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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-228 (Source: FGR 12)	5.978E+00	5.978E+00	DCF1(1)
A-1	Bi-212 (Source: FGR 12)	1.171E+00	1.171E+00	DCF1(2)
A-1	Pb-212 (Source: FGR 12)	7.043E-01	7.043E-01	DCF1(3)
A-1	Po-212 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(4)
A-1	Po-216 (Source: FGR 12)	1.042E-04	1.042E-04	DCF1(5)
A-1	Ra-224 (Source: FGR 12)	5.119E-02	5.119E-02	DCF1(6)
A-1	Ra-228 (Source: FGR 12)	0.000E+00	0.000E+00	DCF1(7)
A-1	Rn-220 (Source: FGR 12)	2.298E-03	2.298E-03	DCF1(8)
A-1	Th-228 (Source: FGR 12)	7.940E-03	7.940E-03	DCF1(9)
A-1	Th-232 (Source: FGR 12)	5.212E-04	5.212E-04	DCF1(10)
A-1	Tl-208 (Source: FGR 12)	2.298E+01	2.298E+01	DCF1(11)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Ra-228+D	5.078E-03	4.770E-03	DCF2(1)
B-1	Th-228+D	3.454E-01	3.420E-01	DCF2(2)
B-1	Th-232	1.640E+00	1.640E+00	DCF2(3)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Ra-228+D	1.442E-03	1.440E-03	DCF3(1)
D-1	Th-228+D	8.086E-04	3.960E-04	DCF3(2)
D-1	Th-232	2.730E-03	2.730E-03	DCF3(3)
D-34	Food transfer factors:			
D-34	Ra-228+D , plant/soil concentration ratio, dimensionless	7.400E-02	4.000E-02	RTF(1,1)
D-34	Ra-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(1,2)
D-34	Ra-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-04	1.000E-03	RTF(1,3)
D-34				
D-34	Th-228+D , plant/soil concentration ratio, dimensionless	9.930E-04	1.000E-03	RTF(2,1)
D-34	Th-228+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	9.900E-05	1.000E-04	RTF(2,2)
D-34	Th-228+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	4.900E-06	5.000E-06	RTF(2,3)
D-34				
D-34	Th-232 , plant/soil concentration ratio, dimensionless	9.930E-04	1.000E-03	RTF(3,1)
D-34	Th-232 , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	9.900E-05	1.000E-04	RTF(3,2)
D-34	Th-232 , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	4.900E-06	5.000E-06	RTF(3,3)
D-5	Bioaccumulation factors, fresh water, L/kg:			
D-5	Ra-228+D , fish	4.930E+01	5.000E+01	BIOFAC(1,1)
D-5	Ra-228+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(1,2)
D-5				
D-5	Th-228+D , fish	9.030E+01	1.000E+02	BIOFAC(2,1)
D-5	Th-228+D , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(2,2)
D-5				
D-5	Th-232 , fish	9.030E+01	1.000E+02	BIOFAC(3,1)
D-5	Th-232 , crustacea and mollusks	5.000E+02	5.000E+02	BIOFAC(3,2)

#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.

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	---	THICK0
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): Ra-228	1.000E+00	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Th-228	1.000E+00	0.000E+00	---	S1(2)
R012	Initial principal radionuclide (pCi/g): Th-232	1.000E+00	0.000E+00	---	S1(3)
R012	Concentration in groundwater (pCi/L): Ra-228	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L): Th-228	not used	0.000E+00	---	W1(2)
R012	Concentration in groundwater (pCi/L): Th-232	not used	0.000E+00	---	W1(3)
R013	Cover depth (m)	0.000E+00	0.000E+00	---	COVER0
R013	Density of cover material (g/cm**3)	not used	1.500E+00	---	DENSCV
R013	Cover depth erosion rate (m/yr)	not used	1.000E-03	---	VCV
R013	Density of contaminated zone (g/cm**3)	1.690E+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
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

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
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 Ra-228				
R016	Contaminated zone (cm**3/g)	9.100E+03	7.000E+01	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	9.100E+03	7.000E+01	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	5.000E+02	7.000E+01	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.078E-05	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Th-228				
R016	Contaminated zone (cm**3/g)	3.300E+03	6.000E+04	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	3.300E+03	6.000E+04	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	3.200E+03	6.000E+04	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.972E-05	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R016	Distribution coefficients for Th-232				
R016	Contaminated zone (cm**3/g)	3.300E+03	6.000E+04	---	DCNUCC(3)
R016	Unsaturated zone 1 (cm**3/g)	3.300E+03	6.000E+04	---	DCNUCU(3,1)
R016	Saturated zone (cm**3/g)	3.200E+03	6.000E+04	---	DCNUCS(3)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.972E-05	ALEACH(3)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(3)
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

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)	1.820E+01	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	0.350E+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

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

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	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

Contaminated Zone Dimensions		Initial Soil Concentrations, pCi/g	
Area:	700.00 square meters	Ra-228	1.000E+00
Thickness:	0.90 meters	Th-228	1.000E+00
Cover Depth:	0.00 meters	Th-232	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):	8.827E+00	8.825E+00	8.818E+00	8.792E+00	8.719E+00	8.461E+00	7.730E+00	5.223E+00
M(t):	3.531E-01	3.530E-01	3.527E-01	3.517E-01	3.488E-01	3.385E-01	3.092E-01	2.089E-01

Maximum TDOSE(t): 8.827E+00 mrem/yr at t = 0.000E+00 years

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	1.611E+00	0.1825	3.248E-04	0.0000	0.000E+00	0.0000	4.712E+00	0.5338	4.194E-03	0.0005	1.240E-03	0.0001	1.474E-02	0.0017
Th-228	1.916E+00	0.2171	1.617E-03	0.0002	0.000E+00	0.0000	3.135E-02	0.0036	7.056E-05	0.0000	1.244E-05	0.0000	6.740E-03	0.0008
Th-232	9.219E-02	0.0104	9.167E-03	0.0010	0.000E+00	0.0000	3.981E-01	0.0451	4.769E-04	0.0001	1.154E-04	0.0000	2.801E-02	0.0032
Total	3.619E+00	0.4100	1.111E-02	0.0013	0.000E+00	0.0000	5.142E+00	0.5825	4.742E-03	0.0005	1.368E-03	0.0002	4.949E-02	0.0056

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-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.343E+00	0.7186
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.956E+00	0.2216
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.281E-01	0.0598
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	8.827E+00	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	1.974E+00	0.2237	7.492E-04	0.0001	0.000E+00	0.0000	4.186E+00	0.4743	3.740E-03	0.0004	1.102E-03	0.0001	1.499E-02	0.0017
Th-228	1.334E+00	0.1511	1.125E-03	0.0001	0.000E+00	0.0000	2.180E-02	0.0025	4.911E-05	0.0000	8.658E-06	0.0000	4.691E-03	0.0005
Th-232	3.108E-01	0.0352	9.234E-03	0.0010	0.000E+00	0.0000	9.319E-01	0.1056	9.488E-04	0.0001	2.554E-04	0.0000	2.981E-02	0.0034
Total	3.619E+00	0.4101	1.111E-02	0.0013	0.000E+00	0.0000	5.139E+00	0.5824	4.738E-03	0.0005	1.366E-03	0.0002	4.949E-02	0.0056

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-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.181E+00	0.7003
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.362E+00	0.1543
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.283E+00	0.1454
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	8.825E+00	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	2.154E+00	0.2442	1.097E-03	0.0001	0.000E+00	0.0000	3.294E+00	0.3736	2.959E-03	0.0003	8.694E-04	0.0001	1.390E-02	0.0016
Th-228	6.462E-01	0.0733	5.453E-04	0.0001	0.000E+00	0.0000	1.055E-02	0.0012	2.379E-05	0.0000	4.194E-06	0.0000	2.273E-03	0.0003
Th-232	8.191E-01	0.0929	9.466E-03	0.0011	0.000E+00	0.0000	1.827E+00	0.2072	1.752E-03	0.0002	4.918E-04	0.0001	3.332E-02	0.0038
Total	3.619E+00	0.4104	1.111E-02	0.0013	0.000E+00	0.0000	5.132E+00	0.5820	4.734E-03	0.0005	1.365E-03	0.0002	4.949E-02	0.0056

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-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.467E+00	0.6200
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.596E-01	0.0748
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.692E+00	0.3052
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	8.818E+00	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	1.266E+00	0.1440	7.583E-04	0.0001	0.000E+00	0.0000	1.416E+00	0.1610	1.281E-03	0.0001	3.751E-04	0.0000	7.172E-03	0.0008
Th-228	5.115E-02	0.0058	4.316E-05	0.0000	0.000E+00	0.0000	8.310E-04	0.0001	1.883E-06	0.0000	3.320E-07	0.0000	1.799E-04	0.0000
Th-232	2.301E+00	0.2617	1.030E-02	0.0012	0.000E+00	0.0000	3.691E+00	0.4198	3.437E-03	0.0004	9.862E-04	0.0001	4.213E-02	0.0048
Total	3.618E+00	0.4115	1.111E-02	0.0013	0.000E+00	0.0000	5.107E+00	0.5809	4.720E-03	0.0005	1.362E-03	0.0002	4.948E-02	0.0056

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-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.691E+00	0.3061
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.220E-02	0.0059
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.049E+00	0.6880
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	8.792E+00	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	1.204E-01	0.0138	7.379E-05	0.0000	0.000E+00	0.0000	1.254E-01	0.0144	1.142E-04	0.0000	3.343E-05	0.0000	6.674E-04	0.0001
Th-228	3.644E-05	0.0000	3.074E-08	0.0000	0.000E+00	0.0000	5.841E-07	0.0000	1.341E-09	0.0000	2.364E-10	0.0000	1.282E-07	0.0000
Th-232	3.496E+00	0.4010	1.103E-02	0.0013	0.000E+00	0.0000	4.911E+00	0.5632	4.565E-03	0.0005	1.317E-03	0.0002	4.879E-02	0.0056
Total	3.616E+00	0.4148	1.110E-02	0.0013	0.000E+00	0.0000	5.036E+00	0.5776	4.679E-03	0.0005	1.351E-03	0.0002	4.945E-02	0.0057

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-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.467E-01	0.0283
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.718E-05	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.472E+00	0.9717
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	8.719E+00	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	2.604E-05	0.0000	1.597E-08	0.0000	0.000E+00	0.0000	2.582E-05	0.0000	2.393E-08	0.0000	7.028E-09	0.0000	1.444E-07	0.0000
Th-228	3.515E-16	0.0000	2.966E-19	0.0000	0.000E+00	0.0000	5.367E-18	0.0000	1.292E-20	0.0000	2.279E-21	0.0000	1.236E-18	0.0000
Th-232	3.609E+00	0.4265	1.108E-02	0.0013	0.000E+00	0.0000	4.786E+00	0.5657	4.534E-03	0.0005	1.312E-03	0.0002	4.935E-02	0.0058
Total	3.609E+00	0.4265	1.108E-02	0.0013	0.000E+00	0.0000	4.786E+00	0.5657	4.534E-03	0.0005	1.312E-03	0.0002	4.935E-02	0.0058

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-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.206E-05	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.584E-16	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.461E+00	1.0000
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	8.461E+00	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	8.792E-16	0.0000	5.391E-19	0.0000	0.000E+00	0.0000	7.473E-16	0.0000	7.352E-19	0.0000	2.179E-19	0.0000	4.874E-18	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.587E+00	0.4640	1.101E-02	0.0014	0.000E+00	0.0000	4.078E+00	0.5275	4.124E-03	0.0005	1.202E-03	0.0002	4.906E-02	0.0063
Total	3.587E+00	0.4640	1.101E-02	0.0014	0.000E+00	0.0000	4.078E+00	0.5275	4.124E-03	0.0005	1.202E-03	0.0002	4.906E-02	0.0063

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-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.633E-15	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.730E+00	1.0000
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	7.730E+00	1.0000

*Sum of all water independent and dependent pathways.

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-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	3.497E+00	0.6696	1.078E-02	0.0021	0.000E+00	0.0000	1.663E+00	0.3185	2.725E-03	0.0005	8.261E-04	0.0002	4.805E-02	0.0092
Total	3.497E+00	0.6696	1.078E-02	0.0021	0.000E+00	0.0000	1.663E+00	0.3185	2.725E-03	0.0005	8.261E-04	0.0002	4.805E-02	0.0092

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-	Water		Fish		Radon		Plant		Meat		Milk		All Pathways*	
Nuclide	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.	mrem/yr	fract.
Ra-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-228	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000
Th-232	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.223E+00	1.0000
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	5.223E+00	1.0000

*Sum of all water independent and dependent pathways.

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
Ra-228+D	Ra-228+D	1.000E+00	5.955E+00	5.276E+00	4.141E+00	1.774E+00	1.575E-01	3.279E-05	9.845E-16	0.000E+00
Ra-228+D	Th-228+D	1.000E+00	3.885E-01	9.048E-01	1.326E+00	9.167E-01	8.917E-02	1.927E-05	6.484E-16	0.000E+00
Ra-228+D	∑DSR(j)		6.343E+00	6.181E+00	5.467E+00	2.691E+00	2.467E-01	5.206E-05	1.633E-15	0.000E+00
Th-228+D	Th-228+D	1.000E+00	1.956E+00	1.362E+00	6.596E-01	5.220E-02	3.718E-05	3.584E-16	0.000E+00	0.000E+00
Th-232	Th-232	1.000E+00	1.629E-01	1.628E-01	1.626E-01	1.620E-01	1.602E-01	1.540E-01	1.364E-01	7.646E-02
Th-232	Ra-228+D	1.000E+00	3.483E-01	1.022E+00	2.150E+00	4.493E+00	6.040E+00	5.955E+00	5.265E+00	2.925E+00
Th-232	Th-228+D	1.000E+00	1.682E-02	9.770E-02	3.787E-01	1.394E+00	2.272E+00	2.353E+00	2.329E+00	2.222E+00
Th-232	∑DSR(j)		5.281E-01	1.283E+00	2.692E+00	6.049E+00	8.472E+00	8.461E+00	7.730E+00	5.223E+00

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

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

Nuclide (i)	t= 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Ra-228	3.941E+00	4.045E+00	4.573E+00	9.290E+00	1.014E+02	4.802E+05	*2.726E+14	*2.726E+14
Th-228	1.278E+01	1.836E+01	3.790E+01	4.789E+02	6.724E+05	*8.195E+14	*8.195E+14	*8.195E+14
Th-232	4.734E+01	1.949E+01	9.288E+00	4.133E+00	2.951E+00	2.955E+00	3.234E+00	4.787E+00

*At specific activity limit

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)
Ra-228	1.000E+00	0.000E+00	6.343E+00	3.941E+00	6.343E+00	3.941E+00
Th-228	1.000E+00	0.000E+00	1.956E+00	1.278E+01	1.956E+00	1.278E+01
Th-232	1.000E+00	47.29 ± 0.09	8.625E+00	2.899E+00	5.281E-01	4.734E+01

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-228	Ra-228	1.000E+00	5.955E+00	5.276E+00	4.141E+00	1.774E+00	1.575E-01	3.279E-05	9.845E-16	0.000E+00
Ra-228	Th-232	1.000E+00	3.483E-01	1.022E+00	2.150E+00	4.493E+00	6.040E+00	5.955E+00	5.265E+00	2.925E+00
Ra-228	∑DOSE(j)		6.303E+00	6.298E+00	6.291E+00	6.267E+00	6.198E+00	5.955E+00	5.265E+00	2.925E+00
Th-228	Ra-228	1.000E+00	3.885E-01	9.048E-01	1.326E+00	9.167E-01	8.917E-02	1.927E-05	6.484E-16	0.000E+00
Th-228	Th-228	1.000E+00	1.956E+00	1.362E+00	6.596E-01	5.220E-02	3.718E-05	3.584E-16	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	1.682E-02	9.770E-02	3.787E-01	1.394E+00	2.272E+00	2.353E+00	2.329E+00	2.222E+00
Th-228	∑DOSE(j)		2.361E+00	2.364E+00	2.364E+00	2.363E+00	2.361E+00	2.353E+00	2.329E+00	2.222E+00
Th-232	Th-232	1.000E+00	1.629E-01	1.628E-01	1.626E-01	1.620E-01	1.602E-01	1.540E-01	1.364E-01	7.646E-02

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

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-228	Ra-228	1.000E+00	1.000E+00	8.864E-01	6.965E-01	2.995E-01	2.687E-02	5.811E-06	1.962E-16	0.000E+00
Ra-228	Th-232	1.000E+00	0.000E+00	1.136E-01	3.034E-01	7.003E-01	9.724E-01	9.972E-01	9.913E-01	9.709E-01
Ra-228	∑S(j):		1.000E+00	1.000E+00	1.000E+00	9.998E-01	9.993E-01	9.972E-01	9.913E-01	9.709E-01
Th-228	Ra-228	1.000E+00	0.000E+00	2.853E-01	5.384E-01	4.088E-01	4.024E-02	8.707E-06	2.940E-16	0.000E+00
Th-228	Th-228	1.000E+00	1.000E+00	6.960E-01	3.372E-01	2.669E-02	1.901E-05	1.834E-16	0.000E+00	0.000E+00
Th-228	Th-232	1.000E+00	0.000E+00	1.864E-02	1.243E-01	5.643E-01	9.590E-01	9.972E-01	9.913E-01	9.709E-01
Th-228	∑S(j):		1.000E+00	1.000E+00	9.999E-01	9.998E-01	9.993E-01	9.972E-01	9.913E-01	9.709E-01
Th-232	Th-232	1.000E+00	1.000E+00	1.000E+00	9.999E-01	9.997E-01	9.991E-01	9.970E-01	9.911E-01	9.707E-01

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

RESCALC.EXE execution time = 1.48 seconds