Neptune and Company Inc.

June 1, 2011 Report for EnergySolutions

Clive DU PA Model, version 1

Appendix 16

GoldSim Parameters

Model Parameters for the Clive DU PA Model

version 1.0

28 May 2011

Prepared by

Neptune and Company, Inc.

This page is intentionally blank, aside from this statement.

CONTENTS

FIGURES

TABLES

1.0 Introduction

This document, along with the complementary Excel workbook, Clive PA Model Parameters.xls, is a collection of all the input parameters used in the Clive DU PA GoldSim model. The workbook contains those parameters that are most conveniently stored in arrays (such as collections of values by contaminant Species or by chemical Elements), and this document contains individual parameter values and distributions, organized by Containers in the model. Expressions and other operators that do not have model inputs are not represented in these documents. Some input distributions refer to other expression for part of their specification. Rather than writing in those expressions, these are generally noted here as simply "$f(x)$".

2.0 Distribution Specification

Distributions in this document are specified according to the notation shown in Table 1.

Table 1. Statistical distribution types used in the parameter specifications.

distribution type	value or distribution
discrete	value
uniform	U(minimum, maximum)
log uniform	LU(minimum, maximum)
triangular	Tri(minimum, expected, maximum)
normal	N(mean μ, standard deviation σ)
truncated normal	N(mean μ, standard deviation σ, minimum, maximum)
log-normal	LN(geometric mean GM, geometric standard deviation GSD)
truncated log-normal	LN(GM, GSD, minimum, maximum)
beta (generalized)	beta(mean μ, standard deviation σ, minimum, maximum)
Weibull	W(minimum, Weibull slope, mean - minimum)

3.0 \SimulationSettings

The SimulationSettings container has two primary subcontainers, Chronology and Switches. A standard set of simulation settings is suggested in order to control intercomparisons between various runs. The standard set includes Simulation Settings and the values of the various Switches.

Table 2. Generic constants used in simulations

GoldSim element	value	units	reference / comment
Small	1×10^{-30}	—	arbitrarily small number for use in modeling constructs
Large	1×10^{30}	—	arbitrarily large number for use in modeling constructs
U_mask	vector by species of 1's for U species, 0's for non-U species		Modeling construct: All uranium isotopes have a value of 1, and all other radionuclides have a value of 0.

3.1 Simulation Settings (the GoldSim dialog)

The GoldSim Simulation Settings dialog (accessed through the F2 key, or from the menu as Run | Simulation Settings...) controls a number of settings controlling the probabilistic and deterministic modeling runs (Table 3) as well as the specification of time steps (Table 4). Time steps are specific so that values of time-varying outputs are recorded at various times during the simulation. These values, the saving of which is identified by checking the “FV” column, are then available for post-processing analysis. Users of GoldSim are able to modify these time steps, but GoldSim Player users may not. Do not modify the 2500-yr time step length in the later time steps, as these are assumed to exist for the deep time assessment.

If the user desires to run a shorter simulation than the full 2.1 My, this should be done using the model’s Control Panel dashboard—not by entering in a shorter duration in the Simulation Settings dialog. See the *Clive PA Model User Guide* for more details on the use of model controls and dashboards.

Table 3. Monte Carlo simulation settings

setting	value	comments
Time		
Time Display Units	yr	This is a fixed model setting.
Duration	21000000 yr	2.1 million years is required for U-238 to reach secular equilibrium with its decay products.
Start-time / End-time	—	These are ignored.
Probabilistic Simulation		
# Realizations	variable	Set by user.
# Histories to save	variable	Set to # Realizations for viewing all realizations; set to zero for sensitivity analysis.
Use Latin Hypercube Sampling	checked	Use of LHC sampling is advisable in order to evenly sample distributions.
Repeat Sampling Sequences	checked	Check to ensure reproducibility.
Random Seed	variable	This is a user-selected value.
Deterministic Simulation		
Solve Simulation deterministically using:	Element Deterministic Values	

Table 4. Times step settings for the full 2.1-million year run

time range (y)	# steps	time step length (y)	plot every	FV
0 - 100	20	5	1	
100 - 400	15	20	1	
400 - 1000	12	50	1	X
1000 - 2000	10	100	1	
2000 - 3000	10	100	1	
3000 - 4000	10	100	1	
4000 - 5000	10	100	1	
5000 - 6000	5	200	1	
6000 - 7000	4	250	1	
7000 - 8000	2	500	1	
8000 - 9000	2	500	1	
9000 - 10000	2	500	1	X
10000 - 50000	40	1000	1	
50000 - 100000	50	1000	1	X
100000 - 200000	40	2500	10	
200000 - 300000	40	2500	10	
300000 - 400000	40	2500	10	
400000 - 500000	40	2500	10	
500000 - 600000	40	2500	10	
600000 - 700000	40	2500	10	
700000 - 800000	40	2500	10	
800000 - 900000	40	2500	10	
900000 - 1000000	40	2500	10	X
1000000 - 1100000	40	2500	10	
1100000 - 1200000	40	2500	10	
1200000 - 1300000	40	2500	10	
1300000 - 1400000	40	2500	10	
1400000 - 1500000	40	2500	10	
1500000 - 1600000	40	2500	10	
1600000 - 1700000	40	2500	10	
1700000 - 1800000	40	2500	10	
1800000 - 1900000	40	2500	10	
1900000 - 2000000	40	2500	10	
2000000 - 2100000	40	2500	10	X

3.2 \SimulationSettings\Chronology

The model chronology is documented in this container, referenced throughout the model (Table 5).

Table 5. Global events and their probability of occurrence

GoldSim element	value or distribution	units	reference / comment
ModelTimeZero time at which calculations start	2012		Assumed date for first disposal of DU in the Class A South embankment.
IC_Period time since time zero of loss of institutional control	discrete, 100	yr	Assumed duration of active institutional control, per regulatory language.
CapNaturalization_Time time since time zero to when the cap is fully naturalized	N(μ=40, σ=10, min=10, max=Large)	yr	see Unsaturated Zone Modeling white paper
Dose_Simulation_Duration time since time zero that dose	user-selected	yr	User can set this value, up to 10,000 yr, per UAC R313-28-8

3.3 \SimulationSettings\Switches

Switches that control the model are not model inputs documented here, as they are user-selectable via the Control Panel and other dashboards.

4.0 \Materials

Most of the Species-specific properties are defined in the Excel workbook, Clive DU PA Model Parameters.xls, since they are tabulated lists and therefore better suited to a spreadsheet format from which values can be electronically transferred to the model. A number of parameters, however, as well as the overall decay chain scheme, are presented in the decay chain diagrams, shown in Figures 1 and 2. Radionuclides in black are modeled for contaminant transport and dose contributions, those in green are modeled for dose contributions only, and those in gray are not modeled. Figure 3 shows details of those actinide decay chains where some radionuclides are omitted from the model calculations. These are radionuclides with exceedingly small branching fractions and/or no dose conversion factors, so they could not possibly affect model results or decisions based on those results.

One value defined for each contaminant species in the Species element cannot be referenced to an array: the molecular (or in this case, atomic) mass, also called the molecular or atomic weight. GoldSim assumes the same atomic mass for all isotopes for a given chemical element. For example, all isotopes of uranium are assigned the atomic mass of the first isotope encountered — ^{232}U in this case. Therefore, the atomic masses shown in Table 6 are defined for each element, not for each radionuclide. These values are entered manually into the Species element in the \Materials container of the model. In all cases, the most abundant isotope is used, based on inventory mass as developed in \Inventory\Total_DU_Inventory for disposed radionuclides, and the corresponding decay products for radionuclides that ingrow. For example, the disposed mass of thorium is reported as zero, but since most of the thorium would be ingrowing from the large mass of ^{238}U, the corresponding thorium isotope of greatest mass would be ^{230}Th. This ignores the half-life of the decay products, but any error in averaged or presumed atomic masses is expected to be quite minor, since ^{230}Th and ^{232}Th have very similar atomic masses anyway.

Table 6. Atomic mass of Species

Species ID	atomic mass (g/mol)	Species ID	atomic mass (g/mol)
Sr90	90	Ac227	227
Tc99	99	Th228, Th229, Th230, Th232	230
I129	129	Pa231	231
Cs137	137	U232, U233, U234, U235, U236, U238	238
Pb210	210	Np237	237
Rn222	222	Pu238, Pu239, Pu240, Pu241, Pu242	239
Ra226, Ra228	226	Am241	241

Other chemical elements used in the model have their atomic masses listed in Table 7.

Table 7. Atomic masses of other elements

GoldSim element	value or distribution	units	reference / comment
Fluorine_AtomicMass	19.0	g/mol	Chart of the Nuclides, 16th Edition
Oxygen_AtomicMass	16.0	g/mol	*ibid.*

4.1 \Materials\DecayChains

Decay chains are illustrated in this container and reproduced below in Figures 1 through 3.

Decay chains implemented in contaminant transport and dose calculations

Note that the radionuclides and stable nuclides in black are maintained in the Species list. Any modification to the decay chain diagram needs to have an associated modification to the Species list, and vice versa.

The radionuclides noted in green italic are considered in the dose assessment only, through dose coversion factors. Environmental transport of these progeny is assumed to follow their respective parents, with which they are in secular equilibrium.

Radionuclides, stable nuclides, and decay arrows in gray are not represented in the model, but are shown here for completeness. Details in the Actinide_detail Container are also not modeled.

These decay chains are based on the branching fractions in the Nuclear Wallet Cards (Tuli, 2005). Unless noted at a branch, the branching fraction is always 1. Alpha decay is indicated by a red arrow. In a few cases, complex decay paths have been simplified, and are shown in the detail Container. These cases are invariably inconsequential, as the branching fractions in question are extremely small.
Revised 12 April 2011 - JT

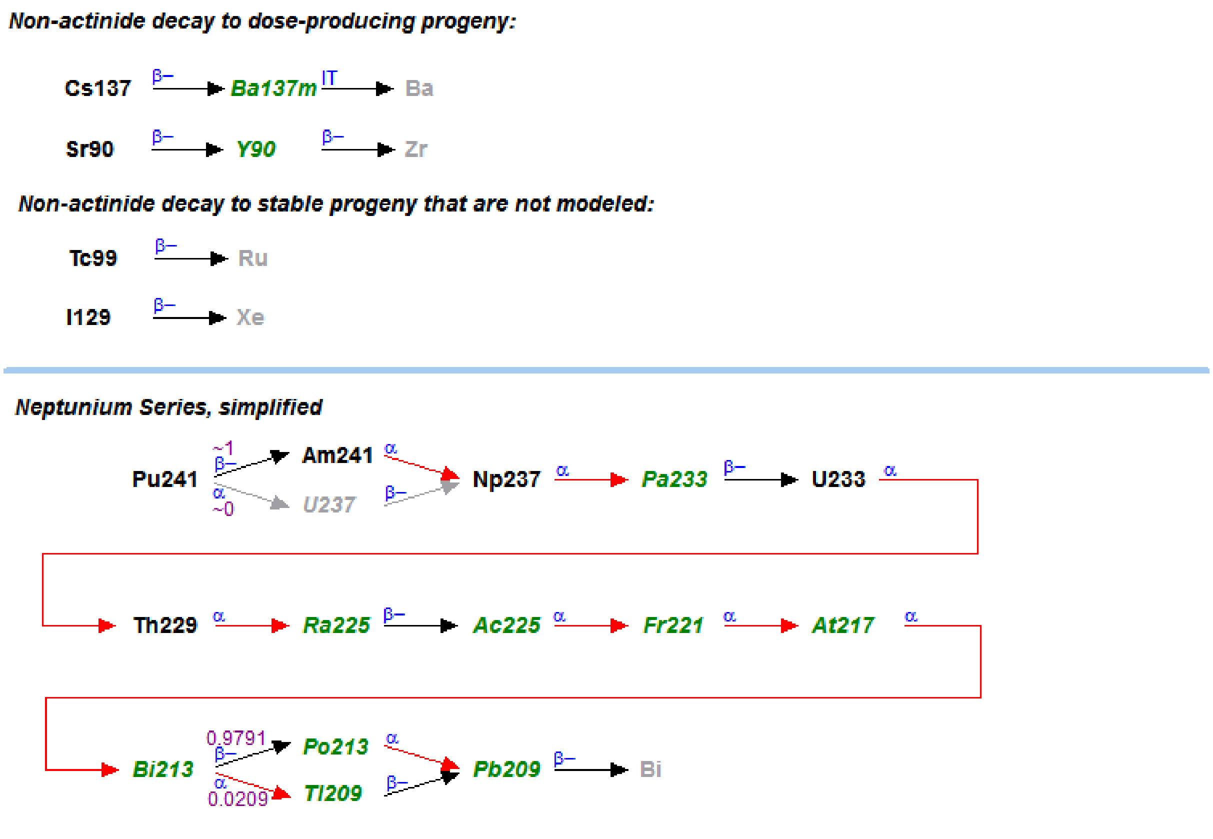

Figure 1. Decay chains modeled in the Clive DU PA Model, part 1 of 2.

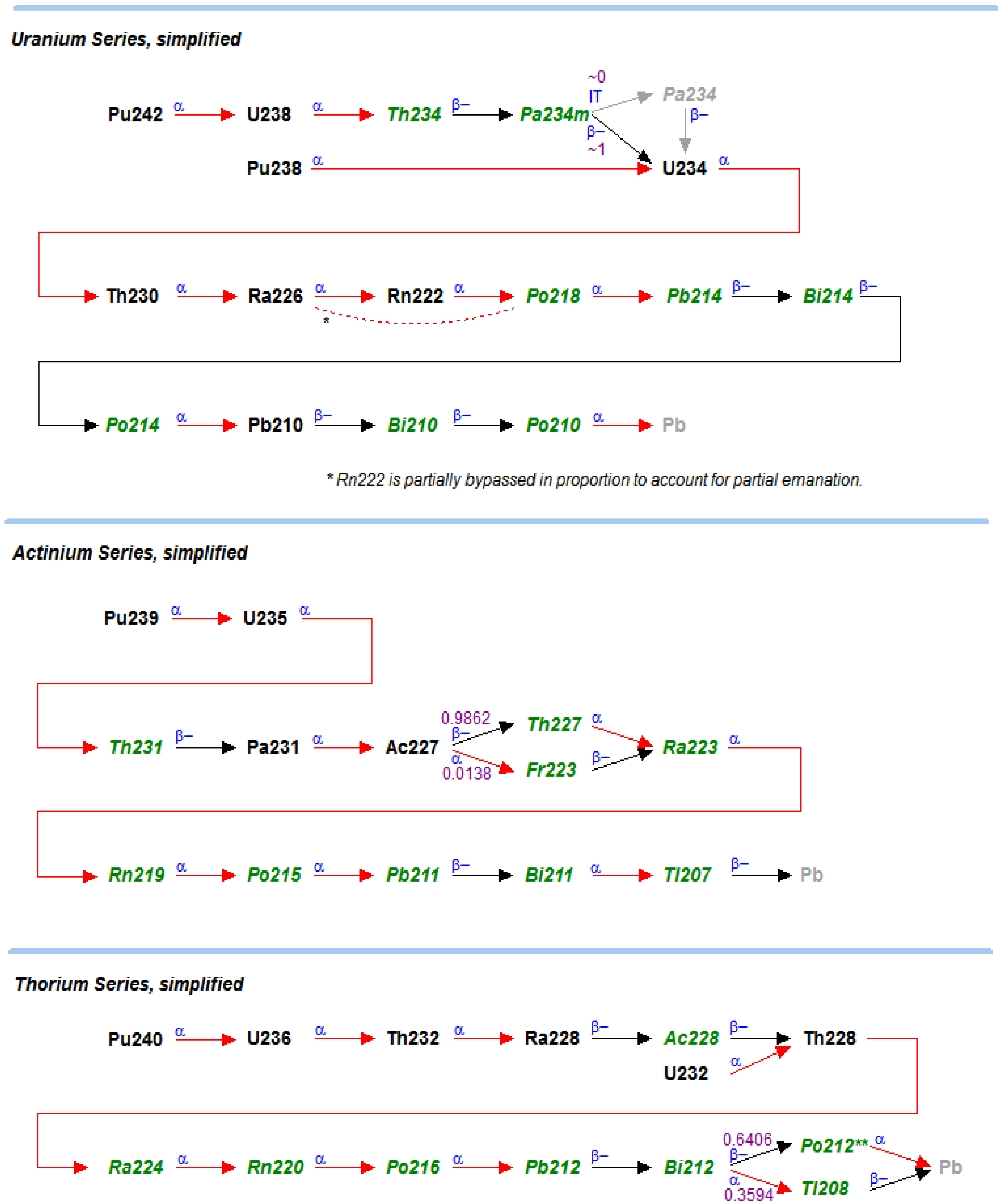

Figure 2. Decay chains modeled in the Clive DU PA Model, part 2 of 2.

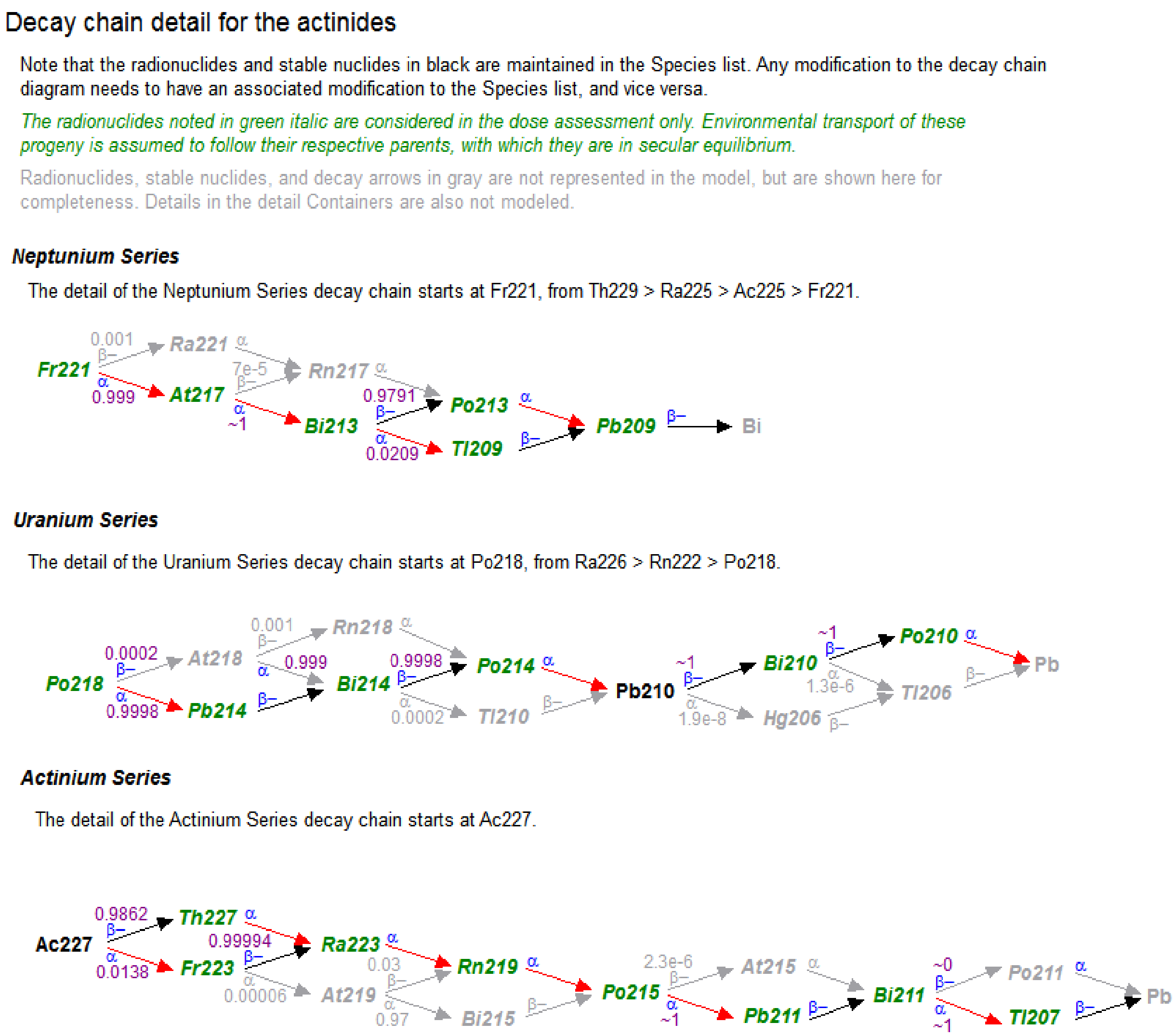

Figure 3. Details of the actinide decay chains modeled in the Clive DU PA Model, showing which species are omitted, in gray.

4.2 \Materials\Loess_Properties

Since loess (windblown sediment) is derived from the surrounding Unit 4 surface soils, the material properties for Loess are redirected to those of Unit 4 (see Table 8).

4.3 \Materials\Unit4_Properties

Unit 4 is a silty clay, the uppermost unit deposited in the region by ancestral lakes. Windblown loess that deposits in the upper cover layers is derived from Unit 4, and shares its material properties. This is also used for a source material for certain parts of the engineered system (clay liner and upper and lower radon barriers), and has materials properties listed in Table 8. Unit 4 is also used for the basic material properties of the clay liner and the upper and lower radon barrier clay layers. Unit 4 is assigned K_d values for silt.

Table 8. Unit 4 material properties

GoldSim element	value or distribution	units	reference / comment
ParticleDensity_Unit4 particle density of Unit 4 material	2.65	g/cm^3	see Unsaturated Zone Modeling white paper
Porosity_Unit4 porosity of Unit 4 material	N(μ=0.428, σ=6.08e-3, min=Small, max=1-Small)	—	*ibid.*, truncated just above 0 and just below 1
BulkDensity_Unit4 dry bulk density of Unit 4 material	N(μ =$f(x)$, σ=0.1, min=Small, max=Large)	g/cm^3	*ibid.*, truncated just above 0
D_Unit4 Brooks-Corey fractal dimension parameter for Unit 4 material	N(μ=2.81, σ=9.93e-5, min=0, max=3)	—	*ibid.*, truncated at 0 and 3
Hb_Unit4 bubbling pressure head of Unit 4 material	N(μ=104., σ=1.72, min=Small, max=Large) correlated to D_Unit4 as -0.66	cm	*ibid.*, truncated just above 0
MCres_Unit4 residual moisture content for Unit 4 material	N(μ=0.108, σ=8.95e-4, min=Small, max=Large)	—	*ibid.*, truncated just above 0
Ksat_Unit4 saturated hydraulic conductivity for Unit 4 material	N(μ=5.16e-5, σ=5.97e-7 , min=Small, max=Large) correlated to D_Unit4 -0.37	cm/s	*ibid.*, truncated just above 0

4.4 \Materials\Unit3_Properties

Material properties for the unsaturated zone below the liner of the disposal embankment, comprised of stratigraphic Unit 3, a silty sand, are provided in Table 9. Unit 3 is assigned K_d values for sand.

Table 9. Unit 3 material properties

GoldSim element	value or distribution	units	reference / comment
ParticleDensity_Unit3 particle density of Unit 3 material	2.65	g/cm^3	see Unsaturated Zone Modeling white paper

GoldSim element	value or distribution	units	reference / comment
Porosity_Unit3 porosity of Unit 3 material	N(μ=0.393, σ=6.11e-3, min=Small, max=1-Small)	—	*ibid.*, truncated just above 0 and just below 1
BulkDensity_Unit3 dry bulk density of Unit 3 material	N(μ =$f(x)$, σ=0.1, min=Small, max=Large)	g/cm^3	*ibid.*, truncated just above 0
D_Unit3 Brooks-Corey fractal dimension parameter for Unit 3 material	N(μ=2.73, σ=5.21e-3, min=0, max=3)	—	*ibid.*, truncated at 0 and 3
Hb_Unit3 bubbling pressure head of Unit 3 material	N(μ=8.85, σ=0.929, min=Small, max=Large); [*correlated to D_Unit3 -0.85*]	cm	*ibid.*, truncated just above 0
MCres_Unit3 residual moisture content for Unit 3 material	N(μ=6.78e-3, σ=2.05e-3, min=Small, max=Large)	—	*ibid.*
Ksat_Unit3 saturated hydraulic condictivity for Unit 3 material	N(μ=5.14e-5, σ=5.95e-6, min=Small, max=Large); [*correlated to D_Unit3 -0.98*]	cm/s	*ibid.*, truncated just above 0

4.5 \Materials\Unit2_Properties

Material properties for the saturated zone, comprised of stratigraphic Unit 2, a silty clay, are provided in Table 10. Unit 2 is assigned K_d values for clay.

Table 10. Unit 2 material properties

GoldSim element	value or distribution	units	reference / comment
BulkDensity_Unit2 dry bulk density for Unit 2 material	N(μ=1.57, σ=0.05, min=Small, max=Large)	g/cm^3	see Saturated Zone Modeling white paper truncated just above 0
Porosity_Unit2 porosity for Unit 2 material	N(μ=0.29, σ=0.05, min=Small, max=1-Small)	—	*ibid.*, truncated just above 0 and just below 1
Ksat_Unit2 saturated hydraulic conductivity for Unit 2	N(μ=9.6e-4, σ=9.67e-5, min=Small, max=Large)	cm/s	*ibid.*, truncated just above 0

4.6 \Materials\RipRap_Properties

Rip Rap is used to construct the uppermost layer: Armor. It quickly becomes infilled with Loess. The Rip Rap itself is assumed to be an inert material.

Table 11. Rip rap material properties

GoldSim element	value or distribution	units	reference / comment
ParticleDensity_RipRap	2.65	g/cm^3	see Unsaturated Zone Modeling white paper
BulkDensity_RipRap	N(μ=$f(x)$, σ=0.1, min=Small, max=Large)	g/cm^3	*ibid.*, truncated just above 0
Porosity_RipRap	N(μ=0.18, σ=0.01, min=Small, max=1-Small)	—	*ibid.*, truncated just above 0 and just below 1

4.7 Materials\FineCobbleMix_Properties

Fine Cobble Mix is used to construct the upper filter layer. It also becomes quickly infilled with Loess. The Fine Cobble Mix itself is assumed to be an inert material.

Table 12. Fine cobble mix material properties

GoldSim element	value or distribution	units	reference / comment
ParticleDensity_ FineCobbleMix	2.65	g/cm^3	see Unsaturated Zone Modeling white paper
BulkDensity_ FineCobbleMix	N(μ=$f(x)$, σ=0.1, min=Small, max=Large)	g/cm^3	*ibid.*, truncated just above 0
Porosity_ FineCobbleMix	N(μ=0.19, 0.01, min=Small, max=1-Small)	—	*ibid.*, truncated just above 0 and just below 1

4.8 Materials\SiltSandGravel_Properties

Silt Sand Gravel is used to construct the Sacrificial Soil layer.

Table 13. Silt sand gravel material properties

GoldSim element	value or distribution	units	reference / comment
ParticleDensity_ SiltSandGravel	2.65	g/cm^3	see Unsaturated Zone Modeling white paper
BulkDensity_ SiltSandGravel	N(μ=$f(x)$, σ=0.1, min=Small, max=Large)	g/cm^3	*ibid.*, truncated just above 0
Porosity_ SiltSandGravel	N(μ=0.31, 0.01, min=Small, max=1-Small)	—	*ibid.*, truncated just above 0 and just below 1

4.9 Materials\FineGravelMix_Properties

Fine Gravel Mix is used to construct the lower filter layer. It becomes infilled with Silt Sand Gravel from the Sacrificial Soil layer over time. The Fine Gravel Mix itself is assumed to be an inert material.

Table 14. Fine gravel mix material properties

GoldSim element	value or distribution	units	reference / comment
ParticleDensity_ FineGravelMix	2.65	g/cm^3	see Unsaturated Zone Modeling white paper
BulkDensity_ FineGravelMix	N(μ=$f(x)$, σ=0.01, min=Small, max=Large)	g/cm^3	*ibid.*, truncated just above 0
Porosity_ FineGravelMix	N(μ=0.28, 0.01, min=Small, max=1-Small)	—	*ibid.*, truncated just above 0 and just below 1

4.10 Materials\UpperRnBarrierClay_Properties

The Radon Barrier layers are divided into upper and lower layers. Both are constructed of local Unit 4 clay, compacted to different hydraulic conductivities. UpperRnClay represents the upper of the two layers, and has significantly lower K_{sat} (see Table 15). Other material properties for this material are redirected to those of Unit 4 (see Table 8).

Table 15. Upper radon barrier clay material properties

GoldSim element	value or distribution	units	reference / comment
Ksat_RnClayUpper	LN(GM=5e-8, GSD=1.2)	cm/s	see Unsaturated Zone Modeling white paper

4.11 Materials\LowerRnBarrierClay_Properties

The Lower Radon Barrier is constructed of compacted local Unit 4 clay, but has its own K_{sat} (see Table 16). LowerRnClay represents the lower of the two layers. Other material properties for this material are redirected to those of Unit 4 (see Table 8).

Table 16. Lower radon barrier clay material properties

GoldSim element	value or distribution	units	reference / comment
Ksat_RnClayLower	LN(GM=1e-6, GSD=1.2)	cm/s	see Unsaturated Zone Modeling white paper

4.12 Materials\LinerClay_Properties

The Liner is constructed of compacted local Unit 4 clay, but has its own K_{sat} (see Table 17). Other material properties for this material are redirected to those of Unit 4 (see Table 8).

Table 17. Liner clay material properties

GoldSim element	value or distribution	units	reference / comment
Ksat_LinerClay	LN(GM=1e-6, GSD=1.2)	cm/s	see Unsaturated Zone Modeling white paper

4.13 \Materials\UO3_Waste_Properties

UO_3 waste is typical of the Savannah River Site DU waste stream. Note, however, that given that the DU-containing waste layer is overwhelmingly inert fill by volume, the material properties for this layer as modeled are set to those of Unit 3 (see Table 9).

4.14 \Materials\Waste_U3O8_Properties

U_3O_8 waste is typical of the gaseous diffusion plant DU waste streams. Like the UO_3 waste, the material properties for this layer as modeled are set to those of Unit 3 (see Table 9).

4.15 \Materials\Generic_Waste_Properties

The current Clive DU PA Model has no generic waste inventory, but this material is defined as a placeholder. Any layers to be filled with generic LLW borrow material properties from Unit 3 (see Table 9).

4.16 \Materials\Water_Properties

Water is the reference fluid in GoldSim.

Table 18. Properties of water, the reference fluid.

GoldSim element	value or distribution	units	reference / comment
RefDiffusivity_Water reference diffusivity in Water	1×10^{-9}	m^2/s	as given in the GoldSim manual
Dm molecular diffusivity in Water	U(3e-6, 2e-5)	cm^2/s	see the Geochemical Modeling white paper

4.17 \Materials\Kd

Since the K_d distribution for each element and each material can be defined independently, with a different distributional form, the Model Parameters workbook does not lend itself to listing these as a vector. Instead, each chemical element is listed in the following tables, one table for each material. Materials are limited to sand, silt, and clay, which spans the gross material properties found at the site. Since the depleted uranium is assumed to be dispersed in a large volume of fill material of as yet unspecified characteristics, the material properties of the disposed waste generally assumes the properties of this fill material. For now, then, the uranium oxide wastes are not assigned their own chemical properties.

4.17.1 \Materials\Kd\Kd_Sand_Values

Table 19. Soil/water partition coefficients (K_ds) for sand

chemical element	value or distribution	units	reference / comment
Ac	LU(min=16.8, max=535)	mL/g	see Geochemical Modeling white paper
Am	LU(min=43.2, max=811)	mL/g	*ibid.*
Cs	LU(min=2.70, max=22.2)	mL/g	*ibid.*
I_dist	N(0.428, 0.605), with values less than 0 set to 0.	mL/g	*ibid*.; Values sampled below 0 are set to 0, within the Expression I.
Np	LU(min=0.392, max=51)	mL/g	*ibid.*
Pa	LU(min=8.32, max=331)	mL/g	*ibid.*
Pb	LU(min=2.70, max=22.2)	mL/g	*ibid.*
Pu	LU(min=66.9, max=2390)	mL/g	*ibid.*
Ra	LU(min=0.387, max=64.6)	mL/g	*ibid.*
Rn	0	mL/g	*ibid.*
Sr	LU(min=2.7, max=22.2)	mL/g	*ibid.*
Tc_dist	N(0.102, 0.145), with values less than 0 set to 0.	mL/g	*ibid*.; Values sampled below 0 are set to 0, within the Expression Tc.
Th	LU(min=19.2, max=41.6)	mL/g	*ibid.*
U	LU(min=0.344, max=6.77)	mL/g	*ibid.*

4.17.2 \Materials\Kd\Kd_Silt_Values

Table 20. Soil/water partition coefficients (K_ds) for silt

chemical element	value or distribution	units	reference / comment
Ac	LU(min=15.7, max=1910)	mL/g	see Geochemical Modeling white paper
Am	LU(min=88.0, max=1140)	mL/g	*ibid.*
Cs	LU(min=4.23, max=118)	mL/g	*ibid.*

chemical element	value or distribution	units	reference / comment
I	Equal to Kd for I in Sand	mL/g	*ibid.*
Np	LU(min=0.805, max=62.1)	mL/g	*ibid.*
Pa	LU(min=184, max=978)	mL/g	*ibid.*
Pb	LU(min=4.23, max=118)	mL/g	*ibid.*
Pu	LU(min=80.5, max=6210)	mL/g	*ibid.*
Ra	LU(min=0.797, max=75.3)	mL/g	*ibid.*
Rn	0	mL/g	*ibid.*
Sr	LU(min=4.23, max=118)	mL/g	*ibid.*
Tc	Equal to Kd for Tc in Sand	mL/g	*ibid.*
Th	LU(min=34.4, max=697)	mL/g	*ibid.*
U	LU(min=0.880, max=11.4)	mL/g	*ibid.*

4.17.3 \Materials\Kd\Kd_Clay_Values

Table 21. Soil/water partition coefficients (K_ds) for clay

chemical element	value or distribution	units	reference / comment
Ac	LU(min=83.6, max=2990)	mL/g	see Geochemical Modeling white paper
Am	LU(min=88.0, max=1140)	mL/g	*ibid.*
Cs	LU(min=6.69, max=239)	mL/g	*ibid.*
I	Equal to Kd for I in Sand	mL/g	*ibid.*
Np	LU(min=4.32, max=81.1)	mL/g	*ibid.*
Pa	LU(min=180, max=1560)	mL/g	*ibid.*
Pb	LU(min=6.69, max=239)	mL/g	*ibid.*
Pu	LU(min=914, max=5470)	mL/g	*ibid.*
Ra	LU(min=1.42, max=1410)	mL/g	*ibid.*
Rn	0	mL/g	*ibid.*
Sr	LU(min=6.69, max=239)	mL/g	*ibid.*
Tc	Equal to Kd for Tc in Sand	mL/g	*ibid.*
Th	LU(min=84.7, max=2360)	mL/g	*ibid.*
U	LU(min=9.05, max=66.3)	mL/g	*ibid.*

4.18 \Materials\WaterSolubility

Since the aqueous solubility distribution for each element and each material could be defined independently, with a different distributional form, the Model Parameters workbook does not lend itself to listing these as a vector. Instead, each chemical element is listed in the following table.

4.18.1 \Materials\WaterSolubility\Solubilities_Saltwater

Table 22. Aqueous solubilities in saltwater, by chemical element

chemical element	value or distribution	units	reference / comment
Ac	LU(min=6.81e-9, max=1.47e-5)	mol/L	see Geochemical Modeling white paper
Am	LU(min=6.81e-10, max=1.47e-6)	mol/L	*ibid.*
Cs	LU(min=6.81e-3, max=1.47e1)	mol/L	*ibid.*
I	LU(min=5.99e-5, max=1.67e0)	mol/L	*ibid.*
Np	LU(min=6.81e-6, max=1.47e-2)	mol/L	*ibid.*
Pa	LU(min=6.81e-9, max=1.47e-5)	mol/L	*ibid.*
Pb	LU(min=6.81e-9, max=1.47e-5)	mol/L	*ibid.*
Pu	LU(min=5.27e-11, max=1.90e-5)	mol/L	*ibid.*
Ra	LU(min=5.99e-10, max=1.67e-5)	mol/L	*ibid.*
Rn	LU(min=7.74e-4, max=1.29e-1)	mol/L	*ibid.*
Sr	LU(min=6.81e-7, max=1.47e-3)	mol/L	*ibid.*
Tc	LU(min=7.74e-5, max=1.29e-2)	mol/L	*ibid.*
Th	LU(min=7.74e-9, max=1.29e-6)	mol/L	*ibid.*
UO3	LU(min=3.58e-6, max=2.79e-3)	mol/L	*ibid.*
U3O8	LU(min=1e-16, max=6.5e-10)	mol/L	*ibid.*

4.19 \Materials\AirDiffusivities

Currently, the only gaseous radionuclide in the model is ^{222}Rn, which diffuses in the air phase.

Table 23. Parameters relevant to diffusion in air..

GoldSim element	value or distribution	units	reference / comment
RefDiffusivity_Air	1	cm^2/s	arbitrary value in GoldSim, as it falls out in math
Da_Rn	0.11	cm^2/s	Rogers and Nielson (1991)

4.20 \Materials\Kh

Radon also partitions into water according to its Henry's Law constant.

Table 24. Henry's Law constants and related parameters.

GoldSim element	value or distribution	units	reference / comment
SoilTemp average soil temperature	N(μ=12, σ=1)	°C	Estimated from the Clive Test Cell temperature data "Temp and Dose Data 9-19-01 to 1-15-09.xls" provided by Energy*Solutions.*
Khcp_Rn parameter used in devising Henry's Law constant	9.3e-3	mol/L·atm	Sander (1999), table 7, page 13

5.0 \Processes

Physical process parameters global in scope (general to the entire model) are defined in this container.

5.1 \Processes\AirTransport

Contaminant transport in air includes both pore air in porous media, and the dispersion into and within the atmosphere. Chi/Q values for gas and particles that are specific to the Class A South embankment are listed in Table 43 (for the \Disposal\AtmosphericDispersion\AirConc_Remote container).

Table 25. Radon diffusive transport parameters.

GoldSim element	value or distribution	units	reference / comment
EPRatio_Radon radon escape/production ratio	beta(0.290, 0.156, min=0, max=1)	—	see Unsaturated Zone Modeling white paper
ThicknessAtm mixing thickness of the atmosphere, for purposes of diffusion from soil layers	N(μ=2.0, σ=0.5, min=Small, max=Large)	m	*ibid.*
WindSpeed average wind speed, for purposes of diffusion from soil layers	N(μ=3.14, σ=0.5, min=Small, max=Large)	m/s	*ibid.*

GoldSim element	value or distribution	units	reference / comment
AtmDiffusionLength diffusion length for the atmosphere, for purposes of diffusion from soil layers	N(μ=0.1, σ=0.02, min=Small, max=Large)	m	*ibid.*

Table 26. Atmospheric transport parameters.

GoldSim element	value or distribution	units	reference / comment
Dust_mask logical mask to identify PM-10 particles	Rn = 0, all others = 1 (see workbook)	—	masks Species with 0/1 to be those found in dust particles
Gas_mask logical mask to identify gases	Rn = 1, all others = 0 (see workbook)	—	masks Species with 0/1 to be those found in gaseous phase
ResuspensionFlux mass flux of soil particles into atmosphere	LU(Small, 0.3)	kg/m^2-yr	see Atmospheric Modeling white paper
Particle_Fraction the fraction of PM-10 particles in the 0 to 2.5 μm size bin	U(0,1)	—	based on physical limits
Frac_OffSite_ Deposition fraction of all particles that migrate off site that are deposited in the off-site air dispersion area. a lookup table based on Particle_Fraction	0 0.11 0.05 0.11 0.1 0.11 0.2 0.099 0.4 0.086 0.6 0.072 0.8 0.057 1.0 0.041	— — — — — — — —	see Atmospheric Modeling white paper
OnSiteRedepos_ Ratio_bySize a lookup table based on Particle_Fraction	0 4.224e-7 0.05 4.114e-7 0.1 4.002e-7 0.2 3.776e-7 0.4 3.311e-7 0.6 2.827e-7 0.8 2.321e-7 1.0 1.794e-7	g/m^2-yr per g/yr	*ibid.*

5.2 \Processes\AnimalTransport

Burrowing animals have the potential to exhume waste or contaminated cap materials. All burrowers are collected into one of two types: ants and small mammals.

5.2.1 \Processes\AnimalTransport\AntData

Table 27. Model parameters for ants.

GoldSim element	value or distribution	units	reference / comment
NestVolume volume of each nest	N(μ=0.161, σ=0.024, min=0, max=Large)	m^3	see Biological Modeling white paper
ColonyLifespan lifespan of each colony	N(μ=20.2, σ=3.6, min=Small, max=Large)	yr	*ibid.*
ColonyDensity area density of colonies on the ground	see below for each field study plot	1/ha	*ibid.*
_Plot1	Gamma(33,1, min=0, max=Large)	1/ha	*ibid.*
_Plot2	Gamma(2, 1, min=0, max=Large)	1/ha	*ibid.*
_Plot3	Gamma(7, 1, min=0, max=Large)	1/ha	*ibid.*
_Plot4	Gamma(17, 1, min=0, max=Large)	1/ha	*ibid.*
_Plot5	Gamma(6, 1, min=0, max=Large)	1/ha	*ibid.*
MaxDepth maximum depth for any colony	212	cm	*ibid.*
b fitting parameter for nest shape	N(μ=10, σ=0.71, min=1, max=Large)	—	*ibid.*

5.2.2 \Processes\AnimalTransport\MammalData

Table 28. Model parameters for small mammals.

GoldSim element	value or distribution	units	reference / comment
MoundDensity area density of mounds on the ground	see below for each plot	1/ha	see Biological Modeling white paper
_Plot1	Gamma(235, 1, min=0, max=Large)	1/ha	*ibid.*
_Plot2	Gamma(239, 1, min=0, max=Large)	1/ha	*ibid.*

GoldSim element	value or distribution	units	reference / comment
_Plot3	Gamma(1.33, 1, min=0, max=Large)	1/ha	*ibid.*
_Plot4	Gamma(1.33, 1, min=0, max=Large)	1/ha	*ibid.*
_Plot5	Gamma (1.33, 1, min=0, max=Large)	1/ha	*ibid.*
ExcavationRate volumetric rate of a single burrow excavation	N(μ=0.0006, σ=0.00015, min=Small, max=Large)	m^3/yr	*ibid.*
MaxDepth maximum depth for any burrow	200	cm	*ibid.*
b fitting parameter for burrow shape	N(μ=4.5, σ=0.84, min=1, max=Large)	—	*ibid.*

5.3 \Processes\PlantTransport

Plants have the potential to translocate contaminants in waste or contaminated cap materials. All plants are collected into one of five types: greasewood, grasses, forbs, trees, and shrubs. Each of these plant types is characterized in each of the five plot locations that were studied, corresponding to five vegetation associations:

- Plot 1: Mixed Grassland
- Plot 2: Juniper - Sagebrush
- Plot 3: Black Greasewood
- Plot 4: Halogeton - Disturbed
- Plot 5: Shadscale - Gray Molly

Each of these vegetation associations is picked at random for a given realization.

Table 29. Parameters general to all plants.

GoldSim element	value or distribution	units	reference / comment
BiomassProductionRate	U(300, 1500)	kg/ha-yr	see *Biological Modeling* white paper
VegetationAssociationPicker	discrete(1, 2, 3, 4, 5)	—	*ibid.*

5.3.1 \Processes\PlantTransport\PlantCR

Table 30. Plant/soil concentration ratio parameters.

GoldSim element	value or distribution	units	reference / comment
CR_GM	tabulated in Clive PA Model Parameters.xls workbook	—	see *Biological Modeling* white paper
CR_GSD	tabulated in Clive PA Model Parameters.xls workbook	—	*ibid.*
CR_GM_radon	Small	—	*ibid.*
CR_GSD_radon	1	—	*ibid.*

5.3.2 \Processes\PlantTransport\BiomassCalcs

Table 31. Biomass calculation parameters.

GoldSim element	value or distribution	units	reference / comment
percent cover tables, such as PctCover_Plot4_Forb	tabulated in Clive PA Model Parameters.xls workbook	%	These are 25 tables, one for each Plot and for each plant type. Source: plant.cover.percent.simulations.xlsx in Clive PA Model Parameters.xls workbook
PctCoverRandomSelector	probability of 0.001 assigned to discrete values from 1 to 1000	%	An index generator used to pick correlated sets of percent cover

5.3.3 \Processes\PlantTransport\GreasewoodData

Table 32. Greasewood parameters.

GoldSim element	value or distribution	units	reference / comment
RootShoot_Ratio	U(0.30, 1.24)	—	see Biological Modeling white paper
MaxDepth	570	cm	*ibid.*
b	N(μ=14.6, σ=0.0807, min=1, max=Large)	—	*ibid.*

5.3.4 \Processes\PlantTransport\GrassData

Table 33. Grass parameters.

GoldSim element	value or distribution	units	reference / comment
RootShoot_Ratio	T(1, 1.2, 2)	—	see Biological Modeling white paper
MaxDepth	150	cm	*ibid.*
b	N(μ=2.19 σ=0.036, min=1, max=Large)	—	*ibid.*

5.3.5 \Processes\PlantTransport\ForbData

Table 34. Forb parameters.

GoldSim element	value or distribution	units	reference / comment
RootShoot_Ratio	U(0.40, 1.80)	—	see Biological Modeling white paper
MaxDepth	51	cm	*ibid.*
b	N(μ=23.9 σ=0.313, min=1, max=Large)	—	*ibid.*

5.3.6 \Processes\PlantTransport\TreeData

Table 35. Tree parameters.

GoldSim element	value or distribution	units	reference / comment
RootShoot_Ratio	U(0.55, 0.76)	—	see Biological Modeling white paper
MaxDepth	450	cm	*ibid.*
b	N(μ=14.6 σ=0.0807, min=1, max=Large)	—	*ibid.*

5.3.7 \Processes\PlantTransport\ShrubData

Table 36. Other shrub parameters.

GoldSim element	value or distribution	units	reference / comment
RootShoot_Ratio	U(0.4, 1.8)	—	see Biological Modeling white paper
MaxDepth	110	cm	*ibid.*
b	N(μ=23.9 σ=0.313, min=1, max=Large)	—	*ibid.*

5.4 \Processes\WaterTransport

Flow within moving water (advection) and diffusion within water are typically significant contaminant transport mechanisms. Global parameters for water transport are located here. Other parameters specific to a modeled column are located within that column's modeling container (e.g. Section 7.2.3 Table 46).

Table 37. Water transport parameters.

GoldSim element	value or distribution	units	reference / comment
AnnualPrecipitation_Avg	N(μ=8.61, σ=0.822,min=0, max=Large)	in/yr	see Unsaturated Zone Modeling white paper
Evapotranspiration_Cover	N(μ=5.14, σ=0.762, min=0, max=Large)	in/yr	*ibid.*
MoistureContent_Armor	N(μ=0.125, σ=0.0175, min=Small, max= Porosity_Unit4)	—	*ibid.*
MoistureContent_UpperFilter	use value for Armor	—	*ibid.*
MoistureContent_SacSoil	N(μ=0.243, σ=0.0175, min=Small, max=Porosity_ SiltSandGravel)	—	*ibid.*
MoistureContent_LowerFilter	use value for SacSoil	—	*ibid.*
WaterContent_Exponent exponent to water content in water phase tortuosity calc	U(4/3, 7/3)	—	*ibid*
Porosity_Exponent exponent to porosity in water phase tortuosity calculation	U(0.5, 2)	—	*ibid.*

5.5 \Processes\ErosionTransport

Erosion through the formation of gullies can be a significant mechanism for exposing waste to the environment. Global parameters for erosion are located here. Other parameters specific to an embankment are located within that embankment's modeling container (e.g. Section 7.2.5 Table 60).

Table 38. Water transport parameters.

GoldSim element	value or distribution	units	reference / comment
AngleOfRepose_Gully angle of repose for gully walls	N(μ=38, σ=5, min=Small, max=90-Small)	degrees	see Erosion Modeling white paper
Gully_b_parameter shape parameter for gully thalweg	N(μ=-0.4, σ=0.15, min=-0.75, max=-0.05)	—	*ibid.*

6.0 \Inventory

The DU waste is characterized by analysis of the SRS DU. To date, insufficient information exists to thoroughly characterize the DU wastes expected to arrive from the gaseous diffusion plants (GDPs).

6.1 \Inventory\SRS_DU_Inventory

The SRS DU, which consists of several thousand 208-L (55-gal) drums of powdered DUO_3, has been subjected to laboratory analysis, so activity concentrations are based on that information.

Table 39. SRS DU inventory parameters.

GoldSim element	value or distribution	units	reference / comment
ActivityConc_DUWaste_Mean	See parameters workbook, sheet “Inventory”	pCi/g	see Waste Inventory white paper
ActivityConc_DUWaste_StdDev	See parameters workbook, sheet “Inventory”	pCi/g	see Waste Inventory white paper
SRS_DU_Drums_Disposed	21000	—	(not considered in this PA)
SRS_DU_Drums_ProposedUT	5408	—	see Waste Inventory white paper
SRS_DU_Drums_ProposedEW	5408 × 2	—	(not considered in this PA)
Drum_Mass	20	kg	see Waste Inventory white paper
ShippedMass_Proposed_UT	3577	Mg	see Waste Inventory white paper

6.2 \Inventory\GDP_DU_Inventory

Since insufficient information exists to exactly characterize the DU wastes expected to arrive from the GDPs, the activity concentrations and other waste material characteristics are borrowed from the SRS DUO_3 waste, as a proxy.

Table 40. GDP DU inventory parameters.

GoldSim element	value or distribution	units	reference / comment
Num_DUF6_Cylinders_PGDP	36191	—	see Waste Inventory white paper
Num_DUF6_Cylinders_PORTS	16109	—	*ibid.*
Num_DUF6_Cylinders_K25	4822	—	*ibid.*
Mass_DUF6_PGDP	436400	Mg	*ibid.*
Mass_DUF6_PORTS	195800	Mg	*ibid.*
Mass_DUF6_K25	54300	Mg	*ibid.*
CylinderDiameter	4	ft	*ibid.*
CylinderLength	12	ft	*ibid.*
FractionGDP_Contaminated	Beta(0.0392, 0.0025, 0, 1)	—	*ibid.*
CleanDU_Mask	see workbook	—	simply a mask for uranium

6.3 \Inventory\Other_DU_Inventory

This is a placeholder container. No other DU inventory is assumed in the model.

6.4 \Inventory\ClassA_LLW_Inventory

This is a placeholder container. No other LLW inventory is assumed in the model.

7.0 \Disposal

The Disposal container hosts all the actual contaminant calculations, including atmospheric transport, transport mechanisms within each column of each embankment (water, air, biological, etc.) and the saturated zone. While global transport parameters are defined in the \Processes container (Section 5.0), parameters and calculations specific to local mechanisms are defined here.

7.1 \Disposal\AtmosphericDispersion

The values for the ratio of airborne contaminant concentration to source release rate into the atmosphere are known as X/Q (Chi/Q) values. These are implemented as lookup tables on Particle_Fraction.

7.1.1 \Disposal\AtmosphericDispersion\AirConc_Onsite

OnSite air concentrations are used for exposures to receptors that traverse the embankment itself.

Table 41. Atmosphere dispersion parameters for on-site exposures.

GoldSim element	value or distribution		units	reference / comment
ChiQ_Embankment _538m	0	222	(μg/m³)/(g/s)	see Atmospheric Modeling white paper
	0.05	223		
	0.1	224		
	0.2	225		
	0.4	228		
	0.6	231		
	0.8	234		
	1.0	238		
ChiQ_Gas_Onsite (Embankment)	234		same	*ibid.*

7.1.2 \Disposal\AtmosphericDispersion\MediaConc_Offsite

OffSite air concentrations are used for exposures to receptors that traverse the area surrounding the embankment. These receptors also have access to the embankment itself. Functionally, the air concentrations are set to those same values used for OnSite air.

Table 42. Atmosphere dispersion parameters for off-site exposures (in the "air dispersion" area.)

GoldSim element	value or distribution	units	reference / comment
ChiQ_Dust_Offsite	set equal to ChiQ_Dust _Onsite	(μg/m³)/(g/s)	see Atmospheric Modeling white paper
ChiQ_Gas_Offsite	0.38	same	*ibid.*

7.1.3 \Disposal\AtmosphericDispersion\AirConc_Remote

Various receptors are at specific geographic locations farther away from the site, including Interstate-80, the rail road, the Grassy Rest Area, the Knolls OHV Recreation Area, and the UTTR access road.

Table 43. Atmosphere dispersion parameters for remote off-site exposures.

GoldSim element	value or distribution		units	reference / comment
ChiQ_RestArea_1K	0	0.0069	(μg/m³)/(g/s)	see Atmospheric Modeling white paper
	0.05	0.0069		
	0.1	0.0069		
	0.2	0.0070		

GoldSim element	value or distribution		units	reference / comment
	0.4	0.0071		
	0.6	0.0072		
	0.8	0.0073		
	1.0	0.0074		
ChiQ Gas RestArea	0.0088		same	*ibid.*
ChiQ_Knolls	0	0.043	same	*ibid.*
	0.05	0.044		
	0.1	0.044		
	0.2	0.046		
	0.4	0.049		
	0.6	0.052		
	0.8	0.055		
	1.0	0.058		
ChiQ Gas Knolls	0.053		same	*ibid.*
ChiQ_I80_1K	0	0.26	same	*ibid.*
	0.05	0.26		
	0.1	0.26		
	0.2	0.27		
	0.4	0.27		
	0.6	0.28		
	0.8	0.28		
	1.0	0.28		
ChiQ Gas I80	0.28		same	*ibid.*
ChiQ_Railroad_1K	0	0.43	same	*ibid.*
	0.05	0.43		
	0.1	0.43		
	0.2	0.43		
	0.4	0.43		
	0.6	0.44		
	0.8	0.44		
	1.0	0.44		
ChiQ Gas Railroad	0.44		same	*ibid.*
ChiQ_UTTRaccess_1K	0	222	same	*ibid.*
	0.05	223		
	0.1	224		
	0.2	225		
	0.4	228		

GoldSim element	value or distribution		units	reference / comment
	0.6	231		
	0.8	234		
	1.0	238		
ChiQ_Gas_UTTRaccess	234		same	*ibid.*

7.2 \Disposal\ClassASouthCell

This PA model considers only the Class A South cell, part of the Federal Cell embankment.

7.2.1 \Disposal\ClassASouthCell\ClassASouth_Cell_Dimensions

Exact dimensions of the embankment are somewhat irregular, so the shape of the cell has been somewhat idealized to facilitate calculations. Elevations for the top of the waste are read from drawing 07021 V1, which has the note "1. All elevations shown are for top of waste..." Elevation of bottom of waste is from drawing 07021 V3.

Table 44. Interior (waste) dimensions of the Federal Cell, Class A South section.

GoldSim element	value or distribution	units	reference / comment
AverageOriginalGrade Average original grade elevation	4272	ft amsl	see Embankment Modeling.pdf
WasteTopElev_Ridge Elevation of top of the waste at the ridgeline	4317.25	ft amsl	*ibid.*
AverageWasteTopElev_Break Elevation of top of the waste at the break in slope	4299.20	ft amsl	*ibid.*
WasteBottomElev Elevation of the bottom of the waste	4264.17	ft amsl	*ibid.*
LengthOverall Length overall	1429.6	ft	*ibid.*
WidthOverall Width overall	1775	ft	*ibid.*
LengthToBreak Length from edge to the break in slope	153.2	ft	*ibid.*
WidthToBreak Width from edge to the break in slope	152.1	ft	*ibid.*

GoldSim element	value or distribution	units	reference / comment
RidgeLength Length along the ridge	542.1	ft	*ibid.*

7.2.2 \Disposal\ClassASouth\NaturalSystemGeometry

Table 45. Natural system geometry parameters for the Class A South cell.

GoldSim element	value or distribution	units	reference / comment
UZ_Thickness thickness of the unsaturated zone below the CAS cell	N(μ=12.9, σ=0.25, min=Small, max=Large)	ft	see Unsaturated Zone Modeling white paper

7.2.3 \Disposal\ClassASouthCell\TopSlope

No input elements are defined at this level.

7.2.3.1 \Disposal\ClassASouthCell\TopSlope\Column_Transport

No input elements are defined at this level.

7.2.3.1.1 \Disposal\ClassASouthCell\TopSlope\Column_Transport \WaterTransport

No input elements are defined at this level.

7.2.3.1.1.1 \Disposal\ClassASouthCell\TopSlope\Column_Transport \WaterTransport\WaterTransport_CapCells

Water balance and flow calculations for the top slope column are performed here.

Table 46. Infiltration parameters for cap cells.

GoldSim element	value or distribution	units	reference / comment
SurfaceRunoff	LN(GM=0.0252, GSD=3.33, min=0, max=0.1)	in/yr	see Unsaturated Zone Modeling white paper
LatDiversion_UpperFilter_Early	N(μ=0.0427, σ=0.0111, min=Small, max=Large)	in/yr	*ibid.*
LatDiversion_LowerFilter_Early	N(μ=3.39, σ=0.214, min=Small, max=Large)	in/yr	*ibid.*
VerticalFlow_RnBarrier_Early	N(μ=0.104, σ=0.00417, min=Small, max=Large)	in/yr	*ibid.*
LatDiversion_UpperFilter_Late	0.0	in/yr	*ibid.*
LatDiversion_LowerFilter_Late	N(μ=0.345, σ=0.0815, min=Small, max=Large)	in/yr	*ibid.*
VerticalFlow_RnBarrier_Late	N(μ=0.0482, σ=0.00351, min=Small, max=Large)	in/yr	*ibid.*

7.2.3.2 \Disposal\ClassASouthCell\TopSlope\Column_MoistureProfile

7.2.3.2.1 \Disposal\ClassASouthCell\TopSlope\Column_MoistureProfile \WaterContentCalcs_RnBarrier

Table 47. Parameters for moisture profile calculations for the radon barrier.

GoldSim element	value	units	reference / comment
NumNodes	5		this is the number of modeled radon barrier layers +1
UpperRn_NodeNumber	2		middle node in part of column
LowerRn_NodeNumber	4		middle node in part of column

7.2.3.2.2 \Disposal\ClassASouthCell\TopSlope\Column_MoistureProfile \WaterContentCalcs_Waste

Table 48. Parameters for moisture profile calculations for the waste.

GoldSim element	value	units	reference / comment
NumNodes	28	—	this is the number of modeled waste layers +1

7.2.3.2.3 \Disposal\ClassASouthCell\TopSlope\Column_MoistureProfile \WaterContentCalcs_Liner

Table 49. Parameters for moisture profile calculations for the clay liner.

GoldSim element	value	units	reference / comment
NumNodes	5		this is the number of modeled liner layers +1
MiddepthNodeNumber	3		middle node in column

7.2.3.2.4 \Disposal\ClassASouthCell\TopSlope\Column_MoistureProfile \WaterContentCalcs_Unsat

Table 50. Parameters for moisture profile calculations for the unsaturated zone below the clay liner.

GoldSim element	value or distribution	units	reference / comment
NumNodes	24		see Unsaturated Zone Modeling white paper
ZoneThickness specified from the bottom up	-0.0204 -0.0204 -0.0204 -0.0204 -0.0204 -0.0510 -0.0510 -0.0510 -0.2550 -0.2550 -0.2550 -0.2550 -0.2550 -0.2550 -0.2550 -0.2550 -0.2550 -0.2550 -0.2550 -0.2550 -0.2550 -0.2550 -0.2550 0	m	*ibid.*
MiddepthNodeNumber	16		middle node in column

7.2.3.3 \Disposal\ClassASouthCell\TopSlope\Cap_Layers

7.2.3.3.1 \Disposal\ClassASouthCell\TopSlope\CapLayers\CapCell_Dimensions

Table 51. Cap layering dimensions for the top slope.

GoldSim element	value or distribution	units	reference / comment
TArmor Type B rip rap thickness	18	in	see Embankment Modeling white paper
TUpperFilter Type A filter zone thickness	6	in	*ibid.*
TSacrificialSoil Sacrificial soil thickness	12	in	*ibid.*
TLowerFilter Type B filter zone thickness	6	in	*ibid.*
TUpperRadon upper radon barrier clay thickness	12	in	*ibid.*
TLowerRadon lower radon barrier clay thickness	12	in	*ibid.*
NArmorCells	3	—	modeling construct
NUpperFilterCells	1	—	modeling construct
NSacrificialSoilCells	2	—	modeling construct
NLowerFilterCells	1	—	modeling construct
NUpperRadonCells	2	—	modeling construct
NLowerRadonCells	2	—	modeling construct
TopCell_Thickness	U(1 cm, TArmor – NArmorCells × 1 cm)	cm	modeling construct This allows the thickness of the topmost cell to vary between 1 cm and the maximum so that the other cells in this layer are at least 1 cm.

7.2.3.4 \Disposal\ClassASouthCell\TopSlope\Liner

Table 52. Number of liner cells.

GoldSim element	value or distribution	units	reference / comment
NumLinerCells	4	—	modeling construct

7.2.3.5 \Disposal\ClassASouthCell\TopSlope\UnsatLayer

Table 53. Number of unsaturated zone cells.

GoldSim element	value or distribution	units	reference / comment
NumUnsatCells	10	—	modeling construct

7.2.3.6 \Disposal\ClassASouthCell\TopSlope\WasteLayers

No input elements are defined at this level.

7.2.3.6.1 \Disposal\ClassASouthCell\TopSlope\WasteLayers\WasteCell_Dimensions

Table 54. Top slope waste cell dimensions.

GoldSim element	value or distribution	units	reference / comment
NumWasteCells_TS	27	—	modeling construct

7.2.4 \Disposal\ClassASouthCell\SideSlope

No input elements are defined at this level.

7.2.4.1 \Disposal\ClassASouthCell\SideSlope\Column_Transport

No input elements are defined at this level.

7.2.4.1.1 \Disposal\ClassASouthCell\SideSlope\Column_Transport\WaterTransport

No input elements are defined at this level.

7.2.4.2 \Disposal\ClassASouthCell\SideSlope\Column_MoistureProfile

7.2.4.2.1 \Disposal\ClassASouthCell\SideSlope\Column_MoistureProfile\WaterContentCalcs_RnBarrier

Table 55. Parameters for moisture profile calculations for the radon barrier.

GoldSim element	value	units	reference / comment
NumNodes	5		this is the number of modeled radon barrier layers +1
UpperRn_NodeNumber	2		middle node in part of column
LowerRn_NodeNumber	4		middle node in part of column

7.2.4.2.2 \Disposal\ClassASouthCell\SideSlope\Column_MoistureProfile \WaterContentCalcs_Waste

Table 56. Parameters for moisture profile calculations for the waste.

GoldSim element	value	units	reference / comment
NumNodes	13	—	this is the number of modeled waste layers +1

7.2.4.2.3 \Disposal\ClassASouthCell\SideSlope\Column_MoistureProfile \WaterContentCalcs_Liner

Table 57. Parameters for moisture profile calculations for the clay liner.

GoldSim element	value	units	reference / comment
NumNodes	5		this is the number of modeled liner layers +1
MiddepthNodeNumber	3		middle node in column

7.2.4.2.4 \Disposal\ClassASouthCell\SideSlope\Column_MoistureProfile \WaterContentCalcs_Unsat

Parameters for moisture profile calculations for the unsaturated zone below the clay liner in teh side slope are identical to those for the top slope, as listed in Table 50.

7.2.4.3 \Disposal\ClassASouthCell\SideSlope\Cap_Layers

7.2.4.3.1 \Disposal\ClassASouthCell\SideSlope\CapLayers\CapCell_Dimensions

Table 58. Cap layering dimensions for the side slope.

GoldSim element	value or distribution	units	reference / comment
TArmor Type A rip rap thickness	18	in	see Embankment Modeling white paper
TUpperFilter Type A filter zone thickness	6	in	*ibid.*
TSacrificialSoil Sacrificial soil thickness	12	in	*ibid.*
TLowerFilter Type B filter zone thickness	18	in	*ibid.* (Note how this is different from the TopSlope value.)
TUpperRadon upper radon barrier clay thickness	12	in	*ibid.*

GoldSim element	value or distribution	units	reference / comment
TLowerRadon lower radon barrier clay thickness	12	in	*ibid.*
NArmorCells	3	—	modeling construct
NUpperFilterCells	1	—	modeling construct
NSacrificialSoilCells	2	—	modeling construct
NLowerFilterCells	1	—	modeling construct
NUpperRadonCells	2	—	modeling construct
NLowerRadonCells	2	—	modeling construct
TopCell_Thickness	U(1 cm, TArmor – NArmorCells × 1 cm)	cm	modeling construct This allows the thickness of the topmost cell to vary between 1 cm and the maximum so that the other cells in this layer are at least 1 cm.

7.2.4.4 \Disposal\ClassASouthCell\SideSlope\Liner

Parameters in this section are identical to those defined for the Top Slope in Section 7.2.3.4.

7.2.4.5 \Disposal\ClassASouthCell\SideSlope\UnsatLayer

Parameters in this section are identical to those defined for the Top Slope in Section 7.2.3.5.

7.2.4.6 \Disposal\ClassASouthCell\SideSlope\WasteLayers

No input elements are defined at this level.

7.2.4.6.1 \Disposal\ClassASouthCell\SideSlope\WasteLayers\WasteCell_Dimensions

Table 59. Side slope waste cell dimensions.

GoldSim element	value or distribution	units	reference / comment
NumWasteCells	12	—	modeling construct

7.2.5 \Disposal\ClassASouthCell\GullyAndFan

The calculation of the volume, depth, and potential to expose waste by gullies is examined here. This work is preliminary, designed to evaluate whether more sophisticated landform evolution modeling is warranted.

Table 60. Basic gully and fan definition parameters.

GoldSim element	value or distribution	units	reference / comment
NumberOfGullies	discrete(1, ..., 20) equal probability (0.05)	—	See Erosion Modeling white paper.
AngleOfRepose_Fan	U(5, 10)	deg	*ibid.*

7.2.5.1 \Disposal\ClassASouthCell\GullyAndFan\GullyVolumeCalcs

The numerical (iterative) solution for gully and fan formation is done here.

Table 61. Gully and fan numerical solution parameters.

GoldSim element	value or distribution	units	reference / comment
ConvergenceCriterion	0.01	m^3	modeling construct

7.2.5.1.1 \Disposal\ClassASouthCell\GullyAndFan\GullyVolumeCalcs\Dimensions

More numerical solution work for gully and fan formation is done here.

Table 62. More gully and fan numerical solution parameters.

GoldSim element	value or distribution	units	reference / comment
L_init	U(Small, 5)	m	see Erosion Modeling white paper

7.3 \Disposal\SatZone

The saturated zone underlies and accepts recharge from all the embankments at the Clive Facility. All contaminated recharge flows down-gradient to a monitoring well.

7.3.1 \Disposal\SatZone\SatZone_Parameters

Table 63. Saturated zone parameters.

GoldSim element	value or distribution	units	reference / comment
SZ_Thickness	N(μ=16.2, σ=0.25, min=0.1, max=Large)	ft	see Saturated Zone Modeling white paper
MonitoringWellDistance	90	ft	*ibid.*
WaterTableGradient	N(μ=6.94e-4, σ=1.27e-4, min=0, max=Large)	—	*ibid.*

7.3.2 \Disposal\SatZone\SZ_ClassASouthFootprint

Table 64. Total number of cells in the saturated footprint zone.

GoldSim element	value or distribution	units	reference / comment
NumCells_Footprint	25		modeling construct

7.3.2.1 \Disposal\SatZone\SZ_ClassASouthFootprint\Waste_to_Footprint

Table 65. Total number of cells in both footprint ends.

GoldSim element	value or distribution	units	reference / comment
NumCells_Footprint_Ends	4		modeling construct

7.3.3 \Disposal\SatZone\SZ_ToWell

Table 66. Total number of cells from footprint to well.

GoldSim element	value or distribution	units	reference / comment
NumCells_ToWell	20		modeling construct

7.4 \Disposal\EngineeredSystemGeometry

Table 67. Engineered system geometry parameters.

GoldSim element	value	units	reference / comment
ClayLiner_Thickness	2	ft	see Embankment Modeling white paper

8.0 \Exposure_Dose

The Data element Dose_Timestep_Length is controlled by the user, and so has no set value.

8.1 \Exposure_Dose\Media_Concs

Concentrations of contaminants in environmental media to which receptors may be exposed are collected and calculated in this container.

Table 68. Mechanically generated dust

GoldSim element	value or distribution	units	reference / comment
OHV_DustAdjustment OHV dust loading	LN(GM=98.1, GSD=1.65, min=Small, max=Large)	—	See Dose Assessment white paper

8.1.1 \Exposure_Dose\Media_Concs\Exposure_Areas

Table 69. Exposure areas used in the calculation of exposure media concentrations

GoldSim element	value or distribution	units	reference / comment
Receptor_Area Receptor area (exposure area)	U(16,000, 64,000)	acres	See Dose Assessment white paper
AntelopeRange_Area Pronghorn range area	U(995, 9192)	acres	*ibid.*

8.1.2 \Exposure_Dose\Media_Concs\Animal_Concentrations

Table 70. Animal tissue concentrations for the recreational and ranching scenarios

GoldSim element	value or distribution	units	reference / comment
TF_Beef_GM Beef transfer factor, geometric mean	Tabulated in workbook	day/kg	"Clive PA Model Parameters.xls", Elements worksheet; see also Dose Assessment white paper
TF_Beef_GSD Beef transfer factor, geometric standard deviation	Tabulated in workbook	—	*ibid.*
WaterIngRate_Cattle Cattle water ingestion rate	U(33, 53)	kg/day	See Dose Assessment white paper
ForageIngRate_Cattle Cattle forage ingestion rate	U(8.85, 14.75)	kg/day	*ibid.*
SoilIngRate_Cattle Cattle soil ingestion rate	U(0.05, 0.95)	kg/day	*ibid.*
GrazingTimeFrac_Cattle Cattle time fraction in exposure area	1	—	*ibid.*
WaterIngRate_Antelope Pronghorn water ingestion rate	U(0.1, 1)	kg/day	*ibid.*

GoldSim element	value or distribution	units	reference / comment
BodyWtFactor_Antelope Pronghorn body weight, as a unitless factor for allometric scaling	U (38,000, 41,000)	—	*ibid.* Body mass in Dose Assessment white paper reported in units of kg.
ForageIngRate_Antelope Pronghorn forage ingestion rate	0.577 × BodyWtFactor _Antelope$^{0.727}$ × 0.001	kg/day	*ibid.*
SoilIngRate_Antelope Pronghorn soil ingestion rate	U(0.005, 0.095)	kg/day	*ibid.*

8.1.2.1 \Exposure_Dose\Media_Concs\Animal_Concentrations\Beef_TFs

The beef transfer factors are tabulated in the Parameters Workbook, but some values in those table point to fixed values in the GoldSim model. These are tabulated here:

Table 71. Parameters related to beef transfer factors

GoldSim element	value or distribution	units	reference / comment
BeefTF_GM_radon Beef transfer factor for radon, geometric mean	Small	day/kg	See Dose Assessment white paper
BeefTF_GSD_radon Beef transfer factor for radon, geometric standard deviation	1	—	*ibid.*
BeefTF_GSD_generic Generic beef transfer factor, geometric standard deviation	1.475	—	*ibid.*

8.2 \Exposure_Dose\DCFs

Table 72. Dose conversion factors

GoldSim element	value or distribution	units	reference / comment
BranchingFractions Radionuclide branching fractions	Tabulated in workbook	—	“Dose Assessment Appendix II.xls”, see also Dose Assessment white paper
DCF_Inh_Dust_determ Dose conversion factor, inhalation dust	Tabulated in workbook	Sv/Bq	*ibid.*

GoldSim element	value or distribution	units	reference / comment
DCF_Inh_Gas_determ Dose conversion factor, inhalation gas	Tabulated in workbook	Sv/Bq	*ibid.*
DCF_Ing_determ Dose conversion factor, ingestion	Tabulated in workbook	Sv/Bq	*ibid.*
DCF_Ext_Imm_determ Dose conversion factor, immersion	Tabulated in workbook	(Sv-m^3)/ (Bq-s)	*ibid.*
DCF_Ext_Soil_determ Dose conversion factor, external	Tabulated in workbook	(Sv-m^3)/ (Bq-s)	*ibid.*
Rn222_EffectiveDose Effective dose for Radon-222	6	(mSv-m^3)/ (mJ-hr)	See Dose Assessment white paper
Rn_progeny_equil energy per Bq of radon at equilibrium	5.56E-06	mJ/Bq	*ibid.*
Rn_Inh_rate Breathing rate for a standard worker	1.2	m^3/hr	*ibid.*

8.2.1 \Exposure_Dose\DCFs\Stochastic_REFs

Table 73. Stochastic radiation effectiveness factors

GoldSim element	value or distribution	units	reference / comment
Alpha_GM Alpha radiation effectiveness factor, geometric mean	18.1	—	"Dose Assessment Appendix II.xls", see also Dose Assessment white paper
Alpha_GSD Alpha radiation effectiveness factor, geometric standard deviation	2.37	—	*ibid.*
Alpha_REF Alpha radiation effectiveness factor, distribution	LN(GM=Alpha_GM, GSD=Alpha_GSD)	—	*ibid.*
Beta_GM Electron radiation effectiveness factor, geometric mean	2.41	—	*ibid.*

GoldSim element	value or distribution	units	reference / comment
Beta_GSD Electron radiation effectiveness factor, geometric standard deviation	1.44	—	*ibid.*
Beta_REF Electron radiation effectiveness factor, distribution	LN(GM=Beta_GM, GSD= Beta_GSD)	—	*ibid.*
Photon1_GM Photon radiation effectiveness factor (30-250 keV), geometric mean	1.96	—	*ibid*. (>0.03 and <=0.25 MeV)
Photon1_GSD Photon radiation effectiveness factor (30-250 keV), geometric standard deviation	1.48	—	*ibid.*
Photon1_REF Photon radiation effectiveness factor (30-250 keV), distribution	LN(GM=Photon1_GM, GSD= Photon1_GSD)	—	*ibid.*
Photon2_GM Photon radiation effectiveness factor (< 30 keV), geometric mean	2.45	—	*ibid.*
Photon2_GSD Photon radiation effectiveness factor (< 30 keV), geometric standard deviation	1.55	—	*ibid.* (<=0.03 MeV)
Photon2_REF Photon radiation effectiveness factor (< 30 keV), distribution	LN(GM=Photon2_GM, GSD=Photon2_GSD)	—	*ibid.*
Deterministic_REF Deterministic radiation effectiveness factor	1	—	See Dose Assessment white paper
WeightingFactor_Alpha Weighting factor for alpha radiation	20	—	*ibid.*
WeightingFactor_Beta Weighting factor for beta radiation	1	—	*ibid.*
WeightingFactor_Gamma Weighting factor for gamma radiation	1	—	*ibid.*

8.3 \Exposure_Dose\OuterLoop_Exposure_Parameters

Table 74. Exposure parameters, sampled once per realization

GoldSim element	value or distribution		units	reference / comment
SoilIngestionTracerElement Adult incidental soil ingestion rate tracer elements	*Probability*	*Value*	—	See Dose Assessment white paper
	0.3333	0		Tracer element: silicon
	0.3334	1		Tracer element: aluminum
	0.3333	2		Tracer element: titanium
EF_food Exposure frequency, food	365		day/yr	See Dose Assessment white paper
Meat_PrepLoss Meat preparation loss	N(μ=0.27, σ=0.07, min = 0.01, max = 1)		—	*ibid.*
Meat_PostCookLoss Meat post-cooking loss	N(μ=0.24, σ=0.09, min = 0.01, max = 1)		—	*ibid.*

8.4 \Exposure_Dose\Dose_Calculations

This looping container performs calculations on a finer time step than the outer model, and has parameters that are sampled on the inner time steps.

8.4.1 \Exposure_Dose\Dose_Calculations\Physiology_Rancher

Table 75. Attributes of inter-individual uncertainty in physiological characteristics for rancher receptors (ranch hands)

GoldSim element	value or distribution	units	reference / comment
Age	N(μ=25.7, σ=20.3, min = 16, max = 60)	yr	See Dose Assessment white paper
Gender	Male 60.8%, Female 39.2%	—	*ibid.*
BodyWeight Body mass	LN(GM=$f(x)$, GSD=$f(x)$)	kg	Inputs denoted as *f(x)* are calculated based on other outputs from the model and are documented in the Dose Assessment white paper

GoldSim element	value or distribution	units	reference / comment
SoilIngestionRate Adult incidental soil ingestion rate	LN(GM=$f(x)$, GSD=$f(x)$, Min=0, Max=$f(x)$)	mg/day	*ibid.*
BeefIngestionRate_BWA Ingestion rate: “home-produced” beef	Gamma(μ=$f(x)$, σ=$f(x)$)	g/kg-day	*ibid.*
VentilationRateSleep_BWA Ventilation rate: sleeping	LN(GM=$f(x)$,GSD=$f(x)$)	m^3/min-kg	*ibid.*
ActivityDurationSleep_dist Daily exposure time: sleeping	LN(GM=$f(x)$, GSD=$f(x)$, Min=1, Max=24)	hr/day	*ibid.*
VentilationRateSedentary_BWA Ventilation rate: sedentary activity	LN(GM=$f(x)$,GSD=$f(x)$)	m^3/min-kg	*ibid.*
ActivityDurationSedSleep Daily exposure time: sedentary+sleeping	LN(GM=$f(x)$,GSD=$f(x)$)	hr/day	*ibid.*
VentilationRateLight_BWA Ventilation rate: light activity	LN(GM=$f(x)$,GSD=$f(x)$)	m^3/min-kg	*ibid.*
VentilationRateMedium_BWA Ventilation rate: moderate activity	LN(GM=$f(x)$,GSD=$f(x)$)	m^3/min-kg	*ibid.*
VentilationRateHeavy_BWA Ventilation rate: high activity	LN(GM=$f(x)$,GSD=$f(x)$)	m^3/min-kg	*ibid.*
ActivityDurationLight_UN Daily exposure time: light activity	LN(GM=$f(x)$,GSD=$f(x)$)	hr/day	*ibid.*
ActivityDurationMedium_UN Daily exposure time: moderate activity	LN(GM=$f(x)$,GSD=$f(x)$)	hr/day	*ibid.*
ActivityDurationHeavy_UN Daily exposure time: high activity	LN(GM=$f(x)$,GSD=$f(x)$)	hr/day	*ibid.*

8.4.2 \Exposure_Dose\Dose_Calculations\Physiology_SportOHV

Table 76. Attributes of inter-individual uncertainty in physiological characteristics for Sport OHV receptors

GoldSim element	value or distribution	units	reference / comment
Age	N(μ=25.7, σ=20.3, min = 16, max = 60)	yr	See Dose Assessment white paper
Gender	Male 60.8%, Female 39.2%	—	*ibid.*
BodyWeight Body mass	LN(GM=*f*(*x*), GSD=*f*(*x*))	kg	Inputs denoted as *f(x)* are calculated based on other outputs from the model and are documented in the Dose Assessment white paper
SoilIngestionRate Adult incidental soil ingestion rate	LN(GM=*f*(*x*), GSD=*f*(*x*), Min=0, Max=*f*(*x*))	mg/day	*ibid.*
VentilationRateSleep_BWA Ventilation rate: sleeping	LN(GM=*f*(*x*),GSD=*f*(*x*))	m^3/min-kg	*ibid.*
ActivityDurationSleep_dist Daily exposure time: sleeping	LN(GM=*f*(*x*), GSD=*f*(*x*), Min=1, Max=24)	hr/day	*ibid.*
VentilationRateSedentary_BWA Ventilation rate: sedentary activity	LN(GM=*f*(*x*),GSD=*f*(*x*))	m^3/min-kg	*ibid.*
ActivityDurationSedSleep Daily exposure time: sedentary+sleeping	LN(GM=*f*(*x*),GSD=*f*(*x*) 1.09 or 1.08)	hr/day	*ibid.*
VentilationRateLight_BWA Ventilation rate: light activity	LN(GM=*f*(*x*),GSD=*f*(*x*))	m^3/min-kg	*ibid.*
VentilationRateMedium_BWA Ventilation rate: moderate activity	LN(GM=*f*(*x*),GSD=*f*(*x*))	m^3/min-kg	*ibid.*
VentilationRateHeavy_BWA Ventilation rate: high activity	LN(GM=*f*(*x*),GSD=*f*(*x*))	m^3/min-kg	*ibid.*
ActivityDurationLight_UN Daily exposure time: light activity	LN(GM=*f*(*x*),GSD=*f*(*x*))	hr/day	*ibid.*

GoldSim element	value or distribution	units	reference / comment
ActivityDurationMedium_UN Daily exposure time: moderate activity	LN(GM=*f*(*x*),GSD=*f*(*x*))	hr/day	*ibid.*
ActivityDurationHeavy_UN Daily exposure time: high activity	LN(GM=*f*(*x*),GSD=*f*(*x*))	hr/day	*ibid.*

8.4.3 \Exposure_Dose\Dose_Calculations\Physiology_Hunter

Table 77. Attributes of inter-individual uncertainty in physiological characteristics for Hunter receptors

GoldSim element	value or distribution	units	reference / comment
Age Age	N(μ=25.7, σ=20.3, min = 16, max = 60)	yr	See Dose Assessment white paper
Gender Gender	Male 60.8%, Female 39.2%	—	*ibid.*
BodyWeight Body weight	LN(GM=*f*(*x*), GSD=*f*(*x*))	kg	Inputs denoted as *f(x)* are calculated based on other outputs from the model and are documented in the Dose Assessment white paper, Section 1.0.
SoilIngestionRate Adult incidental soil ingestion rate	LN(GM=*f*(*x*), GSD=*f*(*x*), Min=0, Max=*f*(*x*))	mg/day	*ibid.* function of age
GameIngestionRate_BWA Ingestion rate: "home-produced" game	Gamma(μ=*f*(*x*), σ=*f*(*x*))	g/kg-day	*ibid.*
VentilationRateSleep_BWA Ventilation rate: sleeping	LN(GM=*f*(*x*),GSD=*f*(*x*))	m^3/min-kg	*ibid.*
ActivityDurationSleep_dist Daily exposure time: sleeping	LN(GM=*f*(*x*), GSD=*f*(*x*), Min=1, Max=24)	hr/day	*ibid.*
VentilationRateSedentary_BWA Ventilation rate: sedentary activity	LN(GM=*f*(*x*),GSD=*f*(*x*))	m^3/min-kg	*ibid.*

GoldSim element	value or distribution	units	reference / comment
ActivityDurationSedSleep Daily exposure time: sedentary+sleeping	LN(GM=$f(x)$,GSD=$f(x)$)	hr/day	*ibid.*
VentilationRateLight_BWA Ventilation rate: light activity	LN(GM=$f(x)$,GSD=$f(x)$)	m^3/min-kg	*ibid.*
VentilationRateMedium_BWA Ventilation rate: moderate activity	LN(GM=$f(x)$,GSD=$f(x)$)	m^3/min-kg	*ibid.*
VentilationRateHeavy_BWA Ventilation rate: high activity	LN(GM=$f(x)$,GSD=$f(x)$)	m^3/min-kg	*ibid.*
ActivityDurationLight_UN Daily exposure time: light activity	LN(GM=$f(x)$,GSD=$f(x)$)	hr/day	*ibid.*
ActivityDurationMedium_UN Daily exposure time: moderate activity	LN(GM=$f(x)$,GSD=$f(x)$)	hr/day	*ibid.*
ActivityDurationHeavy_UN Daily exposure time: high activity	LN(GM=$f(x)$,GSD=$f(x)$)	hr/day	*ibid.*

8.4.4 \Exposure_Dose\Dose_Calculations\ExposureTime_Rancher

Table 78. Attributes of inter-individual uncertainty in physiological characteristics for Rancher receptors – Exposure Time

GoldSim element	value or distribution	units	reference / comment
ET_Ranch_DayTrip Ranchers; day trip time in exposure area	U(min=4, max=12)	hr/day	See Dose Assessment white paper
ET_Overnight Exposure frequency, overnight trips	24	hr/day	*ibid.*
ET_Camp_OnsiteFrac All receptors; fraction of camp trip exposure time on disposal cell	U(min=0.25, max=0.75)	—	*ibid.*
OHV_timeFrac_Camper All receptors; camp trip time spent OHVing	U(min=2, max=8)	hr/day	*ibid.*
OHV_timeFrac_HuntRanch_DayTrip Hunter/Rancher; fraction of day trip time spent OHVing	U(min=0.1, max=0.75)	hr/day	*ibid.*

GoldSim element	value or distribution	units	reference / comment
EF_Ranch_dist Rancher; exposure frequency	beta(μ=135, σ=34.9, min = 0, max = 180)	day/yr	*ibid.*
Frac_Ranch_Overnight_dist Ranchers; fraction of exposure frequency related to overnight trips	U(min=0.5, max=0.67)	—	*ibid.*

8.4.5 \Exposure_Dose\Dose_Calculations\ExposureTime_SportOHV

Table 79. Attributes of inter-individual uncertainty in physiological characteristics for Sport OHV receptors – Exposure Time

GoldSim element	value or distribution	units	reference / comment
ET_Rec_DayTrip Sport OHVers; day trip time in exposure area	beta(μ=6.3, σ=2.11, min = 1, max = 20)	hr/day	See Dose Assessment white paper
ET_Overnight Exposure frequency, overnight trips	24	hr/day	*ibid.*
ET_Camp_OnsiteFrac All receptors; fraction of camp trip exposure time on disposal cell	U(min=0.25, max=0.75)	—	*ibid.*
OHV_timeFrac_Camper All receptors; camp trip time spent OHVing	U(min=2, max=8)	hr/day	*ibid.*
EF_Recreational_dist Sport OHVer; exposure frequency	LN(GM=11.3, GSD=3.45, Min=1, Max=200)	d/yr	*ibid.*
Frac_recOHV_Overnight_dist Sport OHVers; fraction of exposure frequency related to overnight trips	U(min=0, max=1)	—	*ibid.*

8.4.6 \Exposure_Dose\Dose_Calculations\ExposureTime_Hunter

Table 80. Attributes of inter-individual uncertainty in physiological characteristics for Hunter receptors – Exposure Time

GoldSim element	value or distribution	units	reference / comment
ET_Rec_DayTrip Sport OHVers; day trip time in exposure area	beta(μ=6.3, σ=2.11, min = 1, max = 20)	hr/day	See Dose Assessment white paper
ET_Overnight Exposure frequency, overnight trips	24	hr/day	*ibid.*
ET_Hunt_DayTrip_OnsiteFrac Hunter; fraction of hunting day trip exposure time on disposal cell	U(min=0.02, max=0.17)	—	*ibid.*
ET_Camp_OnsiteFrac All receptors; fraction of camp trip exposure time on disposal cell	U(min=0.25, max=0.75)	—	*ibid.*
OHV_timeFrac_Camper All receptors; camp trip time spent OHVing	U(min=2, max=8)	hr/day	*ibid.*
OHV_timeFrac_HuntRanch_DayTrip Hunter/Rancher; fraction of day trip time spent OHVing	U(min=0.1, max=0.75)	—	*ibid.*
EF_Hunting_dist Hunter; exposure frequency	LN(GM=4.66, GSD=3.45, min=1, max=100)	day/yr	*ibid.*
Frac_Hunt_Overnight_dist Hunters; fraction of exposure frequency related to overnight trips	U(min=0, max=1)	—	*ibid.*
EF_Recreational_dist Sport OHVer; exposure frequency	LN(GM=11.3, GSD=3.45, min=1, max=200)	day/yr	*ibid.*

8.4.7 \Exposure_Dose\Dose_Calculations\Population_Size_Variables

Table 81. Attributes of population variability.

GoldSim element	value or distribution	units	reference / comment
Number_Individuals_Total Total number of individuals in vicinity of site, per year	Tri(100, 350, 500)	—	See Dose Assessment white paper
Ranch_Hands_dist Number of ranchers in vicinity of site, per year	U(1, 20)	—	*ibid.*
Ranchers_Picker This element is used to identify the number of ranch receptors present.	Binomial(Batch Size = 1, Probability = $f(x)$/20)	—	For probability, the denominator corresponds to the size of the receptor array and *f(x)* to the value of Ranch_Hands_dist.
Number_Hunter Number of hunters in vicinity of site, per year	Binomial(Batch Size = round(Number_Individuals _Total – Number_Ranch_Hands), Probability = 0.25)	—	See Dose Assessment white paper
Hunters_Picker This element is used to identify the number of hunter receptors present.	Binomial(Batch Size = 1, Probability = Number_Hunter/175)	—	Analogous to Ranchers_Picker.
Number_Recreationalists Number of recreationalists in vicinity of site	$f(x)$ = Number_Individuals_Total - Ranch_Hands_Dist	—	See Dose Assessment white paper
Number_SportOHV Number of OHVers in vicinity of site	$f(x)$ = Number_Recreationalists - Number_Hunter	—	See Dose Assessment white paper
SportOHVers_Picker This element is used to identify the number of SportOHV receptors present.	Binomial(Batch Size = 1, Probability = Number_SportOHV/424)	—	Analogous to Ranchers_Picker.

8.4.8 \Exposure_Dose\Dose_Calculations\UraniumHazard

Table 82. Uranium hazard for Rancher and Recreationists.

GoldSim element	value or distribution		units	reference / comment
Uranium_RfD Reference dose for uranium	Probability	Value		See Dose Assessment white paper
	0.5	0.0006	mg/kg-day	
	0.5	0.0030	mg/kg-day	

8.4.9 \Exposure_Dose\Dose_Calculations\OffSite_Receptors

Table 83. Inhalation dose for off-site receptors.

GoldSim element	value or distribution	units	reference / comment
ET_RestArea Exposure time rest area caretaker	24	hr/day	See Dose Assessment white paper
EF_RestArea Exposure frequency rest area caretaker	Tri(327, 350, 365)	day/yr	*ibid.*
ET_Knolls Exposure time for day trip, Knolls OHVer	Beta(μ=6.3, σ=2.11, min=1, max=20)	hr/day	*ibid.*
EF_Knolls Exposure frequency, Knolls OHVer	LN(μ=11.3, σ=3.45, min=1, max=200)	day/yr	*ibid.*
ET_Traveller Exposure time travelers on I-80 and train	U(2.3, 7.2)	min/day	*ibid.*
EF_Traveller Exposure frequency I-80 and west-side access road traveller	U(250, 365)	day/yr	*ibid.*
ET_UTTR_Road Exposure time cars on west-side access road (Utah Test and Training Range access)	U(2.4, 4.0)	min/day	*ibid.*

8.4.10 \Exposure_Dose\Screening_Calculations

Table 84. Parameters used in screening dose calculations.

GoldSim element	value or distribution	units	reference / comment
NativePlant_Ing_Rate	1	kg/yr	See Dose Assessment white paper
FreshWeightConversion	U(0.05, 0.3)	—	*ibid.*
OffsiteWater_Ing_Rate	1	L/yr	*ibid.*

9.0 \GWPLs

The model estimates concentrations in a hypothetical monitoring well down gradient of the waste embankment. Certain radionuclides are of interest, and their concentrations are displayed for comparison to Ground Water Protection Limits (GWPLs) as specified in State of Utah (2010) Table 1A.

Table 85. Groundwater protection limits.

GoldSim element	value or distribution	units	reference / comment
MaxTime_WellConcs	500	yr	State of Utah (2010)
GWPL_Sr90	42	pCi/L	*ibid.*
GWPL_Tc99	3790	pCi/L	*ibid.*
GWPL_I129	21	pCi/L	*ibid.*
GWPL_Th230	83	pCi/L	*ibid.*
GWPL_Th232	92	pCi/L	*ibid.*
GWPL_Np237	7	pCi/L	*ibid.*
GWPL_U233	26	pCi/L	*ibid.*
GWPL_U234	26	pCi/L	*ibid.*
GWPL_U235	27	pCi/L	*ibid.*
GWPL_U236	27	pCi/L	*ibid.*
GWPL_U238	26	pCi/L	*ibid.*

10.0 DeepTimeScenarios

Deep time scenarios are developed to provide information for a qualitative analysis of effects from the Clive Facility on future conditions after 10,000 years.

Table 86. Deep time scenario parameters.

GoldSim element	value or distribution	units	reference / comment
Unit_U238	vector by species with 0's for all except U238, with 1 g	g	Used to explore U238 decay and ingrowth of daughters
LargeLakeStart	LN(GM=14000, GSD=1.2, min=0, max=50000)	yr	see Deep Time Assessment white paper
LargeLakeEnd	LN(GM=6000, GSD=1.2, min=0, max=50000)	yr	*ibid.*
LargeLakeSedimentationRate	LN(GM=0.00012, GSD=1.2)	m/yr	*ibid.*
IntermediateLakeDuration	LN(GM=500, GSD=1.5, min=0, max=2500)	yr	*ibid.*
IntermediateLakePoissonRate	$f(x)$	1/yr	*ibid.*
IntermediateLake SedimentAmount	LN(GM=2.82, GSD=1.71)	m	*ibid.*
SiteDispersalArea	LN(GM= VolumeAboveGrade / 0.1 m, GSD=1.5, min= VolumeAboveGrade / 1 m, max=Large)	km^2	*ibid.*
IntermediateLakeDepth	beta(μ=30, σ=18, min = 0, max = 100)	m	*ibid.* resampled at each intermediate lake event
LargeLakeDepth	beta(μ=150, σ=20, min = 100, max = 200)	m	*ibid.* resampled at each large lake recurrence

QA Notes for *Clive PA Model Parameters.xls*

Values in green or italics are entered; others are linked to other places in the spreadsheet or are calculated
Values in blue are to be used for populating GoldSim array elements

when	who	what
2 Nov 09	JT	This workbook of spreadsheets documents the development of information to be used in the EnergySolutions Depleted Uranium (ES DU) GoldSim model.
2 Nov 09	JT	Species worksheet added from early work on the model, v0.000e. This includes all long-lived progeny from uranium-232, -233, 234 -235, -236, and -238.
2 Nov 09	JT	Added IAEA's recipe for DU, in the Abundance worksheet.
3 Nov 09	JT	Re-exported Species worksheet from the model (v0.000f) with Species list reduced to just the Uranium and Actinium series (assuming that DU is only U234, U235, and U238). Added ChemElements worksheet. Updated half-lives from Chart of the Nuclides, 16th Edition.
7 Dec 09	JT	Added information about abundance of isotopes in DU from Kozak et al. (1992) to Abundance worksheet. Now we need to work up distributions for these values.
21 Jan 10	JT	Major update, starting with a new Species list based on the SRS Waste Profile, and exported from the GoldSim model. All references and associated lists were also updated. Rebuilt the Abundance worksheet for new Species list, but it still needs updating with new information from the SRS DU Waste Profile. Renamed ChemElements to simply Elements.
22 Jan 10	JT	Added DCF rollup calculations, plant/soil CRs and animal transfer factors adapted from the NTS Area 5 Parameters workbook. The larger Area 5 lists were pared down to match the ES DU Species list.
4 Feb 10	JT	Replaced references to a separate workbook on the worksheet "DCFs" to references to the local worksheet "DCF calcs". Added new reference for DU abundance from ORNL-TM-2000-10
21 May 10	JL	QA'd half lives on Species Properties worksheet with source (16th Ed. of Chart of the Nuclides)
1 Jun 10	JL	Created checkprint for half-lives from Species Properties worksheet.
6 Jun 10	DAG	Added Atomic Weights for each of radionuclide species based on number of protons and nuetrons
8 Jun 10	DAG	Added Henry's Constant for Iodine gas (I2) on species properties sheet
15 Jun 10	DAG	Added some deterministic values for solubilities in the Species Properties tab.
16 Jun 10	DAG	Added solubility for Radon at 12C. Estimated from solubility at 3 temperatures, reference in Gratson's spreadsheet with all solubility references. Looks very high to me, O2 is 9.1 mg/L (2.8e-4 mol/l) at 20C
30 Jul 10	DAG	Added notes on U solubility and changed to 100 mg/L = 4.2e-4
30 Sep 10	JT	Moved plant/soil concentration ratios and animal transfer factors to the "Elements" worksheet. Moved Henry's Law constants to the Parameters Document.
5th Nov 2010	DAG	I don't understand JT's comment on the Elements tab that that we need a better source for the atomic weight. The species property tab is more precise and these values are in the GS model for ES.
13 Jan 11	DAG	revised solubilities to include ranges and central value in both salt and fresh water. Most values for fresh water are unchanged with the exception of uranium. True distributions have not yet been developed.
13 Jan 11	DAG	Also added Kd ranges for both salt and fresh water. These are a decent starting point for most, some need a bit of calculation still based on input from Chuck Vandergraaf. True distributions have not yet been developed.
4 Feb 11	JT	Moved the listings of solubility for "U as UO3" and "U as U3O8" to a separate line on the Elements sheet. For purposes of copy and paste into GoldSim, we cannot change the list of Elements.
10 Feb 11	JT	Added Inventory worksheet and populated with concentration values.
10 Feb 11	mjp	Added values to inventory sheet.
10 Feb 11	JT	Replaced the NAs with zeros and removed the commas in Matt's Inventory sheet entries. Put ordering of Species back in proper order, and rearranged values to match.
12 Feb 11	JT	Removed Kd and solubility listings from the workbook. These will be documented in the Model Parameters document, since each chemical element can have its own distribution.
23 Feb 11	DAG	Verified that the UO3 inventory (in pCi/g) found in the Waste Inventory White Paper matches the numbers in this document. I also confirmed that version .806 of the GS model contains the same values. These are then scaled up for the GDP U3O8 inventory using the mass of DU3O8 accounting for stoichiometry differences: IncludeInv_GDP_DU_Proposed * GDP_DU_TotalMass * ActivityConc_DUWaste / Species.Specific_Activity.
24 Feb 11	JT	Added logical masks to the Species Properties worksheet
1 Mar 11	DAG	Put a note about the DU U3O8 concentrations. These are calculated in the model using the SRS activity concentrations. This is also documented in the Waste Inventory white paper. The abundance worksheet has very little information. This is better found in the Waste Inventory white paper. Solubilities and Kd values are documented in the Geochemical Modeling white paper.
8 Mar 11	JT	Removed atomic mass references from the workbook. These are defined in the Parameters Document, since they are not entered into the GoldSim model as an array. Also updated the Species worksheet from the model, as these values changed.
17 Mar 11	JT	Replaced Plant/Soil CRs and Beef TFs on the worksheet Elements
1 Apr 11	JT	Added DoseSpecies worksheet, with a reordering of dose species by Z number. This will eventually replace the "DCFs" worksheet.
12 Apr 11	RP	Updated DoseSpecies branching fractions to reflect approximation to 1.0 for isotopes with branches of >99%. Deleted 'DCFs' sheet.

when	who	what
9 May 11	JT	Added U_Mask column to Species Properties. Corrected value for half-life of U-234 (was "2.46e4 yr" is corrected to "2.46e5 yr". It was correct in the GoldSim model, fortunately.
10 May 11	JT	Added notes to find source documentation for plant/soil CRs and animal transfer factors on the sheet Elements. Added the VegPctCover worksheet and populated it.
11 May 11	JT	Changed reference to "GreenDU_Mask" to "CleanDU_Mask" in Species Properties sheet.
23 May 11	JT	Modified the standard deviation for SRS DUO3 inventory concentration for isotopes of Am, Cs, I, Np, Pu, Ra, and Sr, following a check print of values in the Waste Inventory white paper.
28 May 11	JT	Removed Abundance page, since this work is done in the Waste Inventory white paper. Performed page formatting for printing the workbook.

Species ID	Isotope	Atomic Weight	Half-life	Radioactive	Daughter1	Stoichiometry1	Daughter2	Stoichiometry2	[illegible]	Description
Sr90	Y	90	HalfLives[Sr90]	Y						Strontium 90
Tc99	Y	99	HalfLives[Tc99]	Y						Technetium 99
I129	Y	129	HalfLives[I129]	Y						Iodine 129
Cs137	Y	137	HalfLives[Cs137]	Y						Cesium 137
Pb210	Y	210	HalfLives[Pb210]	Y						Lead 210
Rn222	Y	222	HalfLives[Rn222]	Y	Pb210	1				Radon 222
Ra226	Y	226	HalfLives[Ra226]	Y	Pb210	1 - EPRatio_Radon	Rn222	EPRatio_Radon		Radium 226
Ra228	Y	226	HalfLives[Ra228]	Y	Th228	1				Radium 228
Ac227	Y	227	HalfLives[Ac227]	Y						Actinium 227
Th228	Y	230	HalfLives[Th228]	Y						Thorium 228
Th229	Y	230	HalfLives[Th229]	Y						Thorium 229
Th230	Y	230	HalfLives[Th230]	Y	Ra226	1				Thorium 230
Th232	Y	230	HalfLives[Th232]	Y	Ra228	1				Thorium 232
Pa231	Y	231	HalfLives[Pa231]	Y	Ac227	1				Protactinium 231
U232	Y	238	HalfLives[U232]	Y	Th228	1				Uranium 232
U233	Y	238	HalfLives[U233]	Y	Th229	1				Uranium 233
U234	Y	238	HalfLives[U234]	Y	Th230	1				Uranium 234
U235	Y	238	HalfLives[U235]	Y	Pa231	1				Uranium 235
U236	Y	238	HalfLives[U236]	Y	Th232	1				Uranium 236
U238	Y	238	HalfLives[U238]	Y	U234	1				Uranium 238
Np237	Y	237	HalfLives[Np237]	Y	U233	1				Neptunium 237
Pu238	Y	239	HalfLives[Pu238]	Y	U234	1				Plutonium 238
Pu239	Y	239	HalfLives[Pu239]	Y	U235	1				Plutonium 239
Pu240	Y	239	HalfLives[Pu240]	Y	U236	1				Plutonium 240
Pu241	Y	239	HalfLives[Pu241]	Y	Am241	0.999975	Np237	2.50E-05		Plutonium 241
Pu242	Y	239	HalfLives[Pu242]	Y	U238	1				Plutonium 242
Am241	Y	241	HalfLives[Am241]	Y	Np237	1				Americium 241

Parameter Values by DoseSpecies

DoseSpecies is an array defined in the Clive DU PA Model. Columns on this page correspond to that array.

GoldSim element in the container \Exposure_Dose\DCFs

	DCF_Inh_Dust_determ	DCF_Inh_Gas_determ	DCF_Ing_determ	DCF_Ext_Imm_determ	DCF_Ext_Soil_determ	BranchingFraction
Species	**Inhalation Dust**	**Inhalation Gas**	**Ingestion**	**Immersion**	**External**	**Branching Fraction**
	Sv/Bq	**Sv/Bq**	**Sv/Bq**	**(Sv-m^3)/(Bq-s)**	**(Sv-m^3)/(Bq-s)**	
Sr90	3.56E-08	0	2.77E-08	9.83E-17	3.46E-21	1
Y	1.39E-09	0	2.69E-09	7.93E-16	2.15E-19	1
Tc99	4.03E-09	0	6.42E-10	2.87E-17	5.81E-22	1
I129	3.59E-08	9.59E-08	1.06E-07	2.83E-16	5.14E-20	1
Cs137	4.67E-09	0	1.36E-08	9.28E-17	4.47E-21	1
Ba137m	0	0	0	2.69E-14	1.81E-17	1
Tl207	0	0	0	4.53E-16	1.23E-19	1
Tl208	0	0	0	1.69E-13	1.17E-16	0.3594
Tl209	0	0	0	9.66E-14	6.56E-17	0.0209
Pb209	5.64E-11	0	5.67E-11	1.00E-16	4.04E-21	1
Pb210	1.10E-06	0	6.96E-07	4.51E-17	1.06E-20	1
Pb211	1.11E-08	0	1.78E-10	2.59E-15	1.56E-18	1
Pb212	1.72E-07	0	5.98E-09	6.26E-15	3.46E-18	1
Pb214	1.36E-08	0	1.39E-10	1.10E-14	6.65E-18	1
Bi210	9.30E-08	0	1.31E-09	2.58E-16	2.92E-20	1
Bi211	0	0	0	2.04E-15	1.27E-18	1
Bi212	3.08E-08	0	2.59E-10	8.96E-15	5.96E-18	1
Bi213	2.98E-08	0	1.98E-10	6.17E-15	3.83E-18	1
Bi214	1.46E-08	0	1.12E-10	7.25E-14	4.99E-17	1
Po210	3.27E-06	0	1.21E-06	3.89E-19	2.64E-22	1
Po212	0	0	0	0	0	0.6406
Po213	0	0	0	0	0	0.9791
Po214	0	0	0	3.81E-18	2.59E-21	1
Po215	0	0	0	7.80E-18	5.06E-21	1
Po216	0	0	0	7.75E-19	5.26E-22	1
Po218	0	0	0	4.21E-19	2.85E-22	1
At217	0	0	0	1.37E-17	8.86E-21	1
Rn219	0	0	0	2.46E-15	1.53E-18	1
Rn220	0	0	0	1.72E-17	1.15E-20	1
Rn222	0	Rn222_DCF	0	1.78E-17	1.17E-20	1
Fr221	0	0	0	1.33E-15	7.56E-19	1
Fr223	1.04E-08	0	2.36E-09	2.21E-15	9.71E-19	0.0138
Ra223	7.44E-06	0	1.04E-07	5.48E-15	2.96E-18	1
Ra224	2.97E-06	0	6.45E-08	4.30E-16	2.53E-19	1
Ra225	6.26E-06	0	9.95E-08	2.41E-16	4.63E-20	1

Species	Inhalation Dust	Inhalation Gas	Ingestion	Immersion	External	Branching Fraction
	Sv/Bq	Sv/Bq	Sv/Bq	(Sv-m^3)/(Bq-s)	(Sv-m^3)/(Bq-s)	
Ra226	3.46E-06	0	2.80E-07	2.84E-16	1.56E-19	1
Ra228	2.64E-06	0	6.97E-07	0	0	1
Ac225	7.39E-06	0	3.85E-08	6.38E-16	3.09E-19	1
Ac227	7.28E-05	0	3.23E-07	5.13E-18	2.40E-21	1
Ac228	1.19E-08	0	4.01E-10	4.49E-14	3.03E-17	1
Th227	1.04E-05	0	9.02E-09	4.44E-15	2.57E-18	0.9862
Th228	3.97E-05	0	7.20E-08	8.13E-17	3.85E-20	1
Th229	7.12E-05	0	5.00E-07	3.37E-15	1.55E-18	1
Th230	1.40E-05	0	2.14E-07	1.49E-17	5.73E-21	1
Th231	3.34E-10	0	3.36E-10	4.59E-16	1.72E-19	1
Th232	2.48E-05	0	2.31E-07	7.27E-18	2.44E-21	1
Th234	7.69E-09	0	3.40E-09	2.95E-16	1.14E-19	1
Pa231	9.35E-05	0	4.79E-07	1.57E-15	9.44E-19	1
Pa233	3.33E-09	0	8.78E-10	8.57E-15	5.04E-18	1
Pa234m	0	0	0	1.21E-15	5.28E-19	1
U232	7.82E-06	0	3.36E-07	1.18E-17	4.25E-21	1
U233	3.55E-06	0	5.13E-08	1.42E-17	6.77E-21	1
U234	3.48E-06	0	4.95E-08	6.13E-18	1.84E-21	1
U235	3.09E-06	0	4.67E-08	6.48E-15	3.53E-18	1
U236	3.21E-06	0	4.69E-08	3.87E-18	9.53E-22	1
U238	2.86E-06	0	4.45E-08	2.51E-18	4.27E-22	1
Np237	2.27E-05	0	1.07E-07	8.90E-16	3.73E-19	1
Pu238	4.62E-05	0	2.28E-07	3.51E-18	6.25E-22	1
Pu239	5.01E-05	0	2.51E-07	3.49E-18	1.41E-21	1
Pu240	5.02E-05	0	2.51E-07	3.43E-18	6.03E-22	1
Pu241	9.01E-07	0	4.75E-09	6.35E-20	2.84E-23	1
Pu242	4.76E-05	0	2.38E-07	2.91E-18	5.32E-22	1
Am241	4.17E-05	0	2.04E-07	6.77E-16	1.99E-19	1

Properties of Modeled Species

NOTES:
Half-lives are from Chart of the Nuclides, 16th Ed. - JT

Species ID	half-life (units as reported)	Gas_ Mask	Dust_ Mask	CleanDU _Mask	U _Mask
Sr90	*28.78 yr*	*0*	*1*	*0*	*0*
Tc99	*2.13e5 yr*	*0*	*1*	*0*	*0*
I129	*1.57e7 yr*	*0*	*1*	*0*	*0*
Cs137	*30.07 yr*	*0*	*1*	*0*	*0*
Pb210	*22.3 yr*	*0*	*1*	*1*	*0*
Rn222	*3.8235 d*	*1*	*0*	*1*	*0*
Ra226	*1599 yr*	*0*	*1*	*1*	*0*
Ra228	*5.76 yr*	*0*	*1*	*1*	*0*
Ac227	*21.772 yr*	*0*	*1*	*1*	*0*
Th228	*1.912 yr*	*0*	*1*	*1*	*0*
Th229	*7.3e3 yr*	*0*	*1*	*1*	*0*
Th230	*7.54e4 yr*	*0*	*1*	*1*	*0*
Th232	*1.40e10 yr*	*0*	*1*	*1*	*0*
Pa231	*3.28e4 yr*	*0*	*1*	*1*	*0*
U232	*69.8 yr*	*0*	*1*	*1*	*1*
U233	*1.592e5 yr*	*0*	*1*	*1*	*1*
U234	*2.46e5 yr*	*0*	*1*	*1*	*1*
U235	*7.04e8 yr*	*0*	*1*	*1*	*1*
U236	*2.342e7 yr*	*0*	*1*	*1*	*1*
U238	*4.47e9 yr*	*0*	*1*	*1*	*1*
Np237	*2.14e6 yr*	*0*	*1*	*0*	*0*
Pu238	*87.7 yr*	*0*	*1*	*0*	*0*
Pu239	*2.410e4 yr*	*0*	*1*	*0*	*0*
Pu240	*6.56e3 yr*	*0*	*1*	*0*	*0*
Pu241	*14.4 yr*	*0*	*1*	*0*	*0*
Pu242	*3.75e5 yr*	*0*	*1*	*0*	*0*
Am241	*432.7 yr*	*0*	*1*	*0*	*0*

Properties of Modeled Chemical Elements

NOTES:
The list of elements is derived from the Species List.

GoldSim element:	\Processes \PlantTransport \PlantCR \PlantCR_GM	\Processes \PlantTransport \PlantCR \PlantCR_GSD	\Exposure_Dose \Media_Concs \Animal_Concentrations \Beef_TFs\BeefTF_GM	\Exposure_Dose \Media_Concs \Animal_Concentrations \Beef_TFs\BeefTF_GSD
chemical element name	**plant/soil concentration ratio (Ci/kg dry Plant) per (Ci/kg dry Soil)**		**animal product transfer factors (d/kg)**	
	GM	**GSD**	**GM**	**GSD**
Ac	*3.70E-03*	*1.49*	*4.00E-04*	*BeefTF_GSD_generic*
Am	*3.73E-03*	*1.50*	*5.00E-04*	*BeefTF_GSD_generic*
Cs	*6.70E-01*	*1.13*	*3.20E-02*	*1.15*
I	*6.70E-02*	*3.92*	*1.07E-02*	*1.85*
Np	*9.51E-02*	*1.36*	*1.00E-03*	*BeefTF_GSD_generic*
Pa	*3.72E-03*	*1.49*	*5.00E-04*	*BeefTF_GSD_generic*
Pb	*2.84E-01*	*1.54*	*9.52E-04*	*1.59*
Pu	*9.57E-04*	*1.35*	*1.28E-05*	*7.42*
Ra	*4.38E-01*	*1.81*	*1.70E-03*	*BeefTF_GSD_generic*
Rn	*CR_GM_radon*	*CR_GSD_radon*	*BeefTF_GM_radon*	*BeefTF_GSD_radon*
Sr	*1.77E+00*	*1.07*	*2.23E-03*	*1.26*
Tc	*1.31E+02*	*1.39*	*1.00E-04*	*BeefTF_GSD_generic*
Th	*3.89E-01*	*1.47*	*3.55E-04*	*1.68*
U	*1.70E-01*	*1.50*	*4.21E-04*	*1.32*

Inventory by Species

NOTES:
• SRS DU Inventory is entered as a concentration, and later converted to gram inventory using the entire mass of the waste stream.
• DU3O8 is assumed to have the same concentration of each species, for now. The mass of each species is scaled from the total DUF6 in the GDP inventory, each individual species is based on the SRS DU concentrations. This table has values of zero for the GDP DU3O8 since the GoldSim model

Species ID	SRS DUO_3 concentration mean pCi/g	SRS DUO_3 concentration standard deviation pCi/g	GDP DU_3O_8 concentration mean pCi/g	GDP DU_3O_8 concentration standard deviation pCi/g
Sr90	*4.70E+1*	*1.28E+1*	*0*	*0*
Tc99	*2.38E+4*	*1.10E+4*	*0*	*0*
I129	*1.86E+1*	*1.59E+0*	*0*	*0*
Cs137	*1.21E+1*	*7.10E-1*	*0*	*0*
Pb210	*0*	*0*	*0*	*0*
Rn222	*0*	*0*	*0*	*0*
Ra226	*3.17E+2*	*1.91E+1*	*0*	*0*
Ra228	*0*	*0*	*0*	*0*
Ac227	*0*	*0*	*0*	*0*
Th228	*0*	*0*	*0*	*0*
Th229	*0*	*0*	*0*	*0*
Th230	*0*	*0*	*0*	*0*
Th232	*0*	*0*	*0*	*0*
Pa231	*0*	*0*	*0*	*0*
U232	*0*	*0*	*0*	*0*
U233	*5.29E+3*	*4.78E+2*	*0*	*0*
U234	*3.31E+4*	*2.17E+3*	*0*	*0*
U235	*2.97E+3*	*7.50E+2*	*0*	*0*
U236	*4.91E+3*	*1.17E+3*	*0*	*0*
U238	*2.72E+5*	*6.64E+3*	*0*	*0*
Np237	*5.68E+0*	*1.17E+0*	*0*	*0*
Pu238	*2.10E-1*	*4.00E-2*	*0*	*0*
Pu239	*1.28E+0*	*2.00E-1*	*0*	*0*
Pu240	*3.40E-1*	*5.00E-2*	*0*	*0*
Pu241	*4.04E+0*	*7.40E-1*	*0*	*0*
Pu242	*0*	*0*	*0*	*0*
Am241	*1.42E+1*	*9.10E-1*	*0*	*0*

Percent Cover by Plant Type and by Plot
Source: plant.cover.percent.simulations.xlsx

Plant Type:	Greasewood					Grass					Forb					Tree					Shrub				
Plot:	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
sample #																									
1	0	0	8.044	0.51	0	25.986	11.262	0	0	0.008	1.307	1.393	0.959	3.779	0.688	0	4.4	0	0	0	1.819	21.963	0.566	3.672	6.905
2	0	0	5.442	0	0	27.292	10.304	0	0.001	0.004	1.982	0.784	0.503	3.418	0.35	0	5.7	0	0	0	2.75	15.299	0.383	3.991	6.408
3	0	0	8.491	0.34	0	29.882	9.516	0	0	0.004	0.826	1.42	0.915	4.246	1.279	0	4.65	0	0	0	2.163	18.375	0.283	4.414	5.505
4	0	0	5.223	0.68	0	24.449	10.63	0	0.001	0.004	1.844	1.905	0.792	4.824	0.028	0	3.65	0	0	0	1.826	19.793	0.325	3.37	7.937
5	0	0	8.28	0.51	0	26.834	11.967	0	0	0.001	2.077	1.429	0.497	6.128	0.621	0	8.2	0	0	0	2.309	24.469	0.191	2.616	7.328
6	0	0	5.5	0	0	28.755	11.309	0	0.005	0	0.8	1.658	1.02	4.966	0.362	0	3.35	0	0	0	2.131	23.284	0.414	3.863	5.275
7	0	0	7.86	0.51	0	27.67	11.253	0	0.001	0.001	2.119	2.325	1.208	2.919	0.007	0	2.2	0	0	0	1.546	21.141	0.537	4.77	7.045
8	0	0	5.262	0.85	0	31.148	11.882	0	0	0.004	1.723	1.846	1.174	3.766	0.335	0	4.65	0	0	0	1.937	20.16	0.443	3.084	5.322
9	0	0	4.306	0.51	0	33.992	12.829	0	0.004	0	1.091	2.493	0.607	4.261	0.875	0	0	0	0	0	2.145	20.094	0.252	3.822	5.582
10	0	0	3.735	0	0	28.236	11.972	0	0.001	0.003	1.073	1.081	0.936	3.527	0.089	0	3.7	0	0	0	2.25	19.963	0.635	3.993	6.661
11	0	0	9.202	1.02	0	24.79	11.181	0	0.001	0.001	2.294	1.772	0.836	2.677	0.941	0	3.05	0	0	0	1.436	22.436	0.433	3.522	6.348
12	0	0	6.49	0.17	0	31.212	11.142	0	0.002	0.003	0.776	2.132	0.808	3.287	0.619	0	1.45	0	0	0	1.759	18.52	0.474	4.371	7.059
13	0	0	4.026	0.68	0	30.24	12.766	0	0.003	0.003	1.197	1.947	0.823	4.762	0.713	0	2	0	0	0	2.228	22.6	0.548	3.215	7.228
14	0	0	4.54	0.17	0	32.059	11.369	0	0	0.004	1.632	2.173	1.026	3.58	0.027	0	1	0	0	0	2.145	18.675	0.548	3.951	6.718
15	0	0	5.504	0	0	29.648	11.553	0	0.002	0.002	1.708	1.845	0.971	3.19	0.029	0	2.85	0	0	0	1.882	21.379	0.45	4.392	8.323
16	0	0	6.99	0.34	0	31.826	11.174	0	0.002	0	1.795	1.278	0.813	5.696	0.548	0	3.3	0	0	0	1.923	19.227	0.384	4.032	5.672
17	0	0	4.973	0.17	0	28.419	11.681	0	0.005	0.001	1.034	1.235	0.852	3.45	0.419	0	4.95	0	0	0	1.735	18.495	0.647	4.202	5.752
18	0	0	5.945	0.17	0	33.293	11.679	0	0.002	0.001	0.393	2.167	0.672	5.145	0.472	0	1.15	0	0	0	2.012	18.692	0.408	3.772	7.967
19	0	0	6.041	0.68	0	29.39	10.855	0	0.002	0	0.957	1.183	1.151	4.338	0.709	0	2.6	0	0	0	2.063	19.214	0.427	3.574	6.471
20	0	0	6.61	0.34	0	30.117	10.149	0	0.002	0.002	2.191	2.134	1.218	2.704	0.609	0	1.15	0	0	0	2.553	17.276	0.733	3.701	6.469
21	0	0	4.261	0	0	28.125	12.098	0	0	0.006	1.871	2.636	0.893	5.706	0.987	0	2.65	0	0	0	1.273	18.838	0.388	2.063	5.936
22	0	0	6.231	0	0	31.926	11.719	0	0	0	1.966	1.172	0.766	4.394	0.752	0	4.15	0	0	0	2.568	19.573	0.788	3.223	6.97
23	0	0	6.171	0	0	30.894	13.267	0	0.007	0.001	0.864	2.303	0.868	2.954	0.477	0	2	0	0	0	2.108	24.175	0.444	5.06	6.496
24	0	0	7.251	0.85	0	30.244	10.711	0	0.003	0.002	0.832	1.212	1.078	2.827	0.09	0	2.9	0	0	0	2.798	16.873	0.364	3.5	7.445
25	0	0	7.13	0.51	0	28.032	10.455	0	0.004	0	1.428	1.424	0.598	3.305	0.513	0	2	0	0	0	3.002	20.767	0.519	4.42	8.2
26	0	0	5.535	0.17	0	30.457	12.183	0	0	0	1.218	1.833	0.798	4.102	0.251	0	1.4	0	0	0	3.608	20.195	0.353	4.076	5.758
27	0	0	6.37	0.51	0	29.453	12.596	0	0.004	0.001	1.452	2.011	0.901	3.01	0.221	0	2.05	0	0	0	2.525	18.505	0.38	4.362	9.086
28	0	0	6.943	0.51	0	30.771	12.51	0	0.001	0.003	1.747	1.585	0.855	5.17	0.047	0	7.3	0	0	0	2.908	19.918	0.422	3.163	7.554
29	0	0	5.441	0.34	0	30.703	11.418	0	0	0.001	1.062	1.821	0.915	3.217	1.1	0	2.9	0	0	0	1.762	20.455	0.7	4.23	4.913
30	0	0	3.32	0.17	0	31.002	11.761	0	0	0	0.633	1.418	0.865	4.117	1.06	0	5.7	0	0	0	1.732	20.244	0.275	3.361	8.097
31	0	0	4.8	0.85	0	31.442	12.851	0	0.002	0.001	1.176	2.198	1.056	3.891	1.399	0	4.35	0	0	0	2.787	20.543	0.428	3.021	6.894
32	0	0	6.281	0	0	28.435	11.977	0	0.006	0	1.685	2.108	1.189	3.362	0.472	0	1.5	0	0	0	3.968	21.741	0.855	3.793	8.659
33	0	0	6.521	0.85	0	28.301	10.94	0	0.002	0.002	1.334	1.802	1.353	3.958	0.712	0	5.35	0	0	0	1.438	22.466	0.436	3.711	6.964
34	0	0	5.511	0.34	0	29.553	12.441	0	0.002	0	0.714	1.356	1.224	4.494	0.77	0	5.9	0	0	0	1.929	21.124	0.511	5.22	6.587
35	0	0	6.785	0.51	0	26.242	11.321	0	0.001	0.004	2.121	1.86	0.722	2.96	0.596	0	1.7	0	0	0	2.418	19.785	0.632	5.05	5.547
36	0	0	4.211	0.34	0	27.448	13.313	0	0.002	0.003	0.816	1.122	0.679	2.968	0.721	0	5.65	0	0	0	3.613	20.545	0.778	3.64	6.132
37	0	0	7.113	0.34	0	28.063	11.746	0	0.002	0.002	1.772	1.961	0.769	3.182	0.786	0	4.35	0	0	0	2.688	18.297	0.271	4.031	7.743
38	0	0	2.971	0.17	0	30.736	13.932	0	0.002	0.001	2.301	2.007	0.839	3.813	0.505	0	5.2	0	0	0	1.601	21.623	0.4	3.551	6.775
39	0	0	6.14	0.17	0	29.219	11.177	0	0	0.004	1.155	3.022	0.902	3.962	0.09	0	0	0	0	0	2.111	20.619	0.316	3.161	7.4
40	0	0	8.61	0.51	0	27.941	11.988	0	0.005	0.001	1.632	2.023	1.067	3.279	0.668	0	2.4	0	0	0	1.606	22.897	0.633	4.201	7.762
41	0	0	7.282	0.85	0	28.839	11.344	0	0.002	0.002	1.418	1.792	0.792	4.384	0.492	0	2.2	0	0	0	1.999	15.318	0.722	4.44	6.975
42	0	0	5.633	0	0	27.606	12.944	0	0.003	0.005	3.269	1.737	0.433	3.234	0.345	0	4.2	0	0	0	1.329	22.325	0.503	3.901	5.763
43	0	0	8.291	0	0	30.816	12.884	0	0.005	0	1.322	1.642	0.931	5.979	1.171	0	2.45	0	0	0	1.322	20.504	0.325	3.742	7.009
44	0	0	4.821	0	0	26.218	11.731	0	0.004	0.004	2.225	2.35	1.388	5.42	0.368	0	3.9	0	0	0	1.877	22.075	0.548	4.08	5.976
45	0	0	4.238	0	0	30.493	12.441	0	0.003	0.004	1.137	1.716	1.251	3.869	0.327	0	5.65	0	0	0	2.769	19.711	0.484	4.992	5.924
46	0	0	6.431	0.68	0	29.562	11.247	0	0.002	0	1.83	2.414	0.842	3.656	0.587	0	0.95	0	0	0	1.5	22.012	0.304	3.742	6.458
47	0	0	6.49	0.34	0	28.221	13.195	0	0.004	0.002	1.736	1.917	0.643	3.69	0.472	0	1.85	0	0	0	2.483	26.018	0.568	3.82	8.795
48	0	0	5.911	0.17	0	28.592	11.444	0	0.002	0.009	1.131	1.351	1.346	3.592	0.024	0	2.15	0	0	0	1.808	19.915	0.705	4.153	6.099
49	0	0	7.132	0	0	29.855	13.482	0	0.003	0	1.694	2.442	0.662	3.239	0.401	0	0.5	0	0	0	2.589	25.864	0.4	4.251	6.85
50	0	0	6.872	0.68	0	27.736	12.289	0	0.003	0	2.192	1.307	0.914	3.611	1.092	0	5.05	0	0	0	2.235	22.477	0.252	3.173	5.289
51	0	0	4.97	0.17	0	29.633	11.972	0	0	0.002	2.015	2.573	0.789	4.066	1.107	0	1.7	0	0	0	1.338	20.289	0.568	3.731	6.685
52	0	0	7.961	0	0	26.347	10.988	0	0.003	0.003	0.864	1.914	0.809	2.795	1.507	0	1.75	0	0	0	2.391	20.264	0.639	4.26	7.53
53	0	0	6.893	0	0	26.679	11.112	0	0.002	0.003	2.424	1.467	0.857	3.937	1.537	0	5.05	0	0	0	2.066	18.616	0.661	4.041	7.312
54	0	0	7.172	0.51	0	28.965	11.335	0	0	0.002	2.331	1.84	0.7	3.586	0.285	0	1.5	0	0	0	1.551	22.908	0.369	4.263	7.367
55	0	0	6.86	0	0	29.18	12.087	0	0.004	0.009	1.927	2.629	0.979	4.254	0.523	0	2.5	0	0	0	2.239	23.477	0.318	3.372	6.364
56	0	0	8.78	0.51	0	28.525	12.71	0	0.003	0.002	1.656	2.75	0.848	2.822	0.161	0	0	0	0	0	2.571	23.881	0.401	4.88	6.65
57	0	0	3.977	0.68	0	27.28	12.121	0	0.004	0.002	1.44	2.384	0.834	4.792	0.024	0	1.5	0	0	0	1.507	22.764	0.489	3.111	7.389
58	0	0	6.861	0.85	0	26.831	11.024	0	0.002	0.001	1.492	1.477	0.874	2.82	0.581	0	3.35	0	0	0	2.1	20.665	0.356	3.952	7.433
59	0	0	9.882	0.51	0	29.746	11.494	0	0.001	0.001	1.287	1.651	0.905	4.137	0.664	0	5.25	0	0	0	1.617	18.6	0.835	4.533	8.045
60	0	0	7.32	1.02	0	30.634	11.405	0	0	0.004	1.705	2.02	0.787	3.269	0.197	0	1.85	0	0	0	2.293	21.971	0.428	3.752	7.425
61	0	0	6.483	0.51	0	23.263	11.592	0	0.006	0.002	2.299	1.249	1.077	4.648	0.572	0	4.15	0	0	0	2.39	20.84	0.405	3.733	6.69
62	0	0	4.071	0.68	0	27.436	14.369	0	0.004	0.005	1.93	2.572	0.701	3.678	0.607	0	0.4	0	0	0	1.525	22.312	0.687	3.621	5.147
63	0	0	6.461	0.34	0	29.353	10.923	0	0.007	0.001	1.469	2.476	0.845	3.454	1	0	1.7	0	0	0	1.84	19.18	0.23	3.94	5.623
64	0	0	5.203	0.17	0	31.611	12.47	0	0.002	0.003	0.961	1.24	0.576	4.344	0.76	0	1.9	0	0	0	2.767	16.162	0.364	3.51	7.342
65	0	0	7.693	0.51	0	28.814	11.381	0	0.003	0.003	1.059	1.882	1.147	4.124	0.468	0	1.75	0	0	0	1.985	21.863	0.556	3.532	7.983
66	0	0	8.691	0	0	31.531	14.034	0	0	0.004	1.857	1.435	0.575	3.831	0.493	0	5.7	0	0	0	1.587	19.937	0.326	5.981	6.08
67	0	0	8.392	0	0	25.742	12.267	0	0.002	0.003	2.136	2.003	0.871	3.377	0.37	0	1.35	0	0	0	1.649	21.262	0.641	4.472	5.476
68	0	0	6.93	1.19	0	29.597	12.122	0	0.004	0	1.174	2.087	0.963	3.886	1.111	0	2.45	0	0	0	3.116	19.403	0.358	2.801	7.537
69	0	0	6.241	0.17	0	27.221	11.985	0	0	0.001	1.961	1.556	0.775	5.906	0.971	0	3.15	0	0	0	2.937	19.929	0.167	3.647	5.805
70	0	0	3.76	0.51	0	27.577	12.12	0	0.003	0.003	1.911	1.853	0.824	2.93	0.582	0	4.4	0	0	0	2.041	23.299	0.519	4.16	7.135
71	0	0	4.921	0	0	25.52	12.001	0	0.002	0.001	1.821	2.001	1.103	3.677	0.29	0	0.9	0	0	0	4.011	24.428	0.481	3.941	5.832
72	0	0	7.311	0.68	0	32.402	12.721	0	0.001	0.002	1.268	1.37	0.606	5.438	0.91	0	7	0	0	0	0.931	20.068	0.379	2.24	5.224
73	0	0	7.442	0.51	0	27.856	11.33	0	0	0	2.137	1.583	1.329	5.575	1.547	0	3.45	0	0	0	1.556	21.147	0.43	3.352	5.208
74	0	0	7.25	0.51	0	30.901	12.381	0	0.001	0.002	1.352	1.041	0.899	4.174	0.396	0	2.5	0	0	0	1.973	17.805	0.565	4.882	7.905
75	0	0	4.958	0	0	30.681	12.808	0	0.002	0.001	0.9	1.874	0.737	5.233	0.599	0	2.5	0	0	0	2.747	23.756	0.594	3.674	4.988
76	0	0	4.942	0.34	0	27.783	10.168	0	0.001	0	2.136	2.261	1.419	4.135	1.197	0	2.2	0	0	0	2.541	20.568	0.816	2.971	7.48
77	0	0	7.922	1.02	0	33.837	11.399	0	0	0.001	0.441	1.858	0.709	4.088	0.78	0	0.4	0	0	0	2.153	20.966	0.329	3.951	6.528
78	0	0	6.91	0	0	26.677	12.222	0	0.003	0.002	1.458	2.42	0.684	5.128	0.047	0	1	0	0	0	1.603	22.336	0.49	4.403	8.224
79	0	0	6.441	0.34	0	25.431	11.689	0	0.001	0.003	2.853	1.82	0.86	4.418	1.425	0	2	0	0	0	0.901	16.368	0.667	3.774	3.999
80	0	0	6.84	0.68	0	27.943	11.475	0	0.002	0.002	1.977	1.703	0.878	3.182	0.284	0	7.2	0	0	0	1.626	18.986	0.427	3.722	7.459
81	0	0	3.115	0.17	0	31.777	11.554	0	0.003	0.005	0.992	1.532	0.75	5.117	0.326	0	4.1	0	0	0	2.292	23.358	0.538	3.513	7.141
82	0	0	6.52	0	0	28.767	11.037	0	0.001	0	2.225	1.388	0.555	4.988	1.111	0	2.7	0	0	0	1.963	16.234	0.415	5.012	5.313
83	0	0	6.81	0	0	32.696	11.614	0	0.006	0	2.404	1.31	0.863	3.911	0.479	0	3.15	0	0	0	2.116	20.099	0.516	3.941	8.078
84	0	0	6.441	0.51	0	28.101	11.93	0	0.006	0.005	1.307	1.994	1.013	2.537	0.294	0	0.5	0	0	0	1.518	18.267	0.467	4.97	7.31
85	0	0	5.055	0.34	0	28.81	12.828	0	0.001	0.004	1.675	1.353	0.934	3.752	0.378	0	2.65	0	0	0	2.589	20.267	0.561	2.912	6.932
86	0	0	7.193	0	0	28.742	10.729	0	0.002	0.001	1.222	1.712	0.55	4.887	0.722	0	2.75	0	0	0	2.216	20.116	0.407	3.063	6.637
87	0	0	7.663	0.68	0	26.098	12.002	0	0	0.004	1.117	2.423	0.785	4.146	0.936	0	1	0	0	0	2.809	22.874	0.572	3.695	7.97
88	0	0	4.612	0	0	30.408	11.654	0	0.002	0	2.403	2.367	0.924	3.346	0.311	0	0.9	0	0	0	1.994	18.408	0.417	3.81	7.48
89	0	0	7.821	0.17	0	33.035	11.359	0	0.001	0.003	1.353	1.159	0.78	2.758	0.914	0	2.45	0	0	0	2.508	17.958	0.396	5.092	6.893
90	0	0	6.163	0	0	34.221	12.202	0	0.004	0.001	0.714	1.882	0.795	4.782	0.851	0	6.65	0	0	0	1.045	22.233	0.253	3.872	5.647
91	0	0	4.442	0.51	0	27.109	11.227	0	0	0.003	2.452	2.123	1.105	4.747	0.197	0	1.45	0	0	0	2.105	20.911	0.87	3.102	6.425
92	0	0	7.72	0	0	24.752	12.941	0	0.004	0	2.201	2.29	1.115	3.943	0.685	0	2.2	0	0	0	2.286	22.312	0.387	4.346	5.767
93	0	0	4.884	0	0	23.631	10.952	0	0.007	0.001	2.506	2.25	1.029	2.907	0.008	0	1	0	0	0	1.685	17.682	0.473	5.68	7.139
94	0	0	4.721	0.17	0	28.166	11.06	0	0.003	0	1.405	1.319	0.895	4.139	1.06	0	2.9	0	0	0	2.314	16.995	0.282	3.911	6.433
95	0	0	5.273	0.51	0	27.969	11.891	0	0	0	1.436	1.876	0.505	4.886	0.968	0	4.1	0	0	0	1.976	20.926	0.389	2.958	6.395
96	0	0	6.49	0	0	31.531	12.814	0	0.003	0.001	0.78	1.34	0.93	4.129	0.03	0	5.1	0	0	0	2.712	18.385	0.318	4.413	7.453
97	0	0	6.052	1.02	0	27.647	11.434	0	0	0	1.792	1.411	0.785	4.857	0.96	0	6.4	0	0	0	1.775	17.436	0.365	3.237	5.258
98	0	0	6.044	0.34	0	29.952	12.662	0	0	0.002	1.542	2.119	0.74	4.655	0.659	0	1	0	0	0	2.464	23.18	0.341	4.182	8.209
99	0	0	6.312	0.51	0	28.654	11.897	0	0.001	0.002	0.854	1.558	0.674	4.937	0.77	0	0.95	0	0	0	3.083	21.55	0.763	3.706	7.12
100	0	0	4.514	0.17	0	31.822	11.354	0	0.003	0.003	0.828	2.504	0.878	3.088	0.455	0	1.75	0	0	0	2.742	22.341	0.608	4.75	6.356

Plant Type:	Greasewood					Grass					Forb					Tree					Shrub				
Plot:	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
sample #																									
101	0	0	5.733	0.68	0	31.029	11.747	0	0.001	0.001	0.956	2.122	1.28	3.07	0.452	0	0.4	0	0	0	2.138	20.561	0.7	5.312	8.099
102	0	0	5.883	0.68	0	30.686	12.294	0	0	0.005	1.439	2.142	0.71	2.824	0.389	0	4.6	0	0	0	1.628	18.594	0.467	3.641	6.696
103	0	0	4.961	0	0	28.662	10.886	0	0.003	0.002	1.652	1.512	1.266	4.123	0.937	0	2.25	0	0	0	1.727	18.43	0.558	2.691	7.746
104	0	0	5.97	0.17	0	27.457	11.004	0	0.002	0.004	1.338	1.931	0.946	4.382	0.089	0	1.85	0	0	0	2.076	17.492	0.38	5.012	8.762
105	0	0	6.401	0.51	0	27.933	12.876	0	0.004	0.001	0.914	2.214	0.761	5.271	0.349	0	2.6	0	0	0	2.8	21.384	0.553	2.873	6.151
106	0	0	4.334	0	0	31.936	11.293	0	0	0.001	0.877	1.983	0.932	3.332	0.52	0	0.5	0	0	0	2.503	17.077	0.384	4.7	6.226
107	0	0	6.363	0.17	0	26.745	12.264	0	0.003	0.003	2.298	1.582	0.507	4.358	0.777	0	4	0	0	0	1.934	16.889	0.456	3.901	5.403
108	0	0	3.725	0.17	0	26.958	13.03	0	0	0.003	1.977	1.941	0.905	3.237	0.046	0	3.45	0	0	0	2.808	21.356	0.216	3.701	7.539
109	0	0	8.571	0.51	0	27.111	13.143	0	0.004	0.003	1.967	1.889	1.268	4.146	0.179	0	4	0	0	0	2.683	19.227	0.554	3.425	7.119
110	0	0	8.244	0	0	32.621	10.968	0	0.002	0.004	1.025	1.966	0.79	3.547	0.392	0	3	0	0	0	1.581	21.027	0.55	3.475	5.939
111	0	0	6.283	0.85	0	28.44	12.054	0	0	0.004	1.089	1.428	0.92	3.27	0.122	0	1.4	0	0	0	2.943	22.839	0.605	3.641	8.096
112	0	0	3.953	0.17	0	28.781	12.893	0	0	0.001	1.15	1.6	0.979	4.627	0.54	0	2	0	0	0	2.429	20.118	0.564	4.522	6.433
113	0	0	5.881	0.17	0	29.629	11.51	0	0.001	0.002	1.312	2.594	0.997	4.215	0.777	0	0	0	0	0	1.742	20.485	0.459	4.134	6.648
114	0	0	5.4	1.19	0	25.357	12.18	0	0.001	0.001	2.518	2.337	0.92	2.891	0.957	0	3.25	0	0	0	2.552	23.077	0.453	3.62	5.844
115	0	0	5.871	0	0	30.743	12	0	0.001	0.001	0.791	2.454	0.85	3.868	0.782	0	3.6	0	0	0	3.693	22.681	0.315	4.152	7.495
116	0	0	5.281	0.34	0	27.937	12.269	0	0.002	0	2.118	1.97	0.716	4.293	0.874	0	3.75	0	0	0	1.381	19.581	0.438	3.901	6.455
117	0	0	6.44	0.51	0	29.133	10.834	0	0.002	0.001	1.247	1.552	1.001	5.975	0.58	0	5.3	0	0	0	2.112	18.242	0.438	2.485	7.203
118	0	0	4.065	0.68	0	26.264	12.576	0	0	0.003	1.894	1.261	1.088	3.524	0.359	0	2.25	0	0	0	1.846	19.921	0.473	3.272	7.236
119	0	0	5.991	0	0	29.406	12.682	0	0	0	1.357	1.467	0.892	3.825	0.987	0	2.95	0	0	0	2.671	18.171	0.281	3.444	6.655
120	0	0	5.482	0.85	0	26.777	13.139	0	0	0.008	1.813	1.984	1.206	3.095	1.199	0	3.95	0	0	0	2.27	21.344	0.556	5.164	6.715
121	0	0	7.231	0.17	0	25.34	11.853	0	0.004	0.008	1.401	1.752	0.86	3.802	0.293	0	2	0	0	0	3.064	22.611	0.452	3.84	6.498
122	0	0	4.832	0.51	0	26.862	10.707	0	0	0.002	1.496	1.518	0.779	3.793	0.49	0	2.15	0	0	0	1.119	17.067	0.584	4.002	6.058
123	0	0	4.426	0.34	0	25.066	12.014	0	0	0.008	1.923	1.842	1.266	5.429	0.486	0	1.65	0	0	0	2.459	21.733	0.672	3.86	7.698
124	0	0	5.322	0.68	0	29.649	12.437	0	0	0.002	1.204	1.823	0.946	2.727	0.307	0	3.25	0	0	0	1.944	22.464	0.453	4.71	6.647
125	0	0	6.093	0.17	0	26.012	11.303	0	0.003	0.003	1.278	1.445	0.806	5.114	0.338	0	7.35	0	0	0	2.738	21.464	0.475	2.824	6.262
126	0	0	4.165	0.34	0	24.792	12.001	0	0.003	0.002	2.542	1.632	0.557	3.788	0.297	0	2.95	0	0	0	2.242	21.387	0.285	4.22	7.488
127	0	0	4.651	0.51	0	25.769	11.211	0	0.002	0.004	2.698	2.176	0.927	4.554	0.205	0	1.2	0	0	0	3.309	21.029	0.251	4	7.415
128	0	0	6.261	0	0	32.642	9.858	0	0.005	0.001	0.757	1.287	1.769	2.85	1.303	0	2.25	0	0	0	2.471	18.308	0.919	5.75	6.714
129	0	0	6.631	1.02	0	28.62	11.898	0	0	0	1.788	2.146	0.447	2.968	0.44	0	2	0	0	0	2.169	25.017	0.232	2.95	5.415
130	0	0	5.363	0.34	0	32.974	11.478	0	0	0	0.76	1.463	1.459	3.491	0.621	0	4	0	0	0	3.061	20.754	0.69	3.322	6.066
131	0	0	7.651	0	0	31.878	11.32	0	0.003	0.003	1.637	1.951	0.848	2.876	0.639	0	2	0	0	0	2.458	22.253	0.374	4.59	6.986
132	0	0	6.446	0.68	0	27.04	10.21	0	0.003	0.001	1.758	1.846	0.564	3.979	0.603	0	0.7	0	0	0	2.374	22.007	0.201	3.441	6.057
133	0	0	7.561	0.51	0	32.459	13.905	0	0	0.001	1.164	1.357	1.015	4.067	0.617	0	1.5	0	0	0	2.209	21.689	0.511	3.113	5.77
134	0	0	6.317	0.51	0	26.166	11.33	0	0	0.003	2.448	1.505	0.472	2.794	0.649	0	4.15	0	0	0	2.097	17.991	0.692	4.411	6.214
135	0	0	4.935	0.17	0	29.748	12.17	0	0.001	0	0.908	1.699	0.839	5.071	0.548	0	5.1	0	0	0	1.728	21.395	0.678	4.083	7.435
136	0	0	7.565	0.85	0	30.413	12.168	0	0.001	0.002	1.496	2.661	1.33	4.836	0.601	0	0.5	0	0	0	2.218	22.488	0.672	4.055	6.539
137	0	0	5.743	1.19	0	27.74	10.78	0	0.007	0.003	1.42	1.558	1.018	2.854	0.617	0	2.5	0	0	0	3.097	23.229	0.407	4.3	6.9
138	0	0	7.942	0	0	27.149	12.011	0	0.003	0.003	1.226	2.1	1.389	3.93	0.871	0	1.15	0	0	0	1.629	21.973	0.639	4.61	6.52
139	0	0	4.924	0	0	29.654	11.044	0	0.004	0.003	1.12	1.345	0.816	4.039	0.376	0	5.4	0	0	0	1.47	18.112	0.462	4.39	7.295
140	0	0	5.904	0.17	0	26.207	12.118	0	0.004	0.001	3.042	1.287	0.874	3.984	0.98	0	1.25	0	0	0	2.368	17.193	0.304	3.141	6.965
141	0	0	8.333	0.34	0	31.521	11.906	0	0.005	0.003	1.061	1.949	0.883	6.309	0.269	0	2.35	0	0	0	2.584	20.775	0.257	2.385	7.652
142	0	0	5.88	0.85	0	24.909	12.525	0	0	0.004	1.986	1.985	1.269	3.872	1.088	0	1.35	0	0	0	2.381	23.46	0.618	3.036	6.696
143	0	0	5.21	0	0	31.105	11.543	0	0.005	0.004	1.561	1.41	0.892	3.316	0.796	0	2.2	0	0	0	1.086	18.242	0.279	5.642	5.245
144	0	0	4.711	0.34	0	31.808	9.765	0	0.003	0	0.91	1.535	0.997	2.875	0.881	0	2.1	0	0	0	1.805	18.003	0.433	4.25	6.262
145	0	0	7.112	0.51	0	27.04	11.888	0	0.002	0.001	2.925	1.956	0.831	4.565	0.714	0	1.95	0	0	0	1.624	22	0.293	2.911	6.417
146	0	0	4.306	0.34	0	26.702	12.15	0	0.001	0.005	1.428	1.374	0.923	3.186	0.281	0	3.15	0	0	0	3.488	20.187	0.735	5.7	6.867
147	0	0	4.433	0.17	0	29.937	12.349	0	0.005	0.002	1.964	1.876	1.388	5.472	0.246	0	2.9	0	0	0	2.289	21.349	0.409	2.584	6.407
148	0	0	6.211	0	0	28.564	11.367	0	0.002	0	0.945	1.67	0.79	3.586	0.551	0	2.55	0	0	0	2.847	22.055	0.247	4.75	8.441
149	0	0	4.172	0.34	0	26.089	11.816	0	0.002	0	1.114	2.094	0.845	4.362	0.666	0	2.2	0	0	0	1.827	19.005	0.332	3.002	6.202
150	0	0	4.582	0.85	0	23.33	11.466	0	0.003	0.004	3.155	1.61	0.917	3.164	0.88	0	4.95	0	0	0	2.18	21.353	0.526	4.38	5.974
151	0	0	6.731	0.17	0	29.775	11.199	0	0.002	0	1.065	1.166	1.199	5.059	0.34	0	4.3	0	0	0	0.821	15.552	0.331	3.953	8.048
152	0	0	6.232	0	0	25.3	12.468	0	0.003	0.01	2.628	2.025	0.786	6.076	0.246	0	3.4	0	0	0	1.967	21.061	0.522	2.415	6.524
153	0	0	6.801	0.17	0	25.464	11.32	0	0	0	2.377	2.162	0.853	2.464	0.371	0	1.2	0	0	0	1.882	19.341	0.39	4.51	7.594
154	0	0	5.236	0.85	0	28.418	12.41	0	0	0	1.13	1.993	0.776	3.74	0.714	0	3.15	0	0	0	1.921	17.672	0.376	3.15	6.494
155	0	0	5.101	0.17	0	30.407	12.011	0	0.003	0.001	1.179	1.316	1.06	4.536	0.1	0	8.1	0	0	0	1.191	18.744	0.572	3.953	5.665
156	0	0	7.33	0.68	0	31.584	12.698	0	0.002	0.002	1.437	1.518	0.882	3.138	0.109	0	3.1	0	0	0	2.921	17.428	0.383	4.65	8.184
157	0	0	6.471	0	0	25.763	11.675	0	0.007	0.003	2.115	1.696	0.88	4.019	0.227	0	1.4	0	0	0	1.568	22.545	0.224	5.012	8.56
158	0	0	5.732	0.17	0	32.469	12.496	0	0.002	0.002	1.962	1.941	0.708	3.896	0.697	0	4.1	0	0	0	2.089	21.271	0.599	3.504	6.219
159	0	0	5.136	0.17	0	31.143	11.418	0	0	0.001	1.545	1.772	1.354	3.708	0.92	0	1.75	0	0	0	1.457	18.853	0.648	3.882	5.625
160	0	0	6.05	0	0	29.505	12.044	0	0	0.003	2.201	1.474	1.462	3.12	0.897	0	3	0	0	0	2.02	22.572	0.75	4.59	7.164
161	0	0	5.522	0.34	0	23.637	12.17	0	0.001	0.002	1.825	2.032	0.817	3.513	0.937	0	4.75	0	0	0	2.437	18.561	0.329	4.972	7.162
162	0	0	7.921	0.34	0	28.907	14.103	0	0.002	0.002	2.514	2.818	1.12	3.766	0.778	0	1.5	0	0	0	1.816	24.618	0.379	4.182	6.876
163	0	0	2.836	0.68	0	31.135	10.227	0	0	0.003	1.035	1.329	0.868	6.319	0.568	0	4.15	0	0	0	2.435	22.952	0.41	2.907	7.432
164	0	0	6.071	0	0	25.429	11.382	0	0.002	0	1.77	1.413	0.83	2.935	0.561	0	4.1	0	0	0	1.794	20.216	0.441	3.493	6.316
165	0	0	5.38	0.17	0	26.206	12.597	0	0.002	0	1.972	2.195	1.138	5.574	1.082	0	2.4	0	0	0	2.19	20.458	0.401	3.611	7.183
166	0	0	7.032	0.68	0	27.013	14.198	0	0.006	0	2.489	2.459	0.885	5.35	0.348	0	2	0	0	0	1.607	26.422	0.329	3.79	8.428
167	0	0	6.851	1.36	0	27.031	10.822	0	0	0.003	0.898	1.558	0.797	3.015	1.24	0	1.15	0	0	0	2.179	15.272	0.449	4.39	6.39
168	0	0	6.614	0.51	0	26.404	12.299	0	0.002	0.001	3.308	1.284	0.83	3.654	1.277	0	2.5	0	0	0	0.904	16.018	0.69	3.613	4.829
169	0	0	5.064	0	0	33.865	12.136	0	0.004	0.002	0.865	1.101	1.324	4.273	0.363	0	5.6	0	0	0	2.078	16.856	0.623	5.761	5.306
170	0	0	8.781	0.51	0	30.653	12.496	0	0	0.006	0.809	1.562	0.637	3.398	0.615	0	1.2	0	0	0	2.78	19.142	0.55	3.454	7.303
171	0	0	6.891	0.68	0	30.408	11.345	0	0.001	0.006	0.592	1.715	0.711	4.32	0.724	0	3.1	0	0	0	2.785	18.629	0.315	3.461	6.427
172	0	0	7.331	0.34	0	27.628	10.613	0	0	0.005	2.063	1.703	0.847	3.551	0.332	0	3.95	0	0	0	1.337	19.113	0.243	4.73	6.689
173	0	0	6.313	0.51	0	27.768	11.858	0	0	0.001	1.582	1.723	1.18	2.941	1.634	0	3.45	0	0	0	2.377	19.776	0.439	4.94	5.543
174	0	0	6.2	0	0	26.067	12.768	0	0.004	0.005	1.313	2.922	0.983	3.76	1.247	0	0.75	0	0	0	2.298	23.991	0.291	3.901	5.189
175	0	0	4.202	0	0	27.445	11.312	0	0.002	0.002	2.225	1.344	1.17	5.707	0.108	0	4.5	0	0	0	2.53	19.646	0.517	3.502	8.814
176	0	0	7.95	0	0	33.294	11.741	0	0.002	0.005	1.885	1.37	1.251	3.659	0.819	0	5.35	0	0	0	2.09	21.963	0.35	3.371	7.611
177	0	0	6.132	0.51	0	32.747	11.197	0	0.001	0.001	1.226	1.645	0.862	3.611	0.888	0	3.05	0	0	0	1.593	16.796	0.417	3.72	6.355
178	0	0	6.302	0.34	0	27.521	12.293	0	0	0.001	0.826	1.912	1.288	3.422	1.052	0	3.7	0	0	0	2.739	20.926	0.372	3.78	6.236
179	0	0	6.971	0.17	0	33.133	12.242	0	0	0.001	0.719	2.556	0.946	2.945	1.213	0	0.5	0	0	0	1.7	21.547	0.265	4.131	5.807
180	0	0	6.486	0.85	0	27.384	11.345	0	0.005	0.001	1.275	2.014	0.697	4.178	0.412	0	0.4	0	0	0	2.055	17.366	0.613	3.461	8.06
181	0	0	3.652	0.17	0	26.959	11.973	0	0.002	0.006	1.453	1.509	1.316	3.045	0.897	0	3.4	0	0	0	2.815	21.678	0.619	4.432	5.24
182	0	0	5.233	0.17	0	30.545	11.528	0	0.003	0.003	1.201	2.114	0.998	3.832	0.59	0	1.7	0	0	0	2.824	21.324	0.677	5.691	6.208
183	0	0	6.181	0.68	0	27.991	11.733	0	0	0.001	1.951	1.724	1.498	3.26	0.401	0	3.65	0	0	0	1.599	21.131	0.49	4.332	6.721
184	0	0	7.183	0.17	0	32.48	11.98	0	0.001	0.005	0.842	1.721	1.014	3.329	0.693	0	1.95	0	0	0	3.11	19.479	0.698	4.771	4.704
185	0	0	6.651	0.17	0	28.733	11.845	0	0.001	0	1.047	1.85	0.735	4.505	0.295	0	5.3	0	0	0	2.971	23.901	0.465	4.571	8.183
186	0	0	5.634	0	0	32.42	11.853	0	0.005	0.005	1.214	2.436	0.908	4.905	1.057	0	0.5	0	0	0	1.734	20.44	0.23	3.642	5.189
187	0	0	6.821	0.34	0	30.436	10.686	0	0.004	0.001	1.11	2.52	1.007	2.867	0.025	0	2.4	0	0	0	2.651	15.663	0.665	3.961	5.486
188	0	0	5.633	0.51	0	27.779	12.529	0	0.006	0.003	2.216	1.201	1.128	3.477	1.007	0	4.4	0	0	0	1.393	21.017	0.569	4.146	7.781
189	0	0	6.114	0	0	25.836	11.578	0	0	0	1.54	1.456	1.035	2.803	0.557	0	3.95	0	0	0	3.179	22.177	0.534	4.304	6.026
190	0	0	6.325	0.51	0	26.41	13.692	0	0	0	1.44	1.222	0.517	4.059	0.512	0	7.15	0	0	0	3.099	17.745	0.344	3.782	7.311
191	0	0	6.231	1.02	0	31.873	13.171	0	0.004	0.001	1.48	1.596	0.491	3.78	0.351	0	0	0	0	0	2.791	17.057	0.615	3.7	6.709
192	0	0	7.372	0.17	0	29.759	14.015	0	0.004	0	1.057	1.844	1.03	6.082	0.425	0	3.65	0	0	0	2.243	22.031	0.317	3.348	8.792
193	0	0	8.412	0	0	25.898	11.971	0	0	0.006	2.158	1.779	0.819	4.047	0.023	0	5.05	0	0	0	1.88	19.433	0.488	4.182	7.854
194	0	0	5.441	0.51	0	26.079	11.914	0	0.002	0.004	2.032	1.828	1.073	3.22	0.349	0	2.95	0	0	0	2.211	18.487	0.282	5.21	6.543
195	0	0	5.505	0	0	30.573	11.093	0	0.001	0.001	1.129	1.824	1.267	3.813	1.003	0	3.9	0	0	0	1.416	18.011	0.423	5.511	6.108
196	0	0	7.372	0.85	0	27.879	12.603	0	0.002	0.002	1.805	1.81	0.84	2.888	0.599	0	6.1	0	0	0	2.732	19.568	0.537	4.35	7.692
197	0	0	7.812	1.36	0	29.632	12.162	0	0.003	0.001	2.022	1.541	0.905	3.427	0.581	0	5.45	0	0	0	0.566	19.124	0.361	3.991	6.718
198	0	0	6.476	0.85	0	25.666	11.959	0	0.003	0.001	1.256	1.828	0.796	4	0.539	0	0.7	0	0	0	2.258	16.555	0.351	3.635	6.894
199	0	0	7.39	0.68	0	31.09	12.196	0	0.002	0.002	0.78	1.91	0.948	3.454	0.764	0	3.15	0	0	0	3.802	22.559	0.448	3.29	5.708
200	0	0	5.813	0.34	0	31.357	11.731	0	0.002	0.002	1.389	2.168	1.141	3.553	0.802	0	0.5	0	0	0	2.282	20.376	0.422	3.791	6.152
201	0	0	7.19	0.68	0	35.991	12.288	0	0.002	0.002	1.319	1.11	1.064	3.613	0.523	0	4.35	0	0	0	1.98	22.329	0.523	3.72	7.702
202	0	0	4.13	0	0	27.136	11.779	0	0	0.001	0.852	1.966	0.916	4.908	0.449	0	0.5	0	0	0	2.838	19.573	0.712	3.123	6.664
203	0	0	7.092	0.51	0	28.577	10.677	0	0.001	0.005	1.557	1.257	0.867	4.749	0.42	0	6	0	0	0	2.242	14.881	0.304	3.755	5.824

Plant Type:	Greasewood					Grass					Forb					Tree					Shrub				
Plot:	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
sample #																									
204	0	0	5.93	0.68	0	28.361	11.793	0	0.002	0.009	1.964	2.364	1.2	2.212	0.937	0	0.9	0	0	0	2.13	23.602	0.534	3.67	5.491
205	0	0	7.92	0	0	27.322	11.563	0	0	0	1.957	2.041	0.918	2.799	0.901	0	3.4	0	0	0	2.9	23.595	0.381	3.801	6.342
206	0	0	6.181	0	0	29.757	13.906	0	0	0.001	1.54	1.767	0.93	5.365	0.341	0	2	0	0	0	1.348	19.463	0.483	3.129	8.336
207	0	0	6.491	0.85	0	28.355	12.215	0	0.001	0.003	1.165	1.231	0.802	3.735	0.519	0	5.45	0	0	0	1.551	20.527	0.413	3.363	6.534
208	0	0	4.951	0.17	0	26.732	10.754	0	0.001	0.002	1.439	1.793	1.139	3.565	0.4	0	1.95	0	0	0	2.174	22.317	0.591	3.335	8.153
209	0	0	5.762	0	0	30.935	11.054	0	0.001	0.002	1.95	1.153	1.011	4.029	0.749	0	3.65	0	0	0	1.916	17.901	0.314	4.181	6.752
210	0	0	7.334	0.85	0	26.404	13.129	0	0.001	0.001	1.582	1.905	0.883	2.857	0.14	0	2.7	0	0	0	2.808	22.382	0.533	4.35	6.206
211	0	0	6.071	0.17	0	28.702	12.123	0	0	0.003	1.225	2.222	0.994	5.878	1	0	0.7	0	0	0	2.577	24.941	0.442	3.224	6.045
212	0	0	6.173	0.51	0	26.711	12.752	0	0.001	0.002	1.584	2.369	0.758	4.712	0.37	0	1.15	0	0	0	1.848	23.219	0.517	3.583	6.444
213	0	0	4.292	0.34	0	29.738	11.883	0	0.004	0.002	1.55	1.981	0.702	2.792	0.689	0	1.5	0	0	0	2.847	23.747	0.73	4.202	6.993
214	0	0	3.602	0	0	30.255	12.164	0	0.004	0	1.673	2.454	0.993	4.489	0.369	0	1.25	0	0	0	2.297	24.467	0.499	2.935	8.79
215	0	0	6.091	0.85	0	28.486	10.841	0	0.005	0.002	1.773	1.696	1.059	3.995	0.339	0	5.3	0	0	0	2.173	21.659	0.489	3.345	4.478
216	0	0	7.054	0.68	0	25.552	11.957	0	0.001	0.001	1.543	1.685	1.124	3.277	0.541	0	7	0	0	0	1.912	22.092	0.925	3.65	7.276
217	0	0	4.68	0	0	29.388	12.608	0	0.004	0.002	1.829	2.455	0.796	2.971	0.139	0	2.1	0	0	0	1.711	22.159	0.378	4.251	7.355
218	0	0	7.771	0.51	0	25.851	11.666	0	0.002	0.004	1.39	2.778	1.016	4.029	0.087	0	0.4	0	0	0	3.461	23.809	0.475	3.961	7.593
219	0	0	5.052	0.51	0	27.677	14.147	0	0.003	0.004	1.169	1.875	1.076	3.404	0.577	0	1.25	0	0	0	3.298	18.005	0.487	5.36	5.329
220	0	0	5.802	0	0	28.966	13.298	0	0.001	0	1.243	2.048	0.782	4.887	0.673	0	4.4	0	0	0	1.289	15.46	0.325	4.121	6.391
221	0	0	6.453	0.34	0	27.066	12.026	0	0.002	0.009	1.801	2.587	1.098	2.865	0.325	0	1.25	0	0	0	2.152	21.287	0.638	4.19	6.049
222	0	0	5.224	0.51	0	30.931	10.945	0	0.002	0.001	1.646	2.087	0.932	3.093	0.619	0	4.05	0	0	0	2.971	19.861	0.485	3.61	5.884
223	0	0	6.23	0	0	28.339	12.63	0	0.001	0	2.078	2.769	0.857	4.682	0.782	0	0.95	0	0	0	3.066	20.029	0.35	3.623	7.106
224	0	0	6.084	0.34	0	25.652	11.217	0	0	0.007	1.55	2.085	0.723	3.121	0.496	0	6.15	0	0	0	1.549	19.845	0.529	4.691	5.659
225	0	0	5.921	1.02	0	27.576	12.014	0	0.006	0.003	1.56	2.263	1.533	2.424	1.482	0	2.65	0	0	0	1.58	23.803	0.411	3.68	6.014
226	0	0	5.371	0	0	29.269	11.94	0	0.002	0.004	1.773	1.483	1.294	5.146	1.301	0	4.25	0	0	0	2.563	22.286	0.526	4.032	5.995
227	0	0	7.851	0.51	0	32.591	10.784	0	0.002	0.004	1.102	1.463	0.846	3.403	0.797	0	1.65	0	0	0	2.006	17.722	0.179	4.391	5.827
228	0	0	5.083	0.34	0	31.967	12.164	0	0	0	1.436	1.559	1.094	5.062	1.028	0	4.5	0	0	0	1.722	19.106	0.436	3.692	5.925
229	0	0	7.194	0.51	0	26.35	12.045	0	0.002	0.001	2.285	1.754	1.398	3.759	0.992	0	1.75	0	0	0	2.083	23.224	0.469	3.862	5.511
230	0	0	7.18	0.17	0	26.721	10.965	0	0.003	0.002	1.848	2.433	0.763	3.518	0.905	0	0.8	0	0	0	1.401	22.887	0.493	3.793	6.4
231	0	0	4.844	1.02	0	29.428	11.496	0	0.001	0.003	1.05	1.969	1.151	2.553	0.048	0	5.05	0	0	0	2.7	20.854	0.399	4.691	6.991
232	0	0	8.205	0.17	0	31.979	10.257	0	0.008	0.003	0.862	1.364	0.736	4.819	0.638	0	4.15	0	0	0	1.577	21.893	0.548	4.383	8.635
233	0	0	8.191	0	0	34.093	11.05	0	0.006	0.001	1.09	1.846	0.946	4.377	0.741	0	4.45	0	0	0	2.437	25.451	0.464	5.02	7.408
234	0	0	8.54	0.85	0	27.474	12.173	0	0	0	1.306	1.81	0.795	4.709	0.027	0	2.2	0	0	0	3.202	24.234	0.292	3.41	7.445
235	0	0	4.631	0	0	24.637	11.813	0	0	0.003	2.745	2.113	1.013	3.662	0.518	0	0.6	0	0	0	1.424	19.852	0.261	4.2	6.661
236	0	0	3.563	0.68	0	31.783	13.274	0	0.003	0.007	1.776	1.955	1.013	2.129	0.935	0	1.5	0	0	0	2.199	25.958	0.916	5.11	6.488
237	0	0	6.55	0	0	31.995	13.12	0	0.002	0.004	0.651	1.737	0.898	3.66	0.674	0	3.25	0	0	0	1.532	18.744	0.787	4.301	6.652
238	0	0	7.033	0.17	0	27.546	12.183	0	0.003	0.001	1.099	1.911	1.453	3.366	0.393	0	4.95	0	0	0	1.878	18.011	0.49	3.453	8.032
239	0	0	5.721	0.34	0	31.184	11.905	0	0.001	0.001	1.451	1.919	1.206	3.926	0.861	0	0.5	0	0	0	2.683	18.809	0.421	2.71	8.278
240	0	0	6.3	0.34	0	29.659	11.884	0	0.004	0.002	1.298	1.785	0.808	3.92	0.267	0	3.85	0	0	0	2.561	18.921	0.228	4.02	6.543
241	0	0	5.52	0.17	0	27.329	11.288	0	0	0.005	0.939	1.538	1.08	3.016	0.254	0	5.35	0	0	0	2.798	17.079	0.569	4.162	5.678
242	0	0	8.48	0.17	0	28.966	13.754	0	0.001	0	1.514	2.072	0.816	5.785	0.272	0	1.2	0	0	0	2.937	24.294	0.57	2.643	6.799
243	0	0	7.993	0.34	0	26.127	10.247	0	0	0.001	2.033	1.294	0.806	3.679	1.325	0	4.6	0	0	0	1.762	18.988	0.232	5.145	6.073
244	0	0	6.573	0	0	32.151	12.307	0	0	0.004	1.023	2.032	1.031	3.636	0.409	0	0.95	0	0	0	2.529	21.615	0.364	5.122	5.959
245	0	0	5.532	1.02	0	28.066	11.753	0	0	0.004	1.512	2.214	0.821	4.759	1.243	0	4.85	0	0	0	3.438	21.835	0.381	3.573	5.212
246	0	0	5.411	0.34	0	28.897	13.633	0	0	0	2.145	1.935	0.931	3.292	0.753	0	0.5	0	0	0	2.887	22.528	0.485	3.842	7.387
247	0	0	4.914	0.51	0	32.669	12.725	0	0.005	0	0.911	1.924	0.953	4.5	0.279	0	1.45	0	0	0	1.326	19.989	0.921	4.283	8.238
248	0	0	5.863	0	0	26.622	11.553	0	0.006	0	1.649	0.759	0.691	2.959	0.437	0	1.5	0	0	0	1.829	17.215	0.258	5.54	5.904
249	0	0	4.982	0.17	0	31.134	11.447	0	0	0.001	1.239	2.299	0.766	5.134	0.674	0	1.25	0	0	0	2.15	16.173	0.461	2.725	7.655
250	0	0	7.643	0.17	0	33.942	12.912	0	0.002	0.002	1.248	1.375	0.699	3.137	1.31	0	3.25	0	0	0	2.793	17.736	0.495	3.231	5.719
251	0	0	5.184	0	0.15	25.267	8.129	0	0.002	0.003	1.456	1.051	1.478	4.689	1.001	0	5.37	0	0	0	2.423	19.736	0.163	3.722	12.821
252	0	0	5.225	0.51	0.15	28.733	9.45	0	0.003	0.034	2.46	0.794	1.12	5.293	1.794	0	8.5	0	0	0	1.165	16.675	0.326	2.63	12.362
253	0	0	3.619	0.17	0	26.223	8.51	0	0	0.074	2.136	1.346	1.223	6.648	0.496	0	4.62	0	0	0	1.511	17.559	0.352	2.484	17.302
254	0	0	3.81	0	0	27.289	9.076	0	0	0.086	1.426	1.286	1.2	4.853	0.269	0	4.52	0	0	0	2.977	16.159	0.242	4.64	14.37
255	0	0	3.667	0.51	0	27.586	9.702	0	0	0.107	1.772	1.995	0.846	4.415	0.343	0	3.25	0	0	0	1.459	20.445	0.361	4.152	18.922
256	0	0	4.822	0.17	0.15	29.275	8.33	0	0	0.007	2.733	0.92	1.015	5.575	1.491	0	8.32	0	0	0	1.988	19.627	0.418	2.58	10.783
257	0	0	3.663	0.51	0.3	24.009	8.98	0	0.001	0.019	1.856	1.453	0.936	4.416	0.785	0	6.1	0	0	0	2.318	18.543	0.456	4.18	12.791
258	0	0	3.176	0.34	0	25.356	8.757	0	0.001	0.177	2.159	0.929	0.615	5.208	0.557	0	5.87	0	0	0	2.028	20.394	0.436	4.803	13.609
259	0	0	4.678	0.17	0	28.707	8.704	0	0	0.011	2.693	2.356	1.23	5.509	0.914	0	6.9	0	0	0	1.271	20.492	0.408	2.711	12.745
260	0	0	6.537	0.17	0	23.737	6.937	0	0.001	0.154	2.834	0.726	1.396	3.936	0.364	0	5.35	0	0	0	1.47	17.333	0.506	4.481	15.96
261	0	0	4.776	0.34	0.3	26.644	7.843	0	0.002	0.004	1.879	0.587	1.169	5.302	0.87	0	8.02	0	0	0	2.233	17.294	0.384	2.89	12.531
262	0	0	4.574	0	0	23.086	7.961	0	0	0.037	2.368	1.235	1.07	6.119	1.561	0	2.57	0	0	0	1.553	16.263	0.305	3.13	12.799
263	0	0	4.749	0	0	21.529	8.309	0	0.002	0.015	1.782	1.3	0.668	4.171	1.369	0	5.6	0	0	0	2.152	17.912	0.213	3.611	11.185
264	0	0	4.752	0.17	0	24.679	10.533	0	0	0.164	1.858	1.211	0.842	4.172	1.247	0	3.62	0	0	0	2.442	18.621	0.305	2.771	13.255
265	0	0	3.988	0.51	0.15	24.949	8.449	0	0	0.002	2.233	1.406	0.985	4.622	1.821	0	4.92	0	0	0	2.909	18.494	0.515	2.624	10.053
266	0	0	3.231	0.17	0	25.483	8.964	0	0.001	0.16	2.013	1.684	1.258	5.347	0.855	0	9.2	0	0	0	2.288	16.581	0.366	3.532	16.305
267	0	0	5.081	0	0.15	29.952	7.885	0	0.001	0.076	2.334	0.941	0.864	3.852	0.538	0	3.5	0	0	0	2.2	19.284	0.307	3.972	14.573
268	0	0	2.653	0.68	0	24.426	7.849	0	0	0.15	2.684	1.22	0.925	3.744	0.477	0	6.05	0	0	0	1.336	17.697	0.317	3.392	13.166
269	0	0	4.18	0.17	0	26.858	7.947	0	0.001	0.049	2.46	1.096	1.113	7.602	0.808	0	5.35	0	0	0	2.435	13.19	0.534	3.201	13.573
270	0	0	3.466	0	0	29.349	7.199	0	0.003	0.005	2.286	1.182	0.876	6.347	2.089	0	6.55	0	0	0	1.857	16.623	0.471	2.99	9.684
271	0	0	3.647	0.34	0	26.591	7.629	0	0.002	0.107	1.534	0.851	1.101	6.716	0.844	0	10.15	0	0	0	1.661	15.229	0.412	3.803	12.793
272	0	0	6.356	0.34	0.45	26.949	9.237	0	0	0.024	1.022	0.478	1.27	4.467	0.742	0	5	0	0	0	2.65	15.856	0.329	3.533	13.445
273	0	0	3.906	0.85	0	25.846	7.388	0	0	0.113	1.643	1.425	1.306	4.698	0.246	0	3.42	0	0	0	2.629	22.202	0.463	2.4	16.039
274	0	0	3.844	0	0.15	24.231	9.4	0	0.002	0.077	1.633	1.227	0.905	4.744	0.476	0	7.55	0	0	0	2.077	15.256	0.442	2.952	14.097
275	0	0	2.438	0	0.15	24.676	7.054	0	0	0.009	2.461	0.333	0.801	5.371	0.583	0	7	0	0	0	2.411	13.639	0.308	4.405	14.365
276	0	0	5.003	0.17	0.15	26.718	8.639	0	0.001	0.108	1.325	0.913	1.477	4.204	0.864	0	5.07	0	0	0	2.176	15.36	0.368	3.411	14.196
277	0	0	5.617	0.17	0	26.075	7.517	0	0.002	0.09	3.424	1.023	0.996	5.075	1.232	0	4.45	0	0	0	1.036	19.336	0.622	3.92	11.855
278	0	0	3.875	0	0	28.077	7.728	0	0.001	0.004	1.607	0.905	0.618	5.14	1.909	0	8.77	0	0	0	1.543	17.309	0.332	3.061	11.128
279	0	0	4.456	0	0	22.422	8.32	0	0.005	0.028	2.843	1.533	0.756	3.861	1.054	0	6.7	0	0	0	1.279	15.975	0.567	3.741	12.35
280	0	0	3.334	0.17	0	24.4	8.987	0	0	0.056	2.114	0.67	1.055	4.07	0.426	0	2.07	0	0	0	2.378	18.808	0.485	3.27	13.86
281	0	0	2.83	0	0	30.078	9.062	0	0	0.054	1.852	0.908	0.899	4.785	1.444	0	8.97	0	0	0	1.052	13.793	0.512	5.001	12.509
282	0	0	4.396	0	0.75	28.421	9.659	0	0	0.039	1.584	1.328	1.03	5.629	0.601	0	9.1	0	0	0	1.446	15.436	0.215	3.311	12.58
283	0	0	4.235	0.34	0	22.73	7.602	0	0	0.13	2.762	1.064	1.466	4.166	1.534	0	5.9	0	0	0	1.748	15.857	0.587	4.93	14.383
284	0	0	3.612	0.34	0	25.498	8.429	0	0.003	0.083	2.715	1.368	1.071	4.055	1.465	0	4.52	0	0	0	1.56	21.696	0.359	3.643	13.6
285	0	0	4.645	0	0	28.088	8.249	0	0	0.015	2.066	1.475	0.984	5.223	0.202	0	6.8	0	0	0	2.781	17.288	0.349	2.724	13.228
286	0	0	4.757	0	0.3	24.58	8.921	0	0	0.046	2.433	1.274	0.953	4.91	0.989	0	10.11	0	0	0	2.342	15.241	0.449	3.431	11.682
287	0	0	4.004	0	0.3	26.071	9.121	0	0.002	0.058	2.733	1.261	1.111	4.996	0.82	0	8.05	0	0	0	1.337	18.725	0.394	3.163	12.484
288	0	0	3.058	0	0.15	29.072	7.846	0	0.001	0.01	2.035	0.765	1.119	5.848	0.328	0	10.2	0	0	0	2.21	16.503	0.424	3.251	12.79
289	0	0	3.433	0	0	24.247	7.048	0	0.001	0.025	1.617	1.282	0.878	5.513	1.549	0	6.3	0	0	0	2.553	13.643	0.149	3.166	11.528
290	0	0	5.253	0	0.3	23.141	8.894	0	0	0.093	1.844	2.083	1.183	4.565	0.231	0	6.2	0	0	0	2.39	16.845	0.345	2.552	14.411
291	0	0	4.007	0.17	0.3	26.52	9.027	0	0.001	0.011	2.213	0.766	0.972	4.525	0.842	0	4.58	0	0	0	1.074	19.354	0.379	3.934	11.583
292	0	0	5.048	0	0	24.393	8.453	0	0.001	0.006	1.546	1.681	0.94	6.798	0.538	0	2.44	0	0	0	1.473	19.329	0.347	1.641	14.337
293	0	0	3.894	0.34	0.15	23.762	8.418	0	0	0.094	1.959	1.13	1.214	5.655	0.71	0	4.75	0	0	0	2.441	16.984	0.397	3.67	13.86
294	0	0	3.526	0.17	0	26.714	8.103	0	0	0.001	2.979	1.015	1.181	3.93	1.878	0	5.32	0	0	0	0.657	19.248	0.448	3.29	9.541
295	0	0	5.374	0.17	0.15	21.417	8.3	0	0.003	0.005	1.929	1.028	0.634	4.887	1.734	0	3.94	0	0	0	1.805	16.363	0.507	3.951	11.584
296	0	0	6.206	0.34	0.45	23.655	6.792	0	0	0.045	2.317	0.603	0.772	4.943	1.268	0	5.9	0	0	0	2.773	18.106	0.342	2.845	13.858
297	0	0	6.61	0	0.45	23.294	8.042	0	0.001	0.027	1.86	1.516	1.236	4.031	0.803	0	3.95	0	0	0	1.893	15.785	0.36	4.66	13.256
298	0	0	4.712	0.51	0.45	28	8.051	0	0	0.02	2.728	0.614	0.859	5.261	0.71	0	4.22	0	0	0	1.559	18.959	0.509	4.033	11.972
299	0	0	3.146	0	0.3	25.722	9.222	0	0.001	0.051	1.457	1.269	1.489	4.6	2.027	0	5.47	0	0	0	3.05	16.746	0.463	3.34	10.893
300	0	0	4.682	0.34	0	23.569	9.298	0	0	0.148	2.389	0.814	1.027	4.667	0.265	0	11.6	0	0	0	2.93	17.915	0.355	2.651	17.006
301	0	0	3.706	0.17	0.3	27.617	8.273	0	0	0.101	2.23	1.578	0.95	4.222	0.875	0	3.9	0	0	0	2.044	16.949	0.458	5.15	14.085
302	0	0	4.458	0	0.45	23.109	8.887	0	0.001	0.007	2.524	1.517	1.114	6.553	0.484	0	1.59	0	0	0	1.321	24.806	0.27	2.223	13.051
303	0	0	4.488	0.17	0	22.811	8.951	0	0	0.151	1.767	0.986	0.725	4.323	1.214	0	4.18	0	0	0	2.245	18.299	0.361	3.571	12.029
304	0	0	3.894	0.17	0	26.436	7.833	0	0	0.115	2.185	1.355	0.948	4.269	1.674	0	5.8	0	0	0	2.278	14.796	0.41	2.454	11.125
305	0	0	3.384	0	0	25.003	10.148	0	0.002	0.003	1.389	1.6	0.98	5.178	0.481	0	8.01	0	0	0	2.341	19.314	0.289	3.113	14.155
306	0	0	4.36	0.68	0.3	25.311	8.467	0	0.004	0.021	2.314	1.143	1.103	6.03	1.811	0	2.96	0	0	0	2.952	23.055	0.34	2.834	10.943

Plant Type:	Greasewood					Grass					Forb					Tree					Shrub				
Plot:	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
sample #																									
307	0	0	4.046	0	0	21.613	9.132	0	0	0.01	1.502	1.146	0.84	4.065	1.556	0	6.9	0	0	0	1.927	17.854	0.389	2.932	11.499
308	0	0	6.005	0	0	25.672	8.797	0	0	0.015	1.888	1.433	0.876	4.144	1.834	0	9.12	0	0	0	2.3	18.861	0.142	5.27	10.801
309	0	0	4.088	0	0.45	25.684	9.34	0	0.001	0.016	2.385	1.026	0.511	4.624	1.397	0	5.92	0	0	0	1.086	17.593	0.427	3.55	9.901
310	0	0	5.966	0.34	0.9	25.381	9.308	0	0	0.011	1.577	1.728	0.948	4.076	0.82	0	6.03	0	0	0	2.538	20.436	0.493	3.504	10.143
311	0	0	5.239	0.68	0.45	23.152	8.25	0	0.003	0.016	3.342	0.703	0.614	5.505	1.669	0	7.15	0	0	0	1.145	14.847	0.38	3.086	11.881
312	0	0	5.242	0	0	25.925	7.798	0	0	0.026	2.695	0.986	0.832	6.569	1.381	0	5.82	0	0	0	1.099	20.876	0.386	1.923	11.146
313	0	0	4.451	0	0.15	28.344	10.837	0	0.004	0.07	1.4	1.491	1.397	3.846	1.383	0	5.01	0	0	0	2.173	18.625	0.312	3.502	12.39
314	0	0	5.064	0	0	23.532	9.148	0	0	0.02	2.196	2.044	0.754	5.005	1.848	0	5.2	0	0	0	1.499	19.512	0.426	4.872	10.745
315	0	0	6.086	0.34	0	26.706	8.681	0	0	0.005	1.458	2.053	1.088	3.211	1.9	0	1.3	0	0	0	2.439	17.466	0.346	2.91	10.324
316	0	0	3.113	0.34	0.45	27.464	9.616	0	0	0.013	1.66	0.948	0.678	4.499	0.8	0	8.5	0	0	0	1.72	16.163	0.267	2.862	11.33
317	0	0	5.263	0	0.3	27.471	10.121	0	0.002	0.027	1.921	2.668	0.488	4.613	1.089	0	7.12	0	0	0	1.868	15.962	0.252	4	12.65
318	0	0	4.118	0.17	0.15	28.476	9.228	0	0	0.003	2.032	1.577	1.04	3.452	1.498	0	5.6	0	0	0	2.482	11.751	0.486	3.02	12.894
319	0	0	3.297	0	0.15	24.365	8.338	0	0.002	0.118	2.173	1.384	0.849	5.373	0.155	0	5.05	0	0	0	2.443	21.905	0.474	2.534	16.109
320	0	0	5.306	0.34	0	25.597	8.496	0	0	0.032	2.442	1.385	1.091	5.578	0.746	0	1.98	0	0	0	1.758	21.308	0.164	3.421	12.008
321	0	0	4.5	0	0.3	28.976	8.85	0	0	0.055	2.759	1.281	1.116	6.006	0.266	0	7.32	0	0	0	2.347	18.258	0.391	4.612	12.95
322	0	0	4.458	0.34	0	25.544	9.069	0	0.002	0.092	1.962	0.881	1.081	4.255	0.32	0	5.94	0	0	0	2.219	18.229	0.356	3.523	14.208
323	0	0	4.127	0.17	0	31.649	9.791	0	0	0.108	1.573	1.269	0.421	4.96	0.549	0	5.9	0	0	0	1.685	17.147	0.407	1.792	14.34
324	0	0	4.532	0	0	21.241	7.453	0	0.003	0.203	2.058	1.481	1.004	6.216	0.437	0	7.7	0	0	0	1.824	13.737	0.373	2.7	16.315
325	0	0	4.59	0	0	27.106	9.242	0	0	0.006	2.824	0.816	1.077	5.629	1.472	0	7.55	0	0	0	2.113	16.648	0.368	3.151	10.172
326	0	0	4.653	0.34	0	24.887	7.509	0	0.003	0.074	1.827	1.102	0.678	4.828	0.979	0	5.32	0	0	0	2.315	15.043	0.374	3.543	11.247
327	0	0	3.994	0	0.3	23.941	8.493	0	0	0.035	2.064	1.04	1.51	4.795	0.968	0	1.76	0	0	0	2.238	21.359	0.217	2.403	11.898
328	0	0	6.414	0	0	28.95	9.298	0	0.002	0.124	3.298	0.852	0.909	3.78	1.071	0	6.7	0	0	0	0.721	14.785	0.677	3.451	12.827
329	0	0	3.593	0.51	0.45	23.792	8.606	0	0.001	0.032	2.725	1.148	1.319	6.577	0.349	0	3.12	0	0	0	1.88	22.605	0.345	2.953	12.88
330	0	0	4.729	0	0.3	24.061	8.241	0	0	0.093	2.567	0.779	0.698	4.362	0.925	0	2.12	0	0	0	1.369	21.065	0.51	3.272	13.383
331	0	0	4.15	0	0.45	22.923	8.028	0	0.001	0.004	1.625	0.847	0.708	4.976	1.029	0	4.5	0	0	0	1.674	15.983	0.534	3.203	11.627
332	0	0	2.693	0	0	28.165	8.089	0	0.002	0.165	2.199	0.533	0.658	5.194	1.09	0	6.1	0	0	0	2.421	16.234	0.374	3.811	12.92
333	0	0	5.282	0.34	0.15	25.067	9.175	0	0	0.037	2.459	1.696	0.739	2.734	0.419	0	6.12	0	0	0	1.959	23.092	0.484	5	12.599
334	0	0	3.782	0	0.15	27.526	7.666	0	0.004	0.024	2.459	1.547	0.669	5.347	0.879	0	2.67	0	0	0	2.427	19.757	0.501	3.366	11.662
335	0	0	4.069	0	0.15	28.909	8.22	0	0.001	0.004	2.009	0.689	0.683	6.931	2.041	0	4.72	0	0	0	1.368	17.273	0.416	2.8	10.799
336	0	0	4.858	0	0.3	26.491	10.461	0	0	0.001	2.781	1.175	0.679	3.342	1.689	0	2.95	0	0	0	1.748	19.045	0.537	3.26	10.167
337	0	0	4.833	0	0.3	29.049	7.692	0	0.004	0.012	2.777	1.424	1.049	3.749	1.112	0	12.8	0	0	0	2.046	15.771	0.253	4.42	11.656
338	0	0	4.077	0	0	24.195	8.211	0	0.003	0.087	1.883	1.079	0.78	5.409	1.419	0	6.77	0	0	0	2.295	17.565	0.155	2.781	13.038
339	0	0	4.895	0	0.15	23.761	7.667	0	0.003	0.01	2.115	1.295	0.936	4.586	0.608	0	2.59	0	0	0	2.019	18.097	0.548	3.781	14.701
340	0	0	4.928	0.17	0.3	24.243	7.321	0	0	0.031	1.64	0.937	0.591	4.631	1.217	0	1.27	0	0	0	1.245	16.897	0.356	4.775	13.476
341	0	0	4.844	0.17	0.15	26.953	8.743	0	0	0.125	1.976	1.688	1.244	4.791	0.8	0	5.69	0	0	0	2.554	21.878	0.498	3.85	13.526
342	0	0	6.063	0.34	0	21.995	8.944	0	0.002	0.053	1.77	1.18	1.447	4.922	0.542	0	8.62	0	0	0	2.623	17.574	0.369	3.95	11.947
343	0	0	4.013	0.34	0	29.593	10.663	0	0.002	0.026	1.587	1.479	0.719	5.207	1.285	0	6.74	0	0	0	2.252	20.465	0.499	3.655	11.339
344	0	0	5.033	0	0.15	25.034	9.294	0	0	0.092	1.816	1.019	0.821	4.49	0.615	0	6.92	0	0	0	2.316	19.895	0.272	4.093	16.289
345	0	0	2.987	0.17	0	25.337	6.56	0	0	0.104	1.405	1.168	0.904	4.881	2.142	0	8.5	0	0	0	1.457	17.762	0.602	3.104	11.199
346	0	0	3.806	0.85	0	24.794	7.294	0	0.002	0.016	2.59	0.945	1.349	3.987	0.729	0	7.1	0	0	0	1.285	12.312	0.377	3.244	14.028
347	0	0	4.602	0.17	0.6	26.024	7.825	0	0	0	2.456	0.826	0.963	3.909	1.291	0	1.4	0	0	0	2.131	19.83	0.299	3.663	11.226
348	0	0	4.848	0	0	22.728	8.629	0	0.003	0.114	2.18	1.152	0.51	4.559	0.507	0	6.87	0	0	0	2.95	15.579	0.507	3.19	13.76
349	0	0	5.461	0.17	0	24.964	7.729	0	0	0.054	2.121	0.643	0.764	4.112	1.551	0	7	0	0	0	1.619	16.084	0.263	5.521	13.211
350	0	0	3.907	0.51	0	27.305	8.507	0	0	0.086	2.772	1.418	0.965	6.717	1.297	0	12.52	0	0	0	1.827	19.244	0.377	2.854	12.298
351	0	0	3.878	0.17	0.3	24.671	9.143	0	0.003	0.071	2.573	1.039	1.012	3.82	0.759	0	4.22	0	0	0	2.229	18.889	0.373	3.892	16.199
352	0	0	5.066	0.17	0.3	27.406	9.638	0	0	0.067	1.408	1.023	0.994	4.266	0.137	0	9.05	0	0	0	2.341	18.134	0.372	3.703	14.879
353	0	0	3.622	0	0	22.383	9.515	0	0.002	0.039	1.578	1.101	0.754	5.786	1.036	0	2.68	0	0	0	1.952	22.813	0.365	2.813	12.878
354	0	0	3.442	0	0	26.301	8.177	0	0	0.055	1.948	1.533	0.832	4.506	1.117	0	8	0	0	0	2.689	17.35	0.486	3.603	13.981
355	0	0	2.962	0	0.15	28.594	9.592	0	0	0.055	2.609	1.831	1.16	3.45	0.719	0	3.22	0	0	0	1.728	22.257	0.301	3.462	13.91
356	0	0	5.948	0.17	0	24.615	9.092	0	0	0.256	1.885	1.372	0.801	4.255	1.357	0	4.6	0	0	0	1.952	20.255	0.337	3.93	11.862
357	0	0	4.593	0.51	0	22.354	7.36	0	0	0.19	2.477	1.392	1.083	4.522	0.576	0	3.5	0	0	0	2.982	16.67	0.539	4.404	14.401
358	0	0	3.149	0.34	0.15	24.902	8.994	0	0	0.006	1.737	1.148	0.837	3.142	1.051	0	2.12	0	0	0	1.79	20.177	0.325	2.771	11.001
359	0	0	4.03	0.34	0.3	26.751	8.49	0	0.001	0.023	2.293	1.653	1.108	4.289	1.586	0	4.4	0	0	0	1.699	18.442	0.292	2.371	12.111
360	0	0	5.31	0.34	0.15	24.56	8.401	0	0.002	0.047	1.24	0.889	0.656	3.754	0.565	0	4.9	0	0	0	2.857	23.584	0.259	3.69	14.221
361	0	0	4.596	0.68	0.6	25.423	8.494	0	0	0.005	2.027	0.546	0.91	5.129	1.224	0	2.74	0	0	0	1.642	18.252	0.674	3.58	10.689
362	0	0	6.008	0	0	28.499	9.011	0	0	0.06	2.155	1.497	0.778	4.531	0.629	0	5.76	0	0	0	0.906	21.169	0.359	3.485	14.873
363	0	0	3.187	0.17	0.15	28.12	8.634	0	0.002	0.042	2.351	1.257	0.674	4.285	0.637	0	5.49	0	0	0	1.981	19.266	0.492	4.172	14.272
364	0	0	3.688	0.34	0.3	26.271	9.039	0	0.003	0.116	2.983	1.039	1.263	3.72	1.499	0	4.7	0	0	0	1.334	21.848	0.432	3.621	11.659
365	0	0	5.001	0	0.3	21.979	8.969	0	0	0.06	1.575	1.477	1.19	5.429	1.063	0	7	0	0	0	2.047	21.143	0.374	2.825	12.763
366	0	0	2.692	0.68	0.15	24.076	8.191	0	0.002	0.019	2.471	1.706	0.663	5.335	0.313	0	6.5	0	0	0	3.23	16.434	0.362	3.511	11.912
367	0	0	3.563	0.17	0.15	23.067	9.055	0	0.003	0.003	2.77	1.364	1.094	4.415	2.238	0	6.17	0	0	0	2.149	19.887	0.426	3.22	8.773
368	0	0	3.521	0	0.15	25.606	8.858	0	0	0.027	2.541	1.423	0.96	5.627	0.469	0	4.15	0	0	0	2.431	18.467	0.305	4.177	12.577
369	0	0	4.205	0	0	25.194	10.628	0	0	0.053	2.59	1.83	1.352	4.774	0.359	0	3.2	0	0	0	1.338	20.891	0.435	3.17	14.015
370	0	0	4.115	0	0	26.686	8.761	0	0.002	0.021	3.637	1.021	0.908	6.084	1.17	0	8.85	0	0	0	1.88	16.346	0.471	3.27	11.826
371	0	0	4.684	0.34	0	22.949	8.447	0	0	0.082	2.336	1.568	0.802	4.202	0.915	0	5.7	0	0	0	1.392	15.587	0.32	3.06	13.826
372	0	0	5.553	0.68	0	26.472	10.194	0	0	0.009	3.356	1.029	0.582	5.501	1.27	0	7.34	0	0	0	1.606	20.603	0.432	2.73	12.213
373	0	0	5.134	0	0.3	24.587	8.473	0	0.002	0.048	1.666	0.5	0.904	4.712	0.985	0	7.45	0	0	0	1.91	20.323	0.509	4.321	13.304
374	0	0	5.544	0.51	0.15	26.303	9.466	0	0.001	0.115	2.074	1.954	0.807	5.092	1.74	0	6.7	0	0	0	1.799	21.015	0.332	3.252	12.907
375	0	0	4.499	0	0	24.25	8.11	0	0	0.031	1.958	1.665	1.061	6.018	1.034	0	5.7	0	0	0	2.419	14.814	0.294	3.382	13.766
376	0	0	5.505	0.34	0	24.059	9.709	0	0.002	0.025	1.839	1.049	0.998	6.057	1.874	0	4.46	0	0	0	1.879	22.602	0.507	2.653	10.232
377	0	0	6.514	0.51	0	31.265	8.175	0	0	0.088	1.759	1.072	0.961	4.809	1.117	0	9.25	0	0	0	1.851	14.995	0.522	2.241	12.417
378	0	0	4.757	0.17	0	26.804	7.288	0	0	0.048	2.323	1.416	1.403	6.79	0.779	0	4.5	0	0	0	1.421	14.045	0.251	3.193	13.341
379	0	0	3.794	0	0	28.014	8.394	0	0	0.022	2.232	0.831	0.653	4.272	1.709	0	2.84	0	0	0	2.276	19.254	0.38	2.992	12.425
380	0	0	5.932	0.34	0.15	27.269	7.421	0	0.002	0.011	2.596	0.542	0.444	6.272	2.349	0	8.5	0	0	0	1.511	16.366	0.457	3.39	11.908
381	0	0	4.879	0	0	25.305	9.297	0	0	0.047	1.949	1.106	1.238	5.864	0.368	0	6.84	0	0	0	3.156	17.649	0.397	3.274	14.759
382	0	0	2.994	0.17	0.45	26.164	7.354	0	0	0.075	2.195	0.437	0.952	6.567	0.786	0	11.57	0	0	0	2.19	15.956	0.297	3.01	14.329
383	0	0	5.364	0	0	21.406	8.665	0	0.002	0.063	2.049	1.381	1.162	4.737	0.348	0	5	0	0	0	2.137	16.078	0.178	4.651	13.071
384	0	0	2.728	0.51	0	24.284	10.762	0	0	0.028	2.596	2.21	0.536	4.216	2.115	0	3.12	0	0	0	1.879	21.4	0.482	3.574	10.872
385	0	0	6.438	0	0.45	28.07	9.021	0	0	0.015	2.89	1.103	0.903	4.371	1.314	0	6.95	0	0	0	1.128	16.648	0.376	4.422	10.857
386	0	0	3.027	0.17	0.15	24.115	7.537	0	0	0.06	2.799	1.991	0.851	5.151	0.996	0	4.95	0	0	0	1.644	21.384	0.65	3.591	13.513
387	0	0	3.54	0.68	0.3	27.519	8.106	0	0	0.152	2.393	1.137	0.896	4.589	1.408	0	7.89	0	0	0	1.214	13.259	0.449	4.113	13.614
388	0	0	3.446	0	0	23.738	8.303	0	0.002	0.093	2.753	0.389	0.768	6.012	1.028	0	6.65	0	0	0	0.791	18.305	0.347	3.742	13.306
389	0	0	2.744	0	0.3	26.507	8.159	0	0.001	0.124	2.69	0.918	1.133	3.601	0.73	0	4.65	0	0	0	2.167	20.699	0.239	3.912	14.885
390	0	0	4.861	0.34	0	30.969	8.226	0	0	0.088	1.555	0.92	0.921	4.8	0.117	0	6.02	0	0	0	2.248	22.973	0.161	3.09	17.091
391	0	0	4.366	0	0.3	21.997	8.636	0	0.002	0.014	2.402	0.822	0.694	3.487	1.544	0	7.78	0	0	0	1.985	19.857	0.477	4.042	10.673
392	0	0	2.94	0.17	0	24.138	7.803	0	0.002	0.114	2.794	1.621	0.837	5.416	0.004	0	0.8	0	0	0	1.709	18.635	0.501	2.9	15.547
393	0	0	3.978	0.34	0	26.161	8.379	0	0.003	0.119	2.662	0.907	0.695	4.733	0.502	0	6.4	0	0	0	2.218	18.475	0.258	3.54	15.893
394	0	0	4.454	0	0.3	21.478	8.331	0	0	0.027	2.198	1.144	1.212	5.16	1.219	0	4.32	0	0	0	1.762	17.773	0.431	3.54	13.114
395	0	0	4.153	0.17	0	24.669	9.048	0	0	0.134	1.007	1.372	1.143	4.841	0.23	0	8.22	0	0	0	2.941	20.838	0.364	3.143	16.015
396	0	0	4.823	0.34	0.15	24.167	8.18	0	0	0.031	2.526	0.665	1.233	5.45	0.475	0	8.9	0	0	0	1.967	17.793	0.219	2.751	13.25
397	0	0	3.84	0	0.15	27.619	9.622	0	0	0.064	2.629	1.166	0.942	4.41	1.191	0	5.16	0	0	0	1.467	17.825	0.302	3.38	13.304
398	0	0	5.393	0	0.3	26.507	8.362	0	0	0.022	2.644	1.223	0.54	4.924	1.097	0	4.04	0	0	0	1.658	19.72	0.238	3.952	10.731
399	0	0	4.137	0.17	0	27.92	8.936	0	0	0.022	1.599	1.563	1.515	6.468	0.003	0	6.9	0	0	0	2.507	19.495	0.315	2.204	14.969
400	0	0	5.29	0.34	0	27.132	9.342	0	0	0.022	2.13	1.065	1.102	5.515	1.553	0	6.17	0	0	0	1.687	19.876	0.53	2.401	12.61
401	0	0	5.237	0.17	0.15	28.29	7.055	0	0	0.008	2.135	0.814	0.684	6.283	0.93	0	7.2	0	0	0	1.379	13.517	0.368	2.345	13.04
402	0	0	5.141	0.34	0	25.151	9.101	0	0	0.018	1.248	1.05	0.947	5.432	1.938	0	5.99	0	0	0	2.351	19.495	0.362	2.815	11.576
403	0	0	2.231	0	0.45	25.231	8.751	0	0.002	0.012	1.599	1.442	0.801	4.148	0.961	0	10.95	0	0	0	1.58	14.483	0.325	5.212	12.196
404	0	0	4.112	0.34	0	24.745	8.333	0	0	0.002	1.602	1.438	0.585	5.318	1.204	0	4.66	0	0	0	2.957	19.267	0.295	3.87	12.565
405	0	0	3.636	0.34	0.3	24.718	9.711	0	0	0.021	1.153	1.644	0.943	4.602	0.733	0	3.57	0	0	0	2.424	19.949	0.367	3.73	11.022
406	0	0	5.075	0.51	0.15	23.91	7.791	0	0.001	0.036	1.643	0.615	1.105	4.466	0.447	0	5.57	0	0	0	1.597	18.655	0.302	3.81	13.119
407	0	0	4.71	0.17	0.3	25.294	8.811	0	0	0.004	1.212	1.178	0.877	3.637	1.168	0	6.74	0	0	0	1.443	18.687	0.581	3.867	10.64
408	0	0	5.424	0	0	24.921	8.476	0	0	0.04	1.833	0.944	0.382	4.781	1.22	0	1.19	0	0	0	1.299	19.556	0.254	3.632	11.877
409	0	0	4.363	0	0.15	28.13	8.242	0	0.002	0.128	1.371	1.106	0.875	4.873	1.024	0	6.32	0	0	0	2.371	21.203	0.375	5.425	14.291

Plant Type:	Greasewood					Grass					Forb					Tree					Shrub				
Plot:	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
sample #																									
410	0	0	4.039	0	0	27.84	7.545	0	0	0.022	2.21	1.144	0.822	4.926	1.396	0	4.75	0	0	0	1.856	17.416	0.662	2.95	10.554
411	0	0	4.636	0.85	0.3	24.177	8.666	0	0.002	0.011	2.567	1.098	0.956	4.9	1.297	0	2.44	0	0	0	1.796	19.119	0.751	3.654	10.654
412	0	0	3	0.17	0.3	23.615	8.335	0	0	0.036	2.473	1.019	0.806	5.679	0.817	0	11.87	0	0	0	1.767	19.783	0.342	2.571	14.784
413	0	0	3.304	0.68	0	26.651	9.285	0	0	0.043	2.276	1.051	1.22	3.383	1.437	0	3.46	0	0	0	1.22	20.306	0.279	3.311	10.588
414	0	0	4.212	0.17	0	25.172	7.987	0	0.003	0.189	1.825	1.682	0.693	3.262	0.293	0	4.1	0	0	0	1.943	15.904	0.413	3.882	16.543
415	0	0	4.805	0.34	0	24.877	9.148	0	0.002	0.129	2.358	1.513	0.752	4.732	1.513	0	3.19	0	0	0	1.477	18.777	0.451	2.77	11.928
416	0	0	3.792	0	0	26.526	7.411	0	0	0.031	2.856	1.274	0.965	4.426	1.404	0	6.02	0	0	0	1.767	17.327	0.295	2.861	12.108
417	0	0	6.403	0	0.45	29.135	8.43	0	0.004	0.003	2.378	1.042	1.109	4.648	0.76	0	7.39	0	0	0	1.491	16.684	0.536	4.141	12.632
418	0	0	6.306	0.17	0.3	27.2	7.181	0	0	0.086	2.278	1.02	1.085	4.73	0.52	0	5.25	0	0	0	1.044	17.314	0.204	4.45	14.611
419	0	0	4.412	0.51	0	26.494	9.198	0	0.001	0.008	2.263	0.99	1.483	4.431	1.67	0	7.22	0	0	0	1.869	18.935	0.349	2.854	11.436
420	0	0	4.643	0.17	0	26.405	9.03	0	0.001	0.19	2.154	1.439	1.471	5.466	0.328	0	4.85	0	0	0	1.79	18.431	0.147	3.474	16.527
421	0	0	2.652	0.51	0	28.255	7.395	0	0.001	0.05	1.969	1.523	0.704	5.4	1.588	0	12.05	0	0	0	2.953	16.818	0.599	4.611	12.001
422	0	0	4.547	0	0	25.469	8.496	0	0	0.057	2.06	1.265	0.782	4.24	1.7	0	6.7	0	0	0	2.048	17.397	0.341	2.82	11.429
423	0	0	4.899	0	0	28.399	7.961	0	0	0.018	1.82	1.148	0.858	3.954	1.448	0	10.7	0	0	0	1.524	17.013	0.254	2.931	11.828
424	0	0	6.426	0.17	0.15	22.982	8.271	0	0	0.01	1.949	1.596	0.632	3.698	0.44	0	4.02	0	0	0	1.297	21.315	0.275	3.661	13.514
425	0	0	5.369	0.85	0	24.943	9.536	0	0	0.044	1.849	1.703	0.72	5.27	0.045	0	12.4	0	0	0	1.471	17.428	0.193	2.812	14.869
426	0	0	4.294	0	0	26.301	9.478	0	0.001	0.243	2.02	1.581	1.356	4.599	0.277	0	5.9	0	0	0	2.301	19.602	0.64	3.705	18.067
427	0	0	4.952	0.51	0.15	23.631	7.014	0	0.001	0.068	2.102	0.842	0.954	3.163	0.682	0	5.55	0	0	0	1.631	15.625	0.407	4.12	12.65
428	0	0	3.845	0	0	24.638	8.304	0	0.002	0.009	1.872	0.701	0.821	4.725	0.821	0	5.15	0	0	0	1.795	20.688	0.378	3.521	12.171
429	0	0	4.603	0	0.15	22.595	8.289	0	0	0.076	2.579	1.76	1.168	3.871	1.223	0	1.84	0	0	0	1.606	17.088	0.306	2.79	12.72
430	0	0	4.339	0.17	0	28.767	8.738	0	0.001	0.054	1.429	1.796	1.118	5.152	0.627	0	7.3	0	0	0	1.77	15.399	0.42	4.291	13.802
431	0	0	3.544	0.51	0	25.959	8.656	0	0.001	0.016	1.096	1.324	1.185	4.001	0.774	0	4.32	0	0	0	2.495	17.462	0.546	4.34	12.675
432	0	0	3.405	0	0	25.046	8.253	0	0	0.104	2.664	2.013	0.982	4.891	0.63	0	5.5	0	0	0	2.168	13.725	0.7	2.371	15.26
433	0	0	3.46	0.68	0	27.844	8.715	0	0	0.045	2.596	0.896	0.987	5.003	0.979	0	2.83	0	0	0	1.594	22.985	0.311	3.432	14.833
434	0	0	4.819	0.34	0	26.354	7.617	0	0.004	0.017	1.691	0.507	0.536	3.98	1.484	0	5.89	0	0	0	3.111	17.955	0.373	2.442	12.203
435	0	0	4.984	0.34	0	31.797	9.488	0	0	0.049	2.083	0.732	1.359	5.494	1.575	0	8.89	0	0	0	1.472	18.345	0.239	3.423	10.123
436	0	0	4.223	0	0.75	27.837	10.008	0	0	0.002	2.41	1.358	1.074	5.382	1.579	0	8.4	0	0	0	1.036	18.983	0.373	6.06	9.748
437	0	0	4.006	0.51	0.3	27.387	7.551	0	0	0.002	1.389	1.568	1.025	6.194	0.368	0	7.9	0	0	0	1.633	17.116	0.302	2.72	14.196
438	0	0	4.621	0.17	0	25.506	8.765	0	0	0.032	1.399	0.952	0.784	3.739	1.03	0	5.64	0	0	0	2.046	19.381	0.298	3.29	12.499
439	0	0	5.7	0	0	26.441	8.466	0	0	0.016	2.059	1.225	0.952	5.338	1.538	0	3.12	0	0	0	1.382	23.979	0.23	3.391	10.989
440	0	0	6.124	0.34	0	24.78	7.008	0	0.001	0.04	2.429	0.91	0.881	4.533	1.742	0	7.35	0	0	0	2.358	14.908	0.371	4.24	13.455
441	0	0	5.815	0	0.15	26.012	9.205	0	0	0.134	2.285	1.438	0.843	6.752	0.359	0	7.34	0	0	0	2.036	16.156	0.215	2.742	14.158
442	0	0	7.235	0	0	24.167	8.487	0	0.003	0.014	2.72	1.447	0.594	3.469	1.336	0	4.2	0	0	0	1.866	20.897	0.198	4.452	11.507
443	0	0	3.614	0	0.3	25.737	9.678	0	0	0.164	2.642	1.404	1.192	4.465	0.618	0	4.84	0	0	0	1.248	21.324	0.457	4.081	13.421
444	0	0	6.121	0.51	0.3	27.909	8.642	0	0.001	0.03	2.698	1.365	1.277	4.302	2.071	0	6.52	0	0	0	1.876	18.735	0.433	4.186	10.361
445	0	0	5.282	0.34	0.3	25.141	8.996	0	0.004	0.013	2.6	1.379	0.995	4.657	1.34	0	3.79	0	0	0	1.741	18.611	0.382	3.312	12.591
446	0	0	4.124	0	0	26.233	7.914	0	0.001	0.103	2.518	1.181	0.967	3.661	0.302	0	9.55	0	0	0	2.351	20.024	0.347	3.96	14.108
447	0	0	4.998	0.34	0	29.063	9.196	0	0	0.029	2.166	1.541	0.883	4.255	1.12	0	7.7	0	0	0	1.436	17.84	0.298	3.89	12.817
448	0	0	3.744	0	0	26.772	8.216	0	0.002	0.017	2.448	1.217	1.114	4.304	0.994	0	6.35	0	0	0	1.727	16.436	0.458	3.862	13.485
449	0	0	3.33	0.17	0.6	24.186	7.614	0	0.003	0.014	2.435	0.924	1.358	4.739	1.825	0	6.7	0	0	0	1.944	16.251	0.421	3.151	11.136
450	0	0	5.46	0.17	0.3	23.79	7.7	0	0.002	0.081	2.267	0.867	0.577	5.702	0.727	0	2.86	0	0	0	2.212	23.088	0.339	3.113	12.619
451	0	0	4.404	0.17	0	26.11	7.827	0	0.003	0.079	2.158	0.872	1.248	4.649	1.632	0	5.6	0	0	0	1.32	14.983	0.194	3.34	12.078
452	0	0	3.051	0.17	0	27.653	8.127	0	0	0.029	3.025	1.134	1.408	3.763	0.153	0	13.6	0	0	0	1.061	19.964	0.342	3.791	14.365
453	0	0	6.936	0	0	25.364	8.769	0	0	0.113	2.487	1.366	0.659	5.02	0.628	0	2.52	0	0	0	2.535	17.405	0.361	2.554	13.826
454	0	0	5.625	0	0	27.042	9.324	0	0.001	0.035	1.436	1.502	1.096	5.156	1.584	0	7.07	0	0	0	1.154	16.731	0.51	3.312	11.297
455	0	0	5.756	0	0	26.713	8.272	0	0	0.15	1.893	0.369	0.781	3.747	0.632	0	12.82	0	0	0	1.844	15.973	0.319	4.185	15.625
456	0	0	5.233	0	0.6	29.162	8.446	0	0.002	0.002	1.832	1.279	1.641	2.771	1.556	0	2.82	0	0	0	1.376	19.322	0.364	4.78	11.134
457	0	0	2.66	0.17	0	25.368	9.086	0	0	0.064	2.815	1.57	0.902	3.942	0.891	0	3.06	0	0	0	1.667	21.824	0.405	3.94	12.985
458	0	0	4.447	0.85	0.3	29.234	9.262	0	0	0.023	2.537	0.839	1.172	4.374	1.262	0	2.64	0	0	0	1.618	23.457	0.263	4.34	11.615
459	0	0	4.486	0	0.6	27.427	7.641	0	0.001	0.005	1.911	1.189	0.766	5.278	1.111	0	9	0	0	0	2.064	14.236	0.306	2.942	11.012
460	0	0	5.162	0	0.45	23.39	8.093	0	0.005	0.002	2.513	0.754	0.84	3.454	0.694	0	5.45	0	0	0	2.815	20.308	0.375	3.271	14.167
461	0	0	5.151	0.51	0.3	28.564	8.809	0	0.002	0.166	2.478	1.5	0.984	4.09	0.003	0	10.7	0	0	0	1.098	23.154	0.456	2.733	16.561
462	0	0	3.567	0	0	26.547	8.55	0	0.003	0.18	1.185	1.329	1.227	4.134	0.725	0	7.75	0	0	0	2.374	13.927	0.353	3.681	16.005
463	0	0	4.821	0.34	0.45	23.806	8.199	0	0.001	0.021	1.461	1.501	0.68	3.9	1.711	0	6.6	0	0	0	2.091	17.429	0.15	3.673	11.573
464	0	0	3.848	0	0.15	25.216	9.526	0	0.003	0.083	2.037	1.073	0.949	5.382	0.361	0	9.02	0	0	0	0.968	18.934	0.517	4.502	12.665
465	0	0	4.184	0	0.3	25.858	7.862	0	0.001	0.022	2.251	1.035	1.18	4.662	0.877	0	9	0	0	0	2.515	14.689	0.495	4.455	12.783
466	0	0	6.801	0	0	24.242	8.291	0	0.001	0.147	2.596	1.693	0.363	6.055	0.535	0	3.94	0	0	0	2.071	21.315	0.522	2.864	17.277
467	0	0	5.788	0	0	28.648	9.088	0	0	0.033	2.158	0.951	0.768	5.924	1.127	0	6.25	0	0	0	1.267	16.934	0.327	3.011	13.569
468	0	0	5.082	0.34	0.6	23.007	9.194	0	0	0.004	2.357	1.196	1.026	4.349	2.22	0	5.9	0	0	0	1.643	16.007	0.463	4.083	10.604
469	0	0	4.507	0.34	0.15	25.347	9.287	0	0	0.113	2.937	1.411	0.782	6.776	0.768	0	5.47	0	0	0	2.216	20.677	0.395	2.394	16.406
470	0	0	4.874	0.68	0.45	23.952	7.835	0	0	0.125	1.526	1.139	0.878	5.202	0.651	0	7.7	0	0	0	1.791	17.529	0.462	2.826	15.427
471	0	0	3.871	0.17	0.3	24.325	6.449	0	0.001	0.041	2.728	0.948	0.731	4.087	0.859	0	7	0	0	0	1.548	16.639	0.346	4.141	12.522
472	0	0	4.816	0.17	0	22.232	9.399	0	0.002	0.017	2.015	0.911	0.677	3.674	1.467	0	11.05	0	0	0	2.195	14.073	0.536	5.54	11.648
473	0	0	4.888	0	0	28.482	8.948	0	0.001	0.024	1.32	1.274	0.841	3.217	0.906	0	4.22	0	0	0	2.179	20.434	0.22	3.96	13.086
474	0	0	3.514	0.34	0	26.919	8.635	0	0	0.107	2.123	0.668	1.088	4.092	0.47	0	9.45	0	0	0	1.983	15.298	0.147	4.052	13.945
475	0	0	5.992	0	0	28.922	9.488	0	0.004	0.142	1.039	0.912	0.958	5.631	1.477	0	5.55	0	0	0	2.033	19.007	0.121	4.001	12.661
476	0	0	3.074	0.17	1.2	29.723	8.662	0	0	0	2.409	1.239	1.306	4.52	1.208	0	2.76	0	0	0	2.112	19.439	0.22	3.951	10.802
477	0	0	3.274	0.17	0	24.787	8.016	0	0	0.077	2.18	0.859	1.274	4.844	1.132	0	5.25	0	0	0	1.838	19.758	0.42	3.966	14.689
478	0	0	3.712	0.17	0	28.212	8.96	0	0	0.016	1.619	1.374	1.082	6.089	1.196	0	3.92	0	0	0	4.03	19.268	0.356	3.515	11.655
479	0	0	4.495	0	0	27.319	10.407	0	0	0.03	1.238	1.466	0.975	3.226	0.692	0	4.47	0	0	0	2.092	20.216	0.546	4.352	13.913
480	0	0	5.243	1.02	0.3	27.278	8.482	0	0	0.004	2.68	0.661	1.088	5.144	1.876	0	1.85	0	0	0	1.503	19.036	0.174	3.141	10.133
481	0	0	3.923	0.17	0	29.374	9.689	0	0.001	0.109	2.383	2.328	0.962	4.42	0.376	0	4.1	0	0	0	1.294	16.886	0.194	4.663	15.023
482	0	0	3.432	0	0.3	25.093	8.873	0	0.002	0.099	1.97	0.759	1.011	2.791	1.183	0	6.37	0	0	0	1.846	20.183	0.346	4.47	13.879
483	0	0	4.004	0	0.15	23.976	7.676	0	0.001	0.003	2.756	0.814	0.965	3.415	1.249	0	8.42	0	0	0	1.863	16.354	0.529	3.591	11.727
484	0	0	3.655	0	0	21.85	7.643	0	0	0.129	2.264	1.472	0.929	3.839	0.927	0	12.4	0	0	0	2.224	16.288	0.423	3.762	15.587
485	0	0	4.158	0	0.15	23.617	7.659	0	0.001	0.026	2.138	1.358	1.162	5.028	0.729	0	7.8	0	0	0	2.327	14.917	0.355	4.053	13.61
486	0	0	5.136	0.34	0	29.687	9.452	0	0	0.068	1.988	1.239	0.566	4.944	0.595	0	7.47	0	0	0	2.011	20.785	0.513	3.852	15.644
487	0	0	5.341	0.51	0	28.639	9.562	0	0	0.056	1.987	0.95	0.516	4.388	0.409	0	8.6	0	0	0	2.467	16.065	0.308	2.623	13.63
488	0	0	3.824	0.34	0.3	26.927	8.703	0	0	0.021	1.678	1.622	1.022	4.01	0.758	0	5.86	0	0	0	1.361	20.055	0.511	3.991	13.74
489	0	0	2.92	0	0.3	25.929	8.36	0	0	0.038	1.732	0.407	0.648	3.982	0.938	0	4.62	0	0	0	2.095	19.263	0.547	4.22	12.872
490	0	0	4.191	0	0	23.42	9.635	0	0.002	0.106	1.58	1.265	1.438	4.35	1.061	0	5.06	0	0	0	1.907	20.498	0.347	3.23	14.981
491	0	0	5.204	0.85	0	30.129	8.887	0	0	0.105	1.221	1.406	1.12	5.713	1.345	0	5.74	0	0	0	2.099	19.646	0.479	2.782	11.082
492	0	0	3.144	1.19	0.75	25.284	8.323	0	0.002	0.013	2.423	1.089	0.776	3.084	1.016	0	4.5	0	0	0	2.994	13.617	0.441	4.95	11.665
493	0	0	5.557	0	0.15	27.065	9.48	0	0	0.002	1.827	1.357	1.086	6.166	1.463	0	7.92	0	0	0	1.567	19.803	0.224	2.684	11.232
494	0	0	5.271	0.51	0.45	26.192	10.414	0	0	0.007	1.383	1.08	0.693	5.654	1.202	0	2.97	0	0	0	1.423	22.754	0.292	3.916	12.035
495	0	0	5.405	0	0	26.003	9.367	0	0	0.121	2.61	0.929	0.841	3.336	0.644	0	3.36	0	0	0	1.559	16.932	0.316	3.9	13.999
496	0	0	4.695	0.34	0.6	26.418	8.144	0	0.002	0.014	3.158	0.696	0.992	5.312	0.855	0	12.45	0	0	0	1.491	15.554	0.361	4.344	11.561
497	0	0	5.321	0	0	25.658	8.527	0	0.003	0.089	2.469	0.689	0.892	4.897	1.251	0	7.74	0	0	0	1.644	22.308	0.329	2.44	13.581
498	0	0	3.452	0	0.15	27.816	7.491	0	0	0.025	1.856	1.079	0.577	5.273	0.969	0	10.4	0	0	0	2.165	20.427	0.292	3.796	12.774
499	0	0	4.163	0	0	28.168	9.458	0	0.003	0.004	2.125	0.936	0.954	4.534	0.77	0	7.56	0	0	0	2.072	15.579	0.4	4.033	12.11
500	0	0	3.444	0.51	0.15	24.619	7.732	0	0	0.171	2.405	1.164	0.954	6.083	1.095	0	9.2	0	0	0	1.877	13.187	0.6	3.536	17.186
501	0	0	5.384	0	0	24.635	9.527	0	0	0.032	2.418	1.259	0.506	6.424	1.385	0	9.3	0	0	0	1.672	13.47	0.648	2.293	11.517
502	0	0	4.867	0.17	0	24.73	8.631	0	0	0.169	2.868	1.663	0.901	4.836	0.006	0	3.59	0	0	0	1.832	16.598	0.45	3.403	15.851
503	0	0	4.646	0	0.15	25.93	8.154	0	0	0.066	2.845	1.464	1.338	3.448	0.221	0	8.1	0	0	0	1.981	15.799	0.225	3.693	15.357
504	0	0	5.305	0.34	0	23.289	7.713	0	0	0.059	2.102	0.814	0.797	5.174	0.88	0	8.29	0	0	0	1.956	18.697	0.293	3.684	14.957
505	0	0	3.358	0.51	0	25.217	7.19	0	0	0.091	2.458	1.439	0.863	5.502	0.576	0	7.55	0	0	0	2.879	14.135	0.409	2.544	14.381
506	0	0	4.615	0	0	27.776	8.626	0	0	0.101	2.248	1.373	0.981	3.949	1.322	0	2.04	0	0	0	2.334	21.652	0.665	3.991	13.846
507	0	0	5.661	0	0.45	27.583	8.208	0	0.001	0.037	2.285	1.528	0.989	5.367	1.189	0	4.9	0	0	0	1.358	22.037	0.251	2.7	13.061
508	0	0	5.225	0.85	0.3	24.96	7.619	0	0.003	0.003	1.462	0.804	1.037	4	0.664	0	4.95	0	0	0	2.266	18.596	0.376	2.942	15.566
509	0	0	4.001	0	0	25.915	8.089	0	0	0.023	2.374	1.75	0.739	6.055	1.176	0	7.5	0	0	0	2.108	20.035	0.427	2.542	12.139
510	0	0	6.409	0	0.45	26.911	9.344	0	0.006	0.035	3.059	1.474	0.98	4.164	0.829	0	6.72	0	0	0	1.584	17.301	0.199	3.381	9.801
511	0	0	4.377	0.17	0	27.092	9.243	0	0.003	0.009	2.207	1.089	1.038	5.178	0.685	0	8.49	0	0	0	2.46	20.176	0.299	5.73	14.204
512	0	0	4.407	0.34	0.15	26.636	7.518	0	0.001	0.15	2.192	0.479	0.812	5.463	0.432	0	8.1	0	0	0	1.285	20.031	0.324	3.7	13.891

Plant Type:	Greasewood					Grass					Forb					Tree					Shrub				
Plot:	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
sample #																									
513	0	0	5.815	0	0.3	26.296	7.656	0	0.003	0.117	2.256	0.856	0.871	5.256	0.983	0	12.7	0	0	0	0.832	16.632	0.298	3.735	13.033
514	0	0	3.906	0.17	0	26.473	9.605	0	0	0.08	2.192	1.551	0.874	4.357	0.583	0	1.58	0	0	0	2.195	22.156	0.535	2.894	13.578
515	0	0	5.971	0.17	0.15	23.7	7.382	0	0	0.005	2.345	0.881	0.805	5.523	1.027	0	3.8	0	0	0	2.4	17.507	0.401	2.26	10.674
516	0	0	4.517	0.51	0.15	27.844	8.873	0	0	0.026	2.123	1.28	0.824	5.371	1.434	0	5.3	0	0	0	1.305	18.611	0.254	3.02	12.068
517	0	0	6.367	0	0	28.777	8.632	0	0.004	0.149	2.806	1.165	1.144	5.9	1.567	0	3.92	0	0	0	1.808	19.755	0.325	4.491	13.196
518	0	0	4.963	0	0.3	27.704	6.984	0	0.002	0.002	2.641	1.218	1.251	4.93	1.487	0	5.65	0	0	0	2.41	16.873	0.245	4.492	12.538
519	0	0	4.907	0	0.3	25.924	8.738	0	0.002	0.106	1.851	1.098	0.93	4.969	0.564	0	5	0	0	0	2.681	17.978	0.386	5.28	14.501
520	0	0	5.636	0	0.15	24.91	8.669	0	0.001	0.02	1.458	1.051	1.186	4.594	0.902	0	4.5	0	0	0	1.974	15.111	0.214	3.843	11.687
521	0	0	3.519	0	0.15	25.231	10.495	0	0.001	0.016	1.773	1.919	0.696	5.44	0.403	0	7.02	0	0	0	1.47	17.676	0.402	4.513	14.157
522	0	0	2.954	0.34	0	23.218	7.72	0	0.002	0.018	2.223	1.37	0.706	4.863	0.285	0	5.75	0	0	0	1.33	17.226	0.393	3.844	13.839
523	0	0	3.65	0.34	0.3	28.28	8.492	0	0	0.052	2.076	0.592	0.855	4.574	1.33	0	8.05	0	0	0	1.865	18.265	0.453	3.891	12.081
524	0	0	4.415	0.34	0.3	21.643	8.627	0	0	0.11	1.965	1.189	0.718	4.878	0.735	0	8.25	0	0	0	2.608	17.149	0.505	4.404	13.548
525	0	0	4.013	0	0.15	27.638	8.59	0	0.001	0.106	2.057	0.348	0.677	5.637	0.405	0	7.45	0	0	0	2.009	21.443	0.386	3.581	15.411
526	0	0	5.935	0	0	24.853	9.27	0	0	0.06	2.425	1.532	0.532	3.099	0.716	0	2.74	0	0	0	2.791	19.597	0.292	4.531	13.395
527	0	0	5.526	0	0	26.886	10.146	0	0.001	0.105	2.333	1.736	1.268	3.349	1.305	0	4.84	0	0	0	1.248	25.799	0.382	4.08	14.657
528	0	0	4	0.34	0	26.922	9.622	0	0.001	0.186	2.114	1.081	0.936	4.785	0.077	0	7.3	0	0	0	1.097	14.894	0.307	4.791	14.725
529	0	0	4.39	0	0.6	29.53	7.938	0	0.001	0.082	2.396	1.202	1.156	3.929	0.391	0	8.1	0	0	0	0.78	17.935	0.401	4.35	12.156
530	0	0	3.063	0.17	0	24.743	7.819	0	0	0.059	2.611	1.838	1.312	3.622	1.003	0	7.4	0	0	0	1.849	19.129	0.307	3.77	13.971
531	0	0	4.368	0.34	0	27.982	8.523	0	0	0.112	2.586	1.033	0.807	4.553	0.769	0	5.24	0	0	0	2.375	15.07	0.352	3.742	12.519
532	0	0	6.196	0.34	0	25.147	8.794	0	0.002	0.039	2.44	0.51	0.803	3.666	0.784	0	7.21	0	0	0	1.708	18.198	0.561	2.661	12.211
533	0	0	3.057	0	0.3	27.336	8.355	0	0	0.132	2.499	1.217	0.815	3.136	1.4	0	8.75	0	0	0	1.533	15.07	0.384	4.013	12.733
534	0	0	3.845	0	0.15	22.386	9.089	0	0.001	0.031	2.01	0.826	0.912	6.25	0.489	0	5.87	0	0	0	2.703	21.014	0.201	4.443	13.997
535	0	0	4.052	0.51	0	26.478	8.245	0	0.001	0.178	2.278	1.244	0.621	4.506	1.237	0	3.5	0	0	0	1.677	16.587	0.259	3.584	14.4
536	0	0	5.686	0	0	28.827	8.448	0	0	0.061	2.449	1.173	0.634	4.04	0.408	0	9.46	0	0	0	1.482	14.444	0.326	3.722	15.01
537	0	0	4.83	0.68	0	24.706	8.815	0	0	0.054	2.41	0.791	0.687	4.938	0.38	0	4.12	0	0	0	2.332	22.463	0.209	3.183	13.727
538	0	0	3.56	0.17	0.15	26.977	8.804	0	0	0.024	2.612	1.33	0.807	4.193	1.053	0	1.95	0	0	0	1.869	20.387	0.194	4.183	11.625
539	0	0	4.336	0	0	27.097	7.577	0	0	0.065	2.072	1.264	0.655	5.694	1.333	0	8.3	0	0	0	1.834	18.935	0.487	2.591	13.911
540	0	0	4.031	0.17	0	23.785	8.545	0	0.001	0.04	2.105	0.865	1.378	5.802	1.05	0	2.4	0	0	0	2.642	18.054	0.344	3.406	12.036
541	0	0	4.035	0	0	28.282	9.582	0	0	0.052	2.391	1.783	0.785	5.039	0.549	0	4.9	0	0	0	2.479	18.916	0.345	4.053	14.096
542	0	0	3.586	0.17	0	24.397	10.296	0	0.002	0.012	2.078	1.796	0.482	6.928	0.707	0	4.64	0	0	0	1.512	19.764	0.272	2.385	13.446
543	0	0	5.169	0	0	24.004	7.447	0	0	0.008	3.157	1.041	0.774	5.44	1.757	0	5.7	0	0	0	1.518	17.528	0.269	3.048	9.944
544	0	0	3.786	0	0.3	27.645	9.185	0	0.004	0.064	2.442	1.26	0.838	6.494	1.507	0	10.81	0	0	0	2.126	19.435	0.633	4.045	13.886
545	0	0	4.227	0	0.15	27.02	9.517	0	0.001	0.006	2.305	1.46	0.877	3.7	2.277	0	8.56	0	0	0	1.816	18.477	0.411	3.725	9.887
546	0	0	3.72	0	0	26.521	8.587	0	0.002	0.073	2.366	0.938	1.06	5.981	0.845	0	3.97	0	0	0	2.009	18.156	0.562	2.87	14.145
547	0	0	5.807	0	0.15	25.065	8.36	0	0.003	0.078	1.065	1.449	0.783	7.082	0.354	0	6.55	0	0	0	2.98	19.136	0.506	2.884	14.922
548	0	0	3.797	0.34	0	24.259	7.891	0	0	0.031	2.83	1.156	0.936	4.821	0.693	0	9.77	0	0	0	2.236	17.533	0.355	3.58	14.989
549	0	0	5.147	0.17	0	26.671	9.2	0	0	0.059	2.08	1.386	1.213	4.572	1.429	0	2.19	0	0	0	2.329	17.788	0.278	4.86	12.881
550	0	0	5.413	0	0.45	27.871	7.416	0	0.002	0.032	2.722	1.099	0.894	5.243	1.636	0	10.85	0	0	0	1.577	19.666	0.26	3.232	10.912
551	0	0	4.28	0.51	0.45	29.341	8.133	0	0	0.065	3.19	0.743	0.861	3.647	1.236	0	6	0	0	0	1.824	15.133	0.175	4.362	12.957
552	0	0	5.828	0.17	0	23.279	7.878	0	0	0.161	2.238	0.956	0.818	3.989	2.049	0	13.15	0	0	0	2.391	13.132	0.448	3.402	13.356
553	0	0	4.334	0.17	0	24.41	8.212	0	0.002	0.035	1.862	1.413	1.085	4.732	0.984	0	7.6	0	0	0	1.849	17.264	0.317	3.302	12.846
554	0	0	5.059	0	0.15	25.781	9.954	0	0.001	0.064	1.274	1.48	0.475	4.213	0.939	0	4.11	0	0	0	2.164	16.962	0.41	2.551	12.751
555	0	0	3.69	0	0	31.61	8.859	0	0	0.053	1.341	1.316	0.751	4.476	0.36	0	6.62	0	0	0	1.856	17.206	0.351	3.502	14.679
556	0	0	5.796	0	0.15	26.008	7.244	0	0.002	0.055	2.123	1.494	0.557	4.604	0.591	0	7.15	0	0	0	1.919	14.853	0.343	2.593	12.07
557	0	0	4.3	0.17	0	24.185	8.979	0	0.004	0.05	1.683	1.13	0.952	6.296	1.058	0	5.39	0	0	0	1.922	18.01	0.447	3.73	12.266
558	0	0	5.62	0	0	24.209	7.491	0	0.001	0.05	2.415	1.558	0.537	5.891	0.532	0	3.2	0	0	0	2.1	14.484	0.145	4.196	12.556
559	0	0	2.995	0	0.15	24.554	7.33	0	0	0.012	1.808	0.735	1.053	4.48	0.4	0	7.12	0	0	0	2.987	17.403	0.546	5.001	14.14
560	0	0	4.344	0	0.3	26.727	7.961	0	0	0.024	1.597	0.649	1.274	4.695	1.056	0	11.95	0	0	0	2.029	17.164	0.239	2.452	11.892
561	0	0	4.989	0	0.15	28.536	7.382	0	0.003	0.091	1.998	1.289	0.688	5.289	1.041	0	4.9	0	0	0	2.289	18.41	0.409	4.14	14.233
562	0	0	4.105	0.17	0.45	26.829	9.041	0	0	0.014	2.784	1.493	0.571	4.126	0.997	0	7.7	0	0	0	2.18	15.725	0.461	3.374	11.529
563	0	0	2.989	1.02	0.15	26.06	8.283	0	0.002	0.11	2.722	1.101	0.669	4.747	1	0	6.12	0	0	0	1.796	21.02	0.457	3.23	11.701
564	0	0	3.868	0	0	24.727	8.2	0	0	0.117	2.724	1.65	0.826	4.175	0.59	0	5.5	0	0	0	1.987	20.763	0.251	4.023	13.525
565	0	0	6.321	0	0.15	29.301	7.909	0	0	0.016	2.218	1.261	1.107	5.098	0.673	0	11.25	0	0	0	1.277	16.483	0.435	3.372	12.314
566	0	0	4.173	0	0.15	26.683	9.147	0	0	0.051	2.431	1.384	1.108	4.494	1.353	0	2	0	0	0	2.609	21.037	0.377	3.127	13.62
567	0	0	3.702	0	0	27.161	9.56	0	0.003	0.079	3.758	1.383	0.779	5.589	0.529	0	2.3	0	0	0	1.341	20.085	0.432	4.39	13.145
568	0	0	3.747	0	0.15	21.764	8.245	0	0	0.186	3.181	1.016	1.628	4.177	0.107	0	4.84	0	0	0	1.159	19.605	0.206	4.034	14.758
569	0	0	3.045	0.17	0	23.528	6.932	0	0	0.049	2.146	1.047	0.551	4.8	1.049	0	5.7	0	0	0	1.562	17.622	0.329	3.1	12.855
570	0	0	3.373	0	0.9	27.627	8.593	0	0.001	0.036	1.711	1.414	0.744	4.005	0.941	0	9.3	0	0	0	2.141	20.26	0.577	4.043	11.321
571	0	0	5.635	0.34	0	31.425	7.521	0	0.001	0.022	1.022	1.286	1.082	5.243	1.054	0	5.16	0	0	0	2.194	20.984	0.271	4.59	10.928
572	0	0	5.847	0.51	0	27.001	9.885	0	0.001	0.096	1.797	1.561	0.602	3.821	0.475	0	10.37	0	0	0	2.271	17.278	0.343	3.651	14.955
573	0	0	4.689	0	0.45	27.128	9.619	0	0.005	0.148	2.745	1.657	0.889	4.626	0.113	0	8.6	0	0	0	1.576	17.23	0.228	3.79	16.939
574	0	0	6.209	0	0	25.499	9.773	0	0	0.037	2.442	2.01	0.884	3.342	0.226	0	5.32	0	0	0	2.656	18.182	0.251	2.712	16.215
575	0	0	4.743	0	0.15	26.451	8.421	0	0	0.067	1.778	0.688	0.647	5.745	0.025	0	5	0	0	0	2.117	14.951	0.327	3.133	14.054
576	0	0	3.772	0	0.15	25.628	8.861	0	0.002	0.035	1.9	1.352	1.159	3.432	1.47	0	1.9	0	0	0	2.677	22.139	0.536	4.602	13.181
577	0	0	4.105	0	0	25.079	7.968	0	0	0.016	1.58	1.238	1.235	5.266	1.574	0	6.82	0	0	0	2.624	16.658	0.266	3.261	10.999
578	0	0	4.833	0	0	26.934	8.006	0	0.001	0.078	2.105	0.823	0.843	4.376	0.295	0	4.25	0	0	0	2.747	20.501	0.179	2.121	14.979
579	0	0	4.543	0.17	0.45	26.617	9.533	0	0	0.018	2.169	1.634	1.091	3.816	0.773	0	7.46	0	0	0	1.274	22.328	0.449	3.68	13.316
580	0	0	5.698	0.34	0	24.086	9.015	0	0.001	0.022	2.418	1.485	1.217	4.48	0.656	0	3.92	0	0	0	1.584	17.625	0.307	3.202	13.819
581	0	0	4.619	0.17	0	30.403	8.66	0	0	0.014	2.468	0.907	0.797	4.405	1.554	0	4.1	0	0	0	1.532	18.681	0.45	4.823	10.441
582	0	0	4.396	0	0.15	29.043	7.611	0	0	0.119	2.549	0.947	0.639	4.709	1.064	0	6.52	0	0	0	2.517	14.836	0.637	2.851	13.89
583	0	0	4.915	0	0	24.757	8.408	0	0	0.096	1.73	1.881	1.161	3.675	1.521	0	4.4	0	0	0	2.221	19.436	0.222	4.461	12.277
584	0	0	4.863	0.17	0.15	28.645	8.492	0	0.004	0.02	2.625	1.432	1.025	5.635	1.828	0	7.5	0	0	0	1.865	19.671	0.548	4.691	13.173
585	0	0	5.147	0	0.15	25.064	6.989	0	0.002	0.071	3.121	0.961	0.998	4.28	0.485	0	2.16	0	0	0	2.567	16.961	0.414	4	15.42
586	0	0	4.538	0.17	0	26.987	8.948	0	0	0.037	1.791	0.844	1.031	5.588	0.263	0	11.68	0	0	0	2.1	19.659	0.366	2.673	16.179
587	0	0	4.965	0.17	0.15	26.323	8	0	0	0.009	2.34	1.287	0.662	3.749	0.949	0	5.76	0	0	0	2.959	16.961	0.404	2.771	11.854
588	0	0	3.321	0	0	22.95	8.137	0	0.001	0.061	2.574	1.297	1.122	4.444	1.087	0	7.02	0	0	0	1.235	15.163	0.356	3.55	13.035
589	0	0	4.106	0	0.15	25.545	9.423	0	0	0.064	2.006	1.82	0.698	5.031	1.247	0	0.96	0	0	0	1.653	18.238	0.421	3.37	12.374
590	0	0	5.086	0	0	29.02	8.113	0	0	0.137	1.175	0.639	1.078	6.218	0.589	0	6.5	0	0	0	1.966	15.37	0.545	3.255	16.385
591	0	0	3.199	0.51	0	22.96	7.314	0	0	0.089	2.096	1.331	1.142	6.212	1.421	0	6.95	0	0	0	2.524	17.534	0.34	2.564	14
592	0	0	4.694	0	0	24.068	12.794	0	0.005	0.025	1.915	0.791	0.83	4.826	1.305	0	1.52	0	0	0	1.82	16.41	0.305	4.122	12.372
593	0	0	3.292	0.17	0.15	26.701	8.836	0	0	0.151	2.285	0.848	0.742	4.815	0.457	0	6	0	0	0	1.876	20.094	0.176	2.775	15.745
594	0	0	4.369	0.17	0.15	27.812	8.02	0	0	0.018	1.991	0.926	1.075	6.814	0.742	0	9.8	0	0	0	1.858	14.295	0.53	3.745	12.137
595	0	0	5.366	0	0	27.637	8.947	0	0.003	0.024	1.537	0.843	0.743	5.409	1.196	0	5.52	0	0	0	1.504	18.523	0.317	3.644	13.423
596	0	0	5.074	0.17	0.3	25.138	6.55	0	0.004	0.015	2.017	0.767	0.921	4.691	0.643	0	4.45	0	0	0	2.136	17.957	0.39	3.121	13.556
597	0	0	1.546	0	0	27.025	9.091	0	0.001	0.174	1.984	0.842	0.923	4.732	0.86	0	9.8	0	0	0	2.109	20.532	0.39	2.612	13.956
598	0	0	4.516	0	0.3	26.107	8.29	0	0	0.038	2.245	0.946	0.846	7.321	1.002	0	3.74	0	0	0	2.48	20.725	0.257	1.98	12.009
599	0	0	5.273	0	0.15	24.399	8.42	0	0.003	0.03	1.364	0.786	0.609	5.048	0.516	0	4.97	0	0	0	1.871	17.715	0.467	2.953	13.225
600	0	0	3.918	0	0.3	24.944	8.088	0	0.001	0.027	2.797	1.727	1.192	3.348	1.232	0	2.3	0	0	0	1.375	19.537	0.464	3.865	11.839
601	0	0	4.608	0.34	0.15	25.589	8.863	0	0.002	0.018	3.338	1.246	1.019	6.095	0.617	0	7.83	0	0	0	2.045	19.684	0.324	3.182	12.64
602	0	0	2.745	0	0	24.623	8.732	0	0	0.071	2.794	1.614	0.71	5.042	0.019	0	4.52	0	0	0	1.185	21.806	0.605	3.703	15.543
603	0	0	3.044	0.34	0	25.91	8.436	0	0	0.096	1.843	1.155	0.937	4.725	2.002	0	9.44	0	0	0	2.023	19.746	0.578	2.832	12.782
604	0	0	3.933	0.51	0	26.28	8.529	0	0.001	0.021	2.453	1.75	1.345	3.854	1.896	0	3.2	0	0	0	1.186	19.769	0.493	2.85	8.917
605	0	0	5.642	0.17	0	30.165	9.335	0	0.001	0.222	2.415	1.732	1.284	5.604	0.356	0	5.12	0	0	0	1.919	19.947	0.319	5.28	15.138
606	0	0	4.399	0.17	0.45	26.716	7.361	0	0.003	0.035	1.987	0.614	1.044	5.749	0.844	0	6.5	0	0	0	2.128	16.274	0.396	3.095	13.356
607	0	0	3.568	0	0.15	22.663	8.716	0	0	0.003	1.86	0.933	1.79	5.543	1.314	0	5.2	0	0	0	1.704	17.726	0.237	3.735	14.401
608	0	0	3.483	0.17	0	29.313	8.215	0	0.001	0.019	1.523	0.796	1.323	3.701	1.506	0	6.45	0	0	0	1.977	14.367	0.308	3.84	10.749
609	0	0	4.239	0	0.15	25.516	9.303	0	0	0.008	1.082	0.705	1.198	3.806	0.56	0	4.94	0	0	0	2.114	18.484	0.176	3.172	12.71
610	0	0	4.966	0	0	30.922	7.638	0	0.002	0.075	2.218	1.171	0.553	5.286	1.141	0	8.35	0	0	0	1.719	17.231	0.494	3.411	13.285
611	0	0	3.485	0	0.15	24.62	7.884	0	0	0.017	2.54	1.4	0.868	5.457	0.775	0	2.7	0	0	0	1.239	18.009	0.369	2.824	13.364
612	0	0	5.287	0	0	26.463	7.248	0	0	0.046	2.555	1.536	1.024	5.181	1.282	0	9.5	0	0	0	1.261	15.89	0.33	3.432	11.959
613	0	0	6.264	0	0.15	25.442	8.995	0	0	0.044	2.495	1.171	0.815	5.792	0.771	0	7.87	0	0	0	2.1	20.175	0.255	2.534	14.083
614	0	0	3.332	0.17	0.75	24.503	9.411	0	0	0.062	2.815	1.035	0.785	4	0.795	0	3.48	0	0	0	1.786	19.776	0.286	4.32	13.48
615	0	0	6.632	0	0.45	23.158	9.023	0	0.001	0.02	2.387	1.128	0.956	5.759	1.142	0	5.6	0	0	0	1.712	19.627	0.907	2.871	11.194

Plant Type:	Greasewood					Grass					Forb					Tree					Shrub				
Plot:	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
sample #																									
616	0	0	4.907	0	0.3	29.755	10.071	0	0.002	0.026	2.143	1.509	1.298	5.658	0.861	0	2.67	0	0	0	1.337	16.187	0.308	2.914	12.694
617	0	0	4.601	0	0.3	24.096	7.572	0	0	0.002	2.716	0.668	0.836	4.691	1.842	0	9.7	0	0	0	1.866	16.105	0.26	4.172	10.523
618	0	0	7.334	0.17	0.3	29.117	8.826	0	0	0.046	2.117	0.734	0.791	4.866	1.15	0	4.8	0	0	0	2.033	14.598	0.273	2.601	9.899
619	0	0	5.108	0	0	24.044	8.202	0	0.001	0.043	1.677	1.406	0.927	5.018	1.873	0	6.3	0	0	0	1.706	16.594	0.408	4.305	11.762
620	0	0	5.393	0	0	26.868	9.171	0	0	0.134	2.041	1.313	0.931	5.598	0.664	0	2.87	0	0	0	2.072	17.907	0.44	3.964	14.097
621	0	0	5.843	0	0	25.308	10.345	0	0	0.004	1.959	1.767	1.261	4.056	0.862	0	3.02	0	0	0	1.852	24.425	0.248	4.574	11.38
622	0	0	5.086	0.51	0.15	29.961	8.816	0	0.001	0.006	2.123	1.912	0.897	3.691	0.969	0	4.4	0	0	0	2.269	20.683	0.539	3.51	12.499
623	0	0	4.388	0.51	0	21.692	8.684	0	0	0.032	2.174	1.424	0.961	3.136	1.444	0	6.32	0	0	0	1.562	17.001	0.553	3.571	10.075
624	0	0	4.296	0	0	26.397	8.709	0	0.002	0.087	2.583	1.385	0.672	4.379	1.81	0	3.94	0	0	0	1.985	24.875	0.339	3.604	11.67
625	0	0	3.251	0.17	0.15	26.274	9.161	0	0	0.009	1.433	1.891	1.226	4.728	0.792	0	4	0	0	0	3.023	18.285	0.392	3.521	11.109
626	0	0	4.861	0.34	0.15	29.214	8.444	0	0.001	0.017	1.413	1.141	1.148	4.726	0.259	0	5.84	0	0	0	2.512	18.828	0.279	3.854	12.418
627	0	0	4.116	0.17	0	25.568	8.426	0	0	0.199	1.267	0.717	0.876	5.988	0.769	0	8.95	0	0	0	1.703	18.063	0.344	3.551	16.233
628	0	0	3.875	0.85	0	27.326	10.524	0	0	0.054	3.154	1.789	1.061	4.236	0.743	0	7.52	0	0	0	1.597	17.192	0.377	3.24	12.761
629	0	0	6.32	0.17	0.45	25.755	8.326	0	0.001	0.007	2.244	1.235	0.843	4.791	1.196	0	8.45	0	0	0	2.628	9.824	0.246	3.97	10.58
630	0	0	6.225	0.17	0.15	23.551	8.649	0	0	0.066	2.803	1.66	1.499	4.508	0.425	0	6.02	0	0	0	1.943	19.869	0.307	2.58	13.455
631	0	0	6.107	0	0	31.924	8.729	0	0.003	0.018	1.939	0.698	1.083	5.217	1.355	0	5.3	0	0	0	0.739	19.706	0.48	3.231	13.973
632	0	0	5.288	0.34	0	29.594	7.485	0	0.001	0.04	1.956	1.038	1.209	4.575	0.634	0	6.35	0	0	0	2.32	15.438	0.316	3.673	14.545
633	0	0	5.539	0	0.3	25.715	8.95	0	0	0.099	2.356	2.007	0.691	7.243	0.839	0	11.1	0	0	0	1.81	16.504	0.39	2.754	13.294
634	0	0	4.713	0.34	0.15	26.294	9.307	0	0	0.084	1.885	0.923	0.395	5.971	0.808	0	3.34	0	0	0	1.756	16.348	0.406	3.203	16.441
635	0	0	5.506	0.17	0.6	23.707	7.699	0	0	0.186	1.465	0.832	0.877	4.815	0.426	0	11.1	0	0	0	2.11	13.724	0.34	3.102	15.545
636	0	0	3.227	0	0.3	26.475	10.242	0	0.001	0.055	1.602	0.787	1.246	3.123	0.691	0	7.55	0	0	0	1.871	14.843	0.319	4.081	13.565
637	0	0	4.115	0.51	0	24.26	7.418	0	0	0.048	2.096	0.946	1.26	4.455	1.143	0	4.02	0	0	0	2.149	18.66	0.186	2.26	12.462
638	0	0	3.417	0.34	0.3	27.315	8.435	0	0.001	0.118	2.015	1.113	0.844	3.269	0.618	0	8.4	0	0	0	2.102	20.124	0.269	3.71	14.428
639	0	0	4.787	0	0	28.176	10.983	0	0.002	0.094	2.066	1.871	1.008	4.603	0.485	0	1.5	0	0	0	1.986	20.888	0.253	3.744	13.583
640	0	0	4.507	0	0	24.262	8.444	0	0.002	0.006	2.827	1.06	1.034	4.765	1.475	0	6.8	0	0	0	1.53	19.776	0.456	3.542	12.37
641	0	0	5.291	0	0	26.254	8.252	0	0.001	0.043	1.819	0.813	0.953	6.854	0.704	0	4.06	0	0	0	2.267	16.516	0.291	2.896	13.553
642	0	0	4.184	0.68	0.45	27.46	10.029	0	0	0.005	1.328	1.237	1.279	4.687	1.057	0	6.29	0	0	0	2.02	17.763	0.397	2.861	11.656
643	0	0	3.775	0.17	0	26.62	7.572	0	0.003	0.014	1.781	1.061	0.969	3.81	1.626	0	7.1	0	0	0	2.343	16.744	0.494	3.53	11.621
644	0	0	2.827	0	0	25.34	7.679	0	0.002	0.013	3.309	1.023	0.648	4.508	0.89	0	6.65	0	0	0	1.708	14.036	0.301	4.381	11.587
645	0	0	3.862	0.17	0.15	26.939	8.377	0	0	0.015	1.926	1.409	1.102	5.894	0.974	0	5.86	0	0	0	2.136	19.675	0.446	3.73	11.831
646	0	0	5.692	0	0	25.468	8.245	0	0.001	0.037	2.139	1.244	0.604	3.035	0.637	0	6.5	0	0	0	1.327	19.644	0.28	2.99	14.571
647	0	0	3.944	0.17	0.3	28.511	8.782	0	0.001	0.011	1.264	1.072	0.9	4.828	1.437	0	7.34	0	0	0	2.324	16.627	0.371	3.111	12.977
648	0	0	3.215	0.17	0.3	27.61	8.587	0	0.001	0.104	2.006	0.776	1.159	4.275	1.105	0	7.5	0	0	0	2.054	17.381	0.471	2.334	14.406
649	0	0	3.923	0.17	0.6	23.296	9.422	0	0	0.053	1.433	1.366	1.044	4.542	0.41	0	0.78	0	0	0	2.09	20.755	0.37	4.343	13.99
650	0	0	5.395	0.34	0	24.55	8.903	0	0.003	0.071	2.305	0.753	1.638	4.132	0.989	0	7.51	0	0	0	1.492	18.24	0.544	3.65	11.19
651	0	0	5.219	0	0.15	21.263	8.613	0	0.001	0.007	2.006	0.963	0.712	5.486	2.105	0	8.4	0	0	0	2.258	15.821	0.347	4.593	9.342
652	0	0	4.761	0.17	0.15	27.545	7.567	0	0	0.087	2.537	0.697	0.988	4.952	0.985	0	7.1	0	0	0	2.188	16.553	0.438	2.301	14.07
653	0	0	6.504	0	0	22.923	8.749	0	0	0.154	1.642	1.178	1.144	5.943	0.28	0	7.62	0	0	0	1.551	17.814	0.384	3.761	14.439
654	0	0	7.356	0.17	0	24.513	9.909	0	0	0.057	3.182	1.043	0.521	4.571	1.227	0	5.77	0	0	0	1.608	18.455	0.388	3.901	13.171
655	0	0	4.965	0.17	0	24.104	8.302	0	0	0.056	1.838	0.744	0.977	4.395	0.82	0	4.97	0	0	0	1.988	19.663	0.603	3.27	14.009
656	0	0	8.088	0.17	0	24.464	9.18	0	0.001	0.047	2.677	0.666	1.356	4.018	1.019	0	4.42	0	0	0	1.422	19.622	0.212	3.48	12.988
657	0	0	4.401	0.17	0.15	24.673	8.7	0	0	0.179	2.681	1.581	0.89	4.998	0.146	0	4.7	0	0	0	1.76	18.539	0.725	3.34	17.532
658	0	0	4.025	0	0.3	21.587	9.532	0	0	0.089	2.222	1.367	1.032	5.999	0.446	0	6.77	0	0	0	2.659	16.047	0.503	3.323	14.106
659	0	0	4.005	0.51	0.45	25.69	7.853	0	0	0.026	3.237	1.193	0.803	5.491	0.241	0	6.3	0	0	0	0.606	16.521	0.27	3.493	13.724
660	0	0	6.564	0	0	25.617	8.278	0	0	0.084	1.645	0.962	1.143	4.804	1.121	0	5.69	0	0	0	1.825	15.986	0.422	3.152	12.868
661	0	0	6.622	0	0.6	29.43	7.197	0	0	0.005	1.151	1.315	0.955	4.467	1.361	0	5.9	0	0	0	1.434	17.575	0.167	3.39	12.894
662	0	0	3.095	0.34	0	25.158	8.111	0	0.002	0.098	2.219	1.295	1.135	3.889	0.894	0	14.1	0	0	0	2.202	16.754	0.334	5.022	15.326
663	0	0	5.166	0.51	0.15	25.295	8.336	0	0.001	0.113	2.15	1.001	1.015	4.366	0.347	0	8.67	0	0	0	1.185	18.056	0.401	3.781	14.668
664	0	0	4.493	0.51	0	29.944	7.382	0	0	0.085	1.854	0.922	1.105	4.476	0.658	0	6	0	0	0	1.708	15.065	0.353	4.55	13.217
665	0	0	3.963	0	0	27.073	8.518	0	0	0.056	2.308	1.395	0.967	5.6	1.276	0	5.9	0	0	0	1.723	16.289	0.256	2.912	12.511
666	0	0	5.714	0.34	0	23.188	6.766	0	0.001	0.133	2.195	0.678	1.501	3.318	0.336	0	8.5	0	0	0	1.452	13.805	0.297	5.24	14.583
667	0	0	3.76	0	0	27.674	8.358	0	0.003	0.107	2.458	1.615	0.882	3.702	0.543	0	11.85	0	0	0	1.055	18.169	0.301	3.663	14.28
668	0	0	5.468	0	0.3	27.94	9.204	0	0.003	0.021	2.408	1.123	0.811	4.395	0.808	0	4.75	0	0	0	1.842	25.435	0.16	4.754	13.484
669	0	0	5.216	0.17	0	22.968	9.077	0	0.003	0.036	1.998	1.922	0.948	6.265	0.978	0	8.8	0	0	0	2.259	17.7	0.392	3.503	12.439
670	0	0	5.177	0.17	0	25.087	8.456	0	0.002	0.058	1.533	1.452	0.887	3.622	0.785	0	7.4	0	0	0	2.784	17.063	0.538	3.902	14.252
671	0	0	4.416	0	0	23.811	6.945	0	0.001	0.01	1.486	0.934	0.622	4.34	1.071	0	8.2	0	0	0	2.672	13.671	0.383	3.054	11.491
672	0	0	3.935	0.68	0.3	27.351	8.789	0	0	0.062	2.19	1.338	0.974	3.057	0.989	0	7.4	0	0	0	1.729	16.283	0.395	3.15	12.336
673	0	0	7.072	0.51	0.3	27.249	9.033	0	0	0.061	2.51	1.373	0.563	6.137	0.8	0	9.57	0	0	0	1.034	18.378	0.22	2.482	13.691
674	0	0	4.798	0	0	22.992	8.407	0	0.001	0.187	2.35	1.629	0.617	4.661	0.563	0	8.2	0	0	0	2.223	18.845	0.313	3.443	15.477
675	0	0	3.66	0	0	23.731	8.575	0	0.001	0.034	2.327	1.23	1.09	4.279	0.914	0	2.52	0	0	0	1.111	16.949	0.307	5.03	12.855
676	0	0	3.906	0	0.45	31.112	9.049	0	0	0.025	2.522	1.3	1.207	3.562	1.021	0	10.85	0	0	0	1.754	17.645	0.334	4.042	11.595
677	0	0	4.931	0.34	0	22.794	10.448	0	0.002	0.11	2.269	1.206	0.864	5.251	1.067	0	7.8	0	0	0	1.408	18.353	0.502	3.771	13.106
678	0	0	4.717	0.85	0.15	30.249	8.206	0	0.002	0.065	1.982	1.547	1.015	4.836	0.89	0	4.3	0	0	0	1.307	18.551	0.481	3.225	13.17
679	0	0	3.815	0.17	0.3	30.895	8.521	0	0	0.07	1.675	1.465	1.263	4.612	0.653	0	5.02	0	0	0	1.453	20.629	0.215	2.882	13.465
680	0	0	6.5	0.17	0.75	25.85	7.732	0	0	0.023	2.376	1.197	0.672	4.443	0.738	0	5.27	0	0	0	2.687	19.895	0.435	2.332	12.294
681	0	0	3.045	0.17	0.6	26.682	7.752	0	0.003	0.014	1.888	1.489	0.597	4.871	0.971	0	6.1	0	0	0	2.349	17.153	0.608	4.591	11.788
682	0	0	4.096	0	0	26.406	8.465	0	0	0.044	3.376	0.751	1.524	3.848	0.961	0	10.22	0	0	0	1.637	13.428	0.175	3.382	13.255
683	0	0	5.324	0.34	0	26.601	8.151	0	0	0.103	2.007	0.762	0.646	5.471	1.607	0	6.97	0	0	0	1.542	19.485	0.196	2.754	11.48
684	0	0	6.573	0.34	0.6	25.68	9.019	0	0.001	0.001	2.479	1.054	1.013	4.181	0.645	0	4.79	0	0	0	1.569	20.44	0.459	4.14	12.201
685	0	0	5.718	0	0.45	28.198	8.072	0	0	0.071	1.626	0.675	0.969	4.511	0.732	0	8.45	0	0	0	1.68	13.965	0.4	2.024	12.811
686	0	0	4.247	0.51	0.15	24.26	10.002	0	0.001	0.008	2.264	1.315	1.066	4.944	1.204	0	4.92	0	0	0	1.979	21.219	0.322	3.333	10.568
687	0	0	3.704	0	0.15	27.028	8.379	0	0	0.071	2.897	0.998	1.049	3.92	1.338	0	6.71	0	0	0	1.048	19.773	0.182	2.831	12.543
688	0	0	3.275	0.17	0.45	26.371	9.025	0	0.001	0.002	1.759	1.562	0.769	6.287	0.408	0	1.26	0	0	0	2.267	19.97	0.404	3.671	14.391
689	0	0	3.26	0.51	0.15	25.022	8.432	0	0	0.012	2.578	0.794	0.71	5.065	0.979	0	6.4	0	0	0	2.059	17.952	0.341	3.872	13.743
690	0	0	5.161	0	0	23.936	7.82	0	0.003	0.092	2.507	1.083	0.911	4.082	2.027	0	9.05	0	0	0	2.658	19.424	0.26	3.511	13.89
691	0	0	3.795	0.34	0.75	23.742	7.922	0	0.001	0.004	2.894	1.182	0.919	4.798	0.754	0	8	0	0	0	0.877	20.157	0.26	3.342	13.023
692	0	0	4.294	0.34	0	31.723	8.886	0	0	0.185	2.854	1.802	1.162	3.741	0.748	0	6.92	0	0	0	1.674	20.337	0.352	2.34	13.775
693	0	0	3.068	0.34	0	23.858	9.078	0	0.002	0.062	2.291	1.963	1.293	5.383	0.617	0	2.72	0	0	0	2.77	16.378	0.513	2.662	14.256
694	0	0	5.106	0.34	0	23.897	8.833	0	0	0.148	2.22	1.835	0.979	4.534	0.315	0	5.1	0	0	0	2.461	19.748	0.237	3.11	14.751
695	0	0	5.872	0	0.3	25.012	8.929	0	0.001	0.131	1.72	0.718	1.192	4.264	0.688	0	8.04	0	0	0	2.074	16.799	0.253	3.034	13.024
696	0	0	4.678	0	0	27.419	8.527	0	0.001	0.089	2.147	1.509	1.023	6.023	0.419	0	4	0	0	0	1.977	15.633	0.458	3.663	14.895
697	0	0	4.646	0	0.3	27.224	9.161	0	0.003	0.037	2.146	0.597	1.126	4.442	0.105	0	7.65	0	0	0	2.268	17.473	0.446	4.23	14.634
698	0	0	4.604	0	0.15	25.347	8.285	0	0	0.078	1.874	1.394	1.277	5.683	0.543	0	4.9	0	0	0	2.031	17.942	0.209	2.682	14.367
699	0	0	5.49	0.17	0.3	27.185	8.748	0	0	0.007	1.272	1.622	0.644	4.266	0.37	0	13	0	0	0	1.949	19.307	0.426	2.851	13.892
700	0	0	5.247	0	0.3	24.158	8.723	0	0.001	0.063	2.461	0.726	1.144	5.697	0.716	0	12.21	0	0	0	1.929	19.106	0.305	4.399	16.017
701	0	0	3.657	0	0	24.631	8.419	0	0.001	0.005	2.639	0.882	1.293	5.316	0.966	0	6.87	0	0	0	1.164	17.115	0.302	2.581	11.324
702	0	0	4.36	0.34	0	23.586	10.498	0	0	0.044	2.797	1.044	0.759	5.763	0.639	0	6.06	0	0	0	1.631	16.848	0.395	2.635	14.131
703	0	0	3.751	0	0.15	30.923	8.412	0	0.001	0.09	2.234	1.1	0.927	4.481	0.524	0	7.7	0	0	0	2.413	17.942	0.336	3.21	14.717
704	0	0	5.927	0.51	0.45	25.91	9.197	0	0	0.005	2.104	1.395	0.653	4.336	1.227	0	4.14	0	0	0	1.579	19.006	0.309	3.81	10.701
705	0	0	4.308	0	0.3	25.597	8.633	0	0	0.014	1.57	1.914	1.08	4.743	0.482	0	8.5	0	0	0	1.508	17.356	0.507	2.711	11.391
706	0	0	4.471	0	0.45	24.938	7.129	0	0.001	0.074	1.899	0.8	0.506	6.251	0.035	0	5.1	0	0	0	1.457	13.958	0.404	2.385	14.998
707	0	0	5.063	0.34	0	25.793	8.916	0	0	0.138	2.147	1.68	1.126	4.466	0.758	0	6.4	0	0	0	1.941	22.523	0.524	3.651	16.168
708	0	0	4.247	0.34	0.15	23.909	7.632	0	0	0.095	1.757	1.001	0.432	4.864	0.839	0	11.15	0	0	0	2.185	18.116	0.384	3.141	16.178
709	0	0	4.034	0.68	0.15	24.699	8.652	0	0.002	0.015	2.051	1.875	1.291	4.621	0.456	0	10.65	0	0	0	2.119	16.813	0.175	4.171	16.029
710	0	0	3.5	0	0	22.17	8.817	0	0.004	0.01	2.24	1.214	1.198	3.902	0.65	0	7.45	0	0	0	1.802	16.754	0.339	4.29	13.894
711	0	0	3.295	0.17	0.15	24.681	7.703	0	0	0.072	1.434	1.14	1.213	6.666	0.748	0	5.14	0	0	0	1.667	19.395	0.274	2.945	13.612
712	0	0	3.873	0	0	24.722	7.004	0	0.002	0.081	3.077	1.232	1.138	4.242	0.244	0	8.9	0	0	0	1.904	19.817	0.514	4.222	15.628
713	0	0	3.26	0.51	0.15	28.933	7.79	0	0.001	0.006	1.882	1.303	0.842	4.32	1.581	0	6.5	0	0	0	1.89	21.604	0.443	3.2	11.338
714	0	0	6.951	0	0.45	23.967	9.467	0	0.001	0.116	2.413	1.57	0.783	4.666	1.713	0	1.26	0	0	0	3.45	24.467	0.27	4.614	11.905
715	0	0	5.485	0.17	0.45	28.643	8.411	0	0.001	0.017	2.551	0.861	0.889	6.077	0.139	0	5.77	0	0	0	1.33	16.293	0.164	3.624	12.848
716	0	0	3.766	0	0	29.408	9.309	0	0.004	0.023	2.187	0.681	1.6	3.607	0.511	0	6.97	0	0	0	1.868	14.717	0.318	4.96	12.525
717	0	0	4.473	0	0.3	24.616	8.761	0	0	0.044	2.521	0.644	0.609	6.561	1.895	0	2.21	0	0	0	1.526	22.796	0.665	3.612	11.114
718	0	0	4.093	0	0.3	26.911	8.525	0	0	0.019	1.478	1.032	1.119	3.534	1.36	0	11.2	0	0	0	2.671	16.513	0.307	3.12	12.442

Plant Type:	Greasewood					Grass					Forb					Tree					Shrub				
Plot:	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
sample #																									
719	0	0	4.703	0.51	0.3	23.518	8.218	0	0.001	0.03	1.83	1.348	0.852	4.215	0.497	0	10.3	0	0	0	1.505	15.25	0.588	3.222	13.481
720	0	0	4.04	0	0	25.114	8.832	0	0	0.056	1.594	1.559	1.197	4.828	1.157	0	4.48	0	0	0	2.514	20.603	0.213	2.826	12.066
721	0	0	4.347	0	0.3	26.454	7.25	0	0.003	0.026	2.392	0.522	1.27	4.761	1.252	0	7.4	0	0	0	2.58	14.844	0.222	3.66	13.229
722	0	0	4.602	0.17	0	28.255	8.528	0	0	0.068	2.667	1.418	0.818	3.946	0.546	0	6.7	0	0	0	1.27	16.416	0.446	3.793	16.329
723	0	0	5.907	0	0.45	30.559	7.946	0	0.003	0.046	3.167	1.108	0.919	4.056	1.429	0	8.42	0	0	0	1.159	18.707	0.503	2.85	11.41
724	0	0	3.266	0	0.45	26.484	9.52	0	0.002	0.021	2.297	0.977	0.488	4.199	1.273	0	6.89	0	0	0	2.494	16.736	0.308	3.233	11.591
725	0	0	5.672	0	0.6	22.825	9.043	0	0.003	0.013	2.562	1.152	1.072	5.602	0.733	0	5.8	0	0	0	1.355	14.746	0.539	3.96	10.086
726	0	0	3.586	0.34	0.3	26.188	7.972	0	0.001	0.019	1.559	0.885	1.073	5.259	0.741	0	7.9	0	0	0	2.123	18.742	0.399	4.65	14.798
727	0	0	4.825	0.17	0.3	27.813	8.041	0	0	0.089	2.019	1.532	1.375	5.67	1.064	0	3.67	0	0	0	1.949	20.284	0.401	3.644	13.855
728	0	0	3.791	0.17	0.75	26.518	9.054	0	0.001	0.036	3.345	1.308	1.261	4.088	1.051	0	8.84	0	0	0	1.01	20.827	0.452	3.754	11.627
729	0	0	4.075	0.51	0	22.956	8.513	0	0.002	0.207	1.947	1.542	1.123	3.986	1.552	0	3.92	0	0	0	2.033	15.633	0.353	2.982	14.955
730	0	0	4.323	0.34	0	22.967	10.241	0	0	0.099	2.165	1.457	0.743	4.402	1.203	0	5.97	0	0	0	2.441	19.985	0.547	2.951	13.618
731	0	0	4.13	0	0	26.883	8.786	0	0	0.11	1.326	0.735	0.873	6.521	1.009	0	5.35	0	0	0	2.448	11.682	0.543	2.445	14.398
732	0	0	2.287	0	0.15	25.349	9.444	0	0	0.087	1.316	1.53	0.847	4.817	0.702	0	4.12	0	0	0	2.908	20.839	0.501	2.454	14.318
733	0	0	3.336	1.02	0	23.086	9.969	0	0	0	2.125	1.082	1.072	4.663	1.428	0	8.97	0	0	0	1.585	16.558	0.267	3.372	9.616
734	0	0	3.214	0.17	0	25.218	8.51	0	0.001	0.065	1.151	1.525	0.949	3.835	0.909	0	10.9	0	0	0	2.074	16.583	0.468	2.901	14.206
735	0	0	6.669	0	0	23.925	7.429	0	0	0.073	2.429	0.871	1.045	5.06	1.257	0	7.1	0	0	0	1.59	15.58	0.263	3.293	11.521
736	0	0	4.789	0	0	23.551	9.544	0	0.001	0.052	2.625	1.451	0.634	5.2	0.402	0	6.42	0	0	0	2.162	18.34	0.311	3.281	13.3
737	0	0	6.845	0.17	0.15	27.228	9.091	0	0	0.031	3.268	0.99	0.973	4.614	1.564	0	5.2	0	0	0	1.837	20.837	0.364	3.333	11.822
738	0	0	3.687	0	0.15	31.072	8.812	0	0.001	0.101	2.282	0.721	1.212	5.288	0.657	0	8.15	0	0	0	0.89	18.21	0.369	2.333	14.673
739	0	0	5.393	0.68	0	21.719	7.75	0	0	0.016	2.39	1.186	0.677	5.831	1.478	0	6.3	0	0	0	2.006	14.102	0.551	2.661	10.839
740	0	0	4.862	0	0	27.425	7.487	0	0	0.065	2.009	1.502	0.982	5.303	1.795	0	7.15	0	0	0	2.5	16.455	0.411	2.673	12.562
741	0	0	3.575	0.17	0	29.184	8.202	0	0	0.017	2.767	1.272	1.107	4.919	0.63	0	6.55	0	0	0	0.99	16.647	0.418	3.681	12.6
742	0	0	5.759	0.17	0.15	27.194	9.526	0	0.001	0.113	1.3	1.52	0.811	4.787	2.059	0	2.66	0	0	0	2.071	24.597	0.368	2.862	11.474
743	0	0	4.267	0.34	0	27.323	8.433	0	0.001	0.103	1.505	0.811	0.605	3.94	1.406	0	6.17	0	0	0	3.144	17.799	0.239	3.84	12.68
744	0	0	6.118	0.34	0	26.825	9.306	0	0	0.008	1.128	1.14	1.165	5.111	0.669	0	8.35	0	0	0	1.73	15.211	0.208	2.795	14.301
745	0	0	4.021	0	0.15	25.742	8.395	0	0.001	0.116	1.509	1.276	1.042	3.985	1.012	0	4.27	0	0	0	2.051	16.598	0.307	3.75	12.175
746	0	0	6.13	0	0.6	25.744	8.06	0	0.003	0.028	3.069	1.041	1.194	4.114	1.949	0	8.1	0	0	0	1.375	15.215	0.473	2.92	11.576
747	0	0	4.046	0	0.3	27.358	8.801	0	0.001	0.076	3.523	0.709	0.881	5.189	0.475	0	9.7	0	0	0	1.233	17.826	0.626	3.727	13.829
748	0	0	7.206	0.51	0	26.809	8.904	0	0	0.004	2.744	0.614	1.127	4.708	1.018	0	7.85	0	0	0	1.779	20.595	0.118	3.61	11.385
749	0	0	3.769	0.17	0	28.096	7.91	0	0.005	0.083	1.931	0.748	0.882	4.311	1.138	0	7.22	0	0	0	1.897	17.688	0.327	4.033	12.976
750	0	0	6.339	0	0.15	23.189	10.156	0	0	0.121	1.708	1.202	0.634	4.033	0.963	0	2.74	0	0	0	2.443	20.766	0.258	3.89	13.839
751	0	0	2.419	0	0.75	23.948	4.727	0	0	0.06	2.973	0.443	0.908	6.732	0.945	0	12.12	0	0	0	1.598	14.103	0.151	3.302	18.077
752	0	0	3.581	0	0.15	21.445	5.8	0	0	0.109	2.717	0.406	1.263	5.931	1.559	0	7.88	0	0	0	1.865	19.865	0.187	2.921	18.614
753	0	0	3.208	0	0	22.86	3.9	0	0	0.151	2.839	0.299	0.841	5.804	1.492	0	10.94	0	0	0	1.726	11.103	0.357	1.74	18.977
754	0	0	2.859	0	0.45	22.903	7.585	0	0	0.126	2.901	0.408	1.058	6.06	2.32	0	11.48	0	0	0	2.171	18.448	0.403	3.354	18.692
755	0	0	3.515	0	0.45	23.955	5.814	0	0	0.058	3.238	1.104	1.373	6.764	2.262	0	12.36	0	0	0	2.346	15.334	0.112	3.992	15.619
756	0	0	3.322	0	0.15	20.736	4.722	0	0	0.132	2.402	0.26	1.082	6.308	2.618	0	6.8	0	0	0	1.013	16.954	0.185	4.952	17.064
757	0	0	4.838	0	0	21.765	6.169	0	0	0.102	2.577	0.694	1.221	7.843	1.486	0	11.86	0	0	0	1.57	17.173	0.152	3.733	17.463
758	0	0	2.296	0	0.3	27.405	6.699	0	0	0.111	3.499	0.319	1.588	5.418	1.416	0	2.74	0	0	0	1.044	21.959	0.121	3.022	18.193
759	0	0	3.478	0	0.6	21.455	4.369	0	0	0.185	2.709	0.429	0.963	5.615	1.447	0	7.46	0	0	0	2.235	13.786	0.189	2.897	20.994
760	0	0	3.007	0	0.6	21.503	4.947	0	0	0.124	2.792	0.255	0.702	5.106	1.268	0	6.2	0	0	0	2.049	16.604	0.162	2.832	20.584
761	0	0	3.958	0	0.45	21.949	4.683	0	0	0.023	3.042	0.429	1.196	7.087	0.738	0	6.4	0	0	0	1.228	14.63	0.255	3.551	19.69
762	0	0	4.312	0	0.75	23.404	5.807	0	0	0.03	2.838	0.411	0.995	6.081	0.783	0	8.42	0	0	0	1.924	17.693	0.218	2.775	18.459
763	0	0	2.89	0	0.6	22.55	5.524	0	0	0.147	2.923	0.734	1.292	5.292	0.989	0	8.94	0	0	0	1.801	13.191	0.249	4.201	19.164
764	0	0	2.855	0	0.15	23.548	5.468	0	0	0.075	2.832	0.412	0.629	4.645	2.041	0	9.54	0	0	0	2.012	20.604	0.186	2.475	15.469
765	0	0	5.126	0	0.15	22.943	4.437	0	0	0.229	3.281	0.612	0.699	5.466	1.474	0	10.4	0	0	0	1.645	12.571	0.12	3.352	17.825
766	0	0	3.884	0	0.3	22.494	5.338	0	0	0.08	2.119	0.818	1.18	5.046	1.174	0	13.92	0	0	0	1.954	12.611	0.385	3.382	17.997
767	0	0	3.637	0	0.3	20.884	6.117	0	0	0.013	2.348	0.675	1.446	5.303	1.78	0	8.96	0	0	0	1.633	16.285	0.188	3.08	18.964
768	0	0	4.092	0	0.6	24.02	5.273	0	0	0.101	3.399	0.59	1.202	5.106	1.106	0	11.68	0	0	0	1.507	15.546	0.258	1.79	18.423
769	0	0	4.141	0	0.45	25.623	5.169	0	0	0.162	3.377	0.471	0.83	4.985	0.881	0	9.62	0	0	0	1.384	13.403	0.263	1.961	21.627
770	0	0	3.499	0	0.15	24.101	5.95	0	0	0.077	3.472	0.63	0.801	5.366	2.772	0	7.14	0	0	0	1.819	18.26	0.236	2.232	15.135
771	0	0	3.212	0	0.15	22.345	4.935	0	0	0.077	2.912	0.447	0.37	3.899	0.853	0	4.02	0	0	0	1.194	14.656	0.33	2.56	19.619
772	0	0	4.071	0	0.6	18.46	5.514	0	0	0.135	2.102	0.881	0.911	4.197	1.174	0	8.18	0	0	0	1.738	12.977	0.221	2.745	21.148
773	0	0	2.159	0	0	21.608	6.883	0	0	0.02	2.403	0.505	0.685	5.128	1.875	0	10.12	0	0	0	2.371	16.013	0.395	3.496	16.644
774	0	0	3.329	0	0.15	24.511	5.319	0	0	0.131	2.573	0.334	0.873	4.655	2.337	0	7.72	0	0	0	1.396	16.962	0.226	2.531	17.712
775	0	0	4.283	0	0.15	21.683	4.62	0	0	0.072	2.764	0.602	0.91	4.073	1.101	0	9.4	0	0	0	1.769	13.563	0.144	3.91	20.406
776	0	0	2.71	0	0.6	22.979	5.862	0	0	0.028	2.773	0.26	0.965	6.556	2.125	0	5.22	0	0	0	2.09	19.445	0.169	4.063	17.72
777	0	0	3.869	0	0	21.758	6.436	0	0	0.041	2.956	1.29	1.19	6.918	0.33	0	20.7	0	0	0	1.857	14.261	0.136	3.072	22.055
778	0	0	1.671	0	0.3	24.84	3.42	0	0	0.129	2.643	0.16	0.866	6.21	0.895	0	3.3	0	0	0	1.604	13.872	0.254	2.933	18.912
779	0	0	2.228	0	0.15	21.091	5.24	0	0	0.197	2.151	0.687	0.822	7.122	0.628	0	11.44	0	0	0	2.848	17.376	0.268	2.312	22.338
780	0	0	4.614	0	0.45	21.756	4.627	0	0	0.208	2.815	0.868	0.754	5.088	1.081	0	13.32	0	0	0	1.614	13.904	0.171	2.56	19.688
781	0	0	3.506	0	0.3	22.276	5.36	0	0	0.149	1.89	0.686	1.307	5.666	0.314	0	13.4	0	0	0	2.086	12.24	0.188	2.311	21.302
782	0	0	3.082	0	0.45	25.997	5.212	0	0	0.184	3.304	0.36	0.834	5.038	1.653	0	6.54	0	0	0	1.523	19.737	0.181	3.6	18.912
783	0	0	2.47	0	0.45	23.941	5.918	0	0	0.055	2.793	0.29	0.512	4.161	0.553	0	6.18	0	0	0	1.253	17.679	0.283	3.681	20.219
784	0	0	2.144	0	0.3	24.085	5.297	0	0	0.207	2.791	0.311	0.743	5.452	2.139	0	5.9	0	0	0	1.539	15.495	0.357	2.89	18.159
785	0	0	4.359	0	0.6	24.191	5.458	0	0	0.312	3.296	0.728	0.78	5.811	0.327	0	7.6	0	0	0	2.713	13.856	0.206	2.455	22.898
786	0	0	2.52	0	0.45	22.956	6.029	0	0	0.088	2.768	0.484	0.937	5.286	0.777	0	7.94	0	0	0	1.991	15.777	0.294	3.33	20.944
787	0	0	3.335	0	0.3	24.765	4.974	0	0	0.062	3.014	0.618	0.652	6.613	0.705	0	13.62	0	0	0	1.041	14.332	0.351	3.533	19.849
788	0	0	4.31	0	0.6	20.984	5.862	0	0	0.199	3.04	0.707	1.12	5.132	1.154	0	12.52	0	0	0	2.01	13.543	0.208	3.323	19.381
789	0	0	3.442	0	0.3	22.217	4.571	0	0	0.1	2.796	0.609	1.02	5.403	1.572	0	8.44	0	0	0	2.055	15.464	0.271	3.021	19.314
790	0	0	2.83	0	0.15	21.989	7.318	0	0	0.111	2.653	0.706	1.489	5.195	0.78	0	9.14	0	0	0	2.552	17.708	0.159	2.692	19.659
791	0	0	2.046	0	0.45	24.081	7.204	0	0	0.144	3.045	0.782	0.798	5.603	1.604	0	3.12	0	0	0	2.215	21.272	0.333	1.72	18.611
792	0	0	2.337	0	0.9	23.674	5.657	0	0	0.122	2.933	0.477	1.006	6.016	1.426	0	13.8	0	0	0	1.932	9.051	0.31	2.614	20.663
793	0	0	3.027	0	0.45	26.666	4.158	0	0	0.163	3.014	0.462	0.951	6.268	0.811	0	12.9	0	0	0	1.303	13.694	0.319	2.422	20.279
794	0	0	3.965	0	0.45	21.662	5.37	0	0	0.209	1.991	0.946	0.594	6.251	0.951	0	7.46	0	0	0	2.638	15.924	0.263	3.614	19.738
795	0	0	2.793	0	0.45	23.091	6.026	0	0	0.016	3.246	0.265	1.028	4.283	1.182	0	12.1	0	0	0	1.094	16.278	0.184	2.902	19.268
796	0	0	2.76	0	0.45	26.504	5.027	0	0	0.035	3.499	0.704	0.841	6.398	0.849	0	12.32	0	0	0	1.947	12.391	0.268	4.691	17.847
797	0	0	4.519	0	0.6	22.312	3.58	0	0	0.136	2.547	0.22	1.193	6.381	1.525	0	10.5	0	0	0	2.039	14.414	0.294	2.973	17.069
798	0	0	2.705	0	0.15	20.201	6.668	0	0	0.026	2.395	0.718	0.642	6.172	1.189	0	5.12	0	0	0	1.518	15.226	0.184	2.882	19.84
799	0	0	1.82	0	0.6	22.085	5.267	0	0	0.12	2.337	0.847	1.294	3.645	0.835	0	7.76	0	0	0	2.381	15.141	0.225	4.56	22.578
800	0	0	2.746	0	0	22.583	6.484	0	0	0.045	2.56	0.892	0.9	6.286	2.611	0	7.18	0	0	0	2.149	23.275	0.19	1.842	18.152
801	0	0	2.626	0	0.45	24.855	5.287	0	0	0.096	3.224	0.383	1.391	5.81	0.451	0	11.64	0	0	0	1.42	21.151	0.35	2.263	19.768
802	0	0	2.877	0	0.15	24.047	5.812	0	0	0.103	2.708	0.527	0.876	4.37	1.935	0	9.22	0	0	0	2.757	20.99	0.337	2.33	18.359
803	0	0	4.354	0	0.15	24.151	4.559	0	0	0.066	3.191	0.492	1.041	5.485	0.841	0	13.3	0	0	0	2.396	12.305	0.191	3.112	17.517
804	0	0	2.336	0	0	23.953	5.487	0	0	0.067	4.055	0.89	1.254	6.651	1.044	0	7.1	0	0	0	1.039	15.192	0.221	1.58	19.741
805	0	0	2.268	0	0.15	25.803	5.454	0	0	0.057	3.241	0.662	1.026	6.472	2.842	0	10.3	0	0	0	1.303	16.434	0.302	3.254	16.556
806	0	0	3.409	0	0.45	21.244	4.973	0	0	0.045	3.595	0.519	1.154	3.676	0.937	0	10	0	0	0	1.737	11.146	0.236	1.931	17.672
807	0	0	3.543	0	0.45	21.639	4.445	0	0	0.03	2.717	0.248	1.243	5.019	1.699	0	11.24	0	0	0	1.141	15.092	0.264	3.542	16.34
808	0	0	2.718	0	0.45	22.286	5.104	0	0	0.065	3.084	0.348	1.142	5.832	1.923	0	9.04	0	0	0	2.029	13.825	0.296	2.691	17.711
809	0	0	2.99	0	0.45	23.552	5.569	0	0	0.016	2.547	0.321	0.661	5.594	1.178	0	9.84	0	0	0	1.75	16.853	0.383	2.624	18.657
810	0	0	2.008	0	0.15	24.355	5.405	0	0	0.027	2.79	0.508	0.859	4.279	2.103	0	9.54	0	0	0	2.068	17.54	0.375	2.9	14.705
811	0	0	2.656	0	0.6	21.413	7.267	0	0	0.065	2.629	1.129	0.381	5.758	1.3	0	4.24	0	0	0	1.683	20.622	0.337	2.54	17.895
812	0	0	2.242	0	0.15	24.749	6.524	0	0	0.101	3.202	0.642	1.579	5.466	1.686	0	9.32	0	0	0	1.346	20.031	0.141	2.665	19.937
813	0	0	2.582	0	0.3	23.325	5.94	0	0	0.03	2.572	0.62	1.344	5.193	0.654	0	7.44	0	0	0	1.426	13.212	0.239	3.481	20.273
814	0	0	3.004	0	0.15	27.69	5.364	0	0	0.057	3.044	0.233	0.98	4.63	1.205	0	8.74	0	0	0	1.049	20.104	0.22	5.37	18.757
815	0	0	3.812	0	0	23.219	5.367	0	0	0.215	3.252	0.247	1.327	6.369	0.912	0	7.4	0	0	0	2.146	16.332	0.194	2.536	24.366
816	0	0	3.242	0	0	23.22	5.331	0	0	0.053	2.772	0.712	1.4	4.854	2.019	0	10.86	0	0	0	1.784	18.715	0.152	3.592	19.098
817	0	0	2.806	0	0.45	22.733	5.688	0	0	0.175	3.242	0.518	1.249	3.151	0.887	0	12.14	0	0	0	1.45	14.912	0.375	5.444	21.542
818	0	0	2.178	0	1.05	19.977	5.43	0	0	0.208	2.632	0.729	1.076	4.636	0.505	0	12.14	0	0	0	1.783	15.147	0.183	1.813	22.049
819	0	0	3.288	0	0.3	22.659	6.521	0	0	0.254	2.684	1.017	0.906	4.45	0.746	0	6.74	0	0	0	1.629	16.86	0.325	3.234	23.108
820	0	0	3.132	0	0.3	24.505	5.589	0	0	0.251	2.911	0.851	1.209	7.216	0.364	0	10.8	0	0	0	2.07	16.688	0.173	3.403	21.708
821	0	0	2.64	0	0	22.973	6.648	0	0	0.053	3.526	0.589	0.788	7.664	1.351	0	5.46	0	0	0	1.736	18.912	0.366	1.913	18.445

Plant Type:	Greasewood					Grass					Forb					Tree					Shrub				
Plot:	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
sample #																									
822	0	0	2.372	0	0.15	26.07	5.467	0	0	0.043	2.565	0.805	0.975	5.586	1.16	0	6.44	0	0	0	1.7	18.214	0.252	2.066	18.924
823	0	0	2.729	0	0.15	25.048	5.939	0	0	0.154	3.164	0.489	1.146	5.795	1.573	0	11.64	0	0	0	1.607	14.275	0.249	2.16	18.507
824	0	0	2.778	0	0.45	24.18	4.825	0	0	0.082	2.711	0.34	0.774	5.634	1.171	0	11.6	0	0	0	1.364	12.854	0.177	2.152	18.67
825	0	0	3.27	0	0.15	19.924	4.03	0	0	0.107	2.447	0.483	1.112	5.442	0.883	0	6.22	0	0	0	1.989	15.086	0.225	3.221	22.293
826	0	0	5.386	0	0.15	22.797	5.851	0	0	0.08	2.435	0.739	1.136	5.548	1.939	0	6.84	0	0	0	2.566	19.727	0.244	3.86	17.696
827	0	0	2.958	0	0.15	21.759	4.323	0	0	0.083	2.704	0.286	1.311	5.189	1.124	0	10.1	0	0	0	1.522	13.752	0.132	3.752	19.857
828	0	0	3.395	0	0.15	21.128	5.518	0	0	0.032	2.597	0.628	1.279	6.31	1.88	0	6.46	0	0	0	1.94	16.493	0.22	2.321	17.013
829	0	0	2.618	0	0	22.654	6.391	0	0	0.074	2.918	0.593	1.175	6.618	1.34	0	11.78	0	0	0	1.939	13.253	0.126	3.014	19.787
830	0	0	3.623	0	0.3	20.228	5.207	0	0	0.082	2.361	0.49	0.802	6.091	1.229	0	9.98	0	0	0	1.534	15.895	0.179	2.856	18.869
831	0	0	1.708	0	0.3	22.209	6.367	0	0	0.168	2.599	0.731	1.484	6.484	1.388	0	8.64	0	0	0	1.834	18.697	0.188	2.014	19.705
832	0	0	2.347	0	0.15	23.255	5.827	0	0	0.046	3.17	0.37	0.942	6.307	1.549	0	16.32	0	0	0	1.816	15.726	0.187	3.77	17.046
833	0	0	3.799	0	0	25.143	5.858	0	0	0.17	2.639	0.766	0.874	5.826	1.136	0	6.26	0	0	0	1.477	20.435	0.366	3.691	19.062
834	0	0	2.957	0	0.45	21.184	4.937	0	0	0.126	2.233	0.551	1.124	4.045	1.106	0	5.12	0	0	0	1.842	15.924	0.275	3.54	19.624
835	0	0	3.186	0	0	19.342	7.341	0	0	0.147	2.7	0.65	0.465	4.45	1.063	0	7.18	0	0	0	1.944	17.713	0.346	3.836	20.841
836	0	0	2.816	0	0.15	22.632	6.899	0	0	0.216	2.611	0.67	0.965	4.204	1.423	0	3	0	0	0	1.955	17.148	0.353	2.641	20.485
837	0	0	3.13	0	0	21.955	5.167	0	0	0.039	2.492	0.66	0.98	5.499	0.674	0	12.84	0	0	0	2.268	12.974	0.21	2.84	21.152
838	0	0	2.817	0	0.3	22.246	5.479	0	0	0.036	3.062	0.554	0.679	5.788	0.409	0	11.74	0	0	0	1.92	14.236	0.189	2.76	20.977
839	0	0	2.812	0	0.45	21.851	5.443	0	0	0.116	2.341	0.599	1.056	5.099	0.831	0	6.02	0	0	0	2.053	14.273	0.396	3.073	19.998
840	0	0	3.148	0	0.15	21.557	4.98	0	0	0.092	2.396	0.715	0.654	5.08	2.33	0	9.74	0	0	0	1.631	11.71	0.273	2.1	17.765
841	0	0	3.123	0	0.3	21.779	5.448	0	0	0.187	2.572	0.694	1.079	5.015	0.628	0	11.44	0	0	0	2.074	12.536	0.351	1.84	23.201
842	0	0	3.997	0	0.3	24.992	4.751	0	0	0.118	3.353	0.43	1.677	6.381	0.714	0	11.14	0	0	0	1.158	18.773	0.122	1.982	19.279
843	0	0	2.219	0	0.45	21.511	5.909	0	0	0.108	2.971	0.689	1.296	5.248	1.108	0	7.94	0	0	0	2.488	20.767	0.17	3.312	18.298
844	0	0	5.124	0	0	23.376	5.685	0	0	0.174	2.965	0.253	0.721	5.671	1.884	0	5.18	0	0	0	1.76	18.32	0.211	3.293	18.487
845	0	0	2.265	0	0.6	20.526	5.775	0	0	0.152	2.274	0.677	0.977	3.814	1.951	0	5.3	0	0	0	3.321	20.179	0.272	2.391	19.097
846	0	0	2.113	0	0.45	23.804	5.791	0	0	0.034	3.461	0.411	1.488	6.349	1.272	0	9	0	0	0	2.515	16.156	0.217	3.77	16.079
847	0	0	2.401	0	1.05	23.113	6.487	0	0	0.089	2.544	1.036	0.727	5.356	0.777	0	7.4	0	0	0	1.703	17.953	0.294	1.35	20.306
848	0	0	2.057	0	0.75	21.698	5.487	0	0	0.065	2.475	0.244	1.17	4.992	1.863	0	11.78	0	0	0	2.242	16.522	0.215	3.494	17.128
849	0	0	3.222	0	0.15	28.46	5.524	0	0	0.183	3.153	0.889	0.854	5.611	0.458	0	10.74	0	0	0	1.301	18.321	0.277	3.511	23.068
850	0	0	2.52	0	0.6	21.937	4.765	0	0	0.051	3.02	0.345	0.945	4.89	0.887	0	9.76	0	0	0	1.593	16.194	0.256	3.642	17.133
851	0	0	1.625	0	0.15	24.515	3.56	0	0	0.087	3.059	0.129	0.426	6.186	1.89	0	12.1	0	0	0	2.659	10.843	0.519	2.69	16.785
852	0	0	2.436	0	0.15	24.958	3.348	0	0	0.217	3.396	0.344	1.178	5.612	0.105	0	8.2	0	0	0	1.207	11.028	0.256	3.07	26.233
853	0	0	2.607	0	0.6	19.77	4.986	0	0	0.051	2.04	0.219	0.591	4.808	1.069	0	10.14	0	0	0	2.536	17.051	0.229	2.86	20.221
854	0	0	2.598	0	0.6	20.687	5.512	0	0	0.125	2.063	0.455	1.36	5.027	0.202	0	8.48	0	0	0	1.581	16.975	0.346	3.461	23.332
855	0	0	3.58	0	0.45	23.513	4.066	0	0	0.248	2.916	0.478	0.851	4.223	1.164	0	13.4	0	0	0	1.826	11.762	0.194	2.041	20.457
856	0	0	4.071	0	0.15	24.29	6.247	0	0	0.09	2.712	0.635	0.912	4.972	1.059	0	4.6	0	0	0	1.365	18.665	0.217	3.192	18.816
857	0	0	3.371	0	0.6	22.661	4.901	0	0	0.049	3.107	0.411	1.421	6.087	1.741	0	12.4	0	0	0	1.777	15.733	0.18	2.63	16.009
858	0	0	3.195	0	0.45	22.128	5.421	0	0	0.123	2.656	0.378	0.952	5.247	1.572	0	11.18	0	0	0	2.455	19.458	0.241	3.132	20.569
859	0	0	2.624	0	0.45	21.098	5.667	0	0	0.02	2.999	0.964	1.012	5.725	2.021	0	10.56	0	0	0	1.582	14.327	0.328	3.216	16.629
860	0	0	2.774	0	0.45	23.566	5.001	0	0	0.137	2.606	0.51	0.724	6.391	0.948	0	6.32	0	0	0	1.589	15.265	0.224	2.691	19.626
861	0	0	2.801	0	0.15	25.148	6.616	0	0	0.228	4.004	0.976	0.851	6.313	0.985	0	10.12	0	0	0	1.631	16.095	0.208	1.76	23.032
862	0	0	2.255	0	0	21.717	6.019	0	0	0.186	2.533	0.785	0.693	7.131	1.15	0	13.42	0	0	0	2.187	13.8	0.285	2.851	20.146
863	0	0	3.783	0	0.3	23.077	5.347	0	0	0.035	2.53	0.382	0.965	5.463	1.178	0	7.56	0	0	0	2.149	15.305	0.253	3.371	16.937
864	0	0	2.444	0	0.3	21.663	6.214	0	0	0.019	2.526	1.259	0.898	5.282	1.415	0	17.2	0	0	0	2.501	15.342	0.377	3.52	19.27
865	0	0	3.688	0	0.45	18.374	4.77	0	0	0.111	2.324	0.185	0.639	8.852	1.493	0	11	0	0	0	1.585	12.622	0.427	2.691	16.783
866	0	0	2.501	0	0.3	23.509	5.944	0	0	0.269	2.6	0.436	0.418	6.321	1.409	0	8.76	0	0	0	2.033	15.677	0.197	2.381	20.565
867	0	0	2.154	0	0.45	25.146	5.234	0	0	0.225	2.888	0.733	0.96	5.552	1.09	0	20.2	0	0	0	0.987	13.944	0.324	1.87	21.974
868	0	0	3.851	0	0.15	22.582	6.326	0	0	0.086	2.753	0.479	0.848	4.048	2.03	0	4.9	0	0	0	1.367	20.63	0.253	3.061	18.337
869	0	0	2.342	0	0	21.28	6.916	0	0	0.182	2.872	0.803	1.148	5.396	0.53	0	7.32	0	0	0	1.911	22.142	0.176	2.87	25.484
870	0	0	2.226	0	0	22.837	5.579	0	0	0.096	3.391	0.532	0.792	4.078	1.296	0	4.84	0	0	0	0.875	15.178	0.291	3.641	20.173
871	0	0	2.055	0	0.6	22.992	4.386	0	0	0.227	2.515	0.627	0.882	5.787	0.515	0	5.7	0	0	0	1.552	16.48	0.149	1.543	24.862
872	0	0	2.808	0	0.75	25.119	6.772	0	0	0.127	3.203	0.916	1.646	5.141	1.53	0	10.54	0	0	0	1.684	17.622	0.186	4.511	19.255
873	0	0	5.224	0	0.45	23.085	7.375	0	0	0.005	2.594	0.349	1.003	6.863	2.585	0	11.46	0	0	0	1.471	20.695	0.163	2.246	14.965
874	0	0	2.911	0	0.75	27.156	5.756	0	0	0.224	3.518	0.394	0.77	5.688	1.065	0	9.6	0	0	0	1.365	18.32	0.212	3.24	21.554
875	0	0	1.96	0	0	24.606	4.133	0	0	0.099	3.041	0.278	1.123	6.225	1.295	0	10.7	0	0	0	2.393	16.023	0.367	2.662	16.738
876	0	0	1.721	0	0	22.725	4.96	0	0	0.043	2.423	0.35	1.031	4.658	0.711	0	12.12	0	0	0	2.019	14.053	0.381	3.462	19.83
877	0	0	2.387	0	0.3	22.822	5.377	0	0	0.174	2.655	0.605	0.555	4.087	0.553	0	15.4	0	0	0	2.468	13.714	0.27	4.3	21.641
878	0	0	1.527	0	0	23.585	5.87	0	0	0.042	2.773	0.844	0.849	4.423	1.651	0	11.5	0	0	0	1.687	12.615	0.235	2.502	16.354
879	0	0	2.104	0	0	23.293	6.238	0	0	0.265	2.447	0.784	0.916	5.002	1.671	0	10	0	0	0	2.641	9.893	0.375	3.411	21.076
880	0	0	3.289	0	0.45	21.457	5.022	0	0	0.037	3.042	0.374	1.019	5.313	1.346	0	5.42	0	0	0	1.383	16.853	0.385	3.475	16.663
881	0	0	2.706	0	0	20.23	6.252	0	0	0.073	2.245	0.622	0.6	5.223	0.882	0	4.56	0	0	0	1.643	22.527	0.331	3.281	19.24
882	0	0	4.253	0	0	28.091	6.233	0	0	0.174	3.197	0.582	1.134	5.815	1.044	0	8.24	0	0	0	0.967	13.982	0.127	2.574	22.338
883	0	0	4.174	0	0.3	24.808	4.687	0	0	0.099	2.61	0.279	0.544	5.597	1.736	0	4.92	0	0	0	1.981	18.494	0.186	3.8	18.107
884	0	0	2.728	0	0.6	23.997	5.73	0	0	0.026	2.88	1.037	1.115	5.575	1.818	0	13.74	0	0	0	1.844	14.455	0.199	2.79	17.776
885	0	0	3.171	0	0	25.133	4.526	0	0	0.167	2.34	0.552	0.776	5.293	1.229	0	5.8	0	0	0	2.025	14.574	0.234	5.021	19.942
886	0	0	4.588	0	0.9	22.988	5.806	0	0	0.172	3.18	0.327	1.057	4.33	0.595	0	11.94	0	0	0	1.456	20.99	0.137	2.33	21.857
887	0	0	2.156	0	0.15	24.502	6.713	0	0	0.121	2.587	0.83	1.054	6.441	0.578	0	7.36	0	0	0	1.181	17.472	0.569	2.71	20.505
888	0	0	2.179	0	0.45	23.986	7.822	0	0	0.132	2.645	0.863	1.253	5.353	0.994	0	13.92	0	0	0	1.763	20.78	0.392	3.893	21.608
889	0	0	2.557	0	0.15	25.717	6.151	0	0	0.123	2.905	0.789	0.338	7.111	1.148	0	12.22	0	0	0	1.892	18.057	0.244	3.554	19.462
890	0	0	2.627	0	0.45	22.386	6.071	0	0	0.198	2.803	0.438	1.093	5.388	0.941	0	9.32	0	0	0	2.311	18.665	0.171	4	21.328
891	0	0	2.065	0	0	25.017	4.82	0	0	0.253	2.861	0.689	0.778	5.231	0.841	0	8.2	0	0	0	1.355	15.844	0.376	4.141	21.618
892	0	0	2.439	0	0	22.059	4.856	0	0	0.11	2.653	0.488	0.667	6.492	1.292	0	12.42	0	0	0	2.406	16.023	0.223	2.42	20.21
893	0	0	4.713	0	0.6	23.089	5.559	0	0	0.115	2.401	0.18	0.616	7.591	0.525	0	5.62	0	0	0	1.404	19.044	0.308	2.113	20.402
894	0	0	2.648	0	0.15	21.499	4.968	0	0	0.161	2.09	0.262	0.67	7.731	1.163	0	10.82	0	0	0	2.011	17.256	0.307	2.742	22.56
895	0	0	2.848	0	0.75	24.453	5.615	0	0	0.032	2.875	0.45	1.575	4.515	1.699	0	9	0	0	0	1.092	16.746	0.238	3.335	14.576
896	0	0	3.072	0	0	21.081	5.004	0	0	0.14	2.254	0.507	1.252	6.326	1.095	0	11.7	0	0	0	1.479	11.928	0.176	2.484	20.221
897	0	0	2.75	0	0.3	25.768	5.964	0	0	0.035	2.92	0.705	0.904	5.789	2.061	0	9.08	0	0	0	1.768	20.523	0.252	3.987	16.817
898	0	0	3.964	0	0.45	21.253	5.999	0	0	0.184	3.006	1.229	1.011	5.1	0.576	0	12.02	0	0	0	1.934	17.262	0.217	4.03	22.635
899	0	0	2.318	0	0.6	24.726	4.803	0	0	0.176	3.194	0.418	1.078	5.605	1.082	0	8.12	0	0	0	2.379	13.814	0.384	2.591	18.855
900	0	0	3.693	0	0.15	18.539	4.676	0	0	0.043	3.034	0.29	0.766	5.506	1.097	0	6.06	0	0	0	1.675	16.925	0.213	3.992	19.025
901	0	0	1.766	0	0.75	23.313	5.731	0	0	0.103	2.898	0.63	0.752	4.971	1.371	0	7	0	0	0	1.71	10.567	0.212	3.272	17.675
902	0	0	3.345	0	0.15	21.745	5.756	0	0	0.109	1.981	0.429	0.802	6.296	0.954	0	1.94	0	0	0	2.41	20.463	0.309	2.783	20.865
903	0	0	2.117	0	0.3	22.396	6.013	0	0	0.145	2.664	0.506	0.92	3.555	1.208	0	12.1	0	0	0	1.603	10.781	0.221	2.19	22.408
904	0	0	4.095	0	0.15	22.852	6.104	0	0	0.205	2.976	0.291	0.661	3.576	0.6	0	8.9	0	0	0	1.757	13.948	0.382	3.693	23.918
905	0	0	1.839	0	0.15	24.395	7.187	0	0	0.111	2.531	0.529	1.615	6.068	1.661	0	4.44	0	0	0	1.958	20.807	0.264	3.263	19.948
906	0	0	3	0	0	21.058	5.534	0	0	0.114	2.97	0.416	1.352	5.002	0.595	0	11.22	0	0	0	2.431	16.321	0.199	3.02	21.962
907	0	0	1.899	0	0.3	24.906	6.003	0	0	0.167	3.269	0.713	0.908	5.231	1.847	0	8.88	0	0	0	2.038	16.653	0.324	3.22	18.671
908	0	0	3.605	0	0	23.948	5.905	0	0	0.043	2.767	0.626	0.835	7.773	1.983	0	4.56	0	0	0	2.934	17.322	0.179	2.897	16.78
909	0	0	2.889	0	0.3	22.06	5.505	0	0	0.049	2.691	1.16	1.015	4.564	2.698	0	6.94	0	0	0	1.906	16.941	0.328	2.561	16.993
910	0	0	2.778	0	1.05	22.104	5.469	0	0	0.09	3.727	0.268	1.255	5.435	0.466	0	8.08	0	0	0	1.211	18.95	0.133	3.322	22.194
911	0	0	2.917	0	0.15	24.64	5.678	0	0	0.048	2.838	0.34	1.082	4.108	0.402	0	6.16	0	0	0	2.377	17.005	0.23	3.131	21.345
912	0	0	2.908	0	0.15	27.546	5.051	0	0	0.125	3.045	0.283	1.373	3.795	1.678	0	10.8	0	0	0	1.312	13.321	0.316	3.152	19.398
913	0	0	2.982	0	0.15	24.81	6.646	0	0	0.151	2.772	0.792	0.955	5.347	1.269	0	13.86	0	0	0	2.267	18.411	0.319	3.282	20.09
914	0	0	2.645	0	0.15	23.394	5.51	0	0	0.082	2.717	0.408	0.591	4.934	0.884	0	7.68	0	0	0	1.877	18.036	0.221	3.023	21.016
915	0	0	2.854	0	0.15	23.667	6.188	0	0	0.096	2.762	0.784	0.954	5.813	2.495	0	12.24	0	0	0	1.975	14.193	0.24	3.172	18.147
916	0	0	3.499	0	0.6	25.403	4.749	0	0	0.111	3.108	0.645	1.014	7.953	0.905	0	3.36	0	0	0	1.378	18.475	0.254	2.564	20.76
917	0	0	2.801	0	0.3	22.224	6.947	0	0	0.087	2.194	0.955	1.579	5.423	1.603	0	8.7	0	0	0	2.665	15.502	0.204	3.054	20.853
918	0	0	2.2	0	0.15	22.054	4.919	0	0	0.123	3.101	0.661	0.588	5.903	1.219	0	8.34	0	0	0	1.677	15.682	0.236	3.235	20.966
919	0	0	1.817	0	0	21.481	4.713	0	0	0.108	2.496	0.659	1.341	4.601	1.277	0	15.44	0	0	0	1.602	15.592	0.203	3.33	17.665
920	0	0	3.36	0	1.65	21.832	5.175	0	0	0.114	2.629	1.025	1.093	4.873	1.298	0	14.76	0	0	0	1.767	14.964	0.158	2.964	17.907
921	0	0	2.154	0	0	20.29	5.737	0	0	0.193	2.981	0.638	0.956	6.368	1.286	0	7.6	0	0	0	1.654	14.583	0.318	3.861	21.906
922	0	0	3.353	0	0.15	20.563	5.514	0	0	0.132	2.386	0.712	0.926	6.106	0.119	0	2.84	0	0	0	1.423	18.249	0.28	2.014	20.724
923	0	0	2.413	0	0.9	23.559	5.932	0	0	0.025	2.87	0.474	0.908	6.448	1.166	0	10.92	0	0	0	1.845	16.235	0.473	2.062	17.073
924	0	0	1.97	0	0	25.043	6.236	0	0	0.084	2.942	0.718	1.483	7.394	2.349	0	3.24	0	0	0	1.669	16.696	0.323	3.02	15.961

Plant Type:	Greasewood					Grass					Forb					Tree					Shrub				
Plot:	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
sample #																									
925	0	0	2.997	0	0	22.634	5.867	0	0	0.073	2.776	0.997	0.662	8.493	2.449	0	15.02	0	0	0	1.722	15.541	0.341	5.295	14.964
926	0	0	2.938	0	0.6	19.764	4.678	0	0	0.05	2.542	0.343	0.804	3.78	0.457	0	11.74	0	0	0	1.376	15.924	0.337	5.162	20.412
927	0	0	1.838	0	0	25.746	6.243	0	0	0.096	2.993	0.643	0.816	5.427	0.921	0	8.98	0	0	0	1.302	20.875	0.239	2.791	18.664
928	0	0	3.173	0	0	20.767	6.001	0	0	0.148	2.506	0.939	1.119	4.869	0.791	0	14.7	0	0	0	1.881	12.124	0.262	1.942	20.013
929	0	0	4.206	0	0	23.436	5.249	0	0	0.042	3.192	0.19	1.28	5.918	1.478	0	7.7	0	0	0	1.376	20.333	0.181	3.474	17.54
930	0	0	3.348	0	0.75	20.812	4.761	0	0	0.145	2.109	0.88	0.589	4.979	0.843	0	8.12	0	0	0	2.005	13.706	0.195	2.616	19.47
931	0	0	4.633	0	0.6	23.819	5.275	0	0	0.112	2.599	0.854	1.27	5.907	0.609	0	6.1	0	0	0	2.761	19.271	0.12	2.052	20.863
932	0	0	3.362	0	0.3	22.893	6.363	0	0	0.155	3.552	0.466	0.866	5.937	1.203	0	8.12	0	0	0	1.405	17.687	0.273	2.77	20.37
933	0	0	2.167	0	0.9	19.7	5.183	0	0	0.164	2.282	0.655	1.283	5.394	0.598	0	8.34	0	0	0	2.53	15.296	0.297	2.07	18.713
934	0	0	1.789	0	0.15	25.26	4.293	0	0	0.111	3.007	0.396	0.881	6.093	0.829	0	10.9	0	0	0	1.211	10.68	0.256	3.275	19.944
935	0	0	5.736	0	0.6	20.936	5.516	0	0	0.198	2.483	0.611	0.768	6.579	1.207	0	7.04	0	0	0	2.233	14.482	0.23	2.702	20.604
936	0	0	3.207	0	0.15	21.85	5.081	0	0	0.094	2.449	0.867	0.857	4.945	1.92	0	9.92	0	0	0	1.398	10.864	0.231	1.98	17.51
937	0	0	3.137	0	0.6	23.812	4.994	0	0	0.15	2.777	0.448	0.618	4.23	1.603	0	14.98	0	0	0	2.067	15.074	0.291	1.82	19.169
938	0	0	3.251	0	0.75	24.221	7.153	0	0	0.068	2.578	0.478	0.588	7.969	1.383	0	8.96	0	0	0	2.357	21.077	0.297	2.86	20.187
939	0	0	3.075	0	0	26.282	6.136	0	0	0.104	2.664	0.723	0.968	5.988	1.961	0	10.5	0	0	0	1.37	17.726	0.196	3.331	17.719
940	0	0	2.53	0	0.15	21.625	4.307	0	0	0.137	2.904	0.557	0.601	7.222	0.69	0	15.1	0	0	0	2.045	11.084	0.388	2.753	22.216
941	0	0	2.799	0	0.6	23.795	5.808	0	0	0.091	2.461	0.92	0.933	4.145	0.568	0	9.4	0	0	0	2.275	12.34	0.203	3.381	19.582
942	0	0	3.003	0	0	20.72	6.428	0	0	0.158	2.937	0.535	0.647	4.945	1.663	0	8.72	0	0	0	1.818	19.864	0.286	2.721	18.884
943	0	0	3.129	0	0.45	21.874	4.797	0	0	0.146	2.68	0.301	0.859	5.594	1.071	0	8.42	0	0	0	1.639	11.765	0.303	2.676	18.911
944	0	0	2.57	0	0.6	24.01	5.27	0	0	0.061	2.576	0.742	0.765	4.515	0.962	0	8.34	0	0	0	1.684	13.315	0.249	1.82	20.07
945	0	0	3.613	0	0	23.021	5.977	0	0	0.103	2.919	0.477	0.689	5.656	0.621	0	12.02	0	0	0	1.679	17.045	0.172	2.961	21.865
946	0	0	2.747	0	0.15	22.182	5.772	0	0	0.053	2.72	0.778	0.947	6.476	2.13	0	9.44	0	0	0	1.947	14.303	0.219	3.881	17.829
947	0	0	3.457	0	0	20.599	5.439	0	0	0.181	2.306	0.631	0.793	3.93	1.127	0	7.32	0	0	0	1.754	15.132	0.313	3.311	22.978
948	0	0	3.393	0	1.05	20.738	5.073	0	0	0.082	2.755	0.968	0.71	7.214	1.396	0	6.8	0	0	0	2.756	12.832	0.25	3.633	18.696
949	0	0	3.071	0	0.6	24.257	4.543	0	0	0.137	3.371	0.393	1.053	5.148	1.454	0	12.1	0	0	0	1.646	11.191	0.285	3.685	18.703
950	0	0	3.041	0	0.45	24.155	4.167	0	0	0.081	2.792	0.284	0.785	7.207	0.437	0	10.92	0	0	0	1.87	13.402	0.326	1.922	23.121
951	0	0	2.846	0	0	22.629	4.757	0	0	0.119	2.357	0.934	0.971	5.364	2.412	0	15	0	0	0	1.521	15.59	0.314	2.814	18.372
952	0	0	2.496	0	0.15	25.037	5.832	0	0	0.097	2.962	0.442	0.89	4.565	1.402	0	7.54	0	0	0	1.597	20.458	0.396	4.142	17.86
953	0	0	2.981	0	0	22.988	5.811	0	0	0.132	2.862	0.428	0.739	4.741	1.319	0	9.04	0	0	0	2.273	18.714	0.329	3.904	20.696
954	0	0	3.69	0	0.45	22.585	6.793	0	0	0.033	2.912	0.405	0.494	6.284	2.536	0	5.44	0	0	0	1.79	23.048	0.296	3.044	15.559
955	0	0	2.547	0	0.3	25.581	5.442	0	0	0.112	3.094	0.35	1.376	4.646	0.723	0	9.26	0	0	0	1.163	19.908	0.21	2.403	20.951
956	0	0	4.22	0	0.45	22.011	5.162	0	0	0.209	2.969	0.625	1.378	6.438	1.052	0	9.12	0	0	0	1.481	17.804	0.2	1.525	23.26
957	0	0	2.543	0	0	22.207	6.157	0	0	0.181	2.274	0.707	1.029	6.038	0.91	0	11.68	0	0	0	2.59	17.437	0.273	2.132	22.744
958	0	0	3.447	0	0.45	20.258	4.237	0	0	0.119	2.155	0.29	1.282	5.008	1.104	0	5.82	0	0	0	2.213	14.294	0.253	1.9	19.359
959	0	0	1.857	0	0.15	21.807	6.216	0	0	0.006	2.173	0.516	0.882	6.525	3.023	0	6.64	0	0	0	1.847	20.763	0.397	2.351	15.914
960	0	0	3.074	0	0.45	22.268	5.15	0	0	0.086	2.688	0.299	1.009	5.533	0.72	0	12.22	0	0	0	2.091	14.188	0.297	2.621	18.625
961	0	0	2.776	0	0	21.319	5.721	0	0	0.111	2.538	0.74	0.919	6.281	2.317	0	8.36	0	0	0	2.231	13.065	0.327	3.003	18.831
962	0	0	3.211	0	0.15	23.121	4.573	0	0	0.074	2.189	0.214	0.818	5.006	1.607	0	6.64	0	0	0	1.398	17.693	0.24	3.54	18.471
963	0	0	2.249	0	0.15	23.349	4.206	0	0	0.121	2.823	0.336	1.527	5.262	1.266	0	7.6	0	0	0	1.87	9.065	0.175	2.371	19.355
964	0	0	3.797	0	0.45	22.295	3.8	0	0	0.22	2.283	0.12	1.005	5.98	0.615	0	6.8	0	0	0	1.41	13.001	0.158	2.894	21.488
965	0	0	3.06	0	0.45	20.481	4.66	0	0	0.142	2.562	0.395	0.829	6.074	1.087	0	11.2	0	0	0	1.581	11.464	0.203	3.268	19.852
966	0	0	2.733	0	0	22.131	5.341	0	0	0.061	2.603	0.412	0.971	7.194	2.18	0	3.94	0	0	0	2.932	20.584	0.302	3.63	18.694
967	0	0	3.378	0	0.15	24.37	4.942	0	0	0.052	3.147	0.773	0.798	5.712	3.073	0	13.3	0	0	0	0.981	13.025	0.184	2.052	15.214
968	0	0	2.976	0	0	25.517	3.333	0	0	0.194	3.345	0.581	0.671	5.515	1.182	0	14.52	0	0	0	1.406	13.623	0.258	3.662	19.66
969	0	0	4.462	0	0.75	21.284	5.125	0	0	0.171	2.851	0.401	1.282	5.083	1.091	0	13.32	0	0	0	2.686	11.493	0.159	1.831	20.683
970	0	0	2.81	0	0	19.973	5.457	0	0	0.058	2.719	0.406	1.151	6.836	2.9	0	6.26	0	0	0	2.093	19.906	0.199	3.283	17.212
971	0	0	2.617	0	0	24.212	4.09	0	0	0.04	3.848	0.474	0.93	5.532	1.368	0	6.32	0	0	0	0.832	12.861	0.27	2.832	18.488
972	0	0	2.493	0	0	21.767	6.013	0	0	0.106	2.673	0.76	1.052	4.983	1.073	0	13.94	0	0	0	0.801	17.624	0.086	3.475	19.695
973	0	0	4.011	0	0.6	25.581	4.656	0	0	0.193	2.603	0.455	0.778	5.468	0.876	0	11.94	0	0	0	2.156	13.795	0.247	2.662	20.578
974	0	0	2.573	0	0	19.667	6.67	0	0	0.134	1.82	0.623	1.497	4.693	0.993	0	3.56	0	0	0	2.201	22.153	0.243	3.374	20.023
975	0	0	3.646	0	0.3	23.568	4.623	0	0	0.304	3.002	0.358	1.623	4.743	0.697	0	8.02	0	0	0	2.051	14.064	0.137	3.281	23.493
976	0	0	3.924	0	0.15	24.657	4.258	0	0	0.027	3.29	0.286	0.76	6.739	2.228	0	9.52	0	0	0	1.406	16.224	0.165	3.284	17.08
977	0	0	2.021	0	0.3	21.597	5.566	0	0	0.048	2.258	0.525	1.002	5.338	0.896	0	6.98	0	0	0	2.528	19.163	0.25	2.17	18.568
978	0	0	3.251	0	0.45	22.487	5.324	0	0	0.031	2.752	0.719	1.015	7.285	0.498	0	8.22	0	0	0	1.822	14.743	0.153	1.731	19.6
979	0	0	2.255	0	1.2	24.06	6.227	0	0	0.05	3.646	0.854	0.897	4.441	0.504	0	8.42	0	0	0	2.545	15.492	0.275	2.812	21.259
980	0	0	3.058	0	0	20.705	5.463	0	0	0.063	3.149	0.682	1.312	6.592	1.482	0	5.92	0	0	0	1.665	13.116	0.14	1.693	17.463
981	0	0	3.429	0	0.45	21.318	5.136	0	0	0.153	3.015	0.547	1.084	6.032	0.613	0	10.6	0	0	0	2.112	14.905	0.211	4.372	20.603
982	0	0	3.096	0	0.3	23.789	7.516	0	0	0.111	2.479	0.72	0.857	6.322	2.524	0	6.8	0	0	0	2.033	18.395	0.282	3.112	15.613
983	0	0	2.451	0	0.45	22.757	4.055	0	0	0.115	2.431	0.288	0.471	5.657	1.199	0	9.02	0	0	0	2.126	14.477	0.227	4.46	18.696
984	0	0	1.69	0	0	22.674	6.826	0	0	0.142	3.055	0.552	0.924	4.916	1.43	0	9.8	0	0	0	0.971	11.896	0.344	2.54	21.477
985	0	0	3.492	0	0.45	20.896	5.585	0	0	0.167	2.87	0.539	1.291	5.657	0.662	0	10.38	0	0	0	1.921	14.604	0.14	3.04	22.164
986	0	0	2.841	0	0	23.099	4.914	0	0	0.129	2.903	0.861	1.044	4.771	0.381	0	16.42	0	0	0	1.41	18.264	0.241	3.292	20.432
987	0	0	2.968	0	0.6	24.913	4.966	0	0	0.059	2.492	0.285	1.378	4.93	1.436	0	8.94	0	0	0	1.938	18.166	0.395	2.5	18.709
988	0	0	3.246	0	0.45	22.306	5.596	0	0	0.065	3.104	0.407	1.22	3.975	1.6	0	12.02	0	0	0	1.344	14.636	0.328	1.813	16.3
989	0	0	3.857	0	1.5	24.012	5.213	0	0	0.032	2.912	0.643	0.744	5.117	1.681	0	13.02	0	0	0	1.292	16.922	0.287	1.782	18.22
990	0	0	2.466	0	0.6	21.873	4.01	0	0	0.023	2.788	0.303	0.979	6.911	1.661	0	11.04	0	0	0	2.167	10.897	0.26	3.141	15.972
991	0	0	2.788	0	0.75	24.932	5.398	0	0	0.093	2.981	0.937	1.203	4.548	0.796	0	8.32	0	0	0	1.689	14.825	0.22	3.901	20.973
992	0	0	4.596	0	0.15	23.218	5.358	0	0	0.084	2.661	0.722	1.012	4.351	0.917	0	8.8	0	0	0	1.607	14.23	0.317	2.73	18.548
993	0	0	2.671	0	0.15	22.065	4.932	0	0	0.087	2.634	0.596	0.991	5.684	1.475	0	16.5	0	0	0	2.036	11.789	0.277	1.25	20.195
994	0	0	3.097	0	0.3	27.919	6.314	0	0	0.238	3.28	0.583	1.43	5.954	0.912	0	3.38	0	0	0	1.442	23.573	0.16	3.795	20.807
995	0	0	3.221	0	0.45	24.893	6.555	0	0	0.118	3.408	0.358	1.345	6.75	0.452	0	8.44	0	0	0	1.222	23.475	0.319	2.703	22.972
996	0	0	3.901	0	0.45	19.451	5.733	0	0	0.06	1.651	0.63	1.078	4.928	1.013	0	9.3	0	0	0	2.574	16.65	0.232	2.782	18.485
997	0	0	2.56	0	0.6	23.903	4.816	0	0	0.07	2.905	0.819	1.114	4.658	0.659	0	11.6	0	0	0	1.581	14.483	0.229	3.4	21.525
998	0	0	2.122	0	0.6	21.487	5.666	0	0	0.093	2.412	0.135	0.952	3.633	1.299	0	2.22	0	0	0	2.633	19.815	0.297	2.33	17.112
999	0	0	3.557	0	0.6	24.459	5.15	0	0	0.071	2.907	0.263	1.151	5.966	1.142	0	10.16	0	0	0	1.324	15.814	0.181	1.611	18.107
1000	0	0	2.347	0	0.3	22.38	6.054	0	0	0.047	3.037	0.128	0.451	5.777	0.89	0	1.06	0	0	0	1.202	22.036	0.364	2.52	19.407