Mound Guideline and Screening Values (pCi/g) for Soil/Sediment

RADIONUCLIDE	BKGD.	Guideline [1] Value 10^{-6}	Screening Level [6]
Actinium $^{227+D}$	0.11 [2]	0.45	0.56
Americium ^{241}	ND	6.3	6.3
Cesium $^{137+D}$	0.42	0.34	0.76
Cobalt ^{60}	NC	.07	.07
Lead $^{210+D}$	1.2 [2]	0.62	1.8
Plutonium ^{238}	0.13	6.1	55 [3]
Protactinium $^{231+D}$	.11 [2]	0.39	4 [4]
Radium $^{226+D}$	2.0	0.09	2.1
Thorium $^{230+D}$	1.9	0.09	[5]
Thorium $^{232+D}$	1.4	0.07	1.47
Uranium ^{234}	1.1	10.5	[6]
Uranium ^{235}	0.11	1.6	1.7
Uranium ^{238}	1.2	11.6	12.8
Uranium $^{238+D}$	1.2	0.1	1.3

NOTES:

[1] These guideline values are based on the more restrictive of the Construction Worker and Site Employee Values. These values were calculated using the methodology contained in Risk Based Guideline Values, March 1997, Final but were performed using April 2001 HEAST slope factors.

[2] These radionuclides have comparatively short half-lives and are deduced to be in secular equilibrium with the parent nuclide. Thus the background value measured for the parent is considered to be the appropriate value for these as well. The validity of using this method for background determination for other radionuclides will be assessed on a case by case basis.

[3] The 55pCi/g value was retained because of its familiarity to the public.

[4] These values represent 1E-5 risk value

[5] In areas where Th-230 is not a contaminant of potential concern, Mound will use our normal sample analysis process through gamma spectroscopy and will assure that the result and MDA are less than 10 pCi/g. If the detected value for Th-230 is greater than MDA, Mound will reanalyze the sample. If Th-230 is a Contaminant of Potential Concern the detection limits of the analysis will be at or below the listed guideline value of 0.09 pCi/g above background.

[6] The Screening Level is reflective of onsite Gamma Spec Laboratory capabilities and will be used to determine if additional characterization or removal may be necessary. Soil Screening is not an appropriate technique for U-234. However, detection of U-235 or U-238 is anticipated in conjunction with U-234 contamination. Positive detection of either U-235 or U-238 (above guideline values) will trigger alpha spectroscopic analysis of the sample.

Radionuclides labeled with a D indicate that pertinent daughters are included within the the risk calculation.

U-238 may be assessed for secular equilibrium and appropriate GV used.

NC = Not Calculated ND = Not detected

This table is an update of the March 2001 Draft version. On September 25 2001, Guideline Values were recalculated using HEAST slope factors dated April 2001.