

Summary : Hematite - Excavation Scenario

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

Dose Library: Hematite Plus FGR 11

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				
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				
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				
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				
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				
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				
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				
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				
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				
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				
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)
D-34				

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

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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 - Excavation Scenario

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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)	7.000E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	9.000E-01	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)	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): 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)	0.000E+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)	not used	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

Summary : Hematite - Excavation Scenario

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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)	ND	ND	---	MODEL
R014	Well pumping rate (m**3/yr)	3.338E+03	2.500E+02	---	UW
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	8.200E+00	4.000E+00	---	H (1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.690E+00	1.500E+00	---	DENSUZ (1)
R015	Unsat. zone 1, total porosity	4.500E-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	1.700E-01	2.000E-01	---	FCUZ (1)
R015	Unsat. zone 1, soil-specific b parameter	9.900E+00	5.300E+00	---	BUZ (1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	1.456E+01	1.000E+01	---	HCUZ (1)
R016	Distribution coefficients for Am-241				
R016	Contaminated zone (cm**3/g)	8.400E+03	2.000E+01	---	DCNUCC (2)
R016	Unsat. zone 1 (cm**3/g)	8.400E+03	2.000E+01	---	DCNUCU (2,1)
R016	Saturated zone (cm**3/g)	1.900E+03	2.000E+01	---	DCNUCS (2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.168E-05	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	Unsat. zone 1 (cm**3/g)	2.500E+01	-1.000E+00	---	DCNUCU (3,1)
R016	Saturated zone (cm**3/g)	5.000E+00	-1.000E+00	---	DCNUCS (3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	3.890E-03	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	Unsat. zone 1 (cm**3/g)	1.200E+03	2.000E+03	---	DCNUCU (6,1)
R016	Saturated zone (cm**3/g)	5.500E+02	2.000E+03	---	DCNUCS (6)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	8.173E-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	Unsat. zone 1 (cm**3/g)	1.200E+03	2.000E+03	---	DCNUCU (7,1)
R016	Saturated zone (cm**3/g)	5.500E+02	2.000E+03	---	DCNUCS (7)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	8.173E-05	ALEACH (7)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (7)

Summary : Hematite - Excavation Scenario

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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 Tc-99				
R016	Contaminated zone (cm**3/g)	1.060E+02	0.000E+00	---	DCNUCC (11)
R016	Unsaturated zone 1 (cm**3/g)	1.060E+02	0.000E+00	---	DCNUCU (11,1)
R016	Saturated zone (cm**3/g)	1.000E-01	0.000E+00	---	DCNUCS (11)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	9.235E-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	Unsaturated zone 1 (cm**3/g)	1.750E+02	5.000E+01	---	DCNUCU (17,1)
R016	Saturated zone (cm**3/g)	3.500E+01	5.000E+01	---	DCNUCS (17)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.598E-04	ALEACH (17)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (17)
R016	Distribution coefficients for U-235				
R016	Contaminated zone (cm**3/g)	1.750E+02	5.000E+01	---	DCNUCC (18)
R016	Unsaturated zone 1 (cm**3/g)	1.750E+02	5.000E+01	---	DCNUCU (18,1)
R016	Saturated zone (cm**3/g)	3.500E+01	5.000E+01	---	DCNUCS (18)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.598E-04	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	Unsaturated zone 1 (cm**3/g)	1.750E+02	5.000E+01	---	DCNUCU (20,1)
R016	Saturated zone (cm**3/g)	3.500E+01	5.000E+01	---	DCNUCS (20)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.598E-04	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	Unsaturated zone 1 (cm**3/g)	1.500E+03	2.000E+01	---	DCNUCU (1,1)
R016	Saturated zone (cm**3/g)	4.500E+02	2.000E+01	---	DCNUCS (1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	6.539E-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	Unsaturated zone 1 (cm**3/g)	1.800E+03	5.000E+01	---	DCNUCU (4,1)
R016	Saturated zone (cm**3/g)	5.500E+02	5.000E+01	---	DCNUCS (4)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.449E-05	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	Unsaturated zone 1 (cm**3/g)	5.500E+02	1.000E+02	---	DCNUCU (5,1)
R016	Saturated zone (cm**3/g)	2.700E+02	1.000E+02	---	DCNUCS (5)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.783E-04	ALEACH (5)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (5)

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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 Ra-226				
R016	Contaminated zone (cm**3/g)	9.100E+03	7.000E+01	---	DCNUCC (9)
R016	Unsaturated zone 1 (cm**3/g)	9.100E+03	7.000E+01	---	DCNUCU (9,1)
R016	Saturated zone (cm**3/g)	5.000E+02	7.000E+01	---	DCNUCS (9)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.078E-05	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	Unsaturated zone 1 (cm**3/g)	9.100E+03	7.000E+01	---	DCNUCU (10,1)
R016	Saturated zone (cm**3/g)	5.000E+02	7.000E+01	---	DCNUCS (10)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.078E-05	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	Unsaturated zone 1 (cm**3/g)	3.300E+03	6.000E+04	---	DCNUCU (12,1)
R016	Saturated zone (cm**3/g)	3.200E+03	6.000E+04	---	DCNUCS (12)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.972E-05	ALEACH (12)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (12)
R016	Distribution coefficients for daughter Th-229				
R016	Contaminated zone (cm**3/g)	3.300E+03	6.000E+04	---	DCNUCC (13)
R016	Unsaturated zone 1 (cm**3/g)	3.300E+03	6.000E+04	---	DCNUCU (13,1)
R016	Saturated zone (cm**3/g)	3.200E+03	6.000E+04	---	DCNUCS (13)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.972E-05	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	Unsaturated zone 1 (cm**3/g)	3.300E+03	6.000E+04	---	DCNUCU (14,1)
R016	Saturated zone (cm**3/g)	3.200E+03	6.000E+04	---	DCNUCS (14)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.972E-05	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	Unsaturated zone 1 (cm**3/g)	3.300E+03	6.000E+04	---	DCNUCU (15,1)
R016	Saturated zone (cm**3/g)	3.200E+03	6.000E+04	---	DCNUCS (15)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.972E-05	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	Unsaturated zone 1 (cm**3/g)	1.750E+02	5.000E+01	---	DCNUCU (16,1)
R016	Saturated zone (cm**3/g)	3.500E+01	5.000E+01	---	DCNUCS (16)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.598E-04	ALEACH (16)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (16)

Summary : Hematite - Excavation Scenario

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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-236				
R016	Contaminated zone (cm**3/g)	1.750E+02	5.000E+01	---	DCNUCC (19)
R016	Unsaturated zone 1 (cm**3/g)	1.750E+02	5.000E+01	---	DCNUCU (19,1)
R016	Saturated zone (cm**3/g)	3.500E+01	5.000E+01	---	DCNUCS (19)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	5.598E-04	ALEACH (19)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK (19)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	2.300E-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	2.000E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	6.600E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	1.200E-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)
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)	1.820E+01	3.650E+01	---	SOIL

Summary : Hematite - Excavation Scenario

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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	0.350E+00	FPLANT
R018	Contamination fraction of meat	-1	-1	0.350E-01	FMEAT
R018	Contamination fraction of milk	-1	-1	0.350E-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
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

Summary : Hematite - Excavation Scenario

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Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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
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	active
2 -- inhalation (w/o radon)	active
3 -- plant ingestion	active
4 -- meat ingestion	active
5 -- milk ingestion	active
6 -- aquatic foods	active
7 -- drinking water	active
8 -- soil ingestion	active
9 -- radon	suppressed
Find peak pathway doses	active

Summary : Hematite - Excavation Scenario

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Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	700.00 square meters	Am-241	1.000E+00
Thickness:	0.90 meters	Np-237	1.000E+00
Cover Depth:	0.00 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	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
TDOSE(t):	6.047E+00	6.025E+00	5.981E+00	5.831E+00	5.426E+00	4.243E+00	2.235E+00	4.788E-01
M(t):	2.419E-01	2.410E-01	2.392E-01	2.332E-01	2.170E-01	1.697E-01	8.941E-02	1.915E-02

Maximum TDOSE(t): 6.047E+00 mrem/yr at t = 0.000E+00 years

Summary : Hematite - Excavation Scenario

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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	1.004E-02	0.0017	2.476E-03	0.0004	0.000E+00	0.0000	1.693E-01	0.0280	1.911E-04	0.0000	2.723E-05	0.0000	3.614E-02	0.0060
Np-237	2.479E-01	0.0410	3.008E-03	0.0005	0.000E+00	0.0000	4.128E+00	0.6827	6.964E-03	0.0012	2.279E-04	0.0000	4.407E-02	0.0073
Pu-239	6.758E-05	0.0000	2.394E-03	0.0004	0.000E+00	0.0000	1.647E-01	0.0272	3.721E-04	0.0001	1.312E-05	0.0000	3.518E-02	0.0058
Pu-240	3.541E-05	0.0000	2.394E-03	0.0004	0.000E+00	0.0000	1.647E-01	0.0272	3.720E-04	0.0001	1.312E-05	0.0000	3.517E-02	0.0058
Tc-99	2.892E-05	0.0000	4.642E-08	0.0000	0.000E+00	0.0000	6.295E-01	0.1041	3.671E-05	0.0000	9.981E-04	0.0002	1.450E-05	0.0000
U-234	9.338E-05	0.0000	7.365E-04	0.0001	0.000E+00	0.0000	4.872E-02	0.0081	4.137E-04	0.0001	6.690E-04	0.0001	2.811E-03	0.0005
U-235	1.736E-01	0.0287	6.864E-04	0.0001	0.000E+00	0.0000	4.603E-02	0.0076	3.908E-04	0.0001	6.320E-04	0.0001	2.657E-03	0.0004
U-238	3.398E-02	0.0056	6.586E-04	0.0001	0.000E+00	0.0000	4.625E-02	0.0076	3.928E-04	0.0001	6.353E-04	0.0001	2.669E-03	0.0004
Total	4.658E-01	0.0770	1.235E-02	0.0020	0.000E+00	0.0000	5.397E+00	0.8926	9.133E-03	0.0015	3.216E-03	0.0005	1.587E-01	0.0262

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	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.181E-01	0.0361
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	4.430E+00	0.7327
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	2.028E-01	0.0335
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	2.027E-01	0.0335
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	6.306E-01	0.1043
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	5.344E-02	0.0088
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	2.240E-01	0.0370
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	8.459E-02	0.0140
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	6.047E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : Hematite - Excavation Scenario

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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	1.003E-02	0.0017	2.472E-03	0.0004	0.000E+00	0.0000	1.689E-01	0.0280	1.908E-04	0.0000	2.718E-05	0.0000	3.608E-02	0.0060
Np-237	2.470E-01	0.0410	2.996E-03	0.0005	0.000E+00	0.0000	4.109E+00	0.6821	6.935E-03	0.0012	2.269E-04	0.0000	4.390E-02	0.0073
Pu-239	6.758E-05	0.0000	2.394E-03	0.0004	0.000E+00	0.0000	1.646E-01	0.0273	3.720E-04	0.0001	1.312E-05	0.0000	3.517E-02	0.0058
Pu-240	3.540E-05	0.0000	2.394E-03	0.0004	0.000E+00	0.0000	1.646E-01	0.0273	3.720E-04	0.0001	1.311E-05	0.0000	3.517E-02	0.0058
Tc-99	2.890E-05	0.0000	4.637E-08	0.0000	0.000E+00	0.0000	6.285E-01	0.1043	3.665E-05	0.0000	9.965E-04	0.0002	1.449E-05	0.0000
U-234	9.334E-05	0.0000	7.361E-04	0.0001	0.000E+00	0.0000	4.866E-02	0.0081	4.134E-04	0.0001	6.686E-04	0.0001	2.810E-03	0.0005
U-235	1.735E-01	0.0288	6.862E-04	0.0001	0.000E+00	0.0000	4.598E-02	0.0076	3.906E-04	0.0001	6.317E-04	0.0001	2.658E-03	0.0004
U-238	3.396E-02	0.0056	6.582E-04	0.0001	0.000E+00	0.0000	4.620E-02	0.0077	3.926E-04	0.0001	6.349E-04	0.0001	2.668E-03	0.0004
Total	4.647E-01	0.0771	1.234E-02	0.0020	0.000E+00	0.0000	5.377E+00	0.8925	9.103E-03	0.0015	3.212E-03	0.0005	1.585E-01	0.0263

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	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.177E-01	0.0361
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	4.411E+00	0.7321
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	2.026E-01	0.0336
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	2.026E-01	0.0336
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	6.296E-01	0.1045
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	5.338E-02	0.0089
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	2.239E-01	0.0372
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	8.452E-02	0.0140
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	6.025E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : Hematite - Excavation Scenario

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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 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	9.996E-03	0.0017	2.464E-03	0.0004	0.000E+00	0.0000	1.681E-01	0.0281	1.902E-04	0.0000	2.710E-05	0.0000	3.597E-02	0.0060
Np-237	2.451E-01	0.0410	2.973E-03	0.0005	0.000E+00	0.0000	4.072E+00	0.6808	6.878E-03	0.0012	2.251E-04	0.0000	4.356E-02	0.0073
Pu-239	6.756E-05	0.0000	2.393E-03	0.0004	0.000E+00	0.0000	1.644E-01	0.0275	3.719E-04	0.0001	1.311E-05	0.0000	3.516E-02	0.0059
Pu-240	3.539E-05	0.0000	2.393E-03	0.0004	0.000E+00	0.0000	1.643E-01	0.0275	3.718E-04	0.0001	1.311E-05	0.0000	3.515E-02	0.0059
Tc-99	2.884E-05	0.0000	4.629E-08	0.0000	0.000E+00	0.0000	6.265E-01	0.1048	3.653E-05	0.0000	9.934E-04	0.0002	1.446E-05	0.0000
U-234	9.329E-05	0.0000	7.354E-04	0.0001	0.000E+00	0.0000	4.854E-02	0.0081	4.129E-04	0.0001	6.678E-04	0.0001	2.807E-03	0.0005
U-235	1.733E-01	0.0290	6.859E-04	0.0001	0.000E+00	0.0000	4.589E-02	0.0077	3.901E-04	0.0001	6.309E-04	0.0001	2.660E-03	0.0004
U-238	3.393E-02	0.0057	6.575E-04	0.0001	0.000E+00	0.0000	4.609E-02	0.0077	3.921E-04	0.0001	6.341E-04	0.0001	2.665E-03	0.0004
Total	4.625E-01	0.0773	1.230E-02	0.0021	0.000E+00	0.0000	5.336E+00	0.8921	9.044E-03	0.0015	3.205E-03	0.0005	1.580E-01	0.0264

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.
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	2.168E-01	0.0362
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	4.371E+00	0.7308
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	2.024E-01	0.0338
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	2.023E-01	0.0338
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	6.276E-01	0.1049
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	5.325E-02	0.0089
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	2.236E-01	0.0374
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	8.436E-02	0.0141
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	5.981E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : Hematite - Excavation Scenario

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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.
Am-241	9.884E-03	0.0017	2.436E-03	0.0004	0.000E+00	0.0000	1.655E-01	0.0284	1.881E-04	0.0000	2.679E-05	0.0000	3.556E-02	0.0061
Np-237	2.385E-01	0.0409	2.893E-03	0.0005	0.000E+00	0.0000	3.944E+00	0.6764	6.683E-03	0.0011	2.188E-04	0.0000	4.239E-02	0.0073
Pu-239	6.751E-05	0.0000	2.392E-03	0.0004	0.000E+00	0.0000	1.635E-01	0.0280	3.716E-04	0.0001	1.310E-05	0.0000	3.514E-02	0.0060
Pu-240	3.534E-05	0.0000	2.390E-03	0.0004	0.000E+00	0.0000	1.633E-01	0.0280	3.713E-04	0.0001	1.309E-05	0.0000	3.511E-02	0.0060
Tc-99	2.866E-05	0.0000	4.599E-08	0.0000	0.000E+00	0.0000	6.196E-01	0.1063	3.613E-05	0.0000	9.823E-04	0.0002	1.437E-05	0.0000
U-234	9.342E-05	0.0000	7.326E-04	0.0001	0.000E+00	0.0000	4.812E-02	0.0083	4.111E-04	0.0001	6.650E-04	0.0001	2.796E-03	0.0005
U-235	1.727E-01	0.0296	6.853E-04	0.0001	0.000E+00	0.0000	4.559E-02	0.0078	3.884E-04	0.0001	6.283E-04	0.0001	2.669E-03	0.0005
U-238	3.379E-02	0.0058	6.550E-04	0.0001	0.000E+00	0.0000	4.569E-02	0.0078	3.904E-04	0.0001	6.314E-04	0.0001	2.655E-03	0.0005
Total	4.551E-01	0.0780	1.218E-02	0.0021	0.000E+00	0.0000	5.195E+00	0.8910	8.840E-03	0.0015	3.179E-03	0.0005	1.563E-01	0.0268

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.
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	2.136E-01	0.0366
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	4.235E+00	0.7263
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	2.014E-01	0.0345
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	2.012E-01	0.0345
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	6.206E-01	0.1064
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	5.282E-02	0.0091
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	2.226E-01	0.0382
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	8.382E-02	0.0144
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	5.831E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : Hematite - Excavation Scenario

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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.
Am-241	9.571E-03	0.0018	2.359E-03	0.0004	0.000E+00	0.0000	1.581E-01	0.0291	1.821E-04	0.0000	2.593E-05	0.0000	3.443E-02	0.0063
Np-237	2.206E-01	0.0407	2.677E-03	0.0005	0.000E+00	0.0000	3.600E+00	0.6635	6.154E-03	0.0011	2.017E-04	0.0000	3.922E-02	0.0072
Pu-239	6.737E-05	0.0000	2.386E-03	0.0004	0.000E+00	0.0000	1.609E-01	0.0297	3.706E-04	0.0001	1.307E-05	0.0000	3.506E-02	0.0065
Pu-240	3.521E-05	0.0000	2.381E-03	0.0004	0.000E+00	0.0000	1.605E-01	0.0296	3.698E-04	0.0001	1.304E-05	0.0000	3.498E-02	0.0064
Tc-99	2.813E-05	0.0000	4.514E-08	0.0000	0.000E+00	0.0000	6.000E-01	0.1106	3.499E-05	0.0000	9.514E-04	0.0002	1.410E-05	0.0000
U-234	9.638E-05	0.0000	7.247E-04	0.0001	0.000E+00	0.0000	4.696E-02	0.0087	4.061E-04	0.0001	6.570E-04	0.0001	2.766E-03	0.0005
U-235	1.708E-01	0.0315	6.881E-04	0.0001	0.000E+00	0.0000	4.481E-02	0.0083	3.837E-04	0.0001	6.208E-04	0.0001	2.713E-03	0.0005
U-238	3.342E-02	0.0062	6.477E-04	0.0001	0.000E+00	0.0000	4.458E-02	0.0082	3.856E-04	0.0001	6.239E-04	0.0001	2.625E-03	0.0005
Total	4.347E-01	0.0801	1.186E-02	0.0022	0.000E+00	0.0000	4.816E+00	0.8876	8.287E-03	0.0015	3.107E-03	0.0006	1.518E-01	0.0280

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.
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	2.046E-01	0.0377
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	3.869E+00	0.7131
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	1.988E-01	0.0366
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	1.983E-01	0.0365
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	6.011E-01	0.1108
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	5.161E-02	0.0095
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	2.201E-01	0.0406
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	8.228E-02	0.0152
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	5.426E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : Hematite - Excavation Scenario

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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.
Am-241	8.552E-03	0.0020	2.107E-03	0.0005	0.000E+00	0.0000	1.345E-01	0.0317	1.625E-04	0.0000	2.314E-05	0.0000	3.075E-02	0.0072
Np-237	1.680E-01	0.0396	2.039E-03	0.0005	0.000E+00	0.0000	2.611E+00	0.6154	4.610E-03	0.0011	1.517E-04	0.0000	2.987E-02	0.0070
Pu-239	6.686E-05	0.0000	2.368E-03	0.0006	0.000E+00	0.0000	1.521E-01	0.0358	3.673E-04	0.0001	1.296E-05	0.0000	3.479E-02	0.0082
Pu-240	3.475E-05	0.0000	2.350E-03	0.0006	0.000E+00	0.0000	1.509E-01	0.0356	3.645E-04	0.0001	1.286E-05	0.0000	3.452E-02	0.0081
Tc-99	2.636E-05	0.0000	4.231E-08	0.0000	0.000E+00	0.0000	5.356E-01	0.1262	3.124E-05	0.0000	8.494E-04	0.0002	1.322E-05	0.0000
U-234	1.361E-04	0.0000	6.978E-04	0.0002	0.000E+00	0.0000	4.311E-02	0.0102	3.889E-04	0.0001	6.297E-04	0.0001	2.663E-03	0.0006
U-235	1.649E-01	0.0389	7.181E-04	0.0002	0.000E+00	0.0000	4.249E-02	0.0100	3.679E-04	0.0001	5.954E-04	0.0001	2.941E-03	0.0007
U-238	3.213E-02	0.0076	6.230E-04	0.0001	0.000E+00	0.0000	4.083E-02	0.0096	3.693E-04	0.0001	5.981E-04	0.0001	2.525E-03	0.0006
Total	3.739E-01	0.0881	1.090E-02	0.0026	0.000E+00	0.0000	3.711E+00	0.8745	6.662E-03	0.0016	2.873E-03	0.0007	1.381E-01	0.0325

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.
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	1.761E-01	0.0415
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	2.816E+00	0.6637
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	1.897E-01	0.0447
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	1.882E-01	0.0443
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	5.365E-01	0.1264
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	4.762E-02	0.0112
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	2.120E-01	0.0500
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	7.708E-02	0.0182
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	4.243E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : Hematite - Excavation Scenario

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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+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.
Am-241	6.197E-03	0.0028	1.525E-03	0.0007	0.000E+00	0.0000	8.354E-02	0.0374	1.174E-04	0.0001	1.671E-05	0.0000	2.226E-02	0.0100
Np-237	7.719E-02	0.0345	9.371E-04	0.0004	0.000E+00	0.0000	1.028E+00	0.4599	2.017E-03	0.0009	6.735E-05	0.0000	1.372E-02	0.0061
Pu-239	6.543E-05	0.0000	2.316E-03	0.0010	0.000E+00	0.0000	1.275E-01	0.0570	3.580E-04	0.0002	1.264E-05	0.0000	3.403E-02	0.0152
Pu-240	3.347E-05	0.0000	2.263E-03	0.0010	0.000E+00	0.0000	1.246E-01	0.0557	3.498E-04	0.0002	1.235E-05	0.0000	3.325E-02	0.0149
Tc-99	2.190E-05	0.0000	3.515E-08	0.0000	0.000E+00	0.0000	3.814E-01	0.1706	2.226E-05	0.0000	6.054E-04	0.0003	1.098E-05	0.0000
U-234	4.764E-04	0.0002	6.267E-04	0.0003	0.000E+00	0.0000	3.380E-02	0.0151	3.448E-04	0.0002	5.597E-04	0.0003	2.400E-03	0.0011
U-235	1.494E-01	0.0668	8.173E-04	0.0004	0.000E+00	0.0000	3.628E-02	0.0162	3.264E-04	0.0001	5.287E-04	0.0002	3.621E-03	0.0016
U-238	2.873E-02	0.0129	5.573E-04	0.0002	0.000E+00	0.0000	3.131E-02	0.0140	3.264E-04	0.0001	5.301E-04	0.0002	2.259E-03	0.0010
Total	2.621E-01	0.1173	9.043E-03	0.0040	0.000E+00	0.0000	1.846E+00	0.8260	3.862E-03	0.0017	2.333E-03	0.0010	1.116E-01	0.0499

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.
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	1.137E-01	0.0508
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	1.122E+00	0.5019
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	1.643E-01	0.0735
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	1.605E-01	0.0718
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	3.820E-01	0.1709
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	3.821E-02	0.0171
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	1.910E-01	0.0854
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	6.371E-02	0.0285
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	2.235E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : Hematite - Excavation Scenario

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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+03 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	2.003E-03	0.0042	4.923E-04	0.0010	0.000E+00	0.0000	1.125E-02	0.0235	3.748E-05	0.0001	5.347E-06	0.0000	7.186E-03	0.0150
Np-237	5.190E-03	0.0108	6.277E-05	0.0001	0.000E+00	0.0000	2.813E-02	0.0587	1.096E-04	0.0002	4.245E-06	0.0000	9.054E-04	0.0019
Pu-239	6.169E-05	0.0001	2.144E-03	0.0045	0.000E+00	0.0000	4.914E-02	0.1026	3.274E-04	0.0007	1.159E-05	0.0000	3.149E-02	0.0658
Pu-240	2.947E-05	0.0001	1.984E-03	0.0041	0.000E+00	0.0000	4.549E-02	0.0950	3.030E-04	0.0006	1.074E-05	0.0000	2.915E-02	0.0609
Tc-99	1.161E-05	0.0000	1.837E-08	0.0000	0.000E+00	0.0000	8.301E-02	0.1734	4.880E-06	0.0000	1.330E-04	0.0003	5.740E-06	0.0000
U-234	3.535E-03	0.0074	4.321E-04	0.0009	0.000E+00	0.0000	1.250E-02	0.0261	2.334E-04	0.0005	3.851E-04	0.0008	1.751E-03	0.0037
U-235	1.085E-01	0.2266	1.073E-03	0.0022	0.000E+00	0.0000	1.480E-02	0.0309	2.154E-04	0.0004	3.491E-04	0.0007	5.387E-03	0.0113
U-238	1.970E-02	0.0411	3.775E-04	0.0008	0.000E+00	0.0000	8.832E-03	0.0184	2.116E-04	0.0004	3.473E-04	0.0007	1.530E-03	0.0032
Total	1.390E-01	0.2903	6.565E-03	0.0137	0.000E+00	0.0000	2.531E-01	0.5287	1.443E-03	0.0030	1.247E-03	0.0026	7.741E-02	0.1617

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.
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	2.097E-02	0.0438
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	3.440E-02	0.0718
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	8.318E-02	0.1737
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	7.697E-02	0.1607
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	8.317E-02	0.1737
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	1.884E-02	0.0393
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	1.303E-01	0.2721
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	3.100E-02	0.0647
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	4.788E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : Hematite - Excavation Scenario

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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
Am-241	Am-241	1.000E+00	2.181E-01	2.177E-01	2.168E-01	2.135E-01	2.046E-01	1.760E-01	1.135E-01	2.093E-02
Am-241	Np-237+D	1.000E+00	6.792E-07	2.104E-06	4.933E-06	1.453E-05	3.954E-05	1.030E-04	1.567E-04	4.273E-05
Am-241	U-233	1.000E+00	1.763E-14	1.051E-13	5.094E-13	4.271E-12	3.363E-11	3.020E-10	1.596E-09	2.515E-09
Am-241	Th-229+D	1.000E+00	3.809E-18	5.287E-17	5.951E-16	1.533E-14	3.602E-13	1.139E-11	2.174E-10	2.748E-09
Am-241	ΣDSR (j)		2.181E-01	2.177E-01	2.168E-01	2.136E-01	2.046E-01	1.761E-01	1.137E-01	2.097E-02
Np-237+D	Np-237+D	1.000E+00	4.430E+00	4.411E+00	4.371E+00	4.235E+00	3.869E+00	2.816E+00	1.122E+00	3.436E-02
Np-237+D	U-233	1.000E+00	1.485E-07	3.895E-07	8.620E-07	2.474E-06	6.737E-06	1.820E-05	3.146E-05	1.555E-05
Np-237+D	Th-229+D	1.000E+00	4.527E-11	2.989E-10	1.541E-09	1.347E-08	1.094E-07	1.053E-06	6.825E-06	2.898E-05
Np-237+D	ΣDSR (j)		4.430E+00	4.411E+00	4.371E+00	4.235E+00	3.869E+00	2.816E+00	1.122E+00	3.440E-02
Pu-239	Pu-239	1.000E+00	2.028E-01	2.026E-01	2.024E-01	2.014E-01	1.988E-01	1.897E-01	1.643E-01	8.318E-02
Pu-239	U-235+D	1.000E+00	1.093E-10	3.297E-10	7.700E-10	2.305E-09	6.633E-09	2.115E-08	5.753E-08	1.393E-07
Pu-239	Pa-231	1.000E+00	2.685E-15	1.712E-14	8.640E-14	7.500E-13	6.176E-12	6.333E-11	4.810E-10	2.626E-09
Pu-239	Ac-227+D	1.000E+00	3.687E-17	5.446E-16	6.240E-15	1.562E-13	3.270E-12	7.426E-11	8.495E-10	6.780E-09
Pu-239	ΣDSR (j)		2.028E-01	2.026E-01	2.024E-01	2.014E-01	1.988E-01	1.897E-01	1.643E-01	8.318E-02
Pu-240	Pu-240	4.950E-08	1.003E-08	1.003E-08	1.001E-08	9.961E-09	9.816E-09	9.314E-09	7.943E-09	3.810E-09
Pu-240	Pu-240	1.000E+00	2.027E-01	2.026E-01	2.023E-01	2.012E-01	1.983E-01	1.882E-01	1.605E-01	7.697E-02
Pu-240	U-236	1.000E+00	7.204E-10	2.218E-09	5.210E-09	1.559E-08	4.446E-08	1.366E-07	3.300E-07	4.064E-07
Pu-240	Th-232	1.000E+00	4.744E-20	3.018E-19	1.521E-18	1.319E-17	1.086E-16	1.112E-15	8.405E-15	4.470E-14
Pu-240	Ra-228+D	1.000E+00	4.086E-20	6.296E-19	7.123E-18	1.584E-16	2.507E-15	3.646E-14	3.073E-13	1.685E-12
Pu-240	Th-228+D	1.000E+00	1.346E-21	3.593E-20	7.342E-19	3.274E-17	7.729E-16	1.360E-14	1.335E-13	1.273E-12
Pu-240	ΣDSR (j)		2.027E-01	2.026E-01	2.023E-01	2.012E-01	1.983E-01	1.882E-01	1.605E-01	7.697E-02
Tc-99	Tc-99	1.000E+00	6.306E-01	6.296E-01	6.276E-01	6.206E-01	6.011E-01	5.365E-01	3.820E-01	8.317E-02
U-234	U-234	1.000E+00	5.344E-02	5.338E-02	5.325E-02	5.282E-02	5.158E-02	4.744E-02	3.689E-02	1.191E-02
U-234	Th-230	1.000E+00	1.672E-07	4.650E-07	1.056E-06	3.108E-06	8.842E-06	2.745E-05	6.896E-05	1.082E-04
U-234	Ra-226+D	1.000E+00	4.317E-09	3.127E-08	1.675E-07	1.502E-06	1.250E-05	1.286E-04	9.766E-04	5.600E-03
U-234	Pb-210+D	1.000E+00	2.633E-11	2.940E-10	2.772E-09	6.068E-08	1.203E-06	2.623E-05	2.738E-04	1.226E-03
U-234	ΣDSR (j)		5.344E-02	5.338E-02	5.325E-02	5.282E-02	5.161E-02	4.762E-02	3.821E-02	1.884E-02
U-235+D	U-235+D	1.000E+00	2.240E-01	2.238E-01	2.235E-01	2.224E-01	2.194E-01	2.089E-01	1.816E-01	1.120E-01
U-235+D	Pa-231	1.000E+00	7.727E-06	2.152E-05	4.887E-05	1.439E-04	4.094E-04	1.270E-03	3.184E-03	4.993E-03
U-235+D	Ac-227+D	1.000E+00	1.487E-07	1.027E-06	5.308E-06	4.403E-05	3.033E-04	1.859E-03	6.211E-03	1.332E-02
U-235+D	ΣDSR (j)		2.240E-01	2.239E-01	2.236E-01	2.226E-01	2.201E-01	2.120E-01	1.910E-01	1.303E-01
U-238	U-238	5.400E-05	2.597E-06	2.594E-06	2.588E-06	2.566E-06	2.507E-06	2.306E-06	1.794E-06	5.789E-07
U-238+D	U-238+D	9.999E-01	8.459E-02	8.451E-02	8.436E-02	8.381E-02	8.227E-02	7.706E-02	6.368E-02	3.096E-02
U-238+D	U-234	9.999E-01	7.573E-08	2.270E-07	5.283E-07	1.572E-06	4.460E-06	1.352E-05	3.144E-05	3.381E-05
U-238+D	Th-230	9.999E-01	1.684E-13	1.066E-12	5.371E-12	4.655E-11	3.821E-10	3.879E-09	2.861E-08	1.403E-07
U-238+D	Ra-226+D	9.999E-01	3.001E-15	4.693E-14	5.582E-13	1.489E-11	3.596E-10	1.214E-08	2.729E-07	5.013E-06
U-238+D	Pb-210+D	9.999E-01	1.647E-17	3.760E-16	7.467E-15	4.708E-13	2.736E-11	2.086E-09	7.015E-08	1.066E-06
U-238+D	ΣDSR (j)		8.459E-02	8.451E-02	8.436E-02	8.381E-02	8.227E-02	7.708E-02	6.371E-02	3.100E-02

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

Summary : Hematite - Excavation Scenario

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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	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Am-241	1.146E+02	1.148E+02	1.153E+02	1.171E+02	1.222E+02	1.420E+02	2.200E+02	1.192E+03
Np-237	5.643E+00	5.668E+00	5.720E+00	5.903E+00	6.462E+00	8.878E+00	2.228E+01	7.267E+02
Pu-239	1.233E+02	1.234E+02	1.235E+02	1.241E+02	1.258E+02	1.318E+02	1.522E+02	3.006E+02
Pu-240	1.233E+02	1.234E+02	1.236E+02	1.242E+02	1.261E+02	1.329E+02	1.558E+02	3.248E+02
Tc-99	3.964E+01	3.971E+01	3.983E+01	4.028E+01	4.159E+01	4.660E+01	6.544E+01	3.006E+02
U-234	4.678E+02	4.684E+02	4.695E+02	4.733E+02	4.844E+02	5.250E+02	6.542E+02	1.327E+03
U-235	1.116E+02	1.117E+02	1.118E+02	1.123E+02	1.136E+02	1.179E+02	1.309E+02	1.918E+02
U-238	2.955E+02	2.958E+02	2.964E+02	2.983E+02	3.039E+02	3.243E+02	3.924E+02	8.066E+02

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	2.181E-01	1.146E+02	2.181E-01	1.146E+02
Np-237	1.000E+00	0.000E+00	4.430E+00	5.643E+00	4.430E+00	5.643E+00
Pu-239	1.000E+00	0.000E+00	2.028E-01	1.233E+02	2.028E-01	1.233E+02
Pu-240	1.000E+00	0.000E+00	2.027E-01	1.233E+02	2.027E-01	1.233E+02
Tc-99	1.000E+00	0.000E+00	6.306E-01	3.964E+01	6.306E-01	3.964E+01
U-234	1.000E+00	0.000E+00	5.344E-02	4.678E+02	5.344E-02	4.678E+02
U-235	1.000E+00	0.000E+00	2.240E-01	1.116E+02	2.240E-01	1.116E+02
U-238	1.000E+00	0.000E+00	8.459E-02	2.955E+02	8.459E-02	2.955E+02

Summary : Hematite - Excavation Scenario

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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-241	Am-241	1.000E+00	2.181E-01	2.177E-01	2.168E-01	2.135E-01	2.046E-01	1.760E-01	1.135E-01	2.093E-02	
Np-237	Am-241	1.000E+00	6.792E-07	2.104E-06	4.933E-06	1.453E-05	3.954E-05	1.030E-04	1.567E-04	4.273E-05	
Np-237	Np-237	1.000E+00	4.430E+00	4.411E+00	4.371E+00	4.235E+00	3.869E+00	2.816E+00	1.122E+00	3.436E-02	
Np-237	ΣDOSE(j)		4.430E+00	4.411E+00	4.371E+00	4.235E+00	3.869E+00	2.816E+00	1.122E+00	3.440E-02	
U-233	Am-241	1.000E+00	1.763E-14	1.051E-13	5.094E-13	4.271E-12	3.363E-11	3.020E-10	1.596E-09	2.515E-09	
U-233	Np-237	1.000E+00	1.485E-07	3.895E-07	8.620E-07	2.474E-06	6.737E-06	1.820E-05	3.146E-05	1.555E-05	
U-233	ΣDOSE(j)		1.485E-07	3.895E-07	8.620E-07	2.474E-06	6.737E-06	1.820E-05	3.146E-05	1.556E-05	
Th-229	Am-241	1.000E+00	3.809E-18	5.287E-17	5.951E-16	1.533E-14	3.602E-13	1.139E-11	2.174E-10	2.748E-09	
Th-229	Np-237	1.000E+00	4.527E-11	2.989E-10	1.541E-09	1.347E-08	1.094E-07	1.053E-06	6.825E-06	2.898E-05	
Th-229	ΣDOSE(j)		4.527E-11	2.989E-10	1.541E-09	1.347E-08	1.094E-07	1.053E-06	6.826E-06	2.898E-05	
Pu-239	Pu-239	1.000E+00	2.028E-01	2.026E-01	2.024E-01	2.014E-01	1.988E-01	1.897E-01	1.643E-01	8.318E-02	
U-235	Pu-239	1.000E+00	1.093E-10	3.297E-10	7.700E-10	2.305E-09	6.633E-09	2.115E-08	5.753E-08	1.393E-07	
U-235	U-235	1.000E+00	2.240E-01	2.238E-01	2.235E-01	2.224E-01	2.194E-01	2.089E-01	1.816E-01	1.120E-01	
U-235	ΣDOSE(j)		2.240E-01	2.238E-01	2.235E-01	2.224E-01	2.194E-01	2.089E-01	1.816E-01	1.120E-01	
Pa-231	Pu-239	1.000E+00	2.685E-15	1.712E-14	8.640E-14	7.500E-13	6.176E-12	6.333E-11	4.810E-10	2.626E-09	
Pa-231	U-235	1.000E+00	7.727E-06	2.152E-05	4.887E-05	1.439E-04	4.094E-04	1.270E-03	3.184E-03	4.993E-03	
Pa-231	ΣDOSE(j)		7.727E-06	2.152E-05	4.887E-05	1.439E-04	4.094E-04	1.270E-03	3.184E-03	4.993E-03	
Ac-227	Pu-239	1.000E+00	3.687E-17	5.446E-16	6.240E-15	1.562E-13	3.270E-12	7.426E-11	8.495E-10	6.780E-09	
Ac-227	U-235	1.000E+00	1.487E-07	1.027E-06	5.308E-06	4.403E-05	3.033E-04	1.859E-03	6.211E-03	1.332E-02	
Ac-227	ΣDOSE(j)		1.487E-07	1.027E-06	5.308E-06	4.403E-05	3.033E-04	1.859E-03	6.211E-03	1.332E-02	
Pu-240	Pu-240	4.950E-08	1.003E-08	1.003E-08	1.001E-08	9.961E-09	9.816E-09	9.314E-09	7.943E-09	3.810E-09	
Pu-240	Pu-240	1.000E+00	2.027E-01	2.026E-01	2.023E-01	2.012E-01	1.983E-01	1.882E-01	1.605E-01	7.697E-02	
Pu-240	ΣDOSE(j)		2.027E-01	2.026E-01	2.023E-01	2.012E-01	1.983E-01	1.882E-01	1.605E-01	7.697E-02	
U-236	Pu-240	1.000E+00	7.204E-10	2.218E-09	5.210E-09	1.559E-08	4.446E-08	1.366E-07	3.300E-07	4.064E-07	
Th-232	Pu-240	1.000E+00	4.744E-20	3.018E-19	1.521E-18	1.319E-17	1.086E-16	1.112E-15	8.405E-15	4.470E-14	
Ra-228	Pu-240	1.000E+00	4.086E-20	6.296E-19	7.123E-18	1.584E-16	2.507E-15	3.646E-14	3.073E-13	1.685E-12	
Th-228	Pu-240	1.000E+00	1.346E-21	3.593E-20	7.342E-19	3.274E-17	7.729E-16	1.360E-14	1.335E-13	1.273E-12	
Tc-99	Tc-99	1.000E+00	6.306E-01	6.296E-01	6.276E-01	6.206E-01	6.011E-01	5.365E-01	3.820E-01	8.317E-02	
U-234	U-234	1.000E+00	5.344E-02	5.338E-02	5.325E-02	5.282E-02	5.158E-02	4.744E-02	3.689E-02	1.191E-02	
U-234	U-238	9.999E-01	7.573E-08	2.270E-07	5.283E-07	1.572E-06	4.460E-06	1.352E-05	3.144E-05	3.381E-05	
U-234	ΣDOSE(j)		5.344E-02	5.338E-02	5.325E-02	5.282E-02	5.159E-02	4.745E-02	3.692E-02	1.194E-02	
Th-230	U-234	1.000E+00	1.672E-07	4.650E-07	1.056E-06	3.108E-06	8.842E-06	2.745E-05	6.896E-05	1.082E-04	
Th-230	U-238	9.999E-01	1.684E-13	1.066E-12	5.371E-12	4.655E-11	3.821E-10	3.879E-09	2.861E-08	1.403E-07	
Th-230	ΣDOSE(j)		1.672E-07	4.650E-07	1.056E-06	3.108E-06	8.842E-06	2.745E-05	6.898E-05	1.084E-04	

Summary : Hematite - Excavation Scenario

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\HEMATITE - EXCAVATION SCENARIO.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	U-234	1.000E+00	4.317E-09	3.127E-08	1.675E-07	1.502E-06	1.250E-05	1.286E-04	9.766E-04	5.600E-03
Ra-226	U-238	9.999E-01	3.001E-15	4.693E-14	5.582E-13	1.489E-11	3.596E-10	1.214E-08	2.729E-07	5.013E-06
Ra-226	ΣDOSE(j)		4.317E-09	3.127E-08	1.675E-07	1.502E-06	1.250E-05	1.286E-04	9.769E-04	5.605E-03
Pb-210	U-234	1.000E+00	2.633E-11	2.940E-10	2.772E-09	6.068E-08	1.203E-06	2.623E-05	2.738E-04	1.226E-03
Pb-210	U-238	9.999E-01	1.647E-17	3.760E-16	7.467E-15	4.708E-13	2.736E-11	2.086E-09	7.015E-08	1.066E-06
Pb-210	ΣDOSE(j)		2.633E-11	2.940E-10	2.772E-09	6.068E-08	1.203E-06	2.623E-05	2.739E-04	1.227E-03
U-238	U-238	5.400E-05	2.597E-06	2.594E-06	2.588E-06	2.566E-06	2.507E-06	2.306E-06	1.794E-06	5.789E-07
U-238	U-238	9.999E-01	8.459E-02	8.451E-02	8.436E-02	8.381E-02	8.227E-02	7.706E-02	6.368E-02	3.096E-02
U-238	ΣDOSE(j)		8.459E-02	8.452E-02	8.436E-02	8.381E-02	8.227E-02	7.707E-02	6.368E-02	3.096E-02

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

Summary : Hematite - Excavation Scenario

File : C:\RESRAD_FAMILY\RESRAD\USERFILES\HEMATITE - EXCAVATION SCENARIO.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-241	Am-241	1.000E+00	1.000E+00	9.984E-01	9.952E-01	9.840E-01	9.527E-01	8.508E-01	6.159E-01	1.988E-01	
Np-237	Am-241	1.000E+00	0.000E+00	3.230E-07	9.637E-07	3.151E-06	8.949E-06	2.465E-05	4.338E-05	2.540E-05	
Np-237	Np-237	1.000E+00	1.000E+00	9.961E-01	9.884E-01	9.618E-01	8.898E-01	6.777E-01	3.113E-01	2.044E-02	
Np-237	ΣS(j):		1.000E+00	9.961E-01	9.884E-01	9.618E-01	8.899E-01	6.777E-01	3.113E-01	2.047E-02	
U-233	Am-241	1.000E+00	0.000E+00	7.068E-13	6.336E-12	6.941E-11	6.000E-10	5.799E-09	3.548E-08	1.165E-07	
U-233	Np-237	1.000E+00	0.000E+00	4.363E-06	1.303E-05	4.277E-05	1.228E-04	3.516E-04	7.008E-04	7.210E-04	
U-233	ΣS(j):		0.000E+00	4.363E-06	1.303E-05	4.277E-05	1.228E-04	3.516E-04	7.009E-04	7.211E-04	
Th-229	Am-241	1.000E+00	0.000E+00	2.226E-17	5.991E-16	2.195E-14	5.747E-13	1.914E-11	3.853E-10	5.714E-09	
Th-229	Np-237	1.000E+00	0.000E+00	2.062E-10	1.850E-09	2.034E-08	1.776E-07	1.779E-06	1.212E-05	6.027E-05	
Th-229	ΣS(j):		0.000E+00	2.062E-10	1.850E-09	2.034E-08	1.776E-07	1.779E-06	1.212E-05	6.028E-05	
Pu-239	Pu-239	1.000E+00	1.000E+00	9.999E-01	9.997E-01	9.989E-01	9.967E-01	9.890E-01	9.674E-01	8.954E-01	
U-235	Pu-239	1.000E+00	0.000E+00	9.845E-10	2.952E-09	9.816E-09	2.925E-08	9.525E-08	2.674E-07	7.103E-07	
U-235	U-235	1.000E+00	1.000E+00	9.994E-01	9.983E-01	9.944E-01	9.833E-01	9.456E-01	8.454E-01	5.713E-01	
U-235	ΣS(j):		1.000E+00	9.994E-01	9.983E-01	9.944E-01	9.833E-01	9.456E-01	8.454E-01	5.713E-01	
Pa-231	Pu-239	1.000E+00	0.000E+00	1.042E-14	9.370E-14	1.039E-12	9.307E-12	1.016E-10	8.708E-10	8.174E-09	
Pa-231	U-235	1.000E+00	0.000E+00	2.115E-05	6.341E-05	2.109E-04	6.287E-04	2.050E-03	5.775E-03	1.555E-02	
Pa-231	ΣS(j):		0.000E+00	2.115E-05	6.341E-05	2.109E-04	6.287E-04	2.050E-03	5.775E-03	1.555E-02	
Ac-227	Pu-239	1.000E+00	0.000E+00	1.097E-16	2.914E-15	1.021E-13	2.375E-12	5.718E-11	7.107E-10	7.715E-09	
Ac-227	U-235	1.000E+00	0.000E+00	3.332E-07	2.935E-06	3.030E-05	2.242E-04	1.440E-03	5.206E-03	1.517E-02	
Ac-227	ΣS(j):		0.000E+00	3.332E-07	2.935E-06	3.030E-05	2.242E-04	1.440E-03	5.206E-03	1.517E-02	
Pu-240	Pu-240	4.950E-08	4.950E-08	4.949E-08	4.947E-08	4.941E-08	4.922E-08	4.858E-08	4.679E-08	4.103E-08	
Pu-240	Pu-240	1.000E+00	1.000E+00	9.998E-01	9.994E-01	9.981E-01	9.944E-01	9.814E-01	9.452E-01	8.288E-01	
Pu-240	ΣS(j):		1.000E+00	9.998E-01	9.994E-01	9.981E-01	9.944E-01	9.814E-01	9.452E-01	8.288E-01	
U-236	Pu-240	1.000E+00	0.000E+00	2.959E-08	8.871E-08	2.949E-07	8.782E-07	2.852E-06	7.943E-06	2.049E-05	
Th-232	Pu-240	1.000E+00	0.000E+00	7.300E-19	6.567E-18	7.283E-17	6.521E-16	7.116E-15	6.084E-14	5.670E-13	
Ra-228	Pu-240	1.000E+00	0.000E+00	2.847E-20	7.251E-19	2.222E-17	3.889E-16	6.044E-15	5.768E-14	5.587E-13	
Th-228	Pu-240	1.000E+00	0.000E+00	2.417E-21	1.634E-19	1.164E-17	3.119E-16	5.697E-15	5.663E-14	5.560E-13	
Tc-99	Tc-99	1.000E+00	1.000E+00	9.991E-01	9.972E-01	9.908E-01	9.726E-01	9.115E-01	7.573E-01	3.958E-01	
U-234	U-234	1.000E+00	1.000E+00	9.994E-01	9.983E-01	9.944E-01	9.833E-01	9.453E-01	8.447E-01	5.697E-01	
U-234	U-238	9.999E-01	0.000E+00	2.833E-06	8.490E-06	2.819E-05	8.362E-05	2.680E-04	7.187E-04	1.617E-03	
U-234	ΣS(j):		1.000E+00	9.994E-01	9.983E-01	9.944E-01	9.833E-01	9.456E-01	8.454E-01	5.713E-01	
Th-230	U-234	1.000E+00	0.000E+00	8.999E-06	2.698E-05	8.975E-05	2.676E-04	8.736E-04	2.470E-03	6.741E-03	
Th-230	U-238	9.999E-01	0.000E+00	1.275E-11	1.147E-10	1.271E-09	1.135E-08	1.228E-07	1.023E-06	8.732E-06	
Th-230	ΣS(j):		0.000E+00	8.999E-06	2.698E-05	8.975E-05	2.676E-04	8.737E-04	2.471E-03	6.749E-03	

Summary : Hematite - Excavation Scenario

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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	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Ra-226	U-234	1.000E+00	0.000E+00	1.949E-09	1.753E-08	1.943E-07	1.737E-06	1.883E-05	1.582E-04	1.385E-03
Ra-226	U-238	9.999E-01	0.000E+00	1.842E-15	4.969E-14	1.835E-12	4.915E-11	1.770E-09	4.412E-08	1.239E-06
Ra-226	ΣS(j):		0.000E+00	1.949E-09	1.753E-08	1.943E-07	1.737E-06	1.883E-05	1.582E-04	1.386E-03
Pb-210	U-234	1.000E+00	0.000E+00	2.004E-11	5.325E-10	1.867E-08	4.347E-07	1.047E-05	1.284E-04	1.305E-03
Pb-210	U-238	9.999E-01	0.000E+00	1.422E-17	1.137E-15	1.342E-13	9.626E-12	8.256E-10	3.281E-08	1.134E-06
Pb-210	ΣS(j):		0.000E+00	2.004E-11	5.325E-10	1.867E-08	4.347E-07	1.047E-05	1.285E-04	1.306E-03
U-238	U-238	5.400E-05	5.400E-05	5.397E-05	5.391E-05	5.370E-05	5.310E-05	5.106E-05	4.565E-05	3.085E-05
U-238	U-238	9.999E-01	9.999E-01	9.994E-01	9.983E-01	9.944E-01	9.833E-01	9.455E-01	8.453E-01	5.713E-01
U-238	ΣS(j):		1.000E+00	9.994E-01	9.983E-01	9.944E-01	9.833E-01	9.456E-01	8.454E-01	5.713E-01

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

RESRAD.EXE execution time = 3.32 seconds