

Summary : Hematite - GW DSR

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Dose Conversion Factor (and Related) Parameter Summary
 Dose Library: Hematite 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 | Am-241 (Source: FGR 12) | 4.372E-02 | 4.372E-02 | DCF1 (4) |
| A-1 | At-217 (Source: FGR 12) | 1.773E-03 | 1.773E-03 | DCF1 (5) |
| A-1 | At-218 (Source: FGR 12) | 5.847E-03 | 5.847E-03 | DCF1 (6) |
| A-1 | Bi-210 (Source: FGR 12) | 3.606E-03 | 3.606E-03 | DCF1 (7) |
| A-1 | Bi-211 (Source: FGR 12) | 2.559E-01 | 2.559E-01 | DCF1 (8) |
| A-1 | Bi-212 (Source: FGR 12) | 1.171E+00 | 1.171E+00 | DCF1 (9) |
| A-1 | Bi-213 (Source: FGR 12) | 7.660E-01 | 7.660E-01 | DCF1 (10) |
| A-1 | Bi-214 (Source: FGR 12) | 9.808E+00 | 9.808E+00 | DCF1 (11) |
| A-1 | Fr-221 (Source: FGR 12) | 1.536E-01 | 1.536E-01 | DCF1 (12) |
| A-1 | Fr-223 (Source: FGR 12) | 1.980E-01 | 1.980E-01 | DCF1 (13) |
| A-1 | Np-237 (Source: FGR 12) | 7.790E-02 | 7.790E-02 | DCF1 (14) |
| A-1 | Pa-231 (Source: FGR 12) | 1.906E-01 | 1.906E-01 | DCF1 (15) |
| A-1 | Pa-233 (Source: FGR 12) | 1.020E+00 | 1.020E+00 | DCF1 (16) |
| A-1 | Pa-234 (Source: FGR 12) | 1.155E+01 | 1.155E+01 | DCF1 (17) |
| A-1 | Pa-234m (Source: FGR 12) | 8.967E-02 | 8.967E-02 | DCF1 (18) |
| A-1 | Pb-209 (Source: FGR 12) | 7.734E-04 | 7.734E-04 | DCF1 (19) |
| A-1 | Pb-210 (Source: FGR 12) | 2.447E-03 | 2.447E-03 | DCF1 (20) |
| A-1 | Pb-211 (Source: FGR 12) | 3.064E-01 | 3.064E-01 | DCF1 (21) |
| A-1 | Pb-212 (Source: FGR 12) | 7.043E-01 | 7.043E-01 | DCF1 (22) |
| A-1 | Pb-214 (Source: FGR 12) | 1.341E+00 | 1.341E+00 | DCF1 (23) |
| A-1 | Po-210 (Source: FGR 12) | 5.231E-05 | 5.231E-05 | DCF1 (24) |
| A-1 | Po-211 (Source: FGR 12) | 4.764E-02 | 4.764E-02 | DCF1 (25) |
| A-1 | Po-212 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (26) |
| A-1 | Po-213 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (27) |
| A-1 | Po-214 (Source: FGR 12) | 5.138E-04 | 5.138E-04 | DCF1 (28) |
| A-1 | Po-215 (Source: FGR 12) | 1.016E-03 | 1.016E-03 | DCF1 (29) |
| A-1 | Po-216 (Source: FGR 12) | 1.042E-04 | 1.042E-04 | DCF1 (30) |
| A-1 | Po-218 (Source: FGR 12) | 5.642E-05 | 5.642E-05 | DCF1 (31) |
| A-1 | Pu-239 (Source: FGR 12) | 2.952E-04 | 2.952E-04 | DCF1 (32) |
| A-1 | Pu-240 (Source: FGR 12) | 1.467E-04 | 1.467E-04 | DCF1 (33) |
| A-1 | Ra-223 (Source: FGR 12) | 6.034E-01 | 6.034E-01 | DCF1 (34) |
| A-1 | Ra-224 (Source: FGR 12) | 5.119E-02 | 5.119E-02 | DCF1 (35) |
| A-1 | Ra-225 (Source: FGR 12) | 1.102E-02 | 1.102E-02 | DCF1 (36) |
| A-1 | Ra-226 (Source: FGR 12) | 3.176E-02 | 3.176E-02 | DCF1 (37) |
| A-1 | Ra-228 (Source: FGR 12) | 0.000E+00 | 0.000E+00 | DCF1 (38) |
| A-1 | Rn-219 (Source: FGR 12) | 3.083E-01 | 3.083E-01 | DCF1 (39) |
| A-1 | Rn-220 (Source: FGR 12) | 2.298E-03 | 2.298E-03 | DCF1 (40) |
| A-1 | Rn-222 (Source: FGR 12) | 2.354E-03 | 2.354E-03 | DCF1 (41) |
| A-1 | Tc-99 (Source: FGR 12) | 1.255E-04 | 1.255E-04 | DCF1 (42) |
| A-1 | Th-227 (Source: FGR 12) | 5.212E-01 | 5.212E-01 | DCF1 (43) |
| A-1 | Th-228 (Source: FGR 12) | 7.940E-03 | 7.940E-03 | DCF1 (44) |
| A-1 | Th-229 (Source: FGR 12) | 3.213E-01 | 3.213E-01 | DCF1 (45) |
| A-1 | Th-230 (Source: FGR 12) | 1.209E-03 | 1.209E-03 | DCF1 (46) |
| A-1 | Th-231 (Source: FGR 12) | 3.643E-02 | 3.643E-02 | DCF1 (47) |
| A-1 | Th-232 (Source: FGR 12) | 5.212E-04 | 5.212E-04 | DCF1 (48) |
| A-1 | Th-234 (Source: FGR 12) | 2.410E-02 | 2.410E-02 | DCF1 (49) |

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Dose Conversion Factor (and Related) Parameter Summary (continued)
 Dose Library: Hematite Plus FGR 11

| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|---|----------------|------------|----------------|
| A-1 | Tl-207 (Source: FGR 12) | 1.980E-02 | 1.980E-02 | DCF1 (50) |
| A-1 | Tl-208 (Source: FGR 12) | 2.298E+01 | 2.298E+01 | DCF1 (51) |
| A-1 | Tl-209 (Source: FGR 12) | 1.293E+01 | 1.293E+01 | DCF1 (52) |
| A-1 | Tl-210 (Source: no data) | 0.000E+00 | -2.000E+00 | DCF1 (53) |
| A-1 | U-233 (Source: FGR 12) | 1.397E-03 | 1.397E-03 | DCF1 (54) |
| A-1 | U-234 (Source: FGR 12) | 4.017E-04 | 4.017E-04 | DCF1 (55) |
| A-1 | U-235 (Source: FGR 12) | 7.211E-01 | 7.211E-01 | DCF1 (56) |
| A-1 | U-236 (Source: FGR 12) | 2.148E-04 | 2.148E-04 | DCF1 (57) |
| A-1 | U-238 (Source: FGR 12) | 1.031E-04 | 1.031E-04 | DCF1 (58) |
| B-1 | Dose conversion factors for inhalation, mrem/pCi: | | | |
| B-1 | Ac-227+D | 6.724E+00 | 6.700E+00 | DCF2 (1) |
| B-1 | Am-241 | 4.440E-01 | 4.440E-01 | DCF2 (2) |
| B-1 | Np-237+D | 5.400E-01 | 5.400E-01 | DCF2 (3) |
| B-1 | Pa-231 | 1.280E+00 | 1.280E+00 | DCF2 (4) |
| B-1 | Pb-210+D | 2.320E-02 | 1.360E-02 | DCF2 (5) |
| B-1 | Pu-239 | 4.290E-01 | 4.290E-01 | DCF2 (6) |
| B-1 | Pu-240 | 4.290E-01 | 4.290E-01 | DCF2 (7) |
| B-1 | Ra-226+D | 8.594E-03 | 8.580E-03 | DCF2 (9) |
| B-1 | Ra-228+D | 5.078E-03 | 4.770E-03 | DCF2 (10) |
| B-1 | Tc-99 | 8.320E-06 | 8.320E-06 | DCF2 (11) |
| B-1 | Th-228+D | 3.454E-01 | 3.420E-01 | DCF2 (12) |
| B-1 | Th-229+D | 2.169E+00 | 2.150E+00 | DCF2 (13) |
| B-1 | Th-230 | 3.260E-01 | 3.260E-01 | DCF2 (14) |
| B-1 | Th-232 | 1.640E+00 | 1.640E+00 | DCF2 (15) |
| B-1 | U-233 | 1.350E-01 | 1.350E-01 | DCF2 (16) |
| B-1 | U-234 | 1.320E-01 | 1.320E-01 | DCF2 (17) |
| B-1 | U-235+D | 1.230E-01 | 1.230E-01 | DCF2 (18) |
| B-1 | U-236 | 1.250E-01 | 1.250E-01 | DCF2 (19) |
| B-1 | U-238 | 1.180E-01 | 1.180E-01 | DCF2 (20) |
| B-1 | U-238+D | 1.180E-01 | 1.180E-01 | DCF2 (21) |
| D-1 | Dose conversion factors for ingestion, mrem/pCi: | | | |
| D-1 | Ac-227+D | 1.480E-02 | 1.410E-02 | DCF3 (1) |
| D-1 | Am-241 | 3.640E-03 | 3.640E-03 | DCF3 (2) |
| D-1 | Np-237+D | 4.444E-03 | 4.440E-03 | DCF3 (3) |
| D-1 | Pa-231 | 1.060E-02 | 1.060E-02 | DCF3 (4) |
| D-1 | Pb-210+D | 7.276E-03 | 5.370E-03 | DCF3 (5) |
| D-1 | Pu-239 | 3.540E-03 | 3.540E-03 | DCF3 (6) |
| D-1 | Pu-240 | 3.540E-03 | 3.540E-03 | DCF3 (7) |
| D-1 | Ra-226+D | 1.321E-03 | 1.320E-03 | DCF3 (9) |
| D-1 | Ra-228+D | 1.442E-03 | 1.440E-03 | DCF3 (10) |
| D-1 | Tc-99 | 1.460E-06 | 1.460E-06 | DCF3 (11) |
| D-1 | Th-228+D | 8.086E-04 | 3.960E-04 | DCF3 (12) |
| D-1 | Th-229+D | 4.027E-03 | 3.530E-03 | DCF3 (13) |
| D-1 | Th-230 | 5.480E-04 | 5.480E-04 | DCF3 (14) |
| D-1 | Th-232 | 2.730E-03 | 2.730E-03 | DCF3 (15) |
| D-1 | U-233 | 2.890E-04 | 2.890E-04 | DCF3 (16) |
| D-1 | U-234 | 2.830E-04 | 2.830E-04 | DCF3 (17) |
| D-1 | U-235+D | 2.673E-04 | 2.660E-04 | DCF3 (18) |

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| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| D-1 | U-236 | 2.690E-04 | 2.690E-04 | DCF3 (19) |
| D-1 | U-238 | 2.550E-04 | 2.550E-04 | DCF3 (20) |
| D-1 | U-238+D | 2.687E-04 | 2.550E-04 | DCF3 (21) |
| 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 | Am-241 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(2,1) |
| D-34 | Am-241 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-05 | 5.000E-05 | RTF(2,2) |
| D-34 | Am-241 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 2.000E-06 | 2.000E-06 | RTF(2,3) |
| D-34 | Np-237+D , plant/soil concentration ratio, dimensionless | 2.000E-02 | 2.000E-02 | RTF(3,1) |
| D-34 | Np-237+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(3,2) |
| D-34 | Np-237+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-05 | 5.000E-06 | RTF(3,3) |
| D-34 | Pa-231 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-02 | RTF(4,1) |
| D-34 | Pa-231 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 5.000E-06 | 5.000E-03 | RTF(4,2) |
| D-34 | Pa-231 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.900E-06 | 5.000E-06 | RTF(4,3) |
| D-34 | Pb-210+D , plant/soil concentration ratio, dimensionless | 7.400E-03 | 1.000E-02 | RTF(5,1) |
| D-34 | Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 8.000E-04 | 8.000E-04 | RTF(5,2) |
| D-34 | Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 5.570E-04 | 3.000E-04 | RTF(5,3) |
| D-34 | Pu-239 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(6,1) |
| D-34 | Pu-239 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(6,2) |
| D-34 | Pu-239 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 9.900E-07 | 1.000E-06 | RTF(6,3) |
| D-34 | Pu-240 , plant/soil concentration ratio, dimensionless | 1.000E-03 | 1.000E-03 | RTF(7,1) |
| D-34 | Pu-240 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-04 | 1.000E-04 | RTF(7,2) |
| D-34 | Pu-240 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 9.900E-07 | 1.000E-06 | RTF(7,3) |
| D-34 | Ra-226+D , plant/soil concentration ratio, dimensionless | 7.400E-02 | 4.000E-02 | RTF(9,1) |
| D-34 | Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(9,2) |
| D-34 | Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-04 | 1.000E-03 | RTF(9,3) |
| D-34 | Ra-228+D , plant/soil concentration ratio, dimensionless | 7.400E-02 | 4.000E-02 | RTF(10,1) |
| D-34 | Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(10,2) |
| D-34 | Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-04 | 1.000E-03 | RTF(10,3) |
| D-34 | Tc-99 , plant/soil concentration ratio, dimensionless | 9.270E+00 | 5.000E+00 | RTF(11,1) |
| D-34 | Tc-99 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 9.900E-05 | 1.000E-04 | RTF(11,2) |
| D-34 | Tc-99 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 1.000E-03 | 1.000E-03 | RTF(11,3) |
| D-34 | Th-228+D , plant/soil concentration ratio, dimensionless | 9.930E-04 | 1.000E-03 | RTF(12,1) |
| D-34 | Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 9.900E-05 | 1.000E-04 | RTF(12,2) |
| D-34 | Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.900E-06 | 5.000E-06 | RTF(12,3) |

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| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|--|----------------|------------|----------------|
| D-34 | Th-229+D , plant/soil concentration ratio, dimensionless | 9.930E-04 | 1.000E-03 | RTF(13,1) |
| D-34 | Th-229+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 9.900E-05 | 1.000E-04 | RTF(13,2) |
| D-34 | Th-229+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.900E-06 | 5.000E-06 | RTF(13,3) |
| D-34 | | | | |
| D-34 | Th-230 , plant/soil concentration ratio, dimensionless | 9.930E-04 | 1.000E-03 | RTF(14,1) |
| D-34 | Th-230 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 9.900E-05 | 1.000E-04 | RTF(14,2) |
| D-34 | Th-230 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.900E-06 | 5.000E-06 | RTF(14,3) |
| D-34 | | | | |
| D-34 | Th-232 , plant/soil concentration ratio, dimensionless | 9.930E-04 | 1.000E-03 | RTF(15,1) |
| D-34 | Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 9.900E-05 | 1.000E-04 | RTF(15,2) |
| D-34 | Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 4.900E-06 | 5.000E-06 | RTF(15,3) |
| D-34 | | | | |
| D-34 | U-233 , plant/soil concentration ratio, dimensionless | 3.700E-03 | 2.500E-03 | RTF(16,1) |
| D-34 | U-233 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.300E-03 | 3.400E-04 | RTF(16,2) |
| D-34 | U-233 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(16,3) |
| D-34 | | | | |
| D-34 | U-234 , plant/soil concentration ratio, dimensionless | 3.700E-03 | 2.500E-03 | RTF(17,1) |
| D-34 | U-234 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.300E-03 | 3.400E-04 | RTF(17,2) |
| D-34 | U-234 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(17,3) |
| D-34 | | | | |
| D-34 | U-235+D , plant/soil concentration ratio, dimensionless | 3.700E-03 | 2.500E-03 | RTF(18,1) |
| D-34 | U-235+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.300E-03 | 3.400E-04 | RTF(18,2) |
| D-34 | U-235+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(18,3) |
| D-34 | | | | |
| D-34 | U-236 , plant/soil concentration ratio, dimensionless | 3.700E-03 | 2.500E-03 | RTF(19,1) |
| D-34 | U-236 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.300E-03 | 3.400E-04 | RTF(19,2) |
| D-34 | U-236 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(19,3) |
| D-34 | | | | |
| D-34 | U-238 , plant/soil concentration ratio, dimensionless | 3.700E-03 | 2.500E-03 | RTF(20,1) |
| D-34 | U-238 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.300E-03 | 3.400E-04 | RTF(20,2) |
| D-34 | U-238 , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(20,3) |
| D-34 | | | | |
| D-34 | U-238+D , plant/soil concentration ratio, dimensionless | 3.700E-03 | 2.500E-03 | RTF(21,1) |
| D-34 | U-238+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d) | 1.300E-03 | 3.400E-04 | RTF(21,2) |
| D-34 | U-238+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d) | 6.000E-04 | 6.000E-04 | RTF(21,3) |
| D-34 | | | | |
| D-5 | Bioaccumulation factors, fresh water, L/kg: | | | |
| D-5 | Ac-227+D , fish | 1.480E+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 | Am-241 , fish | 2.970E+01 | 3.000E+01 | BIOFAC(2,1) |
| D-5 | Am-241 , crustacea and mollusks | 1.000E+03 | 1.000E+03 | BIOFAC(2,2) |
| D-5 | | | | |
| D-5 | Np-237+D , fish | 2.940E+01 | 3.000E+01 | BIOFAC(3,1) |
| D-5 | Np-237+D , crustacea and mollusks | 4.000E+02 | 4.000E+02 | BIOFAC(3,2) |
| D-5 | | | | |
| D-5 | Pa-231 , fish | 9.900E+00 | 1.000E+01 | BIOFAC(4,1) |
| D-5 | Pa-231 , crustacea and mollusks | 1.100E+02 | 1.100E+02 | BIOFAC(4,2) |
| D-5 | | | | |

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| Menu | Parameter | Current Value# | Base Case* | Parameter Name |
|------|----------------------------------|----------------|------------|----------------|
| D-5 | Pb-210D , fish | 2.930E+02 | 3.000E+02 | BIOFAC(5,1) |
| D-5 | Pb-210D , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(5,2) |
| D-5 | | | | |
| D-5 | Pu-239 , fish | 2.980E+01 | 3.000E+01 | BIOFAC(6,1) |
| D-5 | Pu-239 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(6,2) |
| D-5 | | | | |
| D-5 | Pu-240 , fish | 2.980E+01 | 3.000E+01 | BIOFAC(7,1) |
| D-5 | Pu-240 , crustacea and mollusks | 1.000E+02 | 1.000E+02 | BIOFAC(7,2) |
| D-5 | | | | |
| D-5 | Ra-226D , fish | 4.930E+01 | 5.000E+01 | BIOFAC(9,1) |
| D-5 | Ra-226D , crustacea and mollusks | 2.500E+02 | 2.500E+02 | BIOFAC(9,2) |
| D-5 | | | | |
| D-5 | Ra-228D , fish | 4.930E+01 | 5.000E+01 | BIOFAC(10,1) |
| D-5 | Ra-228D , crustacea and mollusks | 2.500E+02 | 2.500E+02 | BIOFAC(10,2) |
| D-5 | | | | |
| D-5 | Tc-99 , fish | 2.000E+01 | 2.000E+01 | BIOFAC(11,1) |
| D-5 | Tc-99 , crustacea and mollusks | 5.000E+00 | 5.000E+00 | BIOFAC(11,2) |
| D-5 | | | | |
| D-5 | Th-228D , fish | 9.030E+01 | 1.000E+02 | BIOFAC(12,1) |
| D-5 | Th-228D , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(12,2) |
| D-5 | | | | |
| D-5 | Th-229D , fish | 9.030E+01 | 1.000E+02 | BIOFAC(13,1) |
| D-5 | Th-229D , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(13,2) |
| D-5 | | | | |
| D-5 | Th-230 , fish | 9.030E+01 | 1.000E+02 | BIOFAC(14,1) |
| D-5 | Th-230 , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(14,2) |
| D-5 | | | | |
| D-5 | Th-232 , fish | 9.030E+01 | 1.000E+02 | BIOFAC(15,1) |
| D-5 | Th-232 , crustacea and mollusks | 5.000E+02 | 5.000E+02 | BIOFAC(15,2) |
| D-5 | | | | |
| D-5 | U-233 , fish | 9.900E+00 | 1.000E+01 | BIOFAC(16,1) |
| D-5 | U-233 , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(16,2) |
| D-5 | | | | |
| D-5 | U-234 , fish | 9.900E+00 | 1.000E+01 | BIOFAC(17,1) |
| D-5 | U-234 , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(17,2) |
| D-5 | | | | |
| D-5 | U-235D , fish | 9.900E+00 | 1.000E+01 | BIOFAC(18,1) |
| D-5 | U-235D , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(18,2) |
| D-5 | | | | |
| D-5 | U-236 , fish | 9.900E+00 | 1.000E+01 | BIOFAC(19,1) |
| D-5 | U-236 , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(19,2) |
| D-5 | | | | |
| D-5 | U-238 , fish | 9.900E+00 | 1.000E+01 | BIOFAC(20,1) |
| D-5 | U-238 , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(20,2) |
| D-5 | | | | |
| D-5 | U-238D , fish | 9.900E+00 | 1.000E+01 | BIOFAC(21,1) |
| D-5 | U-238D , crustacea and mollusks | 6.000E+01 | 6.000E+01 | BIOFAC(21,2) |

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

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

Summary : Hematite - GW DSR

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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) | 1.534E+05 | 1.000E+04 | --- | AREA |
| R011 | Thickness of contaminated zone (m) | 5.200E+00 | 2.000E+00 | --- | THICKO |
| R011 | Length parallel to aquifer flow (m) | 2.910E+02 | 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) | 1.000E+00 | 0.000E+00 | --- | TI |
| R011 | Times for calculations (yr) | 1.000E+00 | 1.000E+00 | --- | T(2) |
| R011 | Times for calculations (yr) | not used | 3.000E+00 | --- | T(3) |
| R011 | Times for calculations (yr) | not used | 1.000E+01 | --- | T(4) |
| R011 | Times for calculations (yr) | not used | 3.000E+01 | --- | T(5) |
| R011 | Times for calculations (yr) | not used | 1.000E+02 | --- | T(6) |
| R011 | Times for calculations (yr) | not used | 3.000E+02 | --- | T(7) |
| R011 | Times for calculations (yr) | not used | 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): Am-241 | 1.000E+00 | 0.000E+00 | --- | S1(2) |
| R012 | Initial principal radionuclide (pCi/g): Np-237 | 1.000E+00 | 0.000E+00 | --- | S1(3) |
| R012 | Initial principal radionuclide (pCi/g): Pu-239 | 1.000E+00 | 0.000E+00 | --- | S1(6) |
| R012 | Initial principal radionuclide (pCi/g): Pu-240 | 1.000E+00 | 0.000E+00 | --- | S1(7) |
| R012 | Initial principal radionuclide (pCi/g): Tc-99 | 1.000E+00 | 0.000E+00 | --- | S1(11) |
| R012 | Initial principal radionuclide (pCi/g): U-234 | 1.000E+00 | 0.000E+00 | --- | S1(17) |
| R012 | Initial principal radionuclide (pCi/g): U-235 | 1.000E+00 | 0.000E+00 | --- | S1(18) |
| R012 | Initial principal radionuclide (pCi/g): U-238 | 1.000E+00 | 0.000E+00 | --- | S1(20) |
| R012 | Concentration in groundwater (pCi/L): Am-241 | not used | 0.000E+00 | --- | W1(2) |
| R012 | Concentration in groundwater (pCi/L): Np-237 | not used | 0.000E+00 | --- | W1(3) |
| R012 | Concentration in groundwater (pCi/L): Pu-239 | not used | 0.000E+00 | --- | W1(6) |
| R012 | Concentration in groundwater (pCi/L): Pu-240 | not used | 0.000E+00 | --- | W1(7) |
| R012 | Concentration in groundwater (pCi/L): Tc-99 | not used | 0.000E+00 | --- | W1(11) |
| R012 | Concentration in groundwater (pCi/L): U-234 | not used | 0.000E+00 | --- | W1(17) |
| R012 | Concentration in groundwater (pCi/L): U-235 | not used | 0.000E+00 | --- | W1(18) |
| R012 | Concentration in groundwater (pCi/L): U-238 | not used | 0.000E+00 | --- | W1(20) |
| R013 | Cover depth (m) | 1.500E+00 | 0.000E+00 | --- | COVERO |
| R013 | Density of cover material (g/cm**3) | not used | 1.500E+00 | --- | DENSCV |
| R013 | Cover depth erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCV |
| R013 | Density of contaminated zone (g/cm**3) | 1.690E+00 | 1.500E+00 | --- | DENSCZ |
| R013 | Contaminated zone erosion rate (m/yr) | 6.000E-04 | 1.000E-03 | --- | VCZ |
| R013 | Contaminated zone total porosity | 4.500E-01 | 4.000E-01 | --- | TPCZ |
| R013 | Contaminated zone field capacity | 1.700E-01 | 2.000E-01 | --- | FCCZ |
| R013 | Contaminated zone hydraulic conductivity (m/yr) | 1.456E+01 | 1.000E+01 | --- | HCCZ |
| R013 | Contaminated zone b parameter | 9.900E+00 | 5.300E+00 | --- | BCZ |
| R013 | Average annual wind speed (m/sec) | 4.300E+00 | 2.000E+00 | --- | WIND |
| R013 | Humidity in air (g/m**3) | not used | 8.000E+00 | --- | HUMID |
| R013 | Evapotranspiration coefficient | 8.000E-01 | 5.000E-01 | --- | EVAPTR |
| R013 | Precipitation (m/yr) | 1.010E+00 | 1.000E+00 | --- | PRECIP |
| R013 | Irrigation (m/yr) | 1.400E-01 | 2.000E-01 | --- | RI |
| R013 | Irrigation mode | overhead | overhead | --- | IDITCH |
| R013 | Runoff coefficient | 4.000E-01 | 2.000E-01 | --- | RUNOFF |
| R013 | Watershed area for nearby stream or pond (m**2) | 9.989E+05 | 1.000E+06 | --- | WAREA |
| R013 | Accuracy for water/soil computations | 1.000E-03 | 1.000E-03 | --- | EPS |

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| R014 | Density of saturated zone (g/cm**3) | 1.510E+00 | 1.500E+00 | --- | DENSAQ |
| R014 | Saturated zone total porosity | 4.300E-01 | 4.000E-01 | --- | TPSZ |
| R014 | Saturated zone effective porosity | 3.800E-01 | 2.000E-01 | --- | EPSZ |
| R014 | Saturated zone field capacity | 1.500E-01 | 2.000E-01 | --- | FCSZ |
| R014 | Saturated zone hydraulic conductivity (m/yr) | 2.520E+03 | 1.000E+02 | --- | HCSZ |
| R014 | Saturated zone hydraulic gradient | 1.100E-02 | 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) | 2.500E+00 | 1.000E+01 | --- | DWIBWT |
| R014 | Model: Nondispersion (ND) or Mass-Balance (MB) | MB | ND | --- | MODEL |
| R014 | Well pumping rate (m**3/yr) | 3.338E+03 | 2.500E+02 | --- | UW |
| R015 | Number of unsaturated zone strata | 0 | 1 | --- | NS |
| R016 | Distribution coefficients for Am-241 | | | | |
| R016 | Contaminated zone (cm**3/g) | 8.400E+03 | 2.000E+01 | --- | DCNUCC (2) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 2.000E+01 | --- | DCNUCS (2) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 2.021E-06 | ALEACH (2) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (2) |
| R016 | Distribution coefficients for Np-237 | | | | |
| R016 | Contaminated zone (cm**3/g) | 2.500E+01 | -1.000E+00 | --- | DCNUCC (3) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | -1.000E+00 | --- | DCNUCS (3) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 6.732E-04 | ALEACH (3) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (3) |
| R016 | Distribution coefficients for Pu-239 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.200E+03 | 2.000E+03 | --- | DCNUCC (6) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 2.000E+03 | --- | DCNUCS (6) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.415E-05 | ALEACH (6) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (6) |
| R016 | Distribution coefficients for Pu-240 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.200E+03 | 2.000E+03 | --- | DCNUCC (7) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 2.000E+03 | --- | DCNUCS (7) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.415E-05 | ALEACH (7) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (7) |
| R016 | Distribution coefficients for Tc-99 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.060E+02 | 0.000E+00 | --- | DCNUCC (11) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 0.000E+00 | --- | DCNUCS (11) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.598E-04 | ALEACH (11) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (11) |
| R016 | Distribution coefficients for U-234 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.750E+02 | 5.000E+01 | --- | DCNUCC (17) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 5.000E+01 | --- | DCNUCS (17) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.689E-05 | ALEACH (17) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (17) |

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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 U-235 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.750E+02 | 5.000E+01 | --- | DCNUCC (18) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 5.000E+01 | --- | DCNUCS (18) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.689E-05 | ALEACH (18) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (18) |
| R016 | Distribution coefficients for U-238 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.750E+02 | 5.000E+01 | --- | DCNUCC (20) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 5.000E+01 | --- | DCNUCS (20) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.689E-05 | ALEACH (20) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (20) |
| R016 | Distribution coefficients for daughter Ac-227 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.500E+03 | 2.000E+01 | --- | DCNUCC (1) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 2.000E+01 | --- | DCNUCS (1) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.132E-05 | ALEACH (1) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (1) |
| R016 | Distribution coefficients for daughter Pa-231 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.800E+03 | 5.000E+01 | --- | DCNUCC (4) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 5.000E+01 | --- | DCNUCS (4) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.431E-06 | ALEACH (4) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (4) |
| R016 | Distribution coefficients for daughter Pb-210 | | | | |
| R016 | Contaminated zone (cm**3/g) | 5.500E+02 | 1.000E+02 | --- | DCNUCC (5) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 1.000E+02 | --- | DCNUCS (5) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 3.086E-05 | ALEACH (5) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (5) |
| R016 | Distribution coefficients for daughter Ra-226 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.100E+03 | 7.000E+01 | --- | DCNUCC (9) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 7.000E+01 | --- | DCNUCS (9) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.866E-06 | ALEACH (9) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (9) |
| R016 | Distribution coefficients for daughter Ra-228 | | | | |
| R016 | Contaminated zone (cm**3/g) | 9.100E+03 | 7.000E+01 | --- | DCNUCC (10) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 7.000E+01 | --- | DCNUCS (10) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 1.866E-06 | ALEACH (10) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (10) |
| R016 | Distribution coefficients for daughter Th-228 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.300E+03 | 6.000E+04 | --- | DCNUCC (12) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 6.000E+04 | --- | DCNUCS (12) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.144E-06 | ALEACH (12) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (12) |

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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 Th-229 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.300E+03 | 6.000E+04 | --- | DCNUCC (13) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 6.000E+04 | --- | DCNUCS (13) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.144E-06 | ALEACH (13) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (13) |
| R016 | Distribution coefficients for daughter Th-230 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.300E+03 | 6.000E+04 | --- | DCNUCC (14) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 6.000E+04 | --- | DCNUCS (14) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.144E-06 | ALEACH (14) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (14) |
| R016 | Distribution coefficients for daughter Th-232 | | | | |
| R016 | Contaminated zone (cm**3/g) | 3.300E+03 | 6.000E+04 | --- | DCNUCC (15) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 6.000E+04 | --- | DCNUCS (15) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 5.144E-06 | ALEACH (15) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (15) |
| R016 | Distribution coefficients for daughter U-233 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.750E+02 | 5.000E+01 | --- | DCNUCC (16) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 5.000E+01 | --- | DCNUCS (16) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.689E-05 | ALEACH (16) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (16) |
| R016 | Distribution coefficients for daughter U-236 | | | | |
| R016 | Contaminated zone (cm**3/g) | 1.750E+02 | 5.000E+01 | --- | DCNUCC (19) |
| R016 | Saturated zone (cm**3/g) | 0.000E+00 | 5.000E+01 | --- | DCNUCS (19) |
| R016 | Leach rate (/yr) | 0.000E+00 | 0.000E+00 | 9.689E-05 | ALEACH (19) |
| R016 | Solubility constant | 0.000E+00 | 0.000E+00 | not used | SOLUBK (19) |
| R017 | Inhalation rate (m**3/yr) | not used | 8.400E+03 | --- | INHALR |
| R017 | Mass loading for inhalation (g/m**3) | not used | 1.000E-04 | --- | MLINH |
| R017 | Exposure duration | 3.000E+01 | 3.000E+01 | --- | ED |
| R017 | Shielding factor, inhalation | not used | 4.000E-01 | --- | SHF3 |
| R017 | Shielding factor, external gamma | not used | 7.000E-01 | --- | SHF1 |
| R017 | Fraction of time spent indoors | not used | 5.000E-01 | --- | FIND |
| R017 | Fraction of time spent outdoors (on site) | not used | 2.500E-01 | --- | FOTD |
| R017 | Shape factor flag, external gamma | not used | 1.000E+00 | >0 shows circular AREA. | FS |

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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 | 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) |
| 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) | 2.100E+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) | 6.500E+01 | 6.300E+01 | --- | DIET (4) |
| R018 | Fish consumption (kg/yr) | 2.100E+01 | 5.400E+00 | --- | DIET (5) |
| R018 | Other seafood consumption (kg/yr) | 9.000E-01 | 9.000E-01 | --- | DIET (6) |
| R018 | Soil ingestion rate (g/yr) | not used | 3.650E+01 | --- | SOIL |
| R018 | Drinking water intake (L/yr) | 4.600E+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 | 1.000E+00 | 5.000E-01 | --- | FR9 |
| R018 | Contamination fraction of plant food | -1 | -1 | 0.500E+00 | FPLANT |
| R018 | Contamination fraction of meat | -1 | -1 | 0.100E+01 | FMEAT |
| R018 | Contamination fraction of milk | -1 | -1 | 0.100E+01 | FMILK |
| R019 | Livestock fodder intake for meat (kg/day) | 1.200E+01 | 6.800E+01 | --- | LFI5 |
| R019 | Livestock fodder intake for milk (kg/day) | 9.000E+00 | 5.500E+01 | --- | LFI6 |
| R019 | Livestock water intake for meat (L/day) | 3.700E+01 | 5.000E+01 | --- | LWI5 |
| R019 | Livestock water intake for milk (L/day) | 1.050E+02 | 1.600E+02 | --- | LWI6 |
| R019 | Livestock soil intake (kg/day) | 4.500E-01 | 5.000E-01 | --- | LSI |

Summary : Hematite - GW DSR

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|-----------|--|----------------|
| R019 | Mass loading for foliar deposition (g/m**3) | 2.300E-05 | 1.000E-04 | --- | MLFD |
| R019 | Depth of soil mixing layer (m) | 1.500E-01 | 1.500E-01 | --- | DM |
| R019 | Depth of roots (m) | 9.000E-01 | 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) | 1.500E+00 | 1.500E+00 | --- | YV(2) |
| R19B | Wet weight crop yield for Fodder (kg/m**2) | 1.100E+00 | 1.100E+00 | --- | YV(3) |
| R19B | Growing Season for Non-Leafy (years) | 2.600E-01 | 1.700E-01 | --- | TE(1) |
| R19B | Growing Season for Leafy (years) | 1.700E-01 | 2.500E-01 | --- | TE(2) |
| R19B | Growing Season for Fodder (years) | 2.100E-01 | 8.000E-02 | --- | TE(3) |
| 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 | 2.500E-01 | 2.500E-01 | --- | RDRY(1) |
| R19B | Dry Foliar Interception Fraction for Leafy | 2.500E-01 | 2.500E-01 | --- | RDRY(2) |
| R19B | Dry Foliar Interception Fraction for Fodder | 2.500E-01 | 2.500E-01 | --- | RDRY(3) |
| R19B | Wet Foliar Interception Fraction for Non-Leafy | 2.500E-01 | 2.500E-01 | --- | RWET(1) |
| R19B | Wet Foliar Interception Fraction for Leafy | 6.000E-01 | 2.500E-01 | --- | RWET(2) |
| R19B | Wet Foliar Interception Fraction for Fodder | 2.500E-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) | not used | 2.000E-05 | --- | C12WTR |
| C14 | C-12 concentration in contaminated soil (g/g) | not used | 3.000E-02 | --- | C12CZ |
| C14 | Fraction of vegetation carbon from soil | not used | 2.000E-02 | --- | CSOIL |
| C14 | Fraction of vegetation carbon from air | not used | 9.800E-01 | --- | CAIR |
| C14 | C-14 evasion layer thickness in soil (m) | not used | 3.000E-01 | --- | DMC |
| C14 | C-14 evasion flux rate from soil (1/sec) | not used | 7.000E-07 | --- | EVSN |
| C14 | C-12 evasion flux rate from soil (1/sec) | not used | 1.000E-10 | --- | REVSN |
| C14 | Fraction of grain in beef cattle feed | not used | 8.000E-01 | --- | AVFG4 |
| C14 | Fraction of grain in milk cow feed | not used | 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 | 2.000E+01 | 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 |

Summary : Hematite - GW DSR

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Site-Specific Parameter Summary (continued)

| Menu | Parameter | User Input | Default | Used by RESRAD (If different from user input) | Parameter Name |
|------|--|------------|------------|--|----------------|
| 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 | 128 | --- | --- | NPTS |
| TITL | Maximum number of integration points for dose | 5 | --- | --- | LYMAX |
| TITL | Maximum number of integration points for risk | 1 | --- | --- | KYMAX |

Summary of Pathway Selections

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

Summary : Hematite - GW DSR

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| Contaminated Zone Dimensions | Initial Soil Concentrations, pCi/g | |
|-------------------------------|------------------------------------|-----------|
| Area: 153375.00 square meters | Am-241 | 1.000E+00 |
| Thickness: 5.20 meters | Np-237 | 1.000E+00 |
| Cover Depth: 1.50 meters | Pu-239 | 1.000E+00 |
| | Pu-240 | 1.000E+00 |
| | Tc-99 | 1.000E+00 |
| | U-234 | 1.000E+00 |
| | U-235 | 1.000E+00 |
| | U-238 | 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 |
| TDOSE(t): | 1.182E+02 | 1.181E+02 |
| M(t): | 4.726E+00 | 4.723E+00 |

Maximum TDOSE(t): 1.182E+02 mrem/yr at t = 0.000E+00 years

Summary : Hematite - GW DSR

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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. |
| 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 | 0.000E+00 | 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 | 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 |
| 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 |
| U-234 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| U-235 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| U-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 |
| Total | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |

Total 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. |
| Am-241 | 1.992E-01 | 0.0017 | 1.013E-01 | 0.0009 | 0.000E+00 | 0.0000 | 9.161E-03 | 0.0001 | 6.858E-05 | 0.0000 | 2.296E-05 | 0.0000 | 3.098E-01 | 0.0026 |
| Np-237 | 8.103E+01 | 0.6858 | 2.644E+01 | 0.2237 | 0.000E+00 | 0.0000 | 3.751E+00 | 0.0317 | 5.563E-01 | 0.0047 | 4.666E-02 | 0.0004 | 1.118E+02 | 0.9464 |
| Pu-239 | 1.357E+00 | 0.0115 | 3.241E-01 | 0.0027 | 0.000E+00 | 0.0000 | 6.239E-02 | 0.0005 | 9.310E-04 | 0.0000 | 7.733E-05 | 0.0000 | 1.744E+00 | 0.0148 |
| Pu-240 | 1.357E+00 | 0.0115 | 3.241E-01 | 0.0027 | 0.000E+00 | 0.0000 | 6.239E-02 | 0.0005 | 9.309E-04 | 0.0000 | 7.733E-05 | 0.0000 | 1.744E+00 | 0.0148 |
| Tc-99 | 6.322E-03 | 0.0001 | 8.958E-04 | 0.0000 | 0.000E+00 | 0.0000 | 1.213E-03 | 0.0000 | 5.259E-06 | 0.0000 | 3.902E-04 | 0.0000 | 8.826E-03 | 0.0001 |
| U-234 | 7.429E-01 | 0.0063 | 6.495E-02 | 0.0005 | 0.000E+00 | 0.0000 | 3.420E-02 | 0.0003 | 6.628E-03 | 0.0001 | 2.567E-02 | 0.0002 | 8.744E-01 | 0.0074 |
| U-235 | 7.020E-01 | 0.0059 | 6.137E-02 | 0.0005 | 0.000E+00 | 0.0000 | 3.231E-02 | 0.0003 | 6.261E-03 | 0.0001 | 2.425E-02 | 0.0002 | 8.261E-01 | 0.0070 |
| U-238 | 7.054E-01 | 0.0060 | 6.166E-02 | 0.0005 | 0.000E+00 | 0.0000 | 3.247E-02 | 0.0003 | 6.293E-03 | 0.0001 | 2.437E-02 | 0.0002 | 8.302E-01 | 0.0070 |
| Total | 8.610E+01 | 0.7287 | 2.737E+01 | 0.2317 | 0.000E+00 | 0.0000 | 3.985E+00 | 0.0337 | 5.774E-01 | 0.0049 | 1.215E-01 | 0.0010 | 1.182E+02 | 1.0000 |

*Sum of all water independent and dependent pathways.

Summary : Hematite - GW DSR

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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+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. |
| 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 | 0.000E+00 | 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 | 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 |
| 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 |
| U-234 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| U-235 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |
| U-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 |
| Total | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 | 0.000E+00 | 0.0000 |

Total 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. |
| Am-241 | 1.989E-01 | 0.0017 | 1.012E-01 | 0.0009 | 0.000E+00 | 0.0000 | 9.147E-03 | 0.0001 | 6.865E-05 | 0.0000 | 2.293E-05 | 0.0000 | 3.093E-01 | 0.0026 |
| Np-237 | 8.098E+01 | 0.6858 | 2.642E+01 | 0.2237 | 0.000E+00 | 0.0000 | 3.748E+00 | 0.0317 | 5.559E-01 | 0.0047 | 4.663E-02 | 0.0004 | 1.117E+02 | 0.9463 |
| Pu-239 | 1.357E+00 | 0.0115 | 3.241E-01 | 0.0027 | 0.000E+00 | 0.0000 | 6.239E-02 | 0.0005 | 9.309E-04 | 0.0000 | 7.733E-05 | 0.0000 | 1.744E+00 | 0.0148 |
| Pu-240 | 1.357E+00 | 0.0115 | 3.241E-01 | 0.0027 | 0.000E+00 | 0.0000 | 6.238E-02 | 0.0005 | 9.308E-04 | 0.0000 | 7.732E-05 | 0.0000 | 1.744E+00 | 0.0148 |
| Tc-99 | 6.321E-03 | 0.0001 | 8.957E-04 | 0.0000 | 0.000E+00 | 0.0000 | 1.212E-03 | 0.0000 | 5.258E-06 | 0.0000 | 3.901E-04 | 0.0000 | 8.825E-03 | 0.0001 |
| U-234 | 7.429E-01 | 0.0063 | 6.494E-02 | 0.0005 | 0.000E+00 | 0.0000 | 3.419E-02 | 0.0003 | 6.627E-03 | 0.0001 | 2.566E-02 | 0.0002 | 8.743E-01 | 0.0074 |
| U-235 | 7.020E-01 | 0.0059 | 6.137E-02 | 0.0005 | 0.000E+00 | 0.0000 | 3.231E-02 | 0.0003 | 6.261E-03 | 0.0001 | 2.424E-02 | 0.0002 | 8.261E-01 | 0.0070 |
| U-238 | 7.053E-01 | 0.0060 | 6.166E-02 | 0.0005 | 0.000E+00 | 0.0000 | 3.247E-02 | 0.0003 | 6.292E-03 | 0.0001 | 2.437E-02 | 0.0002 | 8.301E-01 | 0.0070 |
| Total | 8.605E+01 | 0.7287 | 2.736E+01 | 0.2317 | 0.000E+00 | 0.0000 | 3.982E+00 | 0.0337 | 5.771E-01 | 0.0049 | 1.215E-01 | 0.0010 | 1.181E+02 | 1.0000 |

*Sum of all water independent and dependent pathways.

Summary : Hematite - GW DSR

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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) 0.000E+00 | At Time in Years 1.000E+00 | (mrem/yr)/(pCi/g) |
|---------------|----------------|--------------------|-----------------------|-------------------------------|-------------------|
| Am-241 | Am-241 | 1.000E+00 | 3.097E-01 | 3.092E-01 | |
| Am-241 | Np-237+D | 1.000E+00 | 5.229E-05 | 8.840E-05 | |
| Am-241 | U-233 | 1.000E+00 | 2.289E-12 | 5.263E-12 | |
| Am-241 | Th-229+D | 1.000E+00 | 5.251E-12 | 6.107E-12 | |
| Am-241 | ΣDSR(j) | | 3.098E-01 | 3.093E-01 | |
| Np-237+D | Np-237+D | 1.000E+00 | 1.118E+02 | 1.117E+02 | |
| Np-237+D | U-233 | 1.000E+00 | 7.256E-06 | 1.118E-05 | |
| Np-237+D | Th-229+D | 1.000E+00 | 2.323E-06 | 2.323E-06 | |
| Np-237+D | ΣDSR(j) | | 1.118E+02 | 1.117E+02 | |
| Pu-239 | Pu-239 | 1.000E+00 | 1.744E+00 | 1.744E+00 | |
| Pu-239 | U-235+D | 1.000E+00 | 1.182E-09 | 1.996E-09 | |
| Pu-239 | Pa-231 | 1.000E+00 | 5.436E-12 | 5.524E-12 | |
| Pu-239 | Ac-227+D | 1.000E+00 | 1.017E-11 | 1.017E-11 | |
| Pu-239 | ΣDSR(j) | | 1.744E+00 | 1.744E+00 | |
| Pu-240 | Pu-240 | 4.950E-08 | 8.634E-08 | 8.633E-08 | |
| Pu-240 | Pu-240 | 1.000E+00 | 1.744E+00 | 1.744E+00 | |
| Pu-240 | U-236 | 1.000E+00 | 3.576E-08 | 6.035E-08 | |
| Pu-240 | Th-232 | 1.000E+00 | 1.110E-17 | 1.339E-17 | |
| Pu-240 | Ra-228+D | 1.000E+00 | 3.468E-20 | 4.229E-20 | |
| Pu-240 | Th-228+D | 1.000E+00 | 4.339E-18 | 4.417E-18 | |
| Pu-240 | ΣDSR(j) | | 1.744E+00 | 1.744E+00 | |
| Tc-99 | Tc-99 | 1.000E+00 | 8.826E-03 | 8.825E-03 | |
| U-234 | U-234 | 1.000E+00 | 8.744E-01 | 8.743E-01 | |
| U-234 | Th-230 | 1.000E+00 | 3.074E-06 | 4.337E-06 | |
| U-234 | Ra-226+D | 1.000E+00 | 7.666E-08 | 7.729E-08 | |
| U-234 | Pb-210+D | 1.000E+00 | 9.198E-07 | 9.196E-07 | |
| U-234 | ΣDSR(j) | | 8.744E-01 | 8.743E-01 | |
| U-235+D | U-235+D | 1.000E+00 | 8.260E-01 | 8.259E-01 | |
| U-235+D | Pa-231 | 1.000E+00 | 1.320E-04 | 1.980E-04 | |
| U-235+D | Ac-227+D | 1.000E+00 | 5.570E-06 | 1.408E-05 | |
| U-235+D | ΣDSR(j) | | 8.261E-01 | 8.261E-01 | |
| U-238 | U-238 | 5.400E-05 | 4.254E-05 | 4.254E-05 | |
| U-238+D | U-238+D | 9.999E-01 | 8.302E-01 | 8.301E-01 | |
| U-238+D | U-234 | 9.999E-01 | 3.714E-06 | 6.189E-06 | |
| U-238+D | Th-230 | 9.999E-01 | 3.029E-08 | 3.029E-08 | |
| U-238+D | Ra-226+D | 9.999E-01 | 5.955E-08 | 5.954E-08 | |
| U-238+D | Pb-210+D | 9.999E-01 | 7.017E-07 | 7.016E-07 | |
| U-238+D | ΣDSR(j) | | 8.302E-01 | 8.301E-01 | |

The DSR includes contributions from associated (half-life ≤ 180 days) daughters.

Summary : Hematite - GW DSR

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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 |
|--------|--------------|-----------|
| Am-241 | 8.071E+01 | 8.083E+01 |
| Np-237 | 2.236E-01 | 2.237E-01 |
| Pu-239 | 1.433E+01 | 1.433E+01 |
| Pu-240 | 1.433E+01 | 1.433E+01 |
| Tc-99 | 2.832E+03 | 2.833E+03 |
| U-234 | 2.859E+01 | 2.860E+01 |
| U-235 | 3.026E+01 | 3.026E+01 |
| U-238 | 3.011E+01 | 3.012E+01 |

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) |
|----------------|--------------------|-----------------|-------------|----------------------|-------------|----------------------|
| Am-241 | 1.000E+00 | 0.000E+00 | 3.098E-01 | 8.071E+01 | 3.098E-01 | 8.071E+01 |
| Np-237 | 1.000E+00 | 0.000E+00 | 1.118E+02 | 2.236E-01 | 1.118E+02 | 2.236E-01 |
| Pu-239 | 1.000E+00 | 0.000E+00 | 1.744E+00 | 1.433E+01 | 1.744E+00 | 1.433E+01 |
| Pu-240 | 1.000E+00 | 0.000E+00 | 1.744E+00 | 1.433E+01 | 1.744E+00 | 1.433E+01 |
| Tc-99 | 1.000E+00 | 0.000E+00 | 8.826E-03 | 2.832E+03 | 8.826E-03 | 2.832E+03 |
| U-234 | 1.000E+00 | 0.000E+00 | 8.744E-01 | 2.859E+01 | 8.744E-01 | 2.859E+01 |
| U-235 | 1.000E+00 | 0.000E+00 | 8.261E-01 | 3.026E+01 | 8.261E-01 | 3.026E+01 |
| U-238 | 1.000E+00 | 0.000E+00 | 8.302E-01 | 3.011E+01 | 8.302E-01 | 3.011E+01 |

Summary : Hematite - GW DSR

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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 |
| Am-241 | Am-241 | 1.000E+00 | 3.097E-01 | 3.092E-01 |
| Np-237 | Am-241 | 1.000E+00 | 5.229E-05 | 8.840E-05 |
| Np-237 | Np-237 | 1.000E+00 | 1.118E+02 | 1.117E+02 |
| Np-237 | ∑DOSE (j) | | 1.118E+02 | 1.117E+02 |
| U-233 | Am-241 | 1.000E+00 | 2.289E-12 | 5.263E-12 |
| U-233 | Np-237 | 1.000E+00 | 7.256E-06 | 1.118E-05 |
| U-233 | ∑DOSE (j) | | 7.256E-06 | 1.118E-05 |
| Th-229 | Am-241 | 1.000E+00 | 5.251E-12 | 6.107E-12 |
| Th-229 | Np-237 | 1.000E+00 | 2.323E-06 | 2.323E-06 |
| Th-229 | ∑DOSE (j) | | 2.323E-06 | 2.323E-06 |
| Pu-239 | Pu-239 | 1.000E+00 | 1.744E+00 | 1.744E+00 |
| U-235 | Pu-239 | 1.000E+00 | 1.182E-09 | 1.996E-09 |
| U-235 | U-235 | 1.000E+00 | 8.260E-01 | 8.259E-01 |
| U-235 | ∑DOSE (j) | | 8.260E-01 | 8.259E-01 |
| Pa-231 | Pu-239 | 1.000E+00 | 5.436E-12 | 5.524E-12 |
| Pa-231 | U-235 | 1.000E+00 | 1.320E-04 | 1.980E-04 |
| Pa-231 | ∑DOSE (j) | | 1.320E-04 | 1.980E-04 |
| Ac-227 | Pu-239 | 1.000E+00 | 1.017E-11 | 1.017E-11 |
| Ac-227 | U-235 | 1.000E+00 | 5.570E-06 | 1.408E-05 |
| Ac-227 | ∑DOSE (j) | | 5.570E-06 | 1.408E-05 |
| Pu-240 | Pu-240 | 4.950E-08 | 8.634E-08 | 8.633E-08 |
| Pu-240 | Pu-240 | 1.000E+00 | 1.744E+00 | 1.744E+00 |
| Pu-240 | ∑DOSE (j) | | 1.744E+00 | 1.744E+00 |
| U-236 | Pu-240 | 1.000E+00 | 3.576E-08 | 6.035E-08 |
| Th-232 | Pu-240 | 1.000E+00 | 1.110E-17 | 1.339E-17 |
| Ra-228 | Pu-240 | 1.000E+00 | 3.468E-20 | 4.229E-20 |
| Th-228 | Pu-240 | 1.000E+00 | 4.339E-18 | 4.417E-18 |
| Tc-99 | Tc-99 | 1.000E+00 | 8.826E-03 | 8.825E-03 |
| U-234 | U-234 | 1.000E+00 | 8.744E-01 | 8.743E-01 |
| U-234 | U-238 | 9.999E-01 | 3.714E-06 | 6.189E-06 |
| U-234 | ∑DOSE (j) | | 8.744E-01 | 8.743E-01 |
| Th-230 | U-234 | 1.000E+00 | 3.074E-06 | 4.337E-06 |
| Th-230 | U-238 | 9.999E-01 | 3.029E-08 | 3.029E-08 |
| Th-230 | ∑DOSE (j) | | 3.105E-06 | 4.368E-06 |

Summary : Hematite - GW DSR

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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 |
| Ra-226 | U-234 | 1.000E+00 | 7.666E-08 | 7.729E-08 |
| Ra-226 | U-238 | 9.999E-01 | 5.955E-08 | 5.954E-08 |
| Ra-226 | ΣDOSE(j) | | 1.362E-07 | 1.368E-07 |
| Pb-210 | U-234 | 1.000E+00 | 9.198E-07 | 9.196E-07 |
| Pb-210 | U-238 | 9.999E-01 | 7.017E-07 | 7.016E-07 |
| Pb-210 | ΣDOSE(j) | | 1.621E-06 | 1.621E-06 |
| U-238 | U-238 | 5.400E-05 | 4.254E-05 | 4.254E-05 |
| U-238 | U-238 | 9.999E-01 | 8.302E-01 | 8.301E-01 |
| U-238 | ΣDOSE(j) | | 8.302E-01 | 8.301E-01 |

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

Summary : Hematite - GW DSR

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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 |
| Am-241 | Am-241 | 1.000E+00 | 1.000E+00 | 9.984E-01 |
| Np-237 | Am-241 | 1.000E+00 | 0.000E+00 | 3.235E-07 |
| Np-237 | Np-237 | 1.000E+00 | 1.000E+00 | 9.993E-01 |
| Np-237 | ΣS(j): | | 1.000E+00 | 9.993E-01 |
| U-233 | Am-241 | 1.000E+00 | 0.000E+00 | 7.077E-13 |
| U-233 | Np-237 | 1.000E+00 | 0.000E+00 | 4.371E-06 |
| U-233 | ΣS(j): | | 0.000E+00 | 4.371E-06 |
| Th-229 | Am-241 | 1.000E+00 | 0.000E+00 | 2.228E-17 |
| Th-229 | Np-237 | 1.000E+00 | 0.000E+00 | 2.064E-10 |
| Th-229 | ΣS(j): | | 0.000E+00 | 2.064E-10 |
| Pu-239 | Pu-239 | 1.000E+00 | 1.000E+00 | 1.000E+00 |
| U-235 | Pu-239 | 1.000E+00 | 0.000E+00 | 9.848E-10 |
| U-235 | U-235 | 1.000E+00 | 1.000E+00 | 9.999E-01 |
| U-235 | ΣS(j): | | 1.000E+00 | 9.999E-01 |
| Pa-231 | Pu-239 | 1.000E+00 | 0.000E+00 | 1.042E-14 |
| Pa-231 | U-235 | 1.000E+00 | 0.000E+00 | 2.116E-05 |
| Pa-231 | ΣS(j): | | 0.000E+00 | 2.116E-05 |
| Ac-227 | Pu-239 | 1.000E+00 | 0.000E+00 | 1.097E-16 |
| Ac-227 | U-235 | 1.000E+00 | 0.000E+00 | 3.332E-07 |
| Ac-227 | ΣS(j): | | 0.000E+00 | 3.332E-07 |
| Pu-240 | Pu-240 | 4.950E-08 | 4.950E-08 | 4.949E-08 |
| Pu-240 | Pu-240 | 1.000E+00 | 1.000E+00 | 9.999E-01 |
| Pu-240 | ΣS(j): | | 1.000E+00 | 9.999E-01 |
| U-236 | Pu-240 | 1.000E+00 | 0.000E+00 | 2.960E-08 |
| Th-232 | Pu-240 | 1.000E+00 | 0.000E+00 | 7.302E-19 |
| Ra-228 | Pu-240 | 1.000E+00 | 0.000E+00 | 2.848E-20 |
| Th-228 | Pu-240 | 1.000E+00 | 0.000E+00 | 2.417E-21 |
| Tc-99 | Tc-99 | 1.000E+00 | 1.000E+00 | 9.998E-01 |
| U-234 | U-234 | 1.000E+00 | 1.000E+00 | 9.999E-01 |
| U-234 | U-238 | 9.999E-01 | 0.000E+00 | 2.835E-06 |
| U-234 | ΣS(j): | | 1.000E+00 | 9.999E-01 |
| Th-230 | U-234 | 1.000E+00 | 0.000E+00 | 9.001E-06 |
| Th-230 | U-238 | 9.999E-01 | 0.000E+00 | 1.276E-11 |
| Th-230 | ΣS(j): | | 0.000E+00 | 9.001E-06 |

Summary : Hematite - GW DSR

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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 |
| Ra-226 | U-234 | 1.000E+00 | 0.000E+00 | 1.950E-09 |
| Ra-226 | U-238 | 9.999E-01 | 0.000E+00 | 1.842E-15 |
| Ra-226 | ΣS(j): | | 0.000E+00 | 1.950E-09 |
| Pb-210 | U-234 | 1.000E+00 | 0.000E+00 | 2.004E-11 |
| Pb-210 | U-238 | 9.999E-01 | 0.000E+00 | 1.423E-17 |
| Pb-210 | ΣS(j): | | 0.000E+00 | 2.004E-11 |
| U-238 | U-238 | 5.400E-05 | 5.400E-05 | 5.399E-05 |
| U-238 | U-238 | 9.999E-01 | 9.999E-01 | 9.998E-01 |
| U-238 | ΣS(j): | | 1.000E+00 | 9.999E-01 |

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

RESRAD.EXE execution time = 55.00 seconds