

Attachment 1
Resrad Build Output Report
For Residual Contamination in Room GR

** RESRAD-BUILD Program Output, Version 3.0 02/28/01 08:53 Page: 0- 2 : 3 **
Title : WRAIR Building 40 Rm. GR Concrete
Input File : C:\WINBLD\WRCCGR.INP

íííííííííí Building Information íííííííííí

Building Air Exchange Rate: 8.00E-01 1/hr

Height[m]	Area [m2]	Air Exchanges [m3/hr]

		* * *
		* <=Q01: 3.00E+00
H1: 2.500		* Room 1 * Q10 : 3.00E+00
		* LAMBDA: 8.00E-01 * *
Area 1.500		* * *

Deposition velocity: 1.00E-02 [m/s] Resuspension Rate: 5.00E-07 [1/s]

** RESRAD-BUILD Program Output, Version 3.0 02/28/01 08:53 Page: 0- 3 : 4 **
 Title : WRAIR Building 40 Rm. GR Concrete
 Input File : C:\WINBLD\WRCCGR.INP

íííííííí Source Information íííííííí

Source: 1
 Location:: Room : 1 x: 1.00 y: 1.00 z: 0.00[m]
 Geometry:: Type: Volume Area:5.00E-01 [m2] Direction: z
 Pathway ::
 Direct Ingestion Rate: 0.000E+00 [gm/hr]
 Fraction released to air: 1.000E-01

Containment :: Number of Regions: 1 Contaminated Region: 1
 Region : 1
 Thickness [cm] :3.05E+01
 Density [g/cm3] :2.40E+00
 Material :Concrete
 Erosion Rate [cm/day] :2.40E-08

Contamination::

Nuclide Concentration	Dose Conversion Factors					
	Ingestion	Inhalation	External (Surface)	External (Volume)	Submersion	
[pCi/g]	[mrem/pCi]	[mrem/pCi]	[mrem/yr/ (pCi/m2)]	[mrem/yr/ (pCi/m3)]	[mrem/yr/ (pCi/m3)]	
CS-137	2.200E+01	5.000E-05	3.190E-05	6.490E-05	2.140E-06	3.190E-03
SR-90	6.100E+00	1.530E-04	1.310E-03	6.560E-07	1.540E-08	2.310E-05

** RESRAD-BUILD Program Output, Version 3.0 02/28/01 08:53 Page: 2- 1 : 9 **
Title : WRAIR Building 40 Rm. GR Concrete
Input File : C:\WINBLD\WRCCGR.INPEvaluation Time: 1.00000 years

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iii      Assessment for Time: 2      iii
iii      Time =1.00E+00 yr      iii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii

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iiiiiiii Source Information iiiiiiiii

Source: 1
Location:: Room : 1 x: 1.00 y: 1.00 z: 0.00 [m]
Geometry:: Type: Volume Area:5.00E-01 [m2] Direction: z
Pathway ::
Direct Ingestion Rate :0.000E+00 [gm/hr]
Fraction released to air: 1.000E-01

Containment :: Number of Regions: 1 Contaminated Region: 1
Region : 1
Thickness [cm] :3.05E+01
Fraction Contaminated :1.00E+00
Density [g/cm3] :2.40E+00

Contamination::	Nuclide	Concentration [pCi/g]
	CS-137	2.125E+01
	SR-90	5.886E+00

** RESRAD-BUILD Program Output, Version 3.0 02/28/01 08:53 Page: 2- 2 : 10 **
 Title : WRAIR Building 40 Rm. GR Concrete
 Input File : C:\WINBLD\WRCCGR.INPEvaluation Time: 1.00000 years

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iii              iii
iii             RESRAD-BUILD Dose Tables             iii
iii              iii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii
  
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Source Contributions to Receptor Doses
 ii
 [mrem]

		Source	Total
	1		
Receptor	1	2.2E+00	2.2E+00
Total		2.2E+00	2.2E+00

** RESRAD-BUILD Program Output, Version 3.0 02/28/01 08:53 Page: 3- 1 : 13 **
Title : WRAIR Building 40 Rm. GR Concrete
Input File : C:\WINBLD\WRCCGR.INPEvaluation Time: 10.0000 years

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iii      Assessment for Time: 3      iii
iii      Time =1.00E+01 yr      iii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii

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iiiiiiii Source Information iiiiiiiii

Source: 1
Location:: Room : 1 x: 1.00 y: 1.00 z: 0.00 [m]
Geometry:: Type: Volume Area:5.00E-01 [m2] Direction: z
Pathway ::
Direct Ingestion Rate :0.000E+00 [gm/hr]
Fraction released to air: 1.000E-01

Containment :: Number of Regions: 1 Contaminated Region: 1
Region : 1
Thickness [cm] :3.05E+01
Fraction Contaminated :1.00E+00
Density [g/cm3] :2.40E+00

Contamination::	Nuclide	Concentration [pCi/g]
	CS-137	1.726E+01
	SR-90	4.751E+00

** RESRAD-BUILD Program Output, Version 3.0 02/28/01 08:53 Page: 3- 2 : 14 **
Title : WRAIR Building 40 Rm. GR Concrete
Input File : C:\WINBLD\WRCCGR.INPEvaluation Time: 10.0000 years

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iii                                     iii
iii          RESRAD-BUILD Dose Tables          iii
iii                                     iii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii
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Source Contributions to Receptor Doses
ii
[mrem]

	Source	Total
	1	
Receptor 1	1.8E+00	1.8E+00
Total	1.8E+00	1.8E+00

** RESRAD-BUILD Program Output, Version 3.0 02/28/01 08:53 Page: 4- 1 : 17 **
Title : WRAIR Building 40 Rm. GR Concrete
Input File : C:\WINBLD\WRCCGR.INPEvaluation Time: 100.000 years

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iii      Assessment for Time: 4      iii
iii      Time =1.00E+02 yr      iii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii
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iiiiiiii Source Information iiiiiiiii

Source: 1
Location:: Room : 1 x: 1.00 y: 1.00 z: 0.00 [m]
Geometry:: Type: Volume Area:5.00E-01 [m2] Direction: z
Pathway ::
Direct Ingestion Rate :0.000E+00 [gm/hr]
Fraction released to air: 1.000E-01

Containment :: Number of Regions: 1 Contaminated Region: 1
Region : 1
Thickness [cm] :3.05E+01
Fraction Contaminated :1.00E+00
Density [g/cm3] :2.40E+00

Contamination::	Nuclide	Concentration [pCi/g]
	CS-137	2.158E+00
	SR-90	5.577E-01

** RESRAD-BUILD Program Output, Version 3.0 02/28/01 08:53 Page: 5- 2 : 22 **
Title : WRAIR Building 40 Rm. GR Concrete
Input File : C:\WINBLD\WRCCGR.INPEvaluation Time: 1000.00 years

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iii                                     iii
iii      RESRAD-BUILD Dose Tables      iii
iii                                     iii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii

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Source Contributions to Receptor Doses
ii
[mrem]

	Source	Total
	1	
Receptor 1	2.0E-10	2.0E-10
Total	2.0E-10	2.0E-10

** RESRAD-BUILD Program Output, Version 3.0 02/28/01 08:53 Page: 6- 1 : 25 **
Title : WRAIR Building 40 Rm. GR Concrete
Input File : C:\WINBLD\WRCCGR.INPEvaluation Time: 10000.0 years

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iii      Assessment for Time: 6      iii
iii      Time =1.00E+04 yr          iii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii

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iiiiiiii Source Information iiiiiiiii

Source: 1
Location:: Room : 1 x: 1.00 y: 1.00 z: 0.00 [m]
Geometry:: Type: Volume Area:5.00E-01 [m2] Direction: z
Pathway ::
Direct Ingestion Rate :0.000E+00 [gm/hr]
Fraction released to air: 1.000E-01

Containment :: Number of Regions: 1 Contaminated Region: 1
Region : 1
Thickness [cm] :3.04E+01
Fraction Contaminated :1.00E+00
Density [g/cm3] :2.40E+00

Contamination::	Nuclide	Concentration [pCi/g]
	CS-137	0.000E+00
	SR-90	0.000E+00

** RESRAD-BUILD Program Output, Version 3.0 02/28/01 08:53 Page: 6- 2 : 26 **
Title : WRAIR Building 40 Rm. GR Concrete
Input File : C:\WINBLD\WRCCGR.INPEvaluation Time: 10000.0 years

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iii          RESRAD-BUILD Dose Tables          iii
iii          iii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii
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Source Contributions to Receptor Doses
ii
[mrem]

	Source	Total
	1	
Receptor 1	0.0E+00	0.0E+00
Total	0.0E+00	0.0E+00

** RESRAD-BUILD Program Output, Version 3.0 02/28/01 08:53 Page: F- 1 : 33 **
Title : WRAIR Building 40 Rm. GR Concrete
Input File : C:\WINBLD\WRCCGR.INP

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iii            iii
iii      RESRAD-BUILD Dose (Time) Tables      iii
iii            iii
iiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii
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Receptor Doses Received for the Exposure Duration
ii
(mrem)

	Evaluation Time [yr]						
	0.00E+00	1.00E+00	1.00E+01	1.00E+02	1.00E+03	1.00E+04	1.00E+05
1	2.22E+00	2.17E+00	1.76E+00	2.20E-01	2.05E-10	0.00E+00	0.00E+00

Receptor Dose/Yr Averaged Over Exposure Duration
ii
(mrem/yr)

	Evaluation Time [yr]						
	0.00E+00	1.00E+00	1.00E+01	1.00E+02	1.00E+03	1.00E+04	1.00E+05
1	2.22E+00	2.17E+00	1.76E+00	2.20E-01	2.05E-10	0.00E+00	0.00E+00