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Sensitivity Analysis Results for the Clive DU PA

Clive DU PA Model v1.2

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TABLES

Summary

This appendix presents tabular summaries of the sensitivity analysis results for each of the 13 endpoints considered within the Clive DU Performance Assessment (PA) Version 1.2 (May 2014). As described in the Sensitivity Analysis (SA) methods White Paper, for each endpoint, every explanatory variable (input parameter) in the PA model is included in the SA. The SA calculates a sensitivity index (SI) for each explanatory variable. Each SI represents the portion of total statistical variance in the output that is attributed to the corresponding explanatory variable for a specific model output of interest. This global SA approach essentially allows all input parameters to be varied simultaneously to find the input parameters that explain most of the output parameter variance and, hence, are identified as the most important, or sensitive, predictors of the model output.

In effect, the simulated data are treated as observations of the explanatory variables (input parameters) and the dependent variables (model output – dose or concentration). The SA performs a regression analysis of the input on the output, but does so in a way that accommodates the non-linear and non-monotonic aspects of this complex model. All explanatory variables are included in this "regression". The specific statistical, non-linear regression-based, approach taken to SA is explained in the SA methods White Paper. It relies on a gradient boosting machines (GBM) method that utilizes boosting of binary recursive partitioning algorithms that deconstruct a model output, or response, into the relative influence from a given set of explanatory variables (input parameters).

A table of SIs is presented for each model endpoint (Tables 1 – 13). For a given endpoint, the sum of the SIs across the explanatory variables is 100%. The diagnostic goodness-of-fit statistic R-squared is used to indicate goodness-of-fit of the SA model. If R-squared is near 100% then the SA model explains nearly all of the variation in the model output, and only a very small portion is unexplained by the input parameters. In general, this suggests that the SA provides a good fit for the model output, which provides greater confidence in the results of the SA.

The underlying concept is that only a few input parameters are likely to explain most of the output variance. In general, it is rare that more than 4 or 5 input parameters can be classed as sensitive. It is difficult to share 100% variation across many more parameters and still have a reasonably predictive model. The goal of the global SA is to identify those few sensitive input parameters. If uncertainty needs to be reduced to support decision making, then reduction in uncertainty in the sensitive input parameters is likely to prove most beneficial.

The identification of important explanatory variables is done within the context of the ability of the GBM model to explain the observed variance in the endpoint of interest from the GoldSim model. If the R-squared of regressing the observed values on the predictions is close to 100%, indicating a good fit, then experience suggests that a SI of 5% is a reasonable threshold for identification of a sensitive parameter. For example, the endpoint 'Peak Groundwater Well Concentrations within 500 years - Tc99' has a GBM model with the R-squared of the linear model regressing the observed values on the GBM predictions very close to one (99% – Table 1). Consequently, any of the explanatory variables with a SI less than 5% suggest random noise rather than a predictive input parameter.

Conversely, the end point 'Peak Lake Sediment Concentration in Deep Time - U238' has a GBM model with the R-squared of approximately 44% (Table 11). In a situation like this, there is

greater uncertainty associated with the estimates of the SI, and the SA model is not a good fit for the data. This suggests that much of the variance in the output is not explained by the input parameters, and could indicate that further model improvements are warranted. In this case, the threshold of 5% for identifying a significant SI might be too low; it is probably more appropriate to use a threshold of 10% instead.

Table 1: Peak Groundwater Well Concentrations within 500 years - Tc99

R-squared = 99%

Explanatory Variable	Sensitivity Index
Kd Sand for Tc (mL/g)	76.63
Molecular Diffusivity in Water (cm2/s)	20.55
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	1.47
Saturated Zone Water Table Gradient	0.92
Unit 2 Saturated Hyd Cond (cm/s)	0.17
log of van Genuchten's n for Unit 4	0.11
Unit 3 Bulk Density (g/cm3)	0.08
log of van Genuchten's α for Unit 4	0.03
Unsaturated Zone Thickness (m)	0.03
Unit 3 Bubbling Pressure Head (cm)	0.02
Unit 2 Porosity	0.00
Kd Sand for Th (mL/g)	0.00
Number of Gullies	0.00
Biomass % Cover Selector	0.00
Mammal Burrow Excavation Rate (m3/yr)	0.00
RipRap Porosity	0.00
Saltwater Solubility for Ra (mol/L)	0.00
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.00
Kd Clay for Pu (mL/g)	0.00
Kd Clay for Cs (mL/g)	0.00
Plant/Soil Conc Ratio for Am	0.00
Kd Silt for Ra (mL/g)	0.00
Ant Colony Density - Plot 5 (1/ha)	0.00
Mammal Mound Density - Plot 4 (1/ha)	0.00
Kd Sand for U (mL/g)	0.00
Large Lake End (yr)	0.00
Mammal Mound Density - Plot 1 (1/ha)	0.00
Grass Root Shape Parameter b	0.00
Water Ingestion Rate for Cattle (kg/day)	0.00
Tortuosity Water Content Exponent	0.00
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.00
Saltwater Solubility for Cs (mol/L)	0.00
Silt Sand Gravel BulkDensity (g/cm3)	0.00
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.00
Siberia Gully Selector	0.00
Activity Conc in SRS DU Waste: U234 (pCi/g)	0.00
Resuspension Flux (kg/m2-yr)	0.00
Unit 4 Bulk Density (g/cm3)	0.00
Intermediate Lake Sed Thickness (m)	0.00
Kd Sand for Pu (mL/g)	0.00

Saltwater Solubility for Pb (mol/L)	0.00
Kd Silt for Pb (mL/g)	0.00
Ant Colony Density - Plot 2 (1/ha)	0.00
Beef Transfer Factor for Np (day/kg)	0.00
Surface Wind Speed (m/s)	0.00
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.00
Kd Silt for U (mL/g)	0.00
DCF Photon2 REF	0.00
Saltwater Solubility for Th (mol/L)	0.00
OHV Dust Adjustment	0.00
RipRap Bulk Density (g/cm3)	0.00
Fine Gravel Mix Porosity	0.00
Fine Gravel Mix BulkDensity (g/cm3)	0.00
Fine CobbleMix Porosity	0.00
Fine Cobble Mix BulkDensity (g/cm3)	0.00
Silt Sand Gravel Porosity	0.00
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	0.00
Soil Temperature (Â°C)	0.00
Unit 3 Porosity	0.00
Unit 3 Residual Water Content	0.00
Unit 3 Saturated Hyd Cond (cm/s)	0.00
Unit 3 Brooks-Corey Fractal Dimension	0.00
Unit 4 Porosity	0.00
Unit 4 Bubbling Pressure Head (cm)	0.00
Unit 4 Residual Water Content	0.00
Unit 4 Saturated Hyd Cond (cm/s)	0.00
Unit 4 Brooks-Corey Fractal Dimension	0.00
Unit 2 Bulk Density (g/cm3)	0.00
Saltwater Solubility for Ac (mol/L)	0.00
Saltwater Solubility for Am (mol/L)	0.00
Saltwater Solubility for Np (mol/L)	0.00
Saltwater Solubility for Pa (mol/L)	0.00
Saltwater Solubility for Pu (mol/L)	0.00
Saltwater Solubility for Sr (mol/L)	0.00
Saltwater Solubility for Tc (mol/L)	0.00
Saltwater Solubility for UO3 (mol/L)	0.00
Saltwater Solubility for I (mol/L)	0.00
Saltwater Solubility for Rn (mol/L)	0.00
Saltwater Solubility for U3O8 (mol/L)	0.00
Kd Sand for Ac (mL/g)	0.00
Kd Sand for Am (mL/g)	0.00
Kd Sand for Cs (mL/g)	0.00

Kd Sand for Np (mL/g)	0.00
Kd Sand for Pa (mL/g)	0.00
Kd Sand for Pb (mL/g)	0.00
Kd Sand for Ra (mL/g)	0.00
Kd Sand for Sr (mL/g)	0.00
Kd Sand for I (mL/g)	0.00
Kd Silt for Ac (mL/g)	0.00
Kd Silt for Am (mL/g)	0.00
Kd Silt for Cs (mL/g)	0.00
Kd Silt for Np (mL/g)	0.00
Kd Silt for Pa (mL/g)	0.00
Kd Silt for Pu (mL/g)	0.00
Kd Silt for Sr (mL/g)	0.00
Kd Silt for Th (mL/g)	0.00
Kd Clay for Ac (mL/g)	0.00
Kd Clay for Am (mL/g)	0.00
Kd Clay for Np (mL/g)	0.00
Kd Clay for Pa (mL/g)	0.00
Kd Clay for Pb (mL/g)	0.00
Kd Clay for Ra (mL/g)	0.00
Kd Clay for Sr (mL/g)	0.00
Kd Clay for Th (mL/g)	0.00
Kd Clay for U (mL/g)	0.00
Liner Clay Saturated Hyd Cond (cm/s)	0.00
Radon Escape/Production Ratio	0.00
Resuspended Particle Fraction	0.00
Surface Atmosphere Thickness (m)	0.00
Surface Atmosphere Diffusion Length (m)	0.00
Ant Nest Volume (m3)	0.00
Ant Colony Lifespan (yr)	0.00
Ant Nest Shape Parameter b	0.00
Ant Colony Density - Plot 1 (1/ha)	0.00
Ant Colony Density - Plot 3 (1/ha)	0.00
Ant Colony Density - Plot 4 (1/ha)	0.00
Mammal Burrow Shape Parameter b	0.00
Mammal Mound Density - Plot 2 (1/ha)	0.00
Mammal Mound Density - Plot 3 (1/ha)	0.00
Mammal Mound Density - Plot 5 (1/ha)	0.00
Plant/Soil Conc Ratio for Ac	0.00
Plant/Soil Conc Ratio for Cs	0.00
Plant/Soil Conc Ratio for I	0.00
Plant/Soil Conc Ratio for Np	0.00
Plant/Soil Conc Ratio for Pa	0.00

Plant/Soil Conc Ratio for Pb	0.00
Plant/Soil Conc Ratio for Pu	0.00
Plant/Soil Conc Ratio for Ra	0.00
Plant/Soil Conc Ratio for Sr	0.00
Plant/Soil Conc Ratio for Tc	0.00
Plant/Soil Conc Ratio for Th	0.00
Plant/Soil Conc Ratio for U	0.00
Grass Root/Shoot Ratio	0.00
Shrub Root Shape Parameter b	0.00
Shrub Root/Shoot Ratio	0.00
Tree Root Shape Parameter b	0.00
Tree Root/Shoot Ratio	0.00
Greasewood Root Shape Parameter b	0.00
Greasewood Root/Shoot Ratio	0.00
Forb Root/Shoot Ratio	0.00
Forb Root Shape Parameter b	0.00
Vegetation Association Selector	0.00
Biomass Production Rate (kg/ha/yr)	0.00
Tortuosity Porosity Exponent	0.00
Angle of Repose for Gullies (Â°)	0.00
Gully b Shape Parameter	0.00
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.00
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.00
GDP DU Inventory Storage Dead Space (m2)	0.00
Contaminated Fraction of GDP DU	0.00

Angle Of Repose Gully Fan (deg)	0.00
Distance to Gully Initiation (m)	0.00
Saturated Zone Thickness (m)	0.00
Large Lake Start (yr)	0.00
Large Lake Sedimentation Rate (m/yr)	0.00
Site Dispersal Area (km2)	0.00
Intermediate Lake Duration (yr)	0.00
Intermediate Lake Depth Above Clive (m)	0.00
Large Lake Depth Above Clive (m)	0.00
Forage Ingestion Rate for Cattle (kg/day)	0.00
Soil Ingestion Rate for Cattle (kg/day)	0.00
Soil Ingestion Rate for Antelope (kg/day)	0.00
Water Ingestion Rate for Antelope (kg/day)	0.00
Body Weight Factor for Antelope	0.00
Beef Transfer Factor for Ac (day/kg)	0.00
Beef Transfer Factor for Am (day/kg)	0.00
Beef Transfer Factor for Cs (day/kg)	0.00
Beef Transfer Factor for I (day/kg)	0.00
Beef Transfer Factor for Pa (day/kg)	0.00
Beef Transfer Factor for Pb (day/kg)	0.00
Beef Transfer Factor for Pu (day/kg)	0.00
Beef Transfer Factor for Ra (day/kg)	0.00
Beef Transfer Factor for Sr (day/kg)	0.00
Beef Transfer Factor for Tc (day/kg)	0.00
Beef Transfer Factor for Th (day/kg)	0.00
Beef Transfer Factor for U (day/kg)	0.00
Receptor Area (ha)	0.00
Antelope Range Area (acre)	0.00
DCF Alpha REF	0.00
DCF Beta REF	0.00
DCF Photon1 REF	0.00
Plant Fresh Weight Conversion	0.00
Soil Ingestion Tracer Element	0.00
Meat Preparation Loss	0.00
Meat Post-Cooking Loss	0.00

Table 2: Peak Groundwater Well Concentrations within 500 years - U238

R-squared = 98%

Explanatory Variable	Sensitivity Index
Kd Clay for U (mL/g)	48.67
Kd Sand for U (mL/g)	26.88
Molecular Diffusivity in Water (cm2/s)	8.93
Saltwater Solubility for UO3 (mol/L)	7.89
Saturated Zone Water Table Gradient	6.14
Unit 2 Saturated Hyd Cond (cm/s)	1.23
Kd Silt for U (mL/g)	0.23
Unit 2 Bulk Density (g/cm3)	0.01
Unit 3 Bulk Density (g/cm3)	0.01
Number of Gullies	0.00
Large Lake End (yr)	0.00
Kd Sand for Pb (mL/g)	0.00
Silt Sand Gravel Porosity	0.00
Fine Gravel Mix Porosity	0.00
Receptor Area (ha)	0.00
Plant/Soil Conc Ratio for Np	0.00
Fine Gravel Mix BulkDensity (g/cm3)	0.00
Angle of Repose for Gullies (Â°)	0.00
Forage Ingestion Rate for Cattle (kg/day)	0.00
Kd Sand for Pu (mL/g)	0.00
RipRap Porosity	0.00
RipRap Bulk Density (g/cm3)	0.00
Fine CobbleMix Porosity	0.00
Fine Cobble Mix BulkDensity (g/cm3)	0.00
Silt Sand Gravel BulkDensity (g/cm3)	0.00
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	0.00
Soil Temperature (Â°C)	0.00
Unit 3 Porosity	0.00
Unit 3 Bubbling Pressure Head (cm)	0.00
Unit 3 Residual Water Content	0.00
Unit 3 Saturated Hyd Cond (cm/s)	0.00
Unit 3 Brooks-Corey Fractal Dimension	0.00
Unit 4 Bulk Density (g/cm3)	0.00
Unit 4 Porosity	0.00
Unit 4 Bubbling Pressure Head (cm)	0.00
Unit 4 Residual Water Content	0.00
Unit 4 Saturated Hyd Cond (cm/s)	0.00
Unit 4 Brooks-Corey Fractal Dimension	0.00
log of van Genuchten's α for Unit 4	0.00
log of van Genuchten's n for Unit 4	0.00

Unit 2 Porosity	0.00
Saltwater Solubility for Ac (mol/L)	0.00
Saltwater Solubility for Am (mol/L)	0.00
Saltwater Solubility for Cs (mol/L)	0.00
Saltwater Solubility for Np (mol/L)	0.00
Saltwater Solubility for Pa (mol/L)	0.00
Saltwater Solubility for Pb (mol/L)	0.00
Saltwater Solubility for Pu (mol/L)	0.00
Saltwater Solubility for Ra (mol/L)	0.00
Saltwater Solubility for Sr (mol/L)	0.00
Saltwater Solubility for Tc (mol/L)	0.00
Saltwater Solubility for Th (mol/L)	0.00
Saltwater Solubility for I (mol/L)	0.00
Saltwater Solubility for Rn (mol/L)	0.00
Saltwater Solubility for U3O8 (mol/L)	0.00
Kd Sand for Ac (mL/g)	0.00
Kd Sand for Am (mL/g)	0.00
Kd Sand for Cs (mL/g)	0.00
Kd Sand for Np (mL/g)	0.00
Kd Sand for Pa (mL/g)	0.00
Kd Sand for Ra (mL/g)	0.00
Kd Sand for Sr (mL/g)	0.00
Kd Sand for Th (mL/g)	0.00
Kd Sand for I (mL/g)	0.00
Kd Sand for Tc (mL/g)	0.00
Kd Silt for Ac (mL/g)	0.00
Kd Silt for Am (mL/g)	0.00
Kd Silt for Cs (mL/g)	0.00
Kd Silt for Np (mL/g)	0.00
Kd Silt for Pa (mL/g)	0.00
Kd Silt for Pb (mL/g)	0.00
Kd Silt for Pu (mL/g)	0.00
Kd Silt for Ra (mL/g)	0.00
Kd Silt for Sr (mL/g)	0.00
Kd Silt for Th (mL/g)	0.00
Kd Clay for Ac (mL/g)	0.00
Kd Clay for Am (mL/g)	0.00
Kd Clay for Cs (mL/g)	0.00
Kd Clay for Np (mL/g)	0.00
Kd Clay for Pa (mL/g)	0.00
Kd Clay for Pb (mL/g)	0.00
Kd Clay for Pu (mL/g)	0.00
Kd Clay for Ra (mL/g)	0.00

Kd Clay for Sr (mL/g)	0.00
Kd Clay for Th (mL/g)	0.00
Liner Clay Saturated Hyd Cond (cm/s)	0.00
Resuspension Flux (kg/m2-yr)	0.00
Radon Escape/Production Ratio	0.00
Resuspended Particle Fraction	0.00
Surface Atmosphere Thickness (m)	0.00
Surface Atmosphere Diffusion Length (m)	0.00
Surface Wind Speed (m/s)	0.00
Ant Nest Volume (m3)	0.00
Ant Colony Lifespan (yr)	0.00
Ant Nest Shape Parameter b	0.00
Ant Colony Density - Plot 1 (1/ha)	0.00
Ant Colony Density - Plot 2 (1/ha)	0.00
Ant Colony Density - Plot 3 (1/ha)	0.00
Ant Colony Density - Plot 4 (1/ha)	0.00
Ant Colony Density - Plot 5 (1/ha)	0.00
Mammal Burrow Shape Parameter b	0.00
Mammal Burrow Excavation Rate (m3/yr)	0.00
Mammal Mound Density - Plot 1 (1/ha)	0.00
Mammal Mound Density - Plot 2 (1/ha)	0.00
Mammal Mound Density - Plot 3 (1/ha)	0.00
Mammal Mound Density - Plot 4 (1/ha)	0.00
Mammal Mound Density - Plot 5 (1/ha)	0.00
Plant/Soil Conc Ratio for Ac	0.00
Plant/Soil Conc Ratio for Am	0.00
Plant/Soil Conc Ratio for Cs	0.00
Plant/Soil Conc Ratio for I	0.00
Plant/Soil Conc Ratio for Pa	0.00
Plant/Soil Conc Ratio for Pb	0.00
Plant/Soil Conc Ratio for Pu	0.00
Plant/Soil Conc Ratio for Ra	0.00
Plant/Soil Conc Ratio for Sr	0.00
Plant/Soil Conc Ratio for Tc	0.00
Plant/Soil Conc Ratio for Th	0.00
Plant/Soil Conc Ratio for U	0.00
Grass Root/Shoot Ratio	0.00
Grass Root Shape Parameter b	0.00
Shrub Root Shape Parameter b	0.00
Shrub Root/Shoot Ratio	0.00
Tree Root Shape Parameter b	0.00
Tree Root/Shoot Ratio	0.00
Greasewood Root Shape Parameter b	0.00

Greasewood Root/Shoot Ratio	0.00
Forb Root/Shoot Ratio	0.00
Forb Root Shape Parameter b	0.00
Biomass % Cover Selector	0.00
Vegetation Association Selector	0.00
Biomass Production Rate (kg/ha/yr)	0.00
Tortuosity Water Content Exponent	0.00
Tortuosity Porosity Exponent	0.00
Gully b Shape Parameter	0.00
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.00
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U234 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.00
GDP DU Inventory Storage Dead Space (m2)	0.00
Contaminated Fraction of GDP DU	0.00
Unsaturated Zone Thickness (m)	0.00
Siberia Gully Selector	0.00
Angle Of Repose Gully Fan (deg)	0.00
Distance to Gully Initiation (m)	0.00
Saturated Zone Thickness (m)	0.00

Large Lake Start (yr)	0.00
Intermediate Lake Sed Thickness (m)	0.00
Large Lake Sedimentation Rate (m/yr)	0.00
Site Dispersal Area (km2)	0.00
Intermediate Lake Duration (yr)	0.00
Intermediate Lake Depth Above Clive (m)	0.00
Large Lake Depth Above Clive (m)	0.00
OHV Dust Adjustment	0.00
Soil Ingestion Rate for Cattle (kg/day)	0.00
Soil Ingestion Rate for Antelope (kg/day)	0.00
Water Ingestion Rate for Cattle (kg/day)	0.00
Water Ingestion Rate for Antelope (kg/day)	0.00
Body Weight Factor for Antelope	0.00
Beef Transfer Factor for Ac (day/kg)	0.00
Beef Transfer Factor for Am (day/kg)	0.00
Beef Transfer Factor for Cs (day/kg)	0.00
Beef Transfer Factor for I (day/kg)	0.00
Beef Transfer Factor for Np (day/kg)	0.00
Beef Transfer Factor for Pa (day/kg)	0.00
Beef Transfer Factor for Pb (day/kg)	0.00
Beef Transfer Factor for Pu (day/kg)	0.00
Beef Transfer Factor for Ra (day/kg)	0.00
Beef Transfer Factor for Sr (day/kg)	0.00
Beef Transfer Factor for Tc (day/kg)	0.00
Beef Transfer Factor for Th (day/kg)	0.00
Beef Transfer Factor for U (day/kg)	0.00
Antelope Range Area (acre)	0.00
DCF Alpha REF	0.00
DCF Beta REF	0.00
DCF Photon1 REF	0.00
DCF Photon2 REF	0.00
Plant Fresh Weight Conversion	0.00
Soil Ingestion Tracer Element	0.00
Meat Preparation Loss	0.00
Meat Post-Cooking Loss	0.00

Table 3: Peak Dose within 10,000 years - Hunter

R-squared = 93%

Explanatory Variable	Sensitivity Index
Radon Escape/Production Ratio	77.33
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	13.59
log of van Genuchten's n for Unit 4	4.31
Activity Conc in SRS DU Waste: U234 (pCi/g)	1.30
Unit 4 Porosity	1.14
Molecular Diffusivity in Water (cm2/s)	0.70
Kd Sand for Ra (mL/g)	0.31
Unit 3 Residual Water Content	0.22
Number of Gullies	0.22
Unit 3 Porosity	0.19
Greasewood Root Shape Parameter b	0.03
Shrub Root/Shoot Ratio	0.03
Mammal Burrow Shape Parameter b	0.02
DCF Beta REF	0.02
Ant Nest Volume (m3)	0.02
Saltwater Solubility for Np (mol/L)	0.01
log of van Genuchten's α for Unit 4	0.01
Surface Atmosphere Thickness (m)	0.01
Kd Silt for Cs (mL/g)	0.01
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.01
Unit 4 Residual Water Content	0.01
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.01
Plant/Soil Conc Ratio for Th	0.01
Beef Transfer Factor for Tc (day/kg)	0.01
Kd Silt for Ra (mL/g)	0.01
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.01
Intermediate Lake Sed Thickness (m)	0.01
Saltwater Solubility for Sr (mol/L)	0.01
Body Weight Factor for Antelope	0.01
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.01
Fine Cobble Mix BulkDensity (g/cm3)	0.01
Beef Transfer Factor for Am (day/kg)	0.01
Kd Clay for Ra (mL/g)	0.01
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.01
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.01
Unit 3 Brooks-Corey Fractal Dimension	0.01
Fine CobbleMix Porosity	0.01
Water Ingestion Rate for Cattle (kg/day)	0.01
Kd Sand for Sr (mL/g)	0.01
DCF Photon2 REF	0.01

Kd Silt for U (mL/g)	0.01
Liner Clay Saturated Hyd Cond (cm/s)	0.01
Unit 4 Saturated Hyd Cond (cm/s)	0.01
Saturated Zone Thickness (m)	0.01
Plant/Soil Conc Ratio for Am	0.01
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.00
Ant Colony Density - Plot 5 (1/ha)	0.00
Saltwater Solubility for Ac (mol/L)	0.00
Grass Root/Shoot Ratio	0.00
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.00
Plant/Soil Conc Ratio for Pb	0.00
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.00
Mammal Mound Density - Plot 4 (1/ha)	0.00
Plant Fresh Weight Conversion	0.00
Mammal Mound Density - Plot 2 (1/ha)	0.00
Kd Sand for Np (mL/g)	0.00
Plant/Soil Conc Ratio for Ac	0.00
OHV Dust Adjustment	0.00
Resuspended Particle Fraction	0.00
Saturated Zone Water Table Gradient	0.00
Kd Clay for Np (mL/g)	0.00
Plant/Soil Conc Ratio for Np	0.00
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.00
Gully b Shape Parameter	0.00
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.00
Kd Sand for I (mL/g)	0.00
Beef Transfer Factor for Np (day/kg)	0.00
Beef Transfer Factor for Ac (day/kg)	0.00
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.00
Saltwater Solubility for Rn (mol/L)	0.00
Plant/Soil Conc Ratio for Cs	0.00
Biomass % Cover Selector	0.00
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.00
Large Lake Depth Above Clive (m)	0.00
Saltwater Solubility for U3O8 (mol/L)	0.00
Unit 4 Bubbling Pressure Head (cm)	0.00
Beef Transfer Factor for Ra (day/kg)	0.00
Unit 4 Bulk Density (g/cm3)	0.00
Kd Sand for Pb (mL/g)	0.00
Saltwater Solubility for Ra (mol/L)	0.00

Saltwater Solubility for UO3 (mol/L)	0.00
RipRap Porosity	0.00
Saltwater Solubility for I (mol/L)	0.00
Grass Root Shape Parameter b	0.00
Surface Atmosphere Diffusion Length (m)	0.00
Unsaturated Zone Thickness (m)	0.00
Kd Clay for U (mL/g)	0.00
Kd Silt for Pb (mL/g)	0.00
Unit 3 Saturated Hyd Cond (cm/s)	0.00
Saltwater Solubility for Cs (mol/L)	0.00
Site Dispersal Area (km2)	0.00
Kd Clay for Ac (mL/g)	0.00
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.00
Beef Transfer Factor for Pa (day/kg)	0.00
Plant/Soil Conc Ratio for Sr	0.00
Mammal Mound Density - Plot 3 (1/ha)	0.00
Large Lake Sedimentation Rate (m/yr)	0.00
Angle of Repose for Gullies (Â°)	0.00
Kd Sand for Am (mL/g)	0.00
Ant Colony Density - Plot 1 (1/ha)	0.00
Large Lake Start (yr)	0.00
Kd Silt for Th (mL/g)	0.00
Biomass Production Rate (kg/ha/yr)	0.00
Kd Clay for Sr (mL/g)	0.00
Large Lake End (yr)	0.00
GDP DU Inventory Storage Dead Space (m2)	0.00
Soil Ingestion Rate for Cattle (kg/day)	0.00
Meat Preparation Loss	0.00
Kd Sand for Pu (mL/g)	0.00
Vegetation Association Selector	0.00
Tree Root Shape Parameter b	0.00
Mammal Mound Density - Plot 5 (1/ha)	0.00
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.00
Soil Temperature (Â°C)	0.00
Unit 2 Saturated Hyd Cond (cm/s)	0.00
Unit 3 Bulk Density (g/cm3)	0.00
Angle Of Repose Gully Fan (deg)	0.00
Antelope Range Area (acre)	0.00
Beef Transfer Factor for I (day/kg)	0.00
Unit 3 Bubbling Pressure Head (cm)	0.00
Kd Sand for Tc (mL/g)	0.00
Kd Silt for Ac (mL/g)	0.00
Receptor Area (ha)	0.00

Activity Conc in SRS DU Waste: U232 (pCi/g)	0.00
Plant/Soil Conc Ratio for Ra	0.00
Kd Clay for Am (mL/g)	0.00
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.00
Kd Sand for Ac (mL/g)	0.00
Beef Transfer Factor for U (day/kg)	0.00
Plant/Soil Conc Ratio for I	0.00
Saltwater Solubility for Am (mol/L)	0.00
Kd Silt for Am (mL/g)	0.00
Saltwater Solubility for Pb (mol/L)	0.00
Forage Ingestion Rate for Cattle (kg/day)	0.00
Kd Silt for Sr (mL/g)	0.00
Fine Gravel Mix Porosity	0.00
Kd Sand for Cs (mL/g)	0.00
Kd Sand for Pa (mL/g)	0.00
Beef Transfer Factor for Pb (day/kg)	0.00
Ant Colony Density - Plot 3 (1/ha)	0.00
Ant Colony Density - Plot 2 (1/ha)	0.00
Kd Clay for Th (mL/g)	0.00
Ant Nest Shape Parameter b	0.00
RipRap Bulk Density (g/cm3)	0.00
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.00
Kd Silt for Np (mL/g)	0.00
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.00
Saltwater Solubility for Th (mol/L)	0.00
Meat Post-Cooking Loss	0.00
Tortuosity Water Content Exponent	0.00
Forb Root/Shoot Ratio	0.00
Shrub Root Shape Parameter b	0.00
DCF Photon1 REF	0.00
Silt Sand Gravel Porosity	0.00
Kd Silt for Pu (mL/g)	0.00
Mammal Mound Density - Plot 1 (1/ha)	0.00
Kd Silt for Pa (mL/g)	0.00
Distance to Gully Initiation (m)	0.00
Ant Colony Lifespan (yr)	0.00
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.00
Plant/Soil Conc Ratio for U	0.00
Tree Root/Shoot Ratio	0.00
Kd Clay for Pa (mL/g)	0.00
Ant Colony Density - Plot 4 (1/ha)	0.00
Beef Transfer Factor for Pu (day/kg)	0.00
Plant/Soil Conc Ratio for Pa	0.00

Surface Wind Speed (m/s)	0.00
Plant/Soil Conc Ratio for Pu	0.00
Plant/Soil Conc Ratio for Tc	0.00
Beef Transfer Factor for Sr (day/kg)	0.00
Mammal Burrow Excavation Rate (m3/yr)	0.00
Fine Gravel Mix BulkDensity (g/cm3)	0.00
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.00
Contaminated Fraction of GDP DU	0.00
Intermediate Lake Depth Above Clive (m)	0.00
Kd Sand for U (mL/g)	0.00
Siberia Gully Selector	0.00
Tortuosity Porosity Exponent	0.00
Intermediate Lake Duration (yr)	0.00
Unit 2 Bulk Density (g/cm3)	0.00
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.00
Forb Root Shape Parameter b	0.00
Greasewood Root/Shoot Ratio	0.00
Saltwater Solubility for Pa (mol/L)	0.00
Beef Transfer Factor for Cs (day/kg)	0.00
Soil Ingestion Rate for Antelope (kg/day)	0.00
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.00
Saltwater Solubility for Tc (mol/L)	0.00
Kd Clay for Cs (mL/g)	0.00
Beef Transfer Factor for Th (day/kg)	0.00
Kd Clay for Pu (mL/g)	0.00
Silt Sand Gravel BulkDensity (g/cm3)	0.00
Saltwater Solubility for Pu (mol/L)	0.00
Resuspension Flux (kg/m2-yr)	0.00
Kd Clay for Pb (mL/g)	0.00
Unit 2 Porosity	0.00
Kd Sand for Th (mL/g)	0.00
DCF Alpha REF	0.00
Water Ingestion Rate for Antelope (kg/day)	0.00
Unit 4 Brooks-Corey Fractal Dimension	0.00
Soil Ingestion Tracer Element	0.00

Table 4: Peak Dose within 10,000 years - Rancher

R-squared = 81%

Explanatory Variable	Sensitivity Index
Radon Escape/Production Ratio	64.89
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	13.32
log of van Genuchten's n for Unit 4	4.21
Number of Gullies	1.75
Activity Conc in SRS DU Waste: U234 (pCi/g)	1.61
Unit 4 Porosity	1.00
Molecular Diffusivity in Water (cm2/s)	0.62
Unit 3 Residual Water Content	0.47
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.33
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.27
Kd Sand for Sr (mL/g)	0.26
Large Lake Depth Above Clive (m)	0.25
Kd Silt for Ra (mL/g)	0.23
Greasewood Root Shape Parameter b	0.21
Kd Sand for Ra (mL/g)	0.21
DCF Photon1 REF	0.20
Unit 3 Porosity	0.19
Resuspended Particle Fraction	0.18
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.17
Fine CobbleMix Porosity	0.15
Grass Root/Shoot Ratio	0.15
Plant/Soil Conc Ratio for Pb	0.14
Angle of Repose for Gullies (Â°)	0.14
Unsaturated Zone Thickness (m)	0.13
Saturated Zone Thickness (m)	0.13
Saltwater Solubility for Pa (mol/L)	0.13
Grass Root Shape Parameter b	0.12
Kd Sand for Pa (mL/g)	0.12
Beef Transfer Factor for Np (day/kg)	0.12
Fine Cobble Mix BulkDensity (g/cm3)	0.12
Kd Silt for Ac (mL/g)	0.12
Kd Silt for Sr (mL/g)	0.12
Liner Clay Saturated Hyd Cond (cm/s)	0.12
Saltwater Solubility for Tc (mol/L)	0.12
Ant Nest Volume (m3)	0.12
Kd Sand for Th (mL/g)	0.11
Tortuosity Water Content Exponent	0.11
Kd Silt for U (mL/g)	0.11
Ant Colony Density - Plot 1 (1/ha)	0.11
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.10

Mammal Mound Density - Plot 4 (1/ha)	0.10
DCF Alpha REF	0.10
Plant/Soil Conc Ratio for Sr	0.10
log of van Genuchten's α for Unit 4	0.10
Mammal Mound Density - Plot 2 (1/ha)	0.10
Meat Preparation Loss	0.10
Kd Clay for Am (mL/g)	0.09
Shrub Root Shape Parameter b	0.09
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.09
Kd Silt for Cs (mL/g)	0.09
Unit 4 Bubbling Pressure Head (cm)	0.09
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.08
Unit 4 Residual Water Content	0.08
Saltwater Solubility for Np (mol/L)	0.08
Saltwater Solubility for Th (mol/L)	0.08
Beef Transfer Factor for Sr (day/kg)	0.08
Plant/Soil Conc Ratio for Ac	0.08
Intermediate Lake Sed Thickness (m)	0.08
Unit 3 Brooks-Corey Fractal Dimension	0.08
Kd Clay for Np (mL/g)	0.08
DCF Beta REF	0.07
Angle Of Repose Gully Fan (deg)	0.07
Kd Clay for Cs (mL/g)	0.07
Kd Sand for Pu (mL/g)	0.07
Surface Wind Speed (m/s)	0.07
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.07
Saltwater Solubility for I (mol/L)	0.07
Intermediate Lake Duration (yr)	0.07
Saltwater Solubility for Ac (mol/L)	0.07
Fine Gravel Mix Porosity	0.07
Beef Transfer Factor for U (day/kg)	0.07
Ant Colony Density - Plot 3 (1/ha)	0.07
Kd Silt for Am (mL/g)	0.07
Gully b Shape Parameter	0.07
Kd Sand for Ac (mL/g)	0.06
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.06
Mammal Burrow Excavation Rate (m3/yr)	0.06
Unit 2 Porosity	0.06
Saltwater Solubility for Rn (mol/L)	0.06
Kd Clay for Th (mL/g)	0.06
Silt Sand Gravel BulkDensity (g/cm3)	0.06
OHV Dust Adjustment	0.06
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.06

Unit 3 Saturated Hyd Cond (cm/s)	0.05
Kd Silt for Pa (mL/g)	0.05
Meat Post-Cooking Loss	0.05
Beef Transfer Factor for Tc (day/kg)	0.05
Saturated Zone Water Table Gradient	0.05
Plant/Soil Conc Ratio for Tc	0.05
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.05
Kd Sand for Np (mL/g)	0.05
Saltwater Solubility for Cs (mol/L)	0.05
Ant Colony Density - Plot 5 (1/ha)	0.05
Kd Silt for Th (mL/g)	0.05
Antelope Range Area (acre)	0.05
Saltwater Solubility for Sr (mol/L)	0.05
Plant/Soil Conc Ratio for U	0.05
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.05
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.05
Unit 2 Bulk Density (g/cm3)	0.05
Beef Transfer Factor for Ra (day/kg)	0.05
Fine Gravel Mix BulkDensity (g/cm3)	0.05
Unit 3 Bubbling Pressure Head (cm)	0.04
Saltwater Solubility for Pu (mol/L)	0.04
Saltwater Solubility for UO3 (mol/L)	0.04
Soil Temperature (Â°C)	0.04
Kd Clay for Pu (mL/g)	0.04
RipRap Porosity	0.04
Large Lake Sedimentation Rate (m/yr)	0.04
Ant Nest Shape Parameter b	0.04
Surface Atmosphere Thickness (m)	0.04
Silt Sand Gravel Porosity	0.04
Kd Silt for Pb (mL/g)	0.04
Water Ingestion Rate for Cattle (kg/day)	0.04
Kd Clay for Pb (mL/g)	0.04
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.04
Kd Sand for Pb (mL/g)	0.04
Site Dispersal Area (km2)	0.04
Kd Clay for Pa (mL/g)	0.04
Tortuosity Porosity Exponent	0.04
Beef Transfer Factor for Th (day/kg)	0.04
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.04
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.04
Forb Root Shape Parameter b	0.04
Ant Colony Density - Plot 4 (1/ha)	0.04
Tree Root/Shoot Ratio	0.04

Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.04
Saltwater Solubility for Ra (mol/L)	0.04
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.04
Kd Clay for Ra (mL/g)	0.04
Kd Sand for I (mL/g)	0.04
Beef Transfer Factor for Ac (day/kg)	0.04
Large Lake End (yr)	0.04
Water Ingestion Rate for Antelope (kg/day)	0.04
Kd Sand for U (mL/g)	0.03
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.03
Unit 2 Saturated Hyd Cond (cm/s)	0.03
GDP DU Inventory Storage Dead Space (m2)	0.03
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.03
Kd Silt for Pu (mL/g)	0.03
Greasewood Root/Shoot Ratio	0.03
Soil Ingestion Rate for Cattle (kg/day)	0.03
Distance to Gully Initiation (m)	0.03
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.03
RipRap Bulk Density (g/cm3)	0.03
Mammal Mound Density - Plot 3 (1/ha)	0.03
Tree Root Shape Parameter b	0.03
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.03
Plant/Soil Conc Ratio for Th	0.03
Saltwater Solubility for Am (mol/L)	0.03
Vegetation Association Selector	0.03
Plant/Soil Conc Ratio for I	0.03
Contaminated Fraction of GDP DU	0.03
Beef Transfer Factor for Am (day/kg)	0.03
Large Lake Start (yr)	0.03
Resuspension Flux (kg/m2-yr)	0.03
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.03
Forage Ingestion Rate for Cattle (kg/day)	0.03
Plant Fresh Weight Conversion	0.03
Beef Transfer Factor for Pa (day/kg)	0.03
Beef Transfer Factor for Pb (day/kg)	0.03
Unit 3 Bulk Density (g/cm3)	0.02
Plant/Soil Conc Ratio for Np	0.02
Kd Clay for Sr (mL/g)	0.02
Ant Colony Lifespan (yr)	0.02
Mammal Burrow Shape Parameter b	0.02
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.02
Intermediate Lake Depth Above Clive (m)	0.02
Plant/Soil Conc Ratio for Pa	0.02

Soil Ingestion Rate for Antelope (kg/day)	0.02
Biomass Production Rate (kg/ha/yr)	0.02
Shrub Root/Shoot Ratio	0.02
Biomass % Cover Selector	0.02
Unit 4 Bulk Density (g/cm3)	0.02
Unit 4 Saturated Hyd Cond (cm/s)	0.02
Saltwater Solubility for U3O8 (mol/L)	0.02
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.02
Plant/Soil Conc Ratio for Am	0.02
DCF Photon2 REF	0.02
Beef Transfer Factor for I (day/kg)	0.02
Kd Sand for Tc (mL/g)	0.02
Kd Clay for Ac (mL/g)	0.02
Mammal Mound Density - Plot 1 (1/ha)	0.02
Beef Transfer Factor for Cs (day/kg)	0.02
Body Weight Factor for Antelope	0.02
Forb Root/Shoot Ratio	0.02
Saltwater Solubility for Pb (mol/L)	0.02
Plant/Soil Conc Ratio for Cs	0.02
Receptor Area (ha)	0.02
Kd Silt for Np (mL/g)	0.02
Surface Atmosphere Diffusion Length (m)	0.02
Kd Sand for Am (mL/g)	0.02
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.01
Kd Sand for Cs (mL/g)	0.01
Mammal Mound Density - Plot 5 (1/ha)	0.01
Plant/Soil Conc Ratio for Pu	0.01
Ant Colony Density - Plot 2 (1/ha)	0.01
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.01
Beef Transfer Factor for Pu (day/kg)	0.01
Kd Clay for U (mL/g)	0.01
Plant/Soil Conc Ratio for Ra	0.01
Siberia Gully Selector	0.01
Unit 4 Brooks-Corey Fractal Dimension	0.00
Soil Ingestion Tracer Element	0.00

Table 5: Peak Dose within 10,000 years - OHVuser

R-squared = 96%

Explanatory Variable	Sensitivity Index
Radon Escape/Production Ratio	77.50
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	14.41
log of van Genuchten's n for Unit 4	4.17
Activity Conc in SRS DU Waste: U234 (pCi/g)	1.15
Unit 4 Porosity	0.93
Molecular Diffusivity in Water (cm2/s)	0.68
Kd Sand for Ra (mL/g)	0.34
Unit 3 Residual Water Content	0.17
Unit 3 Porosity	0.12
Number of Gullies	0.09
Shrub Root/Shoot Ratio	0.04
Grass Root/Shoot Ratio	0.02
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.02
Kd Silt for Ra (mL/g)	0.02
Kd Clay for Ra (mL/g)	0.02
DCF Beta REF	0.01
Saltwater Solubility for UO3 (mol/L)	0.01
log of van Genuchten's α for Unit 4	0.01
Plant/Soil Conc Ratio for Am	0.01
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.01
Unit 2 Saturated Hyd Cond (cm/s)	0.01
Large Lake Depth Above Clive (m)	0.01
Kd Clay for Pu (mL/g)	0.01
Saltwater Solubility for Ra (mol/L)	0.01
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.01
GDP DU Inventory Storage Dead Space (m2)	0.01
Plant/Soil Conc Ratio for U	0.01
Kd Sand for Pb (mL/g)	0.01
Kd Sand for Pa (mL/g)	0.01
Kd Clay for Sr (mL/g)	0.01
Plant/Soil Conc Ratio for Th	0.01
Unsaturated Zone Thickness (m)	0.01
Plant/Soil Conc Ratio for Np	0.00
Kd Clay for Pb (mL/g)	0.00
Soil Ingestion Rate for Cattle (kg/day)	0.00
Greasewood Root Shape Parameter b	0.00
Kd Silt for Cs (mL/g)	0.00
Kd Silt for Np (mL/g)	0.00
Kd Silt for Sr (mL/g)	0.00
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.00

Tree Root Shape Parameter b	0.00
Kd Clay for U (mL/g)	0.00
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.00
Large Lake End (yr)	0.00
Beef Transfer Factor for Np (day/kg)	0.00
Ant Colony Density - Plot 3 (1/ha)	0.00
Mammal Mound Density - Plot 5 (1/ha)	0.00
Plant/Soil Conc Ratio for Sr	0.00
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.00
Grass Root Shape Parameter b	0.00
Kd Sand for Th (mL/g)	0.00
Saltwater Solubility for Sr (mol/L)	0.00
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.00
Unit 4 Bulk Density (g/cm3)	0.00
Kd Sand for Pu (mL/g)	0.00
Surface Atmosphere Thickness (m)	0.00
Mammal Burrow Shape Parameter b	0.00
Kd Sand for Am (mL/g)	0.00
Saltwater Solubility for Rn (mol/L)	0.00
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.00
Saturated Zone Water Table Gradient	0.00
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.00
Kd Sand for Sr (mL/g)	0.00
Ant Nest Shape Parameter b	0.00
Unit 4 Bubbling Pressure Head (cm)	0.00
Surface Atmosphere Diffusion Length (m)	0.00
Mammal Mound Density - Plot 1 (1/ha)	0.00
Site Dispersal Area (km2)	0.00
Kd Clay for Ac (mL/g)	0.00
DCF Photon2 REF	0.00
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.00
Saltwater Solubility for Cs (mol/L)	0.00
Resuspended Particle Fraction	0.00
Water Ingestion Rate for Antelope (kg/day)	0.00
Plant/Soil Conc Ratio for Cs	0.00
Kd Silt for Th (mL/g)	0.00
Saltwater Solubility for Pu (mol/L)	0.00
Beef Transfer Factor for Ra (day/kg)	0.00
Plant/Soil Conc Ratio for Tc	0.00
Soil Temperature (Â°C)	0.00
Kd Clay for Am (mL/g)	0.00
Kd Sand for Ac (mL/g)	0.00

Kd Clay for Cs (mL/g)	0.00
Ant Colony Density - Plot 5 (1/ha)	0.00
Unit 3 Brooks-Corey Fractal Dimension	0.00
RipRap Bulk Density (g/cm3)	0.00
Ant Colony Lifespan (yr)	0.00
Kd Silt for Ac (mL/g)	0.00
Kd Silt for Pa (mL/g)	0.00
Resuspension Flux (kg/m2-yr)	0.00
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.00
Saltwater Solubility for Pb (mol/L)	0.00
Saturated Zone Thickness (m)	0.00
Saltwater Solubility for Tc (mol/L)	0.00
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.00
Large Lake Start (yr)	0.00
Tortuosity Porosity Exponent	0.00
OHV Dust Adjustment	0.00
Ant Nest Volume (m3)	0.00
Ant Colony Density - Plot 4 (1/ha)	0.00
Distance to Gully Initiation (m)	0.00
Liner Clay Saturated Hyd Cond (cm/s)	0.00
Beef Transfer Factor for Sr (day/kg)	0.00
Kd Clay for Th (mL/g)	0.00
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.00
Body Weight Factor for Antelope	0.00
Saltwater Solubility for I (mol/L)	0.00
Unit 3 Bulk Density (g/cm3)	0.00
Kd Sand for Cs (mL/g)	0.00
Tortuosity Water Content Exponent	0.00
Angle Of Repose Gully Fan (deg)	0.00
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.00
Plant/Soil Conc Ratio for I	0.00
Biomass Production Rate (kg/ha/yr)	0.00
Fine CobbleMix Porosity	0.00
Kd Clay for Pa (mL/g)	0.00
Meat Post-Cooking Loss	0.00
Gully b Shape Parameter	0.00
RipRap Porosity	0.00
Fine Cobble Mix BulkDensity (g/cm3)	0.00
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.00
Silt Sand Gravel Porosity	0.00
Intermediate Lake Sed Thickness (m)	0.00
Beef Transfer Factor for U (day/kg)	0.00
Plant/Soil Conc Ratio for Pa	0.00

Water Ingestion Rate for Cattle (kg/day)	0.00
Ant Colony Density - Plot 1 (1/ha)	0.00
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.00
Saltwater Solubility for Ac (mol/L)	0.00
Unit 2 Bulk Density (g/cm3)	0.00
Forb Root/Shoot Ratio	0.00
Kd Sand for I (mL/g)	0.00
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.00
Beef Transfer Factor for Tc (day/kg)	0.00
Beef Transfer Factor for I (day/kg)	0.00
Kd Silt for Pb (mL/g)	0.00
Siberia Gully Selector	0.00
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.00
Kd Silt for U (mL/g)	0.00
DCF Photon1 REF	0.00
Plant/Soil Conc Ratio for Pu	0.00
Contaminated Fraction of GDP DU	0.00
Kd Sand for Tc (mL/g)	0.00
Unit 3 Saturated Hyd Cond (cm/s)	0.00
Silt Sand Gravel BulkDensity (g/cm3)	0.00
Mammal Mound Density - Plot 2 (1/ha)	0.00
Saltwater Solubility for Pa (mol/L)	0.00
Unit 3 Bubbling Pressure Head (cm)	0.00
Receptor Area (ha)	0.00
Beef Transfer Factor for Pa (day/kg)	0.00
Tree Root/Shoot Ratio	0.00
Beef Transfer Factor for Pu (day/kg)	0.00
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.00
Surface Wind Speed (m/s)	0.00
Forb Root Shape Parameter b	0.00
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.00
Unit 4 Saturated Hyd Cond (cm/s)	0.00
Saltwater Solubility for U3O8 (mol/L)	0.00
Saltwater Solubility for Np (mol/L)	0.00
Kd Silt for Am (mL/g)	0.00
Vegetation Association Selector	0.00
Antelope Range Area (acre)	0.00
Meat Preparation Loss	0.00
DCF Alpha REF	0.00
Biomass % Cover Selector	0.00
Kd Sand for Np (mL/g)	0.00
Mammal Mound Density - Plot 4 (1/ha)	0.00

Kd Silt for Pu (mL/g)	0.00
Mammal Mound Density - Plot 3 (1/ha)	0.00
Unit 4 Residual Water Content	0.00
Plant/Soil Conc Ratio for Ra	0.00
Shrub Root Shape Parameter b	0.00
Large Lake Sedimentation Rate (m/yr)	0.00
Fine Gravel Mix Porosity	0.00
Kd Sand for U (mL/g)	0.00
Greasewood Root/Shoot Ratio	0.00
Mammal Burrow Excavation Rate (m3/yr)	0.00
Intermediate Lake Duration (yr)	0.00
Plant/Soil Conc Ratio for Ac	0.00
Plant Fresh Weight Conversion	0.00
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.00
Unit 2 Porosity	0.00
Beef Transfer Factor for Pb (day/kg)	0.00
Saltwater Solubility for Am (mol/L)	0.00
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.00
Beef Transfer Factor for Th (day/kg)	0.00
Plant/Soil Conc Ratio for Pb	0.00
Beef Transfer Factor for Ac (day/kg)	0.00
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.00
Angle of Repose for Gullies (Â°)	0.00
Forage Ingestion Rate for Cattle (kg/day)	0.00
Ant Colony Density - Plot 2 (1/ha)	0.00
Beef Transfer Factor for Cs (day/kg)	0.00
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.00
Saltwater Solubility for Th (mol/L)	0.00
Fine Gravel Mix BulkDensity (g/cm3)	0.00
Unit 4 Brooks-Corey Fractal Dimension	0.00
Kd Clay for Np (mL/g)	0.00
Intermediate Lake Depth Above Clive (m)	0.00
Soil Ingestion Rate for Antelope (kg/day)	0.00
Beef Transfer Factor for Am (day/kg)	0.00
Soil Ingestion Tracer Element	0.00

Table 6: Dose summed over 10,000 years - Population

R-squared = 98%

Explanatory Variable	Sensitivity Index
Radon Escape/Production Ratio	78.27
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	14.48
log of van Genuchten's n for Unit 4	4.05
Activity Conc in SRS DU Waste: U234 (pCi/g)	1.00
Unit 4 Porosity	0.99
Molecular Diffusivity in Water (cm2/s)	0.48
Kd Sand for Ra (mL/g)	0.26
Unit 3 Residual Water Content	0.17
Unit 3 Porosity	0.09
Number of Gullies	0.03
DCF Beta REF	0.03
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.01
Kd Clay for Ra (mL/g)	0.01
Plant/Soil Conc Ratio for Am	0.01
Unit 2 Saturated Hyd Cond (cm/s)	0.01
Plant/Soil Conc Ratio for Th	0.01
log of van Genuchten's α for Unit 4	0.01
Beef Transfer Factor for Np (day/kg)	0.01
Shrub Root/Shoot Ratio	0.00
Grass Root/Shoot Ratio	0.00
Kd Silt for Ra (mL/g)	0.00
Kd Silt for Np (mL/g)	0.00
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.00
Saltwater Solubility for Cs (mol/L)	0.00
Unsaturated Zone Thickness (m)	0.00
Large Lake Depth Above Clive (m)	0.00
Kd Sand for Np (mL/g)	0.00
Beef Transfer Factor for I (day/kg)	0.00
Surface Atmosphere Diffusion Length (m)	0.00
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.00
Kd Clay for Ac (mL/g)	0.00
Saturated Zone Water Table Gradient	0.00
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.00
Saltwater Solubility for Pb (mol/L)	0.00
Plant/Soil Conc Ratio for Np	0.00
Unit 4 Bubbling Pressure Head (cm)	0.00
Beef Transfer Factor for Ac (day/kg)	0.00
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.00
Kd Clay for Pu (mL/g)	0.00

Kd Sand for Pa (mL/g)	0.00
Siberia Gully Selector	0.00
GDP DU Inventory Storage Dead Space (m2)	0.00
Kd Sand for Ac (mL/g)	0.00
Beef Transfer Factor for Pa (day/kg)	0.00
Saturated Zone Thickness (m)	0.00
Unit 3 Bubbling Pressure Head (cm)	0.00
Saltwater Solubility for Sr (mol/L)	0.00
Kd Clay for Pa (mL/g)	0.00
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.00
Kd Silt for Cs (mL/g)	0.00
Tortuosity Porosity Exponent	0.00
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.00
Receptor Area (ha)	0.00
Vegetation Association Selector	0.00
RipRap Porosity	0.00
Saltwater Solubility for UO3 (mol/L)	0.00
Kd Silt for U (mL/g)	0.00
Saltwater Solubility for Ra (mol/L)	0.00
RipRap Bulk Density (g/cm3)	0.00
Mammal Mound Density - Plot 4 (1/ha)	0.00
Mammal Mound Density - Plot 5 (1/ha)	0.00
Ant Nest Volume (m3)	0.00
Kd Sand for Pb (mL/g)	0.00
Kd Silt for Th (mL/g)	0.00
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.00
Beef Transfer Factor for Sr (day/kg)	0.00
Plant/Soil Conc Ratio for Tc	0.00
Plant/Soil Conc Ratio for Ra	0.00
DCF Photon2 REF	0.00
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.00
Fine Cobble Mix BulkDensity (g/cm3)	0.00
Large Lake Start (yr)	0.00
Biomass Production Rate (kg/ha/yr)	0.00
Kd Sand for Sr (mL/g)	0.00
Kd Silt for Sr (mL/g)	0.00
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.00
Beef Transfer Factor for Pb (day/kg)	0.00
Plant/Soil Conc Ratio for U	0.00
Unit 2 Porosity	0.00
Soil Ingestion Rate for Antelope (kg/day)	0.00
Surface Atmosphere Thickness (m)	0.00

Activity Conc in SRS DU Waste: U236 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.00
Saltwater Solubility for Pa (mol/L)	0.00
Kd Sand for Tc (mL/g)	0.00
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.00
Meat Preparation Loss	0.00
Contaminated Fraction of GDP DU	0.00
Kd Clay for U (mL/g)	0.00
Unit 3 Bulk Density (g/cm3)	0.00
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.00
Kd Clay for Np (mL/g)	0.00
Plant/Soil Conc Ratio for Pb	0.00
Intermediate Lake Duration (yr)	0.00
Unit 4 Residual Water Content	0.00
Water Ingestion Rate for Antelope (kg/day)	0.00
Fine CobbleMix Porosity	0.00
Water Ingestion Rate for Cattle (kg/day)	0.00
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.00
Saltwater Solubility for Am (mol/L)	0.00
Unit 3 Brooks-Corey Fractal Dimension	0.00
Tree Root/Shoot Ratio	0.00
Resuspension Flux (kg/m2-yr)	0.00
Large Lake End (yr)	0.00
Kd Clay for Sr (mL/g)	0.00
Kd Silt for Ac (mL/g)	0.00
Ant Colony Density - Plot 2 (1/ha)	0.00
Fine Gravel Mix BulkDensity (g/cm3)	0.00
Ant Colony Lifespan (yr)	0.00
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.00
Distance to Gully Initiation (m)	0.00
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.00
Antelope Range Area (acre)	0.00
Angle of Repose for Gullies (Â°)	0.00
Saltwater Solubility for Pu (mol/L)	0.00
DCF Photon1 REF	0.00
Forage Ingestion Rate for Cattle (kg/day)	0.00
Saltwater Solubility for Rn (mol/L)	0.00
Kd Clay for Pb (mL/g)	0.00
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.00
Resuspended Particle Fraction	0.00
Ant Colony Density - Plot 5 (1/ha)	0.00
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.00
Mammal Burrow Shape Parameter b	0.00

Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.00
Beef Transfer Factor for U (day/kg)	0.00
Ant Colony Density - Plot 3 (1/ha)	0.00
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.00
Saltwater Solubility for Np (mol/L)	0.00
Kd Sand for Th (mL/g)	0.00
Intermediate Lake Sed Thickness (m)	0.00
Body Weight Factor for Antelope	0.00
Soil Ingestion Tracer Element	0.00
Silt Sand Gravel Porosity	0.00
Mammal Mound Density - Plot 2 (1/ha)	0.00
Plant/Soil Conc Ratio for Cs	0.00
Kd Clay for Cs (mL/g)	0.00
Grass Root Shape Parameter b	0.00
Kd Silt for Pa (mL/g)	0.00
Saltwater Solubility for Ac (mol/L)	0.00
Large Lake Sedimentation Rate (m/yr)	0.00
Plant Fresh Weight Conversion	0.00
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.00
Greasewood Root Shape Parameter b	0.00
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.00
Mammal Burrow Excavation Rate (m3/yr)	0.00
Kd Silt for Pu (mL/g)	0.00
Beef Transfer Factor for Pu (day/kg)	0.00
Beef Transfer Factor for Tc (day/kg)	0.00
Beef Transfer Factor for Am (day/kg)	0.00
Forb Root Shape Parameter b	0.00
Saltwater Solubility for U3O8 (mol/L)	0.00
Ant Colony Density - Plot 1 (1/ha)	0.00
Kd Silt for Am (mL/g)	0.00
Fine Gravel Mix Porosity	0.00
Silt Sand Gravel BulkDensity (g/cm3)	0.00
Soil Temperature (Â°C)	0.00
Unit 3 Saturated Hyd Cond (cm/s)	0.00
Unit 4 Bulk Density (g/cm3)	0.00
Unit 4 Saturated Hyd Cond (cm/s)	0.00
Unit 4 Brooks-Corey Fractal Dimension	0.00
Unit 2 Bulk Density (g/cm3)	0.00
Saltwater Solubility for Tc (mol/L)	0.00
Saltwater Solubility for Th (mol/L)	0.00
Saltwater Solubility for I (mol/L)	0.00
Kd Sand for Am (mL/g)	0.00
Kd Sand for Cs (mL/g)	0.00

Kd Sand for Pu (mL/g)	0.00
Kd Sand for U (mL/g)	0.00
Kd Sand for I (mL/g)	0.00
Kd Silt for Pb (mL/g)	0.00
Kd Clay for Am (mL/g)	0.00
Kd Clay for Th (mL/g)	0.00
Liner Clay Saturated Hyd Cond (cm/s)	0.00
Surface Wind Speed (m/s)	0.00
Ant Nest Shape Parameter b	0.00
Ant Colony Density - Plot 4 (1/ha)	0.00
Mammal Mound Density - Plot 1 (1/ha)	0.00
Mammal Mound Density - Plot 3 (1/ha)	0.00
Plant/Soil Conc Ratio for Ac	0.00
Plant/Soil Conc Ratio for I	0.00
Plant/Soil Conc Ratio for Pa	0.00
Plant/Soil Conc Ratio for Pu	0.00
Plant/Soil Conc Ratio for Sr	0.00
Shrub Root Shape Parameter b	0.00
Tree Root Shape Parameter b	0.00
Greasewood Root/Shoot Ratio	0.00
Forb Root/Shoot Ratio	0.00
Biomass % Cover Selector	0.00
Tortuosity Water Content Exponent	0.00
Gully b Shape Parameter	0.00
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.00
Angle Of Repose Gully Fan (deg)	0.00
Site Dispersal Area (km2)	0.00
Intermediate Lake Depth Above Clive (m)	0.00
OHV Dust Adjustment	0.00
Soil Ingestion Rate for Cattle (kg/day)	0.00
Beef Transfer Factor for Cs (day/kg)	0.00
Beef Transfer Factor for Ra (day/kg)	0.00
Beef Transfer Factor for Th (day/kg)	0.00
DCF Alpha REF	0.00
Meat Post-Cooking Loss	0.00

Table 7: Peak Uranium Hazard within 10,000 years - Hunter

R-squared = 91%

Explanatory Variable	Sensitivity Index
Kd Sand for U (mL/g)	54.20
Molecular Diffusivity in Water (cm2/s)	35.13
Saltwater Solubility for UO3 (mol/L)	1.71
Kd Sand for Np (mL/g)	1.34
Soil Ingestion Tracer Element	0.69
Number of Gullies	0.36
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.36
Silt Sand Gravel BulkDensity (g/cm3)	0.35
Unit 2 Saturated Hyd Cond (cm/s)	0.32
Unit 3 Bulk Density (g/cm3)	0.32
Kd Sand for Pu (mL/g)	0.29
Unit 4 Bubbling Pressure Head (cm)	0.18
Unit 3 Residual Water Content	0.16
Saltwater Solubility for Np (mol/L)	0.15
log of van Genuchten's n for Unit 4	0.15
Surface Atmosphere Thickness (m)	0.14
Kd Silt for Sr (mL/g)	0.12
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	0.11
Soil Ingestion Rate for Cattle (kg/day)	0.11
Silt Sand Gravel Porosity	0.11
Ant Colony Lifespan (yr)	0.11
Mammal Mound Density - Plot 3 (1/ha)	0.10
DCF Photon2 REF	0.09
OHV Dust Adjustment	0.09
Saltwater Solubility for Sr (mol/L)	0.08
Saltwater Solubility for U3O8 (mol/L)	0.07
Plant/Soil Conc Ratio for Pa	0.07
Saltwater Solubility for Ac (mol/L)	0.06
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.06
log of van Genuchten's α for Unit 4	0.06
Angle Of Repose Gully Fan (deg)	0.05
Fine Cobble Mix BulkDensity (g/cm3)	0.05
Unit 3 Bubbling Pressure Head (cm)	0.05
Beef Transfer Factor for Ac (day/kg)	0.05
Receptor Area (ha)	0.05
Greasewood Root Shape Parameter b	0.05
Gully b Shape Parameter	0.05
Forb Root Shape Parameter b	0.05
Plant/Soil Conc Ratio for I	0.05
Fine CobbleMix Porosity	0.05

Kd Silt for Th (mL/g)	0.04
Saltwater Solubility for Rn (mol/L)	0.04
Antelope Range Area (acre)	0.04
Beef Transfer Factor for Tc (day/kg)	0.04
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.04
Kd Sand for Cs (mL/g)	0.04
Greasewood Root/Shoot Ratio	0.04
Intermediate Lake Duration (yr)	0.04
Kd Clay for Np (mL/g)	0.04
Contaminated Fraction of GDP DU	0.03
Kd Sand for Ra (mL/g)	0.03
GDP DU Inventory Storage Dead Space (m2)	0.03
Mammal Mound Density - Plot 1 (1/ha)	0.03
Ant Colony Density - Plot 1 (1/ha)	0.03
Beef Transfer Factor for Pa (day/kg)	0.03
Mammal Burrow Excavation Rate (m3/yr)	0.03
Kd Silt for Np (mL/g)	0.03
Unit 3 Porosity	0.03
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.03
Shrub Root Shape Parameter b	0.03
Beef Transfer Factor for Ra (day/kg)	0.03
Large Lake Depth Above Clive (m)	0.03
Plant/Soil Conc Ratio for Sr	0.03
Kd Silt for Pa (mL/g)	0.03
Meat Preparation Loss	0.03
Meat Post-Cooking Loss	0.03
Ant Colony Density - Plot 4 (1/ha)	0.03
Fine Gravel Mix BulkDensity (g/cm3)	0.03
Soil Temperature (Â°C)	0.03
Biomass Production Rate (kg/ha/yr)	0.02
Fine Gravel Mix Porosity	0.02
Mammal Mound Density - Plot 2 (1/ha)	0.02
Saltwater Solubility for Am (mol/L)	0.02
Beef Transfer Factor for Pu (day/kg)	0.02
Kd Silt for Ra (mL/g)	0.02
Grass Root/Shoot Ratio	0.02
Plant Fresh Weight Conversion	0.02
Tortuosity Water Content Exponent	0.02
Tortuosity Porosity Exponent	0.02
Saltwater Solubility for I (mol/L)	0.02
Ant Nest Shape Parameter b	0.02
Kd Silt for U (mL/g)	0.02
Beef Transfer Factor for Cs (day/kg)	0.02

Unit 3 Saturated Hyd Cond (cm/s)	0.02
Liner Clay Saturated Hyd Cond (cm/s)	0.02
Unit 2 Porosity	0.02
Saltwater Solubility for Th (mol/L)	0.02
Saltwater Solubility for Pu (mol/L)	0.02
Biomass % Cover Selector	0.02
Saltwater Solubility for Ra (mol/L)	0.02
Saltwater Solubility for Pb (mol/L)	0.02
RipRap Bulk Density (g/cm3)	0.02
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.02
Surface Atmosphere Diffusion Length (m)	0.02
Unit 2 Bulk Density (g/cm3)	0.02
Unit 3 Brooks-Corey Fractal Dimension	0.02
Plant/Soil Conc Ratio for Pu	0.02
Mammal Burrow Shape Parameter b	0.02
Kd Sand for Sr (mL/g)	0.02
Resuspended Particle Fraction	0.02
Kd Sand for I (mL/g)	0.02
Unit 4 Porosity	0.02
Ant Colony Density - Plot 2 (1/ha)	0.02
Kd Sand for Th (mL/g)	0.02
Unit 4 Residual Water Content	0.02
Grass Root Shape Parameter b	0.02
Tree Root Shape Parameter b	0.02
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.02
Ant Nest Volume (m3)	0.02
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.02
Saltwater Solubility for Cs (mol/L)	0.02
RipRap Porosity	0.02
Saltwater Solubility for Tc (mol/L)	0.01
Unit 4 Bulk Density (g/cm3)	0.01
Kd Silt for Ac (mL/g)	0.01
Kd Silt for Cs (mL/g)	0.01
Unsaturated Zone Thickness (m)	0.01
Beef Transfer Factor for I (day/kg)	0.01
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.01
Kd Clay for Ac (mL/g)	0.01
DCF Photon1 REF	0.01
Kd Clay for Am (mL/g)	0.01
Intermediate Lake Sed Thickness (m)	0.01
Kd Clay for Sr (mL/g)	0.01
Kd Silt for Pb (mL/g)	0.01
Kd Clay for Ra (mL/g)	0.01

Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.01
Ant Colony Density - Plot 3 (1/ha)	0.01
Beef Transfer Factor for Th (day/kg)	0.01
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.01
Distance to Gully Initiation (m)	0.01
Unit 4 Saturated Hyd Cond (cm/s)	0.01
Kd Clay for Cs (mL/g)	0.01
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.01
Vegetation Association Selector	0.01
Activity Conc in SRS DU Waste: U234 (pCi/g)	0.01
Saltwater Solubility for Pa (mol/L)	0.01
Beef Transfer Factor for Am (day/kg)	0.01
Surface Wind Speed (m/s)	0.01
Kd Clay for Th (mL/g)	0.01
Kd Clay for Pa (mL/g)	0.01
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.01
Kd Sand for Ac (mL/g)	0.01
DCF Beta REF	0.01
Mammal Mound Density - Plot 4 (1/ha)	0.01
Kd Clay for U (mL/g)	0.01
Kd Silt for Am (mL/g)	0.01
Kd Sand for Pa (mL/g)	0.01
Radon Escape/Production Ratio	0.01
Shrub Root/Shoot Ratio	0.01
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.01
Kd Sand for Tc (mL/g)	0.01
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.01
Tree Root/Shoot Ratio	0.01
Large Lake End (yr)	0.01
Kd Sand for Pb (mL/g)	0.01
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.01
Siberia Gully Selector	0.01
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.01
Kd Sand for Am (mL/g)	0.01
DCF Alpha REF	0.01
Plant/Soil Conc Ratio for Ac	0.01
Plant/Soil Conc Ratio for Np	0.01
Kd Silt for Pu (mL/g)	0.01
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.01
Plant/Soil Conc Ratio for Th	0.01
Unit 4 Brooks-Corey Fractal Dimension	0.01
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.01
Saturated Zone Thickness (m)	0.01

Angle of Repose for Gullies (Â°)	0.01
Plant/Soil Conc Ratio for Pb	0.01
Beef Transfer Factor for U (day/kg)	0.01
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.01
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.01
Ant Colony Density - Plot 5 (1/ha)	0.01
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.01
Body Weight Factor for Antelope	0.01
Plant/Soil Conc Ratio for Ra	0.01
Water Ingestion Rate for Cattle (kg/day)	0.01
Plant/Soil Conc Ratio for U	0.01
Intermediate Lake Depth Above Clive (m)	0.00
Kd Clay for Pu (mL/g)	0.00
Mammal Mound Density - Plot 5 (1/ha)	0.00
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.00
Beef Transfer Factor for Pb (day/kg)	0.00
Saturated Zone Water Table Gradient	0.00
Forb Root/Shoot Ratio	0.00
Forage Ingestion Rate for Cattle (kg/day)	0.00
Resuspension Flux (kg/m2-yr)	0.00
Plant/Soil Conc Ratio for Am	0.00
Beef Transfer Factor for Sr (day/kg)	0.00
Plant/Soil Conc Ratio for Cs	0.00
Site Dispersal Area (km2)	0.00
Plant/Soil Conc Ratio for Tc	0.00
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.00
Large Lake Sedimentation Rate (m/yr)	0.00
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.00
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.00
Kd Clay for Pb (mL/g)	0.00
Beef Transfer Factor for Np (day/kg)	0.00
Water Ingestion Rate for Antelope (kg/day)	0.00
Soil Ingestion Rate for Antelope (kg/day)	0.00

Table 8: Peak Uranium Hazard within 10,000 years - Rancher

R-squared = 93%

Explanatory Variable	Sensitivity Index
Kd Sand for U (mL/g)	55.98
Molecular Diffusivity in Water (cm2/s)	36.61
Saltwater Solubility for UO3 (mol/L)	1.71
Kd Sand for Np (mL/g)	1.63
Soil Ingestion Tracer Element	0.73
Unit 3 Bulk Density (g/cm3)	0.39
Kd Sand for Pu (mL/g)	0.28
Ant Colony Lifespan (yr)	0.20
Unit 3 Residual Water Content	0.16
DCF Photon2 REF	0.16
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.15
Beef Transfer Factor for Ac (day/kg)	0.10
Contaminated Fraction of GDP DU	0.09
Saltwater Solubility for Rn (mol/L)	0.09
Fine Cobble Mix BulkDensity (g/cm3)	0.08
Unit 4 Bubbling Pressure Head (cm)	0.08
Gully b Shape Parameter	0.07
Unit 3 Porosity	0.06
Meat Preparation Loss	0.06
Number of Gullies	0.06
Kd Silt for Pb (mL/g)	0.06
Angle Of Repose Gully Fan (deg)	0.06
Kd Silt for U (mL/g)	0.06
Intermediate Lake Duration (yr)	0.05
Soil Temperature (Â°C)	0.04
Fine Gravel Mix BulkDensity (g/cm3)	0.04
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.03
Unit 2 Saturated Hyd Cond (cm/s)	0.03
Ant Nest Volume (m3)	0.03
Fine CobbleMix Porosity	0.03
Beef Transfer Factor for Cs (day/kg)	0.03
Plant Fresh Weight Conversion	0.03
Biomass Production Rate (kg/ha/yr)	0.02
Kd Silt for Np (mL/g)	0.02
log of van Genuchten's n for Unit 4	0.02
Greasewood Root Shape Parameter b	0.02
Tortuosity Water Content Exponent	0.02
Kd Sand for Sr (mL/g)	0.02
Saltwater Solubility for I (mol/L)	0.02
Mammal Burrow Excavation Rate (m3/yr)	0.02

Shrub Root/Shoot Ratio	0.02
Silt Sand Gravel Porosity	0.02
Surface Atmosphere Diffusion Length (m)	0.02
log of van Genuchten's α for Unit 4	0.01
Saltwater Solubility for Pu (mol/L)	0.01
Receptor Area (ha)	0.01
Kd Clay for Sr (mL/g)	0.01
Fine Gravel Mix Porosity	0.01
Plant/Soil Conc Ratio for I	0.01
Kd Clay for Pa (mL/g)	0.01
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	0.01
Kd Clay for Th (mL/g)	0.01
Kd Sand for Ra (mL/g)	0.01
Kd Sand for Pa (mL/g)	0.01
Unit 3 Bubbling Pressure Head (cm)	0.01
Soil Ingestion Rate for Antelope (kg/day)	0.01
Resuspended Particle Fraction	0.01
Antelope Range Area (acre)	0.01
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.01
Beef Transfer Factor for I (day/kg)	0.01
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.01
Plant/Soil Conc Ratio for U	0.01
Saltwater Solubility for Np (mol/L)	0.01
Kd Silt for Ac (mL/g)	0.01
Saltwater Solubility for Sr (mol/L)	0.01
Kd Silt for Am (mL/g)	0.01
RipRap Bulk Density (g/cm3)	0.01
RipRap Porosity	0.01
Unsaturated Zone Thickness (m)	0.01
Plant/Soil Conc Ratio for Sr	0.01
Unit 4 Porosity	0.01
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.01
Unit 2 Porosity	0.01
Ant Colony Density - Plot 3 (1/ha)	0.01
Saltwater Solubility for Pa (mol/L)	0.01
Silt Sand Gravel BulkDensity (g/cm3)	0.01
Unit 4 Bulk Density (g/cm3)	0.01
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.01
Saltwater Solubility for Am (mol/L)	0.01
Unit 4 Saturated Hyd Cond (cm/s)	0.01
Shrub Root Shape Parameter b	0.01
Plant/Soil Conc Ratio for Am	0.01
Kd Silt for Pa (mL/g)	0.01

Radon Escape/Production Ratio	0.01
Saltwater Solubility for Cs (mol/L)	0.01
Saltwater Solubility for Ra (mol/L)	0.01
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.01
GDP DU Inventory Storage Dead Space (m2)	0.01
Plant/Soil Conc Ratio for Pu	0.01
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.00
Surface Wind Speed (m/s)	0.00
Plant/Soil Conc Ratio for Pa	0.00
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.00
Beef Transfer Factor for Tc (day/kg)	0.00
Kd Clay for Ra (mL/g)	0.00
Unit 3 Brooks-Corey Fractal Dimension	0.00
Kd Silt for Pu (mL/g)	0.00
Saltwater Solubility for Th (mol/L)	0.00
Saltwater Solubility for Ac (mol/L)	0.00
Kd Clay for Ac (mL/g)	0.00
Plant/Soil Conc Ratio for Tc	0.00
Unit 2 Bulk Density (g/cm3)	0.00
Saltwater Solubility for Tc (mol/L)	0.00
Kd Clay for Pu (mL/g)	0.00
Saltwater Solubility for U3O8 (mol/L)	0.00
Kd Silt for Th (mL/g)	0.00
Mammal Burrow Shape Parameter b	0.00
Surface Atmosphere Thickness (m)	0.00
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.00
Kd Clay for U (mL/g)	0.00
Beef Transfer Factor for Ra (day/kg)	0.00
Liner Clay Saturated Hyd Cond (cm/s)	0.00
Tortuosity Porosity Exponent	0.00
Biomass % Cover Selector	0.00
Angle of Repose for Gullies (Â°)	0.00
Grass Root/Shoot Ratio	0.00
Unit 4 Residual Water Content	0.00
Saturated Zone Thickness (m)	0.00
Siberia Gully Selector	0.00
Kd Sand for Am (mL/g)	0.00
Beef Transfer Factor for Am (day/kg)	0.00
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.00
Kd Silt for Cs (mL/g)	0.00
Saltwater Solubility for Pb (mol/L)	0.00

Mammal Mound Density - Plot 3 (1/ha)	0.00
Site Dispersal Area (km2)	0.00
Beef Transfer Factor for Pu (day/kg)	0.00
Kd Silt for Ra (mL/g)	0.00
Plant/Soil Conc Ratio for Pb	0.00
Beef Transfer Factor for Sr (day/kg)	0.00
Unit 3 Saturated Hyd Cond (cm/s)	0.00
Kd Sand for Tc (mL/g)	0.00
Ant Colony Density - Plot 1 (1/ha)	0.00
Kd Clay for Pb (mL/g)	0.00
Mammal Mound Density - Plot 2 (1/ha)	0.00
Resuspension Flux (kg/m2-yr)	0.00
Grass Root Shape Parameter b	0.00
Tree Root/Shoot Ratio	0.00
Kd Sand for Th (mL/g)	0.00
Plant/Soil Conc Ratio for Np	0.00
Plant/Soil Conc Ratio for Cs	0.00
Kd Sand for Ac (mL/g)	0.00
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.00
Mammal Mound Density - Plot 1 (1/ha)	0.00
Ant Colony Density - Plot 4 (1/ha)	0.00
Kd Sand for Pb (mL/g)	0.00
Intermediate Lake Sed Thickness (m)	0.00
Forb Root/Shoot Ratio	0.00
Plant/Soil Conc Ratio for Ra	0.00
Meat Post-Cooking Loss	0.00
Kd Sand for I (mL/g)	0.00
Plant/Soil Conc Ratio for Ac	0.00
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.00
Forage Ingestion Rate for Cattle (kg/day)	0.00
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.00
OHV Dust Adjustment	0.00
Soil Ingestion Rate for Cattle (kg/day)	0.00
Intermediate Lake Depth Above Clive (m)	0.00
Activity Conc in SRS DU Waste: U234 (pCi/g)	0.00
Distance to Gully Initiation (m)	0.00
Beef Transfer Factor for Th (day/kg)	0.00
Water Ingestion Rate for Antelope (kg/day)	0.00
Greasewood Root/Shoot Ratio	0.00
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.00
Kd Clay for Np (mL/g)	0.00
Mammal Mound Density - Plot 4 (1/ha)	0.00
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.00

Kd Clay for Am (mL/g)	0.00
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.00
Body Weight Factor for Antelope	0.00
Kd Sand for Cs (mL/g)	0.00
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.00
Ant Colony Density - Plot 5 (1/ha)	0.00
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.00
Beef Transfer Factor for Pa (day/kg)	0.00
Plant/Soil Conc Ratio for Th	0.00
Forb Root Shape Parameter b	0.00
Kd Silt for Sr (mL/g)	0.00
Large Lake Sedimentation Rate (m/yr)	0.00
Large Lake Start (yr)	0.00
DCF Alpha REF	0.00
Beef Transfer Factor for Np (day/kg)	0.00
Saturated Zone Water Table Gradient	0.00
Vegetation Association Selector	0.00
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.00
Large Lake End (yr)	0.00
Beef Transfer Factor for U (day/kg)	0.00
Large Lake Depth Above Clive (m)	0.00
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.00
Ant Colony Density - Plot 2 (1/ha)	0.00
Mammal Mound Density - Plot 5 (1/ha)	0.00
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.00
Unit 4 Brooks-Corey Fractal Dimension	0.00
Tree Root Shape Parameter b	0.00
Water Ingestion Rate for Cattle (kg/day)	0.00
Kd Clay for Cs (mL/g)	0.00
Ant Nest Shape Parameter b	0.00
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.00
Beef Transfer Factor for Pb (day/kg)	0.00
DCF Beta REF	0.00
DCF Photon1 REF	0.00

Table 9: Peak Uranium Hazard within 10,000 years - OHVuser

R-squared = 91%

Explanatory Variable	Sensitivity Index
Kd Sand for U (mL/g)	54.23
Molecular Diffusivity in Water (cm2/s)	35.12
Saltwater Solubility for UO3 (mol/L)	1.72
Kd Sand for Np (mL/g)	1.35
Soil Ingestion Tracer Element	0.71
Number of Gullies	0.42
Silt Sand Gravel BulkDensity (g/cm3)	0.35
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.35
Unit 3 Bulk Density (g/cm3)	0.32
Unit 2 Saturated Hyd Cond (cm/s)	0.31
Kd Sand for Pu (mL/g)	0.28
Unit 3 Residual Water Content	0.16
Unit 4 Bubbling Pressure Head (cm)	0.16
Saltwater Solubility for Np (mol/L)	0.14
log of van Genuchten's n for Unit 4	0.14
Surface Atmosphere Thickness (m)	0.13
Ant Colony Lifespan (yr)	0.12
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	0.11
Mammal Mound Density - Plot 3 (1/ha)	0.11
Soil Ingestion Rate for Cattle (kg/day)	0.11
Kd Silt for Sr (mL/g)	0.11
Silt Sand Gravel Porosity	0.10
DCF Photon2 REF	0.09
OHV Dust Adjustment	0.09
Saltwater Solubility for U3O8 (mol/L)	0.09
Saltwater Solubility for Sr (mol/L)	0.06
Plant/Soil Conc Ratio for Pa	0.06
log of van Genuchten's α for Unit 4	0.06
Beef Transfer Factor for Ac (day/kg)	0.06
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.06
Fine Cobble Mix BulkDensity (g/cm3)	0.05
Saltwater Solubility for Ac (mol/L)	0.05
Unit 3 Bubbling Pressure Head (cm)	0.05
Antelope Range Area (acre)	0.05
Saltwater Solubility for Rn (mol/L)	0.05
Gully b Shape Parameter	0.05
Plant/Soil Conc Ratio for I	0.04
Fine CobbleMix Porosity	0.04
Kd Clay for Np (mL/g)	0.04
Receptor Area (ha)	0.04

Greasewood Root Shape Parameter b	0.04
Contaminated Fraction of GDP DU	0.04
Ant Colony Density - Plot 1 (1/ha)	0.04
GDP DU Inventory Storage Dead Space (m2)	0.04
Kd Sand for Cs (mL/g)	0.04
Kd Silt for Th (mL/g)	0.04
Forb Root Shape Parameter b	0.04
Angle Of Repose Gully Fan (deg)	0.04
Fine Gravel Mix BulkDensity (g/cm3)	0.04
Greasewood Root/Shoot Ratio	0.04
Liner Clay Saturated Hyd Cond (cm/s)	0.04
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.03
Beef Transfer Factor for Tc (day/kg)	0.03
Shrub Root Shape Parameter b	0.03
Mammal Mound Density - Plot 1 (1/ha)	0.03
Intermediate Lake Duration (yr)	0.03
Kd Silt for Np (mL/g)	0.03
Kd Sand for Ra (mL/g)	0.03
Unit 3 Porosity	0.03
Mammal Mound Density - Plot 2 (1/ha)	0.03
Unit 4 Porosity	0.03
Beef Transfer Factor for Ra (day/kg)	0.03
Soil Temperature (Â°C)	0.03
Beef Transfer Factor for Pu (day/kg)	0.03
Unit 2 Bulk Density (g/cm3)	0.03
Kd Sand for Sr (mL/g)	0.03
Mammal Burrow Excavation Rate (m3/yr)	0.03
Saltwater Solubility for Ra (mol/L)	0.02
Large Lake Depth Above Clive (m)	0.02
Meat Post-Cooking Loss	0.02
Ant Colony Density - Plot 4 (1/ha)	0.02
Beef Transfer Factor for Pa (day/kg)	0.02
Unit 3 Saturated Hyd Cond (cm/s)	0.02
Tortuosity Porosity Exponent	0.02
Plant/Soil Conc Ratio for Sr	0.02
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.02
Saltwater Solubility for Am (mol/L)	0.02
Surface Atmosphere Diffusion Length (m)	0.02
Kd Silt for Cs (mL/g)	0.02
Grass Root Shape Parameter b	0.02
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.02
Kd Silt for U (mL/g)	0.02
Tortuosity Water Content Exponent	0.02

Resuspended Particle Fraction	0.02
Kd Silt for Pa (mL/g)	0.02
Fine Gravel Mix Porosity	0.02
Kd Sand for Th (mL/g)	0.02
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.02
RipRap Bulk Density (g/cm3)	0.02
Saltwater Solubility for I (mol/L)	0.02
Kd Sand for I (mL/g)	0.02
Mammal Burrow Shape Parameter b	0.02
Kd Clay for Th (mL/g)	0.02
RipRap Porosity	0.02
Unit 4 Bulk Density (g/cm3)	0.02
Kd Clay for Ra (mL/g)	0.02
Vegetation Association Selector	0.02
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.02
Ant Colony Density - Plot 2 (1/ha)	0.02
Grass Root/Shoot Ratio	0.02
Kd Silt for Ra (mL/g)	0.02
Saltwater Solubility for Pa (mol/L)	0.02
Plant Fresh Weight Conversion	0.02
Biomass % Cover Selector	0.02
Body Weight Factor for Antelope	0.02
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.02
Unit 3 Brooks-Corey Fractal Dimension	0.02
Unit 2 Porosity	0.02
Meat Preparation Loss	0.02
Kd Silt for Pb (mL/g)	0.01
Beef Transfer Factor for I (day/kg)	0.01
Unit 4 Saturated Hyd Cond (cm/s)	0.01
Kd Sand for Tc (mL/g)	0.01
Kd Clay for Sr (mL/g)	0.01
Biomass Production Rate (kg/ha/yr)	0.01
Unit 4 Residual Water Content	0.01
Kd Clay for Ac (mL/g)	0.01
Kd Sand for Pa (mL/g)	0.01
Beef Transfer Factor for Cs (day/kg)	0.01
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.01
Saltwater Solubility for Tc (mol/L)	0.01
Saltwater Solubility for Cs (mol/L)	0.01
Kd Clay for Pa (mL/g)	0.01
Plant/Soil Conc Ratio for Np	0.01
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.01
Surface Wind Speed (m/s)	0.01

Kd Clay for Am (mL/g)	0.01
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.01
Mammal Mound Density - Plot 5 (1/ha)	0.01
Kd Silt for Ac (mL/g)	0.01
Ant Nest Volume (m3)	0.01
Angle of Repose for Gullies (Â°)	0.01
Ant Nest Shape Parameter b	0.01
Kd Sand for Ac (mL/g)	0.01
Saltwater Solubility for Th (mol/L)	0.01
Plant/Soil Conc Ratio for Pu	0.01
Ant Colony Density - Plot 3 (1/ha)	0.01
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.01
Plant/Soil Conc Ratio for Ra	0.01
Saltwater Solubility for Pu (mol/L)	0.01
Kd Silt for Pu (mL/g)	0.01
Saltwater Solubility for Pb (mol/L)	0.01
Beef Transfer Factor for Th (day/kg)	0.01
Plant/Soil Conc Ratio for Pb	0.01
Shrub Root/Shoot Ratio	0.01
Activity Conc in SRS DU Waste: U234 (pCi/g)	0.01
Unsaturated Zone Thickness (m)	0.01
Intermediate Lake Sed Thickness (m)	0.01
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.01
DCF Photon1 REF	0.01
Distance to Gully Initiation (m)	0.01
DCF Alpha REF	0.01
Kd Clay for Cs (mL/g)	0.01
Kd Sand for Am (mL/g)	0.01
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.01
Tree Root Shape Parameter b	0.01
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.01
Saturated Zone Water Table Gradient	0.01
Plant/Soil Conc Ratio for Cs	0.01
Water Ingestion Rate for Cattle (kg/day)	0.01
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.01
Plant/Soil Conc Ratio for Ac	0.01
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.01
Kd Silt for Am (mL/g)	0.01
Kd Sand for Pb (mL/g)	0.01
Intermediate Lake Depth Above Clive (m)	0.01
Beef Transfer Factor for Sr (day/kg)	0.01
Tree Root/Shoot Ratio	0.01
Kd Clay for Pu (mL/g)	0.01

Radon Escape/Production Ratio	0.01
Mammal Mound Density - Plot 4 (1/ha)	0.01
Beef Transfer Factor for Am (day/kg)	0.01
Large Lake End (yr)	0.01
Resuspension Flux (kg/m2-yr)	0.01
Plant/Soil Conc Ratio for Th	0.01
Ant Colony Density - Plot 5 (1/ha)	0.01
Site Dispersal Area (km2)	0.01
Unit 4 Brooks-Corey Fractal Dimension	0.00
Beef Transfer Factor for Np (day/kg)	0.00
Siberia Gully Selector	0.00
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.00
Plant/Soil Conc Ratio for Tc	0.00
Kd Clay for U (mL/g)	0.00
DCF Beta REF	0.00
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.00
Saturated Zone Thickness (m)	0.00
Plant/Soil Conc Ratio for Am	0.00
Beef Transfer Factor for U (day/kg)	0.00
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.00
Large Lake Start (yr)	0.00
Forage Ingestion Rate for Cattle (kg/day)	0.00
Kd Clay for Pb (mL/g)	0.00
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.00
Plant/Soil Conc Ratio for U	0.00
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.00
Beef Transfer Factor for Pb (day/kg)	0.00
Large Lake Sedimentation Rate (m/yr)	0.00
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.00
Forb Root/Shoot Ratio	0.00
Water Ingestion Rate for Antelope (kg/day)	0.00
Soil Ingestion Rate for Antelope (kg/day)	0.00

Table 10: Peak Ground Surface Flux of Radon-222

R-squared = 98%

Explanatory Variable	Sensitivity Index
Radon Escape/Production Ratio	90.17
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	4.93
log of van Genuchten's n for Unit 4	2.85
Unit 4 Porosity	0.65
Activity Conc in SRS DU Waste: U234 (pCi/g)	0.58
Molecular Diffusivity in Water (cm2/s)	0.42
Kd Sand for Ra (mL/g)	0.22
Unit 3 Residual Water Content	0.11
Unit 3 Porosity	0.05
Saltwater Solubility for Ra (mol/L)	0.02
Grass Root/Shoot Ratio	0.00
Unit 2 Saturated Hyd Cond (cm/s)	0.00
Saltwater Solubility for Cs (mol/L)	0.00
Beef Transfer Factor for Ac (day/kg)	0.00
Number of Gullies	0.00
Beef Transfer Factor for Sr (day/kg)	0.00
Tortuosity Water Content Exponent	0.00
Kd Sand for Tc (mL/g)	0.00
Beef Transfer Factor for Cs (day/kg)	0.00
Intermediate Lake Depth Above Clive (m)	0.00
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.00
Resuspension Flux (kg/m2-yr)	0.00
log of van Genuchten's α for Unit 4	0.00
Surface Atmosphere Diffusion Length (m)	0.00
Saltwater Solubility for Tc (mol/L)	0.00
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.00
Unit 3 Bubbling Pressure Head (cm)	0.00
OHV Dust Adjustment	0.00
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.00
Ant Colony Density - Plot 2 (1/ha)	0.00
Saltwater Solubility for Am (mol/L)	0.00
Biomass % Cover Selector	0.00
RipRap Porosity	0.00
RipRap Bulk Density (g/cm3)	0.00
Fine Gravel Mix Porosity	0.00
Fine Gravel Mix BulkDensity (g/cm3)	0.00
Fine CobbleMix Porosity	0.00
Fine Cobble Mix BulkDensity (g/cm3)	0.00
Silt Sand Gravel Porosity	0.00
Silt Sand Gravel BulkDensity (g/cm3)	0.00

Soil Temperature (Â°C)	0.00
Unit 3 Saturated Hyd Cond (cm/s)	0.00
Unit 3 Brooks-Corey Fractal Dimension	0.00
Unit 3 Bulk Density (g/cm3)	0.00
Unit 4 Bulk Density (g/cm3)	0.00
Unit 4 Bubbling Pressure Head (cm)	0.00
Unit 4 Residual Water Content	0.00
Unit 4 Saturated Hyd Cond (cm/s)	0.00
Unit 4 Brooks-Corey Fractal Dimension	0.00
Unit 2 Bulk Density (g/cm3)	0.00
Unit 2 Porosity	0.00
Saltwater Solubility for Ac (mol/L)	0.00
Saltwater Solubility for Np (mol/L)	0.00
Saltwater Solubility for Pa (mol/L)	0.00
Saltwater Solubility for Pb (mol/L)	0.00
Saltwater Solubility for Pu (mol/L)	0.00
Saltwater Solubility for Sr (mol/L)	0.00
Saltwater Solubility for Th (mol/L)	0.00
Saltwater Solubility for UO3 (mol/L)	0.00
Saltwater Solubility for I (mol/L)	0.00
Saltwater Solubility for Rn (mol/L)	0.00
Saltwater Solubility for U3O8 (mol/L)	0.00
Kd Sand for Ac (mL/g)	0.00
Kd Sand for Am (mL/g)	0.00
Kd Sand for Cs (mL/g)	0.00
Kd Sand for Np (mL/g)	0.00
Kd Sand for Pa (mL/g)	0.00
Kd Sand for Pb (mL/g)	0.00
Kd Sand for Pu (mL/g)	0.00
Kd Sand for Sr (mL/g)	0.00
Kd Sand for Th (mL/g)	0.00
Kd Sand for U (mL/g)	0.00
Kd Sand for I (mL/g)	0.00
Kd Silt for Ac (mL/g)	0.00
Kd Silt for Am (mL/g)	0.00
Kd Silt for Cs (mL/g)	0.00
Kd Silt for Np (mL/g)	0.00
Kd Silt for Pa (mL/g)	0.00
Kd Silt for Pb (mL/g)	0.00
Kd Silt for Pu (mL/g)	0.00
Kd Silt for Ra (mL/g)	0.00
Kd Silt for Sr (mL/g)	0.00
Kd Silt for Th (mL/g)	0.00

Kd Silt for U (mL/g)	0.00
Kd Clay for Ac (mL/g)	0.00
Kd Clay for Am (mL/g)	0.00
Kd Clay for Cs (mL/g)	0.00
Kd Clay for Np (mL/g)	0.00
Kd Clay for Pa (mL/g)	0.00
Kd Clay for Pb (mL/g)	0.00
Kd Clay for Pu (mL/g)	0.00
Kd Clay for Ra (mL/g)	0.00
Kd Clay for Sr (mL/g)	0.00
Kd Clay for Th (mL/g)	0.00
Kd Clay for U (mL/g)	0.00
Liner Clay Saturated Hyd Cond (cm/s)	0.00
Resuspended Particle Fraction	0.00
Surface Atmosphere Thickness (m)	0.00
Surface Wind Speed (m/s)	0.00
Ant Nest Volume (m3)	0.00
Ant Colony Lifespan (yr)	0.00
Ant Nest Shape Parameter b	0.00
Ant Colony Density - Plot 1 (1/ha)	0.00
Ant Colony Density - Plot 3 (1/ha)	0.00
Ant Colony Density - Plot 4 (1/ha)	0.00
Ant Colony Density - Plot 5 (1/ha)	0.00
Mammal Burrow Shape Parameter b	0.00
Mammal Burrow Excavation Rate (m3/yr)	0.00
Mammal Mound Density - Plot 1 (1/ha)	0.00
Mammal Mound Density - Plot 2 (1/ha)	0.00
Mammal Mound Density - Plot 3 (1/ha)	0.00
Mammal Mound Density - Plot 4 (1/ha)	0.00
Mammal Mound Density - Plot 5 (1/ha)	0.00
Plant/Soil Conc Ratio for Ac	0.00
Plant/Soil Conc Ratio for Am	0.00
Plant/Soil Conc Ratio for Cs	0.00
Plant/Soil Conc Ratio for I	0.00
Plant/Soil Conc Ratio for Np	0.00
Plant/Soil Conc Ratio for Pa	0.00
Plant/Soil Conc Ratio for Pb	0.00
Plant/Soil Conc Ratio for Pu	0.00
Plant/Soil Conc Ratio for Ra	0.00
Plant/Soil Conc Ratio for Sr	0.00
Plant/Soil Conc Ratio for Tc	0.00
Plant/Soil Conc Ratio for Th	0.00
Plant/Soil Conc Ratio for U	0.00

Grass Root Shape Parameter b	0.00
Shrub Root Shape Parameter b	0.00
Shrub Root/Shoot Ratio	0.00
Tree Root Shape Parameter b	0.00
Tree Root/Shoot Ratio	0.00
Greasewood Root Shape Parameter b	0.00
Greasewood Root/Shoot Ratio	0.00
Forb Root/Shoot Ratio	0.00
Forb Root Shape Parameter b	0.00
Vegetation Association Selector	0.00
Biomass Production Rate (kg/ha/yr)	0.00
Tortuosity Porosity Exponent	0.00
Angle of Repose for Gullies (Â°)	0.00
Gully b Shape Parameter	0.00
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.00
GDP DU Inventory Storage Dead Space (m2)	0.00
Contaminated Fraction of GDP DU	0.00
Unsaturated Zone Thickness (m)	0.00
Siberia Gully Selector	0.00
Angle Of Repose Gully Fan (deg)	0.00
Distance to Gully Initiation (m)	0.00

Saturated Zone Water Table Gradient	0.00
Saturated Zone Thickness (m)	0.00
Large Lake Start (yr)	0.00
Large Lake End (yr)	0.00
Intermediate Lake Sed Thickness (m)	0.00
Large Lake Sedimentation Rate (m/yr)	0.00
Site Dispersal Area (km2)	0.00
Intermediate Lake Duration (yr)	0.00
Large Lake Depth Above Clive (m)	0.00
Forage Ingestion Rate for Cattle (kg/day)	0.00
Soil Ingestion Rate for Cattle (kg/day)	0.00
Soil Ingestion Rate for Antelope (kg/day)	0.00
Water Ingestion Rate for Cattle (kg/day)	0.00
Water Ingestion Rate for Antelope (kg/day)	0.00
Body Weight Factor for Antelope	0.00
Beef Transfer Factor for Am (day/kg)	0.00
Beef Transfer Factor for I (day/kg)	0.00
Beef Transfer Factor for Np (day/kg)	0.00
Beef Transfer Factor for Pa (day/kg)	0.00
Beef Transfer Factor for Pb (day/kg)	0.00
Beef Transfer Factor for Pu (day/kg)	0.00
Beef Transfer Factor for Ra (day/kg)	0.00
Beef Transfer Factor for Tc (day/kg)	0.00
Beef Transfer Factor for Th (day/kg)	0.00
Beef Transfer Factor for U (day/kg)	0.00
Receptor Area (ha)	0.00
Antelope Range Area (acre)	0.00
DCF Alpha REF	0.00
DCF Beta REF	0.00
DCF Photon1 REF	0.00
DCF Photon2 REF	0.00
Plant Fresh Weight Conversion	0.00
Soil Ingestion Tracer Element	0.00
Meat Preparation Loss	0.00
Meat Post-Cooking Loss	0.00

Table 11: Peak Lake Sediment Concentration in Deep Time - U238

R-squared = 44%

Explanatory Variable	Sensitivity Index
Site Dispersal Area (km2)	69.99
Number of Gullies	4.46
Unit 3 Bulk Density (g/cm3)	2.93
Unit 4 Residual Water Content	0.35
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.34
Unit 4 Bulk Density (g/cm3)	0.31
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.26
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.26
DCF Photon1 REF	0.25
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.24
Kd Sand for I (mL/g)	0.23
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.23
Beef Transfer Factor for Pb (day/kg)	0.22
Fine Cobble Mix BulkDensity (g/cm3)	0.22
Kd Clay for Sr (mL/g)	0.21
Plant/Soil Conc Ratio for Pu	0.21
Tortuosity Porosity Exponent	0.20
Saltwater Solubility for UO3 (mol/L)	0.20
Saltwater Solubility for Sr (mol/L)	0.20
Surface Atmosphere Thickness (m)	0.20
Beef Transfer Factor for Sr (day/kg)	0.20
Forage Ingestion Rate for Cattle (kg/day)	0.19
Kd Silt for Pu (mL/g)	0.19
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.19
Large Lake Sedimentation Rate (m/yr)	0.17
Meat Preparation Loss	0.17
Beef Transfer Factor for Ac (day/kg)	0.17
DCF Beta REF	0.17
Unit 3 Residual Water Content	0.17
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.16
Beef Transfer Factor for Pa (day/kg)	0.16
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.16
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.16
Kd Sand for Am (mL/g)	0.16
Saltwater Solubility for Np (mol/L)	0.16
Saltwater Solubility for Rn (mol/L)	0.16
Kd Sand for U (mL/g)	0.16
Radon Escape/Production Ratio	0.15
RipRap Bulk Density (g/cm3)	0.15
Ant Colony Density - Plot 5 (1/ha)	0.15

Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.15
Unit 3 Bubbling Pressure Head (cm)	0.15
Water Ingestion Rate for Antelope (kg/day)	0.15
Ant Colony Density - Plot 1 (1/ha)	0.15
Grass Root/Shoot Ratio	0.15
Ant Nest Shape Parameter b	0.15
Kd Silt for Ac (mL/g)	0.14
Plant/Soil Conc Ratio for U	0.14
Shrub Root/Shoot Ratio	0.14
Saturated Zone Thickness (m)	0.14
Molecular Diffusivity in Water (cm2/s)	0.14
Saltwater Solubility for Pu (mol/L)	0.14
Plant/Soil Conc Ratio for Cs	0.14
log of van Genuchten's n for Unit 4	0.13
Saltwater Solubility for Am (mol/L)	0.13
Kd Sand for Pa (mL/g)	0.13
Saltwater Solubility for I (mol/L)	0.13
Gully b Shape Parameter	0.13
Unsaturated Zone Thickness (m)	0.13
Kd Silt for Np (mL/g)	0.13
Water Ingestion Rate for Cattle (kg/day)	0.13
Plant/Soil Conc Ratio for I	0.13
Unit 3 Saturated Hyd Cond (cm/s)	0.13
Unit 2 Saturated Hyd Cond (cm/s)	0.13
DCF Alpha REF	0.13
Beef Transfer Factor for U (day/kg)	0.12
GDP DU Inventory Storage Dead Space (m2)	0.12
Siberia Gully Selector	0.12
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.12
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.12
Meat Post-Cooking Loss	0.12
Kd Silt for Cs (mL/g)	0.12
Mammal Burrow Shape Parameter b	0.12
Kd Clay for Np (mL/g)	0.11
Kd Sand for Np (mL/g)	0.11
Kd Clay for Pb (mL/g)	0.11
Unit 4 Saturated Hyd Cond (cm/s)	0.11
Kd Clay for U (mL/g)	0.11
Mammal Mound Density - Plot 3 (1/ha)	0.11
Kd Silt for Th (mL/g)	0.11
Forb Root/Shoot Ratio	0.11
OHV Dust Adjustment	0.11
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.11

Beef Transfer Factor for Pu (day/kg)	0.11
Mammal Burrow Excavation Rate (m3/yr)	0.11
Plant/Soil Conc Ratio for Ra	0.11
Liner Clay Saturated Hyd Cond (cm/s)	0.11
Ant Colony Density - Plot 4 (1/ha)	0.11
Unit 3 Porosity	0.11
log of van Genuchten's α for Unit 4	0.11
Beef Transfer Factor for Cs (day/kg)	0.11
Intermediate Lake Depth Above Clive (m)	0.11
Silt Sand Gravel Porosity	0.11
RipRap Porosity	0.11
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.10
Unit 2 Bulk Density (g/cm3)	0.10
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.10
Saturated Zone Water Table Gradient	0.10
Receptor Area (ha)	0.10
Beef Transfer Factor for I (day/kg)	0.10
Kd Sand for Sr (mL/g)	0.10
Mammal Mound Density - Plot 5 (1/ha)	0.10
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.10
Ant Nest Volume (m3)	0.10
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.10
Mammal Mound Density - Plot 4 (1/ha)	0.10
Kd Sand for Ac (mL/g)	0.10
Fine Gravel Mix BulkDensity (g/cm3)	0.10
Saltwater Solubility for Tc (mol/L)	0.10
Kd Clay for Pu (mL/g)	0.10
Surface Wind Speed (m/s)	0.10
Plant/Soil Conc Ratio for Th	0.10
Ant Colony Density - Plot 2 (1/ha)	0.10
Kd Clay for Cs (mL/g)	0.10
Soil Temperature (Â°C)	0.10
Unit 2 Porosity	0.09
Plant Fresh Weight Conversion	0.09
Plant/Soil Conc Ratio for Pb	0.09
Soil Ingestion Rate for Antelope (kg/day)	0.09
Saltwater Solubility for Th (mol/L)	0.09
Surface Atmosphere Diffusion Length (m)	0.09
Intermediate Lake Duration (yr)	0.09
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.09
DCF Photon2 REF	0.09
Large Lake End (yr)	0.09
Kd Sand for Ra (mL/g)	0.09

Kd Clay for Pa (mL/g)	0.09
Antelope Range Area (acre)	0.09
Grass Root Shape Parameter b	0.09
Greasewood Root/Shoot Ratio	0.09
Large Lake Depth Above Clive (m)	0.09
Tortuosity Water Content Exponent	0.09
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.09
Kd Sand for Pu (mL/g)	0.09
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.09
Plant/Soil Conc Ratio for Am	0.08
Plant/Soil Conc Ratio for Tc	0.08
Beef Transfer Factor for Th (day/kg)	0.08
Kd Silt for Pb (mL/g)	0.08
Unit 3 Brooks-Corey Fractal Dimension	0.08
Resuspension Flux (kg/m2-yr)	0.08
Kd Sand for Cs (mL/g)	0.08
Kd Sand for Th (mL/g)	0.08
Soil Ingestion Rate for Cattle (kg/day)	0.08
Biomass Production Rate (kg/ha/yr)	0.08
Forb Root Shape Parameter b	0.08
Unit 4 Bubbling Pressure Head (cm)	0.08
Ant Colony Density - Plot 3 (1/ha)	0.08
Kd Silt for Sr (mL/g)	0.08
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.08
Body Weight Factor for Antelope	0.08
Angle Of Repose Gully Fan (deg)	0.08
Kd Silt for U (mL/g)	0.08
Intermediate Lake Sed Thickness (m)	0.08
Shrub Root Shape Parameter b	0.08
Kd Clay for Th (mL/g)	0.07
Kd Silt for Am (mL/g)	0.07
Distance to Gully Initiation (m)	0.07
Kd Sand for Tc (mL/g)	0.07
Kd Clay for Ra (mL/g)	0.07
Fine CobbleMix Porosity	0.07
Kd Clay for Am (mL/g)	0.07
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.07
Fine Gravel Mix Porosity	0.07
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.07
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	0.07
Kd Clay for Ac (mL/g)	0.07
Beef Transfer Factor for Tc (day/kg)	0.07
Ant Colony Lifespan (yr)	0.07

Saltwater Solubility for U3O8 (mol/L)	0.07
Angle of Repose for Gullies (Â°)	0.06
Silt Sand Gravel BulkDensity (g/cm3)	0.06
Mammal Mound Density - Plot 2 (1/ha)	0.06
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.06
Tree Root Shape Parameter b	0.06
Saltwater Solubility for Pb (mol/L)	0.06
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.06
Kd Silt for Ra (mL/g)	0.06
Plant/Soil Conc Ratio for Sr	0.06
Plant/Soil Conc Ratio for Ac	0.06
Beef Transfer Factor for Am (day/kg)	0.06
Kd Silt for Pa (mL/g)	0.06
Tree Root/Shoot Ratio	0.06
Resuspended Particle Fraction	0.06
Kd Sand for Pb (mL/g)	0.06
Saltwater Solubility for Pa (mol/L)	0.06
Contaminated Fraction of GDP DU	0.06
Unit 4 Porosity	0.06
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.06
Beef Transfer Factor for Ra (day/kg)	0.05
Greasewood Root Shape Parameter b	0.05
Saltwater Solubility for Ac (mol/L)	0.05
Activity Conc in SRS DU Waste: U234 (pCi/g)	0.05
Plant/Soil Conc Ratio for Np	0.05
Beef Transfer Factor for Np (day/kg)	0.05
Mammal Mound Density - Plot 1 (1/ha)	0.05
Saltwater Solubility for Cs (mol/L)	0.05
Large Lake Start (yr)	0.05
Saltwater Solubility for Ra (mol/L)	0.05
Biomass % Cover Selector	0.05
Plant/Soil Conc Ratio for Pa	0.04
Vegetation Association Selector	0.04
Unit 4 Brooks-Corey Fractal Dimension	0.01
Soil Ingestion Tracer Element	0.01

Table 12: Peak Lake Water Concentration in Deep Time - U238

R-squared = 98%

Explanatory Variable	Sensitivity Index
Saltwater Solubility for U3O8 (mol/L)	98.13
Molecular Diffusivity in Water (cm2/s)	1.35
Intermediate Lake Duration (yr)	0.33
Intermediate Lake Depth Above Clive (m)	0.04
Number of Gullies	0.01
Gully b Shape Parameter	0.01
Plant/Soil Conc Ratio for Cs	0.00
Kd Clay for Sr (mL/g)	0.00
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.00
Silt Sand Gravel BulkDensity (g/cm3)	0.00
Surface Wind Speed (m/s)	0.00
Kd Sand for Ra (mL/g)	0.00
Plant/Soil Conc Ratio for Am	0.00
Kd Sand for Tc (mL/g)	0.00
Plant/Soil Conc Ratio for Pu	0.00
Intermediate Lake Sed Thickness (m)	0.00
Kd Silt for Np (mL/g)	0.00
DCF Photon2 REF	0.00
Meat Preparation Loss	0.00
Unit 2 Saturated Hyd Cond (cm/s)	0.00
Unit 3 Porosity	0.00
Saltwater Solubility for Rn (mol/L)	0.00
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.00
Beef Transfer Factor for Ra (day/kg)	0.00
Kd Silt for Sr (mL/g)	0.00
Kd Clay for Cs (mL/g)	0.00
Kd Sand for Am (mL/g)	0.00
Meat Post-Cooking Loss	0.00
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.00
Fine Cobble Mix BulkDensity (g/cm3)	0.00
Surface Atmosphere Diffusion Length (m)	0.00
Ant Colony Lifespan (yr)	0.00
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.00
Plant/Soil Conc Ratio for I	0.00
Fine CobbleMix Porosity	0.00
Kd Silt for Am (mL/g)	0.00
Kd Clay for Th (mL/g)	0.00
Beef Transfer Factor for I (day/kg)	0.00

Kd Clay for Np (mL/g)	0.00
Activity Conc in SRS DU Waste: U234 (pCi/g)	0.00
Beef Transfer Factor for Cs (day/kg)	0.00
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	0.00
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.00
RipRap Porosity	0.00
Mammal Mound Density - Plot 2 (1/ha)	0.00
Plant/Soil Conc Ratio for Ac	0.00
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.00
Large Lake Start (yr)	0.00
RipRap Bulk Density (g/cm3)	0.00
Contaminated Fraction of GDP DU	0.00
Saltwater Solubility for Tc (mol/L)	0.00
Grass Root Shape Parameter b	0.00
Kd Clay for Ra (mL/g)	0.00
Saltwater Solubility for Cs (mol/L)	0.00
Shrub Root/Shoot Ratio	0.00
Liner Clay Saturated Hyd Cond (cm/s)	0.00
Kd Sand for Pb (mL/g)	0.00
Ant Colony Density - Plot 4 (1/ha)	0.00
Mammal Mound Density - Plot 4 (1/ha)	0.00
Saltwater Solubility for Ac (mol/L)	0.00
Unit 3 Brooks-Corey Fractal Dimension	0.00
Beef Transfer Factor for Pu (day/kg)	0.00
Grass Root/Shoot Ratio	0.00
Kd Silt for Th (mL/g)	0.00
Ant Nest Volume (m3)	0.00
Kd Silt for Ac (mL/g)	0.00
Kd Silt for Pu (mL/g)	0.00
Kd Sand for Np (mL/g)	0.00
GDP DU Inventory Storage Dead Space (m2)	0.00
Saturated Zone Thickness (m)	0.00
Saltwater Solubility for UO3 (mol/L)	0.00
Unit 3 Saturated Hyd Cond (cm/s)	0.00
Fine Gravel Mix BulkDensity (g/cm3)	0.00
Plant/Soil Conc Ratio for Pb	0.00
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.00
Unit 4 Saturated Hyd Cond (cm/s)	0.00
Siberia Gully Selector	0.00
Unsaturated Zone Thickness (m)	0.00
Resuspended Particle Fraction	0.00
Shrub Root Shape Parameter b	0.00
Mammal Mound Density - Plot 5 (1/ha)	0.00

Saltwater Solubility for I (mol/L)	0.00
Ant Colony Density - Plot 2 (1/ha)	0.00
Kd Clay for Ac (mL/g)	0.00
Ant Colony Density - Plot 3 (1/ha)	0.00
Water Ingestion Rate for Antelope (kg/day)	0.00
Mammal Burrow Shape Parameter b	0.00
Angle Of Repose Gully Fan (deg)	0.00
DCF Photon1 REF	0.00
Kd Clay for Pu (mL/g)	0.00
Large Lake Depth Above Clive (m)	0.00
Tree Root Shape Parameter b	0.00
Saturated Zone Water Table Gradient	0.00
DCF Alpha REF	0.00
Kd Silt for U (mL/g)	0.00
Saltwater Solubility for Np (mol/L)	0.00
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.00
Plant/Soil Conc Ratio for Ra	0.00
Distance to Gully Initiation (m)	0.00
Ant Colony Density - Plot 5 (1/ha)	0.00
Unit 3 Bulk Density (g/cm3)	0.00
Mammal Burrow Excavation Rate (m3/yr)	0.00
Beef Transfer Factor for U (day/kg)	0.00
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.00
Saltwater Solubility for Th (mol/L)	0.00
Fine Gravel Mix Porosity	0.00
Forb Root/Shoot Ratio	0.00
Ant Nest Shape Parameter b	0.00
Water Ingestion Rate for Cattle (kg/day)	0.00
Unit 4 Residual Water Content	0.00
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.00
Mammal Mound Density - Plot 3 (1/ha)	0.00
Kd Silt for Ra (mL/g)	0.00
Plant/Soil Conc Ratio for Tc	0.00
Kd Silt for Pa (mL/g)	0.00
log of van Genuchten’s α for Unit 4	0.00
Resuspension Flux (kg/m2-yr)	0.00
log of van Genuchten’s n for Unit 4	0.00
Soil Ingestion Rate for Antelope (kg/day)	0.00
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.00
Silt Sand Gravel Porosity	0.00
Saltwater Solubility for Am (mol/L)	0.00
OHV Dust Adjustment	0.00
Tortuosity Porosity Exponent	0.00

Saltwater Solubility for Sr (mol/L)	0.00
Unit 4 Bubbling Pressure Head (cm)	0.00
Beef Transfer Factor for Th (day/kg)	0.00
Kd Silt for Cs (mL/g)	0.00
Kd Clay for Pb (mL/g)	0.00
Body Weight Factor for Antelope	0.00
Kd Sand for U (mL/g)	0.00
Forb Root Shape Parameter b	0.00
Plant/Soil Conc Ratio for U	0.00
Kd Sand for Pa (mL/g)	0.00
Greasewood Root/Shoot Ratio	0.00
Plant/Soil Conc Ratio for Th	0.00
Saltwater Solubility for Pb (mol/L)	0.00
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.00
Beef Transfer Factor for Am (day/kg)	0.00
Kd Sand for Th (mL/g)	0.00
Radon Escape/Production Ratio	0.00
Kd Sand for Cs (mL/g)	0.00
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.00
Site Dispersal Area (km2)	0.00
Beef Transfer Factor for Sr (day/kg)	0.00
Tree Root/Shoot Ratio	0.00
Large Lake Sedimentation Rate (m/yr)	0.00
Kd Clay for Am (mL/g)	0.00
Ant Colony Density - Plot 1 (1/ha)	0.00
Unit 4 Bulk Density (g/cm3)	0.00
Beef Transfer Factor for Np (day/kg)	0.00
DCF Beta REF	0.00
Beef Transfer Factor for Ac (day/kg)	0.00
Angle of Repose for Gullies (Â°)	0.00
Saltwater Solubility for Ra (mol/L)	0.00
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.00
Unit 2 Bulk Density (g/cm3)	0.00
Forage Ingestion Rate for Cattle (kg/day)	0.00
Unit 2 Porosity	0.00
Greasewood Root Shape Parameter b	0.00
Kd Sand for Ac (mL/g)	0.00
Plant Fresh Weight Conversion	0.00
Kd Sand for I (mL/g)	0.00
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.00
Saltwater Solubility for Pa (mol/L)	0.00
Surface Atmosphere Thickness (m)	0.00
Plant/Soil Conc Ratio for Np	0.00

Antelope Range Area (acre)	0.00
Beef Transfer Factor for Pa (day/kg)	0.00
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.00
Unit 4 Porosity	0.00
Tortuosity Water Content Exponent	0.00
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.00
Kd Silt for Pb (mL/g)	0.00
Kd Sand for Sr (mL/g)	0.00
Mammal Mound Density - Plot 1 (1/ha)	0.00
Soil Temperature (Â°C)	0.00
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.00
Biomass % Cover Selector	0.00
Kd Clay for Pa (mL/g)	0.00
Beef Transfer Factor for Tc (day/kg)	0.00
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.00
Large Lake End (yr)	0.00
Unit 3 Residual Water Content	0.00
Kd Sand for Pu (mL/g)	0.00
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.00
Soil Ingestion Rate for Cattle (kg/day)	0.00
Unit 3 Bubbling Pressure Head (cm)	0.00
Biomass Production Rate (kg/ha/yr)	0.00
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.00
Receptor Area (ha)	0.00
Plant/Soil Conc Ratio for Sr	0.00
Beef Transfer Factor for Pb (day/kg)	0.00
Kd Clay for U (mL/g)	0.00
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.00
Saltwater Solubility for Pu (mol/L)	0.00
Plant/Soil Conc Ratio for Pa	0.00
Vegetation Association Selector	0.00
Soil Ingestion Tracer Element	0.00
Unit 4 Brooks-Corey Fractal Dimension	0.00

Table 13: Peak Lake Water Activity in Deep Time - U238

R-squared = 99%

Explanatory Variable	Sensitivity Index
Saltwater Solubility for U3O8 (mol/L)	98.00
Molecular Diffusivity in Water (cm2/s)	1.22
Site Dispersal Area (km2)	0.78
RipRap Porosity	0.00
RipRap Bulk Density (g/cm3)	0.00
Fine Gravel Mix Porosity	0.00
Fine Gravel Mix BulkDensity (g/cm3)	0.00
Fine CobbleMix Porosity	0.00
Fine Cobble Mix BulkDensity (g/cm3)	0.00
Silt Sand Gravel Porosity	0.00
Silt Sand Gravel BulkDensity (g/cm3)	0.00
Natural Rn Barrier Clay Sat Hyd Cond (cm/s)	0.00
Soil Temperature (Â°C)	0.00
Unit 3 Porosity	0.00
Unit 3 Bubbling Pressure Head (cm)	0.00
Unit 3 Residual Water Content	0.00
Unit 3 Saturated Hyd Cond (cm/s)	0.00
Unit 3 Brooks-Corey Fractal Dimension	0.00
Unit 3 Bulk Density (g/cm3)	0.00
Unit 4 Bulk Density (g/cm3)	0.00
Unit 4 Porosity	0.00
Unit 4 Bubbling Pressure Head (cm)	0.00
Unit 4 Residual Water Content	0.00
Unit 4 Saturated Hyd Cond (cm/s)	0.00
Unit 4 Brooks-Corey Fractal Dimension	0.00
log of van Genuchten’s α for Unit 4	0.00
log of van Genuchten’s n for Unit 4	0.00
Unit 2 Bulk Density (g/cm3)	0.00
Unit 2 Porosity	0.00
Unit 2 Saturated Hyd Cond (cm/s)	0.00
Saltwater Solubility for Ac (mol/L)	0.00
Saltwater Solubility for Am (mol/L)	0.00
Saltwater Solubility for Cs (mol/L)	0.00
Saltwater Solubility for Np (mol/L)	0.00
Saltwater Solubility for Pa (mol/L)	0.00
Saltwater Solubility for Pb (mol/L)	0.00
Saltwater Solubility for Pu (mol/L)	0.00
Saltwater Solubility for Ra (mol/L)	0.00
Saltwater Solubility for Sr (mol/L)	0.00
Saltwater Solubility for Tc (mol/L)	0.00

Saltwater Solubility for Th (mol/L)	0.00
Saltwater Solubility for UO3 (mol/L)	0.00
Saltwater Solubility for I (mol/L)	0.00
Saltwater Solubility for Rn (mol/L)	0.00
Kd Sand for Ac (mL/g)	0.00
Kd Sand for Am (mL/g)	0.00
Kd Sand for Cs (mL/g)	0.00
Kd Sand for Np (mL/g)	0.00
Kd Sand for Pa (mL/g)	0.00
Kd Sand for Pb (mL/g)	0.00
Kd Sand for Pu (mL/g)	0.00
Kd Sand for Ra (mL/g)	0.00
Kd Sand for Sr (mL/g)	0.00
Kd Sand for Th (mL/g)	0.00
Kd Sand for U (mL/g)	0.00
Kd Sand for I (mL/g)	0.00
Kd Sand for Tc (mL/g)	0.00
Kd Silt for Ac (mL/g)	0.00
Kd Silt for Am (mL/g)	0.00
Kd Silt for Cs (mL/g)	0.00
Kd Silt for Np (mL/g)	0.00
Kd Silt for Pa (mL/g)	0.00
Kd Silt for Pb (mL/g)	0.00
Kd Silt for Pu (mL/g)	0.00
Kd Silt for Ra (mL/g)	0.00
Kd Silt for Sr (mL/g)	0.00
Kd Silt for Th (mL/g)	0.00
Kd Silt for U (mL/g)	0.00
Kd Clay for Ac (mL/g)	0.00
Kd Clay for Am (mL/g)	0.00
Kd Clay for Cs (mL/g)	0.00
Kd Clay for Np (mL/g)	0.00
Kd Clay for Pa (mL/g)	0.00
Kd Clay for Pb (mL/g)	0.00
Kd Clay for Pu (mL/g)	0.00
Kd Clay for Ra (mL/g)	0.00
Kd Clay for Sr (mL/g)	0.00
Kd Clay for Th (mL/g)	0.00
Kd Clay for U (mL/g)	0.00
Liner Clay Saturated Hyd Cond (cm/s)	0.00
Resuspension Flux (kg/m2-yr)	0.00
Radon Escape/Production Ratio	0.00
Resuspended Particle Fraction	0.00

Surface Atmosphere Thickness (m)	0.00
Surface Atmosphere Diffusion Length (m)	0.00
Surface Wind Speed (m/s)	0.00
Ant Nest Volume (m3)	0.00
Ant Colony Lifespan (yr)	0.00
Ant Nest Shape Parameter b	0.00
Ant Colony Density - Plot 1 (1/ha)	0.00
Ant Colony Density - Plot 2 (1/ha)	0.00
Ant Colony Density - Plot 3 (1/ha)	0.00
Ant Colony Density - Plot 4 (1/ha)	0.00
Ant Colony Density - Plot 5 (1/ha)	0.00
Mammal Burrow Shape Parameter b	0.00
Mammal Burrow Excavation Rate (m3/yr)	0.00
Mammal Mound Density - Plot 1 (1/ha)	0.00
Mammal Mound Density - Plot 2 (1/ha)	0.00
Mammal Mound Density - Plot 3 (1/ha)	0.00
Mammal Mound Density - Plot 4 (1/ha)	0.00
Mammal Mound Density - Plot 5 (1/ha)	0.00
Plant/Soil Conc Ratio for Ac	0.00
Plant/Soil Conc Ratio for Am	0.00
Plant/Soil Conc Ratio for Cs	0.00
Plant/Soil Conc Ratio for I	0.00
Plant/Soil Conc Ratio for Np	0.00
Plant/Soil Conc Ratio for Pa	0.00
Plant/Soil Conc Ratio for Pb	0.00
Plant/Soil Conc Ratio for Pu	0.00
Plant/Soil Conc Ratio for Ra	0.00
Plant/Soil Conc Ratio for Sr	0.00
Plant/Soil Conc Ratio for Tc	0.00
Plant/Soil Conc Ratio for Th	0.00
Plant/Soil Conc Ratio for U	0.00
Grass Root/Shoot Ratio	0.00
Grass Root Shape Parameter b	0.00
Shrub Root Shape Parameter b	0.00
Shrub Root/Shoot Ratio	0.00
Tree Root Shape Parameter b	0.00
Tree Root/Shoot Ratio	0.00
Greasewood Root Shape Parameter b	0.00
Greasewood Root/Shoot Ratio	0.00
Forb Root/Shoot Ratio	0.00
Forb Root Shape Parameter b	0.00
Biomass % Cover Selector	0.00
Vegetation Association Selector	0.00

Biomass Production Rate (kg/ha/yr)	0.00
Tortuosity Water Content Exponent	0.00
Tortuosity Porosity Exponent	0.00
Angle of Repose for Gullies (Â°)	0.00
Gully b Shape Parameter	0.00
Activity Conc in SRS DU Waste: Sr90 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Tc99 (pCi/g)	0.00
Activity Conc in SRS DU Waste: I129 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Cs137 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pb210 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Rn222 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ra226 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ra228 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Ac227 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th228 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th229 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th230 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Th232 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pa231 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U232 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U233 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U234 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U235 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U236 (pCi/g)	0.00
Activity Conc in SRS DU Waste: U238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Np237 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu238 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu239 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu240 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu241 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Pu242 (pCi/g)	0.00
Activity Conc in SRS DU Waste: Am241 (pCi/g)	0.00
GDP DU Inventory Storage Dead Space (m2)	0.00
Contaminated Fraction of GDP DU	0.00
Unsaturated Zone Thickness (m)	0.00
Siberia Gully Selector	0.00
Angle Of Repose Gully Fan (deg)	0.00
Number of Gullies	0.00
Distance to Gully Initiation (m)	0.00
Saturated Zone Water Table Gradient	0.00
Saturated Zone Thickness (m)	0.00
Large Lake Start (yr)	0.00
Large Lake End (yr)	0.00

Intermediate Lake Sed Thickness (m)	0.00
Large Lake Sedimentation Rate (m/yr)	0.00
Intermediate Lake Duration (yr)	0.00
Intermediate Lake Depth Above Clive (m)	0.00
Large Lake Depth Above Clive (m)	0.00
OHV Dust Adjustment	0.00
Forage Ingestion Rate for Cattle (kg/day)	0.00
Soil Ingestion Rate for Cattle (kg/day)	0.00
Soil Ingestion Rate for Antelope (kg/day)	0.00
Water Ingestion Rate for Cattle (kg/day)	0.00
Water Ingestion Rate for Antelope (kg/day)	0.00
Body Weight Factor for Antelope	0.00
Beef Transfer Factor for Ac (day/kg)	0.00
Beef Transfer Factor for Am (day/kg)	0.00
Beef Transfer Factor for Cs (day/kg)	0.00
Beef Transfer Factor for I (day/kg)	0.00
Beef Transfer Factor for Np (day/kg)	0.00
Beef Transfer Factor for Pa (day/kg)	0.00
Beef Transfer Factor for Pb (day/kg)	0.00
Beef Transfer Factor for Pu (day/kg)	0.00
Beef Transfer Factor for Ra (day/kg)	0.00
Beef Transfer Factor for Sr (day/kg)	0.00
Beef Transfer Factor for Tc (day/kg)	0.00
Beef Transfer Factor for Th (day/kg)	0.00
Beef Transfer Factor for U (day/kg)	0.00
Receptor Area (ha)	0.00
Antelope Range Area (acre)	0.00
DCF Alpha REF	0.00
DCF Beta REF	0.00
DCF Photon1 REF	0.00
DCF Photon2 REF	0.00
Plant Fresh Weight Conversion	0.00
Soil Ingestion Tracer Element	0.00
Meat Preparation Loss	0.00
Meat Post-Cooking Loss	0.00