Appendix I
Dose and Risk Modeling Outputs

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Dose Conversion Factor (and Related) Parameter Summary
Dose Library: FGR 12 & FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(1)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(2)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(3)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(4)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(5)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(6)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(7)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(8)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(9)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(10)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(11)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(1)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(2)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Pb-210+D	7.276E-03	5.370E-03	DCF3(1)
D-1	Ra-226+D	1.321E-03	1.320E-03	DCF3(2)
D-34	Food transfer factors:			
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(1,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(1,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(1,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(2,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(2,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(2,3)
D-5	Bioaccumulation factors, fresh water, L/kg:			
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(1,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(1,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(2,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(2,2)

#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 : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

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)	8.398E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	2.000E+00	2.000E+00	---	THICK0
R011	Fraction of contamination that is submerged	0.000E+00	0.000E+00	---	SUBMFRACT
R011	Length parallel to aquifer flow (m)	1.000E+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): Pb-210	1.350E-01	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Ra-226	1.350E-01	0.000E+00	---	S1(2)
R012	Concentration in groundwater (pCi/L): Pb-210	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L): Ra-226	not used	0.000E+00	---	W1(2)
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)	1.500E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	1.000E-03	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	4.000E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity	2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	5.300E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)	2.000E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	5.000E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	1.000E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	2.000E-01	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	2.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	1.000E+06	1.000E+06	---	WAREA
R013	Accuracy for water/soil computations	1.000E-03	1.000E-03	---	EPS
R014	Density of saturated zone (g/cm**3)	1.500E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.000E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	2.000E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	1.000E+02	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	2.000E-02	2.000E-02	---	HGWT
R014	Saturated zone b parameter	5.300E+00	5.300E+00	---	BSZ
R014	Water table drop rate (m/yr)	1.000E-03	1.000E-03	---	VWT
R014	Well pump intake depth (m below water table)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	ND	ND	---	MODEL

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R014	Well pumping rate (m**3/yr)	2.500E+02	2.500E+02	---	UW
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	4.000E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.500E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	4.000E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.000E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	5.300E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.663E-03	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.374E-03	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	1.000E-04	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	7.000E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	5.000E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	2.500E-01	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	1.600E+02	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	1.400E+01	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	9.200E+01	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+01	6.300E+01	---	DIET(4)
R018	Fish consumption (kg/yr)	5.400E+00	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)	3.650E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	5.100E+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	5.000E-01	5.000E-01	---	FR9
R018	Contamination fraction of plant food	-1	-1	0.420E+00	FPLANT
R018	Contamination fraction of meat	-1	-1	0.420E-01	FMEAT
R018	Contamination fraction of milk	-1	-1	0.420E-01	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	5.500E+01	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	1.600E+02	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	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)	7.000E-01	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)	1.700E-01	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	2.500E-01	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	1.000E-01	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	1.000E+00	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	1.000E+00	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	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	2.500E-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	2.000E+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
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	32	---	---	NPTS

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
TITL	Maximum number of integration points for dose	17	---	---	LYMAX
TITL	Maximum number of integration points for risk	257	---	---	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	suppressed

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Contaminated Zone Dimensions	
Area:	839.80 square meters
Thickness:	2.00 meters
Cover Depth:	0.00 meters

Initial Soil Concentrations, pCi/g	
Pb-210	1.350E-01
Ra-226	1.350E-01

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):	2.081E+00	2.076E+00	2.066E+00	2.030E+00	1.928E+00	1.592E+00	9.086E-01	8.432E-01
M(t):	8.323E-02	8.304E-02	8.264E-02	8.122E-02	7.713E-02	6.367E-02	3.634E-02	3.373E-02

Maximum TDOSE(t): 2.081E+00 mrem/yr at t = 0.000E+00 years

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 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.
Pb-210	4.413E-04	0.0002	1.525E-04	0.0001	0.000E+00	0.0000	7.062E-01	0.3394	2.414E-03	0.0012	1.176E-03	0.0006	2.222E-02	0.0107
Ra-226	8.066E-01	0.3877	5.972E-05	0.0000	0.000E+00	0.0000	5.335E-01	0.2564	1.578E-03	0.0008	1.883E-03	0.0009	4.441E-03	0.0021
Total	8.071E-01	0.3879	2.122E-04	0.0001	0.000E+00	0.0000	1.240E+00	0.5958	3.992E-03	0.0019	3.059E-03	0.0015	2.666E-02	0.0128

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.326E-01	0.3521
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.348E+00	0.6479
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	2.081E+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.
Pb-210	4.270E-04	0.0002	1.475E-04	0.0001	0.000E+00	0.0000	6.834E-01	0.3292	2.337E-03	0.0011	1.138E-03	0.0005	2.150E-02	0.0104
Ra-226	8.044E-01	0.3875	6.420E-05	0.0000	0.000E+00	0.0000	5.539E-01	0.2668	1.651E-03	0.0008	1.915E-03	0.0009	5.107E-03	0.0025
Total	8.048E-01	0.3877	2.118E-04	0.0001	0.000E+00	0.0000	1.237E+00	0.5960	3.987E-03	0.0019	3.053E-03	0.0015	2.661E-02	0.0128

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.090E-01	0.3415
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.367E+00	0.6585
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	2.076E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	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.
Pb-210	4.000E-04	0.0002	1.382E-04	0.0001	0.000E+00	0.0000	6.401E-01	0.3098	2.188E-03	0.0011	1.066E-03	0.0005	2.014E-02	0.0097
Ra-226	7.999E-01	0.3872	7.270E-05	0.0000	0.000E+00	0.0000	5.918E-01	0.2865	1.782E-03	0.0009	1.972E-03	0.0010	6.368E-03	0.0031
Total	8.003E-01	0.3874	2.109E-04	0.0001	0.000E+00	0.0000	1.232E+00	0.5963	3.970E-03	0.0019	3.039E-03	0.0015	2.651E-02	0.0128

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.640E-01	0.3214
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.402E+00	0.6786
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	2.066E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+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.
Pb-210	3.180E-04	0.0002	1.099E-04	0.0001	0.000E+00	0.0000	5.090E-01	0.2507	1.740E-03	0.0009	8.479E-04	0.0004	1.601E-02	0.0079
Ra-226	7.844E-01	0.3863	9.788E-05	0.0000	0.000E+00	0.0000	7.035E-01	0.3465	2.168E-03	0.0011	2.139E-03	0.0011	1.012E-02	0.0050
Total	7.847E-01	0.3865	2.078E-04	0.0001	0.000E+00	0.0000	1.213E+00	0.5972	3.908E-03	0.0019	2.987E-03	0.0015	2.613E-02	0.0129

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.280E-01	0.2600
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.502E+00	0.7400
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	2.030E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+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.
Pb-210	1.652E-04	0.0001	5.708E-05	0.0000	0.000E+00	0.0000	2.644E-01	0.1371	9.040E-04	0.0005	4.404E-04	0.0002	8.319E-03	0.0043
Ra-226	7.417E-01	0.3847	1.411E-04	0.0001	0.000E+00	0.0000	8.902E-01	0.4617	2.819E-03	0.0015	2.397E-03	0.0012	1.665E-02	0.0086
Total	7.419E-01	0.3848	1.982E-04	0.0001	0.000E+00	0.0000	1.155E+00	0.5988	3.723E-03	0.0019	2.838E-03	0.0015	2.497E-02	0.0129

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.743E-01	0.1423
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.654E+00	0.8577
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	1.928E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+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.
Pb-210	1.669E-05	0.0000	5.768E-06	0.0000	0.000E+00	0.0000	2.672E-02	0.0168	9.134E-05	0.0001	4.450E-05	0.0000	8.405E-04	0.0005
Ra-226	6.095E-01	0.3829	1.587E-04	0.0001	0.000E+00	0.0000	9.292E-01	0.5837	2.993E-03	0.0019	2.299E-03	0.0014	1.990E-02	0.0125
Total	6.095E-01	0.3829	1.644E-04	0.0001	0.000E+00	0.0000	9.559E-01	0.6005	3.084E-03	0.0019	2.344E-03	0.0015	2.074E-02	0.0130

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.772E-02	0.0174
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.564E+00	0.9826
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	1.592E+00	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

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

Water 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.
Pb-210	2.389E-08	0.0000	8.255E-09	0.0000	0.000E+00	0.0000	3.824E-05	0.0000	1.307E-07	0.0000	6.370E-08	0.0000	1.203E-06	0.0000
Ra-226	3.477E-01	0.3827	9.391E-05	0.0001	0.000E+00	0.0000	5.458E-01	0.6007	1.761E-03	0.0019	1.338E-03	0.0015	1.185E-02	0.0130
Total	3.477E-01	0.3827	9.392E-05	0.0001	0.000E+00	0.0000	5.459E-01	0.6008	1.761E-03	0.0019	1.338E-03	0.0015	1.185E-02	0.0130

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.967E-05	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.086E-01	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	9.086E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water 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.
Pb-210	2.650E-18	0.0000	9.157E-19	0.0000	0.000E+00	0.0000	4.242E-15	0.0000	1.450E-17	0.0000	7.066E-18	0.0000	1.334E-16	0.0000
Ra-226	4.874E-02	0.0578	1.317E-05	0.0000	0.000E+00	0.0000	7.652E-02	0.0907	2.469E-04	0.0003	1.875E-04	0.0002	1.661E-03	0.0020
Total	4.874E-02	0.0578	1.317E-05	0.0000	0.000E+00	0.0000	7.652E-02	0.0907	2.469E-04	0.0003	1.875E-04	0.0002	1.661E-03	0.0020

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.
Pb-210	1.338E-14	0.0000	2.803E-17	0.0000	0.000E+00	0.0000	8.658E-16	0.0000	9.620E-18	0.0000	7.896E-18	0.0000	1.869E-14	0.0000
Ra-226	6.701E-01	0.7947	1.199E-03	0.0014	0.000E+00	0.0000	4.346E-02	0.0515	5.078E-04	0.0006	5.855E-04	0.0007	8.432E-01	1.0000
Total	6.701E-01	0.7947	1.199E-03	0.0014	0.000E+00	0.0000	4.346E-02	0.0515	5.078E-04	0.0006	5.855E-04	0.0007	8.432E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

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

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pb-210+D	Pb-210+D	1.000E+00	5.427E+00	5.252E+00	4.919E+00	3.911E+00	2.032E+00	2.053E-01	2.938E-04	1.384E-13
Ra-226+D	Ra-226+D	1.000E+00	9.886E+00	9.858E+00	9.803E+00	9.612E+00	9.088E+00	7.466E+00	4.259E+00	1.686E+00
Ra-226+D	Pb-210+D	1.000E+00	9.992E-02	2.679E-01	5.816E-01	1.517E+00	3.164E+00	4.119E+00	2.471E+00	4.560E+00
Ra-226+D	∑DSR(j)		9.986E+00	1.013E+01	1.038E+01	1.113E+01	1.225E+01	1.159E+01	6.730E+00	6.246E+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
Pb-210	4.607E+00	4.760E+00	5.082E+00	6.392E+00	1.230E+01	1.218E+02	8.508E+04	*7.634E+13
Ra-226	2.504E+00	2.469E+00	2.407E+00	2.246E+00	2.041E+00	2.158E+00	3.715E+00	4.002E+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)
Pb-210	1.350E-01	0.000E+00	5.427E+00	4.607E+00	5.427E+00	4.607E+00
Ra-226	1.350E-01	47.97 ± 0.10	1.248E+01	2.003E+00	9.986E+00	2.504E+00

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.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
Pb-210	Pb-210	1.000E+00	7.326E-01	7.090E-01	6.640E-01	5.280E-01	2.743E-01	2.772E-02	3.967E-05	1.869E-14
Pb-210	Ra-226	1.000E+00	1.349E-02	3.617E-02	7.851E-02	2.048E-01	4.271E-01	5.561E-01	3.336E-01	6.156E-01
Pb-210	∑DOSE(j)		7.461E-01	7.452E-01	7.426E-01	7.328E-01	7.014E-01	5.838E-01	3.336E-01	6.156E-01
Ra-226	Ra-226	1.000E+00	1.335E+00	1.331E+00	1.323E+00	1.298E+00	1.227E+00	1.008E+00	5.750E-01	2.276E-01

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
Pb-210	Pb-210	1.000E+00	1.350E-01	1.307E-01	1.224E-01	9.730E-02	5.055E-02	5.107E-03	7.310E-06	8.109E-16
Pb-210	Ra-226	1.000E+00	0.000E+00	4.122E-03	1.194E-02	3.526E-02	7.636E-02	1.006E-01	6.037E-02	8.464E-03
Pb-210	∑S(j):		1.350E-01	1.348E-01	1.343E-01	1.326E-01	1.269E-01	1.057E-01	6.038E-02	8.464E-03
Ra-226	Ra-226	1.000E+00	1.350E-01	1.346E-01	1.339E-01	1.313E-01	1.241E-01	1.020E-01	5.816E-02	8.153E-03

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

RESCALC.EXE execution time = 0.81 seconds

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Table of Contents

Part III: Intake Quantities and Health Risk Factors

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Cancer Risk Slope Factors Summary Table
Risk Library: FGR 13 Morbidity

Menu	Parameter	Current Value	Base Case*	Parameter Name
Sf-1	Ground external radiation slope factors, 1/yr per (pCi/g):			
Sf-1	Pb-210+D	4.21E-09	1.41E-09	SLPF(1,1)
Sf-1	Ra-226+D	8.49E-06	2.29E-08	SLPF(2,1)
Sf-2	Inhalation, slope factors, 1/(pCi):			
Sf-2	Pb-210+D	3.08E-08	1.58E-08	SLPF(1,2)
Sf-2	Ra-226+D	2.83E-08	2.82E-08	SLPF(2,2)
Sf-3	Food ingestion, slope factors, 1/(pCi):			
Sf-3	Pb-210+D	3.44E-09	1.18E-09	SLPF(1,3)
Sf-3	Ra-226+D	5.15E-10	5.14E-10	SLPF(2,3)
Sf-3	Water ingestion, slope factors, 1/(pCi):			
Sf-3	Pb-210+D	2.66E-09	8.81E-10	SLPF(1,4)
Sf-3	Ra-226+D	3.86E-10	3.85E-10	SLPF(2,4)
Sf-3	Soil ingestion, slope factors, 1/(pCi):			
Sf-3	Pb-210+D	3.44E-09	1.18E-09	SLPF(1,5)
Sf-3	Ra-226+D	5.15E-10	5.14E-10	SLPF(2,5)
Sf-Rn	Radon Inhalation slope factors, 1/(pCi):			
Sf-Rn	Rn-222	1.80E-12	1.80E-12	SLPFRN(1,1)
Sf-Rn	Po-218	3.70E-12	3.70E-12	SLPFRN(1,2)
Sf-Rn	Pb-214	6.20E-12	6.20E-12	SLPFRN(1,3)
Sf-Rn	Bi-214	1.50E-11	1.50E-11	SLPFRN(1,4)
Sf-Rn	Radon K factors, (mrem/WLM):			
Sf-Rn	Rn-222 Indoor	7.60E+02	7.60E+02	KFACTR(1,1)
Sf-Rn	Rn-222 Outdoor	5.70E+02	5.70E+02	KFACTR(1,2)

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

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Risk Slope and Environmental Transport Factors for the Ground Pathway

Nuclide (i)	Slope(i)* t=	ETFG(i,t) At Time in Years (dimensionless) 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
At-218	3.570E-09	5.494E-01	5.494E-01	5.494E-01	5.494E-01	5.494E-01	5.494E-01	5.494E-01	5.494E-01
Bi-210	2.760E-09	5.385E-01	5.385E-01	5.385E-01	5.385E-01	5.385E-01	5.385E-01	5.385E-01	5.385E-01
Bi-214	7.480E-06	5.345E-01	5.345E-01	5.345E-01	5.345E-01	5.345E-01	5.345E-01	5.345E-01	5.345E-01
Pb-210	1.410E-09	5.527E-01	5.527E-01	5.527E-01	5.527E-01	5.527E-01	5.527E-01	5.527E-01	5.527E-01
Pb-214	9.820E-07	5.385E-01	5.385E-01	5.385E-01	5.385E-01	5.385E-01	5.385E-01	5.385E-01	5.385E-01
Po-210	3.950E-11	5.327E-01	5.327E-01	5.327E-01	5.327E-01	5.327E-01	5.327E-01	5.327E-01	5.327E-01
Po-214	3.860E-10	5.295E-01	5.295E-01	5.295E-01	5.295E-01	5.295E-01	5.295E-01	5.295E-01	5.295E-01
Po-218	4.260E-11	5.327E-01	5.327E-01	5.327E-01	5.327E-01	5.327E-01	5.327E-01	5.327E-01	5.327E-01
Ra-226	2.290E-08	5.474E-01	5.474E-01	5.474E-01	5.474E-01	5.474E-01	5.474E-01	5.474E-01	5.474E-01
Rn-222	1.740E-09	5.303E-01	5.303E-01	5.303E-01	5.303E-01	5.303E-01	5.303E-01	5.303E-01	5.303E-01
Tl-210	0.000E+00	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01

* - Units are 1/yr per (pCi/g) at infinite depth and area. Multiplication by ETFG(i,t) converts to site conditions.

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 0.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	6.681E-03	9.864E+01	3.372E-01	1.643E-01	3.104E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.022E+02
Ra-226	6.681E-03	3.945E+02	1.150E+00	1.408E+00	3.104E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.002E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 0.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	8.996E-09	0.0003	5.987E-09	0.0002	9.927E-06	0.2931	3.416E-08	0.0010	1.659E-08	0.0005	3.114E-07	0.0092
Ra-226	1.764E-05	0.5206	5.434E-09	0.0002	5.844E-06	0.1725	1.704E-08	0.0005	2.086E-08	0.0006	4.596E-08	0.0014
Total	1.764E-05	0.5209	1.142E-08	0.0003	1.577E-05	0.4656	5.120E-08	0.0015	3.745E-08	0.0011	3.574E-07	0.0105

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.030E-05	0.3042
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.357E-05	0.6958
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	3.387E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 0.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	5.898E-09	0.0002	3.925E-09	0.0001	0.000E+00	0.0000	6.489E-06	0.1916	2.218E-08	0.0007	1.081E-08	0.0003	2.041E-07	0.0060
Ra-226	1.764E-05	0.5207	7.496E-09	0.0002	0.000E+00	0.0000	9.282E-06	0.2740	2.902E-08	0.0009	2.664E-08	0.0008	1.532E-07	0.0045
Total	1.764E-05	0.5209	1.142E-08	0.0003	0.000E+00	0.0000	1.577E-05	0.4656	5.120E-08	0.0015	3.745E-08	0.0011	3.574E-07	0.0105

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.736E-06	0.1989
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.714E-05	0.8011
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	3.387E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+00 years

Radio-Nuclide	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total Ingestion*
	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	
Pb-210	6.670E-03	9.881E+01	3.403E-01	1.651E-01	3.098E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.024E+02
Ra-226	6.662E-03	3.935E+02	1.147E+00	1.405E+00	3.095E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.991E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+00 years

Radon Pathway	Radionuclides							
	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground		Inhalation		Plant		Meat		Milk		Soil	
	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	8.978E-09	0.0003	5.975E-09	0.0002	9.909E-06	0.2933	3.413E-08	0.0010	1.656E-08	0.0005	3.107E-07	0.0092
Ra-226	1.759E-05	0.5205	5.419E-09	0.0002	5.827E-06	0.1725	1.699E-08	0.0005	2.080E-08	0.0006	4.584E-08	0.0014
Total	1.760E-05	0.5207	1.139E-08	0.0003	1.574E-05	0.4657	5.112E-08	0.0015	3.736E-08	0.0011	3.566E-07	0.0106

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.029E-05	0.3044
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.350E-05	0.6956
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	3.379E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	5.708E-09	0.0002	3.799E-09	0.0001	0.000E+00	0.0000	6.280E-06	0.1859	2.147E-08	0.0006	1.046E-08	0.0003	1.976E-07	0.0058
Ra-226	1.759E-05	0.5206	7.595E-09	0.0002	0.000E+00	0.0000	9.457E-06	0.2799	2.965E-08	0.0009	2.690E-08	0.0008	1.590E-07	0.0047
Total	1.760E-05	0.5207	1.139E-08	0.0003	0.000E+00	0.0000	1.574E-05	0.4657	5.112E-08	0.0015	3.736E-08	0.0011	3.566E-07	0.0106

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.519E-06	0.1929
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.727E-05	0.8071
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	3.379E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	6.646E-03	9.847E+01	3.391E-01	1.646E-01	3.088E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.021E+02
Ra-226	6.625E-03	3.913E+02	1.141E+00	1.397E+00	3.078E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.969E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	8.940E-09	0.0003	5.950E-09	0.0002	9.868E-06	0.2936	3.398E-08	0.0010	1.649E-08	0.0005	3.094E-07	0.0092
Ra-226	1.749E-05	0.5203	5.389E-09	0.0002	5.795E-06	0.1724	1.690E-08	0.0005	2.069E-08	0.0006	4.558E-08	0.0014
Total	1.750E-05	0.5205	1.134E-08	0.0003	1.566E-05	0.4660	5.088E-08	0.0015	3.718E-08	0.0011	3.550E-07	0.0106

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.024E-05	0.3047
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.337E-05	0.6953
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	3.361E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	5.346E-09	0.0002	3.558E-09	0.0001	0.000E+00	0.0000	5.882E-06	0.1750	2.011E-08	0.0006	9.798E-09	0.0003	1.850E-07	0.0055
Ra-226	1.749E-05	0.5204	7.781E-09	0.0002	0.000E+00	0.0000	9.781E-06	0.2910	3.077E-08	0.0009	2.738E-08	0.0008	1.700E-07	0.0051
Total	1.750E-05	0.5205	1.134E-08	0.0003	0.000E+00	0.0000	1.566E-05	0.4660	5.088E-08	0.0015	3.718E-08	0.0011	3.550E-07	0.0106

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.106E-06	0.1816
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.751E-05	0.8184
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	3.361E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+01 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	6.560E-03	9.718E+01	3.347E-01	1.624E-01	3.048E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.007E+02
Ra-226	6.496E-03	3.837E+02	1.119E+00	1.370E+00	3.018E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.892E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	8.804E-09	0.0003	5.859E-09	0.0002	9.718E-06	0.2944	3.346E-08	0.0010	1.624E-08	0.0005	3.047E-07	0.0092
Ra-226	1.715E-05	0.5196	5.284E-09	0.0002	5.682E-06	0.1722	1.657E-08	0.0005	2.028E-08	0.0006	4.469E-08	0.0014
Total	1.716E-05	0.5198	1.114E-08	0.0003	1.540E-05	0.4666	5.003E-08	0.0015	3.652E-08	0.0011	3.494E-07	0.0106

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.009E-05	0.3056
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.292E-05	0.6944
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	3.300E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	4.251E-09	0.0001	2.829E-09	0.0001	0.000E+00	0.0000	4.677E-06	0.1417	1.599E-08	0.0005	7.791E-09	0.0002	1.471E-07	0.0045
Ra-226	1.715E-05	0.5197	8.314E-09	0.0003	0.000E+00	0.0000	1.072E-05	0.3249	3.404E-08	0.0010	2.873E-08	0.0009	2.023E-07	0.0061
Total	1.716E-05	0.5198	1.114E-08	0.0003	0.000E+00	0.0000	1.540E-05	0.4666	5.003E-08	0.0015	3.652E-08	0.0011	3.494E-07	0.0106

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.855E-06	0.1471
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.815E-05	0.8529
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	3.300E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+01 years

Radio-Nuclide	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total Ingestion*
	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	
Pb-210	6.280E-03	9.304E+01	3.204E-01	1.555E-01	2.918E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.643E+01
Ra-226	6.141E-03	3.627E+02	1.058E+00	1.295E+00	2.853E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.679E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+01 years

Radon Pathway	Radionuclides							
	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground		Inhalation		Plant		Meat		Milk		Soil	
	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	8.393E-09	0.0003	5.586E-09	0.0002	9.263E-06	0.2961	3.190E-08	0.0010	1.548E-08	0.0005	2.905E-07	0.0093
Ra-226	1.621E-05	0.5183	4.995E-09	0.0002	5.372E-06	0.1717	1.566E-08	0.0005	1.918E-08	0.0006	4.225E-08	0.0014
Total	1.622E-05	0.5185	1.058E-08	0.0003	1.464E-05	0.4679	4.756E-08	0.0015	3.466E-08	0.0011	3.327E-07	0.0106

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.615E-06	0.3074
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.167E-05	0.6926
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	3.128E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	2.208E-09	0.0001	1.470E-09	0.0000	0.000E+00	0.0000	2.430E-06	0.0777	8.306E-09	0.0003	4.047E-09	0.0001	7.644E-08	0.0024
Ra-226	1.622E-05	0.5185	9.111E-09	0.0003	0.000E+00	0.0000	1.221E-05	0.3902	3.925E-08	0.0013	3.061E-08	0.0010	2.563E-07	0.0082
Total	1.622E-05	0.5185	1.058E-08	0.0003	0.000E+00	0.0000	1.464E-05	0.4679	4.756E-08	0.0015	3.466E-08	0.0011	3.327E-07	0.0106

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.522E-06	0.0806
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.876E-05	0.9194
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	3.128E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+02 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	5.229E-03	7.746E+01	2.667E-01	1.294E-01	2.429E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.028E+01
Ra-226	5.046E-03	2.980E+02	8.689E-01	1.064E+00	2.344E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.023E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	6.956E-09	0.0003	4.630E-09	0.0002	7.678E-06	0.2979	2.644E-08	0.0010	1.283E-08	0.0005	2.408E-07	0.0093
Ra-226	1.332E-05	0.5169	4.104E-09	0.0002	4.414E-06	0.1713	1.287E-08	0.0005	1.576E-08	0.0006	3.472E-08	0.0013
Total	1.333E-05	0.5171	8.734E-09	0.0003	1.209E-05	0.4692	3.930E-08	0.0015	2.859E-08	0.0011	2.755E-07	0.0107

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.969E-06	0.3092
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.780E-05	0.6908
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	2.577E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	2.231E-10	0.0000	1.485E-10	0.0000	0.000E+00	0.0000	2.455E-07	0.0095	8.393E-10	0.0000	4.089E-10	0.0000	7.723E-09	0.0003
Ra-226	1.333E-05	0.5171	8.585E-09	0.0003	0.000E+00	0.0000	1.185E-05	0.4597	3.846E-08	0.0015	2.818E-08	0.0011	2.678E-07	0.0104
Total	1.333E-05	0.5171	8.734E-09	0.0003	0.000E+00	0.0000	1.209E-05	0.4692	3.930E-08	0.0015	2.859E-08	0.0011	2.755E-07	0.0107

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.548E-07	0.0099
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.551E-05	0.9901
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	2.577E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+02 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	2.988E-03	4.426E+01	1.524E-01	7.397E-02	1.388E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	4.588E+01
Ra-226	2.878E-03	1.700E+02	4.956E-01	6.068E-01	1.337E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.724E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	3.973E-09	0.0003	2.644E-09	0.0002	4.385E-06	0.2982	1.510E-08	0.0010	7.328E-09	0.0005	1.375E-07	0.0094
Ra-226	7.598E-06	0.5167	2.341E-09	0.0002	2.518E-06	0.1712	7.341E-09	0.0005	8.987E-09	0.0006	1.980E-08	0.0013
Total	7.602E-06	0.5169	4.985E-09	0.0003	6.902E-06	0.4694	2.244E-08	0.0015	1.631E-08	0.0011	1.573E-07	0.0107

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.551E-06	0.3095
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.015E-05	0.6905
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	1.471E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	3.194E-13	0.0000	2.126E-13	0.0000	0.000E+00	0.0000	3.514E-10	0.0000	1.201E-12	0.0000	5.853E-13	0.0000	1.105E-11	0.0000
Ra-226	7.602E-06	0.5169	4.985E-09	0.0003	0.000E+00	0.0000	6.902E-06	0.4694	2.244E-08	0.0015	1.631E-08	0.0011	1.573E-07	0.0107
Total	7.602E-06	0.5169	4.985E-09	0.0003	0.000E+00	0.0000	6.902E-06	0.4694	2.244E-08	0.0015	1.631E-08	0.0011	1.573E-07	0.0107

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.647E-10	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.470E-05	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	1.471E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+03 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	4.189E-04	6.205E+00	2.136E-02	1.037E-02	1.946E-01	7.317E+01	1.533E-01	4.738E+00	5.277E-02	4.324E-02	8.459E+01
Ra-226	4.035E-04	2.383E+01	6.948E-02	8.506E-02	1.874E-01	1.041E+02	6.316E-02	6.791E+00	9.368E-02	2.049E-01	1.354E+02

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+03 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	5.569E-10	0.0001	3.706E-10	0.0000	6.147E-07	0.0629	2.116E-09	0.0002	1.027E-09	0.0001	1.928E-08	0.0020
Ra-226	1.065E-06	0.1089	3.282E-10	0.0000	3.529E-07	0.0361	1.029E-09	0.0001	1.260E-09	0.0001	2.776E-09	0.0003
Total	1.066E-06	0.1090	6.988E-10	0.0001	9.676E-07	0.0989	3.145E-09	0.0003	2.287E-09	0.0002	2.205E-08	0.0023

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	5.877E-06	0.6010	1.594E-08	0.0016	4.926E-07	0.0504	5.486E-09	0.0006	4.495E-09	0.0005	7.034E-06	0.7192
Ra-226	1.211E-06	0.1239	9.811E-10	0.0001	1.055E-07	0.0108	1.455E-09	0.0001	3.184E-09	0.0003	2.746E-06	0.2808
Total	7.088E-06	0.7248	1.692E-08	0.0017	5.981E-07	0.0612	6.941E-09	0.0007	7.679E-09	0.0008	9.779E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+03 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	3.543E-23	0.0000	2.358E-23	0.0000	0.000E+00	0.0000	3.897E-20	0.0000	1.332E-22	0.0000	6.492E-23	0.0000	1.226E-21	0.0000
Ra-226	1.066E-06	0.1090	6.988E-10	0.0001	0.000E+00	0.0000	9.676E-07	0.0989	3.145E-09	0.0003	2.287E-09	0.0002	2.205E-08	0.0023
Total	1.066E-06	0.1090	6.988E-10	0.0001	0.000E+00	0.0000	9.676E-07	0.0989	3.145E-09	0.0003	2.287E-09	0.0002	2.205E-08	0.0023

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU1.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	9.987E-20	0.0000	2.709E-22	0.0000	0.000E+00	0.0000	8.367E-21	0.0000	9.297E-23	0.0000	7.630E-23	0.0000	1.491E-19	0.0000
Ra-226	7.088E-06	0.7248	1.692E-08	0.0017	0.000E+00	0.0000	5.981E-07	0.0612	6.941E-09	0.0007	7.679E-09	0.0008	9.779E-06	1.0000
Total	7.088E-06	0.7248	1.692E-08	0.0017	0.000E+00	0.0000	5.981E-07	0.0612	6.941E-09	0.0007	7.679E-09	0.0008	9.779E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Dose Conversion Factor (and Related) Parameter Summary
Dose Library: FGR 12 & FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(1)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(2)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(3)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(4)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(5)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(6)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(7)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(8)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(9)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(10)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(11)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(1)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(2)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Pb-210+D	7.276E-03	5.370E-03	DCF3(1)
D-1	Ra-226+D	1.321E-03	1.320E-03	DCF3(2)
D-34	Food transfer factors:			
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(1,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(1,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(1,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(2,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(2,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(2,3)
D-5	Bioaccumulation factors, fresh water, L/kg:			
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(1,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(1,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(2,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(2,2)

#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 : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

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)	9.431E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	2.000E+00	2.000E+00	---	THICK0
R011	Fraction of contamination that is submerged	0.000E+00	0.000E+00	---	SUBMFRACT
R011	Length parallel to aquifer flow (m)	1.000E+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): Pb-210	1.000E-02	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Ra-226	1.000E-02	0.000E+00	---	S1(2)
R012	Concentration in groundwater (pCi/L): Pb-210	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L): Ra-226	not used	0.000E+00	---	W1(2)
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)	1.500E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	1.000E-03	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	4.000E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity	2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	5.300E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)	2.000E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	5.000E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	1.000E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	2.000E-01	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	2.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	1.000E+06	1.000E+06	---	WAREA
R013	Accuracy for water/soil computations	1.000E-03	1.000E-03	---	EPS
R014	Density of saturated zone (g/cm**3)	1.500E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.000E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	2.000E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	1.000E+02	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	2.000E-02	2.000E-02	---	HGWT
R014	Saturated zone b parameter	5.300E+00	5.300E+00	---	BSZ
R014	Water table drop rate (m/yr)	1.000E-03	1.000E-03	---	VWT
R014	Well pump intake depth (m below water table)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	ND	ND	---	MODEL

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R014	Well pumping rate (m**3/yr)	2.500E+02	2.500E+02	---	UW
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	4.000E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.500E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	4.000E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.000E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	5.300E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.663E-03	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.374E-03	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	1.000E-04	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	7.000E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	5.000E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	2.500E-01	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	1.600E+02	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	1.400E+01	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	9.200E+01	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+01	6.300E+01	---	DIET(4)
R018	Fish consumption (kg/yr)	5.400E+00	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)	3.650E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	5.100E+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	5.000E-01	5.000E-01	---	FR9
R018	Contamination fraction of plant food	-1	-1	0.472E+00	FPLANT
R018	Contamination fraction of meat	-1	-1	0.472E-01	FMEAT
R018	Contamination fraction of milk	-1	-1	0.472E-01	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	5.500E+01	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	1.600E+02	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	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)	7.000E-01	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)	1.700E-01	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	2.500E-01	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	1.000E-01	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	1.000E+00	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	1.000E+00	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	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	2.500E-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	2.000E+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
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	32	---	---	NPTS

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
TITL	Maximum number of integration points for dose	17	---	---	LYMAX
TITL	Maximum number of integration points for risk	257	---	---	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	suppressed

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Contaminated Zone Dimensions	
Area:	943.10 square meters
Thickness:	2.00 meters
Cover Depth:	0.00 meters

Initial Soil Concentrations, pCi/g	
Pb-210	1.000E-02
Ra-226	1.000E-02

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):	1.659E-01	1.656E-01	1.648E-01	1.620E-01	1.538E-01	1.270E-01	7.250E-02	7.017E-02
M(t):	6.637E-03	6.623E-03	6.591E-03	6.478E-03	6.153E-03	5.081E-03	2.900E-03	2.807E-03

Maximum TDOSE(t): 1.659E-01 mrem/yr at t = 0.000E+00 years

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 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.
Pb-210	3.278E-05	0.0002	1.143E-05	0.0001	0.000E+00	0.0000	5.874E-02	0.3540	2.008E-04	0.0012	9.785E-05	0.0006	1.848E-03	0.0111
Ra-226	5.996E-02	0.3613	4.478E-06	0.0000	0.000E+00	0.0000	4.438E-02	0.2675	1.312E-04	0.0008	1.566E-04	0.0009	3.694E-04	0.0022
Total	5.999E-02	0.3615	1.591E-05	0.0001	0.000E+00	0.0000	1.031E-01	0.6215	3.321E-04	0.0020	2.545E-04	0.0015	2.218E-03	0.0134

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.094E-02	0.3672
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.050E-01	0.6328
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	1.659E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	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.
Pb-210	3.173E-05	0.0002	1.106E-05	0.0001	0.000E+00	0.0000	5.685E-02	0.3434	1.944E-04	0.0012	9.470E-05	0.0006	1.789E-03	0.0108
Ra-226	5.979E-02	0.3611	4.814E-06	0.0000	0.000E+00	0.0000	4.608E-02	0.2783	1.373E-04	0.0008	1.593E-04	0.0010	4.248E-04	0.0026
Total	5.982E-02	0.3613	1.588E-05	0.0001	0.000E+00	0.0000	1.029E-01	0.6217	3.317E-04	0.0020	2.540E-04	0.0015	2.213E-03	0.0134

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.897E-02	0.3562
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.066E-01	0.6438
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	1.656E-01	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.
Pb-210	2.972E-05	0.0002	1.036E-05	0.0001	0.000E+00	0.0000	5.325E-02	0.3232	1.820E-04	0.0011	8.870E-05	0.0005	1.675E-03	0.0102
Ra-226	5.946E-02	0.3609	5.451E-06	0.0000	0.000E+00	0.0000	4.923E-02	0.2988	1.482E-04	0.0009	1.641E-04	0.0010	5.297E-04	0.0032
Total	5.949E-02	0.3610	1.581E-05	0.0001	0.000E+00	0.0000	1.025E-01	0.6220	3.303E-04	0.0020	2.528E-04	0.0015	2.205E-03	0.0134

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.523E-02	0.3352
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.095E-01	0.6648
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	1.648E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+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.
Pb-210	2.363E-05	0.0001	8.239E-06	0.0001	0.000E+00	0.0000	4.234E-02	0.2614	1.448E-04	0.0009	7.053E-05	0.0004	1.332E-03	0.0082
Ra-226	5.831E-02	0.3600	7.339E-06	0.0000	0.000E+00	0.0000	5.852E-02	0.3614	1.804E-04	0.0011	1.780E-04	0.0011	8.419E-04	0.0052
Total	5.833E-02	0.3602	1.558E-05	0.0001	0.000E+00	0.0000	1.009E-01	0.6228	3.251E-04	0.0020	2.485E-04	0.0015	2.174E-03	0.0134

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.392E-02	0.2712
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.180E-01	0.7288
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	1.620E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 3.000E+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.
Pb-210	1.227E-05	0.0001	4.280E-06	0.0000	0.000E+00	0.0000	2.200E-02	0.1430	7.520E-05	0.0005	3.664E-05	0.0002	6.920E-04	0.0045
Ra-226	5.513E-02	0.3584	1.058E-05	0.0001	0.000E+00	0.0000	7.405E-02	0.4814	2.345E-04	0.0015	1.994E-04	0.0013	1.385E-03	0.0090
Total	5.515E-02	0.3585	1.486E-05	0.0001	0.000E+00	0.0000	9.605E-02	0.6244	3.097E-04	0.0020	2.361E-04	0.0015	2.077E-03	0.0135

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.282E-02	0.1483
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.310E-01	0.8517
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	1.538E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+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.
Pb-210	1.240E-06	0.0000	4.325E-07	0.0000	0.000E+00	0.0000	2.222E-03	0.0175	7.598E-06	0.0001	3.702E-06	0.0000	6.992E-05	0.0006
Ra-226	4.531E-02	0.3567	1.190E-05	0.0001	0.000E+00	0.0000	7.730E-02	0.6085	2.490E-04	0.0020	1.913E-04	0.0015	1.656E-03	0.0130
Total	4.531E-02	0.3567	1.233E-05	0.0001	0.000E+00	0.0000	7.952E-02	0.6260	2.565E-04	0.0020	1.950E-04	0.0015	1.725E-03	0.0136

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.305E-03	0.0181
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.247E-01	0.9819
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	1.270E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

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

Water 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.
Pb-210	1.775E-09	0.0000	6.190E-10	0.0000	0.000E+00	0.0000	3.181E-06	0.0000	1.088E-08	0.0000	5.299E-09	0.0000	1.001E-07	0.0000
Ra-226	2.585E-02	0.3565	7.041E-06	0.0001	0.000E+00	0.0000	4.540E-02	0.6262	1.465E-04	0.0020	1.113E-04	0.0015	9.857E-04	0.0136
Total	2.585E-02	0.3565	7.042E-06	0.0001	0.000E+00	0.0000	4.541E-02	0.6263	1.465E-04	0.0020	1.113E-04	0.0015	9.858E-04	0.0136

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.300E-06	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.250E-02	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	7.250E-02	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water 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.
Pb-210	1.969E-19	0.0000	6.866E-20	0.0000	0.000E+00	0.0000	3.528E-16	0.0000	1.206E-18	0.0000	5.878E-19	0.0000	1.110E-17	0.0000
Ra-226	3.623E-03	0.0516	9.871E-07	0.0000	0.000E+00	0.0000	6.365E-03	0.0907	2.054E-05	0.0003	1.560E-05	0.0002	1.382E-04	0.0020
Total	3.623E-03	0.0516	9.871E-07	0.0000	0.000E+00	0.0000	6.365E-03	0.0907	2.054E-05	0.0003	1.560E-05	0.0002	1.382E-04	0.0020

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.
Pb-210	1.113E-15	0.0000	2.332E-18	0.0000	0.000E+00	0.0000	8.088E-17	0.0000	8.986E-19	0.0000	7.376E-19	0.0000	1.564E-15	0.0000
Ra-226	5.574E-02	0.7944	9.974E-05	0.0014	0.000E+00	0.0000	4.060E-03	0.0579	4.744E-05	0.0007	5.469E-05	0.0008	7.017E-02	1.0000
Total	5.574E-02	0.7944	9.974E-05	0.0014	0.000E+00	0.0000	4.060E-03	0.0579	4.744E-05	0.0007	5.469E-05	0.0008	7.017E-02	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

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

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pb-210+D	Pb-210+D	1.000E+00	6.094E+00	5.897E+00	5.523E+00	4.392E+00	2.282E+00	2.305E-01	3.300E-04	1.564E-13
Ra-226+D	Ra-226+D	1.000E+00	1.039E+01	1.036E+01	1.030E+01	1.010E+01	9.549E+00	7.846E+00	4.475E+00	1.860E+00
Ra-226+D	Pb-210+D	1.000E+00	1.122E-01	3.009E-01	6.530E-01	1.703E+00	3.553E+00	4.626E+00	2.775E+00	5.157E+00
Ra-226+D	∑DSR(j)		1.050E+01	1.066E+01	1.095E+01	1.180E+01	1.310E+01	1.247E+01	7.250E+00	7.017E+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
Pb-210	4.103E+00	4.239E+00	4.526E+00	5.692E+00	1.096E+01	1.084E+02	7.577E+04	*7.634E+13
Ra-226	2.381E+00	2.345E+00	2.282E+00	2.118E+00	1.908E+00	2.005E+00	3.448E+00	3.563E+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)
Pb-210	1.000E-02	0.000E+00	6.094E+00	4.103E+00	6.094E+00	4.103E+00
Ra-226	1.000E-02	49.40 ± 0.10	1.340E+01	1.866E+00	1.050E+01	2.381E+00

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.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
Pb-210	Pb-210	1.000E+00	6.094E-02	5.897E-02	5.523E-02	4.392E-02	2.282E-02	2.305E-03	3.300E-06	1.564E-15
Pb-210	Ra-226	1.000E+00	1.122E-03	3.009E-03	6.530E-03	1.703E-02	3.553E-02	4.626E-02	2.775E-02	5.157E-02
Pb-210	∑DOSE(j)		6.206E-02	6.198E-02	6.176E-02	6.095E-02	5.834E-02	4.856E-02	2.775E-02	5.157E-02
Ra-226	Ra-226	1.000E+00	1.039E-01	1.036E-01	1.030E-01	1.010E-01	9.549E-02	7.846E-02	4.475E-02	1.860E-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
Pb-210	Pb-210	1.000E+00	1.000E-02	9.678E-03	9.064E-03	7.208E-03	3.744E-03	3.783E-04	5.415E-07	6.006E-17
Pb-210	Ra-226	1.000E+00	0.000E+00	3.054E-04	8.844E-04	2.612E-03	5.656E-03	7.448E-03	4.472E-03	6.270E-04
Pb-210	∑S(j):		1.000E-02	9.983E-03	9.949E-03	9.819E-03	9.401E-03	7.827E-03	4.473E-03	6.270E-04
Ra-226	Ra-226	1.000E+00	1.000E-02	9.972E-03	9.916E-03	9.723E-03	9.192E-03	7.553E-03	4.308E-03	6.039E-04

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

RESCALC.EXE execution time = 0.69 seconds

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Table of Contents

Part III: Intake Quantities and Health Risk Factors

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Cancer Risk Slope Factors Summary Table
Risk Library: FGR 13 Morbidity

Menu	Parameter	Current Value	Base Case*	Parameter Name
Sf-1	Ground external radiation slope factors, 1/yr per (pCi/g):			
Sf-1	Pb-210+D	4.21E-09	1.41E-09	SLPF(1,1)
Sf-1	Ra-226+D	8.49E-06	2.29E-08	SLPF(2,1)
Sf-2	Inhalation, slope factors, 1/(pCi):			
Sf-2	Pb-210+D	3.08E-08	1.58E-08	SLPF(1,2)
Sf-2	Ra-226+D	2.83E-08	2.82E-08	SLPF(2,2)
Sf-3	Food ingestion, slope factors, 1/(pCi):			
Sf-3	Pb-210+D	3.44E-09	1.18E-09	SLPF(1,3)
Sf-3	Ra-226+D	5.15E-10	5.14E-10	SLPF(2,3)
Sf-3	Water ingestion, slope factors, 1/(pCi):			
Sf-3	Pb-210+D	2.66E-09	8.81E-10	SLPF(1,4)
Sf-3	Ra-226+D	3.86E-10	3.85E-10	SLPF(2,4)
Sf-3	Soil ingestion, slope factors, 1/(pCi):			
Sf-3	Pb-210+D	3.44E-09	1.18E-09	SLPF(1,5)
Sf-3	Ra-226+D	5.15E-10	5.14E-10	SLPF(2,5)
Sf-Rn	Radon Inhalation slope factors, 1/(pCi):			
Sf-Rn	Rn-222	1.80E-12	1.80E-12	SLPFRN(1,1)
Sf-Rn	Po-218	3.70E-12	3.70E-12	SLPFRN(1,2)
Sf-Rn	Pb-214	6.20E-12	6.20E-12	SLPFRN(1,3)
Sf-Rn	Bi-214	1.50E-11	1.50E-11	SLPFRN(1,4)
Sf-Rn	Radon K factors, (mrem/WLM):			
Sf-Rn	Rn-222 Indoor	7.60E+02	7.60E+02	KFACTR(1,1)
Sf-Rn	Rn-222 Outdoor	5.70E+02	5.70E+02	KFACTR(1,2)

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

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Risk Slope and Environmental Transport Factors for the Ground Pathway

Nuclide (i)	Slope(i)* t=	ETFG(i,t) At Time in Years (dimensionless) 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
At-218	3.570E-09	5.510E-01	5.510E-01	5.510E-01	5.510E-01	5.510E-01	5.510E-01	5.510E-01	5.510E-01
Bi-210	2.760E-09	5.399E-01	5.399E-01	5.399E-01	5.399E-01	5.399E-01	5.399E-01	5.399E-01	5.399E-01
Bi-214	7.480E-06	5.364E-01	5.364E-01	5.364E-01	5.364E-01	5.364E-01	5.364E-01	5.364E-01	5.364E-01
Pb-210	1.410E-09	5.547E-01	5.547E-01	5.547E-01	5.547E-01	5.547E-01	5.547E-01	5.547E-01	5.547E-01
Pb-214	9.820E-07	5.399E-01	5.399E-01	5.399E-01	5.399E-01	5.399E-01	5.399E-01	5.399E-01	5.399E-01
Po-210	3.950E-11	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-01
Po-214	3.860E-10	5.313E-01	5.313E-01	5.313E-01	5.313E-01	5.313E-01	5.313E-01	5.313E-01	5.313E-01
Po-218	4.260E-11	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-01	5.347E-01
Ra-226	2.290E-08	5.485E-01	5.485E-01	5.485E-01	5.485E-01	5.485E-01	5.485E-01	5.485E-01	5.485E-01
Rn-222	1.740E-09	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01	5.319E-01
Tl-210	0.000E+00	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01

* - Units are 1/yr per (pCi/g) at infinite depth and area. Multiplication by ETFG(i,t) converts to site conditions.

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 0.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	5.009E-04	8.206E+00	2.805E-02	1.367E-02	2.582E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.506E+00
Ra-226	5.009E-04	3.282E+01	9.567E-02	1.171E-01	2.582E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.329E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 0.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	6.683E-10	0.0003	4.490E-10	0.0002	8.258E-07	0.3103	2.842E-09	0.0011	1.380E-09	0.0005	2.590E-08	0.0097
Ra-226	1.311E-06	0.4926	4.075E-10	0.0002	4.861E-07	0.1826	1.417E-09	0.0005	1.735E-09	0.0007	3.824E-09	0.0014
Total	1.312E-06	0.4928	8.564E-10	0.0003	1.312E-06	0.4929	4.259E-09	0.0016	3.115E-09	0.0012	2.973E-08	0.0112

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.570E-07	0.3220
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.804E-06	0.6780
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	2.661E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 0.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	4.381E-10	0.0002	2.943E-10	0.0001	0.000E+00	0.0000	5.398E-07	0.2028	1.845E-09	0.0007	8.991E-10	0.0003	1.698E-08	0.0064
Ra-226	1.311E-06	0.4926	5.621E-10	0.0002	0.000E+00	0.0000	7.721E-07	0.2901	2.414E-09	0.0009	2.216E-09	0.0008	1.274E-08	0.0048
Total	1.312E-06	0.4928	8.564E-10	0.0003	0.000E+00	0.0000	1.312E-06	0.4929	4.259E-09	0.0016	3.115E-09	0.0012	2.973E-08	0.0112

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.602E-07	0.2105
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.101E-06	0.7895
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	2.661E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	5.001E-04	8.219E+00	2.831E-02	1.374E-02	2.577E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.519E+00
Ra-226	4.995E-04	3.273E+01	9.543E-02	1.168E-01	2.574E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.320E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	6.669E-10	0.0003	4.480E-10	0.0002	8.243E-07	0.3105	2.839E-09	0.0011	1.378E-09	0.0005	2.585E-08	0.0097
Ra-226	1.307E-06	0.4924	4.063E-10	0.0002	4.848E-07	0.1826	1.413E-09	0.0005	1.730E-09	0.0007	3.813E-09	0.0014
Total	1.308E-06	0.4926	8.543E-10	0.0003	1.309E-06	0.4931	4.252E-09	0.0016	3.108E-09	0.0012	2.966E-08	0.0112

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-Nuclide	Water risk	Water fract.	Fish risk	Fish fract.	Plant risk	Plant fract.	Meat risk	Meat fract.	Milk risk	Milk fract.	All Pathways** risk	All Pathways** fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.555E-07	0.3222
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.799E-06	0.6778
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	2.655E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+00 years

Radon Pathway	Radionuclides Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground risk	Ground fract.	Inhalation risk	Inhalation fract.	Radon risk	Radon fract.	Plant risk	Plant fract.	Meat risk	Meat fract.	Milk risk	Milk fract.	Soil risk	Soil fract.
Pb-210	4.240E-10	0.0002	2.848E-10	0.0001	0.000E+00	0.0000	5.224E-07	0.1968	1.786E-09	0.0007	8.702E-10	0.0003	1.643E-08	0.0062
Ra-226	1.308E-06	0.4925	5.695E-10	0.0002	0.000E+00	0.0000	7.867E-07	0.2963	2.466E-09	0.0009	2.238E-09	0.0008	1.323E-08	0.0050
Total	1.308E-06	0.4926	8.543E-10	0.0003	0.000E+00	0.0000	1.309E-06	0.4931	4.252E-09	0.0016	3.108E-09	0.0012	2.966E-08	0.0112

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.422E-07	0.2042
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.113E-06	0.7958
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	2.655E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	4.984E-04	8.191E+00	2.821E-02	1.369E-02	2.568E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.490E+00
Ra-226	4.967E-04	3.255E+01	9.490E-02	1.162E-01	2.560E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.302E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	6.641E-10	0.0003	4.461E-10	0.0002	8.209E-07	0.3108	2.827E-09	0.0011	1.372E-09	0.0005	2.574E-08	0.0097
Ra-226	1.300E-06	0.4922	4.040E-10	0.0002	4.820E-07	0.1825	1.405E-09	0.0005	1.721E-09	0.0007	3.792E-09	0.0014
Total	1.301E-06	0.4924	8.502E-10	0.0003	1.303E-06	0.4933	4.232E-09	0.0016	3.093E-09	0.0012	2.953E-08	0.0112

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.519E-07	0.3225
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.789E-06	0.6775
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	2.641E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	3.971E-10	0.0002	2.668E-10	0.0001	0.000E+00	0.0000	4.893E-07	0.1852	1.673E-09	0.0006	8.150E-10	0.0003	1.539E-08	0.0058
Ra-226	1.300E-06	0.4923	5.834E-10	0.0002	0.000E+00	0.0000	8.136E-07	0.3081	2.560E-09	0.0010	2.278E-09	0.0009	1.414E-08	0.0054
Total	1.301E-06	0.4924	8.502E-10	0.0003	0.000E+00	0.0000	1.303E-06	0.4933	4.232E-09	0.0016	3.093E-09	0.0012	2.953E-08	0.0112

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.078E-07	0.1923
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.133E-06	0.8077
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	2.641E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+01 years

Radio-Nuclide	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total Ingestion*
	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	
Pb-210	4.919E-04	8.084E+00	2.784E-02	1.351E-02	2.535E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.379E+00
Ra-226	4.871E-04	3.191E+01	9.305E-02	1.139E-01	2.510E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.237E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+01 years

Radon Pathway	Radionuclides							
	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground		Inhalation		Plant		Meat		Milk		Soil	
	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	6.540E-10	0.0003	4.394E-10	0.0002	8.084E-07	0.3117	2.784E-09	0.0011	1.351E-09	0.0005	2.535E-08	0.0098
Ra-226	1.275E-06	0.4915	3.962E-10	0.0002	4.727E-07	0.1823	1.378E-09	0.0005	1.687E-09	0.0007	3.718E-09	0.0014
Total	1.275E-06	0.4917	8.355E-10	0.0003	1.281E-06	0.4939	4.162E-09	0.0016	3.038E-09	0.0012	2.907E-08	0.0112

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.389E-07	0.3235
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.754E-06	0.6765
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	2.593E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	3.158E-10	0.0001	2.121E-10	0.0001	0.000E+00	0.0000	3.890E-07	0.1500	1.330E-09	0.0005	6.481E-10	0.0002	1.224E-08	0.0047
Ra-226	1.275E-06	0.4916	6.234E-10	0.0002	0.000E+00	0.0000	8.920E-07	0.3439	2.832E-09	0.0011	2.390E-09	0.0009	1.683E-08	0.0065
Total	1.275E-06	0.4917	8.355E-10	0.0003	0.000E+00	0.0000	1.281E-06	0.4939	4.162E-09	0.0016	3.038E-09	0.0012	2.907E-08	0.0112

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	4.038E-07	0.1557
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.190E-06	0.8443
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	2.593E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+01 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	4.709E-04	7.739E+00	2.665E-02	1.293E-02	2.427E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.022E+00
Ra-226	4.605E-04	3.017E+01	8.797E-02	1.077E-01	2.373E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.061E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	6.235E-10	0.0003	4.188E-10	0.0002	7.706E-07	0.3134	2.653E-09	0.0011	1.288E-09	0.0005	2.416E-08	0.0098
Ra-226	1.205E-06	0.4902	3.746E-10	0.0002	4.469E-07	0.1818	1.303E-09	0.0005	1.595E-09	0.0006	3.515E-09	0.0014
Total	1.206E-06	0.4904	7.934E-10	0.0003	1.217E-06	0.4952	3.956E-09	0.0016	2.883E-09	0.0012	2.768E-08	0.0113

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.997E-07	0.3253
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.659E-06	0.6747
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	2.458E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	1.640E-10	0.0001	1.102E-10	0.0000	0.000E+00	0.0000	2.021E-07	0.0822	6.910E-10	0.0003	3.367E-10	0.0001	6.358E-09	0.0026
Ra-226	1.206E-06	0.4904	6.832E-10	0.0003	0.000E+00	0.0000	1.015E-06	0.4130	3.265E-09	0.0013	2.546E-09	0.0010	2.132E-08	0.0087
Total	1.206E-06	0.4904	7.934E-10	0.0003	0.000E+00	0.0000	1.217E-06	0.4952	3.956E-09	0.0016	2.883E-09	0.0012	2.768E-08	0.0113

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.098E-07	0.0853
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.249E-06	0.9147
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	2.458E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+02 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	3.921E-04	6.443E+00	2.219E-02	1.077E-02	2.021E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.678E+00
Ra-226	3.783E-04	2.479E+01	7.228E-02	8.849E-02	1.950E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.515E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	5.168E-10	0.0003	3.471E-10	0.0002	6.387E-07	0.3153	2.199E-09	0.0011	1.067E-09	0.0005	2.003E-08	0.0099
Ra-226	9.901E-07	0.4888	3.077E-10	0.0002	3.671E-07	0.1812	1.070E-09	0.0005	1.311E-09	0.0006	2.888E-09	0.0014
Total	9.906E-07	0.4890	6.549E-10	0.0003	1.006E-06	0.4965	3.270E-09	0.0016	2.378E-09	0.0012	2.292E-08	0.0113

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.628E-07	0.3272
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.363E-06	0.6728
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	2.026E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	1.658E-11	0.0000	1.114E-11	0.0000	0.000E+00	0.0000	2.042E-08	0.0101	6.982E-11	0.0000	3.402E-11	0.0000	6.425E-10	0.0003
Ra-226	9.906E-07	0.4890	6.437E-10	0.0003	0.000E+00	0.0000	9.854E-07	0.4865	3.200E-09	0.0016	2.344E-09	0.0012	2.227E-08	0.0110
Total	9.906E-07	0.4890	6.549E-10	0.0003	0.000E+00	0.0000	1.006E-06	0.4965	3.270E-09	0.0016	2.378E-09	0.0012	2.292E-08	0.0113

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.119E-08	0.0105
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.004E-06	0.9895
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	2.026E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+02 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	2.241E-04	3.682E+00	1.268E-02	6.153E-03	1.155E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.816E+00
Ra-226	2.158E-04	1.414E+01	4.123E-02	5.048E-02	1.112E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.434E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	2.951E-10	0.0003	1.983E-10	0.0002	3.648E-07	0.3155	1.256E-09	0.0011	6.095E-10	0.0005	1.144E-08	0.0099
Ra-226	5.648E-07	0.4886	1.755E-10	0.0002	2.094E-07	0.1812	6.106E-10	0.0005	7.476E-10	0.0006	1.647E-09	0.0014
Total	5.651E-07	0.4888	3.738E-10	0.0003	5.742E-07	0.4967	1.867E-09	0.0016	1.357E-09	0.0012	1.309E-08	0.0113

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.786E-07	0.3275
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.774E-07	0.6725
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	1.156E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	2.372E-14	0.0000	1.594E-14	0.0000	0.000E+00	0.0000	2.923E-11	0.0000	9.993E-14	0.0000	4.869E-14	0.0000	9.195E-13	0.0000
Ra-226	5.651E-07	0.4888	3.738E-10	0.0003	0.000E+00	0.0000	5.742E-07	0.4967	1.866E-09	0.0016	1.357E-09	0.0012	1.309E-08	0.0113
Total	5.651E-07	0.4888	3.738E-10	0.0003	0.000E+00	0.0000	5.742E-07	0.4967	1.867E-09	0.0016	1.357E-09	0.0012	1.309E-08	0.0113

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.034E-11	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.156E-06	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	1.156E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+03 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	3.141E-05	5.162E-01	1.777E-03	8.626E-04	1.619E-02	6.087E+00	1.275E-02	4.426E-01	4.930E-03	4.039E-03	7.086E+00
Ra-226	3.025E-05	1.982E+00	5.780E-03	7.076E-03	1.559E-02	8.661E+00	5.254E-03	6.344E-01	8.751E-03	1.914E-02	1.134E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+03 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	4.137E-11	0.0001	2.779E-11	0.0000	5.113E-08	0.0631	1.760E-10	0.0002	8.545E-11	0.0001	1.603E-09	0.0020
Ra-226	7.917E-08	0.0977	2.461E-11	0.0000	2.936E-08	0.0362	8.560E-11	0.0001	1.048E-10	0.0001	2.309E-10	0.0003
Total	7.921E-08	0.0977	5.240E-11	0.0001	8.049E-08	0.0993	2.616E-10	0.0003	1.902E-10	0.0002	1.834E-09	0.0023

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	4.889E-07	0.6033	1.326E-09	0.0016	4.602E-08	0.0568	5.125E-10	0.0006	4.199E-10	0.0005	5.902E-07	0.7284
Ra-226	1.008E-07	0.1244	8.161E-11	0.0001	9.856E-09	0.0122	1.359E-10	0.0002	2.974E-10	0.0004	2.201E-07	0.2716
Total	5.897E-07	0.7277	1.407E-09	0.0017	5.587E-08	0.0689	6.485E-10	0.0008	7.173E-10	0.0009	8.103E-07	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+03 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	2.632E-24	0.0000	1.768E-24	0.0000	0.000E+00	0.0000	3.242E-21	0.0000	1.108E-23	0.0000	5.401E-24	0.0000	1.020E-22	0.0000
Ra-226	7.921E-08	0.0977	5.240E-11	0.0001	0.000E+00	0.0000	8.049E-08	0.0993	2.616E-10	0.0003	1.902E-10	0.0002	1.834E-09	0.0023
Total	7.921E-08	0.0977	5.240E-11	0.0001	0.000E+00	0.0000	8.049E-08	0.0993	2.616E-10	0.0003	1.902E-10	0.0002	1.834E-09	0.0023

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU2.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	8.308E-21	0.0000	2.253E-23	0.0000	0.000E+00	0.0000	7.816E-22	0.0000	8.685E-24	0.0000	7.128E-24	0.0000	1.249E-20	0.0000
Ra-226	5.897E-07	0.7277	1.407E-09	0.0017	0.000E+00	0.0000	5.587E-08	0.0689	6.485E-10	0.0008	7.173E-10	0.0009	8.103E-07	1.0000
Total	5.897E-07	0.7277	1.407E-09	0.0017	0.000E+00	0.0000	5.587E-08	0.0689	6.485E-10	0.0008	7.173E-10	0.0009	8.103E-07	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Table of Contents

Part I: Mixture Sums and Single Radionuclide Guidelines

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Dose Conversion Factor (and Related) Parameter Summary
Dose Library: FGR 12 & FGR 11

Menu	Parameter	Current Value#	Base Case*	Parameter Name
A-1	DCF's for external ground radiation, (mrem/yr)/(pCi/g)			
A-1	At-218 (Source: FGR 12)	5.847E-03	5.847E-03	DCF1(1)
A-1	Bi-210 (Source: FGR 12)	3.606E-03	3.606E-03	DCF1(2)
A-1	Bi-214 (Source: FGR 12)	9.808E+00	9.808E+00	DCF1(3)
A-1	Pb-210 (Source: FGR 12)	2.447E-03	2.447E-03	DCF1(4)
A-1	Pb-214 (Source: FGR 12)	1.341E+00	1.341E+00	DCF1(5)
A-1	Po-210 (Source: FGR 12)	5.231E-05	5.231E-05	DCF1(6)
A-1	Po-214 (Source: FGR 12)	5.138E-04	5.138E-04	DCF1(7)
A-1	Po-218 (Source: FGR 12)	5.642E-05	5.642E-05	DCF1(8)
A-1	Ra-226 (Source: FGR 12)	3.176E-02	3.176E-02	DCF1(9)
A-1	Rn-222 (Source: FGR 12)	2.354E-03	2.354E-03	DCF1(10)
A-1	Tl-210 (Source: no data)	0.000E+00	-2.000E+00	DCF1(11)
B-1	Dose conversion factors for inhalation, mrem/pCi:			
B-1	Pb-210+D	2.320E-02	1.360E-02	DCF2(1)
B-1	Ra-226+D	8.594E-03	8.580E-03	DCF2(2)
D-1	Dose conversion factors for ingestion, mrem/pCi:			
D-1	Pb-210+D	7.276E-03	5.370E-03	DCF3(1)
D-1	Ra-226+D	1.321E-03	1.320E-03	DCF3(2)
D-34	Food transfer factors:			
D-34	Pb-210+D , plant/soil concentration ratio, dimensionless	1.000E-02	1.000E-02	RTF(1,1)
D-34	Pb-210+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	8.000E-04	8.000E-04	RTF(1,2)
D-34	Pb-210+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	3.000E-04	3.000E-04	RTF(1,3)
D-34				
D-34	Ra-226+D , plant/soil concentration ratio, dimensionless	4.000E-02	4.000E-02	RTF(2,1)
D-34	Ra-226+D , beef/livestock-intake ratio, (pCi/kg)/(pCi/d)	1.000E-03	1.000E-03	RTF(2,2)
D-34	Ra-226+D , milk/livestock-intake ratio, (pCi/L)/(pCi/d)	1.000E-03	1.000E-03	RTF(2,3)
D-5	Bioaccumulation factors, fresh water, L/kg:			
D-5	Pb-210+D , fish	3.000E+02	3.000E+02	BIOFAC(1,1)
D-5	Pb-210+D , crustacea and mollusks	1.000E+02	1.000E+02	BIOFAC(1,2)
D-5				
D-5	Ra-226+D , fish	5.000E+01	5.000E+01	BIOFAC(2,1)
D-5	Ra-226+D , crustacea and mollusks	2.500E+02	2.500E+02	BIOFAC(2,2)

#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 : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

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)	2.781E+02	1.000E+04	---	AREA
R011	Thickness of contaminated zone (m)	2.000E+00	2.000E+00	---	THICK0
R011	Fraction of contamination that is submerged	0.000E+00	0.000E+00	---	SUBMFRACT
R011	Length parallel to aquifer flow (m)	1.000E+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): Pb-210	8.700E-02	0.000E+00	---	S1(1)
R012	Initial principal radionuclide (pCi/g): Ra-226	8.700E-02	0.000E+00	---	S1(2)
R012	Concentration in groundwater (pCi/L): Pb-210	not used	0.000E+00	---	W1(1)
R012	Concentration in groundwater (pCi/L): Ra-226	not used	0.000E+00	---	W1(2)
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)	1.500E+00	1.500E+00	---	DENSCZ
R013	Contaminated zone erosion rate (m/yr)	1.000E-03	1.000E-03	---	VCZ
R013	Contaminated zone total porosity	4.000E-01	4.000E-01	---	TPCZ
R013	Contaminated zone field capacity	2.000E-01	2.000E-01	---	FCCZ
R013	Contaminated zone hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCCZ
R013	Contaminated zone b parameter	5.300E+00	5.300E+00	---	BCZ
R013	Average annual wind speed (m/sec)	2.000E+00	2.000E+00	---	WIND
R013	Humidity in air (g/m**3)	not used	8.000E+00	---	HUMID
R013	Evapotranspiration coefficient	5.000E-01	5.000E-01	---	EVAPTR
R013	Precipitation (m/yr)	1.000E+00	1.000E+00	---	PRECIP
R013	Irrigation (m/yr)	2.000E-01	2.000E-01	---	RI
R013	Irrigation mode	overhead	overhead	---	IDITCH
R013	Runoff coefficient	2.000E-01	2.000E-01	---	RUNOFF
R013	Watershed area for nearby stream or pond (m**2)	1.000E+06	1.000E+06	---	WAREA
R013	Accuracy for water/soil computations	1.000E-03	1.000E-03	---	EPS
R014	Density of saturated zone (g/cm**3)	1.500E+00	1.500E+00	---	DENSAQ
R014	Saturated zone total porosity	4.000E-01	4.000E-01	---	TPSZ
R014	Saturated zone effective porosity	2.000E-01	2.000E-01	---	EPSZ
R014	Saturated zone field capacity	2.000E-01	2.000E-01	---	FCSZ
R014	Saturated zone hydraulic conductivity (m/yr)	1.000E+02	1.000E+02	---	HCSZ
R014	Saturated zone hydraulic gradient	2.000E-02	2.000E-02	---	HGWT
R014	Saturated zone b parameter	5.300E+00	5.300E+00	---	BSZ
R014	Water table drop rate (m/yr)	1.000E-03	1.000E-03	---	VWT
R014	Well pump intake depth (m below water table)	1.000E+01	1.000E+01	---	DWIBWT
R014	Model: Nondispersion (ND) or Mass-Balance (MB)	ND	ND	---	MODEL

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R014	Well pumping rate (m**3/yr)	2.500E+02	2.500E+02	---	UW
R015	Number of unsaturated zone strata	1	1	---	NS
R015	Unsat. zone 1, thickness (m)	4.000E+00	4.000E+00	---	H(1)
R015	Unsat. zone 1, soil density (g/cm**3)	1.500E+00	1.500E+00	---	DENSUZ(1)
R015	Unsat. zone 1, total porosity	4.000E-01	4.000E-01	---	TPUZ(1)
R015	Unsat. zone 1, effective porosity	2.000E-01	2.000E-01	---	EPUZ(1)
R015	Unsat. zone 1, field capacity	2.000E-01	2.000E-01	---	FCUZ(1)
R015	Unsat. zone 1, soil-specific b parameter	5.300E+00	5.300E+00	---	BUZ(1)
R015	Unsat. zone 1, hydraulic conductivity (m/yr)	1.000E+01	1.000E+01	---	HCUZ(1)
R016	Distribution coefficients for Pb-210				
R016	Contaminated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCC(1)
R016	Unsaturated zone 1 (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCU(1,1)
R016	Saturated zone (cm**3/g)	1.000E+02	1.000E+02	---	DCNUCS(1)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	1.663E-03	ALEACH(1)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(1)
R016	Distribution coefficients for Ra-226				
R016	Contaminated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCC(2)
R016	Unsaturated zone 1 (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCU(2,1)
R016	Saturated zone (cm**3/g)	7.000E+01	7.000E+01	---	DCNUCS(2)
R016	Leach rate (/yr)	0.000E+00	0.000E+00	2.374E-03	ALEACH(2)
R016	Solubility constant	0.000E+00	0.000E+00	not used	SOLUBK(2)
R017	Inhalation rate (m**3/yr)	8.400E+03	8.400E+03	---	INHALR
R017	Mass loading for inhalation (g/m**3)	1.000E-04	1.000E-04	---	MLINH
R017	Exposure duration	3.000E+01	3.000E+01	---	ED
R017	Shielding factor, inhalation	4.000E-01	4.000E-01	---	SHF3
R017	Shielding factor, external gamma	7.000E-01	7.000E-01	---	SHF1
R017	Fraction of time spent indoors	5.000E-01	5.000E-01	---	FIND
R017	Fraction of time spent outdoors (on site)	2.500E-01	2.500E-01	---	FOTD
R017	Shape factor flag, external gamma	1.000E+00	1.000E+00	>0 shows circular AREA.	FS
R017	Radii of shape factor array (used if FS = -1):				
R017	Outer annular radius (m), ring 1:	not used	5.000E+01	---	RAD_SHAPE(1)
R017	Outer annular radius (m), ring 2:	not used	7.071E+01	---	RAD_SHAPE(2)
R017	Outer annular radius (m), ring 3:	not used	0.000E+00	---	RAD_SHAPE(3)
R017	Outer annular radius (m), ring 4:	not used	0.000E+00	---	RAD_SHAPE(4)
R017	Outer annular radius (m), ring 5:	not used	0.000E+00	---	RAD_SHAPE(5)
R017	Outer annular radius (m), ring 6:	not used	0.000E+00	---	RAD_SHAPE(6)
R017	Outer annular radius (m), ring 7:	not used	0.000E+00	---	RAD_SHAPE(7)
R017	Outer annular radius (m), ring 8:	not used	0.000E+00	---	RAD_SHAPE(8)
R017	Outer annular radius (m), ring 9:	not used	0.000E+00	---	RAD_SHAPE(9)
R017	Outer annular radius (m), ring 10:	not used	0.000E+00	---	RAD_SHAPE(10)
R017	Outer annular radius (m), ring 11:	not used	0.000E+00	---	RAD_SHAPE(11)
R017	Outer annular radius (m), ring 12:	not used	0.000E+00	---	RAD_SHAPE(12)

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R017	Fractions of annular areas within AREA:				
R017	Ring 1	not used	1.000E+00	---	FRACA(1)
R017	Ring 2	not used	2.732E-01	---	FRACA(2)
R017	Ring 3	not used	0.000E+00	---	FRACA(3)
R017	Ring 4	not used	0.000E+00	---	FRACA(4)
R017	Ring 5	not used	0.000E+00	---	FRACA(5)
R017	Ring 6	not used	0.000E+00	---	FRACA(6)
R017	Ring 7	not used	0.000E+00	---	FRACA(7)
R017	Ring 8	not used	0.000E+00	---	FRACA(8)
R017	Ring 9	not used	0.000E+00	---	FRACA(9)
R017	Ring 10	not used	0.000E+00	---	FRACA(10)
R017	Ring 11	not used	0.000E+00	---	FRACA(11)
R017	Ring 12	not used	0.000E+00	---	FRACA(12)
R018	Fruits, vegetables and grain consumption (kg/yr)	1.600E+02	1.600E+02	---	DIET(1)
R018	Leafy vegetable consumption (kg/yr)	1.400E+01	1.400E+01	---	DIET(2)
R018	Milk consumption (L/yr)	9.200E+01	9.200E+01	---	DIET(3)
R018	Meat and poultry consumption (kg/yr)	6.300E+01	6.300E+01	---	DIET(4)
R018	Fish consumption (kg/yr)	5.400E+00	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)	3.650E+01	3.650E+01	---	SOIL
R018	Drinking water intake (L/yr)	5.100E+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	5.000E-01	5.000E-01	---	FR9
R018	Contamination fraction of plant food	-1	-1	0.139E+00	FPLANT
R018	Contamination fraction of meat	-1	-1	0.139E-01	FMEAT
R018	Contamination fraction of milk	-1	-1	0.139E-01	FMILK
R019	Livestock fodder intake for meat (kg/day)	6.800E+01	6.800E+01	---	LFI5
R019	Livestock fodder intake for milk (kg/day)	5.500E+01	5.500E+01	---	LFI6
R019	Livestock water intake for meat (L/day)	5.000E+01	5.000E+01	---	LWI5
R019	Livestock water intake for milk (L/day)	1.600E+02	1.600E+02	---	LWI6
R019	Livestock soil intake (kg/day)	5.000E-01	5.000E-01	---	LSI
R019	Mass loading for foliar deposition (g/m**3)	1.000E-04	1.000E-04	---	MLFD
R019	Depth of soil mixing layer (m)	1.500E-01	1.500E-01	---	DM
R019	Depth of roots (m)	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)	7.000E-01	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)	1.700E-01	1.700E-01	---	TE(1)
R19B	Growing Season for Leafy (years)	2.500E-01	2.500E-01	---	TE(2)
R19B	Growing Season for Fodder (years)	8.000E-02	8.000E-02	---	TE(3)

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
R19B	Translocation Factor for Non-Leafy	1.000E-01	1.000E-01	---	TIV(1)
R19B	Translocation Factor for Leafy	1.000E+00	1.000E+00	---	TIV(2)
R19B	Translocation Factor for Fodder	1.000E+00	1.000E+00	---	TIV(3)
R19B	Dry Foliar Interception Fraction for Non-Leafy	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	2.500E-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	2.000E+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
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	32	---	---	NPTS

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Site-Specific Parameter Summary (continued)

Menu	Parameter	User Input	Default	Used by RESRAD (If different from user input)	Parameter Name
TITL	Maximum number of integration points for dose	17	---	---	LYMAX
TITL	Maximum number of integration points for risk	257	---	---	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	suppressed

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Contaminated Zone Dimensions	
Area:	278.10 square meters
Thickness:	2.00 meters
Cover Depth:	0.00 meters

Initial Soil Concentrations, pCi/g	
Pb-210	8.700E-02
Ra-226	8.700E-02

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):	7.687E-01	7.668E-01	7.628E-01	7.490E-01	7.099E-01	5.849E-01	3.338E-01	1.932E-01
M(t):	3.075E-02	3.067E-02	3.051E-02	2.996E-02	2.840E-02	2.340E-02	1.335E-02	7.728E-03

Maximum TDOSE(t): 7.687E-01 mrem/yr at t = 0.000E+00 years

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 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.
Pb-210	2.736E-04	0.0004	8.743E-05	0.0001	0.000E+00	0.0000	1.507E-01	0.1961	5.152E-04	0.0007	2.510E-04	0.0003	4.741E-03	0.0062
Ra-226	4.965E-01	0.6460	3.425E-05	0.0000	0.000E+00	0.0000	1.139E-01	0.1481	3.367E-04	0.0004	4.019E-04	0.0005	9.477E-04	0.0012
Total	4.968E-01	0.6463	1.217E-04	0.0002	0.000E+00	0.0000	2.646E-01	0.3442	8.519E-04	0.0011	6.529E-04	0.0008	5.689E-03	0.0074

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.566E-01	0.2037
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.121E-01	0.7963
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	7.687E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	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.
Pb-210	2.647E-04	0.0003	8.462E-05	0.0001	0.000E+00	0.0000	1.458E-01	0.1902	4.986E-04	0.0007	2.430E-04	0.0003	4.589E-03	0.0060
Ra-226	4.952E-01	0.6458	3.682E-05	0.0000	0.000E+00	0.0000	1.182E-01	0.1542	3.523E-04	0.0005	4.087E-04	0.0005	1.090E-03	0.0014
Total	4.954E-01	0.6461	1.214E-04	0.0002	0.000E+00	0.0000	2.641E-01	0.3444	8.509E-04	0.0011	6.516E-04	0.0008	5.678E-03	0.0074

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.515E-01	0.1976
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.153E-01	0.8024
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	7.668E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

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

Water Independent Pathways (Inhalation excludes radon)

Radio-	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.
Pb-210	2.480E-04	0.0003	7.925E-05	0.0001	0.000E+00	0.0000	1.366E-01	0.1791	4.670E-04	0.0006	2.275E-04	0.0003	4.298E-03	0.0056
Ra-226	4.924E-01	0.6455	4.169E-05	0.0001	0.000E+00	0.0000	1.263E-01	0.1656	3.802E-04	0.0005	4.209E-04	0.0006	1.359E-03	0.0018
Total	4.927E-01	0.6458	1.209E-04	0.0002	0.000E+00	0.0000	2.629E-01	0.3446	8.472E-04	0.0011	6.485E-04	0.0009	5.657E-03	0.0074

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.419E-01	0.1860
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.209E-01	0.8140
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	7.628E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+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.
Pb-210	1.972E-04	0.0003	6.302E-05	0.0001	0.000E+00	0.0000	1.086E-01	0.1450	3.714E-04	0.0005	1.809E-04	0.0002	3.417E-03	0.0046
Ra-226	4.829E-01	0.6447	5.614E-05	0.0001	0.000E+00	0.0000	1.501E-01	0.2005	4.627E-04	0.0006	4.565E-04	0.0006	2.160E-03	0.0029
Total	4.831E-01	0.6450	1.192E-04	0.0002	0.000E+00	0.0000	2.588E-01	0.3455	8.341E-04	0.0011	6.375E-04	0.0009	5.577E-03	0.0074

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.129E-01	0.1507
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.361E-01	0.8493
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	7.490E-01	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.
Pb-210	1.024E-04	0.0001	3.274E-05	0.0000	0.000E+00	0.0000	5.643E-02	0.0795	1.929E-04	0.0003	9.399E-05	0.0001	1.775E-03	0.0025
Ra-226	4.566E-01	0.6431	8.094E-05	0.0001	0.000E+00	0.0000	1.900E-01	0.2676	6.017E-04	0.0008	5.116E-04	0.0007	3.553E-03	0.0050
Total	4.567E-01	0.6433	1.137E-04	0.0002	0.000E+00	0.0000	2.464E-01	0.3471	7.946E-04	0.0011	6.056E-04	0.0009	5.328E-03	0.0075

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.862E-02	0.0826
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.513E-01	0.9174
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	7.099E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+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.
Pb-210	1.035E-05	0.0000	3.308E-06	0.0000	0.000E+00	0.0000	5.701E-03	0.0097	1.949E-05	0.0000	9.497E-06	0.0000	1.794E-04	0.0003
Ra-226	3.752E-01	0.6415	9.099E-05	0.0002	0.000E+00	0.0000	1.983E-01	0.3390	6.387E-04	0.0011	4.907E-04	0.0008	4.247E-03	0.0073
Total	3.752E-01	0.6415	9.430E-05	0.0002	0.000E+00	0.0000	2.040E-01	0.3488	6.581E-04	0.0011	5.002E-04	0.0009	4.427E-03	0.0076

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.924E-03	0.0101
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.790E-01	0.9899
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	5.849E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

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

Water 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.
Pb-210	1.481E-08	0.0000	4.734E-09	0.0000	0.000E+00	0.0000	8.160E-06	0.0000	2.790E-08	0.0000	1.359E-08	0.0000	2.567E-07	0.0000
Ra-226	2.140E-01	0.6413	5.386E-05	0.0002	0.000E+00	0.0000	1.165E-01	0.3490	3.758E-04	0.0011	2.855E-04	0.0009	2.529E-03	0.0076
Total	2.140E-01	0.6413	5.386E-05	0.0002	0.000E+00	0.0000	1.165E-01	0.3490	3.758E-04	0.0011	2.855E-04	0.0009	2.529E-03	0.0076

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.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	8.478E-06	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	3.338E-01	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	3.338E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Dose Contributions TDOSE(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As mrem/yr and Fraction of Total Dose At t = 1.000E+03 years

Water 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.
Pb-210	1.643E-18	0.0000	5.252E-19	0.0000	0.000E+00	0.0000	9.052E-16	0.0000	3.095E-18	0.0000	1.508E-18	0.0000	2.848E-17	0.0000
Ra-226	3.000E-02	0.1553	7.550E-06	0.0000	0.000E+00	0.0000	1.633E-02	0.0845	5.269E-05	0.0003	4.002E-05	0.0002	3.545E-04	0.0018
Total	3.000E-02	0.1553	7.550E-06	0.0000	0.000E+00	0.0000	1.633E-02	0.0845	5.269E-05	0.0003	4.002E-05	0.0002	3.545E-04	0.0018

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.
Pb-210	2.855E-15	0.0000	5.982E-18	0.0000	0.000E+00	0.0000	6.118E-17	0.0000	6.798E-19	0.0000	5.580E-19	0.0000	3.863E-15	0.0000
Ra-226	1.430E-01	0.7402	2.559E-04	0.0013	0.000E+00	0.0000	3.071E-03	0.0159	3.589E-05	0.0002	4.137E-05	0.0002	1.932E-01	1.0000
Total	1.430E-01	0.7402	2.559E-04	0.0013	0.000E+00	0.0000	3.071E-03	0.0159	3.589E-05	0.0002	4.137E-05	0.0002	1.932E-01	1.0000

*Sum of all water independent and dependent pathways.

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

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

Parent (i)	Product (j)	Thread Fraction	DSR(j,t) At Time in Years (mrem/yr)/(pCi/g) 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
Pb-210+D	Pb-210+D	1.000E+00	1.800E+00	1.742E+00	1.631E+00	1.297E+00	6.738E-01	6.809E-02	9.745E-05	4.441E-14
Ra-226+D	Ra-226+D	1.000E+00	7.003E+00	6.983E+00	6.944E+00	6.809E+00	6.437E+00	5.289E+00	3.017E+00	7.681E-01
Ra-226+D	Pb-210+D	1.000E+00	3.313E-02	8.885E-02	1.929E-01	5.031E-01	1.049E+00	1.366E+00	8.195E-01	1.453E+00
Ra-226+D	∑DSR(j)		7.036E+00	7.072E+00	7.137E+00	7.312E+00	7.486E+00	6.655E+00	3.836E+00	2.221E+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
Pb-210	1.389E+01	1.435E+01	1.533E+01	1.927E+01	3.710E+01	3.672E+02	2.565E+05	*7.634E+13
Ra-226	3.553E+00	3.535E+00	3.503E+00	3.419E+00	3.339E+00	3.757E+00	6.517E+00	1.126E+01

*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)
Pb-210	8.700E-02	0.000E+00	1.800E+00	1.389E+01	1.800E+00	1.389E+01
Ra-226	8.700E-02	29.92 ± 0.06	7.486E+00	3.339E+00	7.036E+00	3.553E+00

Summary : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.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
Pb-210	Pb-210	1.000E+00	1.566E-01	1.515E-01	1.419E-01	1.129E-01	5.862E-02	5.924E-03	8.478E-06	3.863E-15
Pb-210	Ra-226	1.000E+00	2.882E-03	7.730E-03	1.678E-02	4.377E-02	9.128E-02	1.189E-01	7.130E-02	1.264E-01
Pb-210	∑DOSE(j)		1.595E-01	1.593E-01	1.587E-01	1.566E-01	1.499E-01	1.248E-01	7.130E-02	1.264E-01
Ra-226	Ra-226	1.000E+00	6.092E-01	6.075E-01	6.041E-01	5.924E-01	5.600E-01	4.601E-01	2.625E-01	6.683E-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
Pb-210	Pb-210	1.000E+00	8.700E-02	8.420E-02	7.886E-02	6.271E-02	3.257E-02	3.291E-03	4.711E-06	5.226E-16
Pb-210	Ra-226	1.000E+00	0.000E+00	2.657E-03	7.694E-03	2.272E-02	4.921E-02	6.480E-02	3.891E-02	5.455E-03
Pb-210	∑S(j):		8.700E-02	8.685E-02	8.655E-02	8.543E-02	8.178E-02	6.809E-02	3.891E-02	5.455E-03
Ra-226	Ra-226	1.000E+00	8.700E-02	8.676E-02	8.627E-02	8.459E-02	7.997E-02	6.571E-02	3.748E-02	5.254E-03

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

RESCALC.EXE execution time = 0.68 seconds

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Table of Contents

Part III: Intake Quantities and Health Risk Factors

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Cancer Risk Slope Factors Summary Table
Risk Library: FGR 13 Morbidity

Menu	Parameter	Current Value	Base Case*	Parameter Name
Sf-1	Ground external radiation slope factors, 1/yr per (pCi/g):			
Sf-1	Pb-210+D	4.21E-09	1.41E-09	SLPF(1,1)
Sf-1	Ra-226+D	8.49E-06	2.29E-08	SLPF(2,1)
Sf-2	Inhalation, slope factors, 1/(pCi):			
Sf-2	Pb-210+D	3.08E-08	1.58E-08	SLPF(1,2)
Sf-2	Ra-226+D	2.83E-08	2.82E-08	SLPF(2,2)
Sf-3	Food ingestion, slope factors, 1/(pCi):			
Sf-3	Pb-210+D	3.44E-09	1.18E-09	SLPF(1,3)
Sf-3	Ra-226+D	5.15E-10	5.14E-10	SLPF(2,3)
Sf-3	Water ingestion, slope factors, 1/(pCi):			
Sf-3	Pb-210+D	2.66E-09	8.81E-10	SLPF(1,4)
Sf-3	Ra-226+D	3.86E-10	3.85E-10	SLPF(2,4)
Sf-3	Soil ingestion, slope factors, 1/(pCi):			
Sf-3	Pb-210+D	3.44E-09	1.18E-09	SLPF(1,5)
Sf-3	Ra-226+D	5.15E-10	5.14E-10	SLPF(2,5)
Sf-Rn	Radon Inhalation slope factors, 1/(pCi):			
Sf-Rn	Rn-222	1.80E-12	1.80E-12	SLPFRN(1,1)
Sf-Rn	Po-218	3.70E-12	3.70E-12	SLPFRN(1,2)
Sf-Rn	Pb-214	6.20E-12	6.20E-12	SLPFRN(1,3)
Sf-Rn	Bi-214	1.50E-11	1.50E-11	SLPFRN(1,4)
Sf-Rn	Radon K factors, (mrem/WLM):			
Sf-Rn	Rn-222 Indoor	7.60E+02	7.60E+02	KFACTR(1,1)
Sf-Rn	Rn-222 Outdoor	5.70E+02	5.70E+02	KFACTR(1,2)

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

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Risk Slope and Environmental Transport Factors for the Ground Pathway

Nuclide (i)	Slope(i)* t=	ETFG(i,t) At Time in Years (dimensionless) 0.000E+00	1.000E+00	3.000E+00	1.000E+01	3.000E+01	1.000E+02	3.000E+02	1.000E+03
At-218	3.570E-09	5.302E-01	5.302E-01	5.302E-01	5.302E-01	5.302E-01	5.302E-01	5.302E-01	5.302E-01
Bi-210	2.760E-09	5.185E-01	5.185E-01	5.185E-01	5.185E-01	5.185E-01	5.185E-01	5.185E-01	5.185E-01
Bi-214	7.480E-06	5.100E-01	5.100E-01	5.100E-01	5.100E-01	5.100E-01	5.100E-01	5.100E-01	5.100E-01
Pb-210	1.410E-09	5.312E-01	5.312E-01	5.312E-01	5.312E-01	5.312E-01	5.312E-01	5.312E-01	5.312E-01
Pb-214	9.820E-07	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01	5.182E-01
Po-210	3.950E-11	5.088E-01	5.088E-01	5.088E-01	5.088E-01	5.088E-01	5.088E-01	5.088E-01	5.088E-01
Po-214	3.860E-10	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01	5.073E-01
Po-218	4.260E-11	5.088E-01	5.088E-01	5.088E-01	5.088E-01	5.088E-01	5.088E-01	5.088E-01	5.088E-01
Ra-226	2.290E-08	5.291E-01	5.291E-01	5.291E-01	5.291E-01	5.291E-01	5.291E-01	5.291E-01	5.291E-01
Rn-222	1.740E-09	5.081E-01	5.081E-01	5.081E-01	5.081E-01	5.081E-01	5.081E-01	5.081E-01	5.081E-01
Tl-210	0.000E+00	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01	6.000E-01

* - Units are 1/yr per (pCi/g) at infinite depth and area. Multiplication by ETFG(i,t) converts to site conditions.

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 0.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	3.831E-03	2.105E+01	7.196E-02	3.506E-02	6.623E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.182E+01
Ra-226	3.831E-03	8.420E+01	2.454E-01	3.005E-01	6.623E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.541E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 0.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	5.578E-09	0.0004	3.434E-09	0.0002	2.119E-06	0.1478	7.291E-09	0.0005	3.540E-09	0.0002	6.645E-08	0.0046
Ra-226	1.086E-05	0.7576	3.116E-09	0.0002	1.247E-06	0.0870	3.636E-09	0.0003	4.452E-09	0.0003	9.809E-09	0.0007
Total	1.086E-05	0.7580	6.550E-09	0.0005	3.366E-06	0.2349	1.093E-08	0.0008	7.991E-09	0.0006	7.626E-08	0.0053

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.205E-06	0.1539
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.212E-05	0.8461
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	1.433E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 0.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	3.657E-09	0.0003	2.251E-09	0.0002	0.000E+00	0.0000	1.385E-06	0.0966	4.734E-09	0.0003	2.307E-09	0.0002	4.357E-08	0.0030
Ra-226	1.086E-05	0.7578	4.299E-09	0.0003	0.000E+00	0.0000	1.981E-06	0.1382	6.193E-09	0.0004	5.685E-09	0.0004	3.270E-08	0.0023
Total	1.086E-05	0.7580	6.550E-09	0.0005	0.000E+00	0.0000	3.366E-06	0.2349	1.093E-08	0.0008	7.991E-09	0.0006	7.626E-08	0.0053

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 0.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.441E-06	0.1006
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.289E-05	0.8994
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	1.433E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	3.825E-03	2.109E+01	7.262E-02	3.524E-02	6.612E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.186E+01
Ra-226	3.821E-03	8.397E+01	2.448E-01	2.997E-01	6.605E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.518E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	5.566E-09	0.0004	3.427E-09	0.0002	2.115E-06	0.1480	7.282E-09	0.0005	3.534E-09	0.0002	6.632E-08	0.0046
Ra-226	1.083E-05	0.7575	3.108E-09	0.0002	1.244E-06	0.0870	3.626E-09	0.0003	4.439E-09	0.0003	9.782E-09	0.0007
Total	1.083E-05	0.7579	6.534E-09	0.0005	3.358E-06	0.2350	1.091E-08	0.0008	7.974E-09	0.0006	7.610E-08	0.0053

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+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-06	0.1540
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.209E-05	0.8460
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	1.429E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	3.539E-09	0.0002	2.179E-09	0.0002	0.000E+00	0.0000	1.340E-06	0.0938	4.582E-09	0.0003	2.232E-09	0.0002	4.216E-08	0.0030
Ra-226	1.083E-05	0.7577	4.356E-09	0.0003	0.000E+00	0.0000	2.018E-06	0.1412	6.327E-09	0.0004	5.741E-09	0.0004	3.394E-08	0.0024
Total	1.083E-05	0.7579	6.534E-09	0.0005	0.000E+00	0.0000	3.358E-06	0.2350	1.091E-08	0.0008	7.974E-09	0.0006	7.610E-08	0.0053

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.395E-06	0.0976
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.290E-05	0.9024
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	1.429E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+00 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	3.812E-03	2.101E+01	7.237E-02	3.512E-02	6.589E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.178E+01
Ra-226	3.799E-03	8.350E+01	2.435E-01	2.981E-01	6.568E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.470E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 3.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	5.543E-09	0.0004	3.412E-09	0.0002	2.106E-06	0.1482	7.252E-09	0.0005	3.519E-09	0.0002	6.604E-08	0.0046
Ra-226	1.076E-05	0.7573	3.090E-09	0.0002	1.237E-06	0.0870	3.606E-09	0.0003	4.414E-09	0.0003	9.727E-09	0.0007
Total	1.077E-05	0.7577	6.503E-09	0.0005	3.343E-06	0.2352	1.086E-08	0.0008	7.934E-09	0.0006	7.576E-08	0.0053

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.192E-06	0.1542
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.202E-05	0.8458
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	1.421E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+00 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	3.315E-09	0.0002	2.041E-09	0.0001	0.000E+00	0.0000	1.255E-06	0.0883	4.291E-09	0.0003	2.091E-09	0.0001	3.949E-08	0.0028
Ra-226	1.077E-05	0.7575	4.462E-09	0.0003	0.000E+00	0.0000	2.087E-06	0.1468	6.566E-09	0.0005	5.843E-09	0.0004	3.628E-08	0.0026
Total	1.077E-05	0.7577	6.503E-09	0.0005	0.000E+00	0.0000	3.343E-06	0.2352	1.086E-08	0.0008	7.934E-09	0.0006	7.576E-08	0.0053

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+00 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.306E-06	0.0919
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.291E-05	0.9081
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	1.421E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+01 years

Radio-Nuclide	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total Ingestion*
	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	
Pb-210	3.762E-03	2.074E+01	7.142E-02	3.466E-02	6.504E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.150E+01
Ra-226	3.725E-03	8.188E+01	2.387E-01	2.923E-01	6.440E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	8.305E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of Radon and its Decay Products as pCi/yr at t= 1.000E+01 years

Radon Pathway	Radionuclides							
	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground		Inhalation		Plant		Meat		Milk		Soil	
	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	5.459E-09	0.0004	3.360E-09	0.0002	2.074E-06	0.1487	7.141E-09	0.0005	3.466E-09	0.0002	6.503E-08	0.0047
Ra-226	1.056E-05	0.7568	3.030E-09	0.0002	1.213E-06	0.0869	3.536E-09	0.0003	4.329E-09	0.0003	9.538E-09	0.0007
Total	1.056E-05	0.7572	6.391E-09	0.0005	3.286E-06	0.2356	1.068E-08	0.0008	7.794E-09	0.0006	7.457E-08	0.0053

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.158E-06	0.1547
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.179E-05	0.8453
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	1.395E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	2.636E-09	0.0002	1.623E-09	0.0001	0.000E+00	0.0000	9.981E-07	0.0716	3.412E-09	0.0002	1.663E-09	0.0001	3.140E-08	0.0023
Ra-226	1.056E-05	0.7570	4.768E-09	0.0003	0.000E+00	0.0000	2.288E-06	0.1641	7.264E-09	0.0005	6.132E-09	0.0004	4.317E-08	0.0031
Total	1.056E-05	0.7572	6.391E-09	0.0005	0.000E+00	0.0000	3.286E-06	0.2356	1.068E-08	0.0008	7.794E-09	0.0006	7.457E-08	0.0053

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.039E-06	0.0745
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.291E-05	0.9255
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	1.395E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+01 years

Radio-Nuclide	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total Ingestion*
	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	
Pb-210	3.602E-03	1.985E+01	6.837E-02	3.318E-02	6.226E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	2.058E+01
Ra-226	3.522E-03	7.741E+01	2.257E-01	2.763E-01	6.088E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	7.852E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of Radon and its Decay Products as pCi/yr at t= 3.000E+01 years

Radon Pathway	Radionuclides							
	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground		Inhalation		Plant		Meat		Milk		Soil	
	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	5.203E-09	0.0004	3.203E-09	0.0002	1.977E-06	0.1497	6.807E-09	0.0005	3.304E-09	0.0003	6.199E-08	0.0047
Ra-226	9.979E-06	0.7559	2.865E-09	0.0002	1.146E-06	0.0868	3.342E-09	0.0003	4.092E-09	0.0003	9.017E-09	0.0007
Total	9.984E-06	0.7563	6.068E-09	0.0005	3.123E-06	0.2366	1.015E-08	0.0008	7.396E-09	0.0006	7.101E-08	0.0054

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	2.057E-06	0.1558
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.114E-05	0.8442
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	1.320E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+01 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	1.369E-09	0.0001	8.429E-10	0.0001	0.000E+00	0.0000	5.185E-07	0.0393	1.773E-09	0.0001	8.637E-10	0.0001	1.631E-08	0.0012
Ra-226	9.983E-06	0.7562	5.225E-09	0.0004	0.000E+00	0.0000	2.605E-06	0.1973	8.377E-09	0.0006	6.532E-09	0.0005	5.470E-08	0.0041
Total	9.984E-06	0.7563	6.068E-09	0.0005	0.000E+00	0.0000	3.123E-06	0.2366	1.015E-08	0.0008	7.396E-09	0.0006	7.101E-08	0.0054

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+01 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.396E-07	0.0409
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.266E-05	0.9591
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	1.320E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+02 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	2.999E-03	1.653E+01	5.691E-02	2.762E-02	5.184E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	1.713E+01
Ra-226	2.894E-03	6.360E+01	1.854E-01	2.270E-01	5.002E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	6.451E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	4.313E-09	0.0004	2.655E-09	0.0002	1.638E-06	0.1508	5.641E-09	0.0005	2.738E-09	0.0003	5.138E-08	0.0047
Ra-226	8.199E-06	0.7548	2.354E-09	0.0002	9.419E-07	0.0867	2.746E-09	0.0003	3.362E-09	0.0003	7.409E-09	0.0007
Total	8.203E-06	0.7552	5.009E-09	0.0005	2.580E-06	0.2376	8.388E-09	0.0008	6.100E-09	0.0006	5.879E-08	0.0054

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.705E-06	0.1570
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.157E-06	0.8430
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	1.086E-05	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	1.383E-10	0.0000	8.517E-11	0.0000	0.000E+00	0.0000	5.239E-08	0.0048	1.791E-10	0.0000	8.727E-11	0.0000	1.648E-09	0.0002
Ra-226	8.203E-06	0.7552	4.924E-09	0.0005	0.000E+00	0.0000	2.528E-06	0.2327	8.208E-09	0.0008	6.013E-09	0.0006	5.714E-08	0.0053
Total	8.203E-06	0.7552	5.009E-09	0.0005	0.000E+00	0.0000	2.580E-06	0.2376	8.388E-09	0.0008	6.100E-09	0.0006	5.879E-08	0.0054

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	5.453E-08	0.0050
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	1.081E-05	0.9950
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	1.086E-05	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 3.000E+02 years

Radio-Nuclide	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total Ingestion*
	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	
Pb-210	1.714E-03	9.446E+00	3.252E-02	1.579E-02	2.962E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	9.791E+00
Ra-226	1.651E-03	3.628E+01	1.058E-01	1.295E-01	2.853E-01	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	3.680E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of Radon and its Decay Products as pCi/yr at t= 3.000E+02 years

Radon Pathway	Radionuclides							
	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-Nuclide	Ground		Inhalation		Plant		Meat		Milk		Soil	
	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	2.463E-09	0.0004	1.516E-09	0.0002	9.357E-07	0.1510	3.222E-09	0.0005	1.564E-09	0.0003	2.935E-08	0.0047
Ra-226	4.677E-06	0.7547	1.343E-09	0.0002	5.373E-07	0.0867	1.567E-09	0.0003	1.918E-09	0.0003	4.226E-09	0.0007
Total	4.679E-06	0.7551	2.859E-09	0.0005	1.473E-06	0.2377	4.788E-09	0.0008	3.482E-09	0.0006	3.357E-08	0.0054

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	9.739E-07	0.1571
Ra-226	0.000E+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-06	0.8429
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	6.197E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 3.000E+02 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	1.980E-13	0.0000	1.219E-13	0.0000	0.000E+00	0.0000	7.498E-11	0.0000	2.564E-13	0.0000	1.249E-13	0.0000	2.359E-12	0.0000
Ra-226	4.679E-06	0.7551	2.859E-09	0.0005	0.000E+00	0.0000	1.473E-06	0.2377	4.788E-09	0.0008	3.482E-09	0.0006	3.357E-08	0.0054
Total	4.679E-06	0.7551	2.859E-09	0.0005	0.000E+00	0.0000	1.473E-06	0.2377	4.788E-09	0.0008	3.482E-09	0.0006	3.357E-08	0.0054

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 3.000E+02 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	7.804E-11	0.0000
Ra-226	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	0.000E+00	0.0000	6.197E-06	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	6.197E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Amount of Intake Quantities QINT(i,p,t) for Individual Radionuclides (i) and Pathways (p)
As pCi/yr at t= 1.000E+03 years

Radio-	Water Independent Pathways (Inhalation w/o radon)					Water Dependent Pathways					Total
Nuclide	Inhalation	Plant	Meat	Milk	Soil	Water	Fish	Plant	Meat	Milk	Ingestion*
Pb-210	2.402E-04	1.324E+00	4.559E-03	2.213E-03	4.153E-02	1.562E+01	3.271E-02	3.348E-01	3.729E-03	3.056E-03	1.736E+01
Ra-226	2.314E-04	5.085E+00	1.483E-02	1.815E-02	4.000E-02	2.222E+01	1.348E-02	4.799E-01	6.620E-03	1.448E-02	2.789E+01

* Sum of all ingestion pathways, i.e. water independent plant, meat, milk, soil
and water-dependent water, fish, plant, meat, milk pathways

Amount of Intake Quantities QINT9(irn,i,t) and QINT9W(irn,i,t) for Inhalation of
Radon and its Decay Products as pCi/yr at t= 1.000E+03 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	3.453E-10	0.0001	2.126E-10	0.0001	1.312E-07	0.0540	4.516E-10	0.0002	2.192E-10	0.0001	4.114E-09	0.0017
Ra-226	6.556E-07	0.2700	1.882E-10	0.0001	7.531E-08	0.0310	2.196E-10	0.0001	2.689E-10	0.0001	5.924E-10	0.0002
Total	6.559E-07	0.2701	4.008E-10	0.0002	2.065E-07	0.0850	6.712E-10	0.0003	4.881E-10	0.0002	4.706E-09	0.0019

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Excess Cancer Risks CNRS(i,p,t) for Individual Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Plant		Meat		Milk		All Pathways**	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	1.254E-06	0.5165	3.401E-09	0.0014	3.481E-08	0.0143	3.877E-10	0.0002	3.177E-10	0.0001	1.430E-06	0.5887
Ra-226	2.585E-07	0.1065	2.094E-10	0.0001	7.456E-09	0.0031	1.028E-10	0.0000	2.250E-10	0.0001	9.987E-07	0.4113
Total	1.513E-06	0.6230	3.610E-09	0.0015	4.227E-08	0.0174	4.906E-10	0.0002	5.427E-10	0.0002	2.428E-06	1.0000

** Sum of water independent ground, inhalation, plant, meat, milk, soil
and water dependent water, fish, plant, meat, milk pathways

Excess Cancer Risks CNRS9(irn,i,t) and CNRS9W(irn,i,t) for Inhalation of
Radon and its Decay Products at t= 1.000E+03 years

Radon	Radionuclides							
Pathway	Rn-222	Po-218	Pb-214	Bi-214	Rn-220	Po-216	Pb-212	Bi-212
Water-ind.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Water-dep.	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00
Total	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00	0.000E+00

Water-ind. == Water-independent Water-dep. == Water-dependent

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Independent Pathways (Inhalation excludes radon)

Radio-	Ground		Inhalation		Radon		Plant		Meat		Milk		Soil	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	2.196E-23	0.0000	1.352E-23	0.0000	0.000E+00	0.0000	8.317E-21	0.0000	2.844E-23	0.0000	1.385E-23	0.0000	2.617E-22	0.0000
Ra-226	6.559E-07	0.2701	4.008E-10	0.0002	0.000E+00	0.0000	2.065E-07	0.0850	6.712E-10	0.0003	4.881E-10	0.0002	4.706E-09	0.0019
Total	6.559E-07	0.2701	4.008E-10	0.0002	0.000E+00	0.0000	2.065E-07	0.0850	6.712E-10	0.0003	4.881E-10	0.0002	4.706E-09	0.0019

Intrisk : RESRAD Default Parameters
File : C:\USERS\TINA.PIQUET\DESKTOP\RESRAD\BGC SU3.RAD

Total Excess Cancer Risk CNRS(i,p,t)*** for Initially Existent Radionuclides (i) and Pathways (p)
and Fraction of Total Risk at t= 1.000E+03 years

Water Dependent Pathways

Radio-	Water		Fish		Radon		Plant		Meat		Milk		All pathways	
Nuclide	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.	risk	fract.
Pb-210	2.131E-20	0.0000	5.781E-23	0.0000	0.000E+00	0.0000	5.913E-22	0.0000	6.570E-24	0.0000	5.392E-24	0.0000	3.063E-20	0.0000
Ra-226	1.513E-06	0.6230	3.610E-09	0.0015	0.000E+00	0.0000	4.227E-08	0.0174	4.906E-10	0.0002	5.427E-10	0.0002	2.428E-06	1.0000
Total	1.513E-06	0.6230	3.610E-09	0.0015	0.000E+00	0.0000	4.227E-08	0.0174	4.906E-10	0.0002	5.427E-10	0.0002	2.428E-06	1.0000

***CNRSI(i,p,t) includes contribution from decay daughter radionuclides