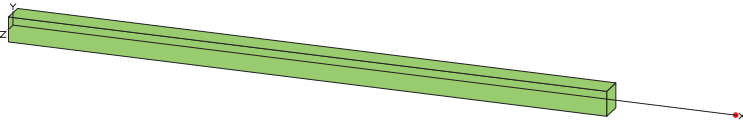


Case Title: Hematite
Description: Ind. Occ., Infinite Slab Unshielded Backfill - EU 5.0%
Geometry: 16 - Infinite Slab

Source Dimensions
 Thick 480.0 cm 15 ft 9.0 in

Dose Points

	<u>X</u>	<u>Y</u>	<u>Z</u>
# 1	580 cm 19 ft 0.3 in	0 cm 0.0 in	0 cm 0.0 in



Shields

<u>Shield Name</u>	<u>Dimension</u>	<u>Material</u>	<u>Density</u>
Source	Infinite	Concrete	1.6
Air Gap		Air	0.00122

Source Input
Grouping Method : Standard Indices
Number of Groups : 25
Lower Energy Cutoff : 0.015
Photons < 0.015 : Included
Library : Grove

<u>Nuclide</u>	<u>µCi/cm³</u>	<u>Bq/cm³</u>
Ac-227	8.7732e-006	3.2461e-001
Bi-210	3.6957e-007	1.3674e-002
Bi-211	8.7135e-006	3.2240e-001
Bi-214	1.4782e-006	5.4692e-002
Fr-223	1.2107e-007	4.4796e-003
Pa-231	2.4655e-005	9.1224e-001
Pa-234	1.8248e-004	6.7518e+000
Pa-234m	1.1405e-001	4.2198e+003
Pb-210	3.7025e-007	1.3699e-002
Pb-211	8.7135e-006	3.2240e-001
Pb-214	1.4782e-006	5.4693e-002
Po-210	3.5132e-007	1.2999e-002
Po-211	2.3788e-008	8.8015e-004
Po-214	1.4779e-006	5.4681e-002
Po-215	8.7136e-006	3.2240e-001
Po-218	1.4785e-006	5.4704e-002
Ra-223	8.7136e-006	3.2240e-001
Ra-226	1.4800e-006	5.4759e-002
Rn-219	8.7136e-006	3.2240e-001
Rn-222	1.4785e-006	5.4704e-002
Th-227	8.6153e-006	3.1877e-001
Th-230	2.2872e-004	8.4628e+000
Th-231	3.8860e-002	1.4378e+003
Th-234	1.1405e-001	4.2198e+003
Tl-207	8.6897e-006	3.2152e-001
U-234	8.4703e-001	3.1340e+004
U-235	3.8860e-002	1.4378e+003
U-238	1.1405e-001	4.2198e+003

Buildup
The material reference is : Source

Results

<u>Energy</u> MeV	<u>Activity</u> photons/sec	<u>Fluence Rate</u> MeV/cm ² /sec		<u>Exposure Rate</u> mR/hr	
		<u>No Buildup</u>	<u>With Buildup</u>	<u>No Buildup</u>	<u>With Buildup</u>
0.015	5.563e+03	1.911e+00	1.941e+00	1.639e-01	1.665e-01
0.02	3.864e-03	5.128e-06	5.350e-06	1.776e-07	1.853e-07
0.03	2.108e+02	1.478e+00	1.732e+00	1.465e-02	1.717e-02
0.04	1.036e-02	2.021e-04	2.894e-04	8.937e-07	1.280e-06
0.05	3.701e+01	1.427e+00	2.385e+00	3.801e-03	6.355e-03
0.06	1.720e+02	1.065e+01	2.283e+01	2.116e-02	4.534e-02
0.08	1.748e+02	1.997e+01	5.173e+01	3.160e-02	8.187e-02
0.1	4.219e+02	7.116e+01	2.316e+02	1.089e-01	3.543e-01
0.15	2.261e+02	7.023e+01	2.861e+02	1.156e-01	4.711e-01
0.2	8.888e+02	4.139e+02	1.750e+03	7.306e-01	3.088e+00
0.3	7.422e-01	6.089e-01	2.485e+00	1.155e-03	4.713e-03
0.4	5.200e-01	6.405e-01	2.414e+00	1.248e-03	4.704e-03
0.5	6.182e-01	1.048e+00	3.666e+00	2.058e-03	7.197e-03
0.6	2.542e+00	5.614e+00	1.827e+01	1.096e-02	3.566e-02
0.8	1.403e+01	4.729e+01	1.348e+02	8.994e-02	2.564e-01
1.0	4.481e+01	2.109e+02	5.461e+02	3.887e-01	1.007e+00
1.5	9.553e-01	8.334e+00	1.799e+01	1.402e-02	3.026e-02
2.0	1.365e-01	1.850e+00	3.634e+00	2.861e-03	5.619e-03
TOTALS:	7.759e+03	8.670e+02	3.077e+03	1.701e+00	5.582e+00