020GL- 0023 12 inches	SS-11 R01-081020GL- 0024 6 inches	SS-12 R01-081020GL- 0025 6 inches	SS-13 R01-081020GL- 0026 6 inches	EPA R3 Residential Soil Screening Levels *	EPA R3 Industrial Soil Screening Levels *
PARAMETER									
Aluminum	6,800	6,900	7,000	6,600	5,500	5,700	5,900	77,000	990,000
Arsenic	5.0	4.4	3.9	3.8	ND	ND	3.7	0.39	1.60
Barium	26	27	23	20	91	99	18	15,000	190,000
Cadmium	ND	ND	ND	ND	ND	ND	ND	70	810
Calcium	590	700	650	590	36,000	67,000	1,000	NL	NL
Chromium	16	19	20	17	240	110	19	280	1,400
Cobalt	5.8	5.8	5.8	5.3	ND	ND	6.6	23	300
Copper	13	48	9.2	8.3	900	580	14	3,100	41,000
Iron	15,000	14,000	14,000	14,000	110,000	69,000	14,000	55,000	720,000
Lead	18	20	12	11	3,300	570	12	400	800
Magnesium	2,600	2,800	3,100	2,800	9,000	6,300	3,100	NL	NL
Manganese	400	330	320	310	780	450	240	NL	NL
Nickel	20	23	24	20	55	44	25	1,600	20,000
Silver	ND	ND	ND	ND	25	ND	ND	390	5,100
Vanadium	14	14	13	13	17	12	13	550	7,200
Zinc	41	59	46	43	1,100	560	30	23,000	310,000
Mercury	ND	ND	ND	ND	0.18	0.095	0.029	6.7	28

NOTES:

- 1) Metals samples analyzed by U.S. EPA Office of Environmental Measurement and Evaluation (OEME) using EPA Region I SOP, EIASOP-INGDVICP1, Metals in Soil Medium Level by ICP; and EPA Region I SOP, EPA Region I SOP EIASOP-INGMERC8, for Total Mercury in Soil.
- 2) All results in milligrams per Kilogram (mg/Kg).
- 3) EPA R3 = U.S. EPA Region III.
- 4) EPA R3 Residential and Industrial Screening Standards are used for comparison purposes only.
- 5) Bolded and shaded results exceed EPA R3 Residential and/or Industrial Screening Levels.
- 6) ND = Not Detected.
- 7) NL = Not Listed.
- 8) * EPA R3 residential and industrial guidance values for Cadmium (Diet), Total Chromium (1:6 ratio Cr VI : Cr III), and Nickel Soluble Salts are listed above, as guidance values for total cadmium, total chromium, and total nickel do not exist.
- 9) Note that summary tables do not include samples in which no analytes were detected. Refer to Appendix E for all analytical data results.