

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

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RESRAD-BUILD Input Parameters
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Number of Sources : 6
Number of Receptors: 1
Total Time : 3.652500E+02 days
Fraction Inside : 2.700000E-01
    
```

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===== Receptor Information =====
    
```

Receptor	Room	x [m]	y [m]	z [m]	FracTime	Inhalation [m3/day]	Ingestion(Dust) [m2/hr]
1	1	1.200	1.400	1.000	1.000	3.36E+01	1.10E-04

```

===== Receptor-Source Shielding Relationship =====
    
```

Receptor	Source	Density [g/cm3]	Thickness [cm]	Material
1	1	2.40E+00	0.00E+00	Concrete
1	2	2.40E+00	0.00E+00	Concrete
1	3	2.40E+00	0.00E+00	Concrete
1	4	2.40E+00	0.00E+00	Concrete
1	5	2.40E+00	0.00E+00	Concrete
1	6	2.40E+00	0.00E+00	Concrete

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==== Building Information ====

Building Air Exchange Rate: 8.30E-01 1/hr

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

		* * *
		* * *
		* * *
		<=Q01: 1.33E+01
H1: 2.400		* Room 1 * Q10 : 1.33E+01
		* LAMBDA: 8.30E-01 *
Area 6.700		* * *
		* * *

Deposition velocity: 8.07E-05 [m/s] Resuspension Rate: 5.73E-08 [1/s]

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Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

==== Source Information =====

Source: 1

Location:: Room : 1 x: 1.20 y: 1.40 z: 0.00[m]
 Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
 Pathway ::
 Direct Ingestion Rate: 2.940E-06 [1/hr]
 Fraction released to air: 7.000E-02
 Removable fraction: 1.000E-01
 Time to Remove: 1.792E+04 [day]

 Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

	[dpm/m2]	Ingestion [mrem/dpm]	Inhalation [mrem/dpm]	Submersion [mrem/yr/ (dpm/m3)]
TH-232	1.000E+02	1.230E-03	7.387E-01	4.588E-07
TH-228	1.000E+02	3.642E-04	1.556E-01	4.224E-03
RA-228	1.000E+02	6.496E-04	2.287E-03	2.515E-03

Source: 2

Location:: Room : 1 x: 1.20 y: 1.40 z: 2.40[m]
 Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
 Pathway ::
 Direct Ingestion Rate: 2.940E-06 [1/hr]
 Fraction released to air: 7.000E-02
 Removable fraction: 1.000E-01
 Time to Remove: 1.792E+04 [day]

 Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

	[dpm/m2]	Ingestion [mrem/dpm]	Inhalation [mrem/dpm]	Submersion [mrem/yr/ (dpm/m3)]
TH-232	1.000E+02	1.230E-03	7.387E-01	4.588E-07
TH-228	1.000E+02	3.642E-04	1.556E-01	4.224E-03
RA-228	1.000E+02	6.496E-04	2.287E-03	2.515E-03

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Source: 3

Location:: Room : 1 x: 0.00 y: 1.40 z: 1.20[m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

		Ingestion	Inhalation	Submersion
	[dpm/m2]	[mrem/dpm]	[mrem/dpm]	[mrem/yr/ (dpm/m3)]
TH-232	1.000E+02	1.230E-03	7.387E-01	4.588E-07
TH-228	1.000E+02	3.642E-04	1.556E-01	4.224E-03
RA-228	1.000E+02	6.496E-04	2.287E-03	2.515E-03

Source: 4

Location:: Room : 1 x: 1.20 y: 2.70 z: 1.20[m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

		Ingestion	Inhalation	Submersion
	[dpm/m2]	[mrem/dpm]	[mrem/dpm]	[mrem/yr/ (dpm/m3)]
TH-232	1.000E+02	1.230E-03	7.387E-01	4.588E-07
TH-228	1.000E+02	3.642E-04	1.556E-01	4.224E-03
RA-228	1.000E+02	6.496E-04	2.287E-03	2.515E-03

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Source: 5

Location:: Room : 1 x: 2.40 y: 1.40 z: 1.20[m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

		Ingestion	Inhalation	Submersion
	[dpm/m2]	[mrem/dpm]	[mrem/dpm]	[mrem/yr/ (dpm/m3)]
TH-232	1.000E+02	1.230E-03	7.387E-01	4.588E-07
TH-228	1.000E+02	3.642E-04	1.556E-01	4.224E-03
RA-228	1.000E+02	6.496E-04	2.287E-03	2.515E-03

Source: 6

Location:: Room : 1 x: 1.20 y: 0.00 z: 1.20[m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Radon Release Fraction: 0.000E+00

Contamination::

Nuclide Concentration Dose Conversion Factor (Library: FGR 11)

		Ingestion	Inhalation	Submersion
	[dpm/m2]	[mrem/dpm]	[mrem/dpm]	[mrem/yr/ (dpm/m3)]
TH-232	1.000E+02	1.230E-03	7.387E-01	4.588E-07
TH-228	1.000E+02	3.642E-04	1.556E-01	4.224E-03
RA-228	1.000E+02	6.496E-04	2.287E-03	2.515E-03

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 0.0000000E+00 years

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=====
Assessment for Time: 1
Time =0.00E+00 yr
=====
=====
```

===== Source Information =====

Source: 1

Location:: Room : 1 x: 1.20 y: 1.40 z: 0.00 [m]
Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 2.940E-06 [1/hr]
Fraction released to air: 7.000E-02
Removable fraction: 1.000E-01
Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	1.000E+02
	TH-228	1.000E+02
	RA-228	1.000E+02

Source: 2

Location:: Room : 1 x: 1.20 y: 1.40 z: 2.40 [m]
Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 2.940E-06 [1/hr]
Fraction released to air: 7.000E-02
Removable fraction: 1.000E-01
Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	1.000E+02
	TH-228	1.000E+02
	RA-228	1.000E+02

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 0.0000000E+00 years

Source: 3

Location:: Room : 1 x: 0.00 y: 1.40 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	1.000E+02
	TH-228	1.000E+02
	RA-228	1.000E+02

Source: 4

Location:: Room : 1 x: 1.20 y: 2.70 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	1.000E+02
	TH-228	1.000E+02
	RA-228	1.000E+02

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Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 0.0000000E+00 years

Source: 5

Location:: Room : 1 x: 2.40 y: 1.40 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	1.000E+02
	TH-228	1.000E+02
	RA-228	1.000E+02

Source: 6

Location:: Room : 1 x: 1.20 y: 0.00 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 1.000E-01

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	1.000E+02
	TH-228	1.000E+02
	RA-228	1.000E+02

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 0.0000000E+00 years

RESRAD-BUILD Dose Tables

Source Contributions to Receptor Doses

[mrem]

	Source	Source	Source	Source	Source	Source	Total
	1	2	3	4	5	6	
Receptor 1	3.69E-03	3.56E-03	3.61E-03	3.19E-03	3.61E-03	3.17E-03	2.08E-02
Total	3.69E-03	3.56E-03	3.61E-03	3.19E-03	3.61E-03	3.17E-03	2.08E-02

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 0.0000000E+00 years

Pathway Detail of Doses

[mrem]

Source: 1

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	3.45E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	1.00E-03
Total	3.45E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	1.00E-03

Source: 2

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.22E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	1.00E-03
Total	2.22E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	1.00E-03

Source: 3

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.73E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	1.00E-03
Total	2.73E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	1.00E-03

Source: 4

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.26E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	8.91E-04
Total	2.26E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	8.91E-04

Source: 5

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.73E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	1.00E-03
Total	2.73E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	1.00E-03

Source: 6

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.03E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	8.91E-04
Total	2.03E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	8.91E-04

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 0.0000000E+00 years

Nuclide Detail of Doses

[mrem]

Source: 1

Nuclide	Receptor	Total
	1	
TH-232	2.48E-03	2.48E-03
RA-228		
TH-228	4.96E-06	4.96E-06
TH-228		
TH-228	6.42E-04	6.42E-04
RA-228		
TH-228	1.19E-04	1.19E-04

Source: 2

Nuclide	Receptor	Total
	1	
TH-232	2.48E-03	2.48E-03
RA-228		
TH-228	4.48E-06	4.48E-06
TH-228		
TH-228	5.81E-04	5.81E-04
RA-228		
TH-228	1.07E-04	1.07E-04

Source: 3

Nuclide	Receptor	Total
	1	
TH-232	2.48E-03	2.48E-03
RA-228		
TH-228	4.68E-06	4.68E-06
TH-228		
TH-228	6.06E-04	6.06E-04
RA-228		
TH-228	1.12E-04	1.12E-04

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 0.0000000E+00 years

Source: 4

Nuclide	Receptor	Total
	1	
TH-232	2.21E-03	2.21E-03
RA-228		
TH-228	4.09E-06	4.09E-06
TH-228		
TH-228	5.30E-04	5.30E-04
RA-228		
TH-228	9.79E-05	9.79E-05

Source: 5

Nuclide	Receptor	Total
	1	
TH-232	2.48E-03	2.48E-03
RA-228		
TH-228	4.68E-06	4.68E-06
TH-228		
TH-228	6.06E-04	6.06E-04
RA-228		
TH-228	1.12E-04	1.12E-04

Source: 6

Nuclide	Receptor	Total
	1	
TH-232	2.21E-03	2.21E-03
RA-228		
TH-228	4.01E-06	4.01E-06
TH-228		
TH-228	5.19E-04	5.19E-04
RA-228		
TH-228	9.58E-05	9.58E-05

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 1.00000000 years

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=====
Assessment for Time: 2
Time =1.00E+00 yr
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===== Source Information =====

Source: 1

Location:: Room : 1 x: 1.20 y: 1.40 z: 0.00 [m]
Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 2.940E-06 [1/hr]
Fraction released to air: 7.000E-02
Removable fraction: 9.816E-02
Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.980E+01
	TH-228	9.980E+01
	RA-228	9.980E+01

Source: 2

Location:: Room : 1 x: 1.20 y: 1.40 z: 2.40 [m]
Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 2.940E-06 [1/hr]
Fraction released to air: 7.000E-02
Removable fraction: 9.816E-02
Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.980E+01
	TH-228	9.980E+01
	RA-228	9.980E+01

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 1.00000000 years

Source: 3

Location:: Room : 1 x: 0.00 y: 1.40 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 9.816E-02

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.980E+01
	TH-228	9.980E+01
	RA-228	9.980E+01

Source: 4

Location:: Room : 1 x: 1.20 y: 2.70 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 9.816E-02

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.980E+01
	TH-228	9.980E+01
	RA-228	9.980E+01

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 1.00000000 years

Source: 5

Location:: Room : 1 x: 2.40 y: 1.40 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 9.816E-02

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.980E+01
	TH-228	9.980E+01
	RA-228	9.980E+01

Source: 6

Location:: Room : 1 x: 1.20 y: 0.00 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 9.816E-02

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.980E+01
	TH-228	9.980E+01
	RA-228	9.980E+01

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 1.00000000 years

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RESRAD-BUILD Dose Tables

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Source Contributions to Receptor Doses

[mrem]

	Source	Source	Source	Source	Source	Source	Total
	1	2	3	4	5	6	
Receptor 1	3.66E-03	3.54E-03	3.59E-03	3.18E-03	3.59E-03	3.15E-03	2.07E-02
Total	3.66E-03	3.54E-03	3.59E-03	3.18E-03	3.59E-03	3.15E-03	2.07E-02

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 1.00000000 years

Pathway Detail of Doses

[mrem]

Source: 1

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	3.44E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	9.81E-04
Total	3.44E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	9.81E-04

Source: 2

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.22E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	9.81E-04
Total	2.22E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	9.81E-04

Source: 3

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.72E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	9.81E-04
Total	2.72E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	9.81E-04

Source: 4

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.25E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	8.72E-04
Total	2.25E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	8.72E-04

Source: 5

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.72E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	9.81E-04
Total	2.72E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	9.81E-04

Source: 6

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.02E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	8.72E-04
Total	2.02E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	8.72E-04

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 1.00000000 years

Nuclide Detail of Doses

[mrem]

Source: 1

Nuclide	Receptor	Total
	1	
TH-232	2.47E-03	2.47E-03
RA-228		
TH-228	3.03E-05	3.03E-05
TH-228		
TH-228	4.44E-04	4.44E-04
RA-228		
TH-228	2.87E-04	2.87E-04

Source: 2

Nuclide	Receptor	Total
	1	
TH-232	2.47E-03	2.47E-03
RA-228		
TH-228	2.74E-05	2.74E-05
TH-228		
TH-228	4.02E-04	4.02E-04
RA-228		
TH-228	2.60E-04	2.60E-04

Source: 3

Nuclide	Receptor	Total
	1	
TH-232	2.47E-03	2.47E-03
RA-228		
TH-228	2.86E-05	2.86E-05
TH-228		
TH-228	4.20E-04	4.20E-04
RA-228		
TH-228	2.71E-04	2.71E-04

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 1.00000000 years

Source: 4

Nuclide	Receptor	Total
	1	
TH-232	2.20E-03	2.20E-03
RA-228		
TH-228	2.50E-05	2.50E-05
TH-228		
TH-228	3.67E-04	3.67E-04
RA-228		
TH-228	2.37E-04	2.37E-04

Source: 5

Nuclide	Receptor	Total
	1	
TH-232	2.47E-03	2.47E-03
RA-228		
TH-228	2.86E-05	2.86E-05
TH-228		
TH-228	4.20E-04	4.20E-04
RA-228		
TH-228	2.71E-04	2.71E-04

Source: 6

Nuclide	Receptor	Total
	1	
TH-232	2.20E-03	2.20E-03
RA-228		
TH-228	2.44E-05	2.44E-05
TH-228		
TH-228	3.59E-04	3.59E-04
RA-228		
TH-228	2.32E-04	2.32E-04

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 30.0000000 years

=====

=====

==== Assessment for Time: 3 =====

==== Time =3.00E+01 yr =====

=====

=====

===== Source Information =====

Source: 1

Location:: Room : 1 x: 1.20 y: 1.40 z: 0.00 [m]
Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 2.940E-06 [1/hr]
Fraction released to air: 7.000E-02
Removable fraction: 4.138E-02
Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.388E+01
	TH-228	9.388E+01
	RA-228	9.388E+01

Source: 2

Location:: Room : 1 x: 1.20 y: 1.40 z: 2.40 [m]
Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.70E+00 Direction: z
Pathway ::
Direct Ingestion Rate: 2.940E-06 [1/hr]
Fraction released to air: 7.000E-02
Removable fraction: 4.138E-02
Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.388E+01
	TH-228	9.388E+01
	RA-228	9.388E+01

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 30.0000000 years

Source: 3

Location:: Room : 1 x: 0.00 y: 1.40 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 4.138E-02

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.388E+01
	TH-228	9.388E+01
	RA-228	9.388E+01

Source: 4

Location:: Room : 1 x: 1.20 y: 2.70 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 4.138E-02

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.388E+01
	TH-228	9.388E+01
	RA-228	9.388E+01

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 30.0000000 years

Source: 5

Location:: Room : 1 x: 2.40 y: 1.40 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.70E+00 Width[m]:2.40E+00 Direction: x

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 4.138E-02

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.388E+01
	TH-228	9.388E+01
	RA-228	9.388E+01

Source: 6

Location:: Room : 1 x: 1.20 y: 0.00 z: 1.20 [m]

Geometry:: Type: Area Length[m]:2.40E+00 Width[m]:2.40E+00 Direction: y

Pathway ::

Direct Ingestion Rate: 2.940E-06 [1/hr]

Fraction released to air: 7.000E-02

Removable fraction: 4.138E-02

Time to Remove: 1.792E+04 [day]

Contamination::	Nuclide	Concentration
		[dpm/m2]
	TH-232	9.388E+01
	TH-228	9.388E+01
	RA-228	9.388E+01

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 30.0000000 years

RESRAD-BUILD Dose Tables

Source Contributions to Receptor Doses

[mrem]

	Source	Source	Source	Source	Source	Source	Total
	1	2	3	4	5	6	
Receptor 1	3.05E-03	2.93E-03	2.98E-03	2.63E-03	2.98E-03	2.61E-03	1.72E-02
Total	3.05E-03	2.93E-03	2.98E-03	2.63E-03	2.98E-03	2.61E-03	1.72E-02

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 30.000000 years

Pathway Detail of Doses

[mrem]

Source: 1

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	3.24E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	3.83E-04
Total	3.24E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	3.83E-04

Source: 2

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.09E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	3.83E-04
Total	2.09E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	3.83E-04

Source: 3

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.56E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	3.83E-04
Total	2.56E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	3.83E-04

Source: 4

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.12E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	3.41E-04
Total	2.12E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	3.41E-04

Source: 5

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	2.56E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	3.83E-04
Total	2.56E-04	3.42E-09	1.41E-09	2.34E-03	2.87E-09	3.83E-04

Source: 6

Receptor	External	Deposition	Immersion	Inhalation	Radon	Ingestion
1	1.90E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	3.41E-04
Total	1.90E-04	3.04E-09	1.26E-09	2.08E-03	2.55E-09	3.41E-04

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 30.000000 years

Nuclide Detail of Doses

[mrem]

Source: 1

Nuclide	Receptor	Total
	1	
TH-232	2.14E-03	2.14E-03
RA-228		
TH-228	6.28E-04	6.28E-04
TH-228		
TH-228	1.02E-08	1.02E-08
RA-228		
TH-228	2.47E-05	2.47E-05

Source: 2

Nuclide	Receptor	Total
	1	
TH-232	2.14E-03	2.14E-03
RA-228		
TH-228	5.62E-04	5.62E-04
TH-228		
TH-228	9.16E-09	9.16E-09
RA-228		
TH-228	2.21E-05	2.21E-05

Source: 3

Nuclide	Receptor	Total
	1	
TH-232	2.14E-03	2.14E-03
RA-228		
TH-228	5.89E-04	5.89E-04
TH-228		
TH-228	9.60E-09	9.60E-09
RA-228		
TH-228	2.32E-05	2.32E-05

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Evaluation Time: 30.000000 years

Source: 4

Nuclide	Receptor	Total
	1	
TH-232	1.91E-03	1.91E-03
RA-228		
TH-228	5.14E-04	5.14E-04
TH-228		
TH-228	8.39E-09	8.39E-09
RA-228		
TH-228	2.03E-05	2.03E-05

Source: 5

Nuclide	Receptor	Total
	1	
TH-232	2.14E-03	2.14E-03
RA-228		
TH-228	5.89E-04	5.89E-04
TH-228		
TH-228	9.60E-09	9.60E-09
RA-228		
TH-228	2.32E-05	2.32E-05

Source: 6

Nuclide	Receptor	Total
	1	
TH-232	1.91E-03	1.91E-03
RA-228		
TH-228	5.02E-04	5.02E-04
TH-228		
TH-228	8.19E-09	8.19E-09
RA-228		
TH-228	1.98E-05	1.98E-05

Title : Small Office - Occupancy - Th-232+C

Input File : C:\RESRAD_Family\BUILD\HEMATITE - Small Office - Th-232+C.bld

Full Summary

RESRAD-BUILD Dose (Time) Tables

Receptor Dose Received for the Exposure Duration

(mrem)

Evaluation Time [yr]

0.00E+00 1.00E+00 3.00E+01

1 2.08E-02 2.07E-02 1.72E-02

Receptor Dose/Yr Averaged Over Exposure Duration

(mrem/yr)

Evaluation Time [yr]

0.00E+00 1.00E+00 3.00E+01

1 2.08E-02 2.07E-02 1.72E-02