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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6  
1445 ROSS AVENUE, SUITE 1200  
DALLAS, TX 75202-2733

JAN 13 2004



Ms. Sandra Martin, Chief  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Dr. East, Bldg. 1  
Santa Fe, NM 87505-6303

Re: Review of LANL's Interim Action Report for the South Fork of Acid Canyon (September 2002)

Dear Ms. Martin:

The Environmental Protection Agency (EPA) was requested by John Young of your Bureau to review the above mentioned document. Specifically, John requested that EPA review the document to ensure that the radiation cleanup levels performed by LANL were acceptable according to EPA's risk assessment protocol for radionuclides.

The remaining radionuclides at the site were found to be at 4.78 E-6 risk level. Enclosed are the details of the analysis performed by EPA.

Should you have any questions regarding the enclosures, please feel free to contact Mr. Rich Mayer at (214) 665-7442.

Sincerely,

Laurie King, Chief  
Federal Facilities Section

Enclosure



## **EPA's Analysis on LANL's Interim Action Report for the South Fork of Acid Canyon**

In reviewing the LANL document, EPA used the Superfund Preliminary Remediation Goal for Radionuclides Risk Calculator. EPA used the extended backyard scenario, which is based upon children playing in the canyon for 6 years, ages 6-12. Adult exposures and consumption of food (fruit and vegetables) were not considered in this calculation. Below are the assumptions used in the PRG risk calculator. The calculator can be found at: [http://epa-prgs.ornl.gov/radionuclides/prg\\_search.shtml](http://epa-prgs.ornl.gov/radionuclides/prg_search.shtml).

Target Risk (unitless) - $1.0E-5$	Exposure Duration - 6 yrs.
Adult Exposure Duration - 0 yrs.	Child Exposure Duration - 6 yrs.
Exposure Frequency - 200 days/yr	Adult Intake Rate - 0 mg/day
Child Intake Rate - 71 mg/day	
Adult Inhalation Rate - 0 mg <sup>3</sup> /day	Child Inhalation Rate - 1.2 m <sup>3</sup> /day
Outdoor Exposure Time Fraction - .073 (unitless)	Indoor Exposure Time Fraction - 0 (unitless)
Indoor dilution Factor - 0 (unitless)	Area Correction Factor - .9 (unitless)
Gamma Shielding Factor - 0 (m <sup>3</sup> /kg)	
Particulate Emission Factor - $6.8E+09$ (m <sup>3</sup> /kg) Albuquerque Climatic Zone	

Below are the carcinogenic risk for each radionuclide. EPA used the ACS weighted average for each radionuclide from the report (page 17, table 4.5-1), since the calculated dose for these averages were higher. Tritium was not used in the calculation since its contribution was negligible. Also included are the printout calculation sheets for each radionuclide which contain the  $1.0E-5$  concentration numbers in pCi/g..

Cesium 137 + decay chain =  **$1.81E-6$**   
Plutonium 239 + decay chain =  **$2.64E-6$**   
Americium 241 + decay chain =  **$1.31E-7$**   
Strontium 90 + decay chain =  **$.29E-7$**   
Uranium 234 + decay chain =  **$.49E-7$**   
Uranium 238 + decay chain =  **$.81E-7$**   
Uranium 235 + decay chain =  **$.26E-7$**   
Plutonium 238 + decay chain =  **$1.36E-8$**

Total risk =  **$4.78E-6$**

<b>1.0E-5 Risk Concentration Numbers (pCi/g) Per PRG Radionuclide Calculator</b>	<b>Site Concentration Numbers (pCi/g) After Remediation</b>
Cesium 137 + decay chain = <b>19.3</b>	<b>3.5</b>
Plutonium 239 = <b>425</b>	<b>112</b>
Americium 241 + decay chain = <b>411</b>	<b>5.4</b>
Strontium 90 + decay chain = <b>650</b>	<b>1.9</b>
Uranium 234 + decay chain = <b>740</b>	<b>3.6</b>
Uranium 238 + decay chain = <b>235</b>	<b>1.9</b>
Uranium 235 + decay chain = <b>76.2</b>	<b>.2</b>
Plutonium 238 + decay chain = <b>442</b>	<b>.6</b>

## **PRG Calculator Printout Calculation Sheets**



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## Preliminary Remediation Goals for Radionuclides Topic for Key OSWEB Guidances and R.

### Equation Values for Residential Soil



Parameter	Value	Parameter	Val
Target Risk (unitless)	1.0E-5	Exposure Duration (yr)	6
Adult Exposure Duration (yr)	0	Child Exposure Duration (yr)	6
Exposure Frequency (day/yr)	200	Adult Intake Rate (mg/day)	0
Child Intake Rate (mg/day)	71	Age-adjusted Ingestion Factor (mg-yr/kg-day)	71
Adult Inhalation Rate (m <sup>3</sup> /day)	0	Child Inhalation Rate (m <sup>3</sup> /day)	1.2
Age-adjusted Inhalation Factor (mg-yr/kg-day)	1.2	Time of Exposure (yr)	6
Outdoor Exposure Time Fraction (unitless)	0.073	Indoor Exposure Time Fraction (unitless)	0
Indoor Dilution Factor (unitless)	0	Area Correction Factor (unitless)	0.9
Gamma Shielding Factor (m <sup>3</sup> /kg)	0	Age-adjusted Fruit Consumption Rate (kg/yr)	0

Age-Adjusted Vegetable Consumption Rate (kg/yr)	0	Contaminated Plant Fraction (unitless)	0
Child Vegetable Consumption Rate (kg/yr)	0	Adult Vegetable Consumption Rate (kg/yr)	0
Child Fruit Consumption Rate (kg/yr)	0	Adult Fruit Consumption Rate (kg/yr)	0
Particulate Emission Factor (m <sup>3</sup> /kg)	6.80E+09	City (Climatic Zone)	Albuquerque (III)
Surface Area (acres)	0.5	Q/C (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	84.18
Fraction of Vegetative Cover	0.5	Mean Annual Windspeed (m/s)	4.02
Equivalent Threshold Value of Windspeed at 7m (m/s)	11.32	F(x) (unitless)	0.055

## Radionuclide Preliminary Remediation Goals Residential Soil

Chemical	Residential Exposure Soil		External Exposure Slope	Food Ingestion Slope	Soil-to-Plant Transfer Factor	PRG (pCi/g)
	Ingestion Slope Factor (Risk/pCi)*	Inhalation Slope Factor (Risk/pCi)	Factor (Risk/yr per pCi/g)	Factor (Risk/pCi)	(pCi plant/pCi soil)	
Cs-137+D decaychain	4.33E-11	1.19E-11	2.55E-06	3.74E-11	0.04	1.93E+01

\* Soil Ingestion Slope Factor is calculated for a lifetime of 70 years.  
 For table of soil to plant transfer factors click [here](#)

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**Preliminary Remediation Goals for Radionuclides**

*Topic for Key OSWER Risk Guidances and Reports*

**Equation Values for Residential Soil**



Parameter	Value	Parameter	Value
Target Risk (unitless)	1.0E-5	Exposure Duration (yr)	6
Adult Exposure Duration (yr)	0	Child Exposure Duration (yr)	6
Exposure Frequency (day/yr)	200	Adult Intake Rate (mg/day)	0
Child Intake Rate (mg/day)	71	Age-adjusted Ingestion Factor (mg-yr/kg-day)	71
Adult Inhalation Rate (m <sup>3</sup> /day)	0	Child Inhalation Rate (m <sup>3</sup> /day)	1.2
Age-adjusted Inhalation Factor (mg-yr/kg-day)	1.2	Time of Exposure (yr)	6
Outdoor Exposure Time Fraction (unitless)	0.073	Indoor Exposure Time Fraction (unitless)	0
Indoor Dilution Factor (unitless)	0	Area Correction Factor (unitless)	0.9
Gamma Shielding Factor (m <sup>3</sup> /kg)	0	Age-adjusted Fruit Consumption Rate (kg/yr)	0

Age-Adjusted Vegetable Consumption Rate (kg/yr)	0	Contaminated Plant Fraction (unitless)	0
Child Vegetable Consumption Rate (kg/yr)	0	Adult Vegetable Consumption Rate (kg/yr)	0
Child Fruit Consumption Rate (kg/yr)	0	Adult Fruit Consumption Rate (kg/yr)	0
Particulate Emission Factor (m <sup>3</sup> /kg)	6.80E+09	City (Climatic Zone)	Albuque (III)
Surface Area (acres)	0.5	Q/C (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	84.18
Fraction of Vegetative Cover	0.5	Mean Annual Windspeed (m/s)	4.02
Equivalent Threshold Value of Windspeed at 7m (m/s)	11.32	F(x) (unitless)	0.0553

## Radionuclide Preliminary Remediation Goals Residential Soil

Chemical	Residential Exposure Soil		External Exposure Slope Factor (Risk/yr per pCi/g)	Food Ingestion Slope Factor (Risk/pCi)	Soil-to-Plant Transfer Factor (pCi plant/pCi soil)	PRG (pCi/g)
	Ingestion Slope Factor (Risk/pCi)*	Inhalation Slope Factor (Risk/pCi)				
Pu-239 <u>decaychain</u>	2.76E-10	3.33E-08	2.00E-10	1.74E-10	0.001	4.25E+02 6

\* Soil Ingestion Slope Factor is calculated for a lifetime of 70 years.  
 For table of soil to plant transfer factors click [here](#)

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## Preliminary Remediation Goals for Radionuclides

*Topic for Key OSWER R Guidances and Rep*

### Equation Values for Residential Soil



Parameter	Value	Parameter	Value
Target Risk (unitless)	1.0E-5	Exposure Duration (yr)	6
Adult Exposure Duration (yr)	0	Child Exposure Duration (yr)	6
Exposure Frequency (day/yr)	200	Adult Intake Rate (mg/day)	0
Child Intake Rate (mg/day)	71	Age-adjusted Ingestion Factor (mg-yr/kg-day)	71
Adult Inhalation Rate (m <sup>3</sup> /day)	0	Child Inhalation Rate (m <sup>3</sup> /day)	1.2
Age-adjusted Inhalation Factor (mg-yr/kg-day)	1.2	Time of Exposure (yr)	6
Outdoor Exposure Time Fraction (unitless)	0.073	Indoor Exposure Time Fraction (unitless)	0
Indoor Dilution Factor (unitless)	0	Area Correction Factor (unitless)	0.9
Gamma Shielding Factor (m <sup>3</sup> /kg)	0	Age-adjusted Fruit Consumption Rate (kg/yr)	0

Age-Adjusted Vegetable Consumption Rate (kg/yr)	0	Contaminated Plant Fraction (unitless)	0
Child Vegetable Consumption Rate (kg/yr)	0	Adult Vegetable Consumption Rate (kg/yr)	0
Child Fruit Consumption Rate (kg/yr)	0	Adult Fruit Consumption Rate (kg/yr)	0
Particulate Emission Factor (m <sup>3</sup> /kg)	6.80E+09	City (Climatic Zone)	Albuquerque (III)
Surface Area (acres)	0.5	Q/C (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	84.18
Fraction of Vegetative Cover	0.5	Mean Annual Windspeed (m/s)	4.02
Equivalent Threshold Value of Windspeed at 7m (m/s)	11.32	F(x) (unitless)	0.0553

## Radionuclide Preliminary Remediation Goals Residential Soil

Chemical	Residential Exposure Soil		External Exposure Slope	Food Ingestion Slope	Soil-to-Plant Transfer Factor	PRG (pCi/g)
	Ingestion Slope Factor (Risk/pCi)*	Inhalation Slope Factor (Risk/pCi)	Factor (Risk/yr per pCi/g)	Factor (Risk/pCi)	(pCi plant/pCi soil)	
Am-241 <u>decaychain</u>	2.17E-10	2.81E-08	2.76E-08	1.34E-10	0.001	4.11E+02

\* Soil Ingestion Slope Factor is calculated for a lifetime of 70 years.  
 For table of soil to plant transfer factors click [here](#)

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## Preliminary Remediation Goals for Radionuclides

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### Equation Values for Residential Soil



Parameter	Value	Parameter	Value
Target Risk (unitless)	1.0E-5	Exposure Duration (yr)	6
Adult Exposure Duration (yr)	0	Child Exposure Duration (yr)	6
Exposure Frequency (day/yr)	200	Adult Intake Rate (mg/day)	0
Child Intake Rate (mg/day)	71	Age-adjusted Ingestion Factor (mg-yr/kg-day)	71
Adult Inhalation Rate (m <sup>3</sup> /day)	0	Child Inhalation Rate (m <sup>3</sup> /day)	1.2
Age-adjusted Inhalation Factor (mg-yr/kg-day)	1.2	Time of Exposure (yr)	6
Outdoor Exposure Time Fraction (unitless)	0.073	Indoor Exposure Time Fraction (unitless)	0
Indoor Dilution Factor (unitless)	0	Area Correction Factor (unitless)	0.9
Gamma Shielding Factor (m <sup>3</sup> /kg)	0	Age-adjusted Fruit Consumption Rate (kg/yr)	0

Age-Adjusted Vegetable Consumption Rate (kg/yr)	0	Contaminated Plant Fraction (unitless)	0
Child Vegetable Consumption Rate (kg/yr)	0	Adult Vegetable Consumption Rate (kg/yr)	0
Child Fruit Consumption Rate (kg/yr)	0	Adult Fruit Consumption Rate (kg/yr)	0
Particulate Emission Factor (m <sup>3</sup> /kg)	6.80E+09	City (Climatic Zone)	Albuquerque (III)
Surface Area (acres)	0.5	Q/C (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	84.18
Fraction of Vegetative Cover	0.5	Mean Annual Windspeed (m/s)	4.02
Equivalent Threshold Value of Windspeed at 7m (m/s)	11.32	F(x) (unitless)	0.0553

## Radionuclide Preliminary Remediation Goals Residential Soil

Chemical	Residential Exposure Soil		External Exposure Slope Factor (Risk/yr per pCi/g)	Food Ingestion Slope Factor (Risk/pCi)	Soil-to-Plant Transfer Factor (pCi plant/pCi soil)	PRG (pCi/g)
	Ingestion Slope Factor (Risk/pCi)*	Inhalation Slope Factor (Risk/pCi)				
Sr-90+D <u>decaychain</u>	1.44E-10	1.13E-10	1.96E-08	9.53E-11	0.3	6.50E+02

\* Soil Ingestion Slope Factor is calculated for a lifetime of 70 years.  
 For table of soil to plant transfer factors click [here](#)

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## Preliminary Remediation Goals for Radionuclides

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### Equation Values for Residential Soil



Parameter	Value	Parameter	Value
Target Risk (unitless)	1.0E-5	Exposure Duration (yr)	6
Adult Exposure Duration (yr)	0	Child Exposure Duration (yr)	6
Exposure Frequency (day/yr)	200	Adult Intake Rate (mg/day)	0
Child Intake Rate (mg/day)	71	Age-adjusted Ingestion Factor (mg-yr/kg-day)	71
Adult Inhalation Rate (m <sup>3</sup> /day)	0	Child Inhalation Rate (m <sup>3</sup> /day)	1.2
Age-adjusted Inhalation Factor (mg-yr/kg-day)	1.2	Time of Exposure (yr)	6
Outdoor Exposure Time Fraction (unitless)	0.073	Indoor Exposure Time Fraction (unitless)	0
Indoor Dilution Factor (unitless)	0	Area Correction Factor (unitless)	0.9
Gamma Shielding Factor (m <sup>3</sup> /kg)	0	Age-adjusted Fruit Consumption Rate (kg/yr)	0

Age-Adjusted Vegetable Consumption Rate (kg/yr)	0	Contaminated Plant Fraction (unitless)	0
Child Vegetable Consumption Rate (kg/yr)	0	Adult Vegetable Consumption Rate (kg/yr)	0
Child Fruit Consumption Rate (kg/yr)	0	Adult Fruit Consumption Rate (kg/yr)	0
Particulate Emission Factor (m <sup>3</sup> /kg)	6.80E+09	City (Climatic Zone)	Albuquer (III)
Surface Area (acres)	0.5	Q/C (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	84.18
Fraction of Vegetative Cover	0.5	Mean Annual Windspeed (m/s)	4.02
Equivalent Threshold Value of Windspeed at 7m (m/s)	11.32	F(x) (unitless)	0.0553

## Radionuclide Preliminary Remediation Goals Residential Soil

Chemical	Residential Exposure Soil		External Exposure Slope	Food Ingestion Slope	Soil-to-Plant Transfer Factor	PRG (pCi/g)	I (n)
	Ingestion Slope Factor (Risk/pCi)*	Inhalation Slope Factor (Risk/pCi)	Factor (Risk/yr per pCi/g)	Factor (Risk/pCi)	Factor (pCi plant/pCi soil)		
U-234 <u>decaychain</u>	1.58E-10	1.14E-08	2.52E-10	9.55E-11	0.0025	7.40E+02	1.1

\* Soil Ingestion Slope Factor is calculated for a lifetime of 70 years.  
 For table of soil to plant transfer factors click [here](#)

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## Preliminary Remediation Goals for Radionuclides

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### Equation Values for Residential Soil



Parameter	Value	Parameter	Val
Target Risk (unitless)	1.0E-5	Exposure Duration (yr)	6
Adult Exposure Duration (yr)	0	Child Exposure Duration (yr)	6
Exposure Frequency (day/yr)	200	Adult Intake Rate (mg/day)	0
Child Intake Rate (mg/day)	71	Age-adjusted Ingestion Factor (mg-yr/kg-day)	71
Adult Inhalation Rate (m <sup>3</sup> /day)	0	Child Inhalation Rate (m <sup>3</sup> /day)	1.2
Age-adjusted Inhalation Factor (mg-yr/kg-day)	1.2	Time of Exposure (yr)	6
Outdoor Exposure Time Fraction (unitless)	0.073	Indoor Exposure Time Fraction (unitless)	0
Indoor Dilution Factor (unitless)	0	Area Correction Factor (unitless)	0.9
Gamma Shielding Factor (m <sup>3</sup> /kg)	0	Age-adjusted Fruit Consumption Rate (kg/yr)	0

Age-Adjusted Vegetable Consumption Rate (kg/yr)	0	Contaminated Plant Fraction (unitless)	0
Child Vegetable Consumption Rate (kg/yr)	0	Adult Vegetable Consumption Rate (kg/yr)	0
Child Fruit Consumption Rate (kg/yr)	0	Adult Fruit Consumption Rate (kg/yr)	0
Particulate Emission Factor (m <sup>3</sup> /kg)	6.80E+09	City (Climatic Zone)	Albuq (III)
Surface Area (acres)	0.5	Q/C (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	84.18
Fraction of Vegetative Cover	0.5	Mean Annual Windspeed (m/s)	4.02
Equivalent Threshold Value of Windspeed at 7m (m/s)	11.32	F(x) (unitless)	0.0553

## Radionuclide Preliminary Remediation Goals Residential Soil

Chemical	Residential Exposure Soil		External Exposure Slope	Food Ingestion Slope	Soil-to-Plant Transfer Factor	PRG (pCi/g)
	Ingestion Slope Factor (Risk/pCi)*	Inhalation Slope Factor (Risk/pCi)	Factor (Risk/yr per pCi/g)	Factor (Risk/pCi)	Factor (pCi plant/pCi soil)	
U-238+D decaychain	2.10E-10	9.35E-09	1.14E-07	1.21E-10	0.0025	2.35E+02

\* Soil Ingestion Slope Factor is calculated for a lifetime of 70 years.  
 For table of soil to plant transfer factors click [here](#)

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### Equation Values for Residential Soil



Parameter	Value	Parameter	Val
Target Risk (unitless)	1.0E-5	Exposure Duration (yr)	6
Adult Exposure Duration (yr)	0	Child Exposure Duration (yr)	6
Exposure Frequency (day/yr)	200	Adult Intake Rate (mg/day)	0
Child Intake Rate (mg/day)	71	Age-adjusted Ingestion Factor (mg-yr/kg-day)	71
Adult Inhalation Rate (m <sup>3</sup> /day)	0	Child Inhalation Rate (m <sup>3</sup> /day)	1.2
Age-adjusted Inhalation Factor (mg-yr/kg-day)	1.2	Time of Exposure (yr)	6
Outdoor Exposure Time Fraction (unitless)	0.073	Indoor Exposure Time Fraction (unitless)	0
Indoor Dilution Factor (unitless)	0	Area Correction Factor (unitless)	0.9
Gamma Shielding Factor (m <sup>3</sup> /kg)	0	Age-adjusted Fruit Consumption Rate (kg/yr)	0

Age-Adjusted

Vegetable Consumption Rate (kg/yr)	0	Contaminated Plant Fraction (unitless)	0
Child Vegetable Consumption Rate (kg/yr)	0	Adult Vegetable Consumption Rate (kg/yr)	0
Child Fruit Consumption Rate (kg/yr)	0	Adult Fruit Consumption Rate (kg/yr)	0
Particulate Emission Factor (m <sup>3</sup> /kg)	1.36E+09	City (Climatic Zone)	Minne (V)
Surface Area (acres)	0.5	Q/C (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	93.77
Fraction of Vegetative Cover	0.5	Mean Annual Windspeed (m/s)	4.69
Equivalent Threshold Value of Windspeed at 7m (m/s)	11.32	F(x) (unitless)	0.194

## Radionuclide Preliminary Remediation Goals Residential Soil

Chemical	Residential Exposure Soil		External Exposure Slope Factor	Food Ingestion Slope Factor	Soil-to-Plant Transfer Factor	PRG (pCi/g)
	Ingestion Slope Factor (Risk/pCi)*	Inhalation Slope Factor (Risk/pCi)	(Risk/yr per pCi/g)	(Risk/pCi)	(pCi plant/pCi soil)	
U-235+D decaychain	1.63E-10	1.01E-08	5.43E-07	9.76E-11	0.0025	7.62E+01

\* Soil Ingestion Slope Factor is calculated for a lifetime of 70 years.  
For table of soil to plant transfer factors click [here](#)

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### Equation Values for Residential Soil



Parameter	Value	Parameter	Value
Target Risk (unitless)	1.0E-5	Exposure Duration (yr)	6
Adult Exposure Duration (yr)	0	Child Exposure Duration (yr)	6
Exposure Frequency (day/yr)	200	Adult Intake Rate (mg/day)	0
Child Intake Rate (mg/day)	71	Age-adjusted Ingestion Factor (mg-yr/kg-day)	71
Adult Inhalation Rate (m <sup>3</sup> /day)	0	Child Inhalation Rate (m <sup>3</sup> /day)	1.2
Age-adjusted Inhalation Factor (mg-yr/kg-day)	1.2	Time of Exposure (yr)	6
Outdoor Exposure Time Fraction (unitless)	0	Indoor Exposure Time Fraction (unitless)	0
Indoor Dilution Factor (unitless)	0	Area Correction Factor (unitless)	0.9
Gamma Shielding Factor (m <sup>3</sup> /kg)	0	Age-adjusted Fruit Consumption Rate (kg/yr)	0

Age-Adjusted Vegetable Consumption Rate (kg/yr)	0	Contaminated Plant Fraction (unitless)	0
Child Vegetable Consumption Rate (kg/yr)	0	Adult Vegetable Consumption Rate (kg/yr)	0
Child Fruit Consumption Rate (kg/yr)	0	Adult Fruit Consumption Rate (kg/yr)	0
Particulate Emission Factor (m <sup>3</sup> /kg)	6.80E+09	City (Climatic Zone)	Albuque (III)
Surface Area (acres)	0.5	Q/C (g/m <sup>2</sup> -s per kg/m <sup>3</sup> )	84.18
Fraction of Vegetative Cover	0.5	Mean Annual Windspeed (m/s)	4.02
Equivalent Threshold Value of Windspeed at 7m (m/s)	11.32	F(x) (unitless)	0.0553

## Radionuclide Preliminary Remediation Goals Residential Soil

Chemical	Residential Exposure Soil		External Exposure Slope		Soil-to-Plant Transfer Factor	PRG (pCi/g)
	Ingestion Slope Factor (Risk/pCi)*	Inhalation Slope Factor (Risk/pCi)	Slope Factor (Risk/yr per pCi/g)	Food Ingestion Slope Factor (Risk/pCi)	(pCi plant/pCi soil)	
Pu-238 <u>decaychain</u>	2.72E-10	3.36E-08	7.22E-11	1.69E-10	0.001	4.42E+02

\* Soil Ingestion Slope Factor is calculated for a lifetime of 70 years.  
 For table of soil to plant transfer factors click [here](#)

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