

Summary : RESRAD Default

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Dose Conversion Factor (and Related) Parameter Summary

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| A-1 | DCF's for external ground radiation, (mrem/yr)/(pCi/g) | | | |
| A-1 | Ac-225 (Source: FGR 12) | 6.371E-02 | 6.371E-02 | DCF1 (1) |
| A-1 | Ac-227 (Source: FGR 12) | 4.951E-04 | 4.951E-04 | DCF1 (2) |
| A-1 | Ac-228 (Source: FGR 12) | 5.978E+00 | 5.978E+00 | DCF1 (3) |
| A-1 | Ag-108 (Source: FGR 12) | 1.143E-01 | 1.143E-01 | DCF1 (4) |
| A-1 | Ag-108m (Source: FGR 12) | 9.640E+00 | 9.640E+00 | DCF1 (5) |
| A-1 | Am-241 (Source: FGR 12) | 4.372E-02 | 4.372E-02 | DCF1 (6) |
| A-1 | Am-243 (Source: FGR 12) | 1.420E-01 | 1.420E-01 | DCF1 (7) |
| A-1 | At-217 (Source: FGR 12) | 1.773E-03 | 1.773E-03 | DCF1 (8) |
| A-1 | At-218 (Source: FGR 12) | 5.847E-03 | 5.847E-03 | DCF1 (9) |
| A-1 | At-219 (Source: no data) | 0.000E+00 | -2.000E+00 | DCF1 (10) |
| A-1 | Ba-137m (Source: FGR 12) | 3.606E+00 | 3.606E+00 | DCF1 (11) |
| A-1 | Bi-210 (Source: FGR 12) | 3.606E-03 | 3.606E-03 | DCF1 (12) |
| A-1 | Bi-211 (Source: FGR 12) | 2.559E-01 | 2.559E-01 | DCF1 (13) |
| A-1 | Bi-212 (Source: FGR 12) | 1.171E+00 | 1.171E+00 | DCF1 (14) |
| A-1 | Bi-213 (Source: FGR 12) | 7.660E-01 | 7.660E-01 | DCF1 (15) |
| A-1 | Bi-214 (Source: FGR 12) | 9.808E+00 | 9.808E+00 | DCF1 (16) |
| A-1 | Bi-215 (Source: no data) | 0.000E+00 | -2.000E+00 | DCF1 (17) |
| A-1 | C-14 (Source: FGR 12) | 1.345E-05 | 1.345E-05 | DCF1 (18) |
| A-1 | Cm-243 (Source: FGR 12) | 5.829E-01 | 5.829E-01 | DCF1 (19) |
| A-1 | Cm-244 (Source: FGR 12) | 1.259E-04 | 1.259E-04 | DCF1 (20) |
| A-1 | Co-60 (Source: FGR 12) | 1.622E+01 | 1.622E+01 | DCF1 (21) |
| A-1 | Cs-134 (Source: FGR 12) | 9.472E+00 | 9.472E+00 | DCF1 (22) |
| A-1 | Cs-137 (Source: FGR 12) | 7.510E-04 | 7.510E-04 | DCF1 (23) |
| A-1 | Eu-152 (Source: FGR 12) | 7.006E+00 | 7.006E+00 | DCF1 (24) |
| A-1 | Eu-154 (Source: FGR 12) | 7.678E+00 | 7.678E+00 | DCF1 (25) |
| A-1 | Eu-155 (Source: FGR 12) | 1.822E-01 | 1.822E-01 | DCF1 (26) |
| A-1 | Fe-55 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (27) |
| A-1 | Fr-221 (Source: FGR 12) | 1.536E-01 | 1.536E-01 | DCF1 (28) |
| A-1 | Fr-223 (Source: FGR 12) | 1.980E-01 | 1.980E-01 | DCF1 (29) |
| A-1 | Gd-152 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (30) |
| A-1 | H-3 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (31) |
| A-1 | Hg-206 (Source: no data) | 0.000E+00 | -2.000E+00 | DCF1 (32) |
| A-1 | Nb-94 (Source: FGR 12) | 9.677E+00 | 9.677E+00 | DCF1 (33) |
| A-1 | Nd-144 (Source: Zion ROC Screen BFM) | 0.000E+00 | -1.000E+00 | DCF1 (34) |
| A-1 | Ni-59 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (35) |
| A-1 | Ni-63 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (36) |
| A-1 | Np-237 (Source: FGR 12) | 7.790E-02 | 7.790E-02 | DCF1 (37) |
| A-1 | Np-239 (Source: FGR 12) | 7.529E-01 | 7.529E-01 | DCF1 (38) |
| A-1 | Pa-231 (Source: FGR 12) | 1.906E-01 | 1.906E-01 | DCF1 (39) |
| A-1 | Pa-233 (Source: FGR 12) | 1.020E+00 | 1.020E+00 | DCF1 (40) |
| A-1 | Pb-209 (Source: FGR 12) | 7.734E-04 | 7.734E-04 | DCF1 (41) |
| A-1 | Pb-210 (Source: FGR 12) | 2.447E-03 | 2.447E-03 | DCF1 (42) |
| A-1 | Pb-211 (Source: FGR 12) | 3.064E-01 | 3.064E-01 | DCF1 (43) |
| A-1 | Pb-212 (Source: FGR 12) | 7.043E-01 | 7.043E-01 | DCF1 (44) |
| A-1 | Pb-214 (Source: FGR 12) | 1.341E+00 | 1.341E+00 | DCF1 (45) |
| A-1 | Pm-147 (Source: FGR 12) | 5.007E-05 | 5.007E-05 | DCF1 (46) |
| A-1 | Po-210 (Source: FGR 12) | 5.231E-05 | 5.231E-05 | DCF1 (47) |
| A-1 | Po-211 (Source: FGR 12) | 4.764E-02 | 4.764E-02 | DCF1 (48) |
| A-1 | Po-212 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (49) |

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| A-1 | Po-213 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (50) |
| A-1 | Po-214 (Source: FGR 12) | 5.138E-04 | 5.138E-04 | DCF1 (51) |
| A-1 | Po-215 (Source: FGR 12) | 1.016E-03 | 1.016E-03 | DCF1 (52) |
| A-1 | Po-216 (Source: FGR 12) | 1.042E-04 | 1.042E-04 | DCF1 (53) |
| A-1 | Po-218 (Source: FGR 12) | 5.642E-05 | 5.642E-05 | DCF1 (54) |
| A-1 | Pu-238 (Source: FGR 12) | 1.513E-04 | 1.513E-04 | DCF1 (55) |
| A-1 | Pu-239 (Source: FGR 12) | 2.952E-04 | 2.952E-04 | DCF1 (56) |
| A-1 | Pu-240 (Source: FGR 12) | 1.467E-04 | 1.467E-04 | DCF1 (57) |
| A-1 | Pu-241 (Source: FGR 12) | 5.904E-06 | 5.904E-06 | DCF1 (58) |
| A-1 | Ra-223 (Source: FGR 12) | 6.034E-01 | 6.034E-01 | DCF1 (59) |
| A-1 | Ra-224 (Source: FGR 12) | 5.119E-02 | 5.119E-02 | DCF1 (60) |
| A-1 | Ra-225 (Source: FGR 12) | 1.102E-02 | 1.102E-02 | DCF1 (61) |
| A-1 | Ra-226 (Source: FGR 12) | 3.176E-02 | 3.176E-02 | DCF1 (62) |
| A-1 | Ra-228 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (63) |
| A-1 | Rn-218 (Source: FGR 12) | 4.540E-03 | 4.540E-03 | DCF1 (64) |
| A-1 | Rn-219 (Source: FGR 12) | 3.083E-01 | 3.083E-01 | DCF1 (65) |
| A-1 | Rn-220 (Source: FGR 12) | 2.298E-03 | 2.298E-03 | DCF1 (66) |
| A-1 | Rn-222 (Source: FGR 12) | 2.354E-03 | 2.354E-03 | DCF1 (67) |
| A-1 | Sb-125 (Source: FGR 12) | 2.447E+00 | 2.447E+00 | DCF1 (68) |
| A-1 | Sm-147 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (69) |
| A-1 | Sm-148 (Source: Zion ROC Screen BFM) | 0.000E+00 | -1.000E+00 | DCF1 (70) |
| A-1 | Sr-90 (Source: FGR 12) | 7.043E-04 | 7.043E-04 | DCF1 (71) |
| A-1 | Tc-99 (Source: FGR 12) | 1.255E-04 | 1.255E-04 | DCF1 (72) |
| A-1 | Te-125m (Source: FGR 12) | 1.515E-02 | 1.515E-02 | DCF1 (73) |
| A-1 | Th-227 (Source: FGR 12) | 5.212E-01 | 5.212E-01 | DCF1 (74) |
| A-1 | Th-228 (Source: FGR 12) | 7.940E-03 | 7.940E-03 | DCF1 (75) |
| A-1 | Th-229 (Source: FGR 12) | 3.213E-01 | 3.213E-01 | DCF1 (76) |
| A-1 | Th-230 (Source: FGR 12) | 1.209E-03 | 1.209E-03 | DCF1 (77) |
| A-1 | Th-231 (Source: FGR 12) | 3.643E-02 | 3.643E-02 | DCF1 (78) |
| A-1 | Th-232 (Source: FGR 12) | 5.212E-04 | 5.212E-04 | DCF1 (79) |
| A-1 | Tl-206 (Source: FGR 12) | 7.697E-03 | 7.697E-03 | DCF1 (80) |
| A-1 | Tl-207 (Source: FGR 12) | 1.980E-02 | 1.980E-02 | DCF1 (81) |
| A-1 | Tl-208 (Source: FGR 12) | 2.298E+01 | 2.298E+01 | DCF1 (82) |
| A-1 | Tl-209 (Source: FGR 12) | 1.293E+01 | 1.293E+01 | DCF1 (83) |
| A-1 | Tl-210 (Source: no data) | 0.000E+00 | -2.000E+00 | DCF1 (84) |
| A-1 | U-233 (Source: FGR 12) | 1.397E-03 | 1.397E-03 | DCF1 (85) |
| A-1 | U-234 (Source: FGR 12) | 4.017E-04 | 4.017E-04 | DCF1 (86) |
| A-1 | U-235 (Source: FGR 12) | 7.211E-01 | 7.211E-01 | DCF1 (87) |
| A-1 | U-235m (Source: no data) | 0.000E+00 | -1.000E+00 | DCF1 (88) |
| A-1 | U-236 (Source: FGR 12) | 2.148E-04 | 2.148E-04 | DCF1 (89) |
| A-1 | U-237 (Source: FGR 12) | 5.306E-01 | 5.306E-01 | DCF1 (90) |
| A-1 | Y-90 (Source: FGR 12) | 2.391E-02 | 2.391E-02 | DCF1 (91) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Ac-227+D | 6.724E+00 | 6.700E+00 | DCF2 (1) |
| B-1 | Ac-227+D1 | 6.724E+00 | 6.700E+00 | DCF2 (2) |
| B-1 | Ac-227+D2 | 6.708E+00 | 6.700E+00 | DCF2 (3) |
| B-1 | Ac-227+D3 | 6.708E+00 | 6.700E+00 | DCF2 (4) |
| B-1 | Ac-227+D4 | 6.700E+00 | 6.700E+00 | DCF2 (5) |
| B-1 | Ac-227+D5 | 6.700E+00 | 6.700E+00 | DCF2 (6) |

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--------------------------|----------------|------------|----------------|
| B-1 | Ag-108m+D | 2.830E-04 | 2.830E-04 | DCF2(7) |
| B-1 | Am-241 | 4.440E-01 | 4.440E-01 | DCF2(8) |
| B-1 | Am-243+D | 4.400E-01 | 4.400E-01 | DCF2(9) |
| B-1 | C-14(p) (Class: ORGANIC) | 2.090E-06 | 2.090E-06 | DCF2(21) |
| B-1 | C-14(g) (Class: CO2) | 2.350E-08 | 2.350E-08 | C14GInhDCF |
| B-1 | Cm-243 | 3.070E-01 | 3.070E-01 | DCF2(22) |
| B-1 | Cm-244 | 2.480E-01 | 2.480E-01 | DCF2(46) |
| B-1 | Co-60 | 2.190E-04 | 2.190E-04 | DCF2(49) |
| B-1 | Cs-134 | 4.620E-05 | 4.620E-05 | DCF2(50) |
| B-1 | Cs-137+D | 3.190E-05 | 3.190E-05 | DCF2(51) |
| B-1 | Eu-152 | 2.210E-04 | 2.210E-04 | DCF2(52) |
| B-1 | Eu-154 | 2.860E-04 | 2.860E-04 | DCF2(54) |
| B-1 | Eu-155 | 4.140E-05 | 4.140E-05 | DCF2(55) |
| B-1 | Fe-55 | 2.690E-06 | 2.690E-06 | DCF2(56) |
| B-1 | Gd-152 | 2.430E-01 | 2.430E-01 | DCF2(57) |
| B-1 | H-3 | 6.400E-08 | 6.400E-08 | DCF2(58) |
| B-1 | Nb-94 | 4.140E-04 | 4.140E-04 | DCF2(59) |
| B-1 | Nd-144 | 7.040E-02 | -1.000E+00 | DCF2(60) |
| B-1 | Ni-59 | 2.700E-06 | 2.700E-06 | DCF2(61) |
| B-1 | Ni-63 | 6.290E-06 | 6.290E-06 | DCF2(62) |
| B-1 | Np-237+D | 5.400E-01 | 5.400E-01 | DCF2(63) |
| B-1 | Pa-231 | 1.280E+00 | 1.280E+00 | DCF2(64) |
| B-1 | Pb-210+D | 1.380E-02 | 1.360E-02 | DCF2(70) |
| B-1 | Pb-210+D1 | 1.380E-02 | 1.360E-02 | DCF2(71) |
| B-1 | Pb-210+D2 | 1.360E-02 | 1.360E-02 | DCF2(72) |
| B-1 | Pm-147 | 3.920E-05 | 3.920E-05 | DCF2(73) |
| B-1 | Po-210 | 9.400E-03 | 9.400E-03 | DCF2(74) |
| B-1 | Pu-238 | 3.920E-01 | 3.920E-01 | DCF2(75) |
| B-1 | Pu-239 | 4.290E-01 | 4.290E-01 | DCF2(91) |
| B-1 | Pu-239+D | 4.290E-01 | 4.290E-01 | DCF2(97) |
| B-1 | Pu-240 | 4.290E-01 | 4.290E-01 | DCF2(103) |
| B-1 | Pu-241 | 8.250E-03 | 8.250E-03 | DCF2(105) |
| B-1 | Pu-241+D | 8.254E-03 | 8.250E-03 | DCF2(106) |
| B-1 | Ra-226+D | 8.594E-03 | 8.580E-03 | DCF2(107) |
| B-1 | Ra-226+D1 | 8.594E-03 | 8.580E-03 | DCF2(110) |
| B-1 | Ra-226+D2 | 8.587E-03 | 8.580E-03 | DCF2(113) |
| B-1 | Ra-226+D3 | 8.587E-03 | 8.580E-03 | DCF2(116) |
| B-1 | Ra-226+D4 | 8.580E-03 | 8.580E-03 | DCF2(119) |
| B-1 | Ra-228+D | 5.078E-03 | 4.770E-03 | DCF2(122) |
| B-1 | Sb-125 | 1.220E-05 | 1.220E-05 | DCF2(123) |
| B-1 | Sm-147 | 7.470E-02 | 7.470E-02 | DCF2(125) |
| B-1 | Sm-148 | 7.340E-02 | -1.000E+00 | DCF2(126) |
| B-1 | Sr-90+D | 1.308E-03 | 1.300E-03 | DCF2(127) |
| B-1 | Tc-99 | 8.320E-06 | 8.320E-06 | DCF2(128) |
| B-1 | Te-125m | 7.290E-06 | 7.290E-06 | DCF2(129) |
| B-1 | Th-228+D | 3.454E-01 | 3.420E-01 | DCF2(130) |
| B-1 | Th-229+D | 2.169E+00 | 2.150E+00 | DCF2(131) |
| B-1 | Th-230 | 3.260E-01 | 3.260E-01 | DCF2(132) |
| B-1 | Th-232 | 1.640E+00 | 1.640E+00 | DCF2(147) |
| B-1 | U-233 | 1.350E-01 | 1.350E-01 | DCF2(148) |

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| B-1 | U-234 | 1.320E-01 | 1.320E-01 | DCF2(149) |
| B-1 | U-235+D | 1.230E-01 | 1.230E-01 | DCF2(164) |
| B-1 | U-236 | 1.250E-01 | 1.250E-01 | DCF2(170) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Ac-227+D | 1.480E-02 | 1.410E-02 | DCF3(1) |
| D-1 | Ac-227+D1 | 1.480E-02 | 1.410E-02 | DCF3(2) |
| D-1 | Ac-227+D2 | 1.477E-02 | 1.410E-02 | DCF3(3) |
| D-1 | Ac-227+D3 | 1.477E-02 | 1.410E-02 | DCF3(4) |
| D-1 | Ac-227+D4 | 1.411E-02 | 1.410E-02 | DCF3(5) |
| D-1 | Ac-227+D5 | 1.411E-02 | 1.410E-02 | DCF3(6) |
| D-1 | Ag-108m+D | 7.620E-06 | 7.620E-06 | DCF3(7) |
| D-1 | Am-241 | 3.640E-03 | 3.640E-03 | DCF3(8) |
| D-1 | Am-243+D | 3.623E-03 | 3.620E-03 | DCF3(9) |
| D-1 | C-14 | 2.090E-06 | 2.090E-06 | DCF3(21) |
| D-1 | Cm-243 | 2.510E-03 | 2.510E-03 | DCF3(22) |
| D-1 | Cm-244 | 2.020E-03 | 2.020E-03 | DCF3(46) |
| D-1 | Co-60 | 2.690E-05 | 2.690E-05 | DCF3(49) |
| D-1 | Cs-134 | 7.330E-05 | 7.330E-05 | DCF3(50) |
| D-1 | Cs-137+D | 5.000E-05 | 5.000E-05 | DCF3(51) |
| D-1 | Eu-152 | 6.480E-06 | 6.480E-06 | DCF3(52) |
| D-1 | Eu-154 | 9.550E-06 | 9.550E-06 | DCF3(54) |
| D-1 | Eu-155 | 1.530E-06 | 1.530E-06 | DCF3(55) |
| D-1 | Fe-55 | 6.070E-07 | 6.070E-07 | DCF3(56) |
| D-1 | Gd-152 | 1.610E-04 | 1.610E-04 | DCF3(57) |
| D-1 | H-3 | 6.400E-08 | 6.400E-08 | DCF3(58) |
| D-1 | Nb-94 | 7.140E-06 | 7.140E-06 | DCF3(59) |
| D-1 | Nd-144 | 1.510E-04 | -1.000E+00 | DCF3(60) |
| D-1 | Ni-59 | 2.100E-07 | 2.100E-07 | DCF3(61) |
| D-1 | Ni-63 | 5.770E-07 | 5.770E-07 | DCF3(62) |
| D-1 | Np-237+D | 4.444E-03 | 4.440E-03 | DCF3(63) |
| D-1 | Pa-231 | 1.060E-02 | 1.060E-02 | DCF3(64) |
| D-1 | Pb-210+D | 5.376E-03 | 5.370E-03 | DCF3(70) |
| D-1 | Pb-210+D1 | 5.376E-03 | 5.370E-03 | DCF3(71) |
| D-1 | Pb-210+D2 | 5.370E-03 | 5.370E-03 | DCF3(72) |
| D-1 | Pm-147 | 1.050E-06 | 1.050E-06 | DCF3(73) |
| D-1 | Po-210 | 1.900E-03 | 1.900E-03 | DCF3(74) |
| D-1 | Pu-238 | 3.200E-03 | 3.200E-03 | DCF3(75) |
| D-1 | Pu-239 | 3.540E-03 | 3.540E-03 | DCF3(91) |
| D-1 | Pu-239+D | 3.540E-03 | 3.540E-03 | DCF3(97) |
| D-1 | Pu-240 | 3.540E-03 | 3.540E-03 | DCF3(103) |
| D-1 | Pu-241 | 6.840E-05 | 6.840E-05 | DCF3(105) |
| D-1 | Pu-241+D | 7.157E-05 | 6.840E-05 | DCF3(106) |
| D-1 | Ra-226+D | 1.321E-03 | 1.320E-03 | DCF3(107) |
| D-1 | Ra-226+D1 | 1.321E-03 | 1.320E-03 | DCF3(110) |
| D-1 | Ra-226+D2 | 1.320E-03 | 1.320E-03 | DCF3(113) |
| D-1 | Ra-226+D3 | 1.320E-03 | 1.320E-03 | DCF3(116) |
| D-1 | Ra-226+D4 | 1.320E-03 | 1.320E-03 | DCF3(119) |
| D-1 | Ra-228+D | 1.442E-03 | 1.440E-03 | DCF3(122) |
| D-1 | Sb-125 | 2.810E-06 | 2.810E-06 | DCF3(123) |

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| D-1 | Sm-147 | 1.850E-04 | 1.850E-04 | DCF3(125) |
| D-1 | Sm-148 | 1.580E-04 | -1.000E+00 | DCF3(126) |
| D-1 | Sr-90+D | 1.528E-04 | 1.420E-04 | DCF3(127) |
| D-1 | Tc-99 | 1.460E-06 | 1.460E-06 | DCF3(128) |
| D-1 | Te-125m | 3.670E-06 | 3.670E-06 | DCF3(129) |
| D-1 | Th-228+D | 8.086E-04 | 3.960E-04 | DCF3(130) |
| D-1 | Th-229+D | 4.027E-03 | 3.530E-03 | DCF3(131) |
| D-1 | Th-230 | 5.480E-04 | 5.480E-04 | DCF3(132) |
| D-1 | Th-232 | 2.730E-03 | 2.730E-03 | DCF3(147) |
| D-1 | U-233 | 2.890E-04 | 2.890E-04 | DCF3(148) |
| D-1 | U-234 | 2.830E-04 | 2.830E-04 | DCF3(149) |
| D-1 | U-235+D | 2.673E-04 | 2.660E-04 | DCF3(164) |
| D-1 | U-236 | 2.690E-04 | 2.690E-04 | DCF3(170) |
| D-34 | Food transfer factors: | | | |
| D-34 | Ac-227+D , plant/soil concentration ratio, dimensionless | 1.000E-03 | 2.500E-03 | RTF(1,1) |
| D-34 | Ac-227+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(1,2) |
| D-34 | Ac-227+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-05 | RTF(1,3) |
| D-34 | | | | |
| D-34 | Ac-227+D1 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 2.500E-03 | RTF(2,1) |
| D-34 | Ac-227+D1 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(2,2) |
| D-34 | Ac-227+D1 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-05 | RTF(2,3) |
| D-34 | | | | |
| D-34 | Ac-227+D2 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 2.500E-03 | RTF(3,1) |
| D-34 | Ac-227+D2 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(3,2) |
| D-34 | Ac-227+D2 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-05 | RTF(3,3) |
| D-34 | | | | |
| D-34 | Ac-227+D3 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 2.500E-03 | RTF(4,1) |
| D-34 | Ac-227+D3 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(4,2) |
| D-34 | Ac-227+D3 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-05 | RTF(4,3) |
| D-34 | | | | |
| D-34 | Ac-227+D4 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 2.500E-03 | RTF(5,1) |
| D-34 | Ac-227+D4 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(5,2) |
| D-34 | Ac-227+D4 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-05 | RTF(5,3) |
| D-34 | | | | |
| D-34 | Ac-227+D5 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 2.500E-03 | RTF(6,1) |
| D-34 | Ac-227+D5 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-05 | 2.000E-05 | RTF(6,2) |
| D-34 | Ac-227+D5 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-05 | RTF(6,3) |
| D-34 | | | | |
| D-34 | Ag-108m+D , plant/soil concentration ratio, dimensionless | 7.400E-03 | 1.500E-01 | RTF(7,1) |
| D-34 | Ag-108m+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.200E-03 | 3.000E-03 | RTF(7,2) |
| D-34 | Ag-108m+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 9.500E-03 | 2.500E-02 | RTF(7,3) |
| D-34 | | | | |
| D-34 | Am-241 , plant/soil concentration ratio, dimensionless | 1.800E-03 | 1.000E-03 | RTF(8,1) |
| D-34 | Am-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.700E-05 | 5.000E-05 | RTF(8,2) |
| D-34 | Am-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.200E-06 | 2.000E-06 | RTF(8,3) |
| D-34 | | | | |
| D-34 | Am-243+D , plant/soil concentration ratio, dimensionless | 1.800E-03 | 1.000E-03 | RTF(9,1) |
| D-34 | Am-243+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.700E-05 | 5.000E-05 | RTF(9,2) |
| D-34 | Am-243+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.200E-06 | 2.000E-06 | RTF(9,3) |

Summary : RESRAD Default

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| D-34 | C-14 , plant/soil concentration ratio, dimensionless | 1.280E+00 | 5.500E+00 | RTF(21,1) |
| D-34 | C-14 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 6.000E-02 | 3.100E-02 | RTF(21,2) |
| D-34 | C-14 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.200E-06 | 1.200E-02 | RTF(21,3) |
| D-34 | | | | |
| D-34 | Cm-243 , plant/soil concentration ratio, dimensionless | 1.800E-03 | 1.000E-03 | RTF(22,1) |
| D-34 | Cm-243 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 4.000E-05 | 2.000E-05 | RTF(22,2) |
| D-34 | Cm-243 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.700E-06 | 2.000E-06 | RTF(22,3) |
| D-34 | | | | |
| D-34 | Cm-244 , plant/soil concentration ratio, dimensionless | 1.800E-03 | 1.000E-03 | RTF(46,1) |
| D-34 | Cm-244 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 4.000E-05 | 2.000E-05 | RTF(46,2) |
| D-34 | Cm-244 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.700E-06 | 2.000E-06 | RTF(46,3) |
| D-34 | | | | |
| D-34 | Co-60 , plant/soil concentration ratio, dimensionless | 1.500E-01 | 8.000E-02 | RTF(49,1) |
| D-34 | Co-60 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.800E-02 | 2.000E-02 | RTF(49,2) |
| D-34 | Co-60 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-03 | 2.000E-03 | RTF(49,3) |
| D-34 | | | | |
| D-34 | Cs-134 , plant/soil concentration ratio, dimensionless | 7.800E-02 | 4.000E-02 | RTF(50,1) |
| D-34 | Cs-134 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 6.500E-02 | 3.000E-02 | RTF(50,2) |
| D-34 | Cs-134 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.400E-02 | 8.000E-03 | RTF(50,3) |
| D-34 | | | | |
| D-34 | Cs-137+D , plant/soil concentration ratio, dimensionless | 7.800E-02 | 4.000E-02 | RTF(51,1) |
| D-34 | Cs-137+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 6.500E-02 | 3.000E-02 | RTF(51,2) |
| D-34 | Cs-137+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.400E-02 | 8.000E-03 | RTF(51,3) |
| D-34 | | | | |
| D-34 | Eu-152 , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(52,1) |
| D-34 | Eu-152 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 4.000E-03 | 2.000E-03 | RTF(52,2) |
| D-34 | Eu-152 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-05 | 5.000E-05 | RTF(52,3) |
| D-34 | | | | |
| D-34 | Eu-154 , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(54,1) |
| D-34 | Eu-154 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 4.000E-03 | 2.000E-03 | RTF(54,2) |
| D-34 | Eu-154 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-05 | 5.000E-05 | RTF(54,3) |
| D-34 | | | | |
| D-34 | Eu-155 , plant/soil concentration ratio, dimensionless | 2.500E-03 | 2.500E-03 | RTF(55,1) |
| D-34 | Eu-155 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 4.000E-03 | 2.000E-03 | RTF(55,2) |
| D-34 | Eu-155 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-05 | 5.000E-05 | RTF(55,3) |
| D-34 | | | | |
| D-34 | Fe-55 , plant/soil concentration ratio, dimensionless | 1.900E-03 | 1.000E-03 | RTF(56,1) |
| D-34 | Fe-55 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 3.900E-02 | 2.000E-02 | RTF(56,2) |
| D-34 | Fe-55 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.700E-04 | 3.000E-04 | RTF(56,3) |
| D-34 | | | | |
| D-34 | Gd-152 , plant/soil concentration ratio, dimensionless | 2.000E-03 | 2.500E-03 | RTF(57,1) |
| D-34 | Gd-152 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-03 | 2.000E-03 | RTF(57,2) |
| D-34 | Gd-152 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-05 | 2.000E-05 | RTF(57,3) |
| D-34 | | | | |
| D-34 | H-3 , plant/soil concentration ratio, dimensionless | 4.800E+00 | 4.800E+00 | RTF(58,1) |
| D-34 | H-3 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.200E-02 | 1.200E-02 | RTF(58,2) |
| D-34 | H-3 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-02 | 1.000E-02 | RTF(58,3) |
| D-34 | | | | |

Summary : RESRAD Default

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| D-34 | Nb-94 , plant/soil concentration ratio, dimensionless | 2.100E-02 | 1.000E-02 | RTF(59,1) |
| D-34 | Nb-94 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.800E-06 | 3.000E-07 | RTF(59,2) |
| D-34 | Nb-94 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.200E-06 | 2.000E-06 | RTF(59,3) |
| D-34 | | | | |
| D-34 | Nd-144 , plant/soil concentration ratio, dimensionless | 2.000E-03 | 2.400E-03 | RTF(60,1) |
| D-34 | Nd-144 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-03 | 2.000E-03 | RTF(60,2) |
| D-34 | Nd-144 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-05 | 2.000E-05 | RTF(60,3) |
| D-34 | | | | |
| D-34 | Ni-59 , plant/soil concentration ratio, dimensionless | 9.200E-02 | 5.000E-02 | RTF(61,1) |
| D-34 | Ni-59 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-03 | 5.000E-03 | RTF(61,2) |
| D-34 | Ni-59 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.200E-02 | 2.000E-02 | RTF(61,3) |
| D-34 | | | | |
| D-34 | Ni-63 , plant/soil concentration ratio, dimensionless | 9.200E-02 | 5.000E-02 | RTF(62,1) |
| D-34 | Ni-63 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-03 | 5.000E-03 | RTF(62,2) |
| D-34 | Ni-63 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.200E-02 | 2.000E-02 | RTF(62,3) |
| D-34 | | | | |
| D-34 | Np-237+D , plant/soil concentration ratio, dimensionless | 2.000E-02 | 2.000E-02 | RTF(63,1) |
| D-34 | Np-237+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(63,2) |
| D-34 | Np-237+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-05 | 5.000E-06 | RTF(63,3) |
| D-34 | | | | |
| D-34 | Pa-231 , plant/soil concentration ratio, dimensionless | 1.000E-02 | 1.000E-02 | RTF(64,1) |
| D-34 | Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-06 | 5.000E-03 | RTF(64,2) |
| D-34 | Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(64,3) |
| D-34 | | | | |
| D-34 | Pb-210+D , plant/soil concentration ratio, dimensionless | 4.000E-03 | 1.000E-02 | RTF(70,1) |
| D-34 | Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-04 | 8.000E-04 | RTF(70,2) |
| D-34 | Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.000E-04 | 3.000E-04 | RTF(70,3) |
| D-34 | | | | |
| D-34 | Pb-210+D1 , plant/soil concentration ratio, dimensionless | 4.000E-03 | 1.000E-02 | RTF(71,1) |
| D-34 | Pb-210+D1 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-04 | 8.000E-04 | RTF(71,2) |
| D-34 | Pb-210+D1 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.000E-04 | 3.000E-04 | RTF(71,3) |
| D-34 | | | | |
| D-34 | Pb-210+D2 , plant/soil concentration ratio, dimensionless | 4.000E-03 | 1.000E-02 | RTF(72,1) |
| D-34 | Pb-210+D2 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-04 | 8.000E-04 | RTF(72,2) |
| D-34 | Pb-210+D2 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 3.000E-04 | 3.000E-04 | RTF(72,3) |
| D-34 | | | | |
| D-34 | Pm-147 , plant/soil concentration ratio, dimensionless | 4.200E-03 | 2.500E-03 | RTF(73,1) |
| D-34 | Pm-147 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 4.000E-03 | 2.000E-03 | RTF(73,2) |
| D-34 | Pm-147 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.100E-04 | 2.000E-05 | RTF(73,3) |
| D-34 | | | | |
| D-34 | Po-210 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(74,1) |
| D-34 | Po-210 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-03 | 5.000E-03 | RTF(74,2) |
| D-34 | Po-210 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.000E-04 | 3.400E-04 | RTF(74,3) |
| D-34 | | | | |
| D-34 | Pu-238 , plant/soil concentration ratio, dimensionless | 1.800E-03 | 1.000E-03 | RTF(75,1) |
| D-34 | Pu-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.100E-04 | 1.000E-04 | RTF(75,2) |
| D-34 | Pu-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.370E-06 | 1.000E-06 | RTF(75,3) |
| D-34 | | | | |

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Dose Conversion Factor (and Related) Parameter Summary (continued)
 Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| D-34 | Pu-239 , plant/soil concentration ratio, dimensionless | 1.800E-03 | 1.000E-03 | RTF(91,1) |
| D-34 | Pu-239 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.100E-04 | 1.000E-04 | RTF(91,2) |
| D-34 | Pu-239 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.370E-06 | 1.000E-06 | RTF(91,3) |
| D-34 | | | | |
| D-34 | Pu-239+D , plant/soil concentration ratio, dimensionless | 1.800E-03 | 1.000E-03 | RTF(97,1) |
| D-34 | Pu-239+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.100E-04 | 1.000E-04 | RTF(97,2) |
| D-34 | Pu-239+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.370E-06 | 1.000E-06 | RTF(97,3) |
| D-34 | | | | |
| D-34 | Pu-240 , plant/soil concentration ratio, dimensionless | 1.800E-03 | 1.000E-03 | RTF(103,1) |
| D-34 | Pu-240 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.100E-04 | 1.000E-04 | RTF(103,2) |
| D-34 | Pu-240 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.370E-06 | 1.000E-06 | RTF(103,3) |
| D-34 | | | | |
| D-34 | Pu-241 , plant/soil concentration ratio, dimensionless | 1.800E-03 | 1.000E-03 | RTF(105,1) |
| D-34 | Pu-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.100E-04 | 1.000E-04 | RTF(105,2) |
| D-34 | Pu-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.370E-06 | 1.000E-06 | RTF(105,3) |
| D-34 | | | | |
| D-34 | Pu-241+D , plant/soil concentration ratio, dimensionless | 1.800E-03 | 1.000E-03 | RTF(106,1) |
| D-34 | Pu-241+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.100E-04 | 1.000E-04 | RTF(106,2) |
| D-34 | Pu-241+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.370E-06 | 1.000E-06 | RTF(106,3) |
| D-34 | | | | |
| D-34 | Ra-226+D , plant/soil concentration ratio, dimensionless | 4.000E-02 | 4.000E-02 | RTF(107,1) |
| D-34 | Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(107,2) |
| D-34 | Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(107,3) |
| D-34 | | | | |
| D-34 | Ra-226+D1 , plant/soil concentration ratio, dimensionless | 4.000E-02 | 4.000E-02 | RTF(110,1) |
| D-34 | Ra-226+D1 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(110,2) |
| D-34 | Ra-226+D1 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(110,3) |
| D-34 | | | | |
| D-34 | Ra-226+D2 , plant/soil concentration ratio, dimensionless | 4.000E-02 | 4.000E-02 | RTF(113,1) |
| D-34 | Ra-226+D2 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(113,2) |
| D-34 | Ra-226+D2 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(113,3) |
| D-34 | | | | |
| D-34 | Ra-226+D3 , plant/soil concentration ratio, dimensionless | 4.000E-02 | 4.000E-02 | RTF(116,1) |
| D-34 | Ra-226+D3 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(116,2) |
| D-34 | Ra-226+D3 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(116,3) |
| D-34 | | | | |
| D-34 | Ra-226+D4 , plant/soil concentration ratio, dimensionless | 4.000E-02 | 4.000E-02 | RTF(119,1) |
| D-34 | Ra-226+D4 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(119,2) |
| D-34 | Ra-226+D4 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(119,3) |
| D-34 | | | | |
| D-34 | Ra-228+D , plant/soil concentration ratio, dimensionless | 4.000E-02 | 4.000E-02 | RTF(122,1) |
| D-34 | Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(122,2) |
| D-34 | Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(122,3) |
| D-34 | | | | |
| D-34 | Sb-125 , plant/soil concentration ratio, dimensionless | 1.900E-02 | 1.000E-02 | RTF(123,1) |
| D-34 | Sb-125 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.850E-03 | 1.000E-03 | RTF(123,2) |
| D-34 | Sb-125 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.100E-04 | 1.000E-04 | RTF(123,3) |
| D-34 | | | | |

Summary : RESRAD Default

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| D-34 | Sm-147 , plant/soil concentration ratio, dimensionless | 2.000E-03 | 2.500E-03 | RTF(125,1) |
| D-34 | Sm-147 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-03 | 2.000E-03 | RTF(125,2) |
| D-34 | Sm-147 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-05 | 2.000E-05 | RTF(125,3) |
| D-34 | | | | |
| D-34 | Sm-148 , plant/soil concentration ratio, dimensionless | 2.000E-03 | 2.500E-03 | RTF(126,1) |
| D-34 | Sm-148 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 2.000E-03 | 2.000E-03 | RTF(126,2) |
| D-34 | Sm-148 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-05 | 2.000E-05 | RTF(126,3) |
| D-34 | | | | |
| D-34 | Sr-90+D , plant/soil concentration ratio, dimensionless | 5.900E-01 | 3.000E-01 | RTF(127,1) |
| D-34 | Sr-90+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-03 | 8.000E-03 | RTF(127,2) |
| D-34 | Sr-90+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.700E-03 | 2.000E-03 | RTF(127,3) |
| D-34 | | | | |
| D-34 | Tc-99 , plant/soil concentration ratio, dimensionless | 9.110E+00 | 5.000E+00 | RTF(128,1) |
| D-34 | Tc-99 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.600E-04 | 1.000E-04 | RTF(128,2) |
| D-34 | Tc-99 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.600E-03 | 1.000E-03 | RTF(128,3) |
| D-34 | | | | |
| D-34 | Te-125m , plant/soil concentration ratio, dimensionless | 1.000E-01 | 6.000E-01 | RTF(129,1) |
| D-34 | Te-125m , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 7.000E-03 | 7.000E-03 | RTF(129,2) |
| D-34 | Te-125m , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-04 | 5.000E-04 | RTF(129,3) |
| D-34 | | | | |
| D-34 | Th-228+D , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(130,1) |
| D-34 | Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(130,2) |
| D-34 | Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(130,3) |
| D-34 | | | | |
| D-34 | Th-229+D , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(131,1) |
| D-34 | Th-229+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(131,2) |
| D-34 | Th-229+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(131,3) |
| D-34 | | | | |
| D-34 | Th-230 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(132,1) |
| D-34 | Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(132,2) |
| D-34 | Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(132,3) |
| D-34 | | | | |
| D-34 | Th-232 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(147,1) |
| D-34 | Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(147,2) |
| D-34 | Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.000E-06 | 5.000E-06 | RTF(147,3) |
| D-34 | | | | |
| D-34 | U-233 , plant/soil concentration ratio, dimensionless | 2.000E-03 | 2.500E-03 | RTF(148,1) |
| D-34 | U-233 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-04 | 3.400E-04 | RTF(148,2) |
| D-34 | U-233 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.000E-04 | 6.000E-04 | RTF(148,3) |
| D-34 | | | | |
| D-34 | U-234 , plant/soil concentration ratio, dimensionless | 2.000E-03 | 2.500E-03 | RTF(149,1) |
| D-34 | U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-04 | 3.400E-04 | RTF(149,2) |
| D-34 | U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.000E-04 | 6.000E-04 | RTF(149,3) |
| D-34 | | | | |
| D-34 | U-235+D , plant/soil concentration ratio, dimensionless | 2.000E-03 | 2.500E-03 | RTF(164,1) |
| D-34 | U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-04 | 3.400E-04 | RTF(164,2) |
| D-34 | U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.000E-04 | 6.000E-04 | RTF(164,3) |
| D-34 | | | | |

Summary : RESRAD Default

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| D-34 | U-236 , plant/soil concentration ratio, dimensionless | 2.000E-03 | 2.500E-03 | RTF(170,1) |
| D-34 | U-236 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-04 | 3.400E-04 | RTF(170,2) |
| D-34 | U-236 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.000E-04 | 6.000E-04 | RTF(170,3) |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Ac-227+D , fish | 1.500E+01 | 1.500E+01 | BIOFAC(1,1) |
| D-5 | Ac-227+D , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(1,2) |
| D-5 | | | | |
| D-5 | Ac-227+D1 , fish | 1.500E+01 | 1.500E+01 | BIOFAC(2,1) |
| D-5 | Ac-227+D1 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(2,2) |
| D-5 | | | | |
| D-5 | Ac-227+D2 , fish | 1.500E+01 | 1.500E+01 | BIOFAC(3,1) |
| D-5 | Ac-227+D2 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(3,2) |
| D-5 | | | | |
| D-5 | Ac-227+D3 , fish | 1.500E+01 | 1.500E+01 | BIOFAC(4,1) |
| D-5 | Ac-227+D3 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(4,2) |
| D-5 | | | | |
| D-5 | Ac-227+D4 , fish | 1.500E+01 | 1.500E+01 | BIOFAC(5,1) |
| D-5 | Ac-227+D4 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(5,2) |
| D-5 | | | | |
| D-5 | Ac-227+D5 , fish | 1.500E+01 | 1.500E+01 | BIOFAC(6,1) |
| D-5 | Ac-227+D5 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(6,2) |
| D-5 | | | | |
| D-5 | Ag-108m+D , fish | 5.000E+00 | 5.000E+00 | BIOFAC(7,1) |
| D-5 | Ag-108m+D , crustacea and mollusks | 7.700E+02 | 7.700E+02 | BIOFAC(7,2) |
| D-5 | | | | |
| D-5 | Am-241 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(8,1) |
| D-5 | Am-241 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(8,2) |
| D-5 | | | | |
| D-5 | Am-243+D , fish | 3.000E+01 | 3.000E+01 | BIOFAC(9,1) |
| D-5 | Am-243+D , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(9,2) |
| D-5 | | | | |
| D-5 | C-14 , fish | 5.000E+04 | 5.000E+04 | BIOFAC(21,1) |
| D-5 | C-14 , crustacea and mollusks | 9.100E+03 | 9.100E+03 | BIOFAC(21,2) |
| D-5 | | | | |
| D-5 | Cm-243 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(22,1) |
| D-5 | Cm-243 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(22,2) |
| D-5 | | | | |
| D-5 | Cm-244 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(46,1) |
| D-5 | Cm-244 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(46,2) |
| D-5 | | | | |
| D-5 | Co-60 , fish | 3.000E+02 | 3.000E+02 | BIOFAC(49,1) |
| D-5 | Co-60 , crustacea and mollusks | 2.000E+02 | 2.000E+02 | BIOFAC(49,2) |
| D-5 | | | | |
| D-5 | Cs-134 , fish | 2.000E+03 | 2.000E+03 | BIOFAC(50,1) |
| D-5 | Cs-134 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(50,2) |
| D-5 | | | | |
| D-5 | Cs-137+D , fish | 2.000E+03 | 2.000E+03 | BIOFAC(51,1) |
| D-5 | Cs-137+D , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(51,2) |
| D-5 | | | | |

Summary : RESRAD Default

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|------------------------------------|----------------|------------|----------------|
| D-5 | Eu-152 , fish | 5.000E+01 | 5.000E+01 | BIOFAC (52,1) |
| D-5 | Eu-152 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC (52,2) |
| D-5 | | | | |
| D-5 | Eu-154 , fish | 5.000E+01 | 5.000E+01 | BIOFAC (54,1) |
| D-5 | Eu-154 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC (54,2) |
| D-5 | | | | |
| D-5 | Eu-155 , fish | 5.000E+01 | 5.000E+01 | BIOFAC (55,1) |
| D-5 | Eu-155 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC (55,2) |
| D-5 | | | | |
| D-5 | Fe-55 , fish | 2.000E+02 | 2.000E+02 | BIOFAC (56,1) |
| D-5 | Fe-55 , crustacea and mollusks | 3.200E+03 | 3.200E+03 | BIOFAC (56,2) |
| D-5 | | | | |
| D-5 | Gd-152 , fish | 2.500E+01 | 2.500E+01 | BIOFAC (57,1) |
| D-5 | Gd-152 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC (57,2) |
| D-5 | | | | |
| D-5 | H-3 , fish | 1.000E+00 | 1.000E+00 | BIOFAC (58,1) |
| D-5 | H-3 , crustacea and mollusks | 1.000E+00 | 1.000E+00 | BIOFAC (58,2) |
| D-5 | | | | |
| D-5 | Nb-94 , fish | 3.000E+02 | 3.000E+02 | BIOFAC (59,1) |
| D-5 | Nb-94 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC (59,2) |
| D-5 | | | | |
| D-5 | Nd-144 , fish | 1.000E+02 | 1.000E+02 | BIOFAC (60,1) |
| D-5 | Nd-144 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC (60,2) |
| D-5 | | | | |
| D-5 | Ni-59 , fish | 1.000E+02 | 1.000E+02 | BIOFAC (61,1) |
| D-5 | Ni-59 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC (61,2) |
| D-5 | | | | |
| D-5 | Ni-63 , fish | 1.000E+02 | 1.000E+02 | BIOFAC (62,1) |
| D-5 | Ni-63 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC (62,2) |
| D-5 | | | | |
| D-5 | Np-237+D , fish | 3.000E+01 | 3.000E+01 | BIOFAC (63,1) |
| D-5 | Np-237+D , crustacea and mollusks | 4.000E+02 | 4.000E+02 | BIOFAC (63,2) |
| D-5 | | | | |
| D-5 | Pa-231 , fish | 1.000E+01 | 1.000E+01 | BIOFAC (64,1) |
| D-5 | Pa-231 , crustacea and mollusks | 1.100E+02 | 1.100E+02 | BIOFAC (64,2) |
| D-5 | | | | |
| D-5 | Pb-210+D , fish | 3.000E+02 | 3.000E+02 | BIOFAC (70,1) |
| D-5 | Pb-210+D , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC (70,2) |
| D-5 | | | | |
| D-5 | Pb-210+D1 , fish | 3.000E+02 | 3.000E+02 | BIOFAC (71,1) |
| D-5 | Pb-210+D1 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC (71,2) |
| D-5 | | | | |
| D-5 | Pb-210+D2 , fish | 3.000E+02 | 3.000E+02 | BIOFAC (72,1) |
| D-5 | Pb-210+D2 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC (72,2) |
| D-5 | | | | |
| D-5 | Pm-147 , fish | 3.000E+01 | 3.000E+01 | BIOFAC (73,1) |
| D-5 | Pm-147 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC (73,2) |
| D-5 | | | | |
| D-5 | Po-210 , fish | 1.000E+02 | 1.000E+02 | BIOFAC (74,1) |
| D-5 | Po-210 , crustacea and mollusks | 2.000E+04 | 2.000E+04 | BIOFAC (74,2) |

Summary : RESRAD Default

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|------------------------------------|----------------|------------|----------------|
| D-5 | Pu-238 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(75,1) |
| D-5 | Pu-238 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(75,2) |
| D-5 | | | | |
| D-5 | Pu-239 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(91,1) |
| D-5 | Pu-239 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(91,2) |
| D-5 | | | | |
| D-5 | Pu-239+D , fish | 3.000E+01 | 3.000E+01 | BIOFAC(97,1) |
| D-5 | Pu-239+D , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(97,2) |
| D-5 | | | | |
| D-5 | Pu-240 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(103,1) |
| D-5 | Pu-240 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(103,2) |
| D-5 | | | | |
| D-5 | Pu-241 , fish | 3.000E+01 | 3.000E+01 | BIOFAC(105,1) |
| D-5 | Pu-241 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(105,2) |
| D-5 | | | | |
| D-5 | Pu-241+D , fish | 3.000E+01 | 3.000E+01 | BIOFAC(106,1) |
| D-5 | Pu-241+D , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(106,2) |
| D-5 | | | | |
| D-5 | Ra-226+D , fish | 5.000E+01 | 5.000E+01 | BIOFAC(107,1) |
| D-5 | Ra-226+D , crustacea and mollusks | 2.500E+02 | 2.500E+02 | BIOFAC(107,2) |
| D-5 | | | | |
| D-5 | Ra-226+D1 , fish | 5.000E+01 | 5.000E+01 | BIOFAC(110,1) |
| D-5 | Ra-226+D1 , crustacea and mollusks | 2.500E+02 | 2.500E+02 | BIOFAC(110,2) |
| D-5 | | | | |
| D-5 | Ra-226+D2 , fish | 5.000E+01 | 5.000E+01 | BIOFAC(113,1) |
| D-5 | Ra-226+D2 , crustacea and mollusks | 2.500E+02 | 2.500E+02 | BIOFAC(113,2) |
| D-5 | | | | |
| D-5 | Ra-226+D3 , fish | 5.000E+01 | 5.000E+01 | BIOFAC(116,1) |
| D-5 | Ra-226+D3 , crustacea and mollusks | 2.500E+02 | 2.500E+02 | BIOFAC(116,2) |
| D-5 | | | | |
| D-5 | Ra-226+D4 , fish | 5.000E+01 | 5.000E+01 | BIOFAC(119,1) |
| D-5 | Ra-226+D4 , crustacea and mollusks | 2.500E+02 | 2.500E+02 | BIOFAC(119,2) |
| D-5 | | | | |
| D-5 | Ra-228+D , fish | 5.000E+01 | 5.000E+01 | BIOFAC(122,1) |
| D-5 | Ra-228+D , crustacea and mollusks | 2.500E+02 | 2.500E+02 | BIOFAC(122,2) |
| D-5 | | | | |
| D-5 | Sb-125 , fish | 1.000E+02 | 1.000E+02 | BIOFAC(123,1) |
| D-5 | Sb-125 , crustacea and mollusks | 1.000E+01 | 1.000E+01 | BIOFAC(123,2) |
| D-5 | | | | |
| D-5 | Sm-147 , fish | 2.500E+01 | 2.500E+01 | BIOFAC(125,1) |
| D-5 | Sm-147 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(125,2) |
| D-5 | | | | |
| D-5 | Sm-148 , fish | 2.500E+01 | 2.500E+01 | BIOFAC(126,1) |
| D-5 | Sm-148 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(126,2) |
| D-5 | | | | |
| D-5 | Sr-90+D , fish | 6.000E+01 | 6.000E+01 | BIOFAC(127,1) |
| D-5 | Sr-90+D , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(127,2) |
| D-5 | | | | |
| D-5 | Tc-99 , fish | 2.000E+01 | 2.000E+01 | BIOFAC(128,1) |
| D-5 | Tc-99 , crustacea and mollusks | 5.000E+00 | 5.000E+00 | BIOFAC(128,2) |

Summary : RESRAD Default

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Dose Conversion Factor (and Related) Parameter Summary (continued)

Dose Library: Zion ROC Screen BFM Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|-----------------------------------|----------------|------------|----------------|
| D-5 | Te-125m , fish | 4.000E+02 | 4.000E+02 | BIOFAC(129,1) |
| D-5 | Te-125m , crustacea and mollusks | 7.500E+01 | 7.500E+01 | BIOFAC(129,2) |
| D-5 | | | | |
| D-5 | Th-228+D , fish | 1.000E+02 | 1.000E+02 | BIOFAC(130,1) |
| D-5 | Th-228+D , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(130,2) |
| D-5 | | | | |
| D-5 | Th-229+D , fish | 1.000E+02 | 1.000E+02 | BIOFAC(131,1) |
| D-5 | Th-229+D , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(131,2) |
| D-5 | | | | |
| D-5 | Th-230 , fish | 1.000E+02 | 1.000E+02 | BIOFAC(132,1) |
| D-5 | Th-230 , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(132,2) |
| D-5 | | | | |
| D-5 | Th-232 , fish | 1.000E+02 | 1.000E+02 | BIOFAC(147,1) |
| D-5 | Th-232 , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(147,2) |
| D-5 | | | | |
| D-5 | U-233 , fish | 1.000E+01 | 1.000E+01 | BIOFAC(148,1) |
| D-5 | U-233 , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(148,2) |
| D-5 | | | | |
| D-5 | U-234 , fish | 1.000E+01 | 1.000E+01 | BIOFAC(149,1) |
| D-5 | U-234 , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(149,2) |
| D-5 | | | | |
| D-5 | U-235+D , fish | 1.000E+01 | 1.000E+01 | BIOFAC(164,1) |
| D-5 | U-235+D , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(164,2) |
| D-5 | | | | |
| D-5 | U-236 , fish | 1.000E+01 | 1.000E+01 | BIOFAC(170,1) |
| D-5 | U-236 , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(170,2) |

#For DCF1(xxx) only, factors are for infinite depth & area. See ETEG table in Ground Pathway of Detailed Report.

*Base Case means Default.Lib w/o Associate Nuclide contributions.

Summary : RESRAD Default

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Site-Specific Parameter Summary

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R011 | Area of contaminated zone (m**2) | 3.000E+00 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 1.500E-01 | 2.000E+00 | --- | THICK0 |
| R011 | Fraction of contamination that is submerged | 0.000E+00 | 0.000E+00 | --- | SUBMFRACT |
| R011 | Length parallel to aquifer flow (m) | 2.000E+00 | 1.000E+02 | --- | LCZPAQ |
| R011 | Basic radiation dose limit (mrem/yr) | 2.500E+01 | 3.000E+01 | --- | BRDL |
| R011 | Time since placement of material (yr) | 0.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | 3.000E+00 | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | 1.000E+01 | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | 3.000E+01 | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | 1.000E+02 | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | 3.000E+02 | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | 1.000E+03 | 1.000E+03 | --- | T(8) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(9) |
| R011 | Times for calculations (yr) | not used | 0.000E+00 | --- | T(10) |
| R012 | Initial principal radionuclide (pCi/g): Ag-108m | 1.000E+00 | 0.000E+00 | --- | S1(7) |
| R012 | Initial principal radionuclide (pCi/g): Am-241 | 1.000E+00 | 0.000E+00 | --- | S1(8) |
| R012 | Initial principal radionuclide (pCi/g): Am-243 | 1.000E+00 | 0.000E+00 | --- | S1(9) |
| R012 | Initial principal radionuclide (pCi/g): C-14 | 1.000E+00 | 0.000E+00 | --- | S1(21) |
| R012 | Initial principal radionuclide (pCi/g): Cm-243 | 1.000E+00 | 0.000E+00 | --- | S1(22) |
| R012 | Initial principal radionuclide (pCi/g): Cm-244 | 1.000E+00 | 0.000E+00 | --- | S1(46) |
| R012 | Initial principal radionuclide (pCi/g): Co-60 | 1.000E+00 | 0.000E+00 | --- | S1(49) |
| R012 | Initial principal radionuclide (pCi/g): Cs-134 | 1.000E+00 | 0.000E+00 | --- | S1(50) |
| R012 | Initial principal radionuclide (pCi/g): Cs-137 | 1.000E+00 | 0.000E+00 | --- | S1(51) |
| R012 | Initial principal radionuclide (pCi/g): Eu-152 | 1.000E+00 | 0.000E+00 | --- | S1(52) |
| R012 | Initial principal radionuclide (pCi/g): Eu-154 | 1.000E+00 | 0.000E+00 | --- | S1(54) |
| R012 | Initial principal radionuclide (pCi/g): Eu-155 | 1.000E+00 | 0.000E+00 | --- | S1(55) |
| R012 | Initial principal radionuclide (pCi/g): Fe-55 | 1.000E+00 | 0.000E+00 | --- | S1(56) |
| R012 | Initial principal radionuclide (pCi/g): H-3 | 1.000E+00 | 0.000E+00 | --- | S1(58) |
| R012 | Initial principal radionuclide (pCi/g): Nb-94 | 1.000E+00 | 0.000E+00 | --- | S1(59) |
| R012 | Initial principal radionuclide (pCi/g): Ni-59 | 1.000E+00 | 0.000E+00 | --- | S1(61) |
| R012 | Initial principal radionuclide (pCi/g): Ni-63 | 1.000E+00 | 0.000E+00 | --- | S1(62) |
| R012 | Initial principal radionuclide (pCi/g): Np-237 | 1.000E+00 | 0.000E+00 | --- | S1(63) |
| R012 | Initial principal radionuclide (pCi/g): Pm-147 | 1.000E+00 | 0.000E+00 | --- | S1(73) |
| R012 | Initial principal radionuclide (pCi/g): Pu-238 | 1.000E+00 | 0.000E+00 | --- | S1(75) |
| R012 | Initial principal radionuclide (pCi/g): Pu-239 | 1.000E+00 | 0.000E+00 | --- | S1(91) |
| R012 | Initial principal radionuclide (pCi/g): Pu-240 | 1.000E+00 | 0.000E+00 | --- | S1(103) |
| R012 | Initial principal radionuclide (pCi/g): Pu-241 | 1.000E+00 | 0.000E+00 | --- | S1(105) |
| R012 | Initial principal radionuclide (pCi/g): Sb-125 | 1.000E+00 | 0.000E+00 | --- | S1(123) |
| R012 | Initial principal radionuclide (pCi/g): Sr-90 | 1.000E+00 | 0.000E+00 | --- | S1(127) |
| R012 | Initial principal radionuclide (pCi/g): Tc-99 | 1.000E+00 | 0.000E+00 | --- | S1(128) |
| R012 | Concentration in groundwater (pCi/L): Ag-108m | not used | 0.000E+00 | --- | W1(7) |
| R012 | Concentration in groundwater (pCi/L): Am-241 | not used | 0.000E+00 | --- | W1(8) |
| R012 | Concentration in groundwater (pCi/L): Am-243 | not used | 0.000E+00 | --- | W1(9) |
| R012 | Concentration in groundwater (pCi/L): C-14 | not used | 0.000E+00 | --- | W1(21) |
| R012 | Concentration in groundwater (pCi/L): Cm-243 | not used | 0.000E+00 | --- | W1(22) |
| R012 | Concentration in groundwater (pCi/L): Cm-244 | not used | 0.000E+00 | --- | W1(46) |
| R012 | Concentration in groundwater (pCi/L): Co-60 | not used | 0.000E+00 | --- | W1(49) |
| R012 | Concentration in groundwater (pCi/L): Cs-134 | not used | 0.000E+00 | --- | W1(50) |

Summary : RESRAD Default

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R012 | Concentration in groundwater (pCi/L): Cs-137 | not used | 0.000E+00 | --- | W1 (51) |
| R012 | Concentration in groundwater (pCi/L): Eu-152 | not used | 0.000E+00 | --- | W1 (52) |
| R012 | Concentration in groundwater (pCi/L): Eu-154 | not used | 0.000E+00 | --- | W1 (54) |
| R012 | Concentration in groundwater (pCi/L): Eu-155 | not used | 0.000E+00 | --- | W1 (55) |
| R012 | Concentration in groundwater (pCi/L): Fe-55 | not used | 0.000E+00 | --- | W1 (56) |
| R012 | Concentration in groundwater (pCi/L): H-3 | not used | 0.000E+00 | --- | W1 (58) |
| R012 | Concentration in groundwater (pCi/L): Nb-94 | not used | 0.000E+00 | --- | W1 (59) |
| R012 | Concentration in groundwater (pCi/L): Ni-59 | not used | 0.000E+00 | --- | W1 (61) |
| R012 | Concentration in groundwater (pCi/L): Ni-63 | not used | 0.000E+00 | --- | W1 (62) |
| R012 | Concentration in groundwater (pCi/L): Np-237 | not used | 0.000E+00 | --- | W1 (63) |
| R012 | Concentration in groundwater (pCi/L): Pm-147 | not used | 0.000E+00 | --- | W1 (73) |
| R012 | Concentration in groundwater (pCi/L): Pu-238 | not used | 0.000E+00 | --- | W1 (75) |
| R012 | Concentration in groundwater (pCi/L): Pu-239 | not used | 0.000E+00 | --- | W1 (91) |
| R012 | Concentration in groundwater (pCi/L): Pu-240 | not used | 0.000E+00 | --- | W1 (**) |
| R012 | Concentration in groundwater (pCi/L): Pu-241 | not used | 0.000E+00 | --- | W1 (**) |
| R012 | Concentration in groundwater (pCi/L): Sb-125 | not used | 0.000E+00 | --- | W1 (**) |
| R012 | Concentration in groundwater (pCi/L): Sr-90 | not used | 0.000E+00 | --- | W1 (**) |
| R012 | Concentration in groundwater (pCi/L): Tc-99 | not used | 0.000E+00 | --- | W1 (**) |
| R013 | Cover depth (m) | 0.000E+00 | 0.000E+00 | --- | COVER0 |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | not used | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.800E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 1.500E-03 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 3.500E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 6.600E-02 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 2.880E+03 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 9.700E-01 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 4.200E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | 7.200E+00 | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 6.250E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 8.300E-01 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 1.900E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 2.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 1.000E+06 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |
| R014 | Density of saturated zone (g/cm**3) | 1.800E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 3.500E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 2.900E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 6.600E-02 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 2.880E+03 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 3.900E-03 | 2.000E-02 | --- | HGWT |
| R014 | Saturated zone b parameter | not used | 5.300E+00 | --- | BSZ |
| R014 | Water table drop rate (m/yr) | 0.000E+00 | 1.000E-03 | --- | VWT |
| R014 | Well pump intake depth (m below water table) | 3.300E+00 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | ND | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 2.250E+03 | 2.500E+02 | --- | UW |

Summary : RESRAD Default

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R015 | Number of unsaturated zone strata | 1 | 1 | --- | NS |
| R015 | Unsat. zone 1, thickness (m) | 3.450E+00 | 4.000E+00 | --- | H(1) |
| R015 | Unsat. zone 1, soil density (g/cm**3) | 1.800E+00 | 1.500E+00 | --- | DENSUZ(1) |
| R015 | Unsat. zone 1, total porosity | 3.500E-01 | 4.000E-01 | --- | TPUZ(1) |
| R015 | Unsat. zone 1, effective porosity | 2.900E-01 | 2.000E-01 | --- | EPUZ(1) |
| R015 | Unsat. zone 1, field capacity | 6.600E-02 | 2.000E-01 | --- | FCUZ(1) |
| R015 | Unsat. zone 1, soil-specific b parameter | 9.700E-01 | 5.300E+00 | --- | BUZ(1) |
| R015 | Unsat. zone 1, hydraulic conductivity (m/yr) | 2.880E+03 | 1.000E+01 | --- | HCUZ(1) |
| R016 | Distribution coefficients for Ag-108m | | | | |
| R016 | Contaminated zone (cm**3/g) | 5.260E+01 | 0.000E+00 | --- | DCNUCC (7) |
| R016 | Unsat. zone 1 (cm**3/g) | 5.260E+01 | 0.000E+00 | --- | DCNUCU (7,1) |
| R016 | Saturated zone (cm**3/g) | 5.260E+01 | 0.000E+00 | --- | DCNUCS (7) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.253E-02 | ALEACH (7) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (7) |
| R016 | Distribution coefficients for Am-241 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.770E+02 | 2.000E+01 | --- | DCNUCC (8) |
| R016 | Unsat. zone 1 (cm**3/g) | 1.770E+02 | 2.000E+01 | --- | DCNUCU (8,1) |
| R016 | Saturated zone (cm**3/g) | 1.770E+02 | 2.000E+01 | --- | DCNUCS (8) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 6.700E-03 | ALEACH (8) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (8) |
| R016 | Distribution coefficients for Am-243 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.770E+02 | 2.000E+01 | --- | DCNUCC (9) |
| R016 | Unsat. zone 1 (cm**3/g) | 1.770E+02 | 2.000E+01 | --- | DCNUCU (9,1) |
| R016 | Saturated zone (cm**3/g) | 1.770E+02 | 2.000E+01 | --- | DCNUCS (9) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 6.700E-03 | ALEACH (9) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (9) |
| R016 | Distribution coefficients for C-14 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.240E+00 | 0.000E+00 | --- | DCNUCC(21) |
| R016 | Unsat. zone 1 (cm**3/g) | 1.240E+00 | 0.000E+00 | --- | DCNUCU(21,1) |
| R016 | Saturated zone (cm**3/g) | 1.240E+00 | 0.000E+00 | --- | DCNUCS(21) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.291E-01 | ALEACH(21) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(21) |
| R016 | Distribution coefficients for Cm-243 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.990E+03 | -1.000E+00 | --- | DCNUCC(22) |
| R016 | Unsat. zone 1 (cm**3/g) | 1.990E+03 | -1.000E+00 | --- | DCNUCU(22,1) |
| R016 | Saturated zone (cm**3/g) | 1.990E+03 | -1.000E+00 | --- | DCNUCS(22) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.960E-04 | ALEACH(22) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(22) |
| R016 | Distribution coefficients for Cm-244 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.990E+03 | -1.000E+00 | --- | DCNUCC(46) |
| R016 | Unsat. zone 1 (cm**3/g) | 1.990E+03 | -1.000E+00 | --- | DCNUCU(46,1) |
| R016 | Saturated zone (cm**3/g) | 1.990E+03 | -1.000E+00 | --- | DCNUCS(46) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.960E-04 | ALEACH(46) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(46) |

Summary : RESRAD Default

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--------------------------------------|------------|------------|--|----------------|
| R016 | Distribution coefficients for Co-60 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.161E+03 | 1.000E+03 | --- | DCNUCC (49) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.161E+03 | 1.000E+03 | --- | DCNUCU (49,1) |
| R016 | Saturated zone (cm**3/g) | 1.161E+03 | 1.000E+03 | --- | DCNUCS (49) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.022E-03 | ALEACH (49) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (49) |
| R016 | Distribution coefficients for Cs-134 | | | | |
| R016 | Contaminated zone (cm**3/g) | 6.150E+02 | 4.600E+03 | --- | DCNUCC (50) |
| R016 | Unsaturated zone 1 (cm**3/g) | 6.150E+02 | 4.600E+03 | --- | DCNUCU (50,1) |
| R016 | Saturated zone (cm**3/g) | 6.150E+02 | 4.600E+03 | --- | DCNUCS (50) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.929E-03 | ALEACH (50) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (50) |
| R016 | Distribution coefficients for Cs-137 | | | | |
| R016 | Contaminated zone (cm**3/g) | 6.150E+02 | 4.600E+03 | --- | DCNUCC (51) |
| R016 | Unsaturated zone 1 (cm**3/g) | 6.150E+02 | 4.600E+03 | --- | DCNUCU (51,1) |
| R016 | Saturated zone (cm**3/g) | 6.150E+02 | 4.600E+03 | --- | DCNUCS (51) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.929E-03 | ALEACH (51) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (51) |
| R016 | Distribution coefficients for Eu-152 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.500E+01 | -1.000E+00 | --- | DCNUCC (52) |
| R016 | Unsaturated zone 1 (cm**3/g) | 9.500E+01 | -1.000E+00 | --- | DCNUCU (52,1) |
| R016 | Saturated zone (cm**3/g) | 9.500E+01 | -1.000E+00 | --- | DCNUCS (52) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.248E-02 | ALEACH (52) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (52) |
| R016 | Distribution coefficients for Eu-154 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.500E+01 | -1.000E+00 | --- | DCNUCC (54) |
| R016 | Unsaturated zone 1 (cm**3/g) | 9.500E+01 | -1.000E+00 | --- | DCNUCU (54,1) |
| R016 | Saturated zone (cm**3/g) | 9.500E+01 | -1.000E+00 | --- | DCNUCS (54) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.248E-02 | ALEACH (54) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (54) |
| R016 | Distribution coefficients for Eu-155 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.500E+01 | -1.000E+00 | --- | DCNUCC (55) |
| R016 | Unsaturated zone 1 (cm**3/g) | 9.500E+01 | -1.000E+00 | --- | DCNUCU (55,1) |
| R016 | Saturated zone (cm**3/g) | 9.500E+01 | -1.000E+00 | --- | DCNUCS (55) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.248E-02 | ALEACH (55) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (55) |
| R016 | Distribution coefficients for Fe-55 | | | | |
| R016 | Contaminated zone (cm**3/g) | 2.857E+03 | 1.000E+03 | --- | DCNUCC (56) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.857E+03 | 1.000E+03 | --- | DCNUCU (56,1) |
| R016 | Saturated zone (cm**3/g) | 2.857E+03 | 1.000E+03 | --- | DCNUCS (56) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 4.152E-04 | ALEACH (56) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (56) |

Summary : RESRAD Default

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--------------------------------------|------------|------------|--|----------------|
| R016 | Distribution coefficients for H-3 | | | | |
| R016 | Contaminated zone (cm**3/g) | 4.000E-02 | 0.000E+00 | --- | DCNUCC (58) |
| R016 | Unsaturated zone 1 (cm**3/g) | 4.000E-02 | 0.000E+00 | --- | DCNUCU (58,1) |
| R016 | Saturated zone (cm**3/g) | 4.000E-02 | 0.000E+00 | --- | DCNUCS (58) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.547E+01 | ALEACH (58) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (58) |
| R016 | Distribution coefficients for Nb-94 | | | | |
| R016 | Contaminated zone (cm**3/g) | 4.460E+01 | 0.000E+00 | --- | DCNUCC (59) |
| R016 | Unsaturated zone 1 (cm**3/g) | 4.460E+01 | 0.000E+00 | --- | DCNUCU (59,1) |
| R016 | Saturated zone (cm**3/g) | 4.460E+01 | 0.000E+00 | --- | DCNUCS (59) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.657E-02 | ALEACH (59) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (59) |
| R016 | Distribution coefficients for Ni-59 | | | | |
| R016 | Contaminated zone (cm**3/g) | 6.200E+01 | 1.000E+03 | --- | DCNUCC (61) |
| R016 | Unsaturated zone 1 (cm**3/g) | 6.200E+01 | 1.000E+03 | --- | DCNUCU (61,1) |
| R016 | Saturated zone (cm**3/g) | 6.200E+01 | 1.000E+03 | --- | DCNUCS (61) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.912E-02 | ALEACH (61) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (61) |
| R016 | Distribution coefficients for Ni-63 | | | | |
| R016 | Contaminated zone (cm**3/g) | 6.200E+01 | 1.000E+03 | --- | DCNUCC (62) |
| R016 | Unsaturated zone 1 (cm**3/g) | 6.200E+01 | 1.000E+03 | --- | DCNUCU (62,1) |
| R016 | Saturated zone (cm**3/g) | 6.200E+01 | 1.000E+03 | --- | DCNUCS (62) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.912E-02 | ALEACH (62) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (62) |
| R016 | Distribution coefficients for Np-237 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.750E+00 | -1.000E+00 | --- | DCNUCC (63) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.750E+00 | -1.000E+00 | --- | DCNUCU (63,1) |
| R016 | Saturated zone (cm**3/g) | 3.750E+00 | -1.000E+00 | --- | DCNUCS (63) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.132E-01 | ALEACH (63) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (63) |
| R016 | Distribution coefficients for Pm-147 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.480E+01 | -1.000E+00 | --- | DCNUCC (73) |
| R016 | Unsaturated zone 1 (cm**3/g) | 9.480E+01 | -1.000E+00 | --- | DCNUCU (73,1) |
| R016 | Saturated zone (cm**3/g) | 9.480E+01 | -1.000E+00 | --- | DCNUCS (73) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.251E-02 | ALEACH (73) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (73) |
| R016 | Distribution coefficients for Pu-238 | | | | |
| R016 | Contaminated zone (cm**3/g) | 2.680E+02 | 2.000E+03 | --- | DCNUCC (75) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.680E+02 | 2.000E+03 | --- | DCNUCU (75,1) |
| R016 | Saturated zone (cm**3/g) | 2.680E+02 | 2.000E+03 | --- | DCNUCS (75) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 4.425E-03 | ALEACH (75) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (75) |

Summary : RESRAD Default

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|-----------|--|----------------|
| R016 | Distribution coefficients for Pu-239 | | | | |
| R016 | Contaminated zone (cm**3/g) | 2.680E+02 | 2.000E+03 | --- | DCNUCC (91) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.680E+02 | 2.000E+03 | --- | DCNUCU (91,1) |
| R016 | Saturated zone (cm**3/g) | 2.680E+02 | 2.000E+03 | --- | DCNUCS (91) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 4.425E-03 | ALEACH (91) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (91) |
| R016 | Distribution coefficients for Pu-240 | | | | |
| R016 | Contaminated zone (cm**3/g) | 2.680E+02 | 2.000E+03 | --- | DCNUCC (**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.680E+02 | 2.000E+03 | --- | DCNUCU (**,1) |
| R016 | Saturated zone (cm**3/g) | 2.680E+02 | 2.000E+03 | --- | DCNUCS (**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 4.425E-03 | ALEACH (**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (**) |
| R016 | Distribution coefficients for Pu-241 | | | | |
| R016 | Contaminated zone (cm**3/g) | 2.680E+02 | 2.000E+03 | --- | DCNUCC (**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.600E+01 | 2.000E+03 | --- | DCNUCU (**,1) |
| R016 | Saturated zone (cm**3/g) | 2.680E+02 | 2.000E+03 | --- | DCNUCS (**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 4.425E-03 | ALEACH (**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (**) |
| R016 | Distribution coefficients for Sb-125 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.700E+01 | 0.000E+00 | --- | DCNUCC (**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.700E+01 | 0.000E+00 | --- | DCNUCU (**,1) |
| R016 | Saturated zone (cm**3/g) | 1.700E+01 | 0.000E+00 | --- | DCNUCS (**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 6.962E-02 | ALEACH (**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (**) |
| R016 | Distribution coefficients for Sr-90 | | | | |
| R016 | Contaminated zone (cm**3/g) | 2.300E+00 | 3.000E+01 | --- | DCNUCC (**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.300E+00 | 3.000E+01 | --- | DCNUCU (**,1) |
| R016 | Saturated zone (cm**3/g) | 2.300E+00 | 3.000E+01 | --- | DCNUCS (**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.076E-01 | ALEACH (**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (**) |
| R016 | Distribution coefficients for Tc-99 | | | | |
| R016 | Contaminated zone (cm**3/g) | 6.000E-02 | 0.000E+00 | --- | DCNUCC (**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 6.000E-02 | 0.000E+00 | --- | DCNUCU (**,1) |
| R016 | Saturated zone (cm**3/g) | 6.000E-02 | 0.000E+00 | --- | DCNUCS (**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.227E+01 | ALEACH (**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (**) |
| R016 | Distribution coefficients for daughter Ac-227 | | | | |
| R016 | Contaminated zone (cm**3/g) | 8.250E+02 | 2.000E+01 | --- | DCNUCC (1) |
| R016 | Unsaturated zone 1 (cm**3/g) | 8.250E+02 | 2.000E+01 | --- | DCNUCU (1,1) |
| R016 | Saturated zone (cm**3/g) | 8.250E+02 | 2.000E+01 | --- | DCNUCS (1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.438E-03 | ALEACH (1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (1) |

Summary : RESRAD Default

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|------------|--|----------------|
| R016 | Distribution coefficients for daughter Gd-152 | | | | |
| R016 | Contaminated zone (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCC (57) |
| R016 | Unsaturated zone 1 (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCU (57,1) |
| R016 | Saturated zone (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCS (57) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.438E-03 | ALEACH (57) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (57) |
| R016 | Distribution coefficients for daughter Nd-144 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.580E+02 | 1.580E+02 | --- | DCNUCC (60) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.580E+02 | 1.580E+02 | --- | DCNUCU (60,1) |
| R016 | Saturated zone (cm**3/g) | 1.580E+02 | 1.580E+02 | --- | DCNUCS (60) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 7.505E-03 | ALEACH (60) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (60) |
| R016 | Distribution coefficients for daughter Pa-231 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.800E+02 | 5.000E+01 | --- | DCNUCC (64) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.800E+02 | 5.000E+01 | --- | DCNUCU (64,1) |
| R016 | Saturated zone (cm**3/g) | 3.800E+02 | 5.000E+01 | --- | DCNUCS (64) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.121E-03 | ALEACH (64) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (64) |
| R016 | Distribution coefficients for daughter Pb-210 | | | | |
| R016 | Contaminated zone (cm**3/g) | 2.392E+03 | 1.000E+02 | --- | DCNUCC (70) |
| R016 | Unsaturated zone 1 (cm**3/g) | 2.392E+03 | 1.000E+02 | --- | DCNUCU (70,1) |
| R016 | Saturated zone (cm**3/g) | 2.392E+03 | 1.000E+02 | --- | DCNUCS (70) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 4.959E-04 | ALEACH (70) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (70) |
| R016 | Distribution coefficients for daughter Po-210 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.810E+02 | 1.000E+01 | --- | DCNUCC (74) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.810E+02 | 1.000E+01 | --- | DCNUCU (74,1) |
| R016 | Saturated zone (cm**3/g) | 1.810E+02 | 1.000E+01 | --- | DCNUCS (74) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 6.552E-03 | ALEACH (74) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (74) |
| R016 | Distribution coefficients for daughter Ra-226 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCC (**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCU (**,1) |
| R016 | Saturated zone (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCS (**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.357E-04 | ALEACH (**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (**) |
| R016 | Distribution coefficients for daughter Ra-228 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCC (**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCU (**,1) |
| R016 | Saturated zone (cm**3/g) | 3.533E+03 | 7.000E+01 | --- | DCNUCS (**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.357E-04 | ALEACH (**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (**) |

Summary : RESRAD Default

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R016 | Distribution coefficients for daughter Sm-147 | | | | |
| R016 | Contaminated zone (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCC(**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCU(**,1) |
| R016 | Saturated zone (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCS(**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.438E-03 | ALEACH(**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(**) |
| R016 | Distribution coefficients for daughter Sm-148 | | | | |
| R016 | Contaminated zone (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCC(**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCU(**,1) |
| R016 | Saturated zone (cm**3/g) | 8.250E+02 | -1.000E+00 | --- | DCNUCS(**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.438E-03 | ALEACH(**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(**) |
| R016 | Distribution coefficients for daughter Te-125m | | | | |
| R016 | Contaminated zone (cm**3/g) | 0.000E+00 | 0.000E+00 | --- | DCNUCC(**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 0.000E+00 | 0.000E+00 | --- | DCNUCU(**,1) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 0.000E+00 | --- | DCNUCS(**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.235E+01 | ALEACH(**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(**) |
| R016 | Distribution coefficients for daughter Th-228 | | | | |
| R016 | Contaminated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCC(**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCU(**,1) |
| R016 | Saturated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCS(**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.016E-04 | ALEACH(**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(**) |
| R016 | Distribution coefficients for daughter Th-229 | | | | |
| R016 | Contaminated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCC(**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCU(**,1) |
| R016 | Saturated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCS(**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.016E-04 | ALEACH(**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(**) |
| R016 | Distribution coefficients for daughter Th-230 | | | | |
| R016 | Contaminated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCC(**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCU(**,1) |
| R016 | Saturated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCS(**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.016E-04 | ALEACH(**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(**) |
| R016 | Distribution coefficients for daughter Th-232 | | | | |
| R016 | Contaminated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCC(**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCU(**,1) |
| R016 | Saturated zone (cm**3/g) | 5.884E+03 | 6.000E+04 | --- | DCNUCS(**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.016E-04 | ALEACH(**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(**) |

Summary : RESRAD Default

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R016 | Distribution coefficients for daughter U-233 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCC(**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCU(**,1) |
| R016 | Saturated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCS(**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.411E-03 | ALEACH(**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(**) |
| R016 | Distribution coefficients for daughter U-234 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCC(**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCU(**,1) |
| R016 | Saturated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCS(**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.411E-03 | ALEACH(**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(**) |
| R016 | Distribution coefficients for daughter U-235 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCC(**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCU(**,1) |
| R016 | Saturated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCS(**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.411E-03 | ALEACH(**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(**) |
| R016 | Distribution coefficients for daughter U-236 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCC(**) |
| R016 | Unsaturated zone 1 (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCU(**,1) |
| R016 | Saturated zone (cm**3/g) | 1.260E+02 | 5.000E+01 | --- | DCNUCS(**) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.411E-03 | ALEACH(**) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK(**) |
| R017 | Inhalation rate (m**3/yr) | 8.400E+03 | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | 2.350E-05 | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | 5.500E-01 | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | 4.000E-01 | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | 6.490E-01 | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | 1.240E-01 | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | 1.000E+00 | 1.000E+00 | >0 shows circular AREA. | FS |
| R017 | Radii of shape factor array (used if FS = -1): | | | | |
| R017 | Outer annular radius (m), ring 1: | not used | 5.000E+01 | --- | RAD_SHAPE (1) |
| R017 | Outer annular radius (m), ring 2: | not used | 7.071E+01 | --- | RAD_SHAPE (2) |
| R017 | Outer annular radius (m), ring 3: | not used | 0.000E+00 | --- | RAD_SHAPE (3) |
| R017 | Outer annular radius (m), ring 4: | not used | 0.000E+00 | --- | RAD_SHAPE (4) |
| R017 | Outer annular radius (m), ring 5: | not used | 0.000E+00 | --- | RAD_SHAPE (5) |
| R017 | Outer annular radius (m), ring 6: | not used | 0.000E+00 | --- | RAD_SHAPE (6) |
| R017 | Outer annular radius (m), ring 7: | not used | 0.000E+00 | --- | RAD_SHAPE (7) |
| R017 | Outer annular radius (m), ring 8: | not used | 0.000E+00 | --- | RAD_SHAPE (8) |
| R017 | Outer annular radius (m), ring 9: | not used | 0.000E+00 | --- | RAD_SHAPE (9) |
| R017 | Outer annular radius (m), ring 10: | not used | 0.000E+00 | --- | RAD_SHAPE(10) |
| R017 | Outer annular radius (m), ring 11: | not used | 0.000E+00 | --- | RAD_SHAPE(11) |
| R017 | Outer annular radius (m), ring 12: | not used | 0.000E+00 | --- | RAD_SHAPE(12) |

Summary : RESRAD Default

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R017 | Fractions of annular areas within AREA: | | | | |
| R017 | Ring 1 | not used | 1.000E+00 | --- | FRACA(1) |
| R017 | Ring 2 | not used | 2.732E-01 | --- | FRACA(2) |
| R017 | Ring 3 | not used | 0.000E+00 | --- | FRACA(3) |
| R017 | Ring 4 | not used | 0.000E+00 | --- | FRACA(4) |
| R017 | Ring 5 | not used | 0.000E+00 | --- | FRACA(5) |
| R017 | Ring 6 | not used | 0.000E+00 | --- | FRACA(6) |
| R017 | Ring 7 | not used | 0.000E+00 | --- | FRACA(7) |
| R017 | Ring 8 | not used | 0.000E+00 | --- | FRACA(8) |
| R017 | Ring 9 | not used | 0.000E+00 | --- | FRACA(9) |
| R017 | Ring 10 | not used | 0.000E+00 | --- | FRACA(10) |
| R017 | Ring 11 | not used | 0.000E+00 | --- | FRACA(11) |
| R017 | Ring 12 | not used | 0.000E+00 | --- | FRACA(12) |
| R018 | Fruits, vegetables and grain consumption (kg/yr) | 1.120E+02 | 1.600E+02 | --- | DIET(1) |
| R018 | Leafy vegetable consumption (kg/yr) | 2.140E+01 | 1.400E+01 | --- | DIET(2) |
| R018 | Milk consumption (L/yr) | 2.330E+02 | 9.200E+01 | --- | DIET(3) |
| R018 | Meat and poultry consumption (kg/yr) | 6.510E+01 | 6.300E+01 | --- | DIET(4) |
| R018 | Fish consumption (kg/yr) | not used | 5.400E+00 | --- | DIET(5) |
| R018 | Other seafood consumption (kg/yr) | not used | 9.000E-01 | --- | DIET(6) |
| R018 | Soil ingestion rate (g/yr) | 1.830E+01 | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.780E+02 | 5.100E+02 | --- | DWI |
| R018 | Contamination fraction of drinking water | 1.000E+00 | 1.000E+00 | --- | FDW |
| R018 | Contamination fraction of household water | not used | 1.000E+00 | --- | FHHW |
| R018 | Contamination fraction of livestock water | 1.000E+00 | 1.000E+00 | --- | FLW |
| R018 | Contamination fraction of irrigation water | 1.000E+00 | 1.000E+00 | --- | FIRW |
| R018 | Contamination fraction of aquatic food | not used | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | -1 | -1 | 0.150E-02 | FPLANT |
| R018 | Contamination fraction of meat | -1 | -1 | 0.150E-03 | FMEAT |
| R018 | Contamination fraction of milk | -1 | -1 | 0.150E-03 | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 2.830E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 6.520E+01 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 5.060E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 6.000E+01 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 5.000E-01 | 5.000E-01 | --- | LSI |
| R019 | Mass loading for foliar deposition (g/m**3) | 4.000E-04 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 1.220E+00 | 9.000E-01 | --- | DROOT |
| R019 | Drinking water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWDW |
| R019 | Household water fraction from ground water | not used | 1.000E+00 | --- | FGWHH |
| R019 | Livestock water fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWLW |
| R019 | Irrigation fraction from ground water | 1.000E+00 | 1.000E+00 | --- | FGWIR |
| R19B | Wet weight crop yield for Non-Leafy (kg/m**2) | 1.750E+00 | 7.000E-01 | --- | YV(1) |
| R19B | Wet weight crop yield for Leafy (kg/m**2) | 2.900E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.900E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.460E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.230E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 8.200E-02 | 8.000E-02 | --- | TE(3) |

Summary : RESRAD Default

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R19B | Translocation Factor for Non-Leafy | 1.000E-01 | 1.000E-01 | --- | TIV(1) |
| R19B | Translocation Factor for Leafy | 1.000E+00 | 1.000E+00 | --- | TIV(2) |
| R19B | Translocation Factor for Fodder | 1.000E+00 | 1.000E+00 | --- | TIV(3) |
| R19B | Dry Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 3.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 3.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 5.800E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 3.500E-01 | 2.500E-01 | --- | RWET(3) |
| R19B | Weathering Removal Constant for Vegetation | 3.300E+01 | 2.000E+01 | --- | WLAM |
| C14 | C-12 concentration in water (g/cm**3) | 2.000E-05 | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | 3.000E-02 | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | 2.000E-02 | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | 9.800E-01 | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | 4.300E-01 | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | 7.000E-07 | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | 1.000E-10 | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | 2.500E-01 | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | 1.000E-01 | 2.000E-01 | --- | AVFG5 |
| STOR | Storage times of contaminated foodstuffs (days): | | | | |
| STOR | Fruits, non-leafy vegetables, and grain | 1.400E+01 | 1.400E+01 | --- | STOR_T(1) |
| STOR | Leafy vegetables | 1.000E+00 | 1.000E+00 | --- | STOR_T(2) |
| STOR | Milk | 1.000E+00 | 1.000E+00 | --- | STOR_T(3) |
| STOR | Meat and poultry | 1.000E+00 | 2.000E+01 | --- | STOR_T(4) |
| STOR | Fish | 7.000E+00 | 7.000E+00 | --- | STOR_T(5) |
| STOR | Crustacea and mollusks | 7.000E+00 | 7.000E+00 | --- | STOR_T(6) |
| STOR | Well water | 1.000E+00 | 1.000E+00 | --- | STOR_T(7) |
| STOR | Surface water | 1.000E+00 | 1.000E+00 | --- | STOR_T(8) |
| STOR | Livestock fodder | 4.500E+01 | 4.500E+01 | --- | STOR_T(9) |
| R021 | Thickness of building foundation (m) | not used | 1.500E-01 | --- | FLOOR1 |
| R021 | Bulk density of building foundation (g/cm**3) | not used | 2.400E+00 | --- | DENSFL |
| R021 | Total porosity of the cover material | not used | 4.000E-01 | --- | TPCV |
| R021 | Total porosity of the building foundation | not used | 1.000E-01 | --- | TPFL |
| R021 | Volumetric water content of the cover material | not used | 5.000E-02 | --- | PH2OCV |
| R021 | Volumetric water content of the foundation | not used | 3.000E-02 | --- | PH2OFL |
| R021 | Diffusion coefficient for radon gas (m/sec): | | | | |
| R021 | in cover material | not used | 2.000E-06 | --- | DIFCV |
| R021 | in foundation material | not used | 3.000E-07 | --- | DIFFL |
| R021 | in contaminated zone soil | not used | 2.000E-06 | --- | DIFCZ |
| R021 | Radon vertical dimension of mixing (m) | not used | 2.000E+00 | --- | HMIX |
| R021 | Average building air exchange rate (1/hr) | not used | 5.000E-01 | --- | REXG |
| R021 | Height of the building (room) (m) | not used | 2.500E+00 | --- | HRM |
| R021 | Building interior area factor | not used | 0.000E+00 | --- | FAI |
| R021 | Building depth below ground surface (m) | not used | -1.000E+00 | --- | DMFL |
| R021 | Emanating power of Rn-222 gas | not used | 2.500E-01 | --- | EMANA(1) |
| R021 | Emanating power of Rn-220 gas | not used | 1.500E-01 | --- | EMANA(2) |
| TITL | Number of graphical time points | 512 | --- | --- | NPTS |

Summary : RESRAD Default

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|---|------------|---------|--|----------------|
| TITL | Maximum number of integration points for dose | 17 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 17 | --- | --- | KYMAX |

Summary of Pathway Selections

| Pathway | User Selection |
|-----------------------------|----------------|
| 1 -- external gamma | active |
| 2 -- inhalation (w/o radon) | active |
| 3 -- plant ingestion | active |
| 4 -- meat ingestion | active |
| 5 -- milk ingestion | active |
| 6 -- aquatic foods | suppressed |
| 7 -- drinking water | active |
| 8 -- soil ingestion | active |
| 9 -- radon | suppressed |
| Find peak pathway doses | active |

Summary : RESRAD Default

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| Contaminated Zone Dimensions | | Initial Soil Concentrations, pCi/g | |
|------------------------------|--------------------|------------------------------------|-----------|
| Area: | 3.00 square meters | Ag-108m | 1.000E+00 |
| Thickness: | 0.15 meters | Am-241 | 1.000E+00 |
| Cover Depth: | 0.00 meters | Am-243 | 1.000E+00 |
| | | C-14 | 1.000E+00 |
| | | Cm-243 | 1.000E+00 |
| | | Cm-244 | 1.000E+00 |
| | | Co-60 | 1.000E+00 |
| | | Cs-134 | 1.000E+00 |
| | | Cs-137 | 1.000E+00 |
| | | Eu-152 | 1.000E+00 |
| | | Eu-154 | 1.000E+00 |
| | | Eu-155 | 1.000E+00 |
| | | Fe-55 | 1.000E+00 |
| | | H-3 | 1.000E+00 |
| | | Nb-94 | 1.000E+00 |
| | | Ni-59 | 1.000E+00 |
| | | Ni-63 | 1.000E+00 |
| | | Np-237 | 1.000E+00 |
| | | Pm-147 | 1.000E+00 |
| | | Pu-238 | 1.000E+00 |
| | | Pu-239 | 1.000E+00 |
| | | Pu-240 | 1.000E+00 |
| | | Pu-241 | 1.000E+00 |
| | | Sb-125 | 1.000E+00 |
| | | Sr-90 | 1.000E+00 |
| | | Tc-99 | 1.000E+00 |

Total Dose TDOSE(t), mrem/yr

Basic Radiation Dose Limit = 2.500E+01 mrem/yr

Total Mixture Sum M(t) = Fraction of Basic Dose Limit Received at Time (t)

| t (years) | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| TDOSE(t): | 4.536E+00 | 4.039E+00 | 3.300E+00 | 1.972E+00 | 7.677E-01 | 8.687E-07 | 5.432E-08 | 1.701E-07 |
| M(t): | 1.814E-01 | 1.616E-01 | 1.320E-01 | 7.888E-02 | 3.071E-02 | 3.475E-08 | 2.173E-09 | 6.806E-09 |

Maximum TDOSE(t): 4.536E+00 mrem/yr at t = 0.000E+00 years

Summary : RESRAD Default

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

| Radio- Nuclide | Ground | | Inhalation | | Radon | | Plant | | Meat | | Milk | | Soil | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 6.943E-01 | 0.1531 | 9.053E-07 | 0.0000 | 0.000E+00 | 0.0000 | 1.366E-06 | 0.0000 | 1.231E-07 | 0.0000 | 1.392E-06 | 0.0000 | 3.179E-07 | 0.0000 |
| Am-241 | 4.305E-03 | 0.0009 | 1.432E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.601E-04 | 0.0000 | 1.017E-06 | 0.0000 | 2.076E-07 | 0.0000 | 1.531E-04 | 0.0000 |
| Am-243 | 7.693E-02 | 0.0170 | 1.420E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.595E-04 | 0.0000 | 1.013E-06 | 0.0000 | 2.068E-07 | 0.0000 | 1.525E-04 | 0.0000 |
| C-14 | 5.962E-08 | 0.0000 | 1.317E-07 | 0.0000 | 0.000E+00 | 0.0000 | 1.983E-06 | 0.0000 | 1.187E-07 | 0.0000 | 1.145E-07 | 0.0000 | 3.920E-09 | 0.0000 |
| Cm-243 | 4.817E-02 | 0.0106 | 9.820E-04 | 0.0002 | 0.000E+00 | 0.0000 | 1.095E-04 | 0.0000 | 4.880E-07 | 0.0000 | 1.642E-07 | 0.0000 | 1.047E-04 | 0.0000 |
| Cm-244 | 1.541E-05 | 0.0000 | 7.876E-04 | 0.0002 | 0.000E+00 | 0.0000 | 8.752E-05 | 0.0000 | 3.900E-07 | 0.0000 | 1.312E-07 | 0.0000 | 8.367E-05 | 0.0000 |
| Co-60 | 1.002E+00 | 0.2210 | 6.641E-07 | 0.0000 | 0.000E+00 | 0.0000 | 9.255E-05 | 0.0000 | 1.452E-05 | 0.0000 | 2.986E-06 | 0.0000 | 1.064E-06 | 0.0000 |
| Cs-134 | 5.728E-01 | 0.1263 | 1.270E-07 | 0.0000 | 0.000E+00 | 0.0000 | 1.189E-04 | 0.0000 | 3.033E-05 | 0.0000 | 3.412E-05 | 0.0000 | 2.628E-06 | 0.0000 |
| Cs-137 | 2.406E-01 | 0.0530 | 1.020E-07 | 0.0000 | 0.000E+00 | 0.0000 | 9.433E-05 | 0.0000 | 2.407E-05 | 0.0000 | 2.708E-05 | 0.0000 | 2.085E-06 | 0.0000 |
| Eu-152 | 4.663E-01 | 0.1028 | 6.932E-07 | 0.0000 | 0.000E+00 | 0.0000 | 3.851E-07 | 0.0000 | 1.242E-07 | 0.0000 | 5.679E-09 | 0.0000 | 2.651E-07 | 0.0000 |
| Eu-154 | 4.966E-01 | 0.1095 | 8.842E-07 | 0.0000 | 0.000E+00 | 0.0000 | 5.593E-07 | 0.0000 | 1.803E-07 | 0.0000 | 8.250E-09 | 0.0000 | 3.851E-07 | 0.0000 |
| Eu-155 | 1.571E-02 | 0.0035 | 1.240E-07 | 0.0000 | 0.000E+00 | 0.0000 | 8.681E-08 | 0.0000 | 2.799E-08 | 0.0000 | 1.280E-09 | 0.0000 | 5.977E-08 | 0.0000 |
| Fe-55 | 0.000E+00 | 0.0000 | 7.694E-09 | 0.0000 | 0.000E+00 | 0.0000 | 2.500E-08 | 0.0000 | 1.030E-07 | 0.0000 | 4.517E-09 | 0.0000 | 2.264E-08 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 2.592E-07 | 0.0000 | 0.000E+00 | 0.0000 | 6.128E-07 | 0.0000 | 9.769E-09 | 0.0000 | 7.674E-08 | 0.0000 | 9.927E-11 | 0.0000 |
| Nb-94 | 6.710E-01 | 0.1479 | 1.323E-06 | 0.0000 | 0.000E+00 | 0.0000 | 3.626E-06 | 0.0000 | 7.067E-11 | 0.0000 | 5.247E-10 | 0.0000 | 2.975E-07 | 0.0000 |
| Ni-59 | 0.000E+00 | 0.0000 | 8.659E-09 | 0.0000 | 0.000E+00 | 0.0000 | 4.689E-07 | 0.0000 | 8.299E-09 | 0.0000 | 2.870E-07 | 0.0000 | 8.783E-09 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 2.010E-08 | 0.0000 | 0.000E+00 | 0.0000 | 1.284E-06 | 0.0000 | 2.272E-08 | 0.0000 | 7.859E-07 | 0.0000 | 2.405E-08 | 0.0000 |
| Np-237 | 7.571E-02 | 0.0167 | 1.501E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.885E-03 | 0.0004 | 2.122E-05 | 0.0000 | 8.843E-07 | 0.0000 | 1.611E-04 | 0.0000 |
| Pm-147 | 4.207E-06 | 0.0000 | 1.109E-07 | 0.0000 | 0.000E+00 | 0.0000 | 9.447E-08 | 0.0000 | 1.835E-08 | 0.0000 | 1.874E-09 | 0.0000 | 3.874E-08 | 0.0000 |
| Pu-238 | 1.779E-05 | 0.0000 | 1.261E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.405E-04 | 0.0000 | 1.721E-06 | 0.0000 | 7.798E-08 | 0.0000 | 1.343E-04 | 0.0000 |
| Pu-239 | 2.551E-05 | 0.0000 | 1.386E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.560E-04 | 0.0000 | 1.912E-06 | 0.0000 | 8.660E-08 | 0.0000 | 1.491E-04 | 0.0000 |
| Pu-240 | 1.654E-05 | 0.0000 | 1.386E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.560E-04 | 0.0000 | 1.911E-06 | 0.0000 | 8.660E-08 | 0.0000 | 1.491E-04 | 0.0000 |
| Pu-241 | 4.997E-06 | 0.0000 | 2.715E-05 | 0.0000 | 0.000E+00 | 0.0000 | 3.070E-06 | 0.0000 | 3.686E-08 | 0.0000 | 1.797E-09 | 0.0000 | 2.934E-06 | 0.0000 |
| Sb-125 | 1.533E-01 | 0.0338 | 3.434E-08 | 0.0000 | 0.000E+00 | 0.0000 | 1.344E-06 | 0.0000 | 2.989E-08 | 0.0000 | 8.209E-09 | 0.0000 | 1.051E-07 | 0.0000 |
| Sr-90 | 1.400E-03 | 0.0003 | 3.287E-06 | 0.0000 | 0.000E+00 | 0.0000 | 1.736E-03 | 0.0004 | 2.458E-05 | 0.0000 | 6.113E-05 | 0.0000 | 5.007E-06 | 0.0000 |
| Tc-99 | 9.263E-07 | 0.0000 | 2.209E-09 | 0.0000 | 0.000E+00 | 0.0000 | 2.889E-05 | 0.0000 | 9.489E-09 | 0.0000 | 7.781E-07 | 0.0000 | 5.055E-09 | 0.0000 |
| Total | 4.520E+00 | 0.9964 | 1.019E-02 | 0.0022 | 0.000E+00 | 0.0000 | 4.940E-03 | 0.0011 | 1.240E-04 | 0.0000 | 1.306E-04 | 0.0000 | 1.103E-03 | 0.0002 |

Summary : RESRAD Default

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 0.000E+00 years

Water Dependent Pathways

| Radio- Nuclide | Water | | Fish | | Radon | | Plant | | Meat | | Milk | | All Pathways* | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.943E-01 | 0.1531 |
| Am-241 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.051E-03 | 0.0013 |
| Am-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.866E-02 | 0.0173 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.411E-06 | 0.0000 |
| Cm-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.937E-02 | 0.0109 |
| Cm-244 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 9.747E-04 | 0.0002 |
| Co-60 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.002E+00 | 0.2210 |
| Cs-134 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.730E-01 | 0.1263 |
| Cs-137 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.408E-01 | 0.0531 |
| Eu-152 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.663E-01 | 0.1028 |
| Eu-154 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.966E-01 | 0.1095 |
| Eu-155 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.571E-02 | 0.0035 |
| Fe-55 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.628E-07 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 9.586E-07 | 0.0000 |
| Nb-94 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.710E-01 | 0.1479 |
| Ni-59 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.816E-07 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.137E-06 | 0.0000 |
| Np-237 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.928E-02 | 0.0175 |
| Pm-147 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.471E-06 | 0.0000 |
| Pu-238 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.556E-03 | 0.0003 |
| Pu-239 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.719E-03 | 0.0004 |
| Pu-240 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.710E-03 | 0.0004 |
| Pu-241 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.819E-05 | 0.0000 |
| Sb-125 | 1.090E-05 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.147E-09 | 0.0000 | 9.323E-11 | 0.0000 | 3.282E-11 | 0.0000 | 1.533E-01 | 0.0338 |
| Sr-90 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.230E-03 | 0.0007 |
| Tc-99 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.061E-05 | 0.0000 |
| Total | 1.090E-05 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.147E-09 | 0.0000 | 9.323E-11 | 0.0000 | 3.282E-11 | 0.0000 | 4.536E+00 | 1.0000 |

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

| Radio- Nuclide | Ground | | Inhalation | | Radon | | Plant | | Meat | | Milk | | Soil | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 6.734E-01 | 0.1667 | 8.748E-07 | 0.0000 | 0.000E+00 | 0.0000 | 1.320E-06 | 0.0000 | 1.190E-07 | 0.0000 | 1.345E-06 | 0.0000 | 3.072E-07 | 0.0000 |
| Am-241 | 4.266E-03 | 0.0011 | 1.405E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.572E-04 | 0.0000 | 9.980E-07 | 0.0000 | 2.038E-07 | 0.0000 | 1.503E-04 | 0.0000 |
| Am-243 | 7.602E-02 | 0.0188 | 1.396E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.569E-04 | 0.0000 | 9.958E-07 | 0.0000 | 2.033E-07 | 0.0000 | 1.499E-04 | 0.0000 |
| C-14 | 5.825E-18 | 0.0000 | 1.274E-17 | 0.0000 | 0.000E+00 | 0.0000 | 4.406E-16 | 0.0000 | 1.144E-16 | 0.0000 | 1.186E-16 | 0.0000 | 3.791E-19 | 0.0000 |
| Cm-243 | 4.674E-02 | 0.0116 | 9.487E-04 | 0.0002 | 0.000E+00 | 0.0000 | 1.058E-04 | 0.0000 | 4.715E-07 | 0.0000 | 1.586E-07 | 0.0000 | 1.012E-04 | 0.0000 |
| Cm-244 | 1.482E-05 | 0.0000 | 7.501E-04 | 0.0002 | 0.000E+00 | 0.0000 | 8.336E-05 | 0.0000 | 3.715E-07 | 0.0000 | 1.249E-07 | 0.0000 | 7.968E-05 | 0.0000 |
| Co-60 | 8.718E-01 | 0.2158 | 5.759E-07 | 0.0000 | 0.000E+00 | 0.0000 | 8.025E-05 | 0.0000 | 1.259E-05 | 0.0000 | 2.590E-06 | 0.0000 | 9.225E-07 | 0.0000 |
| Cs-134 | 4.061E-01 | 0.1005 | 8.969E-08 | 0.0000 | 0.000E+00 | 0.0000 | 8.396E-05 | 0.0000 | 2.143E-05 | 0.0000 | 2.410E-05 | 0.0000 | 1.856E-06 | 0.0000 |
| Cs-137 | 2.332E-01 | 0.0577 | 9.850E-08 | 0.0000 | 0.000E+00 | 0.0000 | 9.109E-05 | 0.0000 | 2.325E-05 | 0.0000 | 2.615E-05 | 0.0000 | 2.014E-06 | 0.0000 |
| Eu-152 | 4.346E-01 | 0.1076 | 6.439E-07 | 0.0000 | 0.000E+00 | 0.0000 | 3.577E-07 | 0.0000 | 1.153E-07 | 0.0000 | 5.276E-09 | 0.0000 | 2.462E-07 | 0.0000 |
| Eu-154 | 4.494E-01 | 0.1113 | 7.975E-07 | 0.0000 | 0.000E+00 | 0.0000 | 5.045E-07 | 0.0000 | 1.626E-07 | 0.0000 | 7.441E-09 | 0.0000 | 3.473E-07 | 0.0000 |
| Eu-155 | 1.336E-02 | 0.0033 | 1.048E-07 | 0.0000 | 0.000E+00 | 0.0000 | 7.338E-08 | 0.0000 | 2.366E-08 | 0.0000 | 1.082E-09 | 0.0000 | 5.051E-08 | 0.0000 |
| Fe-55 | 0.000E+00 | 0.0000 | 5.910E-09 | 0.0000 | 0.000E+00 | 0.0000 | 1.920E-08 | 0.0000 | 7.909E-08 | 0.0000 | 3.470E-09 | 0.0000 | 1.739E-08 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 1.140E-19 | 0.0000 | 0.000E+00 | 0.0000 | 7.265E-19 | 0.0000 | 1.067E-19 | 0.0000 | 8.427E-19 | 0.0000 | 4.368E-23 | 0.0000 |
| Nb-94 | 6.491E-01 | 0.1607 | 1.275E-06 | 0.0000 | 0.000E+00 | 0.0000 | 3.496E-06 | 0.0000 | 6.813E-11 | 0.0000 | 5.059E-10 | 0.0000 | 2.868E-07 | 0.0000 |
| Ni-59 | 0.000E+00 | 0.0000 | 8.409E-09 | 0.0000 | 0.000E+00 | 0.0000 | 4.554E-07 | 0.0000 | 8.061E-09 | 0.0000 | 2.789E-07 | 0.0000 | 8.530E-09 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 1.939E-08 | 0.0000 | 0.000E+00 | 0.0000 | 1.238E-06 | 0.0000 | 2.192E-08 | 0.0000 | 7.583E-07 | 0.0000 | 2.320E-08 | 0.0000 |
| Np-237 | 5.504E-02 | 0.0136 | 1.087E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.367E-03 | 0.0003 | 1.538E-05 | 0.0000 | 6.412E-07 | 0.0000 | 1.166E-04 | 0.0000 |
| Pm-147 | 3.182E-06 | 0.0000 | 8.324E-08 | 0.0000 | 0.000E+00 | 0.0000 | 7.092E-08 | 0.0000 | 1.378E-08 | 0.0000 | 1.407E-09 | 0.0000 | 2.908E-08 | 0.0000 |
| Pu-238 | 1.756E-05 | 0.0000 | 1.233E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.374E-04 | 0.0000 | 1.683E-06 | 0.0000 | 7.625E-08 | 0.0000 | 1.313E-04 | 0.0000 |
| Pu-239 | 2.528E-05 | 0.0000 | 1.366E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.538E-04 | 0.0000 | 1.884E-06 | 0.0000 | 8.535E-08 | 0.0000 | 1.470E-04 | 0.0000 |
| Pu-240 | 1.645E-05 | 0.0000 | 1.366E-03 | 0.0003 | 0.000E+00 | 0.0000 | 1.538E-04 | 0.0000 | 1.884E-06 | 0.0000 | 8.534E-08 | 0.0000 | 1.470E-04 | 0.0000 |
| Pu-241 | 1.142E-05 | 0.0000 | 2.770E-05 | 0.0000 | 0.000E+00 | 0.0000 | 3.129E-06 | 0.0000 | 3.619E-08 | 0.0000 | 2.007E-09 | 0.0000 | 2.991E-06 | 0.0000 |
| Sb-125 | 1.105E-01 | 0.0274 | 2.468E-08 | 0.0000 | 0.000E+00 | 0.0000 | 9.734E-07 | 0.0000 | 2.168E-08 | 0.0000 | 5.994E-09 | 0.0000 | 7.558E-08 | 0.0000 |
| Sr-90 | 8.180E-04 | 0.0002 | 1.912E-06 | 0.0000 | 0.000E+00 | 0.0000 | 1.013E-03 | 0.0003 | 1.443E-05 | 0.0000 | 3.594E-05 | 0.0000 | 2.912E-06 | 0.0000 |
| Tc-99 | 4.323E-12 | 0.0000 | 1.025E-14 | 0.0000 | 0.000E+00 | 0.0000 | 1.875E-10 | 0.0000 | 1.290E-13 | 0.0000 | 1.062E-11 | 0.0000 | 2.347E-14 | 0.0000 |
| Total | 4.025E+00 | 0.9964 | 9.586E-03 | 0.0024 | 0.000E+00 | 0.0000 | 3.595E-03 | 0.0009 | 9.596E-05 | 0.0000 | 9.277E-05 | 0.0000 | 1.035E-03 | 0.0003 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+00 years

Water Dependent Pathways

| Radio- Nuclide | Water | | Fish | | Radon | | Plant | | Meat | | Milk | | All Pathways* | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.734E-01 | 0.1667 |
| Am-241 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.980E-03 | 0.0015 |
| Am-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.773E-02 | 0.0192 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.926E-16 | 0.0000 |
| Cm-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.789E-02 | 0.0119 |
| Cm-244 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 9.285E-04 | 0.0002 |
| Co-60 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 8.719E-01 | 0.2159 |
| Cs-134 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.062E-01 | 0.1006 |
| Cs-137 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.334E-01 | 0.0578 |
| Eu-152 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.346E-01 | 0.1076 |
| Eu-154 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.494E-01 | 0.1113 |
| Eu-155 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.336E-02 | 0.0033 |
| Fe-55 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.251E-07 | 0.0000 |
| H-3 | 5.985E-06 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.360E-09 | 0.0000 | 6.189E-11 | 0.0000 | 2.950E-10 | 0.0000 | 5.987E-06 | 0.0000 |
| Nb-94 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.492E-01 | 0.1607 |
| Ni-59 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.593E-07 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.061E-06 | 0.0000 |
| Np-237 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.762E-02 | 0.0143 |
| Pm-147 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.380E-06 | 0.0000 |
| Pu-238 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.521E-03 | 0.0004 |
| Pu-239 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.694E-03 | 0.0004 |
| Pu-240 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.685E-03 | 0.0004 |
| Pu-241 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.528E-05 | 0.0000 |
| Sb-125 | 2.744E-05 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.024E-09 | 0.0000 | 2.615E-10 | 0.0000 | 9.791E-11 | 0.0000 | 1.106E-01 | 0.0274 |
| Sr-90 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.886E-03 | 0.0005 |
| Tc-99 | 2.368E-04 | 0.0001 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.809E-08 | 0.0000 | 6.529E-11 | 0.0000 | 3.801E-09 | 0.0000 | 2.368E-04 | 0.0001 |
| Total | 2.702E-04 | 0.0001 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.247E-08 | 0.0000 | 3.887E-10 | 0.0000 | 4.194E-09 | 0.0000 | 4.039E+00 | 1.0000 |

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

| Radio- Nuclide | Ground | | Inhalation | | Radon | | Plant | | Meat | | Milk | | Soil | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 6.334E-01 | 0.1920 | 8.165E-07 | 0.0000 | 0.000E+00 | 0.0000 | 1.232E-06 | 0.0000 | 1.110E-07 | 0.0000 | 1.256E-06 | 0.0000 | 2.867E-07 | 0.0000 |
| Am-241 | 4.188E-03 | 0.0013 | 1.354E-03 | 0.0004 | 0.000E+00 | 0.0000 | 1.515E-04 | 0.0000 | 9.617E-07 | 0.0000 | 1.964E-07 | 0.0000 | 1.448E-04 | 0.0000 |
| Am-243 | 7.424E-02 | 0.0225 | 1.349E-03 | 0.0004 | 0.000E+00 | 0.0000 | 1.516E-04 | 0.0000 | 9.625E-07 | 0.0000 | 1.965E-07 | 0.0000 | 1.449E-04 | 0.0000 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-243 | 4.400E-02 | 0.0133 | 8.852E-04 | 0.0003 | 0.000E+00 | 0.0000 | 9.874E-05 | 0.0000 | 4.400E-07 | 0.0000 | 1.480E-07 | 0.0000 | 9.439E-05 | 0.0000 |
| Cm-244 | 1.372E-05 | 0.0000 | 6.801E-04 | 0.0002 | 0.000E+00 | 0.0000 | 7.558E-05 | 0.0000 | 3.371E-07 | 0.0000 | 1.133E-07 | 0.0000 | 7.225E-05 | 0.0000 |
| Co-60 | 6.595E-01 | 0.1998 | 4.328E-07 | 0.0000 | 0.000E+00 | 0.0000 | 6.032E-05 | 0.0000 | 9.464E-06 | 0.0000 | 1.946E-06 | 0.0000 | 6.934E-07 | 0.0000 |
| Cs-134 | 2.040E-01 | 0.0618 | 4.473E-08 | 0.0000 | 0.000E+00 | 0.0000 | 4.187E-05 | 0.0000 | 1.068E-05 | 0.0000 | 1.202E-05 | 0.0000 | 9.255E-07 | 0.0000 |
| Cs-137 | 2.191E-01 | 0.0664 | 9.181E-08 | 0.0000 | 0.000E+00 | 0.0000 | 8.490E-05 | 0.0000 | 2.167E-05 | 0.0000 | 2.437E-05 | 0.0000 | 1.877E-06 | 0.0000 |
| Eu-152 | 3.775E-01 | 0.1144 | 5.554E-07 | 0.0000 | 0.000E+00 | 0.0000 | 3.085E-07 | 0.0000 | 9.947E-08 | 0.0000 | 4.550E-09 | 0.0000 | 2.124E-07 | 0.0000 |
| Eu-154 | 3.680E-01 | 0.1115 | 6.485E-07 | 0.0000 | 0.000E+00 | 0.0000 | 4.102E-07 | 0.0000 | 1.323E-07 | 0.0000 | 6.051E-09 | 0.0000 | 2.824E-07 | 0.0000 |
| Eu-155 | 9.661E-03 | 0.0029 | 7.485E-08 | 0.0000 | 0.000E+00 | 0.0000 | 5.240E-08 | 0.0000 | 1.690E-08 | 0.0000 | 7.729E-10 | 0.0000 | 3.608E-08 | 0.0000 |
| Fe-55 | 0.000E+00 | 0.0000 | 3.486E-09 | 0.0000 | 0.000E+00 | 0.0000 | 1.133E-08 | 0.0000 | 4.665E-08 | 0.0000 | 2.047E-09 | 0.0000 | 1.026E-08 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Nb-94 | 6.075E-01 | 0.1841 | 1.184E-06 | 0.0000 | 0.000E+00 | 0.0000 | 3.248E-06 | 0.0000 | 6.329E-11 | 0.0000 | 4.699E-10 | 0.0000 | 2.664E-07 | 0.0000 |
| Ni-59 | 0.000E+00 | 0.0000 | 7.929E-09 | 0.0000 | 0.000E+00 | 0.0000 | 4.294E-07 | 0.0000 | 7.601E-09 | 0.0000 | 2.629E-07 | 0.0000 | 8.043E-09 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 1.803E-08 | 0.0000 | 0.000E+00 | 0.0000 | 1.152E-06 | 0.0000 | 2.039E-08 | 0.0000 | 7.052E-07 | 0.0000 | 2.157E-08 | 0.0000 |
| Np-237 | 2.907E-02 | 0.0088 | 5.690E-04 | 0.0002 | 0.000E+00 | 0.0000 | 7.157E-04 | 0.0002 | 8.051E-06 | 0.0000 | 3.357E-07 | 0.0000 | 6.106E-05 | 0.0000 |
| Pm-147 | 1.820E-06 | 0.0000 | 4.689E-08 | 0.0000 | 0.000E+00 | 0.0000 | 3.995E-08 | 0.0000 | 7.761E-09 | 0.0000 | 7.923E-10 | 0.0000 | 1.638E-08 | 0.0000 |
| Pu-238 | 1.712E-05 | 0.0000 | 1.179E-03 | 0.0004 | 0.000E+00 | 0.0000 | 1.313E-04 | 0.0000 | 1.609E-06 | 0.0000 | 7.290E-08 | 0.0000 | 1.255E-04 | 0.0000 |
| Pu-239 | 2.482E-05 | 0.0000 | 1.326E-03 | 0.0004 | 0.000E+00 | 0.0000 | 1.493E-04 | 0.0000 | 1.829E-06 | 0.0000 | 8.287E-08 | 0.0000 | 1.427E-04 | 0.0000 |
| Pu-240 | 1.626E-05 | 0.0000 | 1.326E-03 | 0.0004 | 0.000E+00 | 0.0000 | 1.493E-04 | 0.0000 | 1.829E-06 | 0.0000 | 8.285E-08 | 0.0000 | 1.427E-04 | 0.0000 |
| Pu-241 | 2.310E-05 | 0.0000 | 2.858E-05 | 0.0000 | 0.000E+00 | 0.0000 | 3.224E-06 | 0.0000 | 3.485E-08 | 0.0000 | 2.372E-09 | 0.0000 | 3.082E-06 | 0.0000 |
| Sb-125 | 5.744E-02 | 0.0174 | 1.273E-08 | 0.0000 | 0.000E+00 | 0.0000 | 5.020E-07 | 0.0000 | 1.118E-08 | 0.0000 | 3.091E-09 | 0.0000 | 3.898E-08 | 0.0000 |
| Sr-90 | 2.793E-04 | 0.0001 | 6.469E-07 | 0.0000 | 0.000E+00 | 0.0000 | 3.427E-04 | 0.0001 | 4.882E-06 | 0.0000 | 1.216E-05 | 0.0000 | 9.852E-07 | 0.0000 |
| Tc-99 | 9.417E-23 | 0.0000 | 2.210E-25 | 0.0000 | 0.000E+00 | 0.0000 | 4.041E-21 | 0.0000 | 2.781E-24 | 0.0000 | 2.289E-22 | 0.0000 | 5.057E-25 | 0.0000 |
| Total | 3.288E+00 | 0.9964 | 8.702E-03 | 0.0026 | 0.000E+00 | 0.0000 | 2.163E-03 | 0.0007 | 6.321E-05 | 0.0000 | 5.397E-05 | 0.0000 | 9.371E-04 | 0.0003 |

Summary : RESRAD Default

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
 As mrem/yr and Fraction of Total Dose At t = 3.000E+00 years

Water Dependent Pathways

| Radio- Nuclide | Water | | Fish | | Radon | | Plant | | Meat | | Milk | | All Pathways* | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.334E-01 | 0.1920 |
| Am-241 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.839E-03 | 0.0018 |
| Am-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.588E-02 | 0.0230 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.507E-02 | 0.0137 |
| Cm-244 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 8.422E-04 | 0.0003 |
| Co-60 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.595E-01 | 0.1999 |
| Cs-134 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.041E-01 | 0.0619 |
| Cs-137 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.192E-01 | 0.0664 |
| Eu-152 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.775E-01 | 0.1144 |
| Eu-154 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.680E-01 | 0.1115 |
| Eu-155 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 9.661E-03 | 0.0029 |
| Fe-55 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.377E-08 | 0.0000 |
| H-3 | 5.348E-27 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.125E-30 | 0.0000 | 0.000E+00 | 0.0000 | 2.964E-30 | 0.0000 | 5.354E-27 | 0.0000 |
| Nb-94 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.075E-01 | 0.1841 |
| Ni-59 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.159E-07 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.917E-06 | 0.0000 |
| Np-237 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.043E-02 | 0.0092 |
| Pm-147 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.932E-06 | 0.0000 |
| Pu-238 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.455E-03 | 0.0004 |
| Pu-239 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.645E-03 | 0.0005 |
| Pu-240 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.636E-03 | 0.0005 |
| Pu-241 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.802E-05 | 0.0000 |
| Sb-125 | 1.660E-05 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.830E-09 | 0.0000 | 1.582E-10 | 0.0000 | 5.925E-11 | 0.0000 | 5.746E-02 | 0.0174 |
| Sr-90 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.407E-04 | 0.0002 |
| Tc-99 | 9.870E-12 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.699E-15 | 0.0000 | 7.020E-18 | 0.0000 | 5.111E-16 | 0.0000 | 9.874E-12 | 0.0000 |
| Total | 1.660E-05 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.830E-09 | 0.0000 | 1.582E-10 | 0.0000 | 5.925E-11 | 0.0000 | 3.300E+00 | 1.0000 |

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

| Radio- Nuclide | Ground | | Inhalation | | Radon | | Plant | | Meat | | Milk | | Soil | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 5.098E-01 | 0.2585 | 6.393E-07 | 0.0000 | 0.000E+00 | 0.0000 | 9.647E-07 | 0.0000 | 8.695E-08 | 0.0000 | 9.832E-07 | 0.0000 | 2.245E-07 | 0.0000 |
| Am-241 | 3.926E-03 | 0.0020 | 1.185E-03 | 0.0006 | 0.000E+00 | 0.0000 | 1.326E-04 | 0.0001 | 8.416E-07 | 0.0000 | 1.719E-07 | 0.0000 | 1.267E-04 | 0.0001 |
| Am-243 | 6.820E-02 | 0.0346 | 1.194E-03 | 0.0006 | 0.000E+00 | 0.0000 | 1.341E-04 | 0.0001 | 8.515E-07 | 0.0000 | 1.738E-07 | 0.0000 | 1.282E-04 | 0.0001 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-243 | 3.553E-02 | 0.0180 | 6.922E-04 | 0.0004 | 0.000E+00 | 0.0000 | 7.722E-05 | 0.0000 | 3.443E-07 | 0.0000 | 1.157E-07 | 0.0000 | 7.381E-05 | 0.0000 |
| Cm-244 | 1.046E-05 | 0.0000 | 4.813E-04 | 0.0002 | 0.000E+00 | 0.0000 | 5.348E-05 | 0.0000 | 2.392E-07 | 0.0000 | 8.005E-08 | 0.0000 | 5.113E-05 | 0.0000 |
| Co-60 | 2.475E-01 | 0.1255 | 1.588E-07 | 0.0000 | 0.000E+00 | 0.0000 | 2.213E-05 | 0.0000 | 3.472E-06 | 0.0000 | 7.140E-07 | 0.0000 | 2.543E-07 | 0.0000 |
| Cs-134 | 1.830E-02 | 0.0093 | 3.904E-09 | 0.0000 | 0.000E+00 | 0.0000 | 3.654E-06 | 0.0000 | 9.326E-07 | 0.0000 | 1.049E-06 | 0.0000 | 8.077E-08 | 0.0000 |
| Cs-137 | 1.754E-01 | 0.0890 | 7.153E-08 | 0.0000 | 0.000E+00 | 0.0000 | 6.615E-05 | 0.0000 | 1.688E-05 | 0.0000 | 1.899E-05 | 0.0000 | 1.462E-06 | 0.0000 |
| Eu-152 | 2.298E-01 | 0.1165 | 3.298E-07 | 0.0000 | 0.000E+00 | 0.0000 | 1.832E-07 | 0.0000 | 5.907E-08 | 0.0000 | 2.702E-09 | 0.0000 | 1.261E-07 | 0.0000 |
| Eu-154 | 1.824E-01 | 0.0925 | 3.134E-07 | 0.0000 | 0.000E+00 | 0.0000 | 1.982E-07 | 0.0000 | 6.391E-08 | 0.0000 | 2.924E-09 | 0.0000 | 1.365E-07 | 0.0000 |
| Eu-155 | 3.104E-03 | 0.0016 | 2.296E-08 | 0.0000 | 0.000E+00 | 0.0000 | 1.608E-08 | 0.0000 | 5.182E-09 | 0.0000 | 2.371E-10 | 0.0000 | 1.107E-08 | 0.0000 |
| Fe-55 | 0.000E+00 | 0.0000 | 5.477E-10 | 0.0000 | 0.000E+00 | 0.0000 | 1.780E-09 | 0.0000 | 7.329E-09 | 0.0000 | 3.215E-10 | 0.0000 | 1.612E-09 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Nb-94 | 4.803E-01 | 0.2436 | 9.118E-07 | 0.0000 | 0.000E+00 | 0.0000 | 2.501E-06 | 0.0000 | 4.872E-11 | 0.0000 | 3.618E-10 | 0.0000 | 2.051E-07 | 0.0000 |
| Ni-59 | 0.000E+00 | 0.0000 | 6.433E-09 | 0.0000 | 0.000E+00 | 0.0000 | 3.484E-07 | 0.0000 | 6.167E-09 | 0.0000 | 2.133E-07 | 0.0000 | 6.525E-09 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 1.394E-08 | 0.0000 | 0.000E+00 | 0.0000 | 8.902E-07 | 0.0000 | 1.576E-08 | 0.0000 | 5.451E-07 | 0.0000 | 1.667E-08 | 0.0000 |
| Np-237 | 3.109E-03 | 0.0016 | 5.891E-05 | 0.0000 | 0.000E+00 | 0.0000 | 7.409E-05 | 0.0000 | 8.335E-07 | 0.0000 | 3.478E-08 | 0.0000 | 6.322E-06 | 0.0000 |
| Pm-147 | 2.575E-07 | 0.0000 | 6.268E-09 | 0.0000 | 0.000E+00 | 0.0000 | 5.340E-09 | 0.0000 | 1.037E-09 | 0.0000 | 1.059E-10 | 0.0000 | 2.190E-09 | 0.0000 |
| Pu-238 | 1.567E-05 | 0.0000 | 1.003E-03 | 0.0005 | 0.000E+00 | 0.0000 | 1.117E-04 | 0.0001 | 1.369E-06 | 0.0000 | 6.205E-08 | 0.0000 | 1.068E-04 | 0.0001 |
| Pu-239 | 2.324E-05 | 0.0000 | 1.192E-03 | 0.0006 | 0.000E+00 | 0.0000 | 1.342E-04 | 0.0001 | 1.645E-06 | 0.0000 | 7.450E-08 | 0.0000 | 1.283E-04 | 0.0001 |
| Pu-240 | 1.563E-05 | 0.0000 | 1.191E-03 | 0.0006 | 0.000E+00 | 0.0000 | 1.341E-04 | 0.0001 | 1.643E-06 | 0.0000 | 7.444E-08 | 0.0000 | 1.282E-04 | 0.0001 |
| Pu-241 | 5.372E-05 | 0.0000 | 2.976E-05 | 0.0000 | 0.000E+00 | 0.0000 | 3.347E-06 | 0.0000 | 3.047E-08 | 0.0000 | 3.179E-09 | 0.0000 | 3.198E-06 | 0.0000 |
| Sb-125 | 5.795E-03 | 0.0029 | 1.249E-09 | 0.0000 | 0.000E+00 | 0.0000 | 4.925E-08 | 0.0000 | 1.097E-09 | 0.0000 | 3.033E-10 | 0.0000 | 3.824E-09 | 0.0000 |
| Sr-90 | 6.482E-06 | 0.0000 | 1.451E-08 | 0.0000 | 0.000E+00 | 0.0000 | 7.690E-06 | 0.0000 | 1.096E-07 | 0.0000 | 2.728E-07 | 0.0000 | 2.210E-08 | 0.0000 |
| Tc-99 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Total | 1.963E+00 | 0.9955 | 7.030E-03 | 0.0036 | 0.000E+00 | 0.0000 | 9.597E-04 | 0.0005 | 2.944E-05 | 0.0000 | 2.357E-05 | 0.0000 | 7.552E-04 | 0.0004 |

Summary : RESRAD Default

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
 As mrem/yr and Fraction of Total Dose At t = 1.000E+01 years

Water Dependent Pathways

| Radio- Nuclide | Water | | Fish | | Radon | | Plant | | Meat | | Milk | | All Pathways* | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.098E-01 | 0.2585 |
| Am-241 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.372E-03 | 0.0027 |
| Am-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.965E-02 | 0.0353 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.637E-02 | 0.0184 |
| Cm-244 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.966E-04 | 0.0003 |
| Co-60 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.476E-01 | 0.1255 |
| Cs-134 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.830E-02 | 0.0093 |
| Cs-137 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.755E-01 | 0.0890 |
| Eu-152 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.298E-01 | 0.1165 |
| Eu-154 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.824E-01 | 0.0925 |
| Eu-155 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.104E-03 | 0.0016 |
| Fe-55 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.159E-08 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Nb-94 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.803E-01 | 0.2436 |
| Ni-59 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.808E-07 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.482E-06 | 0.0000 |
| Np-237 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.249E-03 | 0.0016 |
| Pm-147 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.725E-07 | 0.0000 |
| Pu-238 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.239E-03 | 0.0006 |
| Pu-239 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.480E-03 | 0.0008 |
| Pu-240 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.471E-03 | 0.0007 |
| Pu-241 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 9.006E-05 | 0.0000 |
| Sb-125 | 2.909E-06 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.206E-10 | 0.0000 | 2.772E-11 | 0.0000 | 1.038E-11 | 0.0000 | 5.798E-03 | 0.0029 |
| Sr-90 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.459E-05 | 0.0000 |
| Tc-99 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Total | 2.909E-06 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.206E-10 | 0.0000 | 2.772E-11 | 0.0000 | 1.038E-11 | 0.0000 | 1.972E+00 | 1.0000 |

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

| Radio- Nuclide | Ground | | Inhalation | | Radon | | Plant | | Meat | | Milk | | Soil | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 2.663E-01 | 0.3469 | 3.060E-07 | 0.0000 | 0.000E+00 | 0.0000 | 4.618E-07 | 0.0000 | 4.162E-08 | 0.0000 | 4.707E-07 | 0.0000 | 1.075E-07 | 0.0000 |
| Am-241 | 3.260E-03 | 0.0042 | 7.795E-04 | 0.0010 | 0.000E+00 | 0.0000 | 8.721E-05 | 0.0001 | 5.535E-07 | 0.0000 | 1.130E-07 | 0.0000 | 8.334E-05 | 0.0001 |
| Am-243 | 5.252E-02 | 0.0684 | 8.095E-04 | 0.0011 | 0.000E+00 | 0.0000 | 9.098E-05 | 0.0001 | 5.779E-07 | 0.0000 | 1.179E-07 | 0.0000 | 8.694E-05 | 0.0001 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-243 | 1.885E-02 | 0.0245 | 3.303E-04 | 0.0004 | 0.000E+00 | 0.0000 | 3.685E-05 | 0.0000 | 1.646E-07 | 0.0000 | 5.517E-08 | 0.0000 | 3.522E-05 | 0.0000 |
| Cm-244 | 4.825E-06 | 0.0000 | 1.730E-04 | 0.0002 | 0.000E+00 | 0.0000 | 1.923E-05 | 0.0000 | 8.713E-08 | 0.0000 | 2.864E-08 | 0.0000 | 1.838E-05 | 0.0000 |
| Co-60 | 1.459E-02 | 0.0190 | 8.708E-09 | 0.0000 | 0.000E+00 | 0.0000 | 1.214E-06 | 0.0000 | 1.905E-07 | 0.0000 | 3.917E-08 | 0.0000 | 1.395E-08 | 0.0000 |
| Cs-134 | 1.808E-05 | 0.0000 | 3.541E-12 | 0.0000 | 0.000E+00 | 0.0000 | 3.315E-09 | 0.0000 | 8.460E-10 | 0.0000 | 9.518E-10 | 0.0000 | 7.326E-11 | 0.0000 |
| Cs-137 | 9.036E-02 | 0.1177 | 3.375E-08 | 0.0000 | 0.000E+00 | 0.0000 | 3.122E-05 | 0.0000 | 7.967E-06 | 0.0000 | 8.964E-06 | 0.0000 | 6.900E-07 | 0.0000 |
| Eu-152 | 5.399E-02 | 0.0703 | 7.167E-08 | 0.0000 | 0.000E+00 | 0.0000 | 3.982E-08 | 0.0000 | 1.284E-08 | 0.0000 | 5.872E-10 | 0.0000 | 2.741E-08 | 0.0000 |
| Eu-154 | 2.379E-02 | 0.0310 | 3.777E-08 | 0.0000 | 0.000E+00 | 0.0000 | 2.390E-08 | 0.0000 | 7.704E-09 | 0.0000 | 3.524E-10 | 0.0000 | 1.645E-08 | 0.0000 |
| Eu-155 | 1.196E-04 | 0.0002 | 7.554E-10 | 0.0000 | 0.000E+00 | 0.0000 | 5.290E-10 | 0.0000 | 1.705E-10 | 0.0000 | 7.801E-12 | 0.0000 | 3.641E-10 | 0.0000 |
| Fe-55 | 0.000E+00 | 0.0000 | 2.663E-12 | 0.0000 | 0.000E+00 | 0.0000 | 8.654E-12 | 0.0000 | 3.564E-11 | 0.0000 | 1.564E-12 | 0.0000 | 7.837E-12 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Nb-94 | 2.383E-01 | 0.3104 | 4.159E-07 | 0.0000 | 0.000E+00 | 0.0000 | 1.141E-06 | 0.0000 | 2.222E-11 | 0.0000 | 1.650E-10 | 0.0000 | 9.355E-08 | 0.0000 |
| Ni-59 | 0.000E+00 | 0.0000 | 3.407E-09 | 0.0000 | 0.000E+00 | 0.0000 | 1.846E-07 | 0.0000 | 3.267E-09 | 0.0000 | 1.130E-07 | 0.0000 | 3.456E-09 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 6.428E-09 | 0.0000 | 0.000E+00 | 0.0000 | 4.106E-07 | 0.0000 | 7.269E-09 | 0.0000 | 2.515E-07 | 0.0000 | 7.691E-09 | 0.0000 |
| Np-237 | 5.110E-06 | 0.0000 | 9.046E-08 | 0.0000 | 0.000E+00 | 0.0000 | 1.096E-07 | 0.0000 | 1.240E-09 | 0.0000 | 6.695E-11 | 0.0000 | 9.435E-09 | 0.0000 |
| Pm-147 | 9.578E-10 | 0.0000 | 1.922E-11 | 0.0000 | 0.000E+00 | 0.0000 | 1.638E-11 | 0.0000 | 3.181E-12 | 0.0000 | 3.248E-13 | 0.0000 | 6.714E-12 | 0.0000 |
| Pu-238 | 1.213E-05 | 0.0000 | 6.087E-04 | 0.0008 | 0.000E+00 | 0.0000 | 6.781E-05 | 0.0001 | 8.306E-07 | 0.0000 | 3.772E-08 | 0.0000 | 6.480E-05 | 0.0001 |
| Pu-239 | 1.892E-05 | 0.0000 | 8.469E-04 | 0.0011 | 0.000E+00 | 0.0000 | 9.537E-05 | 0.0001 | 1.168E-06 | 0.0000 | 5.293E-08 | 0.0000 | 9.115E-05 | 0.0001 |
| Pu-240 | 1.395E-05 | 0.0000 | 8.450E-04 | 0.0011 | 0.000E+00 | 0.0000 | 9.515E-05 | 0.0001 | 1.165E-06 | 0.0000 | 5.280E-08 | 0.0000 | 9.093E-05 | 0.0001 |
| Pu-241 | 8.760E-05 | 0.0001 | 2.462E-05 | 0.0000 | 0.000E+00 | 0.0000 | 2.759E-06 | 0.0000 | 2.001E-08 | 0.0000 | 3.262E-09 | 0.0000 | 2.636E-06 | 0.0000 |
| Sb-125 | 8.026E-06 | 0.0000 | 1.583E-12 | 0.0000 | 0.000E+00 | 0.0000 | 6.244E-11 | 0.0000 | 1.390E-12 | 0.0000 | 3.845E-13 | 0.0000 | 4.848E-12 | 0.0000 |
| Sr-90 | 1.354E-10 | 0.0000 | 2.715E-13 | 0.0000 | 0.000E+00 | 0.0000 | 1.439E-10 | 0.0000 | 2.050E-12 | 0.0000 | 5.106E-12 | 0.0000 | 4.136E-13 | 0.0000 |
| Tc-99 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Total | 7.622E-01 | 0.9929 | 4.418E-03 | 0.0058 | 0.000E+00 | 0.0000 | 5.302E-04 | 0.0007 | 1.280E-05 | 0.0000 | 1.030E-05 | 0.0000 | 4.744E-04 | 0.0006 |

Summary : RESRAD Default

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
 As mrem/yr and Fraction of Total Dose At t = 3.000E+01 years

Water Dependent Pathways

| Radio- Nuclide | Water | | Fish | | Radon | | Plant | | Meat | | Milk | | All Pathways* | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.663E-01 | 0.3469 |
| Am-241 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.211E-03 | 0.0055 |
| Am-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.350E-02 | 0.0697 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.925E-02 | 0.0251 |
| Cm-244 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.155E-04 | 0.0003 |
| Co-60 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.459E-02 | 0.0190 |
| Cs-134 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.808E-05 | 0.0000 |
| Cs-137 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 9.041E-02 | 0.1178 |
| Eu-152 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.399E-02 | 0.0703 |
| Eu-154 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.379E-02 | 0.0310 |
| Eu-155 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.196E-04 | 0.0002 |
| Fe-55 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.636E-11 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Nb-94 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.383E-01 | 0.3104 |
| Ni-59 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.077E-07 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.835E-07 | 0.0000 |
| Np-237 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.321E-06 | 0.0000 |
| Pm-147 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.004E-09 | 0.0000 |
| Pu-238 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.543E-04 | 0.0010 |
| Pu-239 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.054E-03 | 0.0014 |
| Pu-240 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.046E-03 | 0.0014 |
| Pu-241 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.176E-04 | 0.0002 |
| Sb-125 | 2.224E-08 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.450E-12 | 0.0000 | 2.118E-13 | 0.0000 | 7.930E-14 | 0.0000 | 8.048E-06 | 0.0000 |
| Sr-90 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.871E-10 | 0.0000 |
| Tc-99 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Total | 2.224E-08 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.450E-12 | 0.0000 | 2.118E-13 | 0.0000 | 7.930E-14 | 0.0000 | 7.677E-01 | 1.0000 |

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

| Radio- Nuclide | Ground | | Inhalation | | Radon | | Plant | | Meat | | Milk | | Soil | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 6.617E-11 | 0.0001 | 5.300E-17 | 0.0000 | 0.000E+00 | 0.0000 | 8.041E-13 | 0.0000 | 4.778E-14 | 0.0000 | 1.111E-12 | 0.0000 | 1.861E-17 | 0.0000 |
| Am-241 | 1.004E-11 | 0.0000 | 4.073E-13 | 0.0000 | 0.000E+00 | 0.0000 | 4.578E-10 | 0.0005 | 6.203E-13 | 0.0000 | 2.411E-13 | 0.0000 | 4.355E-14 | 0.0000 |
| Am-243 | 5.320E-11 | 0.0001 | 4.709E-13 | 0.0000 | 0.000E+00 | 0.0000 | 5.316E-10 | 0.0006 | 7.224E-13 | 0.0000 | 2.794E-13 | 0.0000 | 5.057E-14 | 0.0000 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-243 | 5.484E-12 | 0.0000 | 5.695E-14 | 0.0000 | 0.000E+00 | 0.0000 | 6.383E-11 | 0.0001 | 6.200E-14 | 0.0000 | 3.851E-14 | 0.0000 | 6.073E-15 | 0.0000 |
| Cm-244 | 4.173E-14 | 0.0000 | 1.239E-14 | 0.0000 | 0.000E+00 | 0.0000 | 1.385E-11 | 0.0000 | 1.637E-14 | 0.0000 | 7.685E-15 | 0.0000 | 1.318E-15 | 0.0000 |
| Co-60 | 2.115E-15 | 0.0000 | 8.100E-22 | 0.0000 | 0.000E+00 | 0.0000 | 1.135E-15 | 0.0000 | 1.110E-15 | 0.0000 | 3.149E-16 | 0.0000 | 1.298E-21 | 0.0000 |
| Cs-134 | 1.527E-24 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.990E-24 | 0.0000 | 2.172E-24 | 0.0000 | 3.837E-24 | 0.0000 | 4.372E-30 | 0.0000 |
| Cs-137 | 2.162E-11 | 0.0000 | 5.563E-18 | 0.0000 | 0.000E+00 | 0.0000 | 5.173E-11 | 0.0001 | 5.723E-11 | 0.0001 | 1.011E-10 | 0.0001 | 1.137E-16 | 0.0000 |
| Eu-152 | 9.633E-13 | 0.0000 | 7.975E-19 | 0.0000 | 0.000E+00 | 0.0000 | 4.453E-15 | 0.0000 | 3.885E-16 | 0.0000 | 3.500E-17 | 0.0000 | 3.050E-19 | 0.0000 |
| Eu-154 | 5.273E-14 | 0.0000 | 5.424E-20 | 0.0000 | 0.000E+00 | 0.0000 | 3.448E-16 | 0.0000 | 3.007E-17 | 0.0000 | 2.708E-18 | 0.0000 | 2.362E-20 | 0.0000 |
| Eu-155 | 4.721E-18 | 0.0000 | 1.190E-23 | 0.0000 | 0.000E+00 | 0.0000 | 8.373E-20 | 0.0000 | 7.286E-21 | 0.0000 | 6.559E-22 | 0.0000 | 5.734E-24 | 0.0000 |
| Fe-55 | 0.000E+00 | 0.0000 | 5.449E-29 | 0.0000 | 0.000E+00 | 0.0000 | 1.780E-24 | 0.0000 | 1.614E-24 | 0.0000 | 1.353E-25 | 0.0000 | 1.604E-28 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Nb-94 | 5.163E-11 | 0.0001 | 6.090E-17 | 0.0000 | 0.000E+00 | 0.0000 | 1.679E-12 | 0.0000 | 5.286E-17 | 0.0000 | 7.605E-16 | 0.0000 | 1.370E-17 | 0.0000 |
| Ni-59 | 0.000E+00 | 0.0000 | 8.392E-19 | 0.0000 | 0.000E+00 | 0.0000 | 4.570E-13 | 0.0000 | 3.891E-14 | 0.0000 | 2.044E-12 | 0.0000 | 8.513E-19 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 9.788E-19 | 0.0000 | 0.000E+00 | 0.0000 | 6.287E-13 | 0.0000 | 5.351E-14 | 0.0000 | 2.812E-12 | 0.0000 | 1.171E-18 | 0.0000 |
| Np-237 | 1.642E-17 | 0.0000 | 1.962E-18 | 0.0000 | 0.000E+00 | 0.0000 | 5.708E-16 | 0.0000 | 9.718E-18 | 0.0000 | 3.361E-17 | 0.0000 | 5.340E-20 | 0.0000 |
| Pm-147 | 1.539E-26 | 0.0000 | 3.234E-24 | 0.0000 | 0.000E+00 | 0.0000 | 1.220E-21 | 0.0000 | 5.635E-23 | 0.0000 | 1.187E-23 | 0.0000 | 1.045E-25 | 0.0000 |
| Pu-238 | 5.825E-13 | 0.0000 | 2.405E-13 | 0.0000 | 0.000E+00 | 0.0000 | 2.691E-10 | 0.0003 | 7.035E-13 | 0.0000 | 6.120E-14 | 0.0000 | 2.560E-14 | 0.0000 |
| Pu-239 | 3.508E-13 | 0.0000 | 5.783E-13 | 0.0000 | 0.000E+00 | 0.0000 | 6.542E-10 | 0.0008 | 1.710E-12 | 0.0000 | 1.475E-13 | 0.0000 | 6.224E-14 | 0.0000 |
| Pu-240 | 1.037E-12 | 0.0000 | 5.739E-13 | 0.0000 | 0.000E+00 | 0.0000 | 6.492E-10 | 0.0007 | 1.697E-12 | 0.0000 | 1.464E-13 | 0.0000 | 6.176E-14 | 0.0000 |
| Pu-241 | 3.582E-13 | 0.0000 | 1.462E-14 | 0.0000 | 0.000E+00 | 0.0000 | 1.643E-11 | 0.0000 | 2.240E-14 | 0.0000 | 8.623E-15 | 0.0000 | 1.563E-15 | 0.0000 |
| Sb-125 | 2.537E-24 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.203E-25 | 0.0000 | 6.031E-27 | 0.0000 | 3.197E-27 | 0.0000 | 0.000E+00 | 0.0000 |
| Sr-90 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Tc-99 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Total | 2.115E-10 | 0.0002 | 2.355E-12 | 0.0000 | 0.000E+00 | 0.0000 | 2.711E-09 | 0.0031 | 6.293E-11 | 0.0001 | 1.080E-10 | 0.0001 | 2.528E-13 | 0.0000 |

Summary : RESRAD Default

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Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+02 years

Water Dependent Pathways

| Radio- Nuclide | Water | | Fish | | Radon | | Plant | | Meat | | Milk | | All Pathways* | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.813E-11 | 0.0001 |
| Am-241 | 1.560E-07 | 0.1795 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.832E-11 | 0.0000 | 2.507E-13 | 0.0000 | 1.422E-14 | 0.0000 | 1.564E-07 | 0.1801 |
| Am-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.863E-10 | 0.0007 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.947E-11 | 0.0001 |
| Cm-244 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.393E-11 | 0.0000 |
| Co-60 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.676E-15 | 0.0000 |
| Cs-134 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 9.526E-24 | 0.0000 |
| Cs-137 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.317E-10 | 0.0003 |
| Eu-152 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 9.682E-13 | 0.0000 |
| Eu-154 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.311E-14 | 0.0000 |
| Eu-155 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.813E-18 | 0.0000 |
| Fe-55 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.529E-24 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Nb-94 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.331E-11 | 0.0001 |
| Ni-59 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.540E-12 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 3.494E-12 | 0.0000 |
| Np-237 | 7.052E-07 | 0.8118 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 8.321E-11 | 0.0001 | 1.148E-12 | 0.0000 | 8.873E-14 | 0.0000 | 7.052E-07 | 0.8119 |
| Pm-147 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.292E-21 | 0.0000 |
| Pu-238 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.707E-10 | 0.0003 |
| Pu-239 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.570E-10 | 0.0008 |
| Pu-240 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.527E-10 | 0.0008 |
| Pu-241 | 4.343E-09 | 0.0050 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.100E-13 | 0.0000 | 6.978E-15 | 0.0000 | 3.957E-16 | 0.0000 | 4.360E-09 | 0.0050 |
| Sb-125 | 1.041E-15 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.147E-19 | 0.0000 | 9.920E-21 | 0.0000 | 3.714E-21 | 0.0000 | 1.041E-15 | 0.0000 |
| Sr-90 | 7.075E-18 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.033E-21 | 0.0000 | 9.414E-23 | 0.0000 | 1.829E-22 | 0.0000 | 7.076E-18 | 0.0000 |
| Tc-99 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Total | 8.655E-07 | 0.9963 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.020E-10 | 0.0001 | 1.406E-12 | 0.0000 | 1.033E-13 | 0.0000 | 8.687E-07 | 1.0000 |

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+02 years

Water Dependent Pathways

| Radio- Nuclide | Water | | Fish | | Radon | | Plant | | Meat | | Milk | | All Pathways* | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Am-241 | 4.635E-08 | 0.8533 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.442E-12 | 0.0001 | 7.446E-14 | 0.0000 | 4.223E-15 | 0.0000 | 4.635E-08 | 0.8534 |
| Am-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-244 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Co-60 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cs-134 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cs-137 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Eu-152 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Eu-154 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Eu-155 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Fe-55 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Nb-94 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Ni-59 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Ni-63 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Np-237 | 6.534E-09 | 0.1203 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.616E-13 | 0.0000 | 8.348E-15 | 0.0000 | 2.365E-14 | 0.0000 | 6.535E-09 | 0.1203 |
| Pm-147 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Pu-238 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Pu-239 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Pu-240 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Pu-241 | 1.430E-09 | 0.0263 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.679E-13 | 0.0000 | 2.297E-15 | 0.0000 | 1.303E-16 | 0.0000 | 1.430E-09 | 0.0263 |
| Sb-125 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Sr-90 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Tc-99 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Total | 5.431E-08 | 0.9999 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 6.372E-12 | 0.0001 | 8.510E-14 | 0.0000 | 2.800E-14 | 0.0000 | 5.432E-08 | 1.0000 |

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)

As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water Dependent Pathways

| Radio- Nuclide | Water | | Fish | | Radon | | Plant | | Meat | | Milk | | All Pathways* | |
|-------------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|------------------|---------------|
| | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. | mrem/yr | fract. |
| Ag-108m | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Am-241 | 1.472E-08 | 0.0865 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.728E-12 | 0.0000 | 2.364E-14 | 0.0000 | 1.342E-15 | 0.0000 | 1.472E-08 | 0.0865 |
| Am-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| C-14 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-243 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cm-244 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Co-60 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cs-134 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Cs-137 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Eu-152 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Eu-154 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Eu-155 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Fe-55 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| H-3 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Nb-94 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Ni-59 | 1.479E-07 | 0.8691 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 1.783E-11 | 0.0001 | 1.175E-12 | 0.0000 | 4.245E-11 | 0.0002 | 1.479E-07 | 0.8695 |
| Ni-63 | 4.008E-10 | 0.0024 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 4.834E-14 | 0.0000 | 3.185E-15 | 0.0000 | 1.151E-13 | 0.0000 | 4.010E-10 | 0.0024 |
| Np-237 | 6.635E-09 | 0.0390 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 7.733E-13 | 0.0000 | 8.341E-15 | 0.0000 | 2.358E-14 | 0.0000 | 6.636E-09 | 0.0390 |
| Pm-147 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Pu-238 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Pu-239 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Pu-240 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Pu-241 | 4.545E-10 | 0.0027 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 5.337E-14 | 0.0000 | 7.293E-16 | 0.0000 | 4.141E-17 | 0.0000 | 4.545E-10 | 0.0027 |
| Sb-125 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Sr-90 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Tc-99 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| Total | 1.701E-07 | 0.9996 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 2.044E-11 | 0.0001 | 1.211E-12 | 0.0000 | 4.259E-11 | 0.0003 | 1.701E-07 | 1.0000 |

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Dose/Source Ratios Summed Over All Pathways
 Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Ag-108m+D | Ag-108m+D | 1.000E+00 | 6.943E-01 | 6.734E-01 | 6.334E-01 | 5.098E-01 | 2.663E-01 | 6.813E-11 | 0.000E+00 | 0.000E+00 |
| Am-241 | Am-241 | 1.000E+00 | 6.051E-03 | 5.980E-03 | 5.839E-03 | 5.371E-03 | 4.211E-03 | 4.691E-10 | 0.000E+00 | 0.000E+00 |
| Am-241 | Np-237+D | 1.000E+00 | 1.341E-08 | 3.500E-08 | 6.112E-08 | 8.084E-08 | 6.136E-08 | 1.560E-07 | 4.635E-08 | 1.472E-08 |
| Am-241 | U-233 | 1.000E+00 | 1.290E-16 | 8.105E-16 | 3.463E-15 | 1.651E-14 | 4.080E-14 | 6.234E-14 | 1.805E-13 | 3.490E-13 |
| Am-241 | Th-229+D | 1.000E+00 | 6.748E-19 | 9.417E-18 | 9.416E-17 | 1.545E-15 | 1.418E-14 | 2.354E-17 | 7.145E-16 | 6.049E-15 |
| Am-241 | ΣDSR(j) | | 6.051E-03 | 5.980E-03 | 5.839E-03 | 5.372E-03 | 4.211E-03 | 1.564E-07 | 4.635E-08 | 1.472E-08 |
| Am-243+D | Am-243+D | 9.829E-01 | 7.731E-02 | 7.640E-02 | 7.458E-02 | 6.846E-02 | 5.259E-02 | 5.746E-10 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239+D | 9.829E-01 | 2.420E-08 | 7.161E-08 | 1.620E-07 | 4.337E-07 | 8.764E-07 | 1.655E-12 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 9.829E-01 | 2.961E-16 | 2.050E-15 | 1.057E-14 | 8.635E-14 | 5.482E-13 | 1.269E-20 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 9.829E-01 | 5.326E-22 | 7.947E-21 | 9.064E-20 | 2.188E-18 | 3.956E-17 | 9.254E-22 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D | 9.829E-01 | 2.826E-23 | 8.618E-22 | 2.097E-20 | 1.445E-18 | 6.991E-17 | 7.210E-23 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 7.731E-02 | 7.640E-02 | 7.458E-02 | 6.846E-02 | 5.259E-02 | 5.763E-10 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Am-243+D | 2.720E-03 | 2.140E-04 | 2.114E-04 | 2.064E-04 | 1.895E-04 | 1.455E-04 | 1.590E-12 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239+D | 2.720E-03 | 6.699E-11 | 1.982E-10 | 4.483E-10 | 1.200E-09 | 2.425E-09 | 4.581E-15 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 2.720E-03 | 8.194E-19 | 5.674E-18 | 2.926E-17 | 2.390E-16 | 1.517E-15 | 3.512E-23 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 2.720E-03 | 1.474E-24 | 2.199E-23 | 2.508E-22 | 6.056E-21 | 1.095E-19 | 2.561E-24 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D1 | 2.720E-03 | 7.882E-26 | 2.407E-24 | 5.861E-23 | 4.041E-21 | 1.955E-19 | 1.954E-25 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 2.140E-04 | 2.114E-04 | 2.064E-04 | 1.895E-04 | 1.455E-04 | 1.595E-12 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Am-243+D | 1.375E-02 | 1.082E-03 | 1.069E-03 | 1.044E-03 | 9.579E-04 | 7.358E-04 | 8.040E-12 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239+D | 1.375E-02 | 3.387E-10 | 1.002E-09 | 2.266E-09 | 6.068E-09 | 1.226E-08 | 2.316E-14 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 1.375E-02 | 4.143E-18 | 2.869E-17 | 1.479E-16 | 1.208E-15 | 7.670E-15 | 1.776E-22 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 1.375E-02 | 7.452E-24 | 1.112E-22 | 1.268E-21 | 3.062E-20 | 5.535E-19 | 1.295E-23 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D2 | 1.375E-02 | 3.383E-25 | 1.033E-23 | 2.516E-22 | 1.736E-20 | 8.411E-19 | 9.751E-25 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 1.082E-03 | 1.069E-03 | 1.044E-03 | 9.579E-04 | 7.358E-04 | 8.064E-12 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Am-243+D | 3.806E-05 | 2.994E-06 | 2.958E-06 | 2.888E-06 | 2.651E-06 | 2.036E-06 | 2.225E-14 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239+D | 3.806E-05 | 9.373E-13 | 2.773E-12 | 6.272E-12 | 1.679E-11 | 3.394E-11 | 6.410E-17 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 3.806E-05 | 1.147E-20 | 7.939E-20 | 4.094E-19 | 3.344E-18 | 2.123E-17 | 4.914E-25 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 3.806E-05 | 2.063E-26 | 3.077E-25 | 3.510E-24 | 8.474E-23 | 1.532E-21 | 3.584E-26 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D3 | 3.806E-05 | 9.479E-28 | 2.894E-26 | 7.050E-25 | 4.863E-23 | 2.356E-21 | 2.701E-27 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 2.994E-06 | 2.958E-06 | 2.888E-06 | 2.651E-06 | 2.037E-06 | 2.232E-14 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Am-243+D | 8.252E-07 | 6.491E-08 | 6.414E-08 | 6.262E-08 | 5.748E-08 | 4.415E-08 | 4.825E-16 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239+D | 8.252E-07 | 2.032E-14 | 6.012E-14 | 1.360E-13 | 3.641E-13 | 7.358E-13 | 1.390E-18 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 8.252E-07 | 2.486E-22 | 1.721E-21 | 8.875E-21 | 7.250E-20 | 4.602E-19 | 1.065E-26 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 8.252E-07 | 4.472E-28 | 6.672E-27 | 7.610E-26 | 1.837E-24 | 3.321E-23 | 7.769E-28 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D4 | 8.252E-07 | 1.071E-29 | 3.269E-28 | 7.954E-27 | 5.461E-25 | 2.606E-23 | 5.394E-29 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 6.491E-08 | 6.414E-08 | 6.262E-08 | 5.748E-08 | 4.415E-08 | 4.838E-16 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Am-243+D | Am-243+D | 2.284E-09 | 1.796E-10 | 1.775E-10 | 1.733E-10 | 1.591E-10 | 1.222E-10 | 1.335E-18 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239+D | 2.284E-09 | 5.624E-17 | 1.664E-16 | 3.764E-16 | 1.008E-15 | 2.036E-15 | 3.846E-21 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 2.284E-09 | 6.880E-25 | 4.764E-24 | 2.456E-23 | 2.006E-22 | 1.274E-21 | 2.949E-29 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 2.284E-09 | 1.238E-30 | 1.847E-29 | 2.106E-28 | 5.085E-27 | 9.191E-26 | 2.150E-30 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D5 | 2.284E-09 | 3.034E-32 | 9.259E-31 | 2.253E-29 | 1.547E-27 | 7.380E-26 | 1.494E-31 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 1.796E-10 | 1.775E-10 | 1.733E-10 | 1.591E-10 | 1.222E-10 | 1.339E-18 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Am-243+D | 5.901E-04 | 4.642E-05 | 4.586E-05 | 4.478E-05 | 4.110E-05 | 3.157E-05 | 3.450E-13 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239 | 5.901E-04 | 1.453E-11 | 4.299E-11 | 9.724E-11 | 2.603E-10 | 5.261E-10 | 9.938E-16 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 5.901E-04 | 1.778E-19 | 1.231E-18 | 6.346E-18 | 5.184E-17 | 3.291E-16 | 7.619E-24 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 5.901E-04 | 3.198E-25 | 4.771E-24 | 5.441E-23 | 1.314E-21 | 2.375E-20 | 5.556E-25 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D | 5.901E-04 | 1.697E-26 | 5.174E-25 | 1.259E-23 | 8.677E-22 | 4.197E-20 | 4.329E-26 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 4.642E-05 | 4.586E-05 | 4.478E-05 | 4.110E-05 | 3.157E-05 | 3.460E-13 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Am-243+D | 1.633E-06 | 1.285E-07 | 1.269E-07 | 1.239E-07 | 1.138E-07 | 8.738E-08 | 9.548E-16 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239 | 1.633E-06 | 4.022E-14 | 1.190E-13 | 2.691E-13 | 7.205E-13 | 1.456E-12 | 2.751E-18 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 1.633E-06 | 4.919E-22 | 3.406E-21 | 1.756E-20 | 1.435E-19 | 9.108E-19 | 2.109E-26 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 1.633E-06 | 8.850E-28 | 1.320E-26 | 1.506E-25 | 3.636E-24 | 6.573E-23 | 1.538E-27 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D1 | 1.633E-06 | 4.732E-29 | 1.445E-27 | 3.519E-26 | 2.426E-24 | 1.174E-22 | 1.173E-28 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 1.285E-07 | 1.269E-07 | 1.239E-07 | 1.138E-07 | 8.738E-08 | 9.576E-16 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Am-243+D | 8.257E-06 | 6.495E-07 | 6.418E-07 | 6.265E-07 | 5.751E-07 | 4.418E-07 | 4.827E-15 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239 | 8.257E-06 | 2.033E-13 | 6.015E-13 | 1.361E-12 | 3.643E-12 | 7.362E-12 | 1.391E-17 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 8.257E-06 | 2.487E-21 | 1.722E-20 | 8.880E-20 | 7.254E-19 | 4.605E-18 | 1.066E-25 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 8.257E-06 | 4.474E-27 | 6.676E-26 | 7.614E-25 | 1.838E-23 | 3.323E-22 | 7.774E-27 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D2 | 8.257E-06 | 2.031E-28 | 6.202E-27 | 1.511E-25 | 1.042E-23 | 5.050E-22 | 5.854E-28 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 6.495E-07 | 6.418E-07 | 6.265E-07 | 5.751E-07 | 4.418E-07 | 4.841E-15 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Am-243+D | 2.285E-08 | 1.797E-09 | 1.776E-09 | 1.734E-09 | 1.592E-09 | 1.223E-09 | 1.336E-17 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239 | 2.285E-08 | 5.627E-16 | 1.665E-15 | 3.766E-15 | 1.008E-14 | 2.037E-14 | 3.849E-20 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 2.285E-08 | 6.883E-24 | 4.766E-23 | 2.458E-22 | 2.008E-21 | 1.274E-20 | 2.950E-28 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 2.285E-08 | 1.238E-29 | 1.848E-28 | 2.107E-27 | 5.088E-26 | 9.196E-25 | 2.151E-29 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D3 | 2.285E-08 | 5.691E-31 | 1.738E-29 | 4.232E-28 | 2.919E-26 | 1.415E-24 | 1.621E-30 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 1.797E-09 | 1.776E-09 | 1.734E-09 | 1.592E-09 | 1.223E-09 | 1.340E-17 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Am-243+D | 4.954E-10 | 3.897E-11 | 3.851E-11 | 3.759E-11 | 3.451E-11 | 2.651E-11 | 2.896E-19 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239 | 4.954E-10 | 1.220E-17 | 3.609E-17 | 8.164E-17 | 2.186E-16 | 4.417E-16 | 8.344E-22 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 4.954E-10 | 1.492E-25 | 1.033E-24 | 5.328E-24 | 4.352E-23 | 2.763E-22 | 6.396E-30 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 4.954E-10 | 2.685E-31 | 4.006E-30 | 4.569E-29 | 1.103E-27 | 1.994E-26 | 4.664E-31 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D4 | 4.954E-10 | 6.431E-33 | 1.963E-31 | 4.775E-30 | 3.278E-28 | 1.564E-26 | 3.238E-32 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 3.897E-11 | 3.851E-11 | 3.759E-11 | 3.451E-11 | 2.651E-11 | 2.905E-19 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Am-243+D | Am-243+D | 1.371E-12 | 1.079E-13 | 1.066E-13 | 1.040E-13 | 9.550E-14 | 7.336E-14 | 8.016E-22 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pu-239 | 1.371E-12 | 3.377E-20 | 9.990E-20 | 2.260E-19 | 6.050E-19 | 1.223E-18 | 2.309E-24 | 0.000E+00 | 0.000E+00 |
| Am-243+D | U-235+D | 1.371E-12 | 4.130E-28 | 2.860E-27 | 1.475E-26 | 1.205E-25 | 7.647E-25 | 1.770E-32 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Pa-231 | 1.371E-12 | 7.430E-34 | 1.109E-32 | 1.264E-31 | 3.053E-30 | 5.518E-29 | 1.291E-33 | 0.000E+00 | 0.000E+00 |
| Am-243+D | Ac-227+D5 | 1.371E-12 | 1.821E-35 | 5.559E-34 | 1.352E-32 | 9.285E-31 | 4.431E-29 | 8.969E-35 | 0.000E+00 | 0.000E+00 |
| Am-243+D | ΣDSR(j) | | 1.079E-13 | 1.066E-13 | 1.040E-13 | 9.551E-14 | 7.336E-14 | 8.040E-22 | 0.000E+00 | 0.000E+00 |
| C-14 | C-14 | 1.000E+00 | 2.411E-06 | 6.926E-16 | 6.478E-36 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 2.359E-03 | 1.165E-04 | 1.130E-04 | 1.063E-04 | 8.580E-05 | 4.540E-05 | 1.619E-13 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 2.359E-03 | 8.657E-09 | 2.550E-08 | 5.711E-08 | 1.481E-07 | 2.800E-07 | 6.097E-15 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 2.359E-03 | 1.810E-15 | 1.244E-14 | 6.298E-14 | 4.819E-13 | 2.514E-12 | 1.091E-17 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 2.359E-03 | 1.664E-23 | 2.460E-22 | 2.777E-21 | 6.527E-20 | 1.106E-18 | 6.479E-26 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 2.359E-03 | 2.390E-29 | 7.353E-28 | 1.800E-26 | 1.250E-24 | 6.107E-23 | 3.754E-27 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D | 2.359E-03 | 1.061E-30 | 6.562E-29 | 3.374E-27 | 6.715E-25 | 9.005E-23 | 2.612E-28 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 1.165E-04 | 1.130E-04 | 1.064E-04 | 8.595E-05 | 4.568E-05 | 1.681E-13 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 6.529E-06 | 3.223E-07 | 3.127E-07 | 2.943E-07 | 2.375E-07 | 1.257E-07 | 4.482E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 6.529E-06 | 2.396E-11 | 7.057E-11 | 1.581E-10 | 4.099E-10 | 7.751E-10 | 1.687E-17 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 6.529E-06 | 5.010E-18 | 3.442E-17 | 1.743E-16 | 1.334E-15 | 6.958E-15 | 3.019E-20 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 6.529E-06 | 4.605E-26 | 6.808E-25 | 7.686E-24 | 1.807E-22 | 3.062E-21 | 1.793E-28 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 6.529E-06 | 6.614E-32 | 2.035E-30 | 4.982E-29 | 3.460E-27 | 1.690E-25 | 1.039E-29 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D1 | 6.529E-06 | 2.958E-33 | 1.832E-31 | 9.428E-30 | 1.877E-27 | 2.518E-25 | 7.060E-31 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 3.223E-07 | 3.128E-07 | 2.944E-07 | 2.379E-07 | 1.264E-07 | 4.651E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 3.301E-05 | 1.629E-06 | 1.581E-06 | 1.488E-06 | 1.201E-06 | 6.353E-07 | 2.266E-15 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 3.301E-05 | 1.211E-10 | 3.568E-10 | 7.992E-10 | 2.072E-09 | 3.919E-09 | 8.531E-17 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 3.301E-05 | 2.533E-17 | 1.740E-16 | 8.813E-16 | 6.744E-15 | 3.518E-14 | 1.526E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 3.301E-05 | 2.328E-25 | 3.442E-24 | 3.886E-23 | 9.133E-22 | 1.548E-20 | 9.066E-28 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 3.301E-05 | 3.344E-31 | 1.029E-29 | 2.519E-28 | 1.749E-26 | 8.546E-25 | 5.252E-29 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D2 | 3.301E-05 | 1.270E-32 | 7.864E-31 | 4.048E-29 | 8.064E-27 | 1.083E-24 | 3.524E-30 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 1.630E-06 | 1.581E-06 | 1.489E-06 | 1.203E-06 | 6.392E-07 | 2.351E-15 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 9.135E-08 | 4.510E-09 | 4.375E-09 | 4.118E-09 | 3.323E-09 | 1.758E-09 | 6.271E-18 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 9.135E-08 | 3.353E-13 | 9.874E-13 | 2.212E-12 | 5.735E-12 | 1.085E-11 | 2.361E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 9.135E-08 | 7.010E-20 | 4.816E-19 | 2.439E-18 | 1.866E-17 | 9.736E-17 | 4.224E-22 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 9.135E-08 | 6.443E-28 | 9.525E-27 | 1.075E-25 | 2.528E-24 | 4.284E-23 | 2.509E-30 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 9.135E-08 | 9.254E-34 | 2.847E-32 | 6.971E-31 | 4.841E-29 | 2.365E-27 | 1.454E-31 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D3 | 9.135E-08 | 3.558E-35 | 2.203E-33 | 1.134E-31 | 2.259E-29 | 3.035E-27 | 9.759E-33 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 4.510E-09 | 4.376E-09 | 4.120E-09 | 3.328E-09 | 1.769E-09 | 6.508E-18 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Dose/Source Ratios Summed Over All Pathways
 Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Cm-243 | Cm-243 | 1.981E-09 | 9.777E-11 | 9.486E-11 | 8.927E-11 | 7.204E-11 | 3.812E-11 | 1.360E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 1.981E-09 | 7.269E-15 | 2.141E-14 | 4.795E-14 | 1.243E-13 | 2.351E-13 | 5.119E-21 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 1.981E-09 | 1.520E-21 | 1.044E-20 | 5.288E-20 | 4.046E-19 | 2.111E-18 | 9.159E-24 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 1.981E-09 | 1.397E-29 | 2.065E-28 | 2.332E-27 | 5.480E-26 | 9.288E-25 | 5.440E-32 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 1.981E-09 | 2.006E-35 | 6.173E-34 | 1.511E-32 | 1.050E-30 | 5.128E-29 | 3.151E-33 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D4 | 1.981E-09 | 4.020E-37 | 2.488E-35 | 1.279E-33 | 2.537E-31 | 3.356E-29 | 1.949E-34 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 9.778E-11 | 9.488E-11 | 8.932E-11 | 7.216E-11 | 3.835E-11 | 1.411E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 5.481E-12 | 2.706E-13 | 2.625E-13 | 2.471E-13 | 1.994E-13 | 1.055E-13 | 3.763E-22 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 5.481E-12 | 2.012E-17 | 5.925E-17 | 1.327E-16 | 3.441E-16 | 6.507E-16 | 1.417E-23 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 5.481E-12 | 4.206E-24 | 2.890E-23 | 1.464E-22 | 1.120E-21 | 5.842E-21 | 2.535E-26 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 5.481E-12 | 3.866E-32 | 5.716E-31 | 6.453E-30 | 1.517E-28 | 2.570E-27 | 1.505E-34 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 5.481E-12 | 5.553E-38 | 1.708E-36 | 4.183E-35 | 2.905E-33 | 1.419E-31 | 8.722E-36 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D5 | 5.481E-12 | 1.139E-39 | 7.048E-38 | 3.624E-36 | 7.185E-34 | 9.505E-32 | 5.399E-37 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 2.706E-13 | 2.626E-13 | 2.472E-13 | 1.997E-13 | 1.061E-13 | 3.905E-22 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.416E-06 | 6.991E-08 | 6.783E-08 | 6.383E-08 | 5.151E-08 | 2.726E-08 | 9.723E-17 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 1.416E-06 | 5.198E-12 | 1.531E-11 | 3.429E-11 | 8.892E-11 | 1.681E-10 | 3.660E-18 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 1.416E-06 | 1.078E-18 | 7.438E-18 | 3.775E-17 | 2.892E-16 | 1.509E-15 | 6.546E-21 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 1.416E-06 | 9.989E-27 | 1.477E-25 | 1.667E-24 | 3.919E-23 | 6.641E-22 | 3.890E-29 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 1.416E-06 | 1.435E-32 | 4.414E-31 | 1.081E-29 | 7.505E-28 | 3.667E-26 | 2.254E-30 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D | 1.416E-06 | 6.371E-34 | 3.939E-32 | 2.026E-30 | 4.032E-28 | 5.406E-26 | 1.568E-31 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 6.992E-08 | 6.784E-08 | 6.387E-08 | 5.160E-08 | 2.743E-08 | 1.009E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 3.920E-09 | 1.935E-10 | 1.877E-10 | 1.767E-10 | 1.426E-10 | 7.544E-11 | 2.691E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 3.920E-09 | 1.438E-14 | 4.237E-14 | 9.490E-14 | 2.461E-13 | 4.653E-13 | 1.013E-20 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 3.920E-09 | 2.983E-21 | 2.059E-20 | 1.045E-19 | 8.004E-19 | 4.177E-18 | 1.812E-23 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 3.920E-09 | 2.765E-29 | 4.087E-28 | 4.614E-27 | 1.085E-25 | 1.838E-24 | 1.077E-31 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 3.920E-09 | 3.971E-35 | 1.222E-33 | 2.991E-32 | 2.077E-30 | 1.015E-28 | 6.237E-33 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D1 | 3.920E-09 | 1.776E-36 | 1.100E-34 | 5.660E-33 | 1.127E-30 | 1.512E-28 | 4.239E-34 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 1.935E-10 | 1.878E-10 | 1.768E-10 | 1.428E-10 | 7.590E-11 | 2.792E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.982E-08 | 9.782E-10 | 9.491E-10 | 8.932E-10 | 7.208E-10 | 3.814E-10 | 1.360E-18 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 1.982E-08 | 7.272E-14 | 2.142E-13 | 4.798E-13 | 1.244E-12 | 2.353E-12 | 5.122E-20 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 1.982E-08 | 1.508E-20 | 1.041E-19 | 5.282E-19 | 4.046E-18 | 2.112E-17 | 9.159E-23 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 1.982E-08 | 1.398E-28 | 2.066E-27 | 2.333E-26 | 5.483E-25 | 9.293E-24 | 5.443E-31 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 1.982E-08 | 2.007E-34 | 6.176E-33 | 1.512E-31 | 1.050E-29 | 5.130E-28 | 3.153E-32 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D2 | 1.982E-08 | 7.623E-36 | 4.721E-34 | 2.430E-32 | 4.841E-30 | 6.504E-28 | 2.115E-33 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 9.783E-10 | 9.493E-10 | 8.937E-10 | 7.220E-10 | 3.837E-10 | 1.412E-18 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 5.484E-11 | 2.707E-12 | 2.627E-12 | 2.472E-12 | 1.995E-12 | 1.056E-12 | 3.765E-21 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 5.484E-11 | 2.013E-16 | 5.928E-16 | 1.328E-15 | 3.443E-15 | 6.511E-15 | 1.418E-22 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 5.484E-11 | 4.174E-23 | 2.881E-22 | 1.462E-21 | 1.120E-20 | 5.844E-20 | 2.535E-25 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 5.484E-11 | 3.868E-31 | 5.719E-30 | 6.456E-29 | 1.518E-27 | 2.572E-26 | 1.506E-33 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 5.484E-11 | 5.556E-37 | 1.709E-35 | 4.185E-34 | 2.906E-32 | 1.420E-30 | 8.727E-35 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D3 | 5.484E-11 | 2.136E-38 | 1.323E-36 | 6.808E-35 | 1.356E-32 | 1.822E-30 | 5.859E-36 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 2.708E-12 | 2.627E-12 | 2.473E-12 | 1.998E-12 | 1.062E-12 | 3.907E-21 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Cm-243 | Cm-243 | 1.189E-12 | 5.870E-14 | 5.695E-14 | 5.359E-14 | 4.325E-14 | 2.289E-14 | 8.163E-23 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 1.189E-12 | 4.364E-18 | 1.285E-17 | 2.879E-17 | 7.465E-17 | 1.412E-16 | 3.073E-24 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 1.189E-12 | 9.050E-25 | 6.245E-24 | 3.170E-23 | 2.428E-22 | 1.267E-21 | 5.496E-27 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 1.189E-12 | 8.387E-33 | 1.240E-31 | 1.400E-30 | 3.290E-29 | 5.576E-28 | 3.266E-35 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 1.189E-12 | 1.205E-38 | 3.706E-37 | 9.074E-36 | 6.301E-34 | 3.078E-32 | 1.892E-36 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D4 | 1.189E-12 | 2.413E-40 | 1.494E-38 | 7.681E-37 | 1.523E-34 | 2.015E-32 | 1.170E-37 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 5.870E-14 | 5.696E-14 | 5.362E-14 | 4.332E-14 | 2.303E-14 | 8.471E-23 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 3.291E-15 | 1.625E-16 | 1.576E-16 | 1.483E-16 | 1.197E-16 | 6.334E-17 | 2.259E-25 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Am-243+D | 3.291E-15 | 1.208E-20 | 3.557E-20 | 7.968E-20 | 2.066E-19 | 3.907E-19 | 8.506E-27 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 3.291E-15 | 2.505E-27 | 1.728E-26 | 8.772E-26 | 6.720E-25 | 3.507E-24 | 1.521E-29 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 3.291E-15 | 2.321E-35 | 3.431E-34 | 3.874E-33 | 9.106E-32 | 1.543E-30 | 9.038E-38 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 3.291E-15 | 3.334E-41 | 1.026E-39 | 2.511E-38 | 1.744E-36 | 8.520E-35 | 5.236E-39 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D5 | 3.291E-15 | 6.838E-43 | 4.231E-41 | 2.175E-39 | 4.314E-37 | 5.707E-35 | 3.241E-40 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 1.625E-16 | 1.576E-16 | 1.484E-16 | 1.199E-16 | 6.373E-17 | 2.344E-25 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 9.805E-01 | 4.840E-02 | 4.696E-02 | 4.420E-02 | 3.566E-02 | 1.887E-02 | 6.732E-11 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 9.805E-01 | 2.400E-08 | 7.047E-08 | 1.567E-07 | 3.951E-07 | 6.785E-07 | 8.018E-13 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 9.805E-01 | 2.941E-16 | 2.026E-15 | 1.033E-14 | 8.106E-14 | 4.607E-13 | 7.614E-21 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 9.805E-01 | 5.295E-22 | 7.870E-21 | 8.902E-20 | 2.086E-18 | 3.470E-17 | 6.308E-22 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D | 9.805E-01 | 2.811E-23 | 8.546E-22 | 2.066E-20 | 1.390E-18 | 6.273E-17 | 5.159E-23 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 4.840E-02 | 4.696E-02 | 4.420E-02 | 3.567E-02 | 1.887E-02 | 6.812E-11 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 2.714E-03 | 1.340E-04 | 1.300E-04 | 1.223E-04 | 9.871E-05 | 5.223E-05 | 1.863E-13 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 2.714E-03 | 6.644E-11 | 1.950E-10 | 4.336E-10 | 1.093E-09 | 1.878E-09 | 2.219E-15 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 2.714E-03 | 8.139E-19 | 5.607E-18 | 2.859E-17 | 2.243E-16 | 1.275E-15 | 2.107E-23 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 2.714E-03 | 1.465E-24 | 2.178E-23 | 2.464E-22 | 5.772E-21 | 9.605E-20 | 1.746E-24 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D1 | 2.714E-03 | 7.840E-26 | 2.387E-24 | 5.774E-23 | 3.885E-21 | 1.754E-19 | 1.399E-25 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 1.340E-04 | 1.300E-04 | 1.223E-04 | 9.871E-05 | 5.223E-05 | 1.885E-13 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.372E-02 | 6.773E-04 | 6.571E-04 | 6.184E-04 | 4.990E-04 | 2.641E-04 | 9.419E-13 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 1.372E-02 | 3.359E-10 | 9.860E-10 | 2.192E-09 | 5.528E-09 | 9.493E-09 | 1.122E-14 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 1.372E-02 | 4.115E-18 | 2.835E-17 | 1.445E-16 | 1.134E-15 | 6.446E-15 | 1.065E-22 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 1.372E-02 | 7.409E-24 | 1.101E-22 | 1.246E-21 | 2.918E-20 | 4.856E-19 | 8.827E-24 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D2 | 1.372E-02 | 3.365E-25 | 1.024E-23 | 2.479E-22 | 1.669E-20 | 7.548E-19 | 6.983E-25 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 6.773E-04 | 6.571E-04 | 6.184E-04 | 4.990E-04 | 2.641E-04 | 9.531E-13 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 3.797E-05 | 1.875E-06 | 1.819E-06 | 1.712E-06 | 1.381E-06 | 7.308E-07 | 2.607E-15 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 3.797E-05 | 9.296E-13 | 2.729E-12 | 6.067E-12 | 1.530E-11 | 2.627E-11 | 3.105E-17 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 3.797E-05 | 1.139E-20 | 7.846E-20 | 4.000E-19 | 3.139E-18 | 1.784E-17 | 2.948E-25 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 3.797E-05 | 2.050E-26 | 3.048E-25 | 3.447E-24 | 8.077E-23 | 1.344E-21 | 2.443E-26 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D3 | 3.797E-05 | 9.428E-28 | 2.870E-26 | 6.945E-25 | 4.675E-23 | 2.114E-21 | 1.934E-27 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 1.875E-06 | 1.819E-06 | 1.712E-06 | 1.381E-06 | 7.309E-07 | 2.638E-15 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Cm-243 | Cm-243 | 8.232E-07 | 4.064E-08 | 3.943E-08 | 3.711E-08 | 2.994E-08 | 1.584E-08 | 5.652E-17 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 8.232E-07 | 2.015E-14 | 5.916E-14 | 1.315E-13 | 3.317E-13 | 5.696E-13 | 6.732E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 8.232E-07 | 2.469E-22 | 1.701E-21 | 8.673E-21 | 6.806E-20 | 3.868E-19 | 6.392E-27 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 8.232E-07 | 4.445E-28 | 6.608E-27 | 7.474E-26 | 1.751E-24 | 2.914E-23 | 5.296E-28 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D4 | 8.232E-07 | 1.065E-29 | 3.242E-28 | 7.835E-27 | 5.250E-25 | 2.338E-23 | 3.863E-29 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 4.064E-08 | 3.943E-08 | 3.711E-08 | 2.994E-08 | 1.585E-08 | 5.719E-17 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 2.278E-09 | 1.125E-10 | 1.091E-10 | 1.027E-10 | 8.287E-11 | 4.385E-11 | 1.564E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239+D | 2.278E-09 | 5.578E-17 | 1.637E-16 | 3.641E-16 | 9.180E-16 | 1.577E-15 | 1.863E-21 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 2.278E-09 | 6.833E-25 | 4.708E-24 | 2.400E-23 | 1.884E-22 | 1.071E-21 | 1.769E-29 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 2.278E-09 | 1.230E-30 | 1.829E-29 | 2.068E-28 | 4.846E-27 | 8.064E-26 | 1.466E-30 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D5 | 2.278E-09 | 3.017E-32 | 9.182E-31 | 2.219E-29 | 1.487E-27 | 6.622E-26 | 1.070E-31 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 1.125E-10 | 1.091E-10 | 1.027E-10 | 8.287E-11 | 4.385E-11 | 1.583E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 5.887E-04 | 2.906E-05 | 2.819E-05 | 2.653E-05 | 2.141E-05 | 1.133E-05 | 4.041E-14 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 5.887E-04 | 1.441E-11 | 4.231E-11 | 9.406E-11 | 2.372E-10 | 4.073E-10 | 4.814E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 5.887E-04 | 1.765E-19 | 1.216E-18 | 6.201E-18 | 4.866E-17 | 2.766E-16 | 4.571E-24 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 5.887E-04 | 3.179E-25 | 4.725E-24 | 5.344E-23 | 1.252E-21 | 2.084E-20 | 3.787E-25 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D | 5.887E-04 | 1.688E-26 | 5.131E-25 | 1.240E-23 | 8.343E-22 | 3.766E-20 | 3.097E-26 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 2.906E-05 | 2.819E-05 | 2.653E-05 | 2.141E-05 | 1.133E-05 | 4.089E-14 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.629E-06 | 8.043E-08 | 7.803E-08 | 7.344E-08 | 5.926E-08 | 3.136E-08 | 1.118E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 1.629E-06 | 3.989E-14 | 1.171E-13 | 2.603E-13 | 6.565E-13 | 1.127E-12 | 1.332E-18 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 1.629E-06 | 4.886E-22 | 3.366E-21 | 1.716E-20 | 1.347E-19 | 7.655E-19 | 1.265E-26 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 1.629E-06 | 8.798E-28 | 1.308E-26 | 1.479E-25 | 3.465E-24 | 5.766E-23 | 1.048E-27 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D1 | 1.629E-06 | 4.707E-29 | 1.433E-27 | 3.466E-26 | 2.333E-24 | 1.053E-22 | 8.401E-29 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 8.043E-08 | 7.803E-08 | 7.344E-08 | 5.926E-08 | 3.136E-08 | 1.132E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 8.237E-06 | 4.066E-07 | 3.945E-07 | 3.713E-07 | 2.996E-07 | 1.585E-07 | 5.655E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 8.237E-06 | 2.016E-13 | 5.920E-13 | 1.316E-12 | 3.319E-12 | 5.699E-12 | 6.735E-18 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 8.237E-06 | 2.470E-21 | 1.702E-20 | 8.677E-20 | 6.809E-19 | 3.870E-18 | 6.396E-26 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 8.237E-06 | 4.448E-27 | 6.611E-26 | 7.478E-25 | 1.752E-23 | 2.915E-22 | 5.299E-27 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D2 | 8.237E-06 | 2.020E-28 | 6.151E-27 | 1.488E-25 | 1.002E-23 | 4.531E-22 | 4.193E-28 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 4.066E-07 | 3.945E-07 | 3.713E-07 | 2.996E-07 | 1.585E-07 | 5.722E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 2.280E-08 | 1.125E-09 | 1.092E-09 | 1.028E-09 | 8.292E-10 | 4.388E-10 | 1.565E-18 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 2.280E-08 | 5.581E-16 | 1.638E-15 | 3.643E-15 | 9.185E-15 | 1.577E-14 | 1.864E-20 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 2.280E-08 | 6.837E-24 | 4.710E-23 | 2.402E-22 | 1.885E-21 | 1.071E-20 | 1.770E-28 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 2.280E-08 | 1.231E-29 | 1.830E-28 | 2.070E-27 | 4.849E-26 | 8.068E-25 | 1.467E-29 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D3 | 2.280E-08 | 5.660E-31 | 1.723E-29 | 4.169E-28 | 2.807E-26 | 1.269E-24 | 1.161E-30 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 1.125E-09 | 1.092E-09 | 1.028E-09 | 8.292E-10 | 4.388E-10 | 1.584E-18 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Cm-243 | Cm-243 | 4.942E-10 | 2.440E-11 | 2.367E-11 | 2.228E-11 | 1.798E-11 | 9.513E-12 | 3.393E-20 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 4.942E-10 | 1.210E-17 | 3.552E-17 | 7.897E-17 | 1.991E-16 | 3.420E-16 | 4.041E-22 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 4.942E-10 | 1.482E-25 | 1.021E-24 | 5.207E-24 | 4.086E-23 | 2.322E-22 | 3.838E-30 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 4.942E-10 | 2.669E-31 | 3.967E-30 | 4.487E-29 | 1.051E-27 | 1.749E-26 | 3.180E-31 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D4 | 4.942E-10 | 6.396E-33 | 1.946E-31 | 4.704E-30 | 3.152E-28 | 1.404E-26 | 2.319E-32 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 2.440E-11 | 2.367E-11 | 2.228E-11 | 1.798E-11 | 9.513E-12 | 3.433E-20 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.368E-12 | 6.753E-14 | 6.551E-14 | 6.166E-14 | 4.975E-14 | 2.633E-14 | 9.391E-23 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pu-239 | 1.368E-12 | 3.349E-20 | 9.831E-20 | 2.186E-19 | 5.511E-19 | 9.465E-19 | 1.119E-24 | 0.000E+00 | 0.000E+00 |
| Cm-243 | U-235+D | 1.368E-12 | 4.102E-28 | 2.826E-27 | 1.441E-26 | 1.131E-25 | 6.427E-25 | 1.062E-32 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Pa-231 | 1.368E-12 | 7.386E-34 | 1.098E-32 | 1.242E-31 | 2.910E-30 | 4.841E-29 | 8.800E-34 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Ac-227+D5 | 1.368E-12 | 1.812E-35 | 5.513E-34 | 1.332E-32 | 8.927E-31 | 3.976E-29 | 6.424E-35 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDSR(j) | | 6.753E-14 | 6.551E-14 | 6.166E-14 | 4.975E-14 | 2.633E-14 | 9.503E-23 | 0.000E+00 | 0.000E+00 |
| Cm-244 | Cm-244 | 1.371E-06 | 1.336E-09 | 1.273E-09 | 1.154E-09 | 8.161E-10 | 2.926E-10 | 1.644E-17 | 0.000E+00 | 0.000E+00 |
| Cm-244 | Cm-244 | 5.750E-08 | 5.604E-11 | 5.337E-11 | 4.839E-11 | 3.423E-11 | 1.227E-11 | 6.896E-19 | 0.000E+00 | 0.000E+00 |
| Cm-244 | Pu-240 | 5.750E-08 | 5.119E-15 | 1.493E-14 | 3.274E-14 | 7.871E-14 | 1.200E-13 | 1.116E-19 | 0.000E+00 | 0.000E+00 |
| Cm-244 | ΣDSR(j) | | 5.605E-11 | 5.339E-11 | 4.842E-11 | 3.431E-11 | 1.239E-11 | 8.012E-19 | 0.000E+00 | 0.000E+00 |
| Cm-244 | Cm-244 | 1.000E+00 | 9.746E-04 | 9.282E-04 | 8.416E-04 | 5.953E-04 | 2.134E-04 | 1.199E-11 | 0.000E+00 | 0.000E+00 |
| Cm-244 | Pu-240 | 1.000E+00 | 8.902E-08 | 2.597E-07 | 5.693E-07 | 1.369E-06 | 2.088E-06 | 1.941E-12 | 0.000E+00 | 0.000E+00 |
| Cm-244 | U-236 | 1.000E+00 | 2.323E-16 | 1.591E-15 | 7.980E-15 | 5.894E-14 | 2.809E-13 | 3.252E-19 | 0.000E+00 | 0.000E+00 |
| Cm-244 | Th-232 | 1.000E+00 | 3.518E-26 | 5.170E-25 | 5.766E-24 | 1.297E-22 | 1.928E-21 | 3.679E-27 | 0.000E+00 | 0.000E+00 |
| Cm-244 | Ra-228+D | 1.000E+00 | 6.130E-26 | 1.835E-24 | 4.279E-23 | 2.538E-21 | 8.479E-20 | 7.713E-26 | 0.000E+00 | 0.000E+00 |
| Cm-244 | Th-228+D | 1.000E+00 | 5.514E-27 | 3.202E-25 | 1.442E-23 | 1.859E-21 | 9.891E-20 | 6.085E-27 | 0.000E+00 | 0.000E+00 |
| Cm-244 | ΣDSR(j) | | 9.747E-04 | 9.285E-04 | 8.422E-04 | 5.966E-04 | 2.155E-04 | 1.393E-11 | 0.000E+00 | 0.000E+00 |
| Co-60 | Co-60 | 1.000E+00 | 1.002E+00 | 8.719E-01 | 6.595E-01 | 2.476E-01 | 1.459E-02 | 4.676E-15 | 0.000E+00 | 0.000E+00 |
| Cs-134 | Cs-134 | 1.000E+00 | 5.730E-01 | 4.062E-01 | 2.041E-01 | 1.830E-02 | 1.808E-05 | 9.526E-24 | 0.000E+00 | 0.000E+00 |
| Cs-137+D | Cs-137+D | 1.000E+00 | 2.408E-01 | 2.334E-01 | 2.192E-01 | 1.755E-01 | 9.041E-02 | 2.317E-10 | 0.000E+00 | 0.000E+00 |
| Eu-152 | Eu-152 | 7.210E-01 | 3.362E-01 | 3.134E-01 | 2.721E-01 | 1.657E-01 | 3.893E-02 | 6.981E-13 | 0.000E+00 | 0.000E+00 |
| Eu-152 | Eu-152 | 2.790E-01 | 1.301E-01 | 1.213E-01 | 1.053E-01 | 6.411E-02 | 1.506E-02 | 2.701E-13 | 0.000E+00 | 0.000E+00 |
| Eu-152 | Gd-152 | 2.790E-01 | 7.027E-19 | 2.030E-18 | 4.361E-18 | 9.821E-18 | 1.313E-17 | 1.367E-24 | 0.000E+00 | 0.000E+00 |
| Eu-152 | Sm-148 | 2.790E-01 | 7.359E-36 | 5.011E-35 | 2.490E-34 | 1.789E-33 | 8.139E-33 | 1.111E-38 | 0.000E+00 | 0.000E+00 |
| Eu-152 | Nd-144 | 2.790E-01 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Eu-152 | ΣDSR(j) | | 1.301E-01 | 1.213E-01 | 1.053E-01 | 6.411E-02 | 1.506E-02 | 2.701E-13 | 0.000E+00 | 0.000E+00 |
| Eu-154 | Eu-154 | 1.000E+00 | 4.966E-01 | 4.494E-01 | 3.680E-01 | 1.824E-01 | 2.379E-02 | 5.311E-14 | 0.000E+00 | 0.000E+00 |
| Eu-155 | Eu-155 | 1.000E+00 | 1.571E-02 | 1.336E-02 | 9.661E-03 | 3.104E-03 | 1.196E-04 | 4.813E-18 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Dose/Source Ratios Summed Over All Pathways
 Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Fe-55 | Fe-55 | 1.000E+00 | 1.628E-07 | 1.251E-07 | 7.377E-08 | 1.159E-08 | 5.636E-11 | 3.529E-24 | 0.000E+00 | 0.000E+00 |
| H-3 | H-3 | 1.000E+00 | 9.586E-07 | 5.987E-06 | 5.355E-27 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Nb-94 | Nb-94 | 1.000E+00 | 6.710E-01 | 6.492E-01 | 6.075E-01 | 4.803E-01 | 2.383E-01 | 5.331E-11 | 0.000E+00 | 0.000E+00 |
| Ni-59 | Ni-59 | 1.000E+00 | 7.816E-07 | 7.593E-07 | 7.159E-07 | 5.808E-07 | 3.077E-07 | 2.540E-12 | 0.000E+00 | 1.479E-07 |
| Ni-63 | Ni-63 | 1.000E+00 | 2.137E-06 | 2.061E-06 | 1.917E-06 | 1.482E-06 | 6.835E-07 | 3.494E-12 | 0.000E+00 | 4.010E-10 |
| Np-237+D | Np-237+D | 1.000E+00 | 7.928E-02 | 5.762E-02 | 3.043E-02 | 3.249E-03 | 5.313E-06 | 6.987E-07 | 0.000E+00 | 0.000E+00 |
| Np-237+D | U-233 | 1.000E+00 | 1.161E-09 | 2.993E-09 | 5.170E-09 | 6.630E-09 | 4.566E-09 | 6.495E-09 | 6.493E-09 | 6.473E-09 |
| Np-237+D | Th-229+D | 1.000E+00 | 8.236E-12 | 5.258E-11 | 2.284E-10 | 1.143E-09 | 3.281E-09 | 5.649E-12 | 4.185E-11 | 1.630E-10 |
| Np-237+D | ΣDSR(j) | | 7.928E-02 | 5.762E-02 | 3.043E-02 | 3.249E-03 | 5.321E-06 | 7.052E-07 | 6.535E-09 | 6.636E-09 |
| Pm-147 | Pm-147 | 1.000E+00 | 4.471E-06 | 3.380E-06 | 1.932E-06 | 2.725E-07 | 1.004E-09 | 7.581E-25 | 0.000E+00 | 0.000E+00 |
| Pm-147 | Sm-147 | 1.000E+00 | 7.791E-16 | 2.057E-15 | 3.690E-15 | 5.182E-15 | 4.140E-15 | 1.291E-21 | 0.000E+00 | 0.000E+00 |
| Pm-147 | ΣDSR(j) | | 4.471E-06 | 3.380E-06 | 1.932E-06 | 2.725E-07 | 1.004E-09 | 1.292E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 1.850E-09 | 2.878E-12 | 2.815E-12 | 2.691E-12 | 2.291E-12 | 1.395E-12 | 5.007E-19 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 9.996E-01 | 1.555E-03 | 1.521E-03 | 1.454E-03 | 1.238E-03 | 7.540E-04 | 2.706E-10 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 9.996E-01 | 6.921E-10 | 2.039E-09 | 4.569E-09 | 1.184E-08 | 2.183E-08 | 9.552E-15 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 9.996E-01 | 5.169E-15 | 3.565E-14 | 1.823E-13 | 1.445E-12 | 8.341E-12 | 5.812E-18 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D | 9.996E-01 | 3.445E-16 | 5.114E-15 | 5.824E-14 | 1.411E-12 | 2.587E-11 | 1.162E-17 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D | 9.996E-01 | 5.937E-21 | 1.534E-19 | 3.341E-18 | 2.133E-16 | 1.002E-14 | 2.035E-18 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Po-210 | 9.996E-01 | 1.997E-22 | 8.846E-21 | 3.029E-19 | 2.736E-17 | 1.379E-15 | 2.465E-19 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 1.555E-03 | 1.521E-03 | 1.454E-03 | 1.238E-03 | 7.540E-04 | 2.706E-10 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 1.319E-06 | 2.053E-09 | 2.007E-09 | 1.919E-09 | 1.634E-09 | 9.952E-10 | 3.571E-16 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 1.319E-06 | 9.136E-16 | 2.692E-15 | 6.032E-15 | 1.562E-14 | 2.882E-14 | 1.261E-20 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 1.319E-06 | 6.824E-21 | 4.705E-20 | 2.406E-19 | 1.907E-18 | 1.101E-17 | 7.672E-24 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D | 1.319E-06 | 4.548E-22 | 6.750E-21 | 7.687E-20 | 1.863E-18 | 3.415E-17 | 1.534E-23 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D1 | 1.319E-06 | 7.210E-27 | 2.249E-25 | 5.540E-24 | 3.851E-22 | 1.886E-20 | 2.617E-24 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 2.053E-09 | 2.007E-09 | 1.919E-09 | 1.634E-09 | 9.953E-10 | 3.572E-16 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 1.899E-08 | 2.955E-11 | 2.890E-11 | 2.763E-11 | 2.352E-11 | 1.433E-11 | 5.141E-18 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 1.899E-08 | 1.315E-17 | 3.874E-17 | 8.682E-17 | 2.249E-16 | 4.148E-16 | 1.815E-22 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 1.899E-08 | 9.822E-23 | 6.773E-22 | 3.463E-21 | 2.745E-20 | 1.585E-19 | 1.104E-25 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D | 1.899E-08 | 6.546E-24 | 9.716E-23 | 1.107E-21 | 2.681E-20 | 4.915E-19 | 2.209E-25 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D2 | 1.899E-08 | 8.799E-29 | 2.754E-27 | 6.795E-26 | 4.722E-24 | 2.306E-22 | 3.763E-26 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 2.955E-11 | 2.890E-11 | 2.763E-11 | 2.352E-11 | 1.433E-11 | 5.141E-18 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Pu-238 | Pu-238 | 2.100E-04 | 3.266E-07 | 3.194E-07 | 3.054E-07 | 2.601E-07 | 1.584E-07 | 5.683E-14 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 2.100E-04 | 1.454E-13 | 4.283E-13 | 9.598E-13 | 2.486E-12 | 4.586E-12 | 2.006E-18 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 2.100E-04 | 1.086E-18 | 7.487E-18 | 3.829E-17 | 3.034E-16 | 1.752E-15 | 1.221E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D1 | 2.100E-04 | 7.236E-20 | 1.074E-18 | 1.223E-17 | 2.964E-16 | 5.434E-15 | 2.441E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D | 2.100E-04 | 1.247E-24 | 3.222E-23 | 7.017E-22 | 4.479E-20 | 2.104E-18 | 4.275E-22 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Po-210 | 2.100E-04 | 4.194E-26 | 1.858E-24 | 6.361E-23 | 5.747E-21 | 2.896E-19 | 5.178E-23 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 3.266E-07 | 3.194E-07 | 3.054E-07 | 2.601E-07 | 1.584E-07 | 5.683E-14 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 2.771E-10 | 4.312E-13 | 4.217E-13 | 4.031E-13 | 3.433E-13 | 2.090E-13 | 7.502E-20 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 2.771E-10 | 1.919E-19 | 5.654E-19 | 1.267E-18 | 3.281E-18 | 6.053E-18 | 2.648E-24 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 2.771E-10 | 1.433E-24 | 9.883E-24 | 5.054E-23 | 4.005E-22 | 2.313E-21 | 1.612E-27 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D1 | 2.771E-10 | 9.552E-26 | 1.418E-24 | 1.615E-23 | 3.913E-22 | 7.172E-21 | 3.223E-27 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D1 | 2.771E-10 | 1.514E-30 | 4.723E-29 | 1.164E-27 | 8.089E-26 | 3.962E-24 | 5.498E-28 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 4.312E-13 | 4.217E-13 | 4.031E-13 | 3.433E-13 | 2.090E-13 | 7.502E-20 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 3.989E-12 | 6.206E-15 | 6.069E-15 | 5.803E-15 | 4.941E-15 | 3.009E-15 | 1.080E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 3.989E-12 | 2.762E-21 | 8.138E-21 | 1.824E-20 | 4.723E-20 | 8.713E-20 | 3.812E-26 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 3.989E-12 | 2.063E-26 | 1.423E-25 | 7.274E-25 | 5.765E-24 | 3.329E-23 | 2.320E-29 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D1 | 3.989E-12 | 1.375E-27 | 2.041E-26 | 2.324E-25 | 5.632E-24 | 1.032E-22 | 4.639E-29 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D2 | 3.989E-12 | 1.848E-32 | 5.784E-31 | 1.427E-29 | 9.919E-28 | 4.843E-26 | 7.903E-30 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 6.206E-15 | 6.069E-15 | 5.803E-15 | 4.941E-15 | 3.009E-15 | 1.080E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 1.998E-04 | 3.108E-07 | 3.039E-07 | 2.906E-07 | 2.474E-07 | 1.507E-07 | 5.407E-14 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 1.998E-04 | 1.383E-13 | 4.075E-13 | 9.131E-13 | 2.365E-12 | 4.363E-12 | 1.909E-18 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 1.998E-04 | 1.033E-18 | 7.124E-18 | 3.643E-17 | 2.887E-16 | 1.667E-15 | 1.162E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D2 | 1.998E-04 | 5.922E-20 | 8.789E-19 | 1.001E-17 | 2.423E-16 | 4.426E-15 | 2.291E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D | 1.998E-04 | 1.186E-24 | 3.066E-23 | 6.676E-22 | 4.262E-20 | 2.002E-18 | 4.067E-22 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Po-210 | 1.998E-04 | 3.991E-26 | 1.768E-24 | 6.052E-23 | 5.468E-21 | 2.756E-19 | 4.926E-23 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 3.108E-07 | 3.039E-07 | 2.906E-07 | 2.474E-07 | 1.507E-07 | 5.407E-14 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 2.637E-10 | 4.102E-13 | 4.012E-13 | 3.835E-13 | 3.266E-13 | 1.989E-13 | 7.137E-20 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 2.637E-10 | 1.826E-19 | 5.379E-19 | 1.205E-18 | 3.122E-18 | 5.759E-18 | 2.520E-24 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 2.637E-10 | 1.364E-24 | 9.403E-24 | 4.808E-23 | 3.811E-22 | 2.200E-21 | 1.533E-27 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D2 | 2.637E-10 | 7.817E-26 | 1.160E-24 | 1.321E-23 | 3.198E-22 | 5.843E-21 | 3.025E-27 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D1 | 2.637E-10 | 1.441E-30 | 4.493E-29 | 1.107E-27 | 7.696E-26 | 3.770E-24 | 5.231E-28 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 4.102E-13 | 4.012E-13 | 3.835E-13 | 3.266E-13 | 1.989E-13 | 7.137E-20 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 3.795E-12 | 5.905E-15 | 5.774E-15 | 5.521E-15 | 4.701E-15 | 2.863E-15 | 1.027E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 3.795E-12 | 2.628E-21 | 7.743E-21 | 1.735E-20 | 4.494E-20 | 8.289E-20 | 3.627E-26 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 3.795E-12 | 1.963E-26 | 1.353E-25 | 6.921E-25 | 5.485E-24 | 3.167E-23 | 2.207E-29 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D2 | 3.795E-12 | 1.125E-27 | 1.670E-26 | 1.901E-25 | 4.603E-24 | 8.410E-23 | 4.354E-29 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D2 | 3.795E-12 | 1.758E-32 | 5.503E-31 | 1.358E-29 | 9.437E-28 | 4.608E-26 | 7.519E-30 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 5.905E-15 | 5.774E-15 | 5.521E-15 | 4.701E-15 | 2.863E-15 | 1.027E-21 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Pu-238 | Pu-238 | 4.196E-08 | 6.528E-11 | 6.384E-11 | 6.103E-11 | 5.197E-11 | 3.165E-11 | 1.136E-17 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 4.196E-08 | 2.905E-17 | 8.560E-17 | 1.918E-16 | 4.968E-16 | 9.164E-16 | 4.010E-22 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 4.196E-08 | 2.170E-22 | 1.496E-21 | 7.651E-21 | 6.064E-20 | 3.501E-19 | 2.440E-25 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D3 | 4.196E-08 | 1.244E-23 | 1.846E-22 | 2.102E-21 | 5.089E-20 | 9.297E-19 | 4.813E-25 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D | 4.196E-08 | 2.492E-28 | 6.439E-27 | 1.402E-25 | 8.951E-24 | 4.205E-22 | 8.543E-26 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Po-210 | 4.196E-08 | 8.382E-30 | 3.713E-28 | 1.271E-26 | 1.148E-24 | 5.788E-23 | 1.035E-26 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 6.528E-11 | 6.384E-11 | 6.103E-11 | 5.197E-11 | 3.165E-11 | 1.136E-17 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 5.538E-14 | 8.616E-17 | 8.426E-17 | 8.056E-17 | 6.860E-17 | 4.177E-17 | 1.499E-23 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 5.538E-14 | 3.835E-23 | 1.130E-22 | 2.532E-22 | 6.558E-22 | 1.210E-21 | 5.293E-28 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 5.538E-14 | 2.864E-28 | 1.975E-27 | 1.010E-26 | 8.004E-26 | 4.622E-25 | 3.221E-31 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D3 | 5.538E-14 | 1.642E-29 | 2.437E-28 | 2.775E-27 | 6.717E-26 | 1.227E-24 | 6.353E-31 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D1 | 5.538E-14 | 3.026E-34 | 9.438E-33 | 2.325E-31 | 1.616E-29 | 7.918E-28 | 1.099E-31 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 8.616E-17 | 8.426E-17 | 8.056E-17 | 6.860E-17 | 4.178E-17 | 1.499E-23 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 7.972E-16 | 1.240E-18 | 1.213E-18 | 1.160E-18 | 9.874E-19 | 6.013E-19 | 2.158E-25 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 7.972E-16 | 5.520E-25 | 1.626E-24 | 3.644E-24 | 9.439E-24 | 1.741E-23 | 7.618E-30 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 7.972E-16 | 4.123E-30 | 2.843E-29 | 1.454E-28 | 1.152E-27 | 6.653E-27 | 4.636E-33 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D3 | 7.972E-16 | 2.363E-31 | 3.508E-30 | 3.994E-29 | 9.668E-28 | 1.766E-26 | 9.145E-33 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D2 | 7.972E-16 | 3.693E-36 | 1.156E-34 | 2.852E-33 | 1.982E-31 | 9.678E-30 | 1.579E-33 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 1.240E-18 | 1.213E-18 | 1.160E-18 | 9.874E-19 | 6.013E-19 | 2.158E-25 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 2.000E-07 | 3.111E-10 | 3.043E-10 | 2.909E-10 | 2.477E-10 | 1.509E-10 | 5.413E-17 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 2.000E-07 | 1.385E-16 | 4.080E-16 | 9.142E-16 | 2.368E-15 | 4.368E-15 | 1.911E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 2.000E-07 | 1.034E-21 | 7.132E-21 | 3.647E-20 | 2.890E-19 | 1.669E-18 | 1.163E-24 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D4 | 2.000E-07 | 4.695E-25 | 7.088E-24 | 8.145E-23 | 1.989E-21 | 3.715E-20 | 2.136E-24 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D | 2.000E-07 | 1.188E-27 | 3.069E-26 | 6.684E-25 | 4.267E-23 | 2.005E-21 | 4.072E-25 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Po-210 | 2.000E-07 | 3.995E-29 | 1.770E-27 | 6.060E-26 | 5.474E-24 | 2.759E-22 | 4.932E-26 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 3.111E-10 | 3.043E-10 | 2.909E-10 | 2.477E-10 | 1.509E-10 | 5.414E-17 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 2.640E-13 | 4.107E-16 | 4.017E-16 | 3.840E-16 | 3.270E-16 | 1.991E-16 | 7.146E-23 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 2.640E-13 | 1.828E-22 | 5.386E-22 | 1.207E-21 | 3.126E-21 | 5.766E-21 | 2.523E-27 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 2.640E-13 | 1.365E-27 | 9.415E-27 | 4.814E-26 | 3.815E-25 | 2.203E-24 | 1.535E-30 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D4 | 2.640E-13 | 6.197E-31 | 9.356E-30 | 1.075E-28 | 2.626E-27 | 4.904E-26 | 2.819E-30 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D1 | 2.640E-13 | 1.443E-33 | 4.499E-32 | 1.108E-30 | 7.705E-29 | 3.774E-27 | 5.237E-31 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 4.107E-16 | 4.017E-16 | 3.840E-16 | 3.270E-16 | 1.991E-16 | 7.146E-23 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 3.800E-15 | 5.912E-18 | 5.781E-18 | 5.527E-18 | 4.707E-18 | 2.866E-18 | 1.029E-24 | 0.000E+00 | 0.000E+00 |
| Pu-238 | U-234 | 3.800E-15 | 2.631E-24 | 7.752E-24 | 1.737E-23 | 4.499E-23 | 8.299E-23 | 3.631E-29 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Th-230 | 3.800E-15 | 1.965E-29 | 1.355E-28 | 6.929E-28 | 5.492E-27 | 3.171E-26 | 2.210E-32 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Ra-226+D4 | 3.800E-15 | 8.920E-33 | 1.347E-31 | 1.548E-30 | 3.780E-29 | 7.059E-28 | 4.058E-32 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pb-210+D2 | 3.800E-15 | 1.761E-35 | 5.510E-34 | 1.360E-32 | 9.449E-31 | 4.613E-29 | 7.528E-33 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDSR(j) | | 5.912E-18 | 5.781E-18 | 5.527E-18 | 4.707E-18 | 2.866E-18 | 1.029E-24 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

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Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Pu-239 | Pu-239 | 5.901E-04 | 1.014E-06 | 9.995E-07 | 9.707E-07 | 8.732E-07 | 6.217E-07 | 3.877E-13 | 0.000E+00 | 0.000E+00 |
| Pu-239 | U-235+D | 5.901E-04 | 1.857E-14 | 5.508E-14 | 1.253E-13 | 3.431E-13 | 7.499E-13 | 5.303E-21 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pa-231 | 5.901E-04 | 4.466E-20 | 3.106E-19 | 1.604E-18 | 1.308E-17 | 8.197E-17 | 5.984E-22 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Ac-227+D | 5.901E-04 | 2.949E-21 | 4.347E-20 | 4.888E-19 | 1.134E-17 | 1.855E-16 | 5.560E-23 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDSR(j) | | 1.014E-06 | 9.995E-07 | 9.707E-07 | 8.732E-07 | 6.217E-07 | 3.877E-13 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 1.633E-06 | 2.807E-09 | 2.766E-09 | 2.687E-09 | 2.417E-09 | 1.721E-09 | 1.073E-15 | 0.000E+00 | 0.000E+00 |
| Pu-239 | U-235+D | 1.633E-06 | 5.139E-17 | 1.524E-16 | 3.468E-16 | 9.496E-16 | 2.075E-15 | 1.468E-23 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pa-231 | 1.633E-06 | 1.236E-22 | 8.597E-22 | 4.440E-21 | 3.620E-20 | 2.269E-19 | 1.656E-24 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Ac-227+D1 | 1.633E-06 | 8.228E-24 | 1.215E-22 | 1.366E-21 | 3.171E-20 | 5.188E-19 | 1.512E-25 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDSR(j) | | 2.807E-09 | 2.766E-09 | 2.687E-09 | 2.417E-09 | 1.721E-09 | 1.073E-15 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 8.257E-06 | 1.419E-08 | 1.399E-08 | 1.358E-08 | 1.222E-08 | 8.699E-09 | 5.425E-15 | 0.000E+00 | 0.000E+00 |
| Pu-239 | U-235+D | 8.257E-06 | 2.598E-16 | 7.706E-16 | 1.753E-15 | 4.801E-15 | 1.049E-14 | 7.420E-23 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pa-231 | 8.257E-06 | 6.248E-22 | 4.346E-21 | 2.245E-20 | 1.830E-19 | 1.147E-18 | 8.373E-24 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Ac-227+D2 | 8.257E-06 | 3.532E-23 | 5.213E-22 | 5.866E-21 | 1.362E-19 | 2.232E-18 | 7.546E-25 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDSR(j) | | 1.419E-08 | 1.399E-08 | 1.358E-08 | 1.222E-08 | 8.699E-09 | 5.425E-15 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 2.285E-08 | 3.927E-11 | 3.871E-11 | 3.759E-11 | 3.382E-11 | 2.408E-11 | 1.501E-17 | 0.000E+00 | 0.000E+00 |
| Pu-239 | U-235+D | 2.285E-08 | 7.190E-19 | 2.133E-18 | 4.853E-18 | 1.329E-17 | 2.904E-17 | 2.053E-25 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pa-231 | 2.285E-08 | 1.729E-24 | 1.203E-23 | 6.212E-23 | 5.066E-22 | 3.174E-21 | 2.317E-26 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Ac-227+D3 | 2.285E-08 | 9.894E-26 | 1.461E-24 | 1.643E-23 | 3.815E-22 | 6.253E-21 | 2.090E-27 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDSR(j) | | 3.927E-11 | 3.871E-11 | 3.759E-11 | 3.382E-11 | 2.408E-11 | 1.501E-17 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 4.954E-10 | 8.514E-13 | 8.392E-13 | 8.150E-13 | 7.331E-13 | 5.220E-13 | 3.255E-19 | 0.000E+00 | 0.000E+00 |
| Pu-239 | U-235+D | 4.954E-10 | 1.559E-20 | 4.624E-20 | 1.052E-19 | 2.881E-19 | 6.296E-19 | 4.452E-27 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pa-231 | 4.954E-10 | 3.749E-26 | 2.608E-25 | 1.347E-24 | 1.098E-23 | 6.882E-23 | 5.024E-28 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Ac-227+D4 | 4.954E-10 | 1.118E-27 | 1.650E-26 | 1.854E-25 | 4.285E-24 | 6.915E-23 | 4.174E-29 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDSR(j) | | 8.514E-13 | 8.392E-13 | 8.150E-13 | 7.331E-13 | 5.220E-13 | 3.255E-19 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 1.371E-12 | 2.356E-15 | 2.323E-15 | 2.256E-15 | 2.029E-15 | 1.445E-15 | 9.009E-22 | 0.000E+00 | 0.000E+00 |
| Pu-239 | U-235+D | 1.371E-12 | 4.314E-23 | 1.280E-22 | 2.912E-22 | 7.972E-22 | 1.743E-21 | 1.232E-29 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pa-231 | 1.371E-12 | 1.038E-28 | 7.218E-28 | 3.727E-27 | 3.039E-26 | 1.905E-25 | 1.390E-30 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Ac-227+D5 | 1.371E-12 | 3.167E-30 | 4.673E-29 | 5.252E-28 | 1.214E-26 | 1.959E-25 | 1.156E-31 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDSR(j) | | 2.356E-15 | 2.323E-15 | 2.256E-15 | 2.029E-15 | 1.445E-15 | 9.009E-22 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Pu-239+D | 9.829E-01 | 1.689E-03 | 1.665E-03 | 1.617E-03 | 1.454E-03 | 1.036E-03 | 6.458E-10 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | U-235+D | 9.829E-01 | 3.093E-11 | 9.174E-11 | 2.087E-10 | 5.715E-10 | 1.249E-09 | 8.832E-18 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Pa-231 | 9.829E-01 | 7.438E-17 | 5.174E-16 | 2.672E-15 | 2.179E-14 | 1.365E-13 | 9.967E-19 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Ac-227+D | 9.829E-01 | 4.911E-18 | 7.241E-17 | 8.142E-16 | 1.889E-14 | 3.090E-13 | 9.262E-20 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | ΣDSR(j) | | 1.689E-03 | 1.665E-03 | 1.617E-03 | 1.454E-03 | 1.036E-03 | 6.458E-10 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Pu-239+D | 2.720E-03 | 4.675E-06 | 4.608E-06 | 4.475E-06 | 4.025E-06 | 2.866E-06 | 1.787E-12 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | U-235+D | 2.720E-03 | 8.559E-14 | 2.539E-13 | 5.777E-13 | 1.582E-12 | 3.457E-12 | 2.444E-20 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Pa-231 | 2.720E-03 | 2.059E-19 | 1.432E-18 | 7.395E-18 | 6.030E-17 | 3.779E-16 | 2.759E-21 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Ac-227+D1 | 2.720E-03 | 1.370E-20 | 2.023E-19 | 2.276E-18 | 5.282E-17 | 8.642E-16 | 2.519E-22 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | ΣDSR(j) | | 4.675E-06 | 4.608E-06 | 4.475E-06 | 4.025E-06 | 2.866E-06 | 1.787E-12 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Dose/Source Ratios Summed Over All Pathways
 Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Pu-239+D | Pu-239+D | 1.375E-02 | 2.363E-05 | 2.330E-05 | 2.262E-05 | 2.035E-05 | 1.449E-05 | 9.036E-12 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | U-235+D | 1.375E-02 | 4.327E-13 | 1.284E-12 | 2.921E-12 | 7.996E-12 | 1.748E-11 | 1.236E-19 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Pa-231 | 1.375E-02 | 1.041E-18 | 7.240E-18 | 3.739E-17 | 3.049E-16 | 1.910E-15 | 1.395E-20 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Ac-227+D2 | 1.375E-02 | 5.882E-20 | 8.684E-19 | 9.770E-18 | 2.268E-16 | 3.718E-15 | 1.257E-21 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | ΣDSR(j) | | 2.363E-05 | 2.330E-05 | 2.262E-05 | 2.035E-05 | 1.449E-05 | 9.036E-12 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Pu-239+D | 3.806E-05 | 6.541E-08 | 6.447E-08 | 6.261E-08 | 5.633E-08 | 4.010E-08 | 2.501E-14 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | U-235+D | 3.806E-05 | 1.198E-15 | 3.553E-15 | 8.083E-15 | 2.213E-14 | 4.837E-14 | 3.420E-22 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Pa-231 | 3.806E-05 | 2.880E-21 | 2.004E-20 | 1.035E-19 | 8.437E-19 | 5.287E-18 | 3.860E-23 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Ac-227+D3 | 3.806E-05 | 1.648E-22 | 2.433E-21 | 2.737E-20 | 6.355E-19 | 1.042E-17 | 3.481E-24 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | ΣDSR(j) | | 6.541E-08 | 6.447E-08 | 6.261E-08 | 5.633E-08 | 4.010E-08 | 2.501E-14 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Pu-239+D | 8.252E-07 | 1.418E-09 | 1.398E-09 | 1.358E-09 | 1.221E-09 | 8.695E-10 | 5.422E-16 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | U-235+D | 8.252E-07 | 2.597E-17 | 7.702E-17 | 1.752E-16 | 4.798E-16 | 1.049E-15 | 7.416E-24 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Pa-231 | 8.252E-07 | 6.245E-23 | 4.344E-22 | 2.243E-21 | 1.829E-20 | 1.146E-19 | 8.368E-25 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Ac-227+D4 | 8.252E-07 | 1.863E-24 | 2.748E-23 | 3.089E-22 | 7.137E-21 | 1.152E-19 | 6.953E-26 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | ΣDSR(j) | | 1.418E-09 | 1.398E-09 | 1.358E-09 | 1.221E-09 | 8.695E-10 | 5.422E-16 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Pu-239+D | 2.284E-09 | 3.925E-12 | 3.869E-12 | 3.757E-12 | 3.380E-12 | 2.406E-12 | 1.501E-18 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | U-235+D | 2.284E-09 | 7.186E-20 | 2.132E-19 | 4.850E-19 | 1.328E-18 | 2.902E-18 | 2.052E-26 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Pa-231 | 2.284E-09 | 1.728E-25 | 1.202E-24 | 6.209E-24 | 5.063E-23 | 3.173E-22 | 2.316E-27 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | Ac-227+D5 | 2.284E-09 | 5.275E-27 | 7.784E-26 | 8.747E-25 | 2.021E-23 | 3.262E-22 | 1.926E-28 | 0.000E+00 | 0.000E+00 |
| Pu-239+D | ΣDSR(j) | | 3.925E-12 | 3.869E-12 | 3.757E-12 | 3.380E-12 | 2.406E-12 | 1.501E-18 | 0.000E+00 | 0.000E+00 |
| Pu-240 | Pu-240 | 5.750E-08 | 9.830E-11 | 9.688E-11 | 9.407E-11 | 8.458E-11 | 6.016E-11 | 3.753E-17 | 0.000E+00 | 0.000E+00 |
| Pu-240 | Pu-240 | 1.000E+00 | 1.710E-03 | 1.685E-03 | 1.636E-03 | 1.471E-03 | 1.046E-03 | 6.527E-10 | 0.000E+00 | 0.000E+00 |
| Pu-240 | U-236 | 1.000E+00 | 6.679E-12 | 1.974E-11 | 4.457E-11 | 1.185E-10 | 2.354E-10 | 1.410E-16 | 0.000E+00 | 0.000E+00 |
| Pu-240 | Th-232 | 1.000E+00 | 1.343E-21 | 9.273E-21 | 4.761E-20 | 3.825E-19 | 2.287E-18 | 2.060E-24 | 0.000E+00 | 0.000E+00 |
| Pu-240 | Ra-228+D | 1.000E+00 | 2.909E-21 | 4.219E-20 | 4.566E-19 | 9.317E-18 | 1.152E-16 | 4.485E-23 | 0.000E+00 | 0.000E+00 |
| Pu-240 | Th-228+D | 1.000E+00 | 3.114E-22 | 8.839E-21 | 1.845E-19 | 7.821E-18 | 1.435E-16 | 3.584E-24 | 0.000E+00 | 0.000E+00 |
| Pu-240 | ΣDSR(j) | | 1.710E-03 | 1.685E-03 | 1.636E-03 | 1.471E-03 | 1.046E-03 | 6.527E-10 | 0.000E+00 | 0.000E+00 |
| Pu-241 | Pu-241 | 1.000E+00 | 3.233E-05 | 3.036E-05 | 2.678E-05 | 1.718E-05 | 4.658E-06 | 1.016E-13 | 0.000E+00 | 0.000E+00 |
| Pu-241 | Am-241 | 1.000E+00 | 4.772E-06 | 1.389E-05 | 3.033E-05 | 7.227E-05 | 1.128E-04 | 1.674E-11 | 0.000E+00 | 5.144E-13 |
| Pu-241 | Np-237+D | 1.000E+00 | 7.252E-12 | 4.565E-11 | 1.914E-10 | 8.297E-10 | 1.546E-09 | 4.343E-09 | 1.430E-09 | 4.540E-10 |
| Pu-241 | U-233 | 1.000E+00 | 5.226E-20 | 7.102E-19 | 6.829E-18 | 9.868E-17 | 6.252E-16 | 1.051E-15 | 4.698E-15 | 9.898E-15 |
| Pu-241 | Th-229+D | 1.000E+00 | 2.168E-22 | 6.275E-21 | 1.365E-19 | 6.596E-18 | 1.570E-16 | 2.651E-19 | 1.668E-17 | 1.649E-16 |
| Pu-241 | ΣDSR(j) | | 3.710E-05 | 4.426E-05 | 5.711E-05 | 8.945E-05 | 1.175E-04 | 4.360E-09 | 1.430E-09 | 4.545E-10 |
| Pu-241+D | Pu-241+D | 2.450E-05 | 1.084E-06 | 1.023E-06 | 9.111E-07 | 6.058E-07 | 1.851E-07 | 1.064E-17 | 0.000E+00 | 0.000E+00 |
| Pu-241+D | Np-237+D | 2.450E-05 | 3.237E-13 | 8.266E-13 | 1.368E-12 | 1.418E-12 | 4.539E-13 | 6.790E-13 | 3.031E-18 | 0.000E+00 |
| Pu-241+D | U-233 | 2.450E-05 | 3.124E-21 | 1.938E-20 | 8.021E-20 | 3.375E-19 | 5.752E-19 | 7.708E-19 | 8.540E-19 | 8.513E-19 |
| Pu-241+D | Th-229+D | 2.450E-05 | 1.639E-23 | 2.265E-22 | 2.214E-21 | 3.339E-20 | 2.409E-19 | 4.142E-22 | 5.125E-21 | 2.109E-20 |
| Pu-241+D | ΣDSR(j) | | 1.084E-06 | 1.023E-06 | 9.111E-07 | 6.058E-07 | 1.851E-07 | 6.790E-13 | 3.890E-18 | 8.724E-19 |

Summary : RESRAD Default

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Dose/Source Ratios Summed Over All Pathways
Parent and Progeny Principal Radionuclide Contributions Indicated

| Parent (i) | Product (j) | Thread Fraction | DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) | | | | | | | |
|---------------|----------------|--------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Sb-125 | Sb-125 | 7.686E-01 | 1.178E-01 | 8.494E-02 | 4.414E-02 | 4.453E-03 | 6.167E-06 | 2.015E-24 | 0.000E+00 | 0.000E+00 |
| Sb-125 | Sb-125 | 2.314E-01 | 3.546E-02 | 2.557E-02 | 1.329E-02 | 1.340E-03 | 1.856E-06 | 6.065E-25 | 0.000E+00 | 0.000E+00 |
| Sb-125 | Te-125m | 2.314E-01 | 4.964E-05 | 5.654E-05 | 3.191E-05 | 4.523E-06 | 2.485E-08 | 1.041E-15 | 2.428E-40 | 0.000E+00 |
| Sb-125 | ∑DSR(j) | | 3.551E-02 | 2.562E-02 | 1.332E-02 | 1.345E-03 | 1.881E-06 | 1.041E-15 | 2.428E-40 | 0.000E+00 |
| Sr-90+D | Sr-90+D | 1.000E+00 | 3.230E-03 | 1.886E-03 | 6.407E-04 | 1.459E-05 | 2.871E-10 | 7.076E-18 | 0.000E+00 | 0.000E+00 |
| Tc-99 | Tc-99 | 1.000E+00 | 3.061E-05 | 2.368E-04 | 9.874E-12 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |

The DSR includes contributions from associated (half-life ≤ 30 days) daughters.

Single Radionuclide Soil Guidelines G(i,t) in pCi/g
Basic Radiation Dose Limit = 2.500E+01 mrem/yr

| Nuclide (i) | t= | 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
|----------------|-----------|------------|------------|------------|------------|------------|------------|------------|-----------|
| Ag-108m | 3.601E+01 | 3.712E+01 | 3.947E+01 | 4.904E+01 | 9.389E+01 | 3.669E+11 | *7.853E+12 | *7.853E+12 | |
| Am-241 | 4.132E+03 | 4.181E+03 | 4.281E+03 | 4.654E+03 | 5.937E+03 | 1.598E+08 | 5.393E+08 | 1.699E+09 | |
| Am-243 | 3.178E+02 | 3.216E+02 | 3.295E+02 | 3.589E+02 | 4.673E+02 | 4.264E+10 | *1.996E+11 | *1.996E+11 | |
| C-14 | 1.037E+07 | *4.479E+12 | *4.479E+12 | *4.479E+12 | *4.479E+12 | *4.479E+12 | *4.479E+12 | *4.479E+12 | |
| Cm-243 | 5.064E+02 | 5.220E+02 | 5.546E+02 | 6.873E+02 | 1.299E+03 | 3.598E+11 | *5.054E+13 | *5.054E+13 | |
| Cm-244 | 2.565E+04 | 2.693E+04 | 2.969E+04 | 4.190E+04 | 1.160E+05 | 1.794E+12 | *8.092E+13 | *8.092E+13 | |
| Co-60 | 2.494E+01 | 2.867E+01 | 3.791E+01 | 1.010E+02 | 1.713E+03 | *1.113E+15 | *1.113E+15 | *1.113E+15 | |
| Cs-134 | 4.363E+01 | 6.154E+01 | 1.225E+02 | 1.366E+03 | 1.383E+06 | *1.283E+15 | *1.283E+15 | *1.283E+15 | |
| Cs-137 | 1.038E+02 | 1.071E+02 | 1.141E+02 | 1.424E+02 | 2.765E+02 | 1.079E+11 | *8.593E+13 | *8.593E+13 | |
| Eu-152 | 5.361E+01 | 5.752E+01 | 6.623E+01 | 1.088E+02 | 4.631E+02 | 2.582E+13 | *1.727E+14 | *1.727E+14 | |
| Eu-154 | 5.034E+01 | 5.563E+01 | 6.793E+01 | 1.371E+02 | 1.051E+03 | *2.685E+14 | *2.685E+14 | *2.685E+14 | |
| Eu-155 | 1.591E+03 | 1.871E+03 | 2.588E+03 | 8.053E+03 | 2.090E+05 | *4.815E+14 | *4.815E+14 | *4.815E+14 | |
| Fe-55 | 1.536E+08 | 1.999E+08 | 3.389E+08 | 2.157E+09 | 4.436E+11 | *2.335E+15 | *2.335E+15 | *2.335E+15 | |
| H-3 | 2.608E+07 | 4.176E+06 | *9.621E+15 | *9.621E+15 | *9.621E+15 | *9.621E+15 | *9.621E+15 | *9.621E+15 | |
| Nb-94 | 3.726E+01 | 3.851E+01 | 4.115E+01 | 5.205E+01 | 1.049E+02 | *1.856E+11 | *1.856E+11 | *1.856E+11 | |
| Ni-59 | 3.198E+07 | 3.293E+07 | 3.492E+07 | 4.304E+07 | 8.124E+07 | *5.906E+10 | *5.906E+10 | 1.690E+08 | |
| Ni-63 | 1.170E+07 | 1.213E+07 | 1.304E+07 | 1.687E+07 | 3.658E+07 | 7.156E+12 | *5.586E+13 | 6.235E+10 | |
| Np-237 | 3.153E+02 | 4.339E+02 | 8.216E+02 | 7.694E+03 | 4.698E+06 | 3.545E+07 | *7.034E+08 | *7.034E+08 | |
| Pm-147 | 5.591E+06 | 7.395E+06 | 1.294E+07 | 9.175E+07 | 2.491E+10 | *9.212E+14 | *9.212E+14 | *9.212E+14 | |
| Pu-238 | 1.607E+04 | 1.643E+04 | 1.719E+04 | 2.018E+04 | 3.314E+04 | 9.236E+10 | *1.712E+13 | *1.712E+13 | |
| Pu-239 | 1.455E+04 | 1.476E+04 | 1.520E+04 | 1.689E+04 | 2.373E+04 | 3.805E+10 | *6.202E+10 | *6.202E+10 | |
| Pu-240 | 1.462E+04 | 1.484E+04 | 1.528E+04 | 1.700E+04 | 2.390E+04 | 3.830E+10 | *2.269E+11 | *2.269E+11 | |
| Pu-241 | 6.547E+05 | 5.521E+05 | 4.309E+05 | 2.776E+05 | 2.125E+05 | 5.733E+09 | 1.749E+10 | 5.500E+10 | |
| Sb-125 | 1.630E+02 | 2.261E+02 | 4.351E+02 | 4.312E+03 | 3.106E+06 | *1.029E+15 | *1.029E+15 | *1.029E+15 | |
| Sr-90 | 7.740E+03 | 1.325E+04 | 3.902E+04 | 1.713E+06 | 8.707E+10 | *1.366E+14 | *1.366E+14 | *1.366E+14 | |
| Tc-99 | 8.166E+05 | 1.056E+05 | *1.695E+10 | *1.695E+10 | *1.695E+10 | *1.695E+10 | *1.695E+10 | *1.695E+10 | |

*At specific activity limit

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Summed Dose/Source Ratios DSR(i,t) in (mrem/yr)/(pCi/g)
 and Single Radionuclide Soil Guidelines G(i,t) in pCi/g
 at tmin = time of minimum single radionuclide soil guideline
 and at tmax = time of maximum total dose = 0.000E+00 years

| Nuclide (i) | Initial (pCi/g) | tmin (years) | DSR(i,tmin) | G(i,tmin) (pCi/g) | DSR(i,tmax) | G(i,tmax) (pCi/g) |
|----------------|--------------------|-----------------|-------------|----------------------|-------------|----------------------|
| Ag-108m | 1.000E+00 | 0.000E+00 | 6.943E-01 | 3.601E+01 | 6.943E-01 | 3.601E+01 |
| Am-241 | 1.000E+00 | 0.000E+00 | 6.051E-03 | 4.132E+03 | 6.051E-03 | 4.132E+03 |
| Am-243 | 1.000E+00 | 0.000E+00 | 7.866E-02 | 3.178E+02 | 7.866E-02 | 3.178E+02 |
| C-14 | 1.000E+00 | 20.21 ± 0.04 | 1.462E-05 | 1.710E+06 | 2.411E-06 | 1.037E+07 |
| Cm-243 | 1.000E+00 | 0.000E+00 | 4.937E-02 | 5.064E+02 | 4.937E-02 | 5.064E+02 |
| Cm-244 | 1.000E+00 | 0.000E+00 | 9.747E-04 | 2.565E+04 | 9.747E-04 | 2.565E+04 |
| Co-60 | 1.000E+00 | 0.000E+00 | 1.002E+00 | 2.494E+01 | 1.002E+00 | 2.494E+01 |
| Cs-134 | 1.000E+00 | 0.000E+00 | 5.730E-01 | 4.363E+01 | 5.730E-01 | 4.363E+01 |
| Cs-137 | 1.000E+00 | 0.000E+00 | 2.408E-01 | 1.038E+02 | 2.408E-01 | 1.038E+02 |
| Eu-152 | 1.000E+00 | 0.000E+00 | 4.663E-01 | 5.361E+01 | 4.663E-01 | 5.361E+01 |
| Eu-154 | 1.000E+00 | 0.000E+00 | 4.966E-01 | 5.034E+01 | 4.966E-01 | 5.034E+01 |
| Eu-155 | 1.000E+00 | 0.000E+00 | 1.571E-02 | 1.591E+03 | 1.571E-02 | 1.591E+03 |
| Fe-55 | 1.000E+00 | 0.000E+00 | 1.628E-07 | 1.536E+08 | 1.628E-07 | 1.536E+08 |
| H-3 | 1.000E+00 | 1.019 ± 0.002 | 6.307E-06 | 3.964E+06 | 9.586E-07 | 2.608E+07 |
| Nb-94 | 1.000E+00 | 0.000E+00 | 6.710E-01 | 3.726E+01 | 6.710E-01 | 3.726E+01 |
| Ni-59 | 1.000E+00 | 0.000E+00 | 7.816E-07 | 3.198E+07 | 7.816E-07 | 3.198E+07 |
| Ni-63 | 1.000E+00 | 0.000E+00 | 2.137E-06 | 1.170E+07 | 2.137E-06 | 1.170E+07 |
| Np-237 | 1.000E+00 | 61.6 ± 0.1 | 1.809E-01 | 1.382E+02 | 7.928E-02 | 3.153E+02 |
| Pm-147 | 1.000E+00 | 0.000E+00 | 4.471E-06 | 5.591E+06 | 4.471E-06 | 5.591E+06 |
| Pu-238 | 1.000E+00 | 0.000E+00 | 1.556E-03 | 1.607E+04 | 1.556E-03 | 1.607E+04 |
| Pu-239 | 1.000E+00 | 0.000E+00 | 1.719E-03 | 1.455E+04 | 1.719E-03 | 1.455E+04 |
| Pu-240 | 1.000E+00 | 0.000E+00 | 1.710E-03 | 1.462E+04 | 1.710E-03 | 1.462E+04 |
| Pu-241 | 1.000E+00 | 30.24 ± 0.06 | 1.176E-04 | 2.125E+05 | 3.819E-05 | 6.547E+05 |
| Sb-125 | 1.000E+00 | 0.000E+00 | 1.533E-01 | 1.630E+02 | 1.533E-01 | 1.630E+02 |
| Sr-90 | 1.000E+00 | 37.97 ± 0.08 | 3.716E-03 | 6.728E+03 | 3.230E-03 | 7.740E+03 |
| Tc-99 | 1.000E+00 | 1.466 ± 0.003 | 2.687E-04 | 9.303E+04 | 3.061E-05 | 8.166E+05 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Dose Summed Over All Pathways

Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF (i) | DOSE (j, t), mrem/yr | | | | | | | |
|----------------|---------------|-----------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Ag-108m | Ag-108m | 1.000E+00 | 6.943E-01 | 6.734E-01 | 6.334E-01 | 5.098E-01 | 2.663E-01 | 6.813E-11 | 0.000E+00 | 0.000E+00 |
| Am-241 | Am-241 | 1.000E+00 | 6.051E-03 | 5.980E-03 | 5.839E-03 | 5.371E-03 | 4.211E-03 | 4.691E-10 | 0.000E+00 | 0.000E+00 |
| Am-241 | Pu-241 | 1.000E+00 | 4.772E-06 | 1.389E-05 | 3.033E-05 | 7.227E-05 | 1.128E-04 | 1.674E-11 | 0.000E+00 | 5.144E-13 |
| Am-241 | ΣDOSE (j) | | 6.056E-03 | 5.994E-03 | 5.870E-03 | 5.444E-03 | 4.324E-03 | 4.859E-10 | 0.000E+00 | 5.144E-13 |
| Np-237 | Am-241 | 1.000E+00 | 1.341E-08 | 3.500E-08 | 6.112E-08 | 8.084E-08 | 6.136E-08 | 1.560E-07 | 4.635E-08 | 1.472E-08 |
| Np-237 | Np-237 | 1.000E+00 | 7.928E-02 | 5.762E-02 | 3.043E-02 | 3.249E-03 | 5.313E-06 | 6.987E-07 | 0.000E+00 | 0.000E+00 |
| Np-237 | Pu-241 | 1.000E+00 | 7.252E-12 | 4.565E-11 | 1.914E-10 | 8.297E-10 | 1.546E-09 | 4.343E-09 | 1.430E-09 | 4.540E-10 |
| Np-237 | Pu-241 | 2.450E-05 | 3.237E-13 | 8.266E-13 | 1.368E-12 | 1.418E-12 | 4.539E-13 | 6.790E-13 | 3.031E-18 | 0.000E+00 |
| Np-237 | ΣDOSE (j) | | 7.928E-02 | 5.762E-02 | 3.043E-02 | 3.249E-03 | 5.376E-06 | 8.591E-07 | 4.778E-08 | 1.517E-08 |
| U-233 | Am-241 | 1.000E+00 | 1.290E-16 | 8.105E-16 | 3.463E-15 | 1.651E-14 | 4.080E-14 | 6.234E-14 | 1.805E-13 | 3.490E-13 |
| U-233 | Np-237 | 1.000E+00 | 1.161E-09 | 2.993E-09 | 5.170E-09 | 6.630E-09 | 4.566E-09 | 6.495E-09 | 6.493E-09 | 6.473E-09 |
| U-233 | Pu-241 | 1.000E+00 | 5.226E-20 | 7.102E-19 | 6.829E-18 | 9.868E-17 | 6.252E-16 | 1.051E-15 | 4.698E-15 | 9.898E-15 |
| U-233 | Pu-241 | 2.450E-05 | 3.124E-21 | 1.938E-20 | 8.021E-20 | 3.375E-19 | 5.752E-19 | 7.708E-19 | 8.540E-19 | 8.513E-19 |
| U-233 | ΣDOSE (j) | | 1.161E-09 | 2.993E-09 | 5.170E-09 | 6.630E-09 | 4.566E-09 | 6.495E-09 | 6.493E-09 | 6.473E-09 |
| Th-229 | Am-241 | 1.000E+00 | 6.748E-19 | 9.417E-18 | 9.416E-17 | 1.545E-15 | 1.418E-14 | 2.354E-17 | 7.145E-16 | 6.049E-15 |
| Th-229 | Np-237 | 1.000E+00 | 8.236E-12 | 5.258E-11 | 2.284E-10 | 1.143E-09 | 3.281E-09 | 5.649E-12 | 4.185E-11 | 1.630E-10 |
| Th-229 | Pu-241 | 1.000E+00 | 2.168E-22 | 6.275E-21 | 1.365E-19 | 6.596E-18 | 1.570E-16 | 2.651E-19 | 1.668E-17 | 1.649E-16 |
| Th-229 | Pu-241 | 2.450E-05 | 1.639E-23 | 2.265E-22 | 2.214E-21 | 3.339E-20 | 2.409E-19 | 4.142E-22 | 5.125E-21 | 2.109E-20 |
| Th-229 | ΣDOSE (j) | | 8.236E-12 | 5.258E-11 | 2.284E-10 | 1.143E-09 | 3.281E-09 | 5.649E-12 | 4.185E-11 | 1.630E-10 |
| Am-243 | Am-243 | 9.829E-01 | 7.731E-02 | 7.640E-02 | 7.458E-02 | 6.846E-02 | 5.259E-02 | 5.746E-10 | 0.000E+00 | 0.000E+00 |
| Am-243 | Am-243 | 2.720E-03 | 2.140E-04 | 2.114E-04 | 2.064E-04 | 1.895E-04 | 1.455E-04 | 1.590E-12 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 2.359E-03 | 8.657E-09 | 2.550E-08 | 5.711E-08 | 1.481E-07 | 2.800E-07 | 6.097E-15 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 6.529E-06 | 2.396E-11 | 7.057E-11 | 1.581E-10 | 4.099E-10 | 7.751E-10 | 1.687E-17 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 3.301E-05 | 1.211E-10 | 3.568E-10 | 7.992E-10 | 2.072E-09 | 3.919E-09 | 8.531E-17 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 9.135E-08 | 3.353E-13 | 9.874E-13 | 2.212E-12 | 5.735E-12 | 1.085E-11 | 2.361E-19 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 1.981E-09 | 7.269E-15 | 2.141E-14 | 4.795E-14 | 1.243E-13 | 2.351E-13 | 5.119E-21 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 5.481E-12 | 2.012E-17 | 5.925E-17 | 1.327E-16 | 3.441E-16 | 6.507E-16 | 1.417E-23 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 1.416E-06 | 5.198E-12 | 1.531E-11 | 3.429E-11 | 8.892E-11 | 1.681E-10 | 3.660E-18 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 3.920E-09 | 1.438E-14 | 4.237E-14 | 9.490E-14 | 2.461E-13 | 4.653E-13 | 1.013E-20 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 1.982E-08 | 7.272E-14 | 2.142E-13 | 4.798E-13 | 1.244E-12 | 2.353E-12 | 5.122E-20 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 5.484E-11 | 2.013E-16 | 5.928E-16 | 1.328E-15 | 3.443E-15 | 6.511E-15 | 1.418E-22 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 1.189E-12 | 4.364E-18 | 1.285E-17 | 2.879E-17 | 7.465E-17 | 1.412E-16 | 3.073E-24 | 0.000E+00 | 0.000E+00 |
| Am-243 | Cm-243 | 3.291E-15 | 1.208E-20 | 3.557E-20 | 7.968E-20 | 2.066E-19 | 3.907E-19 | 8.505E-27 | 0.000E+00 | 0.000E+00 |
| Am-243 | ΣDOSE (j) | | 7.753E-02 | 7.661E-02 | 7.479E-02 | 6.865E-02 | 5.273E-02 | 5.762E-10 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 9.829E-01 | 2.420E-08 | 7.161E-08 | 1.620E-07 | 4.337E-07 | 8.764E-07 | 1.655E-12 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 2.720E-03 | 6.699E-11 | 1.982E-10 | 4.483E-10 | 1.200E-09 | 2.425E-09 | 4.581E-15 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 1.375E-02 | 3.387E-10 | 1.002E-09 | 2.266E-09 | 6.068E-09 | 1.226E-08 | 2.316E-14 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 3.806E-05 | 9.373E-13 | 2.773E-12 | 6.272E-12 | 1.679E-11 | 3.394E-11 | 6.410E-17 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 8.252E-07 | 2.032E-14 | 6.012E-14 | 1.360E-13 | 3.641E-13 | 7.358E-13 | 1.390E-18 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 2.284E-09 | 5.624E-17 | 1.664E-16 | 3.764E-16 | 1.008E-15 | 2.036E-15 | 3.846E-21 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 2.359E-03 | 1.810E-15 | 1.244E-14 | 6.298E-14 | 4.819E-13 | 2.514E-12 | 1.091E-17 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 6.529E-06 | 5.010E-18 | 3.442E-17 | 1.743E-16 | 1.334E-15 | 6.958E-15 | 3.019E-20 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 3.301E-05 | 2.533E-17 | 1.740E-16 | 8.813E-16 | 6.744E-15 | 3.518E-14 | 1.526E-19 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | DOSE(j,t), mrem/yr | | | | | | | |
|----------------|---------------|-----------|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Pu-239 | Cm-243 | 9.135E-08 | 7.010E-20 | 4.816E-19 | 2.439E-18 | 1.866E-17 | 9.736E-17 | 4.224E-22 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 1.981E-09 | 1.520E-21 | 1.044E-20 | 5.288E-20 | 4.046E-19 | 2.111E-18 | 9.159E-24 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 5.481E-12 | 4.206E-24 | 2.890E-23 | 1.464E-22 | 1.120E-21 | 5.842E-21 | 2.535E-26 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 9.805E-01 | 2.400E-08 | 7.047E-08 | 1.567E-07 | 3.951E-07 | 6.785E-07 | 8.018E-13 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 2.714E-03 | 6.644E-11 | 1.950E-10 | 4.336E-10 | 1.093E-09 | 1.878E-09 | 2.219E-15 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 1.372E-02 | 3.359E-10 | 9.860E-10 | 2.192E-09 | 5.528E-09 | 9.493E-09 | 1.122E-14 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 3.797E-05 | 9.296E-13 | 2.729E-12 | 6.067E-12 | 1.530E-11 | 2.627E-11 | 3.105E-17 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 8.232E-07 | 2.015E-14 | 5.916E-14 | 1.315E-13 | 3.317E-13 | 5.696E-13 | 6.732E-19 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 2.278E-09 | 5.578E-17 | 1.637E-16 | 3.641E-16 | 9.180E-16 | 1.577E-15 | 1.863E-21 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 9.829E-01 | 1.689E-03 | 1.665E-03 | 1.617E-03 | 1.454E-03 | 1.036E-03 | 6.458E-10 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDOSE(j) | | 1.689E-03 | 1.665E-03 | 1.617E-03 | 1.455E-03 | 1.037E-03 | 6.483E-10 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 9.829E-01 | 2.961E-16 | 2.050E-15 | 1.057E-14 | 8.635E-14 | 5.482E-13 | 1.269E-20 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 2.720E-03 | 8.194E-19 | 5.674E-18 | 2.926E-17 | 2.390E-16 | 1.517E-15 | 3.512E-23 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 1.375E-02 | 4.143E-18 | 2.869E-17 | 1.479E-16 | 1.208E-15 | 7.670E-15 | 1.776E-22 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 3.806E-05 | 1.147E-20 | 7.939E-20 | 4.094E-19 | 3.344E-18 | 2.123E-17 | 4.914E-25 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 8.252E-07 | 2.486E-22 | 1.721E-21 | 8.875E-21 | 7.250E-20 | 4.602E-19 | 1.065E-26 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 2.284E-09 | 6.880E-25 | 4.764E-24 | 2.456E-23 | 2.006E-22 | 1.274E-21 | 2.828E-29 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 5.901E-04 | 1.778E-19 | 1.231E-18 | 6.346E-18 | 5.184E-17 | 3.291E-16 | 7.619E-24 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 1.633E-06 | 4.919E-22 | 3.406E-21 | 1.756E-20 | 1.435E-19 | 9.108E-19 | 2.108E-26 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 8.257E-06 | 2.487E-21 | 1.722E-20 | 8.880E-20 | 7.254E-19 | 4.605E-18 | 1.066E-25 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 2.285E-08 | 6.883E-24 | 4.766E-23 | 2.458E-22 | 2.008E-21 | 1.274E-20 | 2.946E-28 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 4.954E-10 | 1.492E-25 | 1.033E-24 | 5.328E-24 | 4.352E-23 | 2.763E-22 | 6.134E-30 | 0.000E+00 | 0.000E+00 |
| U-235 | Am-243 | 1.371E-12 | 4.129E-28 | 2.859E-27 | 1.475E-26 | 1.205E-25 | 7.647E-25 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 2.359E-03 | 1.664E-23 | 2.460E-22 | 2.777E-21 | 6.527E-20 | 1.106E-18 | 6.479E-26 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 6.529E-06 | 4.605E-26 | 6.808E-25 | 7.686E-24 | 1.807E-22 | 3.062E-21 | 1.791E-28 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 3.301E-05 | 2.328E-25 | 3.442E-24 | 3.886E-23 | 9.133E-22 | 1.548E-20 | 9.065E-28 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 9.135E-08 | 6.441E-28 | 9.525E-27 | 1.075E-25 | 2.528E-24 | 4.284E-23 | 2.406E-30 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 1.981E-09 | 1.388E-29 | 2.064E-28 | 2.331E-27 | 5.480E-26 | 9.288E-25 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 5.481E-12 | 0.000E+00 | 0.000E+00 | 6.411E-30 | 1.507E-28 | 2.570E-27 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 1.416E-06 | 9.989E-27 | 1.477E-25 | 1.667E-24 | 3.919E-23 | 6.641E-22 | 3.850E-29 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 3.920E-09 | 2.746E-29 | 4.085E-28 | 4.612E-27 | 1.085E-25 | 1.838E-24 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 1.982E-08 | 1.388E-28 | 2.065E-27 | 2.333E-26 | 5.483E-25 | 9.293E-24 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 5.484E-11 | 0.000E+00 | 5.681E-30 | 6.414E-29 | 1.517E-27 | 2.572E-26 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 1.189E-12 | 0.000E+00 | 0.000E+00 | 1.391E-30 | 3.269E-29 | 5.574E-28 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 3.291E-15 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 1.534E-30 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 9.805E-01 | 2.941E-16 | 2.026E-15 | 1.033E-14 | 8.106E-14 | 4.607E-13 | 7.614E-21 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 2.714E-03 | 8.139E-19 | 5.607E-18 | 2.859E-17 | 2.243E-16 | 1.275E-15 | 2.107E-23 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 1.372E-02 | 4.115E-18 | 2.835E-17 | 1.445E-16 | 1.134E-15 | 6.446E-15 | 1.065E-22 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 3.797E-05 | 1.139E-20 | 7.846E-20 | 4.000E-19 | 3.139E-18 | 1.784E-17 | 2.948E-25 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 8.232E-07 | 2.469E-22 | 1.701E-21 | 8.673E-21 | 6.806E-20 | 3.868E-19 | 6.392E-27 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 2.278E-09 | 6.833E-25 | 4.708E-24 | 2.400E-23 | 1.884E-22 | 1.071E-21 | 1.697E-29 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 5.887E-04 | 1.765E-19 | 1.216E-18 | 6.201E-18 | 4.866E-17 | 2.766E-16 | 4.571E-24 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 1.629E-06 | 4.886E-22 | 3.366E-21 | 1.716E-20 | 1.347E-19 | 7.655E-19 | 1.265E-26 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 8.237E-06 | 2.470E-21 | 1.702E-20 | 8.677E-20 | 6.809E-19 | 3.870E-18 | 6.396E-26 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 2.280E-08 | 6.837E-24 | 4.710E-23 | 2.402E-22 | 1.885E-21 | 1.071E-20 | 1.767E-28 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 4.942E-10 | 1.482E-25 | 1.021E-24 | 5.207E-24 | 4.086E-23 | 2.322E-22 | 3.680E-30 | 0.000E+00 | 0.000E+00 |
| U-235 | Cm-243 | 1.368E-12 | 4.101E-28 | 2.825E-27 | 1.441E-26 | 1.131E-25 | 6.427E-25 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| U-235 | Pu-239 | 5.901E-04 | 1.857E-14 | 5.508E-14 | 1.253E-13 | 3.431E-13 | 7.499E-13 | 5.303E-21 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

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Individual Nuclide Dose Summed Over All Pathways

Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF (i) | DOSE (j, t), mrem/yr | | | | | | | |
|----------------|---------------|-----------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| U-235 | Pu-239 | 1.633E-06 | 5.139E-17 | 1.524E-16 | 3.468E-16 | 9.496E-16 | 2.075E-15 | 1.468E-23 | 0.000E+00 | 0.000E+00 |
| U-235 | Pu-239 | 8.257E-06 | 2.598E-16 | 7.706E-16 | 1.753E-15 | 4.801E-15 | 1.049E-14 | 7.420E-23 | 0.000E+00 | 0.000E+00 |
| U-235 | Pu-239 | 2.285E-08 | 7.190E-19 | 2.133E-18 | 4.853E-18 | 1.329E-17 | 2.904E-17 | 2.053E-25 | 0.000E+00 | 0.000E+00 |
| U-235 | Pu-239 | 4.954E-10 | 1.559E-20 | 4.624E-20 | 1.052E-19 | 2.881E-19 | 6.296E-19 | 4.452E-27 | 0.000E+00 | 0.000E+00 |
| U-235 | Pu-239 | 1.371E-12 | 4.314E-23 | 1.280E-22 | 2.912E-22 | 7.972E-22 | 1.743E-21 | 1.182E-29 | 0.000E+00 | 0.000E+00 |
| U-235 | Pu-239 | 9.829E-01 | 3.093E-11 | 9.174E-11 | 2.087E-10 | 5.715E-10 | 1.249E-09 | 8.832E-18 | 0.000E+00 | 0.000E+00 |
| U-235 | Pu-239 | 2.720E-03 | 8.559E-14 | 2.539E-13 | 5.777E-13 | 1.582E-12 | 3.457E-12 | 2.444E-20 | 0.000E+00 | 0.000E+00 |
| U-235 | Pu-239 | 1.375E-02 | 4.327E-13 | 1.284E-12 | 2.921E-12 | 7.996E-12 | 1.748E-11 | 1.236E-19 | 0.000E+00 | 0.000E+00 |
| U-235 | Pu-239 | 3.806E-05 | 1.198E-15 | 3.553E-15 | 8.083E-15 | 2.213E-14 | 4.837E-14 | 3.420E-22 | 0.000E+00 | 0.000E+00 |
| U-235 | Pu-239 | 8.252E-07 | 2.597E-17 | 7.702E-17 | 1.752E-16 | 4.798E-16 | 1.049E-15 | 7.416E-24 | 0.000E+00 | 0.000E+00 |
| U-235 | Pu-239 | 2.284E-09 | 7.186E-20 | 2.132E-19 | 4.850E-19 | 1.328E-18 | 2.902E-18 | 2.052E-26 | 0.000E+00 | 0.000E+00 |
| U-235 | ΣDOSE (j) | | 3.147E-11 | 9.334E-11 | 2.124E-10 | 5.816E-10 | 1.272E-09 | 9.007E-18 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 9.829E-01 | 5.326E-22 | 7.947E-21 | 9.064E-20 | 2.188E-18 | 3.956E-17 | 9.254E-22 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 2.720E-03 | 1.474E-24 | 2.199E-23 | 2.508E-22 | 6.056E-21 | 1.095E-19 | 2.561E-24 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 1.375E-02 | 7.452E-24 | 1.112E-22 | 1.268E-21 | 3.062E-20 | 5.535E-19 | 1.295E-23 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 3.806E-05 | 2.063E-26 | 3.077E-25 | 3.510E-24 | 8.474E-23 | 1.532E-21 | 3.583E-26 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 8.252E-07 | 4.471E-28 | 6.671E-27 | 7.610E-26 | 1.837E-24 | 3.321E-23 | 7.762E-28 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 2.284E-09 | 0.000E+00 | 1.809E-29 | 2.106E-28 | 5.084E-27 | 9.191E-26 | 2.144E-30 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 5.901E-04 | 3.198E-25 | 4.771E-24 | 5.441E-23 | 1.314E-21 | 2.375E-20 | 5.556E-25 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 1.633E-06 | 8.849E-28 | 1.320E-26 | 1.506E-25 | 3.636E-24 | 6.573E-23 | 1.537E-27 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 8.257E-06 | 4.474E-27 | 6.676E-26 | 7.614E-25 | 1.838E-23 | 3.323E-22 | 7.773E-27 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 2.285E-08 | 1.213E-29 | 1.847E-28 | 2.107E-27 | 5.087E-26 | 9.196E-25 | 2.145E-29 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 4.954E-10 | 0.000E+00 | 2.723E-30 | 4.476E-29 | 1.103E-27 | 1.994E-26 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Am-243 | 1.371E-12 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 2.091E-30 | 5.518E-29 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 2.359E-03 | 2.340E-29 | 7.352E-28 | 1.800E-26 | 1.250E-24 | 6.107E-23 | 3.753E-27 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 6.529E-06 | 0.000E+00 | 1.385E-30 | 4.982E-29 | 3.459E-27 | 1.690E-25 | 1.036E-29 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 3.301E-05 | 0.000E+00 | 1.008E-29 | 2.519E-28 | 1.749E-26 | 8.546E-25 | 5.237E-29 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 9.135E-08 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 4.745E-29 | 2.365E-27 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 1.981E-09 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 5.033E-29 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 5.481E-12 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 1.416E-06 | 0.000E+00 | 0.000E+00 | 1.059E-29 | 7.504E-28 | 3.667E-26 | 2.247E-30 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 3.920E-09 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 1.423E-30 | 1.015E-28 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 1.982E-08 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 1.029E-29 | 5.130E-28 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 5.484E-11 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 1.002E-30 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 1.189E-12 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 3.291E-15 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 9.805E-01 | 5.295E-22 | 7.870E-21 | 8.902E-20 | 2.086E-18 | 3.470E-17 | 6.308E-22 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 2.714E-03 | 1.465E-24 | 2.178E-23 | 2.464E-22 | 5.772E-21 | 9.605E-20 | 1.746E-24 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 1.372E-02 | 7.409E-24 | 1.101E-22 | 1.246E-21 | 2.918E-20 | 4.856E-19 | 8.827E-24 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 3.797E-05 | 2.050E-26 | 3.048E-25 | 3.447E-24 | 8.077E-23 | 1.344E-21 | 2.443E-26 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 8.232E-07 | 4.445E-28 | 6.607E-27 | 7.474E-26 | 1.751E-24 | 2.914E-23 | 5.281E-28 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 2.278E-09 | 0.000E+00 | 1.792E-29 | 2.068E-28 | 4.846E-27 | 8.064E-26 | 1.462E-30 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 5.887E-04 | 3.179E-25 | 4.725E-24 | 5.344E-23 | 1.252E-21 | 2.084E-20 | 3.787E-25 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 1.629E-06 | 8.797E-28 | 1.308E-26 | 1.479E-25 | 3.465E-24 | 5.766E-23 | 1.047E-27 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 8.237E-06 | 4.447E-27 | 6.611E-26 | 7.478E-25 | 1.752E-23 | 2.915E-22 | 5.298E-27 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 2.280E-08 | 1.206E-29 | 1.830E-28 | 2.069E-27 | 4.849E-26 | 8.068E-25 | 1.462E-29 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 4.942E-10 | 0.000E+00 | 2.697E-30 | 4.396E-29 | 1.051E-27 | 1.749E-26 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pa-231 | Cm-243 | 1.368E-12 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 1.993E-30 | 4.752E-29 | 0.000E+00 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF (i) | DOSE (j, t), mrem/yr | | | | | | | | |
|----------------|---------------|-----------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 | |
| Pa-231 | Pu-239 | 5.901E-04 | 4.466E-20 | 3.106E-19 | 1.604E-18 | 1.308E-17 | 8.197E-17 | 5.984E-22 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | Pu-239 | 1.633E-06 | 1.236E-22 | 8.597E-22 | 4.440E-21 | 3.620E-20 | 2.269E-19 | 1.656E-24 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | Pu-239 | 8.257E-06 | 6.248E-22 | 4.346E-21 | 2.245E-20 | 1.830E-19 | 1.147E-18 | 8.373E-24 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | Pu-239 | 2.285E-08 | 1.729E-24 | 1.203E-23 | 6.212E-23 | 5.066E-22 | 3.174E-21 | 2.317E-26 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | Pu-239 | 4.954E-10 | 3.749E-26 | 2.608E-25 | 1.347E-24 | 1.098E-23 | 6.882E-23 | 5.010E-28 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | Pu-239 | 1.371E-12 | 1.038E-28 | 7.217E-28 | 3.727E-27 | 3.039E-26 | 1.905E-25 | 1.386E-30 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | Pu-239 | 9.829E-01 | 7.438E-17 | 5.174E-16 | 2.672E-15 | 2.179E-14 | 1.365E-13 | 9.967E-19 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | Pu-239 | 2.720E-03 | 2.059E-19 | 1.432E-18 | 7.395E-18 | 6.030E-17 | 3.779E-16 | 2.759E-21 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | Pu-239 | 1.375E-02 | 1.041E-18 | 7.240E-18 | 3.739E-17 | 3.049E-16 | 1.910E-15 | 1.395E-20 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | Pu-239 | 3.806E-05 | 2.880E-21 | 2.004E-20 | 1.035E-19 | 8.437E-19 | 5.287E-18 | 3.860E-23 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | Pu-239 | 8.252E-07 | 6.245E-23 | 4.344E-22 | 2.243E-21 | 1.829E-20 | 1.146E-19 | 8.368E-25 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | Pu-239 | 2.284E-09 | 1.728E-25 | 1.202E-24 | 6.209E-24 | 5.063E-23 | 3.173E-22 | 2.315E-27 | 0.000E+00 | 0.000E+00 | |
| Pa-231 | ΣDOSE (j) | | 7.568E-17 | 5.264E-16 | 2.719E-15 | 2.217E-14 | 1.390E-13 | 1.016E-18 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Am-243 | 9.829E-01 | 2.826E-23 | 8.618E-22 | 2.097E-20 | 1.445E-18 | 6.991E-17 | 7.210E-23 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Am-243 | 5.901E-04 | 1.697E-26 | 5.174E-25 | 1.259E-23 | 8.677E-22 | 4.197E-20 | 4.329E-26 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 2.359E-03 | 0.000E+00 | 6.516E-29 | 3.374E-27 | 6.715E-25 | 9.005E-23 | 2.610E-28 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 1.416E-06 | 0.000E+00 | 0.000E+00 | 1.775E-30 | 4.023E-28 | 5.406E-26 | 0.000E+00 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 9.805E-01 | 2.811E-23 | 8.546E-22 | 2.066E-20 | 1.390E-18 | 6.273E-17 | 5.159E-23 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 5.887E-04 | 1.688E-26 | 5.131E-25 | 1.240E-23 | 8.343E-22 | 3.766E-20 | 3.097E-26 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Pu-239 | 5.901E-04 | 2.949E-21 | 4.347E-20 | 4.888E-19 | 1.134E-17 | 1.855E-16 | 5.560E-23 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Pu-239 | 9.829E-01 | 4.911E-18 | 7.241E-17 | 8.142E-16 | 1.889E-14 | 3.090E-13 | 9.262E-20 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | ΣDOSE (j) | | 4.914E-18 | 7.246E-17 | 8.147E-16 | 1.890E-14 | 3.094E-13 | 9.280E-20 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Am-243 | 2.720E-03 | 7.882E-26 | 2.407E-24 | 5.861E-23 | 4.041E-21 | 1.955E-19 | 1.954E-25 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Am-243 | 1.375E-02 | 3.383E-25 | 1.033E-23 | 2.516E-22 | 1.736E-20 | 8.411E-19 | 9.751E-25 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Am-243 | 1.633E-06 | 4.708E-29 | 1.445E-27 | 3.519E-26 | 2.426E-24 | 1.174E-22 | 1.165E-28 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 6.529E-06 | 0.000E+00 | 0.000E+00 | 9.379E-30 | 1.877E-27 | 2.518E-25 | 0.000E+00 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 3.920E-09 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 1.504E-28 | 0.000E+00 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 2.714E-03 | 7.840E-26 | 2.387E-24 | 5.774E-23 | 3.885E-21 | 1.754E-19 | 1.399E-25 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 1.629E-06 | 4.683E-29 | 1.433E-27 | 3.466E-26 | 2.333E-24 | 1.053E-22 | 8.346E-29 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Pu-239 | 1.633E-06 | 8.228E-24 | 1.215E-22 | 1.366E-21 | 3.171E-20 | 5.188E-19 | 1.512E-25 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Pu-239 | 2.720E-03 | 1.370E-20 | 2.023E-19 | 2.276E-18 | 5.282E-17 | 8.642E-16 | 2.519E-22 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | ΣDOSE (j) | | 1.371E-20 | 2.024E-19 | 2.278E-18 | 5.287E-17 | 8.659E-16 | 2.533E-22 | 0.000E+00 | 0.000E+00 | |
| Am-243 | Am-243 | 1.375E-02 | 1.082E-03 | 1.069E-03 | 1.044E-03 | 9.579E-04 | 7.358E-04 | 8.040E-12 | 0.000E+00 | 0.000E+00 | |
| Am-243 | Am-243 | 3.806E-05 | 2.994E-06 | 2.958E-06 | 2.888E-06 | 2.651E-06 | 2.036E-06 | 2.225E-14 | 0.000E+00 | 0.000E+00 | |
| Am-243 | ΣDOSE (j) | | 1.085E-03 | 1.072E-03 | 1.046E-03 | 9.606E-04 | 7.379E-04 | 8.063E-12 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Am-243 | 3.806E-05 | 9.478E-28 | 2.894E-26 | 7.050E-25 | 4.863E-23 | 2.356E-21 | 2.699E-27 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Am-243 | 8.252E-07 | 1.060E-29 | 3.269E-28 | 7.954E-27 | 5.461E-25 | 2.606E-23 | 5.356E-29 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Am-243 | 2.285E-08 | 0.000E+00 | 1.727E-29 | 4.223E-28 | 2.919E-26 | 1.415E-24 | 1.498E-30 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 9.135E-08 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 2.246E-29 | 3.035E-27 | 0.000E+00 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 5.484E-11 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 1.593E-30 | 0.000E+00 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 3.797E-05 | 9.428E-28 | 2.870E-26 | 6.945E-25 | 4.675E-23 | 2.114E-21 | 1.933E-27 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Cm-243 | 2.280E-08 | 0.000E+00 | 1.713E-29 | 4.160E-28 | 2.807E-26 | 1.269E-24 | 1.073E-30 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Pu-239 | 2.285E-08 | 9.894E-26 | 1.461E-24 | 1.643E-23 | 3.815E-22 | 6.253E-21 | 2.089E-27 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | Pu-239 | 3.806E-05 | 1.648E-22 | 2.433E-21 | 2.737E-20 | 6.355E-19 | 1.042E-17 | 3.481E-24 | 0.000E+00 | 0.000E+00 | |
| Ac-227 | ΣDOSE (j) | | 1.649E-22 | 2.434E-21 | 2.739E-20 | 6.360E-19 | 1.043E-17 | 3.488E-24 | 0.000E+00 | 0.000E+00 | |

Summary : RESRAD Default

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Individual Nuclide Dose Summed Over All Pathways

Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF (i) | DOSE (j, t), mrem/yr | | | | | | | |
|----------------|---------------|-----------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Am-243 | Am-243 | 8.252E-07 | 6.491E-08 | 6.414E-08 | 6.262E-08 | 5.748E-08 | 4.415E-08 | 4.825E-16 | 0.000E+00 | 0.000E+00 |
| Am-243 | Am-243 | 2.284E-09 | 1.796E-10 | 1.775E-10 | 1.733E-10 | 1.591E-10 | 1.222E-10 | 1.335E-18 | 0.000E+00 | 0.000E+00 |
| Am-243 | ΣDOSE (j) | | 6.509E-08 | 6.432E-08 | 6.279E-08 | 5.764E-08 | 4.427E-08 | 4.838E-16 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Am-243 | 2.284E-09 | 0.000E+00 | 0.000E+00 | 2.228E-29 | 1.547E-27 | 7.380E-26 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Am-243 | 1.371E-12 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 4.386E-29 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 5.481E-12 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 3.291E-15 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 2.278E-09 | 0.000E+00 | 0.000E+00 | 2.195E-29 | 1.487E-27 | 6.622E-26 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 1.368E-12 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 3.936E-29 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Pu-239 | 1.371E-12 | 2.322E-30 | 4.622E-29 | 5.251E-28 | 1.214E-26 | 1.959E-25 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Pu-239 | 2.284E-09 | 5.275E-27 | 7.784E-26 | 8.747E-25 | 2.021E-23 | 3.262E-22 | 1.924E-28 | 0.000E+00 | 0.000E+00 |
| Ac-227 | ΣDOSE (j) | | 5.277E-27 | 7.788E-26 | 8.753E-25 | 2.023E-23 | 3.266E-22 | 1.924E-28 | 0.000E+00 | 0.000E+00 |
| Am-243 | Am-243 | 5.901E-04 | 4.642E-05 | 4.586E-05 | 4.478E-05 | 4.110E-05 | 3.157E-05 | 3.450E-13 | 0.000E+00 | 0.000E+00 |
| Am-243 | Am-243 | 1.633E-06 | 1.285E-07 | 1.269E-07 | 1.239E-07 | 1.138E-07 | 8.738E-08 | 9.548E-16 | 0.000E+00 | 0.000E+00 |
| Am-243 | ΣDOSE (j) | | 4.654E-05 | 4.599E-05 | 4.490E-05 | 4.121E-05 | 3.166E-05 | 3.459E-13 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 5.901E-04 | 1.453E-11 | 4.299E-11 | 9.724E-11 | 2.603E-10 | 5.261E-10 | 9.938E-16 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 1.633E-06 | 4.022E-14 | 1.190E-13 | 2.691E-13 | 7.205E-13 | 1.456E-12 | 2.751E-18 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 8.257E-06 | 2.033E-13 | 6.015E-13 | 1.361E-12 | 3.643E-12 | 7.362E-12 | 1.391E-17 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 2.285E-08 | 5.627E-16 | 1.665E-15 | 3.766E-15 | 1.008E-14 | 2.037E-14 | 3.849E-20 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 4.954E-10 | 1.220E-17 | 3.609E-17 | 8.164E-17 | 2.186E-16 | 4.417E-16 | 8.344E-22 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Am-243 | 1.371E-12 | 3.377E-20 | 9.990E-20 | 2.260E-19 | 6.050E-19 | 1.223E-18 | 2.309E-24 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 1.416E-06 | 1.078E-18 | 7.438E-18 | 3.775E-17 | 2.892E-16 | 1.509E-15 | 6.546E-21 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 3.920E-09 | 2.983E-21 | 2.059E-20 | 1.045E-19 | 8.004E-19 | 4.177E-18 | 1.812E-23 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 1.982E-08 | 1.508E-20 | 1.041E-19 | 5.282E-19 | 4.046E-18 | 2.112E-17 | 9.159E-23 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 5.484E-11 | 4.174E-23 | 2.881E-22 | 1.462E-21 | 1.120E-20 | 5.844E-20 | 2.535E-25 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 1.189E-12 | 9.050E-25 | 6.245E-24 | 3.170E-23 | 2.428E-22 | 1.267E-21 | 5.495E-27 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 3.291E-15 | 2.505E-27 | 1.728E-26 | 8.772E-26 | 6.720E-25 | 3.507E-24 | 1.514E-29 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 5.887E-04 | 1.441E-11 | 4.231E-11 | 9.406E-11 | 2.372E-10 | 4.073E-10 | 4.814E-16 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 1.629E-06 | 3.989E-14 | 1.171E-13 | 2.603E-13 | 6.565E-13 | 1.127E-12 | 1.332E-18 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 8.237E-06 | 2.016E-13 | 5.920E-13 | 1.316E-12 | 3.319E-12 | 5.699E-12 | 6.735E-18 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 2.280E-08 | 5.581E-16 | 1.638E-15 | 3.643E-15 | 9.185E-15 | 1.577E-14 | 1.864E-20 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 4.942E-10 | 1.210E-17 | 3.552E-17 | 7.897E-17 | 1.991E-16 | 3.420E-16 | 4.041E-22 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Cm-243 | 1.368E-12 | 3.349E-20 | 9.831E-20 | 2.186E-19 | 5.511E-19 | 9.465E-19 | 1.119E-24 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 5.901E-04 | 1.014E-06 | 9.995E-07 | 9.707E-07 | 8.732E-07 | 6.217E-07 | 3.877E-13 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDOSE (j) | | 1.014E-06 | 9.996E-07 | 9.709E-07 | 8.737E-07 | 6.227E-07 | 3.892E-13 | 0.000E+00 | 0.000E+00 |
| Am-243 | Am-243 | 8.257E-06 | 6.495E-07 | 6.418E-07 | 6.265E-07 | 5.751E-07 | 4.418E-07 | 4.827E-15 | 0.000E+00 | 0.000E+00 |
| Am-243 | Am-243 | 2.285E-08 | 1.797E-09 | 1.776E-09 | 1.734E-09 | 1.592E-09 | 1.223E-09 | 1.336E-17 | 0.000E+00 | 0.000E+00 |
| Am-243 | ΣDOSE (j) | | 6.513E-07 | 6.435E-07 | 6.283E-07 | 5.767E-07 | 4.430E-07 | 4.841E-15 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Am-243 | 8.257E-06 | 2.019E-28 | 6.202E-27 | 1.511E-25 | 1.042E-23 | 5.050E-22 | 5.848E-28 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 3.301E-05 | 0.000E+00 | 0.000E+00 | 4.023E-29 | 8.063E-27 | 1.083E-24 | 3.259E-30 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 1.982E-08 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 4.167E-30 | 6.504E-28 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 1.372E-02 | 3.365E-25 | 1.024E-23 | 2.479E-22 | 1.669E-20 | 7.548E-19 | 6.983E-25 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 8.237E-06 | 2.008E-28 | 6.150E-27 | 1.488E-25 | 1.002E-23 | 4.531E-22 | 4.188E-28 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Pu-239 | 8.257E-06 | 3.532E-23 | 5.213E-22 | 5.866E-21 | 1.362E-19 | 2.232E-18 | 7.546E-25 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | DOSE (j, t), mrem/yr | | | | | | | |
|----------------|---------------|-----------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Ac-227 | Pu-239 | 1.375E-02 | 5.882E-20 | 8.684E-19 | 9.770E-18 | 2.268E-16 | 3.718E-15 | 1.257E-21 | 0.000E+00 | 0.000E+00 |
| Ac-227 | ∑DOSE (j) | | 5.886E-20 | 8.689E-19 | 9.777E-18 | 2.270E-16 | 3.721E-15 | 1.258E-21 | 0.000E+00 | 0.000E+00 |
| Am-243 | Am-243 | 4.954E-10 | 3.897E-11 | 3.851E-11 | 3.759E-11 | 3.451E-11 | 2.651E-11 | 2.896E-19 | 0.000E+00 | 0.000E+00 |
| Am-243 | Am-243 | 1.371E-12 | 1.079E-13 | 1.066E-13 | 1.040E-13 | 9.550E-14 | 7.336E-14 | 8.016E-22 | 0.000E+00 | 0.000E+00 |
| Am-243 | ∑DOSE (j) | | 3.908E-11 | 3.861E-11 | 3.770E-11 | 3.460E-11 | 2.658E-11 | 2.904E-19 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Am-243 | 4.954E-10 | 0.000E+00 | 0.000E+00 | 4.722E-30 | 3.278E-28 | 1.564E-26 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 1.981E-09 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 3.322E-29 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 1.189E-12 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 8.232E-07 | 1.054E-29 | 3.242E-28 | 7.835E-27 | 5.250E-25 | 2.338E-23 | 3.836E-29 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Cm-243 | 4.942E-10 | 0.000E+00 | 0.000E+00 | 4.652E-30 | 3.152E-28 | 1.404E-26 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Pu-239 | 4.954E-10 | 1.118E-27 | 1.650E-26 | 1.854E-25 | 4.285E-24 | 6.915E-23 | 4.145E-29 | 0.000E+00 | 0.000E+00 |
| Ac-227 | Pu-239 | 8.252E-07 | 1.863E-24 | 2.748E-23 | 3.089E-22 | 7.137E-21 | 1.152E-19 | 6.953E-26 | 0.000E+00 | 0.000E+00 |
| Ac-227 | ∑DOSE (j) | | 1.864E-24 | 2.750E-23 | 3.090E-22 | 7.142E-21 | 1.153E-19 | 6.961E-26 | 0.000E+00 | 0.000E+00 |
| C-14 | C-14 | 1.000E+00 | 2.411E-06 | 6.926E-16 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 2.359E-03 | 1.165E-04 | 1.130E-04 | 1.063E-04 | 8.580E-05 | 4.540E-05 | 1.619E-13 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 6.529E-06 | 3.223E-07 | 3.127E-07 | 2.943E-07 | 2.375E-07 | 1.257E-07 | 4.482E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ∑DOSE (j) | | 1.168E-04 | 1.133E-04 | 1.066E-04 | 8.604E-05 | 4.553E-05 | 1.624E-13 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 3.301E-05 | 1.629E-06 | 1.581E-06 | 1.488E-06 | 1.201E-06 | 6.353E-07 | 2.266E-15 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 9.135E-08 | 4.510E-09 | 4.375E-09 | 4.118E-09 | 3.323E-09 | 1.758E-09 | 6.271E-18 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ∑DOSE (j) | | 1.634E-06 | 1.585E-06 | 1.492E-06 | 1.204E-06 | 6.370E-07 | 2.272E-15 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.981E-09 | 9.777E-11 | 9.486E-11 | 8.927E-11 | 7.204E-11 | 3.812E-11 | 1.360E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 5.481E-12 | 2.706E-13 | 2.625E-13 | 2.471E-13 | 1.994E-13 | 1.055E-13 | 3.763E-22 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ∑DOSE (j) | | 9.804E-11 | 9.512E-11 | 8.952E-11 | 7.224E-11 | 3.822E-11 | 1.363E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.416E-06 | 6.991E-08 | 6.783E-08 | 6.383E-08 | 5.151E-08 | 2.726E-08 | 9.723E-17 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 3.920E-09 | 1.935E-10 | 1.877E-10 | 1.767E-10 | 1.426E-10 | 7.544E-11 | 2.691E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ∑DOSE (j) | | 7.011E-08 | 6.802E-08 | 6.401E-08 | 5.165E-08 | 2.733E-08 | 9.749E-17 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.982E-08 | 9.782E-10 | 9.491E-10 | 8.932E-10 | 7.208E-10 | 3.814E-10 | 1.360E-18 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 5.484E-11 | 2.707E-12 | 2.627E-12 | 2.472E-12 | 1.995E-12 | 1.056E-12 | 3.765E-21 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ∑DOSE (j) | | 9.809E-10 | 9.517E-10 | 8.957E-10 | 7.228E-10 | 3.824E-10 | 1.364E-18 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.189E-12 | 5.870E-14 | 5.695E-14 | 5.359E-14 | 4.325E-14 | 2.289E-14 | 8.163E-23 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 3.291E-15 | 1.625E-16 | 1.576E-16 | 1.483E-16 | 1.197E-16 | 6.334E-17 | 2.259E-25 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ∑DOSE (j) | | 5.886E-14 | 5.711E-14 | 5.374E-14 | 4.337E-14 | 2.295E-14 | 8.185E-23 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 9.805E-01 | 4.840E-02 | 4.696E-02 | 4.420E-02 | 3.566E-02 | 1.887E-02 | 6.732E-11 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 2.714E-03 | 1.340E-04 | 1.300E-04 | 1.223E-04 | 9.871E-05 | 5.223E-05 | 1.863E-13 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ∑DOSE (j) | | 4.854E-02 | 4.709E-02 | 4.432E-02 | 3.576E-02 | 1.892E-02 | 6.750E-11 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.372E-02 | 6.773E-04 | 6.571E-04 | 6.184E-04 | 4.990E-04 | 2.641E-04 | 9.419E-13 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 3.797E-05 | 1.875E-06 | 1.819E-06 | 1.712E-06 | 1.381E-06 | 7.308E-07 | 2.607E-15 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ∑DOSE (j) | | 6.792E-04 | 6.589E-04 | 6.201E-04 | 5.004E-04 | 2.648E-04 | 9.445E-13 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

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Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | DOSE (j, t), mrem/yr | | | | | | | |
|----------------|---------------|-----------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Cm-243 | Cm-243 | 8.232E-07 | 4.064E-08 | 3.943E-08 | 3.711E-08 | 2.994E-08 | 1.584E-08 | 5.652E-17 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 2.278E-09 | 1.125E-10 | 1.091E-10 | 1.027E-10 | 8.287E-11 | 4.385E-11 | 1.564E-19 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDOSE (j) | | 4.075E-08 | 3.954E-08 | 3.721E-08 | 3.003E-08 | 1.589E-08 | 5.667E-17 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 5.887E-04 | 2.906E-05 | 2.819E-05 | 2.653E-05 | 2.141E-05 | 1.133E-05 | 4.041E-14 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.629E-06 | 8.043E-08 | 7.803E-08 | 7.344E-08 | 5.926E-08 | 3.136E-08 | 1.118E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDOSE (j) | | 2.914E-05 | 2.827E-05 | 2.661E-05 | 2.147E-05 | 1.136E-05 | 4.053E-14 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 8.237E-06 | 4.066E-07 | 3.945E-07 | 3.713E-07 | 2.996E-07 | 1.585E-07 | 5.655E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 2.280E-08 | 1.125E-09 | 1.092E-09 | 1.028E-09 | 8.292E-10 | 4.388E-10 | 1.565E-18 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDOSE (j) | | 4.077E-07 | 3.956E-07 | 3.723E-07 | 3.004E-07 | 1.590E-07 | 5.670E-16 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 4.942E-10 | 2.440E-11 | 2.367E-11 | 2.228E-11 | 1.798E-11 | 9.513E-12 | 3.393E-20 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 1.368E-12 | 6.753E-14 | 6.551E-14 | 6.166E-14 | 4.975E-14 | 2.633E-14 | 9.391E-23 | 0.000E+00 | 0.000E+00 |
| Cm-243 | ΣDOSE (j) | | 2.447E-11 | 2.374E-11 | 2.234E-11 | 1.803E-11 | 9.539E-12 | 3.402E-20 | 0.000E+00 | 0.000E+00 |
| Cm-244 | Cm-244 | 1.371E-06 | 1.336E-09 | 1.273E-09 | 1.154E-09 | 8.161E-10 | 2.926E-10 | 1.644E-17 | 0.000E+00 | 0.000E+00 |
| Cm-244 | Cm-244 | 5.750E-08 | 5.604E-11 | 5.337E-11 | 4.839E-11 | 3.423E-11 | 1.227E-11 | 6.896E-19 | 0.000E+00 | 0.000E+00 |
| Cm-244 | ΣDOSE (j) | | 1.392E-09 | 1.326E-09 | 1.202E-09 | 8.503E-10 | 3.049E-10 | 1.713E-17 | 0.000E+00 | 0.000E+00 |
| Pu-240 | Cm-244 | 5.750E-08 | 5.119E-15 | 1.493E-14 | 3.274E-14 | 7.871E-14 | 1.200E-13 | 1.116E-19 | 0.000E+00 | 0.000E+00 |
| Pu-240 | Pu-240 | 5.750E-08 | 9.830E-11 | 9.688E-11 | 9.407E-11 | 8.458E-11 | 6.016E-11 | 3.753E-17 | 0.000E+00 | 0.000E+00 |
| Pu-240 | ΣDOSE (j) | | 9.830E-11 | 9.689E-11 | 9.410E-11 | 8.466E-11 | 6.028E-11 | 3.764E-17 | 0.000E+00 | 0.000E+00 |
| Cm-244 | Cm-244 | 1.000E+00 | 9.746E-04 | 9.282E-04 | 8.416E-04 | 5.953E-04 | 2.134E-04 | 1.199E-11 | 0.000E+00 | 0.000E+00 |
| Pu-240 | Cm-244 | 1.000E+00 | 8.902E-08 | 2.597E-07 | 5.693E-07 | 1.369E-06 | 2.088E-06 | 1.941E-12 | 0.000E+00 | 0.000E+00 |
| U-236 | Cm-244 | 1.000E+00 | 2.323E-16 | 1.591E-15 | 7.980E-15 | 5.894E-14 | 2.809E-13 | 3.252E-19 | 0.000E+00 | 0.000E+00 |
| U-236 | Pu-240 | 1.000E+00 | 6.679E-12 | 1.974E-11 | 4.457E-11 | 1.185E-10 | 2.354E-10 | 1.410E-16 | 0.000E+00 | 0.000E+00 |
| U-236 | ΣDOSE (j) | | 6.679E-12 | 1.974E-11 | 4.458E-11 | 1.186E-10 | 2.357E-10 | 1.414E-16 | 0.000E+00 | 0.000E+00 |
| Th-232 | Cm-244 | 1.000E+00 | 3.518E-26 | 5.170E-25 | 5.766E-24 | 1.297E-22 | 1.928E-21 | 3.678E-27 | 0.000E+00 | 0.000E+00 |
| Th-232 | Pu-240 | 1.000E+00 | 1.343E-21 | 9.273E-21 | 4.761E-20 | 3.825E-19 | 2.287E-18 | 2.060E-24 | 0.000E+00 | 0.000E+00 |
| Th-232 | ΣDOSE (j) | | 1.343E-21 | 9.274E-21 | 4.761E-20 | 3.827E-19 | 2.289E-18 | 2.064E-24 | 0.000E+00 | 0.000E+00 |
| Ra-228 | Cm-244 | 1.000E+00 | 6.130E-26 | 1.835E-24 | 4.279E-23 | 2.538E-21 | 8.479E-20 | 7.713E-26 | 0.000E+00 | 0.000E+00 |
| Ra-228 | Pu-240 | 1.000E+00 | 2.909E-21 | 4.219E-20 | 4.566E-19 | 9.317E-18 | 1.152E-16 | 4.485E-23 | 0.000E+00 | 0.000E+00 |
| Ra-228 | ΣDOSE (j) | | 2.910E-21 | 4.219E-20 | 4.566E-19 | 9.320E-18 | 1.152E-16 | 4.492E-23 | 0.000E+00 | 0.000E+00 |
| Th-228 | Cm-244 | 1.000E+00 | 5.513E-27 | 3.202E-25 | 1.442E-23 | 1.859E-21 | 9.891E-20 | 6.085E-27 | 0.000E+00 | 0.000E+00 |
| Th-228 | Pu-240 | 1.000E+00 | 3.114E-22 | 8.839E-21 | 1.845E-19 | 7.821E-18 | 1.435E-16 | 3.584E-24 | 0.000E+00 | 0.000E+00 |
| Th-228 | ΣDOSE (j) | | 3.114E-22 | 8.839E-21 | 1.846E-19 | 7.823E-18 | 1.436E-16 | 3.590E-24 | 0.000E+00 | 0.000E+00 |
| Co-60 | Co-60 | 1.000E+00 | 1.002E+00 | 8.719E-01 | 6.595E-01 | 2.476E-01 | 1.459E-02 | 4.676E-15 | 0.000E+00 | 0.000E+00 |
| Cs-134 | Cs-134 | 1.000E+00 | 5.730E-01 | 4.062E-01 | 2.041E-01 | 1.830E-02 | 1.808E-05 | 9.526E-24 | 0.000E+00 | 0.000E+00 |
| Cs-137 | Cs-137 | 1.000E+00 | 2.408E-01 | 2.334E-01 | 2.192E-01 | 1.755E-01 | 9.041E-02 | 2.317E-10 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

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Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | DOSE (j,t), mrem/yr | | | | | | | |
|----------------|---------------|-----------|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Eu-152 | Eu-152 | 7.210E-01 | 3.362E-01 | 3.134E-01 | 2.721E-01 | 1.657E-01 | 3.893E-02 | 6.981E-13 | 0.000E+00 | 0.000E+00 |
| Eu-152 | Eu-152 | 2.790E-01 | 1.301E-01 | 1.213E-01 | 1.053E-01 | 6.411E-02 | 1.506E-02 | 2.701E-13 | 0.000E+00 | 0.000E+00 |
| Eu-152 | ΣDOSE (j) | | 4.663E-01 | 4.346E-01 | 3.775E-01 | 2.298E-01 | 5.399E-02 | 9.682E-13 | 0.000E+00 | 0.000E+00 |
| Gd-152 | Eu-152 | 2.790E-01 | 7.027E-19 | 2.030E-18 | 4.361E-18 | 9.821E-18 | 1.313E-17 | 1.367E-24 | 0.000E+00 | 0.000E+00 |
| Sm-148 | Eu-152 | 2.790E-01 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Nd-144 | Eu-152 | 2.790E-01 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Eu-154 | Eu-154 | 1.000E+00 | 4.966E-01 | 4.494E-01 | 3.680E-01 | 1.824E-01 | 2.379E-02 | 5.311E-14 | 0.000E+00 | 0.000E+00 |
| Eu-155 | Eu-155 | 1.000E+00 | 1.571E-02 | 1.336E-02 | 9.661E-03 | 3.104E-03 | 1.196E-04 | 4.813E-18 | 0.000E+00 | 0.000E+00 |
| Fe-55 | Fe-55 | 1.000E+00 | 1.628E-07 | 1.251E-07 | 7.377E-08 | 1.159E-08 | 5.636E-11 | 3.529E-24 | 0.000E+00 | 0.000E+00 |
| H-3 | H-3 | 1.000E+00 | 9.586E-07 | 5.987E-06 | 5.354E-27 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Nb-94 | Nb-94 | 1.000E+00 | 6.710E-01 | 6.492E-01 | 6.075E-01 | 4.803E-01 | 2.383E-01 | 5.331E-11 | 0.000E+00 | 0.000E+00 |
| Ni-59 | Ni-59 | 1.000E+00 | 7.816E-07 | 7.593E-07 | 7.159E-07 | 5.808E-07 | 3.077E-07 | 2.540E-12 | 0.000E+00 | 1.479E-07 |
| Ni-63 | Ni-63 | 1.000E+00 | 2.137E-06 | 2.061E-06 | 1.917E-06 | 1.482E-06 | 6.835E-07 | 3.494E-12 | 0.000E+00 | 4.010E-10 |
| Pm-147 | Pm-147 | 1.000E+00 | 4.471E-06 | 3.380E-06 | 1.932E-06 | 2.725E-07 | 1.004E-09 | 7.581E-25 | 0.000E+00 | 0.000E+00 |
| Sm-147 | Pm-147 | 1.000E+00 | 7.791E-16 | 2.057E-15 | 3.690E-15 | 5.182E-15 | 4.140E-15 | 1.291E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 1.850E-09 | 2.878E-12 | 2.815E-12 | 2.691E-12 | 2.291E-12 | 1.395E-12 | 5.007E-19 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 9.996E-01 | 1.555E-03 | 1.521E-03 | 1.454E-03 | 1.238E-03 | 7.540E-04 | 2.706E-10 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDOSE (j) | | 1.555E-03 | 1.521E-03 | 1.454E-03 | 1.238E-03 | 7.540E-04 | 2.706E-10 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 9.996E-01 | 6.921E-10 | 2.039E-09 | 4.569E-09 | 1.184E-08 | 2.183E-08 | 9.552E-15 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 1.899E-08 | 1.315E-17 | 3.874E-17 | 8.682E-17 | 2.249E-16 | 4.148E-16 | 1.815E-22 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 2.100E-04 | 1.454E-13 | 4.283E-13 | 9.598E-13 | 2.486E-12 | 4.586E-12 | 2.006E-18 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 2.771E-10 | 1.919E-19 | 5.654E-19 | 1.267E-18 | 3.281E-18 | 6.053E-18 | 2.648E-24 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 3.989E-12 | 2.762E-21 | 8.138E-21 | 1.824E-20 | 4.723E-20 | 8.713E-20 | 3.812E-26 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 1.998E-04 | 1.383E-13 | 4.075E-13 | 9.131E-13 | 2.365E-12 | 4.363E-12 | 1.909E-18 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 2.637E-10 | 1.826E-19 | 5.379E-19 | 1.205E-18 | 3.122E-18 | 5.759E-18 | 2.520E-24 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 3.795E-12 | 2.628E-21 | 7.743E-21 | 1.735E-20 | 4.494E-20 | 8.289E-20 | 3.627E-26 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 4.196E-08 | 2.905E-17 | 8.560E-17 | 1.918E-16 | 4.968E-16 | 9.164E-16 | 4.010E-22 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 5.538E-14 | 3.835E-23 | 1.130E-22 | 2.532E-22 | 6.558E-22 | 1.210E-21 | 5.292E-28 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 7.972E-16 | 5.520E-25 | 1.626E-24 | 3.644E-24 | 9.439E-24 | 1.741E-23 | 6.909E-30 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 2.000E-07 | 1.385E-16 | 4.080E-16 | 9.142E-16 | 2.368E-15 | 4.368E-15 | 1.911E-21 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 2.640E-13 | 1.828E-22 | 5.386E-22 | 1.207E-21 | 3.126E-21 | 5.766E-21 | 2.523E-27 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 3.800E-15 | 2.631E-24 | 7.752E-24 | 1.737E-23 | 4.499E-23 | 8.299E-23 | 3.507E-29 | 0.000E+00 | 0.000E+00 |
| U-234 | ΣDOSE (j) | | 6.924E-10 | 2.040E-09 | 4.571E-09 | 1.184E-08 | 2.184E-08 | 9.556E-15 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 9.996E-01 | 5.169E-15 | 3.565E-14 | 1.823E-13 | 1.445E-12 | 8.341E-12 | 5.812E-18 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

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Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | DOSE (j, t), mrem/yr | | | | | | | |
|----------------|---------------|-----------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Th-230 | Pu-238 | 1.899E-08 | 9.822E-23 | 6.773E-22 | 3.463E-21 | 2.745E-20 | 1.585E-19 | 1.104E-25 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 2.100E-04 | 1.086E-18 | 7.487E-18 | 3.829E-17 | 3.034E-16 | 1.752E-15 | 1.221E-21 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 2.771E-10 | 1.433E-24 | 9.883E-24 | 5.054E-23 | 4.005E-22 | 2.313E-21 | 1.611E-27 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 3.989E-12 | 2.063E-26 | 1.423E-25 | 7.274E-25 | 5.765E-24 | 3.329E-23 | 2.268E-29 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 1.998E-04 | 1.033E-18 | 7.124E-18 | 3.643E-17 | 2.887E-16 | 1.667E-15 | 1.162E-21 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 2.637E-10 | 1.364E-24 | 9.403E-24 | 4.808E-23 | 3.811E-22 | 2.200E-21 | 1.533E-27 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 3.795E-12 | 1.963E-26 | 1.353E-25 | 6.921E-25 | 5.485E-24 | 3.167E-23 | 2.157E-29 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 4.196E-08 | 2.170E-22 | 1.496E-21 | 7.651E-21 | 6.064E-20 | 3.501E-19 | 2.440E-25 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 5.538E-14 | 2.863E-28 | 1.975E-27 | 1.010E-26 | 8.004E-26 | 4.622E-25 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 7.972E-16 | 3.612E-30 | 2.754E-29 | 1.453E-28 | 1.152E-27 | 6.652E-27 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 2.000E-07 | 1.034E-21 | 7.132E-21 | 3.647E-20 | 2.890E-19 | 1.669E-18 | 1.163E-24 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 2.640E-13 | 1.365E-27 | 9.414E-27 | 4.814E-26 | 3.815E-25 | 2.203E-24 | 1.501E-30 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 3.800E-15 | 1.903E-29 | 1.355E-28 | 6.927E-28 | 5.492E-27 | 3.171E-26 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Th-230 | ΣDOSE (j) | | 5.171E-15 | 3.566E-14 | 1.823E-13 | 1.445E-12 | 8.345E-12 | 5.815E-18 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 9.996E-01 | 3.445E-16 | 5.114E-15 | 5.824E-14 | 1.411E-12 | 2.587E-11 | 1.162E-17 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 1.899E-08 | 6.546E-24 | 9.716E-23 | 1.107E-21 | 2.681E-20 | 4.915E-19 | 2.209E-25 | 0.000E+00 | 0.000E+00 |
| Ra-226 | ΣDOSE (j) | | 3.445E-16 | 5.114E-15 | 5.824E-14 | 1.411E-12 | 2.587E-11 | 1.162E-17 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 9.996E-01 | 5.937E-21 | 1.534E-19 | 3.341E-18 | 2.133E-16 | 1.002E-14 | 2.035E-18 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 1.319E-06 | 7.210E-27 | 2.249E-25 | 5.540E-24 | 3.851E-22 | 1.886E-20 | 2.617E-24 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 2.100E-04 | 1.247E-24 | 3.222E-23 | 7.017E-22 | 4.479E-20 | 2.104E-18 | 4.275E-22 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 1.998E-04 | 1.186E-24 | 3.066E-23 | 6.676E-22 | 4.262E-20 | 2.002E-18 | 4.067E-22 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 4.196E-08 | 2.492E-28 | 6.439E-27 | 1.402E-25 | 8.951E-24 | 4.205E-22 | 8.543E-26 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 2.000E-07 | 1.188E-27 | 3.069E-26 | 6.684E-25 | 4.267E-23 | 2.005E-21 | 4.072E-25 | 0.000E+00 | 0.000E+00 |
| Pb-210 | ΣDOSE (j) | | 5.939E-21 | 1.535E-19 | 3.342E-18 | 2.133E-16 | 1.002E-14 | 2.036E-18 | 0.000E+00 | 0.000E+00 |
| Po-210 | Pu-238 | 9.996E-01 | 1.997E-22 | 8.846E-21 | 3.029E-19 | 2.736E-17 | 1.379E-15 | 2.465E-19 | 0.000E+00 | 0.000E+00 |
| Po-210 | Pu-238 | 2.100E-04 | 4.194E-26 | 1.858E-24 | 6.361E-23 | 5.747E-21 | 2.896E-19 | 5.178E-23 | 0.000E+00 | 0.000E+00 |
| Po-210 | Pu-238 | 1.998E-04 | 3.991E-26 | 1.768E-24 | 6.052E-23 | 5.468E-21 | 2.756E-19 | 4.926E-23 | 0.000E+00 | 0.000E+00 |
| Po-210 | Pu-238 | 4.196E-08 | 6.952E-30 | 3.713E-28 | 1.271E-26 | 1.148E-24 | 5.788E-23 | 1.035E-26 | 0.000E+00 | 0.000E+00 |
| Po-210 | Pu-238 | 2.000E-07 | 3.945E-29 | 1.770E-27 | 6.060E-26 | 5.474E-24 | 2.759E-22 | 4.932E-26 | 0.000E+00 | 0.000E+00 |
| Po-210 | ΣDOSE (j) | | 1.998E-22 | 8.850E-21 | 3.030E-19 | 2.737E-17 | 1.379E-15 | 2.466E-19 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 1.319E-06 | 2.053E-09 | 2.007E-09 | 1.919E-09 | 1.634E-09 | 9.952E-10 | 3.571E-16 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 1.899E-08 | 2.955E-11 | 2.890E-11 | 2.763E-11 | 2.352E-11 | 1.433E-11 | 5.141E-18 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDOSE (j) | | 2.082E-09 | 2.036E-09 | 1.947E-09 | 1.658E-09 | 1.010E-09 | 3.623E-16 | 0.000E+00 | 0.000E+00 |
| U-234 | Pu-238 | 1.319E-06 | 9.136E-16 | 2.692E-15 | 6.032E-15 | 1.562E-14 | 2.882E-14 | 1.261E-20 | 0.000E+00 | 0.000E+00 |
| Th-230 | Pu-238 | 1.319E-06 | 6.824E-21 | 4.705E-20 | 2.406E-19 | 1.907E-18 | 1.101E-17 | 7.672E-24 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 1.319E-06 | 4.548E-22 | 6.750E-21 | 7.687E-20 | 1.863E-18 | 3.415E-17 | 1.534E-23 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 1.899E-08 | 8.799E-29 | 2.754E-27 | 6.795E-26 | 4.722E-24 | 2.306E-22 | 3.762E-26 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 3.989E-12 | 0.000E+00 | 0.000E+00 | 1.347E-29 | 9.919E-28 | 4.843E-26 | 7.443E-30 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 3.795E-12 | 0.000E+00 | 0.000E+00 | 1.281E-29 | 9.437E-28 | 4.608E-26 | 7.081E-30 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 7.972E-16 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 9.192E-30 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 3.800E-15 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 4.489E-29 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pb-210 | ΣDOSE (j) | | 8.799E-29 | 2.754E-27 | 6.797E-26 | 4.724E-24 | 2.307E-22 | 3.764E-26 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

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Individual Nuclide Dose Summed Over All Pathways

Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | DOSE (j,t), mrem/yr | | | | | | | |
|----------------|---------------|-----------|---------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Pu-238 | Pu-238 | 2.100E-04 | 3.266E-07 | 3.194E-07 | 3.054E-07 | 2.601E-07 | 1.584E-07 | 5.683E-14 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 2.771E-10 | 4.312E-13 | 4.217E-13 | 4.031E-13 | 3.433E-13 | 2.090E-13 | 7.502E-20 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDOSE (j) | | 3.266E-07 | 3.194E-07 | 3.054E-07 | 2.601E-07 | 1.584E-07 | 5.683E-14 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 2.100E-04 | 7.236E-20 | 1.074E-18 | 1.223E-17 | 2.964E-16 | 5.434E-15 | 2.441E-21 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 2.771E-10 | 9.552E-26 | 1.418E-24 | 1.615E-23 | 3.913E-22 | 7.172E-21 | 3.223E-27 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 3.989E-12 | 1.375E-27 | 2.040E-26 | 2.324E-25 | 5.632E-24 | 1.032E-22 | 4.576E-29 | 0.000E+00 | 0.000E+00 |
| Ra-226 | ΣDOSE (j) | | 7.236E-20 | 1.074E-18 | 1.223E-17 | 2.964E-16 | 5.434E-15 | 2.441E-21 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 2.771E-10 | 0.000E+00 | 4.600E-29 | 1.164E-27 | 8.089E-26 | 3.962E-24 | 5.492E-28 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 2.637E-10 | 0.000E+00 | 4.377E-29 | 1.107E-27 | 7.696E-26 | 3.770E-24 | 5.226E-28 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 5.538E-14 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 1.540E-29 | 7.918E-28 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pb-210 | Pu-238 | 2.640E-13 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 7.624E-29 | 3.774E-27 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Pb-210 | ΣDOSE (j) | | 0.000E+00 | 8.977E-29 | 2.271E-27 | 1.579E-25 | 7.737E-24 | 1.072E-27 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 3.989E-12 | 6.206E-15 | 6.069E-15 | 5.803E-15 | 4.941E-15 | 3.009E-15 | 1.080E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 1.998E-04 | 3.108E-07 | 3.039E-07 | 2.906E-07 | 2.474E-07 | 1.507E-07 | 5.407E-14 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDOSE (j) | | 3.108E-07 | 3.039E-07 | 2.906E-07 | 2.474E-07 | 1.507E-07 | 5.407E-14 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 1.998E-04 | 5.922E-20 | 8.789E-19 | 1.001E-17 | 2.423E-16 | 4.426E-15 | 2.291E-21 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 3.795E-12 | 1.125E-27 | 1.670E-26 | 1.901E-25 | 4.603E-24 | 8.410E-23 | 4.294E-29 | 0.000E+00 | 0.000E+00 |
| Ra-226 | ΣDOSE (j) | | 5.922E-20 | 8.789E-19 | 1.001E-17 | 2.423E-16 | 4.426E-15 | 2.291E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 2.637E-10 | 4.102E-13 | 4.012E-13 | 3.835E-13 | 3.266E-13 | 1.989E-13 | 7.137E-20 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 3.795E-12 | 5.905E-15 | 5.774E-15 | 5.521E-15 | 4.701E-15 | 2.863E-15 | 1.027E-21 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDOSE (j) | | 4.161E-13 | 4.069E-13 | 3.891E-13 | 3.313E-13 | 2.017E-13 | 7.240E-20 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 2.637E-10 | 7.817E-26 | 1.160E-24 | 1.321E-23 | 3.198E-22 | 5.843E-21 | 3.025E-27 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 4.196E-08 | 6.528E-11 | 6.384E-11 | 6.103E-11 | 5.197E-11 | 3.165E-11 | 1.136E-17 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 5.538E-14 | 8.616E-17 | 8.426E-17 | 8.056E-17 | 6.860E-17 | 4.177E-17 | 1.499E-23 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDOSE (j) | | 6.528E-11 | 6.384E-11 | 6.103E-11 | 5.197E-11 | 3.165E-11 | 1.136E-17 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 4.196E-08 | 1.244E-23 | 1.846E-22 | 2.102E-21 | 5.089E-20 | 9.297E-19 | 4.813E-25 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 5.538E-14 | 1.639E-29 | 2.432E-28 | 2.774E-27 | 6.717E-26 | 1.227E-24 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 7.972E-16 | 0.000E+00 | 3.500E-30 | 3.985E-29 | 9.666E-28 | 1.766E-26 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ra-226 | ΣDOSE (j) | | 1.244E-23 | 1.846E-22 | 2.102E-21 | 5.089E-20 | 9.297E-19 | 4.813E-25 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 7.972E-16 | 1.240E-18 | 1.213E-18 | 1.160E-18 | 9.874E-19 | 6.013E-19 | 2.158E-25 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 2.000E-07 | 3.111E-10 | 3.043E-10 | 2.909E-10 | 2.477E-10 | 1.509E-10 | 5.413E-17 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDOSE (j) | | 3.111E-10 | 3.043E-10 | 2.909E-10 | 2.477E-10 | 1.509E-10 | 5.413E-17 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 2.000E-07 | 4.695E-25 | 7.088E-24 | 8.145E-23 | 1.989E-21 | 3.715E-20 | 2.136E-24 | 0.000E+00 | 0.000E+00 |
| Ra-226 | Pu-238 | 3.800E-15 | 0.000E+00 | 0.000E+00 | 1.137E-30 | 3.689E-29 | 7.049E-28 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Ra-226 | ΣDOSE (j) | | 4.695E-25 | 7.088E-24 | 8.145E-23 | 1.989E-21 | 3.715E-20 | 2.136E-24 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 2.640E-13 | 4.107E-16 | 4.017E-16 | 3.840E-16 | 3.270E-16 | 1.991E-16 | 7.146E-23 | 0.000E+00 | 0.000E+00 |
| Pu-238 | Pu-238 | 3.800E-15 | 5.912E-18 | 5.781E-18 | 5.527E-18 | 4.707E-18 | 2.866E-18 | 1.029E-24 | 0.000E+00 | 0.000E+00 |
| Pu-238 | ΣDOSE (j) | | 4.166E-16 | 4.074E-16 | 3.895E-16 | 3.317E-16 | 2.020E-16 | 7.249E-23 | 0.000E+00 | 0.000E+00 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Dose Summed Over All Pathways
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | DOSE(j,t), mrem/yr | | | | | | | |
|----------------|---------------|-----------|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Ra-226 | Pu-238 | 2.640E-13 | 0.000E+00 | 9.127E-30 | 1.060E-28 | 2.626E-27 | 4.904E-26 | 2.434E-30 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 1.633E-06 | 2.807E-09 | 2.766E-09 | 2.687E-09 | 2.417E-09 | 1.721E-09 | 1.073E-15 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 8.257E-06 | 1.419E-08 | 1.399E-08 | 1.358E-08 | 1.222E-08 | 8.699E-09 | 5.425E-15 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDOSE(j) | | 1.700E-08 | 1.675E-08 | 1.627E-08 | 1.463E-08 | 1.042E-08 | 6.498E-15 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 2.285E-08 | 3.927E-11 | 3.871E-11 | 3.759E-11 | 3.382E-11 | 2.408E-11 | 1.501E-17 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 4.954E-10 | 8.514E-13 | 8.392E-13 | 8.150E-13 | 7.331E-13 | 5.220E-13 | 3.255E-19 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDOSE(j) | | 4.012E-11 | 3.955E-11 | 3.841E-11 | 3.455E-11 | 2.460E-11 | 1.534E-17 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 1.371E-12 | 2.356E-15 | 2.323E-15 | 2.256E-15 | 2.029E-15 | 1.445E-15 | 9.009E-22 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 2.720E-03 | 4.675E-06 | 4.608E-06 | 4.475E-06 | 4.025E-06 | 2.866E-06 | 1.787E-12 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 1.375E-02 | 2.363E-05 | 2.330E-05 | 2.262E-05 | 2.035E-05 | 1.449E-05 | 9.036E-12 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDOSE(j) | | 2.831E-05 | 2.790E-05 | 2.710E-05 | 2.438E-05 | 1.736E-05 | 1.082E-11 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 3.806E-05 | 6.541E-08 | 6.447E-08 | 6.261E-08 | 5.633E-08 | 4.010E-08 | 2.501E-14 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 8.252E-07 | 1.418E-09 | 1.398E-09 | 1.358E-09 | 1.221E-09 | 8.695E-10 | 5.422E-16 | 0.000E+00 | 0.000E+00 |
| Pu-239 | ΣDOSE(j) | | 6.683E-08 | 6.587E-08 | 6.397E-08 | 5.755E-08 | 4.097E-08 | 2.555E-14 | 0.000E+00 | 0.000E+00 |
| Pu-239 | Pu-239 | 2.284E-09 | 3.925E-12 | 3.869E-12 | 3.757E-12 | 3.380E-12 | 2.406E-12 | 1.501E-18 | 0.000E+00 | 0.000E+00 |
| Pu-240 | Pu-240 | 1.000E+00 | 1.710E-03 | 1.685E-03 | 1.636E-03 | 1.471E-03 | 1.046E-03 | 6.527E-10 | 0.000E+00 | 0.000E+00 |
| Pu-241 | Pu-241 | 1.000E+00 | 3.233E-05 | 3.036E-05 | 2.678E-05 | 1.718E-05 | 4.658E-06 | 1.016E-13 | 0.000E+00 | 0.000E+00 |
| Pu-241 | Pu-241 | 2.450E-05 | 1.084E-06 | 1.023E-06 | 9.111E-07 | 6.058E-07 | 1.851E-07 | 1.064E-17 | 0.000E+00 | 0.000E+00 |
| Pu-241 | ΣDOSE(j) | | 3.342E-05 | 3.139E-05 | 2.769E-05 | 1.779E-05 | 4.843E-06 | 1.016E-13 | 0.000E+00 | 0.000E+00 |
| Sb-125 | Sb-125 | 7.686E-01 | 1.178E-01 | 8.494E-02 | 4.414E-02 | 4.453E-03 | 6.167E-06 | 2.015E-24 | 0.000E+00 | 0.000E+00 |
| Sb-125 | Sb-125 | 2.314E-01 | 3.546E-02 | 2.557E-02 | 1.329E-02 | 1.340E-03 | 1.856E-06 | 6.065E-25 | 0.000E+00 | 0.000E+00 |
| Sb-125 | ΣDOSE(j) | | 1.533E-01 | 1.105E-01 | 5.742E-02 | 5.794E-03 | 8.024E-06 | 2.621E-24 | 0.000E+00 | 0.000E+00 |
| Te-125m | Sb-125 | 2.314E-01 | 4.964E-05 | 5.654E-05 | 3.191E-05 | 4.523E-06 | 2.485E-08 | 1.041E-15 | 0.000E+00 | 0.000E+00 |
| Sr-90 | Sr-90 | 1.000E+00 | 3.230E-03 | 1.886E-03 | 6.407E-04 | 1.459E-05 | 2.871E-10 | 7.076E-18 | 0.000E+00 | 0.000E+00 |
| Tc-99 | Tc-99 | 1.000E+00 | 3.061E-05 | 2.368E-04 | 9.874E-12 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |

THF(i) is the thread fraction of the parent nuclide.

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | S(j,t), pCi/g | | | | | | | |
|----------------|---------------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Ag-108m | Ag-108m | 1.000E+00 | 1.000E+00 | 9.761E-01 | 9.300E-01 | 7.851E-01 | 4.840E-01 | 8.899E-02 | 7.048E-04 | 3.115E-11 |
| Am-241 | Am-241 | 1.000E+00 | 1.000E+00 | 9.917E-01 | 9.754E-01 | 9.203E-01 | 7.795E-01 | 4.359E-01 | 8.282E-02 | 2.476E-04 |
| Am-241 | Pu-241 | 1.000E+00 | 0.000E+00 | 1.556E-03 | 4.394E-03 | 1.192E-02 | 2.072E-02 | 1.555E-02 | 2.990E-03 | 8.939E-06 |
| Am-241 | ΣS(j): | | 1.000E+00 | 9.933E-01 | 9.798E-01 | 9.322E-01 | 8.002E-01 | 4.514E-01 | 8.581E-02 | 2.566E-04 |
| Np-237 | Am-241 | 1.000E+00 | 0.000E+00 | 2.764E-07 | 6.199E-07 | 9.295E-07 | 8.264E-07 | 4.621E-07 | 8.781E-08 | 2.625E-10 |
| Np-237 | Np-237 | 1.000E+00 | 1.000E+00 | 7.311E-01 | 3.907E-01 | 4.362E-02 | 8.297E-05 | 2.491E-14 | 1.546E-41 | 0.000E+00 |
| Np-237 | Pu-241 | 1.000E+00 | 0.000E+00 | 2.293E-10 | 1.637E-09 | 9.067E-09 | 2.062E-08 | 1.645E-08 | 3.170E-09 | 9.478E-12 |
| Np-237 | Pu-241 | 2.450E-05 | 0.000E+00 | 6.615E-12 | 1.408E-11 | 1.662E-11 | 6.249E-12 | 1.560E-13 | 4.103E-18 | 3.832E-34 |
| Np-237 | ΣS(j): | | 1.000E+00 | 7.311E-01 | 3.907E-01 | 4.362E-02 | 8.382E-05 | 4.786E-07 | 9.098E-08 | 2.720E-10 |
| U-233 | Am-241 | 1.000E+00 | 0.000E+00 | 6.319E-13 | 4.652E-12 | 2.908E-11 | 9.471E-11 | 1.845E-10 | 9.663E-11 | 6.887E-13 |
| U-233 | Np-237 | 1.000E+00 | 0.000E+00 | 3.720E-06 | 8.332E-06 | 1.242E-05 | 1.080E-05 | 5.589E-06 | 8.503E-07 | 1.168E-09 |
| U-233 | Pu-241 | 1.000E+00 | 0.000E+00 | 3.424E-16 | 7.724E-15 | 1.654E-13 | 1.434E-12 | 5.178E-12 | 3.259E-12 | 2.455E-14 |
| U-233 | Pu-241 | 2.450E-05 | 0.000E+00 | 1.525E-17 | 1.087E-16 | 6.003E-16 | 1.347E-15 | 1.006E-15 | 1.555E-16 | 2.135E-19 |
| U-233 | ΣS(j): | | 0.000E+00 | 3.720E-06 | 8.332E-06 | 1.242E-05 | 1.080E-05 | 5.590E-06 | 8.504E-07 | 1.168E-09 |
| Th-229 | Am-241 | 1.000E+00 | 0.000E+00 | 2.043E-17 | 4.737E-16 | 1.123E-14 | 1.314E-13 | 1.134E-12 | 3.828E-12 | 4.318E-12 |
| Th-229 | Np-237 | 1.000E+00 | 0.000E+00 | 1.851E-10 | 1.370E-09 | 8.773E-09 | 3.092E-08 | 8.199E-08 | 1.230E-07 | 1.071E-07 |
| Th-229 | Pu-241 | 1.000E+00 | 0.000E+00 | 8.235E-21 | 5.773E-19 | 4.562E-17 | 1.435E-15 | 2.537E-14 | 1.112E-13 | 1.320E-13 |
| Th-229 | Pu-241 | 2.450E-05 | 0.000E+00 | 4.949E-22 | 1.121E-20 | 2.441E-19 | 2.244E-18 | 1.057E-17 | 1.831E-17 | 1.619E-17 |
| Th-229 | ΣS(j): | | 0.000E+00 | 1.851E-10 | 1.370E-09 | 8.773E-09 | 3.092E-08 | 8.199E-08 | 1.230E-07 | 1.072E-07 |
| Am-243 | Am-243 | 9.829E-01 | 9.829E-01 | 9.762E-01 | 9.631E-01 | 9.183E-01 | 8.017E-01 | 4.983E-01 | 1.280E-01 | 1.101E-03 |
| Am-243 | Am-243 | 2.720E-03 | 2.720E-03 | 2.702E-03 | 2.665E-03 | 2.542E-03 | 2.219E-03 | 1.379E-03 | 3.544E-04 | 3.048E-06 |
| Am-243 | Cm-243 | 2.359E-03 | 0.000E+00 | 2.184E-07 | 6.352E-07 | 1.900E-06 | 4.216E-06 | 5.287E-06 | 1.632E-06 | 1.411E-08 |
| Am-243 | Cm-243 | 6.529E-06 | 0.000E+00 | 6.045E-10 | 1.758E-09 | 5.260E-09 | 1.167E-08 | 1.463E-08 | 4.516E-09 | 3.905E-11 |
| Am-243 | Cm-243 | 3.301E-05 | 0.000E+00 | 3.056E-09 | 8.888E-09 | 2.659E-08 | 5.900E-08 | 7.397E-08 | 2.283E-08 | 1.974E-10 |
| Am-243 | Cm-243 | 9.135E-08 | 0.000E+00 | 8.459E-12 | 2.460E-11 | 7.360E-11 | 1.633E-10 | 2.047E-10 | 6.319E-11 | 5.464E-13 |
| Am-243 | Cm-243 | 1.981E-09 | 0.000E+00 | 1.834E-13 | 5.333E-13 | 1.596E-12 | 3.540E-12 | 4.439E-12 | 1.370E-12 | 1.185E-14 |
| Am-243 | Cm-243 | 5.481E-12 | 0.000E+00 | 5.075E-16 | 1.476E-15 | 4.416E-15 | 9.797E-15 | 1.228E-14 | 3.792E-15 | 3.278E-17 |
| Am-243 | Cm-243 | 1.416E-06 | 0.000E+00 | 1.311E-10 | 3.814E-10 | 1.141E-09 | 2.531E-09 | 3.174E-09 | 9.797E-10 | 8.470E-12 |
| Am-243 | Cm-243 | 3.920E-09 | 0.000E+00 | 3.629E-13 | 1.055E-12 | 3.158E-12 | 7.006E-12 | 8.784E-12 | 2.711E-12 | 2.344E-14 |
| Am-243 | Cm-243 | 1.982E-08 | 0.000E+00 | 1.835E-12 | 5.336E-12 | 1.596E-11 | 3.542E-11 | 4.441E-11 | 1.371E-11 | 1.185E-13 |
| Am-243 | Cm-243 | 5.484E-11 | 0.000E+00 | 5.078E-15 | 1.477E-14 | 4.418E-14 | 9.803E-14 | 1.229E-13 | 3.794E-14 | 3.280E-16 |
| Am-243 | Cm-243 | 1.189E-12 | 0.000E+00 | 1.101E-16 | 3.202E-16 | 9.579E-16 | 2.125E-15 | 2.665E-15 | 8.225E-16 | 7.112E-18 |
| Am-243 | Cm-243 | 3.291E-15 | 0.000E+00 | 3.047E-19 | 8.861E-19 | 2.651E-18 | 5.882E-18 | 7.375E-18 | 2.276E-18 | 1.968E-20 |
| Am-243 | ΣS(j): | | 9.856E-01 | 9.789E-01 | 9.657E-01 | 9.209E-01 | 8.039E-01 | 4.996E-01 | 1.284E-01 | 1.105E-03 |
| Pu-239 | Am-243 | 9.829E-01 | 0.000E+00 | 2.810E-05 | 8.335E-05 | 2.671E-04 | 7.163E-04 | 1.614E-03 | 1.601E-03 | 1.269E-04 |
| Pu-239 | Am-243 | 2.720E-03 | 0.000E+00 | 7.777E-08 | 2.307E-07 | 7.393E-07 | 1.982E-06 | 4.467E-06 | 4.431E-06 | 3.513E-07 |
| Pu-239 | Am-243 | 1.375E-02 | 0.000E+00 | 3.932E-07 | 1.166E-06 | 3.738E-06 | 1.002E-05 | 2.258E-05 | 2.240E-05 | 1.776E-06 |
| Pu-239 | Am-243 | 3.806E-05 | 0.000E+00 | 1.088E-09 | 3.228E-09 | 1.034E-08 | 2.774E-08 | 6.250E-08 | 6.200E-08 | 4.916E-09 |
| Pu-239 | Am-243 | 8.252E-07 | 0.000E+00 | 2.359E-11 | 6.998E-11 | 2.243E-10 | 6.014E-10 | 1.355E-09 | 1.344E-09 | 1.066E-10 |
| Pu-239 | Am-243 | 2.284E-09 | 0.000E+00 | 6.529E-14 | 1.937E-13 | 6.207E-13 | 1.664E-12 | 3.750E-12 | 3.720E-12 | 2.950E-13 |
| Pu-239 | Cm-243 | 2.359E-03 | 0.000E+00 | 3.151E-12 | 2.770E-11 | 2.834E-10 | 2.027E-09 | 1.064E-08 | 1.575E-08 | 1.415E-09 |
| Pu-239 | Cm-243 | 6.529E-06 | 0.000E+00 | 8.722E-15 | 7.666E-14 | 7.845E-13 | 5.609E-12 | 2.944E-11 | 4.360E-11 | 3.917E-12 |
| Pu-239 | Cm-243 | 3.301E-05 | 0.000E+00 | 4.410E-14 | 3.876E-13 | 3.966E-12 | 2.836E-11 | 1.488E-10 | 2.204E-10 | 1.980E-11 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | S(j,t), pCi/g | | | | | | | |
|----------------|---------------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Pu-239 | Cm-243 | 9.135E-08 | 0.000E+00 | 1.220E-16 | 1.073E-15 | 1.098E-14 | 7.849E-14 | 4.119E-13 | 6.101E-13 | 5.480E-14 |
| Pu-239 | Cm-243 | 1.981E-09 | 0.000E+00 | 2.646E-18 | 2.326E-17 | 2.380E-16 | 1.702E-15 | 8.930E-15 | 1.323E-14 | 1.188E-15 |
| Pu-239 | Cm-243 | 5.481E-12 | 0.000E+00 | 7.323E-21 | 6.436E-20 | 6.586E-19 | 4.710E-18 | 2.471E-17 | 3.661E-17 | 3.288E-18 |
| Pu-239 | Cm-243 | 9.805E-01 | 0.000E+00 | 2.779E-05 | 8.100E-05 | 2.444E-04 | 5.567E-04 | 7.817E-04 | 3.703E-04 | 1.643E-05 |
| Pu-239 | Cm-243 | 2.714E-03 | 0.000E+00 | 7.690E-08 | 2.242E-07 | 6.764E-07 | 1.541E-06 | 2.164E-06 | 1.025E-06 | 4.547E-08 |
| Pu-239 | Cm-243 | 1.372E-02 | 0.000E+00 | 3.888E-07 | 1.133E-06 | 3.420E-06 | 7.789E-06 | 1.094E-05 | 5.181E-06 | 2.299E-07 |
| Pu-239 | Cm-243 | 3.797E-05 | 0.000E+00 | 1.076E-09 | 3.137E-09 | 9.465E-09 | 2.156E-08 | 3.027E-08 | 1.434E-08 | 6.362E-10 |
| Pu-239 | Cm-243 | 8.232E-07 | 0.000E+00 | 2.333E-11 | 6.800E-11 | 2.052E-10 | 4.674E-10 | 6.563E-10 | 3.109E-10 | 1.379E-11 |
| Pu-239 | Cm-243 | 2.278E-09 | 0.000E+00 | 6.457E-14 | 1.882E-13 | 5.679E-13 | 1.294E-12 | 1.816E-12 | 8.604E-13 | 3.817E-14 |
| Pu-239 | Pu-239 | 9.829E-01 | 9.829E-01 | 9.785E-01 | 9.698E-01 | 9.401E-01 | 8.600E-01 | 6.296E-01 | 2.584E-01 | 1.143E-02 |
| Pu-239 | ΣS(j): | | 9.829E-01 | 9.786E-01 | 9.700E-01 | 9.406E-01 | 8.612E-01 | 6.320E-01 | 2.604E-01 | 1.158E-02 |
| U-235 | Am-243 | 9.829E-01 | 0.000E+00 | 1.382E-14 | 1.226E-13 | 1.299E-12 | 1.019E-11 | 7.023E-11 | 1.660E-10 | 2.299E-11 |
| U-235 | Am-243 | 2.720E-03 | 0.000E+00 | 3.824E-17 | 3.394E-16 | 3.594E-15 | 2.820E-14 | 1.944E-13 | 4.596E-13 | 6.362E-14 |
| U-235 | Am-243 | 1.375E-02 | 0.000E+00 | 1.933E-16 | 1.716E-15 | 1.817E-14 | 1.425E-13 | 9.827E-13 | 2.323E-12 | 3.216E-13 |
| U-235 | Am-243 | 3.806E-05 | 0.000E+00 | 5.350E-19 | 4.749E-18 | 5.029E-17 | 3.945E-16 | 2.720E-15 | 6.430E-15 | 8.902E-16 |
| U-235 | Am-243 | 8.252E-07 | 0.000E+00 | 1.160E-20 | 1.030E-19 | 1.090E-18 | 8.553E-18 | 5.896E-17 | 1.394E-16 | 1.930E-17 |
| U-235 | Am-243 | 2.284E-09 | 0.000E+00 | 3.210E-23 | 2.850E-22 | 3.017E-21 | 2.367E-20 | 1.632E-19 | 3.858E-19 | 5.341E-20 |
| U-235 | Am-243 | 5.901E-04 | 0.000E+00 | 8.294E-18 | 7.363E-17 | 7.796E-16 | 6.116E-15 | 4.216E-14 | 9.969E-14 | 1.380E-14 |
| U-235 | Am-243 | 1.633E-06 | 0.000E+00 | 2.296E-20 | 2.038E-19 | 2.158E-18 | 1.693E-17 | 1.167E-16 | 2.759E-16 | 3.820E-17 |
| U-235 | Am-243 | 8.257E-06 | 0.000E+00 | 1.161E-19 | 1.030E-18 | 1.091E-17 | 8.558E-17 | 5.899E-16 | 1.395E-15 | 1.931E-16 |
| U-235 | Am-243 | 2.285E-08 | 0.000E+00 | 3.212E-22 | 2.851E-21 | 3.019E-20 | 2.369E-19 | 1.633E-18 | 3.860E-18 | 5.344E-19 |
| U-235 | Am-243 | 4.954E-10 | 0.000E+00 | 6.964E-24 | 6.182E-23 | 6.546E-22 | 5.135E-21 | 3.540E-20 | 8.370E-20 | 1.159E-20 |
| U-235 | Am-243 | 1.371E-12 | 0.000E+00 | 1.927E-26 | 1.711E-25 | 1.812E-24 | 1.421E-23 | 9.797E-23 | 2.316E-22 | 3.207E-23 |
| U-235 | Cm-243 | 2.359E-03 | 0.000E+00 | 1.035E-21 | 2.732E-20 | 9.357E-19 | 2.026E-17 | 3.586E-16 | 1.464E-15 | 2.529E-16 |
| U-235 | Cm-243 | 6.529E-06 | 0.000E+00 | 2.864E-24 | 7.562E-23 | 2.590E-21 | 5.608E-20 | 9.924E-19 | 4.052E-18 | 7.001E-19 |
| U-235 | Cm-243 | 3.301E-05 | 0.000E+00 | 1.448E-23 | 3.823E-22 | 1.309E-20 | 2.835E-19 | 5.017E-18 | 2.049E-17 | 3.539E-18 |
| U-235 | Cm-243 | 9.135E-08 | 0.000E+00 | 4.008E-26 | 1.058E-24 | 3.623E-23 | 7.846E-22 | 1.389E-20 | 5.670E-20 | 9.795E-21 |
| U-235 | Cm-243 | 1.981E-09 | 0.000E+00 | 8.689E-28 | 2.294E-26 | 7.856E-25 | 1.701E-23 | 3.010E-22 | 1.229E-21 | 2.124E-22 |
| U-235 | Cm-243 | 5.481E-12 | 0.000E+00 | 2.405E-30 | 6.349E-29 | 2.174E-27 | 4.708E-26 | 8.332E-25 | 3.402E-24 | 5.878E-25 |
| U-235 | Cm-243 | 1.416E-06 | 0.000E+00 | 6.213E-25 | 1.640E-23 | 5.617E-22 | 1.216E-20 | 2.153E-19 | 8.790E-19 | 1.519E-19 |
| U-235 | Cm-243 | 3.920E-09 | 0.000E+00 | 1.720E-27 | 4.540E-26 | 1.555E-24 | 3.367E-23 | 5.958E-22 | 2.433E-21 | 4.203E-22 |
| U-235 | Cm-243 | 1.982E-08 | 0.000E+00 | 8.694E-27 | 2.295E-25 | 7.860E-24 | 1.702E-22 | 3.012E-21 | 1.230E-20 | 2.125E-21 |
| U-235 | Cm-243 | 5.484E-11 | 0.000E+00 | 2.406E-29 | 6.352E-28 | 2.175E-26 | 4.711E-25 | 8.336E-24 | 3.404E-23 | 5.881E-24 |
| U-235 | Cm-243 | 1.189E-12 | 0.000E+00 | 5.217E-31 | 1.377E-29 | 4.716E-28 | 1.021E-26 | 1.807E-25 | 7.380E-25 | 1.275E-25 |
| U-235 | Cm-243 | 3.291E-15 | 0.000E+00 | 1.444E-33 | 3.811E-32 | 1.305E-30 | 2.827E-29 | 5.002E-28 | 2.043E-27 | 3.529E-28 |
| U-235 | Cm-243 | 9.805E-01 | 0.000E+00 | 1.370E-14 | 1.202E-13 | 1.223E-12 | 8.585E-12 | 4.213E-11 | 5.162E-11 | 3.232E-12 |
| U-235 | Cm-243 | 2.714E-03 | 0.000E+00 | 3.792E-17 | 3.327E-16 | 3.384E-15 | 2.376E-14 | 1.166E-13 | 1.429E-13 | 8.946E-15 |
| U-235 | Cm-243 | 1.372E-02 | 0.000E+00 | 1.917E-16 | 1.682E-15 | 1.711E-14 | 1.201E-13 | 5.896E-13 | 7.223E-13 | 4.523E-14 |
| U-235 | Cm-243 | 3.797E-05 | 0.000E+00 | 5.306E-19 | 4.655E-18 | 4.735E-17 | 3.325E-16 | 1.632E-15 | 1.999E-15 | 1.252E-16 |
| U-235 | Cm-243 | 8.232E-07 | 0.000E+00 | 1.150E-20 | 1.009E-19 | 1.026E-18 | 7.208E-18 | 3.538E-17 | 4.334E-17 | 2.714E-18 |
| U-235 | Cm-243 | 2.278E-09 | 0.000E+00 | 3.184E-23 | 2.793E-22 | 2.841E-21 | 1.995E-20 | 9.791E-20 | 1.199E-19 | 7.511E-21 |
| U-235 | Cm-243 | 5.887E-04 | 0.000E+00 | 8.226E-18 | 7.217E-17 | 7.340E-16 | 5.154E-15 | 2.530E-14 | 3.099E-14 | 1.941E-15 |
| U-235 | Cm-243 | 1.629E-06 | 0.000E+00 | 2.277E-20 | 1.997E-19 | 2.031E-18 | 1.427E-17 | 7.001E-17 | 8.577E-17 | 5.371E-18 |
| U-235 | Cm-243 | 8.237E-06 | 0.000E+00 | 1.151E-19 | 1.010E-18 | 1.027E-17 | 7.212E-17 | 3.539E-16 | 4.336E-16 | 2.715E-17 |
| U-235 | Cm-243 | 2.280E-08 | 0.000E+00 | 3.186E-22 | 2.795E-21 | 2.842E-20 | 1.996E-19 | 9.796E-19 | 1.200E-18 | 7.515E-20 |
| U-235 | Cm-243 | 4.942E-10 | 0.000E+00 | 6.906E-24 | 6.060E-23 | 6.163E-22 | 4.327E-21 | 2.124E-20 | 2.602E-20 | 1.629E-21 |
| U-235 | Cm-243 | 1.368E-12 | 0.000E+00 | 1.911E-26 | 1.677E-25 | 1.706E-24 | 1.198E-23 | 5.878E-23 | 7.201E-23 | 4.509E-24 |
| U-235 | Pu-239 | 5.901E-04 | 0.000E+00 | 5.770E-13 | 1.707E-12 | 5.421E-12 | 1.417E-11 | 2.935E-11 | 2.384E-11 | 1.354E-12 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | S(j,t), pCi/g | | | | | | | |
|----------------|---------------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| U-235 | Pu-239 | 1.633E-06 | 0.000E+00 | 1.597E-15 | 4.725E-15 | 1.500E-14 | 3.922E-14 | 8.122E-14 | 6.599E-14 | 3.747E-15 |
| U-235 | Pu-239 | 8.257E-06 | 0.000E+00 | 8.073E-15 | 2.389E-14 | 7.586E-14 | 1.983E-13 | 4.106E-13 | 3.336E-13 | 1.894E-14 |
| U-235 | Pu-239 | 2.285E-08 | 0.000E+00 | 2.234E-17 | 6.611E-17 | 2.099E-16 | 5.487E-16 | 1.136E-15 | 9.234E-16 | 5.243E-17 |
| U-235 | Pu-239 | 4.954E-10 | 0.000E+00 | 4.844E-19 | 1.433E-18 | 4.552E-18 | 1.190E-17 | 2.464E-17 | 2.002E-17 | 1.137E-18 |
| U-235 | Pu-239 | 1.371E-12 | 0.000E+00 | 1.341E-21 | 3.967E-21 | 1.260E-20 | 3.293E-20 | 6.819E-20 | 5.541E-20 | 3.146E-21 |
| U-235 | Pu-239 | 9.829E-01 | 0.000E+00 | 9.611E-10 | 2.843E-09 | 9.030E-09 | 2.360E-08 | 4.888E-08 | 3.972E-08 | 2.255E-09 |
| U-235 | Pu-239 | 2.720E-03 | 0.000E+00 | 2.660E-12 | 7.870E-12 | 2.499E-11 | 6.532E-11 | 1.353E-10 | 1.099E-10 | 6.241E-12 |
| U-235 | Pu-239 | 1.375E-02 | 0.000E+00 | 1.345E-11 | 3.979E-11 | 1.264E-10 | 3.303E-10 | 6.839E-10 | 5.557E-10 | 3.155E-11 |
| U-235 | Pu-239 | 3.806E-05 | 0.000E+00 | 3.722E-14 | 1.101E-13 | 3.497E-13 | 9.140E-13 | 1.893E-12 | 1.538E-12 | 8.733E-14 |
| U-235 | Pu-239 | 8.252E-07 | 0.000E+00 | 8.069E-16 | 2.387E-15 | 7.582E-15 | 1.982E-14 | 4.104E-14 | 3.335E-14 | 1.893E-15 |
| U-235 | Pu-239 | 2.284E-09 | 0.000E+00 | 2.233E-18 | 6.607E-18 | 2.098E-17 | 5.484E-17 | 1.136E-16 | 9.229E-17 | 5.240E-18 |
| U-235 | ΣS(j): | | 0.000E+00 | 9.778E-10 | 2.893E-09 | 9.190E-09 | 2.403E-08 | 4.984E-08 | 4.063E-08 | 2.321E-09 |
| Pa-231 | Am-243 | 9.829E-01 | 0.000E+00 | 9.753E-20 | 2.602E-18 | 9.245E-17 | 2.217E-15 | 5.442E-14 | 4.672E-13 | 4.255E-13 |
| Pa-231 | Am-243 | 2.720E-03 | 0.000E+00 | 2.699E-22 | 7.202E-21 | 2.559E-19 | 6.136E-18 | 1.506E-16 | 1.293E-15 | 1.178E-15 |
| Pa-231 | Am-243 | 1.375E-02 | 0.000E+00 | 1.365E-21 | 3.641E-20 | 1.294E-18 | 3.102E-17 | 7.615E-16 | 6.537E-15 | 5.954E-15 |
| Pa-231 | Am-243 | 3.806E-05 | 0.000E+00 | 3.777E-24 | 1.008E-22 | 3.580E-21 | 8.586E-20 | 2.107E-18 | 1.809E-17 | 1.648E-17 |
| Pa-231 | Am-243 | 8.252E-07 | 0.000E+00 | 8.188E-26 | 2.185E-24 | 7.762E-23 | 1.861E-21 | 4.569E-20 | 3.923E-19 | 3.572E-19 |
| Pa-231 | Am-243 | 2.284E-09 | 0.000E+00 | 2.266E-28 | 6.046E-27 | 2.148E-25 | 5.152E-24 | 1.265E-22 | 1.086E-21 | 9.887E-22 |
| Pa-231 | Am-243 | 5.901E-04 | 0.000E+00 | 5.855E-23 | 1.562E-21 | 5.550E-20 | 1.331E-18 | 3.267E-17 | 2.805E-16 | 2.555E-16 |
| Pa-231 | Am-243 | 1.633E-06 | 0.000E+00 | 1.621E-25 | 4.324E-24 | 1.536E-22 | 3.684E-21 | 9.042E-20 | 7.763E-19 | 7.070E-19 |
| Pa-231 | Am-243 | 8.257E-06 | 0.000E+00 | 8.193E-25 | 2.186E-23 | 7.766E-22 | 1.862E-20 | 4.571E-19 | 3.925E-18 | 3.574E-18 |
| Pa-231 | Am-243 | 2.285E-08 | 0.000E+00 | 2.267E-27 | 6.050E-26 | 2.149E-24 | 5.155E-23 | 1.265E-21 | 1.086E-20 | 9.893E-21 |
| Pa-231 | Am-243 | 4.954E-10 | 0.000E+00 | 4.916E-29 | 1.312E-27 | 4.660E-26 | 1.118E-24 | 2.743E-23 | 2.355E-22 | 2.145E-22 |
| Pa-231 | Am-243 | 1.371E-12 | 0.000E+00 | 1.361E-31 | 3.630E-30 | 1.290E-28 | 3.093E-27 | 7.592E-26 | 6.518E-25 | 5.936E-25 |
| Pa-231 | Cm-243 | 2.359E-03 | 0.000E+00 | 5.483E-27 | 4.357E-25 | 5.030E-23 | 3.372E-21 | 2.208E-19 | 3.501E-18 | 4.263E-18 |
| Pa-231 | Cm-243 | 6.529E-06 | 0.000E+00 | 1.518E-29 | 1.206E-27 | 1.392E-25 | 9.334E-24 | 6.111E-22 | 9.690E-21 | 1.180E-20 |
| Pa-231 | Cm-243 | 3.301E-05 | 0.000E+00 | 7.672E-29 | 6.096E-27 | 7.038E-25 | 4.719E-23 | 3.089E-21 | 4.899E-20 | 5.965E-20 |
| Pa-231 | Cm-243 | 9.135E-08 | 0.000E+00 | 2.123E-31 | 1.687E-29 | 1.948E-27 | 1.306E-25 | 8.550E-24 | 1.356E-22 | 1.651E-22 |
| Pa-231 | Cm-243 | 1.981E-09 | 0.000E+00 | 4.604E-33 | 3.658E-31 | 4.223E-29 | 2.831E-27 | 1.854E-25 | 2.940E-24 | 3.579E-24 |
| Pa-231 | Cm-243 | 5.481E-12 | 0.000E+00 | 1.274E-35 | 1.012E-33 | 1.169E-31 | 7.836E-30 | 5.131E-28 | 8.135E-27 | 9.906E-27 |
| Pa-231 | Cm-243 | 1.416E-06 | 0.000E+00 | 3.292E-30 | 2.616E-28 | 3.020E-26 | 2.025E-24 | 1.326E-22 | 2.102E-21 | 2.559E-21 |
| Pa-231 | Cm-243 | 3.920E-09 | 0.000E+00 | 9.111E-33 | 7.239E-31 | 8.358E-29 | 5.604E-27 | 3.669E-25 | 5.817E-24 | 7.084E-24 |
| Pa-231 | Cm-243 | 1.982E-08 | 0.000E+00 | 4.606E-32 | 3.660E-30 | 4.225E-28 | 2.833E-26 | 1.855E-24 | 2.941E-23 | 3.581E-23 |
| Pa-231 | Cm-243 | 5.484E-11 | 0.000E+00 | 1.275E-34 | 1.013E-32 | 1.169E-30 | 7.841E-29 | 5.133E-27 | 8.140E-26 | 9.912E-26 |
| Pa-231 | Cm-243 | 1.189E-12 | 0.000E+00 | 2.764E-36 | 2.196E-34 | 2.535E-32 | 1.700E-30 | 1.113E-28 | 1.765E-27 | 2.149E-27 |
| Pa-231 | Cm-243 | 3.291E-15 | 0.000E+00 | 7.649E-39 | 6.078E-37 | 7.017E-35 | 4.705E-33 | 3.080E-31 | 4.884E-30 | 5.947E-30 |
| Pa-231 | Cm-243 | 9.805E-01 | 0.000E+00 | 9.687E-20 | 2.562E-18 | 8.831E-17 | 1.949E-15 | 3.709E-14 | 1.934E-13 | 9.246E-14 |
| Pa-231 | Cm-243 | 2.714E-03 | 0.000E+00 | 2.681E-22 | 7.091E-21 | 2.444E-19 | 5.394E-18 | 1.027E-16 | 5.353E-16 | 2.559E-16 |
| Pa-231 | Cm-243 | 1.372E-02 | 0.000E+00 | 1.355E-21 | 3.585E-20 | 1.236E-18 | 2.727E-17 | 5.190E-16 | 2.706E-15 | 1.294E-15 |
| Pa-231 | Cm-243 | 3.797E-05 | 0.000E+00 | 3.751E-24 | 9.921E-23 | 3.420E-21 | 7.548E-20 | 1.436E-18 | 7.490E-18 | 3.580E-18 |
| Pa-231 | Cm-243 | 8.232E-07 | 0.000E+00 | 8.133E-26 | 2.151E-24 | 7.414E-23 | 1.636E-21 | 3.114E-20 | 1.624E-19 | 7.763E-20 |
| Pa-231 | Cm-243 | 2.278E-09 | 0.000E+00 | 2.251E-28 | 5.953E-27 | 2.052E-25 | 4.529E-24 | 8.619E-23 | 4.494E-22 | 2.148E-22 |
| Pa-231 | Cm-243 | 5.887E-04 | 0.000E+00 | 5.816E-23 | 1.538E-21 | 5.302E-20 | 1.170E-18 | 2.227E-17 | 1.161E-16 | 5.551E-17 |
| Pa-231 | Cm-243 | 1.629E-06 | 0.000E+00 | 1.610E-25 | 4.257E-24 | 1.467E-22 | 3.239E-21 | 6.163E-20 | 3.214E-19 | 1.536E-19 |
| Pa-231 | Cm-243 | 8.237E-06 | 0.000E+00 | 8.137E-25 | 2.152E-23 | 7.418E-22 | 1.637E-20 | 3.116E-19 | 1.625E-18 | 7.767E-19 |
| Pa-231 | Cm-243 | 2.280E-08 | 0.000E+00 | 2.252E-27 | 5.956E-26 | 2.053E-24 | 4.531E-23 | 8.624E-22 | 4.497E-21 | 2.150E-21 |
| Pa-231 | Cm-243 | 4.942E-10 | 0.000E+00 | 4.883E-29 | 1.291E-27 | 4.451E-26 | 9.824E-25 | 1.870E-23 | 9.749E-23 | 4.660E-23 |
| Pa-231 | Cm-243 | 1.368E-12 | 0.000E+00 | 1.351E-31 | 3.574E-30 | 1.232E-28 | 2.719E-27 | 5.175E-26 | 2.698E-25 | 1.290E-25 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | S(j,t), pCi/g | | | | | | | |
|----------------|---------------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Pa-231 | Pu-239 | 5.901E-04 | 0.000E+00 | 6.112E-18 | 5.439E-17 | 5.808E-16 | 4.670E-15 | 3.518E-14 | 1.090E-13 | 4.260E-14 |
| Pa-231 | Pu-239 | 1.633E-06 | 0.000E+00 | 1.691E-20 | 1.505E-19 | 1.607E-18 | 1.293E-17 | 9.736E-17 | 3.017E-16 | 1.179E-16 |
| Pa-231 | Pu-239 | 8.257E-06 | 0.000E+00 | 8.552E-20 | 7.610E-19 | 8.127E-18 | 6.535E-17 | 4.922E-16 | 1.525E-15 | 5.961E-16 |
| Pa-231 | Pu-239 | 2.285E-08 | 0.000E+00 | 2.367E-22 | 2.106E-21 | 2.249E-20 | 1.809E-19 | 1.362E-18 | 4.221E-18 | 1.650E-18 |
| Pa-231 | Pu-239 | 4.954E-10 | 0.000E+00 | 5.131E-24 | 4.566E-23 | 4.876E-22 | 3.921E-21 | 2.954E-20 | 9.151E-20 | 3.577E-20 |
| Pa-231 | Pu-239 | 1.371E-12 | 0.000E+00 | 1.420E-26 | 1.264E-25 | 1.350E-24 | 1.085E-23 | 8.175E-23 | 2.533E-22 | 9.900E-23 |
| Pa-231 | Pu-239 | 9.829E-01 | 0.000E+00 | 1.018E-14 | 9.059E-14 | 9.674E-13 | 7.779E-12 | 5.860E-11 | 1.815E-10 | 7.096E-11 |
| Pa-231 | Pu-239 | 2.720E-03 | 0.000E+00 | 2.817E-17 | 2.507E-16 | 2.678E-15 | 2.153E-14 | 1.622E-13 | 5.025E-13 | 1.964E-13 |
| Pa-231 | Pu-239 | 1.375E-02 | 0.000E+00 | 1.424E-16 | 1.268E-15 | 1.354E-14 | 1.089E-13 | 8.199E-13 | 2.540E-12 | 9.929E-13 |
| Pa-231 | Pu-239 | 3.806E-05 | 0.000E+00 | 3.942E-19 | 3.508E-18 | 3.746E-17 | 3.013E-16 | 2.269E-15 | 7.031E-15 | 2.748E-15 |
| Pa-231 | Pu-239 | 8.252E-07 | 0.000E+00 | 8.547E-21 | 7.606E-20 | 8.123E-19 | 6.531E-18 | 4.920E-17 | 1.524E-16 | 5.958E-17 |
| Pa-231 | Pu-239 | 2.284E-09 | 0.000E+00 | 2.365E-23 | 2.105E-22 | 2.248E-21 | 1.808E-20 | 1.362E-19 | 4.219E-19 | 1.649E-19 |
| Pa-231 | ΣS(j) : | | 0.000E+00 | 1.036E-14 | 9.217E-14 | 9.845E-13 | 7.919E-12 | 5.971E-11 | 1.854E-10 | 7.273E-11 |
| Ac-227 | Am-243 | 9.829E-01 | 0.000E+00 | 7.720E-22 | 6.113E-20 | 6.973E-18 | 4.531E-16 | 2.727E-14 | 3.849E-13 | 4.321E-13 |
| Ac-227 | Am-243 | 5.901E-04 | 0.000E+00 | 4.635E-25 | 3.670E-23 | 4.187E-21 | 2.720E-19 | 1.637E-17 | 2.311E-16 | 2.594E-16 |
| Ac-227 | Cm-243 | 2.359E-03 | 0.000E+00 | 3.478E-29 | 8.225E-27 | 3.080E-24 | 5.745E-22 | 9.858E-20 | 2.776E-18 | 4.312E-18 |
| Ac-227 | Cm-243 | 1.416E-06 | 0.000E+00 | 2.088E-32 | 4.938E-30 | 1.849E-27 | 3.449E-25 | 5.918E-23 | 1.666E-21 | 2.589E-21 |
| Ac-227 | Cm-243 | 9.805E-01 | 0.000E+00 | 7.675E-22 | 6.034E-20 | 6.717E-18 | 4.073E-16 | 1.953E-14 | 1.678E-13 | 9.519E-14 |
| Ac-227 | Cm-243 | 5.887E-04 | 0.000E+00 | 4.608E-25 | 3.623E-23 | 4.033E-21 | 2.445E-19 | 1.173E-17 | 1.007E-16 | 5.715E-17 |
| Ac-227 | Pu-239 | 5.901E-04 | 0.000E+00 | 6.441E-20 | 1.696E-18 | 5.761E-17 | 1.223E-15 | 2.110E-14 | 9.779E-14 | 4.397E-14 |
| Ac-227 | Pu-239 | 9.829E-01 | 0.000E+00 | 1.073E-16 | 2.825E-15 | 9.595E-14 | 2.038E-12 | 3.514E-11 | 1.629E-10 | 7.323E-11 |
| Ac-227 | ΣS(j) : | | 0.000E+00 | 1.074E-16 | 2.827E-15 | 9.602E-14 | 2.040E-12 | 3.521E-11 | 1.635E-10 | 7.380E-11 |
| Ac-227 | Am-243 | 2.720E-03 | 0.000E+00 | 2.137E-24 | 1.692E-22 | 1.930E-20 | 1.254E-18 | 7.548E-17 | 1.065E-15 | 1.196E-15 |
| Ac-227 | Am-243 | 1.375E-02 | 0.000E+00 | 1.080E-23 | 8.553E-22 | 9.757E-20 | 6.340E-18 | 3.816E-16 | 5.385E-15 | 6.046E-15 |
| Ac-227 | Am-243 | 1.633E-06 | 0.000E+00 | 1.283E-27 | 1.016E-25 | 1.159E-23 | 7.529E-22 | 4.532E-20 | 6.395E-19 | 7.179E-19 |
| Ac-227 | Cm-243 | 6.529E-06 | 0.000E+00 | 9.625E-32 | 2.276E-29 | 8.525E-27 | 1.590E-24 | 2.728E-22 | 7.682E-21 | 1.193E-20 |
| Ac-227 | Cm-243 | 3.920E-09 | 0.000E+00 | 5.778E-35 | 1.367E-32 | 5.118E-30 | 9.546E-28 | 1.638E-25 | 4.612E-24 | 7.165E-24 |
| Ac-227 | Cm-243 | 2.714E-03 | 0.000E+00 | 2.124E-24 | 1.670E-22 | 1.859E-20 | 1.127E-18 | 5.405E-17 | 4.644E-16 | 2.634E-16 |
| Ac-227 | Cm-243 | 1.629E-06 | 0.000E+00 | 1.275E-27 | 1.003E-25 | 1.116E-23 | 6.767E-22 | 3.245E-20 | 2.788E-19 | 1.582E-19 |
| Ac-227 | Pu-239 | 1.633E-06 | 0.000E+00 | 1.783E-22 | 4.694E-21 | 1.594E-19 | 3.386E-18 | 5.839E-17 | 2.706E-16 | 1.217E-16 |
| Ac-227 | Pu-239 | 2.720E-03 | 0.000E+00 | 2.969E-19 | 7.819E-18 | 2.656E-16 | 5.640E-15 | 9.726E-14 | 4.508E-13 | 2.027E-13 |
| Ac-227 | ΣS(j) : | | 0.000E+00 | 2.971E-19 | 7.825E-18 | 2.659E-16 | 5.652E-15 | 9.783E-14 | 4.580E-13 | 2.103E-13 |
| Am-243 | Am-243 | 1.375E-02 | 1.375E-02 | 1.366E-02 | 1.348E-02 | 1.285E-02 | 1.122E-02 | 6.972E-03 | 1.792E-03 | 1.541E-05 |
| Am-243 | Am-243 | 3.806E-05 | 3.806E-05 | 3.781E-05 | 3.729E-05 | 3.556E-05 | 3.104E-05 | 1.930E-05 | 4.958E-06 | 4.265E-08 |
| Am-243 | ΣS(j) : | | 1.379E-02 | 1.370E-02 | 1.351E-02 | 1.289E-02 | 1.125E-02 | 6.991E-03 | 1.797E-03 | 1.545E-05 |
| Ac-227 | Am-243 | 3.806E-05 | 0.000E+00 | 2.990E-26 | 2.367E-24 | 2.701E-22 | 1.755E-20 | 1.056E-18 | 1.490E-17 | 1.673E-17 |
| Ac-227 | Am-243 | 8.252E-07 | 0.000E+00 | 6.482E-28 | 5.132E-26 | 5.855E-24 | 3.804E-22 | 2.290E-20 | 3.231E-19 | 3.628E-19 |
| Ac-227 | Am-243 | 2.285E-08 | 0.000E+00 | 1.795E-29 | 1.421E-27 | 1.621E-25 | 1.053E-23 | 6.341E-22 | 8.948E-21 | 1.005E-20 |
| Ac-227 | Cm-243 | 9.135E-08 | 0.000E+00 | 1.347E-33 | 3.185E-31 | 1.193E-28 | 2.225E-26 | 3.818E-24 | 1.075E-22 | 1.670E-22 |
| Ac-227 | Cm-243 | 5.484E-11 | 0.000E+00 | 8.085E-37 | 1.912E-34 | 7.161E-32 | 1.336E-29 | 2.292E-27 | 6.453E-26 | 1.003E-25 |
| Ac-227 | Cm-243 | 3.797E-05 | 0.000E+00 | 2.972E-26 | 2.337E-24 | 2.601E-22 | 1.577E-20 | 7.563E-19 | 6.498E-18 | 3.686E-18 |
| Ac-227 | Cm-243 | 2.280E-08 | 0.000E+00 | 1.784E-29 | 1.403E-27 | 1.562E-25 | 9.469E-24 | 4.541E-22 | 3.901E-21 | 2.213E-21 |
| Ac-227 | Pu-239 | 2.285E-08 | 0.000E+00 | 2.494E-24 | 6.569E-23 | 2.231E-21 | 4.738E-20 | 8.171E-19 | 3.787E-18 | 1.703E-18 |
| Ac-227 | Pu-239 | 3.806E-05 | 0.000E+00 | 4.155E-21 | 1.094E-19 | 3.716E-18 | 7.891E-17 | 1.361E-15 | 6.308E-15 | 2.836E-15 |
| Ac-227 | ΣS(j) : | | 0.000E+00 | 4.157E-21 | 1.095E-19 | 3.719E-18 | 7.900E-17 | 1.364E-15 | 6.333E-15 | 2.858E-15 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | S(j,t), pCi/g | | | | | | | |
|----------------|---------------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Am-243 | Am-243 | 8.252E-07 | 8.252E-07 | 8.196E-07 | 8.086E-07 | 7.710E-07 | 6.731E-07 | 4.183E-07 | 1.075E-07 | 9.248E-10 |
| Am-243 | Am-243 | 2.284E-09 | 2.284E-09 | 2.268E-09 | 2.238E-09 | 2.134E-09 | 1.863E-09 | 1.158E-09 | 2.975E-10 | 2.559E-12 |
| Am-243 | ΣS(j): | | 8.275E-07 | 8.219E-07 | 8.108E-07 | 7.732E-07 | 6.749E-07 | 4.195E-07 | 1.078E-07 | 9.273E-10 |
| Ac-227 | Am-243 | 2.284E-09 | 0.000E+00 | 1.794E-30 | 1.420E-28 | 1.620E-26 | 1.053E-24 | 6.337E-23 | 8.943E-22 | 1.004E-21 |
| Ac-227 | Am-243 | 1.371E-12 | 0.000E+00 | 1.077E-33 | 8.528E-32 | 9.728E-30 | 6.321E-28 | 3.805E-26 | 5.369E-25 | 6.027E-25 |
| Ac-227 | Cm-243 | 5.481E-12 | 0.000E+00 | 8.081E-38 | 1.911E-35 | 7.158E-33 | 1.335E-30 | 2.291E-28 | 6.450E-27 | 1.002E-26 |
| Ac-227 | Cm-243 | 3.291E-15 | 0.000E+00 | 4.851E-41 | 1.147E-38 | 4.297E-36 | 8.015E-34 | 1.375E-31 | 3.872E-30 | 6.016E-30 |
| Ac-227 | Cm-243 | 2.278E-09 | 0.000E+00 | 1.783E-30 | 1.402E-28 | 1.561E-26 | 9.464E-25 | 4.538E-23 | 3.899E-22 | 2.212E-22 |
| Ac-227 | Cm-243 | 1.368E-12 | 0.000E+00 | 1.071E-33 | 8.418E-32 | 9.370E-30 | 5.682E-28 | 2.725E-26 | 2.341E-25 | 1.328E-25 |
| Ac-227 | Pu-239 | 1.371E-12 | 0.000E+00 | 1.497E-28 | 3.941E-27 | 1.339E-25 | 2.843E-24 | 4.903E-23 | 2.272E-22 | 1.022E-22 |
| Ac-227 | Pu-239 | 2.284E-09 | 0.000E+00 | 2.493E-25 | 6.565E-24 | 2.230E-22 | 4.735E-21 | 8.166E-20 | 3.785E-19 | 1.702E-19 |
| Ac-227 | ΣS(j): | | 0.000E+00 | 2.495E-25 | 6.569E-24 | 2.231E-22 | 4.740E-21 | 8.182E-20 | 3.800E-19 | 1.715E-19 |
| Am-243 | Am-243 | 5.901E-04 | 5.901E-04 | 5.861E-04 | 5.782E-04 | 5.513E-04 | 4.813E-04 | 2.991E-04 | 7.687E-05 | 6.613E-07 |
| Am-243 | Am-243 | 1.633E-06 | 1.633E-06 | 1.622E-06 | 1.600E-06 | 1.526E-06 | 1.332E-06 | 8.279E-07 | 2.127E-07 | 1.830E-09 |
| Am-243 | ΣS(j): | | 5.917E-04 | 5.877E-04 | 5.798E-04 | 5.529E-04 | 4.826E-04 | 3.000E-04 | 7.708E-05 | 6.631E-07 |
| Pu-239 | Am-243 | 5.901E-04 | 0.000E+00 | 1.687E-08 | 5.004E-08 | 1.604E-07 | 4.300E-07 | 9.689E-07 | 9.612E-07 | 7.621E-08 |
| Pu-239 | Am-243 | 1.633E-06 | 0.000E+00 | 4.669E-11 | 1.385E-10 | 4.439E-10 | 1.190E-09 | 2.682E-09 | 2.660E-09 | 2.109E-10 |
| Pu-239 | Am-243 | 8.257E-06 | 0.000E+00 | 2.360E-10 | 7.002E-10 | 2.244E-09 | 6.017E-09 | 1.356E-08 | 1.345E-08 | 1.066E-09 |
| Pu-239 | Am-243 | 2.285E-08 | 0.000E+00 | 6.533E-13 | 1.938E-12 | 6.211E-12 | 1.665E-11 | 3.752E-11 | 3.722E-11 | 2.951E-12 |
| Pu-239 | Am-243 | 4.954E-10 | 0.000E+00 | 1.416E-14 | 4.201E-14 | 1.346E-13 | 3.610E-13 | 8.135E-13 | 8.070E-13 | 6.399E-14 |
| Pu-239 | Am-243 | 1.371E-12 | 0.000E+00 | 3.920E-17 | 1.163E-16 | 3.727E-16 | 9.992E-16 | 2.251E-15 | 2.234E-15 | 1.771E-16 |
| Pu-239 | Cm-243 | 1.416E-06 | 0.000E+00 | 1.892E-15 | 1.663E-14 | 1.702E-13 | 1.217E-12 | 6.385E-12 | 9.458E-12 | 8.496E-13 |
| Pu-239 | Cm-243 | 3.920E-09 | 0.000E+00 | 5.236E-18 | 4.602E-17 | 4.710E-16 | 3.368E-15 | 1.767E-14 | 2.618E-14 | 2.351E-15 |
| Pu-239 | Cm-243 | 1.982E-08 | 0.000E+00 | 2.647E-17 | 2.327E-16 | 2.381E-15 | 1.703E-14 | 8.934E-14 | 1.323E-13 | 1.189E-14 |
| Pu-239 | Cm-243 | 5.484E-11 | 0.000E+00 | 7.327E-20 | 6.440E-19 | 6.590E-18 | 4.712E-17 | 2.473E-16 | 3.663E-16 | 3.290E-17 |
| Pu-239 | Cm-243 | 1.189E-12 | 0.000E+00 | 1.589E-21 | 1.396E-20 | 1.429E-19 | 1.022E-18 | 5.361E-18 | 7.941E-18 | 7.133E-19 |
| Pu-239 | Cm-243 | 3.291E-15 | 0.000E+00 | 4.396E-24 | 3.864E-23 | 3.954E-22 | 2.827E-21 | 1.484E-20 | 2.198E-20 | 1.974E-21 |
| Pu-239 | Cm-243 | 5.887E-04 | 0.000E+00 | 1.668E-08 | 4.863E-08 | 1.467E-07 | 3.342E-07 | 4.693E-07 | 2.223E-07 | 9.863E-09 |
| Pu-239 | Cm-243 | 1.629E-06 | 0.000E+00 | 4.617E-11 | 1.346E-10 | 4.061E-10 | 9.250E-10 | 1.299E-09 | 6.152E-10 | 2.730E-11 |
| Pu-239 | Cm-243 | 8.237E-06 | 0.000E+00 | 2.334E-10 | 6.804E-10 | 2.053E-09 | 4.676E-09 | 6.567E-09 | 3.110E-09 | 1.380E-10 |
| Pu-239 | Cm-243 | 2.280E-08 | 0.000E+00 | 6.460E-13 | 1.883E-12 | 5.682E-12 | 1.294E-11 | 1.817E-11 | 8.608E-12 | 3.819E-13 |
| Pu-239 | Cm-243 | 4.942E-10 | 0.000E+00 | 1.401E-14 | 4.083E-14 | 1.232E-13 | 2.806E-13 | 3.940E-13 | 1.866E-13 | 8.280E-15 |
| Pu-239 | Cm-243 | 1.368E-12 | 0.000E+00 | 3.876E-17 | 1.130E-16 | 3.410E-16 | 7.766E-16 | 1.091E-15 | 5.165E-16 | 2.292E-17 |
| Pu-239 | Pu-239 | 5.901E-04 | 5.901E-04 | 5.875E-04 | 5.823E-04 | 5.644E-04 | 5.163E-04 | 3.780E-04 | 1.551E-04 | 6.864E-06 |
| Pu-239 | ΣS(j): | | 5.901E-04 | 5.875E-04 | 5.824E-04 | 5.647E-04 | 5.171E-04 | 3.795E-04 | 1.563E-04 | 6.952E-06 |
| Am-243 | Am-243 | 8.257E-06 | 8.257E-06 | 8.201E-06 | 8.090E-06 | 7.714E-06 | 6.734E-06 | 4.186E-06 | 1.076E-06 | 9.253E-09 |
| Am-243 | Am-243 | 2.285E-08 | 2.285E-08 | 2.270E-08 | 2.239E-08 | 2.135E-08 | 1.864E-08 | 1.158E-08 | 2.977E-09 | 2.561E-11 |
| Am-243 | ΣS(j): | | 8.280E-06 | 8.223E-06 | 8.112E-06 | 7.736E-06 | 6.753E-06 | 4.197E-06 | 1.079E-06 | 9.278E-09 |
| Ac-227 | Am-243 | 8.257E-06 | 0.000E+00 | 6.485E-27 | 5.135E-25 | 5.858E-23 | 3.806E-21 | 2.291E-19 | 3.233E-18 | 3.630E-18 |
| Ac-227 | Cm-243 | 3.301E-05 | 0.000E+00 | 4.866E-31 | 1.151E-28 | 4.310E-26 | 8.039E-24 | 1.379E-21 | 3.884E-20 | 6.034E-20 |
| Ac-227 | Cm-243 | 1.982E-08 | 0.000E+00 | 2.921E-34 | 6.909E-32 | 2.588E-29 | 4.826E-27 | 8.281E-25 | 2.332E-23 | 3.622E-23 |
| Ac-227 | Cm-243 | 1.372E-02 | 0.000E+00 | 1.074E-23 | 8.443E-22 | 9.398E-20 | 5.699E-18 | 2.733E-16 | 2.348E-15 | 1.332E-15 |
| Ac-227 | Cm-243 | 8.237E-06 | 0.000E+00 | 6.447E-27 | 5.069E-25 | 5.642E-23 | 3.421E-21 | 1.641E-19 | 1.410E-18 | 7.996E-19 |
| Ac-227 | Pu-239 | 8.257E-06 | 0.000E+00 | 9.013E-22 | 2.373E-20 | 8.060E-19 | 1.712E-17 | 2.952E-16 | 1.368E-15 | 6.152E-16 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | S(j,t), pCi/g | | | | | | | |
|----------------|---------------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 |
| Ac-227 | Pu-239 | 1.375E-02 | 0.000E+00 | 1.501E-18 | 3.953E-17 | 1.343E-15 | 2.851E-14 | 4.917E-13 | 2.279E-12 | 1.025E-12 |
| Ac-227 | ΣS(j): | | 0.000E+00 | 1.502E-18 | 3.956E-17 | 1.343E-15 | 2.854E-14 | 4.923E-13 | 2.283E-12 | 1.027E-12 |
| Am-243 | Am-243 | 4.954E-10 | 4.954E-10 | 4.921E-10 | 4.854E-10 | 4.629E-10 | 4.041E-10 | 2.511E-10 | 6.454E-11 | 5.552E-13 |
| Am-243 | Am-243 | 1.371E-12 | 1.371E-12 | 1.362E-12 | 1.344E-12 | 1.281E-12 | 1.118E-12 | 6.951E-13 | 1.786E-13 | 1.537E-15 |
| Am-243 | ΣS(j): | | 4.968E-10 | 4.934E-10 | 4.868E-10 | 4.642E-10 | 4.052E-10 | 2.518E-10 | 6.472E-11 | 5.567E-13 |
| Ac-227 | Am-243 | 4.954E-10 | 0.000E+00 | 3.891E-31 | 3.081E-29 | 3.515E-27 | 2.284E-25 | 1.375E-23 | 1.940E-22 | 2.178E-22 |
| Ac-227 | Cm-243 | 1.981E-09 | 0.000E+00 | 2.920E-35 | 6.905E-33 | 2.586E-30 | 4.823E-28 | 8.277E-26 | 2.330E-24 | 3.620E-24 |
| Ac-227 | Cm-243 | 1.189E-12 | 0.000E+00 | 1.753E-38 | 4.146E-36 | 1.553E-33 | 2.896E-31 | 4.969E-29 | 1.399E-27 | 2.174E-27 |
| Ac-227 | Cm-243 | 8.232E-07 | 0.000E+00 | 6.443E-28 | 5.066E-26 | 5.639E-24 | 3.420E-22 | 1.640E-20 | 1.409E-19 | 7.992E-20 |
| Ac-227 | Cm-243 | 4.942E-10 | 0.000E+00 | 3.868E-31 | 3.041E-29 | 3.386E-27 | 2.053E-25 | 9.844E-24 | 8.458E-23 | 4.798E-23 |
| Ac-227 | Pu-239 | 4.954E-10 | 0.000E+00 | 5.408E-26 | 1.424E-24 | 4.837E-23 | 1.027E-21 | 1.771E-20 | 8.210E-20 | 3.691E-20 |
| Ac-227 | Pu-239 | 8.252E-07 | 0.000E+00 | 9.008E-23 | 2.372E-21 | 8.056E-20 | 1.711E-18 | 2.951E-17 | 1.368E-16 | 6.148E-17 |
| Ac-227 | ΣS(j): | | 0.000E+00 | 9.013E-23 | 2.374E-21 | 8.061E-20 | 1.712E-18 | 2.954E-17 | 1.370E-16 | 6.160E-17 |
| C-14 | C-14 | 1.000E+00 | 1.000E+00 | 9.769E-11 | 9.324E-31 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 |
| Cm-243 | Cm-243 | 2.359E-03 | 2.359E-03 | 2.302E-03 | 2.192E-03 | 1.848E-03 | 1.134E-03 | 2.053E-04 | 1.555E-06 | 5.877E-14 |
| Cm-243 | Cm-243 | 6.529E-06 | 6.529E-06 | 6.371E-06 | 6.068E-06 | 5.114E-06 | 3.138E-06 | 5.682E-07 | 4.303E-09 | 1.627E-16 |
| Cm-243 | ΣS(j): | | 2.365E-03 | 2.308E-03 | 2.198E-03 | 1.853E-03 | 1.137E-03 | 2.059E-04 | 1.559E-06 | 5.894E-14 |
| Cm-243 | Cm-243 | 3.301E-05 | 3.301E-05 | 3.221E-05 | 3.068E-05 | 2.586E-05 | 1.587E-05 | 2.872E-06 | 2.175E-08 | 8.224E-16 |
| Cm-243 | Cm-243 | 9.135E-08 | 9.135E-08 | 8.915E-08 | 8.490E-08 | 7.156E-08 | 4.391E-08 | 7.950E-09 | 6.021E-11 | 2.276E-18 |
| Cm-243 | ΣS(j): | | 3.310E-05 | 3.230E-05 | 3.076E-05 | 2.593E-05 | 1.591E-05 | 2.880E-06 | 2.181E-08 | 8.247E-16 |
| Cm-243 | Cm-243 | 1.981E-09 | 1.981E-09 | 1.933E-09 | 1.841E-09 | 1.551E-09 | 9.521E-10 | 1.724E-10 | 1.305E-12 | 4.935E-20 |
| Cm-243 | Cm-243 | 5.481E-12 | 5.481E-12 | 5.349E-12 | 5.094E-12 | 4.294E-12 | 2.635E-12 | 4.770E-13 | 3.613E-15 | 1.366E-22 |
| Cm-243 | ΣS(j): | | 1.986E-09 | 1.938E-09 | 1.846E-09 | 1.556E-09 | 9.547E-10 | 1.728E-10 | 1.309E-12 | 4.948E-20 |
| Cm-243 | Cm-243 | 1.416E-06 | 1.416E-06 | 1.382E-06 | 1.316E-06 | 1.109E-06 | 6.808E-07 | 1.232E-07 | 9.334E-10 | 3.529E-17 |
| Cm-243 | Cm-243 | 3.920E-09 | 3.920E-09 | 3.825E-09 | 3.643E-09 | 3.070E-09 | 1.884E-09 | 3.411E-10 | 2.583E-12 | 9.766E-20 |
| Cm-243 | ΣS(j): | | 1.420E-06 | 1.386E-06 | 1.320E-06 | 1.112E-06 | 6.827E-07 | 1.236E-07 | 9.360E-10 | 3.538E-17 |
| Cm-243 | Cm-243 | 1.982E-08 | 1.982E-08 | 1.934E-08 | 1.842E-08 | 1.552E-08 | 9.526E-09 | 1.724E-09 | 1.306E-11 | 4.937E-19 |
| Cm-243 | Cm-243 | 5.484E-11 | 5.484E-11 | 5.352E-11 | 5.097E-11 | 4.296E-11 | 2.636E-11 | 4.773E-12 | 3.615E-14 | 1.366E-21 |
| Cm-243 | ΣS(j): | | 1.987E-08 | 1.939E-08 | 1.847E-08 | 1.557E-08 | 9.552E-09 | 1.729E-09 | 1.310E-11 | 4.951E-19 |
| Cm-243 | Cm-243 | 1.189E-12 | 1.189E-12 | 1.160E-12 | 1.105E-12 | 9.314E-13 | 5.716E-13 | 1.035E-13 | 7.837E-16 | 2.963E-23 |
| Cm-243 | Cm-243 | 3.291E-15 | 3.291E-15 | 3.211E-15 | 3.058E-15 | 2.578E-15 | 1.582E-15 | 2.864E-16 | 2.169E-18 | 8.199E-26 |
| Cm-243 | ΣS(j): | | 1.192E-12 | 1.164E-12 | 1.108E-12 | 9.340E-13 | 5.732E-13 | 1.038E-13 | 7.858E-16 | 2.971E-23 |
| Cm-243 | Cm-243 | 9.805E-01 | 9.805E-01 | 9.569E-01 | 9.113E-01 | 7.681E-01 | 4.714E-01 | 8.533E-02 | 6.463E-04 | 2.443E-11 |
| Cm-243 | Cm-243 | 2.714E-03 | 2.714E-03 | 2.648E-03 | 2.522E-03 | 2.126E-03 | 1.305E-03 | 2.362E-04 | 1.789E-06 | 6.762E-14 |
| Cm-243 | ΣS(j): | | 9.832E-01 | 9.595E-01 | 9.138E-01 | 7.702E-01 | 4.727E-01 | 8.557E-02 | 6.480E-04 | 2.450E-11 |
| Cm-243 | Cm-243 | 1.372E-02 | 1.372E-02 | 1.339E-02 | 1.275E-02 | 1.075E-02 | 6.595E-03 | 1.194E-03 | 9.043E-06 | 3.418E-13 |
| Cm-243 | Cm-243 | 3.797E-05 | 3.797E-05 | 3.706E-05 | 3.529E-05 | 2.975E-05 | 1.825E-05 | 3.304E-06 | 2.503E-08 | 9.461E-16 |
| Cm-243 | ΣS(j): | | 1.376E-02 | 1.343E-02 | 1.279E-02 | 1.078E-02 | 6.614E-03 | 1.197E-03 | 9.068E-06 | 3.428E-13 |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | S(j,t), pCi/g | | | | | | | | |
|----------------|---------------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 | |
| Cm-243 | Cm-243 | 8.232E-07 | 8.232E-07 | 8.034E-07 | 7.651E-07 | 6.449E-07 | 3.957E-07 | 7.164E-08 | 5.426E-10 | 2.051E-17 | |
| Cm-243 | Cm-243 | 2.278E-09 | 2.278E-09 | 2.223E-09 | 2.118E-09 | 1.785E-09 | 1.095E-09 | 1.983E-10 | 1.502E-12 | 5.677E-20 | |
| Cm-243 | ΣS(j): | | 8.255E-07 | 8.056E-07 | 7.672E-07 | 6.467E-07 | 3.968E-07 | 7.184E-08 | 5.441E-10 | 2.057E-17 | |
| Cm-243 | Cm-243 | 5.887E-04 | 5.887E-04 | 5.745E-04 | 5.471E-04 | 4.611E-04 | 2.830E-04 | 5.123E-05 | 3.880E-07 | 1.467E-14 | |
| Cm-243 | Cm-243 | 1.629E-06 | 1.629E-06 | 1.590E-06 | 1.514E-06 | 1.276E-06 | 7.832E-07 | 1.418E-07 | 1.074E-09 | 4.059E-17 | |
| Cm-243 | ΣS(j): | | 5.903E-04 | 5.761E-04 | 5.486E-04 | 4.624E-04 | 2.838E-04 | 5.137E-05 | 3.891E-07 | 1.471E-14 | |
| Cm-243 | Cm-243 | 8.237E-06 | 8.237E-06 | 8.038E-06 | 7.655E-06 | 6.452E-06 | 3.960E-06 | 7.168E-07 | 5.429E-09 | 2.052E-16 | |
| Cm-243 | Cm-243 | 2.280E-08 | 2.280E-08 | 2.225E-08 | 2.119E-08 | 1.786E-08 | 1.096E-08 | 1.984E-09 | 1.502E-11 | 5.680E-19 | |
| Cm-243 | ΣS(j): | | 8.260E-06 | 8.060E-06 | 7.676E-06 | 6.470E-06 | 3.971E-06 | 7.188E-07 | 5.444E-09 | 2.058E-16 | |
| Cm-243 | Cm-243 | 4.942E-10 | 4.942E-10 | 4.823E-10 | 4.593E-10 | 3.872E-10 | 2.376E-10 | 4.301E-11 | 3.257E-13 | 1.231E-20 | |
| Cm-243 | Cm-243 | 1.368E-12 | 1.368E-12 | 1.335E-12 | 1.271E-12 | 1.072E-12 | 6.576E-13 | 1.190E-13 | 9.016E-16 | 3.408E-23 | |
| Cm-243 | ΣS(j): | | 4.956E-10 | 4.837E-10 | 4.606E-10 | 3.882E-10 | 2.382E-10 | 4.313E-11 | 3.266E-13 | 1.235E-20 | |
| Cm-244 | Cm-244 | 1.371E-06 | 1.371E-06 | 1.319E-06 | 1.220E-06 | 9.293E-07 | 4.269E-07 | 2.805E-08 | 1.175E-11 | 1.765E-23 | |
| Cm-244 | Cm-244 | 5.750E-08 | 5.750E-08 | 5.531E-08 | 5.117E-08 | 3.897E-08 | 1.790E-08 | 1.177E-09 | 4.927E-13 | 7.402E-25 | |
| Cm-244 | ΣS(j): | | 1.429E-06 | 1.374E-06 | 1.271E-06 | 9.682E-07 | 4.448E-07 | 2.923E-08 | 1.224E-11 | 1.839E-23 | |
| Pu-240 | Cm-244 | 5.750E-08 | 0.000E+00 | 5.942E-12 | 1.707E-11 | 4.911E-11 | 9.923E-11 | 1.087E-10 | 4.539E-11 | 1.904E-12 | |
| Pu-240 | Pu-240 | 5.750E-08 | 5.750E-08 | 5.724E-08 | 5.672E-08 | 5.495E-08 | 5.019E-08 | 3.655E-08 | 1.477E-08 | 6.194E-10 | |
| Pu-240 | ΣS(j): | | 5.750E-08 | 5.725E-08 | 5.674E-08 | 5.500E-08 | 5.029E-08 | 3.666E-08 | 1.481E-08 | 6.213E-10 | |
| Cm-244 | Cm-244 | 1.000E+00 | 1.000E+00 | 9.619E-01 | 8.899E-01 | 6.778E-01 | 3.114E-01 | 2.046E-02 | 8.568E-06 | 1.287E-17 | |
| Pu-240 | Cm-244 | 1.000E+00 | 0.000E+00 | 1.033E-04 | 2.969E-04 | 8.541E-04 | 1.726E-03 | 1.891E-03 | 7.894E-04 | 3.311E-05 | |
| U-236 | Cm-244 | 1.000E+00 | 0.000E+00 | 1.535E-12 | 1.334E-11 | 1.314E-10 | 8.500E-10 | 3.434E-09 | 3.497E-09 | 1.990E-10 | |
| U-236 | Pu-240 | 1.000E+00 | 0.000E+00 | 2.939E-08 | 8.695E-08 | 2.761E-07 | 7.210E-07 | 1.489E-06 | 1.197E-06 | 6.483E-08 | |
| U-236 | ΣS(j): | | 0.000E+00 | 2.939E-08 | 8.697E-08 | 2.762E-07 | 7.218E-07 | 1.492E-06 | 1.201E-06 | 6.503E-08 | |
| Th-232 | Cm-244 | 1.000E+00 | 0.000E+00 | 2.536E-23 | 6.669E-22 | 2.256E-20 | 4.754E-19 | 8.277E-18 | 4.645E-17 | 7.943E-17 | |
| Th-232 | Pu-240 | 1.000E+00 | 0.000E+00 | 7.266E-19 | 6.478E-18 | 6.966E-17 | 5.713E-16 | 4.637E-15 | 1.865E-14 | 2.920E-14 | |
| Th-232 | ΣS(j): | | 0.000E+00 | 7.267E-19 | 6.479E-18 | 6.968E-17 | 5.718E-16 | 4.645E-15 | 1.870E-14 | 2.927E-14 | |
| Ra-228 | Cm-244 | 1.000E+00 | 0.000E+00 | 7.481E-25 | 5.660E-23 | 5.558E-21 | 2.519E-19 | 6.960E-18 | 4.494E-17 | 7.926E-17 | |
| Ra-228 | Pu-240 | 1.000E+00 | 0.000E+00 | 2.837E-20 | 7.174E-19 | 2.144E-17 | 3.471E-16 | 4.045E-15 | 1.813E-14 | 2.914E-14 | |
| Ra-228 | ΣS(j): | | 0.000E+00 | 2.837E-20 | 7.174E-19 | 2.144E-17 | 3.474E-16 | 4.052E-15 | 1.818E-14 | 2.921E-14 | |
| Th-228 | Cm-244 | 1.000E+00 | 0.000E+00 | 5.142E-26 | 1.054E-23 | 2.543E-21 | 1.904E-19 | 6.535E-18 | 4.445E-17 | 7.923E-17 | |
| Th-228 | Pu-240 | 1.000E+00 | 0.000E+00 | 2.411E-21 | 1.620E-19 | 1.128E-17 | 2.807E-16 | 3.853E-15 | 1.796E-14 | 2.913E-14 | |
| Th-228 | ΣS(j): | | 0.000E+00 | 2.411E-21 | 1.620E-19 | 1.129E-17 | 2.809E-16 | 3.859E-15 | 1.801E-14 | 2.921E-14 | |
| Co-60 | Co-60 | 1.000E+00 | 1.000E+00 | 8.759E-01 | 6.720E-01 | 2.658E-01 | 1.877E-02 | 1.758E-06 | 5.429E-18 | 0.000E+00 | |
| Cs-134 | Cs-134 | 1.000E+00 | 1.000E+00 | 7.135E-01 | 3.632E-01 | 3.418E-02 | 3.991E-05 | 2.173E-15 | 9.809E-45 | 0.000E+00 | |
| Cs-137 | Cs-137 | 1.000E+00 | 1.000E+00 | 9.754E-01 | 9.280E-01 | 7.795E-01 | 4.737E-01 | 8.286E-02 | 5.690E-04 | 1.527E-11 | |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | S(j,t), pCi/g | | | | | | | | |
|----------------|---------------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 | |
| Eu-152 | Eu-152 | 7.210E-01 | 7.210E-01 | 6.765E-01 | 5.956E-01 | 3.814E-01 | 1.067E-01 | 1.236E-03 | 3.636E-09 | 1.585E-28 | |
| Eu-152 | Eu-152 | 2.790E-01 | 2.790E-01 | 2.618E-01 | 2.305E-01 | 1.476E-01 | 4.129E-02 | 4.784E-04 | 1.407E-09 | 6.135E-29 | |
| Eu-152 | ΣS(j): | | 1.000E+00 | 9.383E-01 | 8.261E-01 | 5.290E-01 | 1.480E-01 | 1.715E-03 | 5.043E-09 | 2.199E-28 | |
| Gd-152 | Eu-152 | 2.790E-01 | 0.000E+00 | 1.734E-15 | 4.879E-15 | 1.314E-14 | 2.329E-14 | 2.487E-14 | 1.869E-14 | 6.832E-15 | |
| Sm-148 | Eu-152 | 2.790E-01 | 0.000E+00 | 8.672E-32 | 7.472E-31 | 7.176E-30 | 4.479E-29 | 2.072E-28 | 5.254E-28 | 6.656E-28 | |
| Nd-144 | Eu-152 | 2.790E-01 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 7.006E-45 | 1.471E-43 | 2.297E-42 | 1.373E-41 | 2.766E-41 | |
| Eu-154 | Eu-154 | 1.000E+00 | 1.000E+00 | 9.111E-01 | 7.562E-01 | 3.940E-01 | 6.116E-02 | 9.011E-05 | 7.317E-13 | 3.530E-41 | |
| Eu-155 | Eu-155 | 1.000E+00 | 1.000E+00 | 8.538E-01 | 6.224E-01 | 2.058E-01 | 8.721E-03 | 1.365E-07 | 2.546E-21 | 0.000E+00 | |
| Fe-55 | Fe-55 | 1.000E+00 | 1.000E+00 | 7.760E-01 | 4.672E-01 | 7.913E-02 | 4.955E-04 | 9.626E-12 | 8.919E-34 | 0.000E+00 | |
| H-3 | H-3 | 1.000E+00 | 1.000E+00 | 4.444E-13 | 8.779E-38 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | |
| Nb-94 | Nb-94 | 1.000E+00 | 1.000E+00 | 9.737E-01 | 9.233E-01 | 7.664E-01 | 4.501E-01 | 6.990E-02 | 3.416E-04 | 2.785E-12 | |
| Ni-59 | Ni-59 | 1.000E+00 | 1.000E+00 | 9.811E-01 | 9.442E-01 | 8.259E-01 | 5.634E-01 | 1.477E-01 | 3.221E-03 | 4.938E-09 | |
| Ni-63 | Ni-63 | 1.000E+00 | 1.000E+00 | 9.743E-01 | 9.248E-01 | 7.707E-01 | 4.578E-01 | 7.395E-02 | 4.044E-04 | 4.889E-12 | |
| Pm-147 | Pm-147 | 1.000E+00 | 1.000E+00 | 7.583E-01 | 4.360E-01 | 6.284E-02 | 2.481E-04 | 9.595E-13 | 8.833E-37 | 0.000E+00 | |
| Sm-147 | Pm-147 | 1.000E+00 | 0.000E+00 | 5.708E-12 | 1.330E-11 | 2.192E-11 | 2.275E-11 | 2.057E-11 | 1.543E-11 | 5.641E-12 | |
| Pu-238 | Pu-238 | 1.850E-09 | 1.850E-09 | 1.827E-09 | 1.783E-09 | 1.635E-09 | 1.278E-09 | 5.392E-10 | 4.580E-11 | 8.182E-15 | |
| Pu-238 | Pu-238 | 9.996E-01 | 9.996E-01 | 9.873E-01 | 9.633E-01 | 8.836E-01 | 6.905E-01 | 2.913E-01 | 2.475E-02 | 4.421E-06 | |
| Pu-238 | ΣS(j): | | 9.996E-01 | 9.873E-01 | 9.633E-01 | 8.836E-01 | 6.905E-01 | 2.913E-01 | 2.475E-02 | 4.421E-06 | |
| U-234 | Pu-238 | 9.996E-01 | 0.000E+00 | 2.792E-06 | 8.195E-06 | 2.532E-05 | 6.112E-05 | 9.550E-05 | 3.350E-05 | 7.472E-08 | |
| U-234 | Pu-238 | 1.899E-08 | 0.000E+00 | 5.304E-14 | 1.557E-13 | 4.810E-13 | 1.161E-12 | 1.814E-12 | 6.365E-13 | 1.420E-15 | |
| U-234 | Pu-238 | 2.100E-04 | 0.000E+00 | 5.864E-10 | 1.721E-09 | 5.318E-09 | 1.284E-08 | 2.006E-08 | 7.037E-09 | 1.569E-11 | |
| U-234 | Pu-238 | 2.771E-10 | 0.000E+00 | 7.740E-16 | 2.272E-15 | 7.019E-15 | 1.695E-14 | 2.648E-14 | 9.289E-15 | 2.072E-17 | |
| U-234 | Pu-238 | 3.989E-12 | 0.000E+00 | 1.114E-17 | 3.271E-17 | 1.010E-16 | 2.439E-16 | 3.811E-16 | 1.337E-16 | 2.982E-19 | |
| U-234 | Pu-238 | 1.998E-04 | 0.000E+00 | 5.579E-10 | 1.638E-09 | 5.059E-09 | 1.222E-08 | 1.908E-08 | 6.695E-09 | 1.493E-11 | |
| U-234 | Pu-238 | 2.637E-10 | 0.000E+00 | 7.364E-16 | 2.162E-15 | 6.678E-15 | 1.612E-14 | 2.519E-14 | 8.838E-15 | 1.971E-17 | |
| U-234 | Pu-238 | 3.795E-12 | 0.000E+00 | 1.060E-17 | 3.112E-17 | 9.612E-17 | 2.321E-16 | 3.626E-16 | 1.272E-16 | 2.837E-19 | |
| U-234 | Pu-238 | 4.196E-08 | 0.000E+00 | 1.172E-13 | 3.440E-13 | 1.063E-12 | 2.566E-12 | 4.009E-12 | 1.406E-12 | 3.136E-15 | |
| U-234 | Pu-238 | 5.538E-14 | 0.000E+00 | 1.547E-19 | 4.541E-19 | 1.403E-18 | 3.387E-18 | 5.291E-18 | 1.856E-18 | 4.140E-21 | |
| U-234 | Pu-238 | 7.972E-16 | 0.000E+00 | 2.226E-21 | 6.536E-21 | 2.019E-20 | 4.875E-20 | 7.616E-20 | 2.672E-20 | 5.959E-23 | |
| U-234 | Pu-238 | 2.000E-07 | 0.000E+00 | 5.586E-13 | 1.640E-12 | 5.065E-12 | 1.223E-11 | 1.911E-11 | 6.703E-12 | 1.495E-14 | |
| U-234 | Pu-238 | 2.640E-13 | 0.000E+00 | 7.373E-19 | 2.164E-18 | 6.686E-18 | 1.614E-17 | 2.522E-17 | 8.848E-18 | 1.973E-20 | |
| U-234 | Pu-238 | 3.800E-15 | 0.000E+00 | 1.061E-20 | 3.115E-20 | 9.624E-20 | 2.324E-19 | 3.630E-19 | 1.274E-19 | 2.841E-22 | |
| U-234 | ΣS(j): | | 0.000E+00 | 2.793E-06 | 8.198E-06 | 2.533E-05 | 6.115E-05 | 9.554E-05 | 3.352E-05 | 7.475E-08 | |
| Th-230 | Pu-238 | 9.996E-01 | 0.000E+00 | 1.288E-11 | 1.142E-10 | 1.206E-09 | 9.405E-09 | 6.461E-08 | 1.792E-07 | 1.884E-07 | |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | S(j,t), pCi/g | | | | | | | | |
|----------------|---------------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 | |
| Th-230 | Pu-238 | 1.899E-08 | 0.000E+00 | 2.447E-19 | 2.171E-18 | 2.292E-17 | 1.787E-16 | 1.228E-15 | 3.405E-15 | 3.580E-15 | |
| Th-230 | Pu-238 | 2.100E-04 | 0.000E+00 | 2.706E-15 | 2.400E-14 | 2.534E-13 | 1.975E-12 | 1.357E-11 | 3.764E-11 | 3.957E-11 | |
| Th-230 | Pu-238 | 2.771E-10 | 0.000E+00 | 3.571E-21 | 3.168E-20 | 3.345E-19 | 2.608E-18 | 1.791E-17 | 4.969E-17 | 5.224E-17 | |
| Th-230 | Pu-238 | 3.989E-12 | 0.000E+00 | 5.141E-23 | 4.560E-22 | 4.815E-21 | 3.753E-20 | 2.578E-19 | 7.152E-19 | 7.519E-19 | |
| Th-230 | Pu-238 | 1.998E-04 | 0.000E+00 | 2.574E-15 | 2.283E-14 | 2.411E-13 | 1.879E-12 | 1.291E-11 | 3.581E-11 | 3.765E-11 | |
| Th-230 | Pu-238 | 2.637E-10 | 0.000E+00 | 3.398E-21 | 3.014E-20 | 3.182E-19 | 2.481E-18 | 1.704E-17 | 4.727E-17 | 4.970E-17 | |
| Th-230 | Pu-238 | 3.795E-12 | 0.000E+00 | 4.891E-23 | 4.338E-22 | 4.581E-21 | 3.571E-20 | 2.453E-19 | 6.805E-19 | 7.154E-19 | |
| Th-230 | Pu-238 | 4.196E-08 | 0.000E+00 | 5.407E-19 | 4.796E-18 | 5.064E-17 | 3.948E-16 | 2.712E-15 | 7.522E-15 | 7.908E-15 | |
| Th-230 | Pu-238 | 5.538E-14 | 0.000E+00 | 7.137E-25 | 6.330E-24 | 6.684E-23 | 5.211E-22 | 3.580E-21 | 9.930E-21 | 1.044E-20 | |
| Th-230 | Pu-238 | 7.972E-16 | 0.000E+00 | 1.027E-26 | 9.112E-26 | 9.622E-25 | 7.501E-24 | 5.153E-23 | 1.429E-22 | 1.503E-22 | |
| Th-230 | Pu-238 | 2.000E-07 | 0.000E+00 | 2.577E-18 | 2.286E-17 | 2.414E-16 | 1.882E-15 | 1.293E-14 | 3.586E-14 | 3.770E-14 | |
| Th-230 | Pu-238 | 2.640E-13 | 0.000E+00 | 3.402E-24 | 3.017E-23 | 3.186E-22 | 2.484E-21 | 1.706E-20 | 4.733E-20 | 4.976E-20 | |
| Th-230 | Pu-238 | 3.800E-15 | 0.000E+00 | 4.897E-26 | 4.343E-25 | 4.586E-24 | 3.575E-23 | 2.456E-22 | 6.813E-22 | 7.162E-22 | |
| Th-230 | ΣS(j): | | 0.000E+00 | 1.289E-11 | 1.143E-10 | 1.207E-09 | 9.409E-09 | 6.464E-08 | 1.793E-07 | 1.885E-07 | |
| Ra-226 | Pu-238 | 9.996E-01 | 0.000E+00 | 1.863E-15 | 4.974E-14 | 1.771E-12 | 4.277E-11 | 1.092E-09 | 1.171E-08 | 5.287E-08 | |
| Ra-226 | Pu-238 | 1.899E-08 | 0.000E+00 | 3.540E-23 | 9.450E-22 | 3.365E-20 | 8.127E-19 | 2.074E-17 | 2.224E-16 | 1.005E-15 | |
| Ra-226 | ΣS(j): | | 0.000E+00 | 1.863E-15 | 4.974E-14 | 1.771E-12 | 4.277E-11 | 1.092E-09 | 1.171E-08 | 5.287E-08 | |
| Pb-210 | Pu-238 | 9.996E-01 | 0.000E+00 | 1.447E-17 | 1.147E-15 | 1.313E-13 | 8.628E-12 | 5.435E-10 | 9.495E-09 | 5.072E-08 | |
| Pb-210 | Pu-238 | 1.319E-06 | 0.000E+00 | 1.910E-23 | 1.514E-21 | 1.733E-19 | 1.139E-17 | 7.174E-16 | 1.253E-14 | 6.695E-14 | |
| Pb-210 | Pu-238 | 2.100E-04 | 0.000E+00 | 3.039E-21 | 2.409E-19 | 2.758E-17 | 1.812E-15 | 1.142E-13 | 1.994E-12 | 1.065E-11 | |
| Pb-210 | Pu-238 | 1.998E-04 | 0.000E+00 | 2.891E-21 | 2.292E-19 | 2.624E-17 | 1.724E-15 | 1.086E-13 | 1.897E-12 | 1.014E-11 | |
| Pb-210 | Pu-238 | 4.196E-08 | 0.000E+00 | 6.073E-25 | 4.814E-23 | 5.512E-21 | 3.621E-19 | 2.281E-17 | 3.985E-16 | 2.129E-15 | |
| Pb-210 | Pu-238 | 2.000E-07 | 0.000E+00 | 2.895E-24 | 2.294E-22 | 2.627E-20 | 1.726E-18 | 1.087E-16 | 1.900E-15 | 1.015E-14 | |
| Pb-210 | ΣS(j): | | 0.000E+00 | 1.447E-17 | 1.147E-15 | 1.314E-13 | 8.631E-12 | 5.437E-10 | 9.499E-09 | 5.074E-08 | |
| Po-210 | Pu-238 | 9.996E-01 | 0.000E+00 | 4.024E-18 | 6.324E-16 | 1.070E-13 | 8.047E-12 | 5.325E-10 | 9.426E-09 | 5.052E-08 | |
| Po-210 | Pu-238 | 2.100E-04 | 0.000E+00 | 8.452E-22 | 1.328E-19 | 2.248E-17 | 1.690E-15 | 1.119E-13 | 1.980E-12 | 1.061E-11 | |
| Po-210 | Pu-238 | 1.998E-04 | 0.000E+00 | 8.042E-22 | 1.264E-19 | 2.139E-17 | 1.608E-15 | 1.064E-13 | 1.884E-12 | 1.010E-11 | |
| Po-210 | Pu-238 | 4.196E-08 | 0.000E+00 | 1.689E-25 | 2.654E-23 | 4.492E-21 | 3.378E-19 | 2.235E-17 | 3.957E-16 | 2.121E-15 | |
| Po-210 | Pu-238 | 2.000E-07 | 0.000E+00 | 8.051E-25 | 1.265E-22 | 2.141E-20 | 1.610E-18 | 1.065E-16 | 1.886E-15 | 1.011E-14 | |
| Po-210 | ΣS(j): | | 0.000E+00 | 4.026E-18 | 6.326E-16 | 1.071E-13 | 8.051E-12 | 5.327E-10 | 9.430E-09 | 5.054E-08 | |
| Pu-238 | Pu-238 | 1.319E-06 | 1.319E-06 | 1.303E-06 | 1.272E-06 | 1.166E-06 | 9.115E-07 | 3.846E-07 | 3.267E-08 | 5.835E-12 | |
| Pu-238 | Pu-238 | 1.899E-08 | 1.899E-08 | 1.876E-08 | 1.830E-08 | 1.679E-08 | 1.312E-08 | 5.535E-09 | 4.702E-10 | 8.399E-14 | |
| Pu-238 | ΣS(j): | | 1.338E-06 | 1.322E-06 | 1.290E-06 | 1.183E-06 | 9.246E-07 | 3.901E-07 | 3.314E-08 | 5.919E-12 | |
| U-234 | Pu-238 | 1.319E-06 | 0.000E+00 | 3.685E-12 | 1.082E-11 | 3.342E-11 | 8.068E-11 | 1.261E-10 | 4.422E-11 | 9.863E-14 | |
| Th-230 | Pu-238 | 1.319E-06 | 0.000E+00 | 1.700E-17 | 1.508E-16 | 1.592E-15 | 1.241E-14 | 8.528E-14 | 2.366E-13 | 2.487E-13 | |
| Ra-226 | Pu-238 | 1.319E-06 | 0.000E+00 | 2.459E-21 | 6.565E-20 | 2.337E-18 | 5.646E-17 | 1.441E-15 | 1.545E-14 | 6.979E-14 | |
| Pb-210 | Pu-238 | 1.899E-08 | 0.000E+00 | 2.749E-25 | 2.179E-23 | 2.495E-21 | 1.639E-19 | 1.033E-17 | 1.804E-16 | 9.637E-16 | |
| Pb-210 | Pu-238 | 3.989E-12 | 0.000E+00 | 5.774E-29 | 4.577E-27 | 5.241E-25 | 3.443E-23 | 2.169E-21 | 3.789E-20 | 2.024E-19 | |
| Pb-210 | Pu-238 | 3.795E-12 | 0.000E+00 | 5.493E-29 | 4.354E-27 | 4.986E-25 | 3.276E-23 | 2.064E-21 | 3.605E-20 | 1.926E-19 | |
| Pb-210 | Pu-238 | 7.972E-16 | 0.000E+00 | 1.154E-32 | 9.146E-31 | 1.047E-28 | 6.881E-27 | 4.335E-25 | 7.572E-24 | 4.045E-23 | |
| Pb-210 | Pu-238 | 3.800E-15 | 0.000E+00 | 5.500E-32 | 4.359E-30 | 4.992E-28 | 3.280E-26 | 2.066E-24 | 3.609E-23 | 1.928E-22 | |
| Pb-210 | ΣS(j): | | 0.000E+00 | 2.750E-25 | 2.180E-23 | 2.496E-21 | 1.640E-19 | 1.033E-17 | 1.805E-16 | 9.641E-16 | |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | S(j,t), pCi/g | | | | | | | | |
|----------------|---------------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 | |
| Pu-238 | Pu-238 | 2.100E-04 | 2.100E-04 | 2.074E-04 | 2.023E-04 | 1.856E-04 | 1.450E-04 | 6.119E-05 | 5.198E-06 | 9.285E-10 | |
| Pu-238 | Pu-238 | 2.771E-10 | 2.771E-10 | 2.737E-10 | 2.671E-10 | 2.450E-10 | 1.915E-10 | 8.077E-11 | 6.861E-12 | 1.226E-15 | |
| Pu-238 | ΣS(j): | | 2.100E-04 | 2.074E-04 | 2.023E-04 | 1.856E-04 | 1.450E-04 | 6.119E-05 | 5.198E-06 | 9.285E-10 | |
| Ra-226 | Pu-238 | 2.100E-04 | 0.000E+00 | 3.913E-19 | 1.045E-17 | 3.719E-16 | 8.984E-15 | 2.293E-13 | 2.459E-12 | 1.110E-11 | |
| Ra-226 | Pu-238 | 2.771E-10 | 0.000E+00 | 5.166E-25 | 1.379E-23 | 4.910E-22 | 1.186E-20 | 3.027E-19 | 3.246E-18 | 1.466E-17 | |
| Ra-226 | Pu-238 | 3.989E-12 | 0.000E+00 | 7.436E-27 | 1.985E-25 | 7.067E-24 | 1.707E-22 | 4.357E-21 | 4.672E-20 | 2.110E-19 | |
| Ra-226 | ΣS(j): | | 0.000E+00 | 3.913E-19 | 1.045E-17 | 3.719E-16 | 8.984E-15 | 2.293E-13 | 2.459E-12 | 1.110E-11 | |
| Pb-210 | Pu-238 | 2.771E-10 | 0.000E+00 | 4.011E-27 | 3.179E-25 | 3.641E-23 | 2.392E-21 | 1.507E-19 | 2.633E-18 | 1.406E-17 | |
| Pb-210 | Pu-238 | 2.637E-10 | 0.000E+00 | 3.816E-27 | 3.025E-25 | 3.464E-23 | 2.276E-21 | 1.434E-19 | 2.505E-18 | 1.338E-17 | |
| Pb-210 | Pu-238 | 5.538E-14 | 0.000E+00 | 8.016E-31 | 6.354E-29 | 7.276E-27 | 4.780E-25 | 3.011E-23 | 5.261E-22 | 2.810E-21 | |
| Pb-210 | Pu-238 | 2.640E-13 | 0.000E+00 | 3.821E-30 | 3.029E-28 | 3.468E-26 | 2.279E-24 | 1.435E-22 | 2.508E-21 | 1.340E-20 | |
| Pb-210 | ΣS(j): | | 0.000E+00 | 7.832E-27 | 6.208E-25 | 7.109E-23 | 4.671E-21 | 2.942E-19 | 5.140E-18 | 2.746E-17 | |
| Pu-238 | Pu-238 | 3.989E-12 | 3.989E-12 | 3.940E-12 | 3.844E-12 | 3.526E-12 | 2.756E-12 | 1.163E-12 | 9.876E-14 | 1.764E-17 | |
| Pu-238 | Pu-238 | 1.998E-04 | 1.998E-04 | 1.973E-04 | 1.925E-04 | 1.766E-04 | 1.380E-04 | 5.822E-05 | 4.945E-06 | 8.834E-10 | |
| Pu-238 | ΣS(j): | | 1.998E-04 | 1.973E-04 | 1.925E-04 | 1.766E-04 | 1.380E-04 | 5.822E-05 | 4.945E-06 | 8.834E-10 | |
| Ra-226 | Pu-238 | 1.998E-04 | 0.000E+00 | 3.723E-19 | 9.940E-18 | 3.539E-16 | 8.548E-15 | 2.182E-13 | 2.339E-12 | 1.057E-11 | |
| Ra-226 | Pu-238 | 3.795E-12 | 0.000E+00 | 7.074E-27 | 1.889E-25 | 6.724E-24 | 1.624E-22 | 4.145E-21 | 4.445E-20 | 2.007E-19 | |
| Ra-226 | ΣS(j): | | 0.000E+00 | 3.723E-19 | 9.940E-18 | 3.539E-16 | 8.548E-15 | 2.182E-13 | 2.339E-12 | 1.057E-11 | |
| Pu-238 | Pu-238 | 2.637E-10 | 2.637E-10 | 2.604E-10 | 2.541E-10 | 2.331E-10 | 1.822E-10 | 7.685E-11 | 6.528E-12 | 1.166E-15 | |
| Pu-238 | Pu-238 | 3.795E-12 | 3.795E-12 | 3.749E-12 | 3.658E-12 | 3.355E-12 | 2.622E-12 | 1.106E-12 | 9.396E-14 | 1.679E-17 | |
| Pu-238 | ΣS(j): | | 2.675E-10 | 2.642E-10 | 2.578E-10 | 2.365E-10 | 1.848E-10 | 7.796E-11 | 6.622E-12 | 1.183E-15 | |
| Ra-226 | Pu-238 | 2.637E-10 | 0.000E+00 | 4.915E-25 | 1.312E-23 | 4.671E-22 | 1.128E-20 | 2.880E-19 | 3.088E-18 | 1.395E-17 | |
| Pu-238 | Pu-238 | 4.196E-08 | 4.196E-08 | 4.144E-08 | 4.043E-08 | 3.709E-08 | 2.899E-08 | 1.223E-08 | 1.039E-09 | 1.856E-13 | |
| Pu-238 | Pu-238 | 5.538E-14 | 5.538E-14 | 5.471E-14 | 5.337E-14 | 4.896E-14 | 3.826E-14 | 1.614E-14 | 1.371E-15 | 2.449E-19 | |
| Pu-238 | ΣS(j): | | 4.196E-08 | 4.144E-08 | 4.043E-08 | 3.709E-08 | 2.899E-08 | 1.223E-08 | 1.039E-09 | 1.856E-13 | |
| Ra-226 | Pu-238 | 4.196E-08 | 0.000E+00 | 7.821E-23 | 2.088E-21 | 7.433E-20 | 1.795E-18 | 4.582E-17 | 4.914E-16 | 2.219E-15 | |
| Ra-226 | Pu-238 | 5.538E-14 | 0.000E+00 | 1.032E-28 | 2.756E-27 | 9.812E-26 | 2.370E-24 | 6.048E-23 | 6.486E-22 | 2.929E-21 | |
| Ra-226 | Pu-238 | 7.972E-16 | 0.000E+00 | 1.486E-30 | 3.967E-29 | 1.412E-27 | 3.411E-26 | 8.706E-25 | 9.336E-24 | 4.217E-23 | |
| Ra-226 | ΣS(j): | | 0.000E+00 | 7.821E-23 | 2.088E-21 | 7.433E-20 | 1.795E-18 | 4.582E-17 | 4.914E-16 | 2.219E-15 | |
| Pu-238 | Pu-238 | 7.972E-16 | 7.972E-16 | 7.874E-16 | 7.683E-16 | 7.047E-16 | 5.507E-16 | 2.323E-16 | 1.974E-17 | 3.526E-21 | |
| Pu-238 | Pu-238 | 2.000E-07 | 2.000E-07 | 1.975E-07 | 1.927E-07 | 1.768E-07 | 1.382E-07 | 5.829E-08 | 4.951E-09 | 8.845E-13 | |
| Pu-238 | ΣS(j): | | 2.000E-07 | 1.975E-07 | 1.927E-07 | 1.768E-07 | 1.382E-07 | 5.829E-08 | 4.951E-09 | 8.845E-13 | |
| Ra-226 | Pu-238 | 2.000E-07 | 0.000E+00 | 3.728E-22 | 9.952E-21 | 3.543E-19 | 8.558E-18 | 2.184E-16 | 2.342E-15 | 1.058E-14 | |
| Ra-226 | Pu-238 | 3.800E-15 | 0.000E+00 | 7.083E-30 | 1.891E-28 | 6.732E-27 | 1.626E-25 | 4.150E-24 | 4.450E-23 | 2.010E-22 | |
| Ra-226 | ΣS(j): | | 0.000E+00 | 3.728E-22 | 9.952E-21 | 3.543E-19 | 8.558E-18 | 2.184E-16 | 2.342E-15 | 1.058E-14 | |
| Pu-238 | Pu-238 | 2.640E-13 | 2.640E-13 | 2.608E-13 | 2.544E-13 | 2.334E-13 | 1.824E-13 | 7.694E-14 | 6.536E-15 | 1.168E-18 | |
| Pu-238 | Pu-238 | 3.800E-15 | 3.800E-15 | 3.753E-15 | 3.662E-15 | 3.359E-15 | 2.625E-15 | 1.108E-15 | 9.408E-17 | 1.681E-20 | |
| Pu-238 | ΣS(j): | | 2.678E-13 | 2.645E-13 | 2.581E-13 | 2.367E-13 | 1.850E-13 | 7.805E-14 | 6.630E-15 | 1.184E-18 | |

Summary : RESRAD Default

File : C:\USERS\DAVID FAUVER\DOCUMENTS\ZION\RESRAD\TSD\SOIL DCGL\RESRAD INPUT FILE\ZION SOIL ROC SCREENING AF.RAD

Individual Nuclide Soil Concentration
Parent Nuclide and Branch Fraction Indicated

| Nuclide (j) | Parent (i) | THF(i) | S(j,t), pCi/g | | | | | | | | |
|----------------|---------------|-----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
| | | | t= 0.000E+00 | 1.000E+00 | 3.000E+00 | 1.000E+01 | 3.000E+01 | 1.000E+02 | 3.000E+02 | 1.000E+03 | |
| Ra-226 | Pu-238 | 2.640E-13 | 0.000E+00 | 4.921E-28 | 1.314E-26 | 4.677E-25 | 1.130E-23 | 2.883E-22 | 3.092E-21 | 1.396E-20 | |
| Pu-239 | Pu-239 | 1.633E-06 | 1.633E-06 | 1.626E-06 | 1.611E-06 | 1.562E-06 | 1.429E-06 | 1.046E-06 | 4.293E-07 | 1.900E-08 | |
| Pu-239 | Pu-239 | 8.257E-06 | 8.257E-06 | 8.220E-06 | 8.147E-06 | 7.897E-06 | 7.224E-06 | 5.289E-06 | 2.170E-06 | 9.605E-08 | |
| Pu-239 | ΣS(j): | | 9.890E-06 | 9.846E-06 | 9.759E-06 | 9.459E-06 | 8.653E-06 | 6.335E-06 | 2.600E-06 | 1.150E-07 | |
| Pu-239 | Pu-239 | 2.285E-08 | 2.285E-08 | 2.275E-08 | 2.255E-08 | 2.186E-08 | 1.999E-08 | 1.464E-08 | 6.006E-09 | 2.658E-10 | |
| Pu-239 | Pu-239 | 4.954E-10 | 4.954E-10 | 4.932E-10 | 4.889E-10 | 4.738E-10 | 4.335E-10 | 3.174E-10 | 1.302E-10 | 5.763E-12 | |
| Pu-239 | ΣS(j): | | 2.335E-08 | 2.324E-08 | 2.304E-08 | 2.233E-08 | 2.043E-08 | 1.496E-08 | 6.137E-09 | 2.716E-10 | |
| Pu-239 | Pu-239 | 1.371E-12 | 1.371E-12 | 1.365E-12 | 1.353E-12 | 1.311E-12 | 1.200E-12 | 8.783E-13 | 3.604E-13 | 1.595E-14 | |
| Pu-239 | Pu-239 | 2.720E-03 | 2.720E-03 | 2.708E-03 | 2.684E-03 | 2.602E-03 | 2.380E-03 | 1.743E-03 | 7.150E-04 | 3.164E-05 | |
| Pu-239 | Pu-239 | 1.375E-02 | 1.375E-02 | 1.369E-02 | 1.357E-02 | 1.315E-02 | 1.203E-02 | 8.810E-03 | 3.615E-03 | 1.600E-04 | |
| Pu-239 | ΣS(j): | | 1.647E-02 | 1.640E-02 | 1.625E-02 | 1.576E-02 | 1.441E-02 | 1.055E-02 | 4.330E-03 | 1.916E-04 | |
| Pu-239 | Pu-239 | 3.806E-05 | 3.806E-05 | 3.789E-05 | 3.756E-05 | 3.640E-05 | 3.330E-05 | 2.438E-05 | 1.000E-05 | 4.428E-07 | |
| Pu-239 | Pu-239 | 8.252E-07 | 8.252E-07 | 8.216E-07 | 8.143E-07 | 7.893E-07 | 7.220E-07 | 5.286E-07 | 2.169E-07 | 9.600E-09 | |
| Pu-239 | ΣS(j): | | 3.889E-05 | 3.872E-05 | 3.837E-05 | 3.719E-05 | 3.402E-05 | 2.491E-05 | 1.022E-05 | 4.524E-07 | |
| Pu-239 | Pu-239 | 2.284E-09 | 2.284E-09 | 2.274E-09 | 2.254E-09 | 2.184E-09 | 1.998E-09 | 1.463E-09 | 6.003E-10 | 2.657E-11 | |
| Pu-240 | Pu-240 | 1.000E+00 | 1.000E+00 | 9.955E-01 | 9.865E-01 | 9.557E-01 | 8.729E-01 | 6.357E-01 | 2.569E-01 | 1.077E-02 | |
| Pu-241 | Pu-241 | 1.000E+00 | 1.000E+00 | 9.486E-01 | 8.537E-01 | 5.902E-01 | 2.056E-01 | 5.129E-03 | 1.349E-07 | 1.260E-23 | |
| Pu-241 | Pu-241 | 2.450E-05 | 2.450E-05 | 2.324E-05 | 2.092E-05 | 1.446E-05 | 5.037E-06 | 1.257E-07 | 3.306E-12 | 3.088E-28 | |
| Pu-241 | ΣS(j): | | 1.000E+00 | 9.486E-01 | 8.537E-01 | 5.902E-01 | 2.056E-01 | 5.129E-03 | 1.349E-07 | 1.260E-23 | |
| Sb-125 | Sb-125 | 7.686E-01 | 7.686E-01 | 5.576E-01 | 2.935E-01 | 3.105E-02 | 5.068E-05 | 8.903E-15 | 1.194E-42 | 0.000E+00 | |
| Sb-125 | Sb-125 | 2.314E-01 | 2.314E-01 | 1.679E-01 | 8.835E-02 | 9.347E-03 | 1.526E-05 | 2.680E-15 | 3.601E-43 | 0.000E+00 | |
| Sb-125 | ΣS(j): | | 1.000E+00 | 7.255E-01 | 3.819E-01 | 4.040E-02 | 6.594E-05 | 1.158E-14 | 1.554E-42 | 0.000E+00 | |
| Te-125m | Sb-125 | 2.314E-01 | 0.000E+00 | 2.032E-02 | 1.069E-02 | 1.131E-03 | 1.847E-06 | 3.244E-16 | 4.344E-44 | 0.000E+00 | |
| Sr-90 | Sr-90 | 1.000E+00 | 1.000E+00 | 5.876E-01 | 2.029E-01 | 4.908E-03 | 1.182E-07 | 8.114E-24 | 0.000E+00 | 0.000E+00 | |
| Tc-99 | Tc-99 | 1.000E+00 | 1.000E+00 | 4.690E-06 | 1.031E-16 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | 0.000E+00 | |

THF(i) is the thread fraction of the parent nuclide.

RESRAD.EXE execution time = 208.26 seconds