

Database Code: TD014

**Title:**Long-term log decay experiments at the Andrews Experimental Forest, 1985 to 2185

**Abstract:**

These data are collected from six sites within the H. J. Experimental Forest and are part of a 200-year experiment on the decomposition of logs in a terrestrial environment. The taxa being examined in the experiment are Douglas-fir, western hemlock, western redcedar, and Pacific silver fir. The data start in 1985 and are periodically updated as samples are taken. The last collection of data is planned in 2185. Periodically logs are sampled by measuring their diameters and lengths as well as bark cover and the fraction of their length in contact with the ground. Cross-sections are removed with a chainsaw and dissected with a table saw or other means to determine the density of bark and wood samples. These samples systematically sample each cross-section and can be used to reconstruct the spatial pattern of decomposition. Subsamples are ground and nutrient concentrations are determined to calculate nutrient stores. Twenty one data tables are associated with this study. A general description of the logs (length, diameters, bark cover) is found in td01401 and can be used to estimate how the log has fragmented over time. The areal extent of tissue types (outer bark, inner bark, sapwood, and heartwood) and zones of rotten wood from cross-sections is documented in td01418 and td01419. The position of the pith in each cross-section, a useful indicator of volume loss, is documented in td01420. The density (dry mass/green volume) of samples is documented in td01403 and based on the weights of individual samples (td01404) as well as their dimensions (td01405). The arrangement of samples into transects (top to bottom, left to right) within the cross-sections is documented in td01406. To help explain why some samples may be more dense than others, the area of the sample cross-section covered by knots is documented in td01407 (knots are more decay resistant and of greater density than wood). The radial thickness of inner and outer bark of the undecayed logs is documented in td01409, and can be used to estimate the original thickness of these tissues once extensive decomposition occurs. Given that the outer bark can be quite irregular in shape, water displacement was used to determine the volume of this tissue; these data are documented in td01415. The location of the logs at the six sites is stored in td01413, with distances, slope, and bearing from a series of surveyed posts noted. The cell wall chemistry of samples has been analyzed using the proximate method described by Ryan et al. (td01408) and Van Soest (td01412). The number and type of insect galleries present on logs for the first three years is documented in td01410. The number and species of fungal sporocarps growing on logs in the autumn for the first eight years is documented in td01414. Concentrations of nutrient elements such as nitrogen, phosphorus, calcium, and potassium of dried, ground samples of inner and outer bark, sapwood, and heartwood, as well as fungal sporocarps and insects is stored in td01411. Parameters for regression models derived from these data that describe the temporal pattern of decomposition is stored in td01421.

**Keywords:**Coarse woody debris;Decay;Decomposition;Invertebrates;Logs;Nurse-logs;Nutrient cycling;Nutrients;Woody debris;Inorganic nutrients;Organic matter;decay rates;decomposition;nutrient cycling;inorganic nutrients;nutrients;woody debris;coarse woody debris;organic matter;invertebrates;logs;

**Date data commenced:**1985-03-26

**Date data terminated:**2016-08-24

**Principal Investigator:**Mark E. Harmon

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**1. Whole Log Descriptions**

A general description of the logs (length, diameters, bark cover); used to estimate how the log has fragmented over time

**Attribute List:**

DBC CODE	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	1.0000	1.0000	number
SITE CODE	Y	N	char(10)	place			
SITE	N	N	char(1)	enum			
LOG NUM	Y	N	numeric(3,0)	range	1.0000	900.0000	number
LOG_SPECIES	N	N	char(4)	taxa			
TREATMNT	N	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	0.0000	30.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	2016.0000	YYYY
DIAM_END1	N	Y	numeric(5,1)	range	35.7000	105.0000	cm
DIAM1	N	Y	numeric(4,1)	range	27.5000	58.0000	cm
DIST1	N	Y	numeric(3,1)	range	0.2000	4.1000	m
DIAM2	N	Y	numeric(4,1)	range	31.5000	58.0000	cm
DIST2	N	Y	numeric(3,1)	range	0.7000	4.8000	m
DIAM_MID	N	Y	numeric(5,1)	range	33.3000	68.0000	cm
DIST_MID	N	Y	numeric(3,1)	range	2.0000	3.3000	m
DIAM3	N	Y	numeric(4,1)	range	38.5000	55.4000	cm
DIST3	N	Y	numeric(3,1)	range	1.6000	3.3000	m
DIAM4	N	Y	numeric(5,1)	range	34.8000	56.5000	cm
DIST4	N	Y	numeric(3,1)	range	2.3000	4.2000	m
DIAM5	N	Y	numeric(5,1)	range	31.2000	57.5000	cm
DIST5	N	Y	numeric(3,1)	range	3.3000	5.4000	m
DIAM_END2	N	Y	numeric(5,1)	range	28.5000	122.0000	cm
EST_DIAM	N	Y	char(1)	enum			
LENGTH	N	Y	numeric(6,2)	range	2.5000	6.5000	m

LENGTHUP	N	Y	numeric(6,1)	range	0.0000	8.0000	m
BARK_MISSING	N	Y	numeric(6,1)	range	0.0000	8.5000	m2
ORIENT	N	Y	numeric(3,0)	range	3.0000	358.0000	deg
ASPECT	N	Y	numeric(3,0)	range	0.0000	357.0000	angle
SLOPE	N	Y	numeric(3,0)	range	0.0000	290.0000	deg
BRANCH	N	Y	numeric(3,0)	range	0.0000	35.0000	az
VOLUME	N	Y	numeric(7,4)	range	0.4786	3.5770	%
SURFAREA	N	Y	numeric(7,3)	range	6.2160	12.8320	number
SAMPLEDATE	N	N	datetime	range	9/8/1985 12:00:00 AM	8/24/2016 12:00:00 AM	YYYY-MM-DD
MOSS_COVER	N	Y	numeric(3,0)	range	0.0000	100.0000	%
COMMENTS_FIELDN		Y	char(254)	freetext			

## 2. Preliminary cross-sectional area of tissue types

The areal extent of tissue types (outer bark, inner bark, sapwood, and heartwood)

### Attribute List:

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	2.0000	2.0000	number
STUDYID	Y	N	char(3)	enum			
LOGNUM	Y	N	numeric(3,0)	range	1.0000	12.0000	number
SECTION	Y	N	char(1)	enum			
PHOTODATE	N	N	datetime	range	11/30/1985 12:00:00 AM	1/30/1985 12:00:00 AM	YYYY-MM-DD
TIME	N	N	numeric(3,0)	range	0.0000	30.0000	years
TA	N	N	numeric(7,2)	range	700.0000	7500.0000	cm2
WA	N	N	numeric(7,2)	range	650.0000	6500.0000	cm2
BA	N	N	numeric(7,2)	range	12.0000	1500.0000	cm2
OBA	N	N	numeric(8,2)	range	48.7000	1000.0000	cm2
IBA	N	N	numeric(6,2)	range	0.0000	1000.0000	cm2
SWA	N	N	numeric(7,2)	range	119.7000	3500.0000	cm2
BSS	N	N	numeric(7,2)	range	0.0000	3500.0000	cm2
RSA	N	N	numeric(7,2)	range	0.0000	3500.0000	cm2
HWA	N	N	numeric(7,2)	range	350.0000	7000.0000	cm2
RHA	N	N	numeric(7,2)	range	0.0000	7000.0000	cm2
PTD	N	N	numeric(5,1)	range	10.0000	41.1000	cm
PTA	N	N	numeric(3,0)	range	0.0000	360.0000	deg
PBD	N	N	numeric(5,1)	range	10.0000	40.0000	angle

PBA	N	N	numeric(3,0)	range	87.3000	270.0000	deg angle cm
PS1D	N	N	numeric(5,1)	range	10.0000	40.0000	
PS1A	N	N	numeric(3,0)	range	0.0000	360.0000	deg angle cm
PS2D	N	N	numeric(5,1)	range	10.0000	40.0000	
PS2A	N	N	numeric(3,0)	range	0.0000	360.0000	deg angle

### 3. Sample volume, moisture, and density

#### Attribute List:

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	3.0000	3.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	1.0000	900.0000	number
LOG_SPECIES	N	Y	char(4)	taxa			
SECTION	Y	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	0.0000	30.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	2016.0000	YYYY
SUBTYPE	Y	N	char(1)	enum			
SHAPE	N	Y	char(1)	enum			
RADPOS	Y	Y	numeric(2,0)	range	0.0000	45.0000	number
D1	N	Y	numeric(5,1)	range	1.0000	293.0000	mm
D2	N	Y	numeric(6,1)	range	1.0000	1757.0000	mm
D3	N	Y	numeric(5,1)	range	15.0000	703.0000	mm
D4	N	Y	numeric(4,1)	range	0.0000	90.0000	deg angle ml
VOL1	N	Y	numeric(5,1)	range	2.0000	1449.0000	ml
VOL2	N	Y	numeric(5,1)	range	0.2000	774.0000	ml
AIRAREA	N	Y	numeric(5,1)	range	0.0000	1990.0000	mm2
WETWT	N	Y	numeric(6,2)	range	0.0000	567.6000	g
DRYWT	N	Y	numeric(6,2)	range	0.0100	492.0000	g
MOIST	N	Y	numeric(5,1)	range	0.0000	1422.2000	%
DEN1	N	Y	numeric(5,3)	range	0.0010	36.0400	g/ml
DEN2	N	Y	numeric(5,3)	range	0.1530	1.1280	g/ml
KNOTVOL	N	Y	numeric(3,0)	range	0.0000	80.0000	%
SAMPLEDATE	Y	N	datetime	range	1/15/1985	10/1/2016 12:00:00 AM	YYYY-MM-DD 12:00:00 AM
COMMENTS_LAB	N	Y	char(254)	freetext			

#### 4. Sample Wet and Dry Weights

**Attribute List:**

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	4.0000	4.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	0.0000	900.0000	number
LOG_SPECIES	N	Y	char(4)	taxa			
SECTION	Y	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	0.0000	200.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	2016.0000	YYYY
SUBTYPE	Y	N	char(1)	enum			
RADPOS	Y	N	numeric(2,0)	range	0.0000	45.0000	number
WEIGHT_TYPE	Y	N	char(1)	enum			
WEIGHT	N	N	numeric(7,2)	range	0.0000	590.0000	g
SAMPLEDATE	Y	N	datetime	range	11/25/1985	10/1/2016 12:00:00 AM	YYYY-MM-DD

#### 5. Wood and Bark Sample Outer Dimensions

**Attribute List:**

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	5.0000	5.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	-1.0000	900.0000	number
LOG_SPECIES	N	Y	char(4)	taxa			
SECTION	Y	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	0.0000	30.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	2015.0000	YYYY
RADPOS	Y	N	numeric(2,0)	range	0.0000	45.0000	number
SAWSET	N	Y	char(1)	enum			
SHAPE	N	Y	char(1)	enum			
SUBTYPE	Y	N	char(1)	enum			
RECTANGLE_TYPEN	N	N	char(1)	enum			
GD1	N	N	numeric(5,1)	range	0.0000	293.0000	mm
GD2	N	N	numeric(5,1)	range	0.0000	1757.0000	mm
GD3	N	Y	numeric(5,1)	range	0.0000	512.0000	mm
GD4	N	Y	numeric(5,1)	range	13.5000	20.0000	mm

DD1	N	Y	numeric(5,1)	range	22.9000	26.0000	mm
DD2	N	Y	numeric(5,1)	range	65.7000	71.2000	mm
OD3	N	Y	numeric(5,1)	range	45.0000	49.6000	mm
SAMPLEDATE	N	N	datetime	range	12/11/1985	10/1/2015	YYYY-MM-DD
					12:00:00	12:00:00	
					AM	AM	

#### 6. Block and Sample Arrangement in Cross-sections

The arrangement of samples into transects (top to bottom, left to right)

**Attribute List:**

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	6.0000	6.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	1.0000	900.0000	number
LOG_SPECIES	N	N	char(4)	taxa			
SECTION	Y	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	0.0000	30.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	2015.0000	YYYY
SB1	N	N	numeric(2,0)	range	1.0000	2.0000	number
DS1	N	Y	numeric(2,0)	range	1.0000	7.0000	number
EB1	N	N	numeric(2,0)	range	4.0000	25.0000	number
DE1	N	Y	numeric(2,0)	range	7.0000	25.0000	number
SB2	N	Y	numeric(2,0)	range	5.0000	25.0000	number
DS2	N	Y	numeric(2,0)	range	10.0000	27.0000	number
EB2	N	Y	numeric(2,0)	range	6.0000	35.0000	number
DE2	N	Y	numeric(2,0)	range	10.0000	35.0000	number
SB3	N	Y	numeric(2,0)	range	7.0000	36.0000	number
DS3	N	Y	numeric(2,0)	range	10.0000	38.0000	number
EB3	N	Y	numeric(2,0)	range	8.0000	45.0000	number
DE3	N	Y	numeric(2,0)	range	15.0000	45.0000	number
PITH	N	Y	numeric(2,0)	range	-1.0000	45.0000	number

#### 7. Knot Volume Correction Estimate for Wood Samples

**Attribute List:**

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	7.0000	7.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	3.0000	833.0000	number

LOG_SPECIES	N	Y	char(4)	taxa			
SECTION	Y	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	0.0000	20.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	2005.0000	YYYY
RADPOS	Y	Y	numeric(2,0)	range	1.0000	44.0000	number
KNOTVOL	N	N	numeric(3,0)	range	0.0000	80.0000	%
EXAMDATE	N	N	datetime	range	12/12/1985	10/21/2005	YYYY-MM-DD
					12:00:00	12:00:00	
					AM	AM	

#### 8. Ryan et al Cell Wall Chemistry of Bark and Wood Samples

##### Attribute List:

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	8.0000	8.0000	number
STUDYID	Y	N	char(3)	enum			
LOG_SPECIES	Y	N	char(4)	taxa			
TIME	Y	N	numeric(3,0)	range	0.0000	7.0000	years
YEAR	Y	N	numeric(4,0)	range	1985.0000	1993.0000	YYYY
SUBTYPE	Y	N	char(1)	enum			
SUBNUM	Y	N	numeric(2,0)	range	1.0000	3.0000	number
ASH	N	N	numeric(6,3)	range	0.0000	3.9000	%
LIGNINR	N	Y	numeric(6,2)	range	20.8700	71.8300	%
ACIDSOL	N	Y	numeric(6,2)	range	16.1300	71.1600	%
NPE	N	N	numeric(6,2)	range	0.1900	18.5600	%
WSE	N	N	numeric(6,2)	range	3.1100	16.2100	%
WSSUG	N	N	numeric(6,2)	range	0.4300	7.2700	%
ASSUG	N	Y	numeric(6,2)	range	2.8600	79.6100	%
TANNIN	N	N	numeric(6,2)	range	0.2000	8.3100	%

#### 9. Radial Bark Thickness

The radial thickness of inner and outer bark of the undecayed logs

##### Attribute List:

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	9.0000	9.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	1.0000	900.0000	number
LOG_SPECIES	N	Y	char(4)	taxa			
SECTION	Y	N	char(1)	enum			

TIME	Y	N	numeric(3,0)	range	0.0000	15.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	1992.0000	YYYY
PIECE	Y	N	numeric(2,0)	range	1.0000	2.0000	number
OB1	N	Y	numeric(3,0)	range	0.0000	65.0000	mm
OB2	N	Y	numeric(3,0)	range	0.0000	60.0000	mm
OB3	N	Y	numeric(3,0)	range	0.0000	45.0000	mm
OB4	N	Y	numeric(3,0)	range	1.0000	52.0000	mm
IB1	N	Y	numeric(3,0)	range	1.0000	21.0000	mm
IB2	N	Y	numeric(3,0)	range	0.0000	23.0000	mm
IB3	N	Y	numeric(3,0)	range	0.0000	17.0000	mm
IB4	N	Y	numeric(3,0)	range	1.0000	16.0000	mm
SAMPLEDATE	N	N	datetime	range	11/30/1989	12/24/1992	YYYY-MM-DD
					12:00:00	12:00:00	
					AM	AM	

#### 10. Insect Galleries

**Attribute List:**

DBC CODE	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	10.0000	10.0000	number
SITE CODE	N	Y	char(10)	place			
LOG NUM	Y	N	numeric(3,0)	range	11.0000	523.0000	number
LOG_SPECIES	N	N	char(4)	taxa			
TIME	Y	N	numeric(3,0)	range	1.0000	4.0000	years
YEAR	N	N	numeric(4,0)	range	1986.0000	1989.0000	YYYY
TREATMNT	Y	Y	char(1)	enum			
SEGMENT	Y	Y	char(2)	freetext			
POSITION	Y	N	char(1)	enum			
ABG	N	N	numeric(4,0)	range	0.0000	49.0000	number
ABA	N	N	numeric(7,3)	range	0.0630	0.0630	m2
BBG	N	N	numeric(4,0)	range	0.0000	21.0000	number
BBA	N	N	numeric(7,3)	range	0.0000	5.6960	m2
WBG	N	N	numeric(4,0)	range	0.0000	22.0000	number
WBA	N	N	numeric(7,3)	range	0.0000	5.6960	m2
SAMPLEDATE	N	N	datetime	range	9/9/1986	10/5/1989	YYYY-MM-DD
					12:00:00	12:00:00	
					AM	AM	

#### 11. Nutrient Content of Bark, Wood, Fungal, and Insect Samples

**Attribute List:**



DBC	CODE	N	N	char(5)	enum			
ENT	ITY	N	N	numeric(2,0)	range	11.0000	11.0000	number
SIT	E	Y	Y	char(10)	place			
STU	D	N	N	char(3)	enum			
LOG	NUM	Y	Y	numeric(3,0)	range	0.0000	523.0000	number
SAMP	L	N	N	char(5)	enum			
TIME		Y	N	numeric(3,0)	range	0.0000	7.0000	years
YEAR		N	N	numeric(4,0)	range	1987.0000	1994.0000	YYYY
PIE	C	Y	N	char(1)	enum			
SUB	T	Y	N	char(1)	enum			
N		N	Y	numeric(6,2)	range	0.0000	11.2000	%
AL		N	Y	numeric(6,1)	range	0.0000	5066.2002	ppm
B		N	Y	numeric(6,1)	range	0.0000	3074.0000	ppm
CA		N	Y	numeric(8,1)	range	0.0000	121200.0000	ppm
CU		N	Y	numeric(6,1)	range	0.0000	86.2000	ppm
FE		N	Y	numeric(6,1)	range	0.0000	9966.4004	ppm
K		N	Y	numeric(8,0)	range	0.0000	43490.0000	ppm
MG		N	Y	numeric(6,1)	range	0.0000	3498.6001	ppm
MN		N	Y	numeric(6,1)	range	0.0000	1025.8000	ppm
P		N	Y	numeric(8,1)	range	0.0000	10033.8000	ppm
S		N	Y	numeric(6,1)	range	0.0000	1500.0000	ppm
ZN		N	Y	numeric(8,1)	range	0.0000	309.4000	ppm
NA		N	Y	numeric(8,1)	range	0.0000	841.3000	ppm
LAB		N	N	char(3)	enum			
SAMP	L	Y	N	datetime	range	4/23/1987	2/20/1994	YYYY-MM-DD
						12:00:00	12:00:00	
						AM	AM	

**12. Van Soest Cell Wall Chemistry of Wood and Bark Samples**

**Attribute List:**

DBC	CODE	N	N	char(5)	enum			
ENT	ITY	N	N	numeric(2,0)	range	12.0000	12.0000	number
SIT	E	N	Y	char(10)	place			
LOG	NUM	Y	N	numeric(3,0)	range	11.0000	520.0000	number
LOG	_SPECIES	N	N	char(4)	taxa			
TIME		Y	N	numeric(3,0)	range	0.0000	3.0000	years
YEAR		N	N	numeric(4,0)	range	1987.0000	1989.0000	YYYY

SUBTYPE	Y	N	char(1)	enum			
SAMPLENUM	Y	N	numeric(1,0)	range	1.0000	2.0000	number
ADF	N	N	numeric(5,2)	range	14.8500	51.2100	%
LIGNINV	N	N	numeric(5,2)	range	20.6700	62.9700	%
CELL	N	N	numeric(5,2)	range	6.4100	51.1700	%
ASH	N	N	numeric(6,3)	range	0.0300	1.4200	%
SAMPLEDATE	N	N	datetime	range	7/30/1987	6/20/1989	YYYY-MM-DD
					12:00:00	12:00:00	
					AM	AM	

### 13. Log Location Survey Notes

Used to Produce Maps

**Attribute List:**

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	13.0000	13.0000	number
SITECODE	N	Y	char(10)	place			
SITE	N	N	char(1)	enum			
LOGNUM	Y	N	numeric(3,0)	range	1.0000	900.0000	number
LOG_SPECIES	N	Y	char(4)	taxa			
POST	Y	N	char(1)	enum			
BEARING	N	N	char(4)	freetext			
DIST	N	N	numeric(6,2)	range	1.1000	35.4800	m
ANGLE	N	N	numeric(6,0)	range	-45.0000	55.0000	deg angle

### 14. Sporocarp Counts from Logs

**Attribute List:**

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	14.0000	14.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	1.0000	526.0000	number
LOG_SPECIES	N	N	char(4)	taxa			
TIME	Y	N	numeric(3,0)	range	0.0000	7.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	1992.0000	YYYY
SPOROCAR	N	N	numeric(6,0)	range	0.0000	5850.0000	number
FUNGI_SPECIES	Y	Y	char(4)	taxa			
MEANWT	N	N	numeric(7,3)	range	0.0000	51.8810	g
SAMPLEDATE	N	N	datetime	range	11/1/1985	11/30/1992	YYYY-MM-DD
					12:00:00	12:00:00	
					AM	AM	

**15. Bark Sample Volumes from Water Displacement**

**Attribute List:**

DBCODE	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	15.0000	15.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	1.0000	828.0000	number
LOG_SPECIES	N	Y	char(4)	taxa			
SECTION	Y	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	0.0000	30.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	2015.0000	YYYY
SUBTYPE	Y	N	char(1)	enum			
SAMPLENUM	Y	N	numeric(1,0)	range	1.0000	2.0000	number
WVOL	N	Y	numeric(5,0)	range	14.0000	800.0000	cm3
SAMPLEDATE	N	N	datetime	range	11/15/1987 12:00:00 AM	6/2016 12:00:00 AM	YYYY-MM-DD

**16. Entire cross-section method: data for tissue dimensions, total mass, total volume, and density**

**Attribute List:**

DBCODE	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	16.0000	16.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	4.0000	526.0000	number
LOG_SPECIES	N	Y	char(4)	taxa			
SECTION	Y	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	30.0000	30.0000	years
YEAR	N	N	numeric(4,0)	range	2015.0000	2015.0000	YYYY
BFRAG	N	Y	char(10)	enum			
BCIRC_LEN	N	Y	numeric(5,1)	range	0.0000	176.0000	cm
BRAD	N	Y	numeric(5,1)	range	0.0000	28.2000	mm
BLONG	N	Y	numeric(5,1)	range	0.0000	109.2000	mm
BDIAM	N	Y	numeric(5,1)	range	0.0000	56.0000	cm
BTOT_WET	N	Y	numeric(7,2)	range	0.0000	1438.0200	g
BTOT_DRY	N	Y	numeric(7,2)	range	0.0000	829.4300	g
SFRAG	N	Y	char(1)	enum			
SCIRC_LEN	N	Y	numeric(5,1)	range	6.2000	138.0000	cm
SRAD	N	Y	numeric(5,1)	range	0.0000	105.0000	mm

SLONG	N	Y	numeric(5,1)	range	0.0000	105.5000	mm
SDIAM	N	Y	numeric(5,1)	range	0.0000	57.0000	cm
STOT_WET	N	Y	numeric(7,2)	range	0.0000	4905.5000	g
STOT_DRY	N	Y	numeric(7,2)	range	0.0000	1875.3500	g
HFRAG	N	Y	char(1)	enum			
HRAD	N	Y	numeric(4,1)	range	107.0000	272.0000	mm
HLONG	N	Y	numeric(5,1)	range	65.7000	106.9000	mm
HDIAM	N	Y	numeric(5,1)	range	21.3000	54.3000	cm
HTOT_WET	N	Y	numeric(7,2)	range	753.5000	9690.0000	g
HTOT_DRY	N	Y	numeric(7,2)	range	322.6500	6977.1900	g
B_VOL	N	Y	numeric(9,2)	range	0.0000	2939.2000	cm3
S_VOL	N	Y	numeric(9,2)	range	0.0000	11314.9600	cm3
H_VOL	N	Y	numeric(9,2)	range	2950.4000	2405.2500	cm3
B_DENSITY	N	Y	numeric(4,2)	range	0.0400	0.3700	g/cm3
S_DENSITY	N	Y	numeric(4,2)	range	0.0400	0.3800	g/cm3
H_DENSITY	N	Y	numeric(4,2)	range	0.0700	0.4800	g/cm3
SAMPLEDATE	N	N	datetime	range	10/27/2015 12:00:00 AM	12/9/2015 12:00:00 AM	YYYY-MM-DD

17. Entire cross-section method: data for subsample dimensions, mass, and density

**Attribute List:**

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	17.0000	17.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	4.0000	526.0000	number
LOG_SPECIES	N	Y	char(4)	taxa			
SECTION	Y	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	30.0000	30.0000	years
YEAR	N	N	numeric(4,0)	range	2015.0000	2015.0000	YYYY
SUBTYPE	Y	N	char(1)	enum			
SHAPE	N	N	char(1)	enum			
W_RADPOS	Y	N	char(1)	enum			
D1	N	Y	numeric(5,1)	range	0.0000	293.0000	mm
D3	N	Y	numeric(5,1)	range	0.0000	116.0000	mm
D4	N	Y	numeric(4,1)	range	13.5000	13.5000	deg angle
D2	N	Y	numeric(6,1)	range	0.0000	1757.0000	mm

WETWT	N	Y	numeric(6,2)	range	0.0000	493.5000	g
DRYWT	N	Y	numeric(6,2)	range	0.0000	296.5000	g
DEN	N	Y	numeric(5,3)	range	0.0000	0.7000	g/ml
SAMPLEDATE	N	N	datetime	range	10/20/2015 12:00:00 AM	5/2/2015 12:00:00 AM	YYYY-MM-DD
COMMENTS_LAB	N	Y	char(254)	freetext			

**18. Areas of sound and rotten tissues based on digitized photographic slides of cross-sections**

**Attribute List:**

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	18.0000	18.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	1.0000	900.0000	number
LOG_SPECIES	N	N	char(4)	taxa			
SECTION	Y	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	0.0000	16.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	2001.0000	YYYY
SAMPLENUM	Y	N	numeric(1,0)	range	1.0000	2.0000	number
TA	N	Y	numeric(7,2)	range	0.0000	10000.0000	cm2
WA	N	Y	numeric(7,2)	range	0.0000	10000.0000	cm2
BSS	N	Y	numeric(7,2)	range	0.0000	10000.0000	cm2
HWA	N	Y	numeric(7,2)	range	0.0000	10000.0000	cm2
SOWA	N	Y	numeric(7,2)	range	0.0000	10000.0000	cm2
SOHWA	N	Y	numeric(7,2)	range	0.0000	10000.0000	cm2
NOTES	N	Y	char(254)	freetext			

**19. Computed diameter and areas of sound and rotten tissues based on digitized photographic slides of cross-sections**

Derived from digitized data (entity 18)

**Attribute List:**

DBCOD	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	19.0000	19.0000	number
SITECODE	N	Y	char(10)	place			
LOGNUM	Y	N	numeric(3,0)	range	1.0000	900.0000	number
LOG_SPECIES	N	N	char(4)	taxa			
SECTION	Y	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	0.0000	16.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	2001.0000	YYYY

SAMPLENUM	Y	N	numeric(1,0)	range	1.0000	2.0000	number
TA	N	Y	numeric(7,2)	range	1023.0100	4029.5600	cm2
WA	N	Y	numeric(7,2)	range	847.0900	3612.0700	cm2
BA	N	Y	numeric(7,2)	range	0.0000	1289.4600	cm2
IBA	N	Y	numeric(6,2)	range	0.0000	163.4400	cm2
OBA	N	Y	numeric(8,2)	range	0.0000	1226.6300	cm2
SWA	N	Y	numeric(7,2)	range	21.7300	2484.8100	cm2
BSS	N	Y	numeric(7,2)	range	0.0000	1679.7500	cm2
RSA	N	Y	numeric(7,2)	range	0.0000	1397.3000	cm2
HWA	N	Y	numeric(7,2)	range	220.4800	3011.4000	cm2
RHA	N	Y	numeric(7,2)	range	0.0000	1949.0000	cm2
DIAM_EST	N	Y	numeric(4,1)	range	36.1000	71.6000	cm

#### 20. Polar coordinate (distance and angle) location of pith relative to the outer surface of cross-sections

Distance and angle data for pith to external parts of cross-section. See related file: Idealized cross-section diagram

##### Attribute List:

DBC CODE	N	N	char(5)	enum			
ENTITY	N	N	numeric(2,0)	range	20.0000	20.0000	number
SITE CODE	N	N	char(10)	place			
LOG NUM	Y	N	numeric(3,0)	range	1.0000	900.0000	number
LOG SPECIES	N	N	char(4)	taxa			
SECTION	Y	N	char(1)	enum			
TIME	Y	N	numeric(3,0)	range	0.0000	7.0000	years
YEAR	N	N	numeric(4,0)	range	1985.0000	1992.0000	YYYY
SAMPLENUM	Y	N	numeric(1,0)	range	1.0000	2.0000	number
PTD	N	Y	numeric(5,1)	range	10.2000	146.3000	cm
PTA	N	Y	numeric(3,0)	range	1.0000	360.0000	deg angle
PBD	N	Y	numeric(5,1)	range	3.2000	310.6000	cm
PBA	N	Y	numeric(3,0)	range	2.0000	360.0000	deg angle
PS1D	N	Y	numeric(5,1)	range	15.5000	226.8000	cm
PS1A	N	Y	numeric(3,0)	range	3.0000	360.0000	deg angle
PS2D	N	Y	numeric(5,1)	range	2.4000	250.4000	cm
PS2A	N	Y	numeric(3,0)	range	2.0000	360.0000	deg angle

#### 21. Decomposition equation summary data

##### Attribute List:

DBC CODE	N	N	char(5)	enum			
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ENTITY	N	N	numeric(2,0)	range	21.0000	21.0000	number
SITECODE	Y	N	char(10)	place			
SITE	N	N	char(1)	enum			
LOG_SPECIES	Y	N	char(4)	taxa			
SUBTYPE	Y	N	char(1)	enum			
EQN_FORM	Y	N	char(6)	enum			
N_OBS	N	N	numeric(3,0)	range	1.0000	15.0000	number
DECAY_RATE	N	Y	numeric(5,3)	range	0.0000	1.0000	number
DECAY_RATE_SE	N	Y	numeric(5,3)	range	0.0000	1.0000	number
INTERCEPT	N	Y	numeric(4,2)	range	0.0000	2.0000	number
INTERCEPT_SE	N	Y	numeric(4,2)	range	0.0000	2.0000	number
INTERCEPT_FORCE	N	N	char(1)	enum			
DECAY_RATE_PV	N	Y	numeric(6,4)	range	0.0000	1.0000	number
INTERCEPT_PV	N	Y	numeric(6,4)	range	0.0000	1.0000	number
LAG	N	Y	numeric(4,2)	range	0.0000	20.0000	number
LAG_SE	N	Y	numeric(4,2)	range	0.0000	20.0000	number
LAG_PV	N	Y	numeric(6,4)	range	0.0000	1.0000	number
R_SQUARED	N	N	numeric(8,4)	range	-0.0955	1.0000	number
OVERALL_PV	N	N	char(1)	enum			
DECAY_LAG_CORR	N	Y	numeric(6,4)	range	0.0000	1.0000	number
DECAY_INTERCEPT_CORR	N	Y	numeric(7,4)	range	-0.7846	1.0000	number
P1T0	N	Y	numeric(4,2)	range	0.0000	1.0000	number
P1T0_SE	N	Y	numeric(10,2)	range	0.0000	3077.3000	number
DECAY_RATE_K1	N	Y	numeric(5,3)	range	0.0000	1.0000	number
DECAY_RATE_K1_SE	N	Y	numeric(8,3)	range	0.0000	10.1000	number
DECAY_RATE_K2	N	Y	numeric(5,3)	range	0.0000	1.0000	number
DECAY_RATE_K2_SE	N	Y	numeric(9,3)	range	0.0000	79.1900	number
K1_K2_CORR	N	Y	numeric(6,4)	range	0.0000	1.0000	number
K1_P1T0_CORR	N	Y	numeric(7,4)	range	-0.9997	1.0000	number

Attributes Definitions:

ABA

Area of sample for ambrosia beetles

ABG

Number of ambrosia beetle galleries in area

ACIDSOL

Acid soluble carbohydrates, based upon Effland 1977 Tappi 6(100) digestion in 72% sulfuric acid, this is for extractive free wood

ADF

Acid detergent fiber approximates hemicellulose fraction, non extracted wood

AIRAREA

Area of bark in air voids, measured with a wire grid. missing after 1986

AL

Aluminum concentration (icap inductively coupled argon spectrophotometry)

ANGLE

Slope from post to log

ASH

Ash content

ASPECT

Aspect of ground at point of placement. used of log with respect to aspect.

ASSUG

Percent of acid soluble carbohydrates that is sugar, using phenol-sulfuric a

B

Boron concentration (icap inductively coupled argon spectrophotometry)

B\_DENSITY

Density of bark based on dry weight and volume

B\_VOL

Total bark volume

BA

Bark cross-sectional area including inner and outer

BARK\_MISSING

Cover of bark missing on log

BBA

Area of sample for bark beetles

BBG

Number of bark beetle galleries in area

BCIRC\_LEN

Circumferential length of bark if present and fragmented

BDIAM

Diameter of x-sec if bark not fragmented

BEARING

Bearing from post to end of log nearest road. The leading letter is the initial cardinal direction, the final letter is off of the starting direction, the number is the number of degrees from the starting direction to the actual bearing. (related file)

BFRAG



Is bark fragmented?

BLONG

Longitudinal length of bark

BRAD

Radial thickness of bark

BRANCH

Number of branches with fresh wounds.

BSS

Blue-stained sapwood cross-sectional area

BTOT\_DRY

Total dry weight of bark

BTOT\_WET

Total wet weight of bark

CA

Calcium concentration (icap inductively coupled argon spectrophotometry)

CELL

Cellulose content, nonextracted wood

COMMENTS\_FIELD

comments from field data sheets

COMMENTS\_LAB

Comments from lab data sheets

CU

Copper concentration (icap inductively coupled argon spectrophotometry)

D1

Dimension in radial direction

D2

Dimension in tangential direction. If missing then volume calculated using other radial measurement (D1, D3, D4, or volume known).

D3

Dimension in longitudinal direction, if missing then calculated

D4

Angle, in degrees, if triangle shape

DBCODE

FSDB Database code

DD1

Radial dimension of oven dried piece

DD2

Tangential dimension of oven dried piece

DE1

Dimensional end of diameter #1; end regular portion of diameter #1, if different from above

DE2

Dimensional end of diameter #2; end regular portion of diameter #2, if different from above

DE3

Dimensional end of diameter #3; end regular portion of diameter #3, if different from above

DECAY\_INTERCEPT\_CORR

Correlation between k and intercept parameters used for single exponential model only

DECAY\_LAG\_CORR

Correlation between k and lag parameters, used for lag model only

DECAY\_RATE

Decomposition rate-constant (k) estimated parameter

DECAY\_RATE\_K1

Decomposition rate-constant for part 1 (k1) estimated parameter for dual exponential

DECAY\_RATE\_K1\_SE

Standard error of the k1 estimated parameter

DECAY\_RATE\_K2

Decomposition rate-constant for part 2 (k2) estimated parameter for dual exponential

DECAY\_RATE\_K2\_SE

Standard error of the k2 estimated parameter

DECAY\_RATE\_PV

p-value of k parameter

DECAY\_RATE\_SE

Standard error of decomposition rate-constant estimated parameter

DEN

Density based on dry weight

DEN1

Density based on dry wt. and vol 1. this is apparent density including air voids

DEN2

Density based on dry wt. and vol2. this is actual density for bark

DIAM\_END1

diameter of large end of log

DIAM\_END2

diameter of smaller end of log

DIAM\_EST

estimated diameter from total area

DIAM\_MID

diameter of middle of log

DIAM1

diameter of first sample cut

DIAM2

diameter of second sample cut

DIAM3

diameter of third sample cut

DIAM4

diameter of fourth sample cut

DIAM5

diameter of fifth sample cut

DIST

Slope distance to the log from post

DIST\_MID

distance to middle of log from large end

DIST1

distance from large end to first sample cut

DIST2

distance from large end to second sample cut

DIST3

distance from large end to third sample cut

DIST4

distance from large end to fourth sample cut

DIST5

distance from large end to fifth sample cut

DRYWT

Dry weight of sample. dried 7 days at 55 degree c

DS1

Dimensional start of diameter #1; start of regular portion of diameter #1, if different from above

DS2

Dimensional start of diameter #2; start of regular portion of diameter #2, if different from above

DS3

Dimensional start of diameter #3; start of regular portion of diameter #3, if different from above

EB1

Wood piece diameter #1 ends on a sequential number of sample position. actual end of #1

EB2

Wood piece diameter #2 ends on a sequential number of sample position. actual end of #2

EB3

Wood piece diameter #3 ends on a sequential number of sample position. actual end of #3

ENTITY

Entity number

EQN\_FORM

Defines the model equation used to estimate parameters

EST\_DIAM

log diameter estimated from photo

EXAMDATE

Date the piece was examined. for years 1-4 these are approximate dates.

FE

Iron concentration (icap inductively coupled argon spectrophotometry)

FUNGI\_SPECIES

Type of sporocarps analyzed

GD1

Radial dimension of green piece, measurements taken before oven drying (which can cause shrinkage), measured with caliper

GD2

Tangential dimension of green piece, measurements taken before oven drying (which can cause shrinkage)

GD3

Longitudinal dimension of green piece, measurements taken before oven drying (which can cause shrinkage)

GD4

Green dimension angle if shape=4

H\_DENSITY

Density of heartwood based on dry weight and volume

H\_VOL

Total heartwood volume

HDIAM

Diameter of heartwood

HFRAG

Is heartwood fragmented?

HLONG

Longitudinal length of heartwood

HRAD

Radial thickness of heartwood

HTOT\_DRY

Total dry weight of heartwood

HTOT\_WET

Total wet weight of heartwood

HWA  
Heartwood cross-sectional area

IB1  
Inner bark thickness at top log

IB2  
Inner bark thickness at right side of log

IB3  
Inner bark thickness at bottom of log

IB4  
Inner bark thickness at left side of log

IBA  
Inner bark cross-sectional area

INTERCEPT  
Intercept estimated parameter

INTERCEPT\_FORCED  
Intercept forced to be between 0.95 and 1.05 for linear and equal to 1 for lag and dual-exponential equations at time 0 (Y,N)

INTERCEPT\_PV  
p-value of intercept parameter

INTERCEPT\_SE  
Standard error of intercept estimated parameter

K  
Potassium concentration (icap inductively coupled argon spectrophotometry)

K1\_K2\_CORR  
Correlation between k1 and k2, used for dual exponential model only

K1\_P1T0\_CORR  
Correlation between k1 and proportion of mass for k1 used for dual exponential model only

KNOTVOL  
Volume of wood block that is knot

LAB  
Code for laboratory responsible for analysis

LAG  
Lag estimated parameter

LAG\_PV  
p-value of lag parameter

LAG\_SE  
Standard error of lag estimated parameter

LENGTH

Total log length

LENGTHUP

Length of log suspended off ground

LIGNINR

Lignin content based on Effland 1977 Tappi 6(10) lignin is defined as the residue digest at 100 c. this for extract free wood

LIGNINV

Lignin content, non extracted wood

LOG\_SPECIES

Species of log

LOGNUM

Number of log

MEANWT

Mean weight of fungus

MG

Magnesium concentration (icap inductively coupled argon spectrophotometry)

MN

Manganese concentration (icap inductively coupled argon spectrophotometry)

MOIST

Moisture content of sample. calculated from wetwet and drywt

MOSS\_COVER

percent of log covered in moss

N

Nitrogen concentration (micro Kjeldahl N)

N\_OBS

Number of observations used to estimate model parameters

NA

Sodium concentration (icap inductively coupled argon spectrophotometry)

NOTES

measurement notes and assumptions

NPE

Non polar extractives, dichloromethane (CH<sub>2</sub>Cl<sub>2</sub>) in sonicator 90 min

OB1

Outer bark thickness at top of logs

OB2

Outer bark thickness at right side of log facing the end

OB3

Outer bark thickness at base of log

OB4

Outer bark thickness at left side of log facing it

OBA

Outer bark cross-sectional area

OD3

Longitudinal dimension of oven dried piece

ORIENT

Compass orientation of log from 90 degree to 270 degree

OVERALL\_PV

Significance of the p-value of overall equation

P

Phosphorus concentration (icap inductively coupled argon spectrophotometry)

P1T0

Initial proportion of mass applied to k1 in dual exponential equation

P1T0\_SE

Standard error of the P1t0 estimated parameter

PBA

Angle between pith and bottom

PBD

Distance between pith and log bottom

PHOTODATE

Date of photograph in mmddy format

PIECE

Unique piece number for each section of log measured in a particular site and year. Used for primary key.

PIECENUM

Unique identifier for nutrient content analysis. T, M, B was removed from lognum\_nc (now lognum) and put into this field. Used for primary key. Some data appear to be duplicates.

PITH

Block that contains the pith

POSITION

Position on log that sample was taken from

POST

Post survey reading was made form

PS1A

Angle between the pith and the first side

PS1D

Distance between the pith and the 1st side

PS2A

Angle between the pith and 2nd side

PTA

Angle between pith and top

PTD

Distance from pith to top. note all these reading are used to reference the position of the pith for future reconstructions.

R\_SQUARED

r-squared of overall equation

RADPOS

Radial position of sample, for bark the number is zero.

RECTANGLE\_TYPE

Shape of the rectangle piece of wood cut from the sample (regular or irregular). May indicate if end piece or not.

RHA

Rotten heartwood cross-sectional area

RSA

Rotten sapwood cross-sectional area

S

Sulfur concentration (icap inductively coupled argon spectrophotometry)

S\_DENSITY

Density of sapwood based on dry weight and volume

S\_VOL

Total sapwood volume

SAMPLED\_SPECIES

Species sampled; includes tree species as well as other species (such as fungi and insects)

SAMPLEDATE

Date of sample processing

SAMPLENUM

Unique sample number for primary key. Based on studyid,lognum,year,time,subtype.

SAWSET

Indicates if saw was reset during the final cutting. if blank then the saw was set once, a twice, b three times etc

SB1

Wood piece diameter #1 starts on. a sequential number of sample position. actual start of #1

SB2

Wood piece diameter #2 starts on a sequential number of sample position. actual start of #2

SB3

Wood piece diameter #3 starts on a sequential number of sample position. actual start of #3

SCIRC\_LEN



Circumferential length of sapwood if present and fragmented

**SDIAM**

Diameter of x-sec with bark removed

**SECTION**

Section of log

**SEGMENT**

Log segment sampled, defined by the two x-sections that form ends example: ( see the original sheet)

**SFRAG**

Is sapwood fragmented?

**SHAPE**

Dimensional shape of sample taken from cross-section

**SITE**

Bedding site of log added to

**SITECODE**

Sampling location

**SLONG**

Longitudinal length of sapwood

**SLOPE**

Inclination of the log

**SOHWA**

Total area of sound (not rotten) heartwood

**SOWA**

Total area of sound (not rotten) wood

**SPOROCAR**

Number of sporocarps on log

**SRAD**

Radial thickness of sapwood

**STOT\_DRY**

Total dry weight of sapwood

**STOT\_WET**

Total wet weight of sapwood

**STUDYID**

Study identification

**SUBNUM**

Unique number for each subtype in a given studyid, species, year, time. Used for primary key.

**SUBTYPE**

Substrate type(e.g. innerbark, heartwood)

SURFAREA

Surface area of log

SWA

Sapwood cross-sectional area

TA

Total cross-sectional area

TANNIN

Tannin content based upon folin-denis method using tannic acid as a standard

TIME

Time log has been decaying

TREATMNT

Treatment of log enclosure, inclosure or control

VOL1

Volume including air voids, calculated from d1,d2,d3; if missing, d2 and d3 calculated from measurement of end and center pieces

VOL2

Volume of bark measured by water displacement

VOLUME

Volume of log

W\_RADPOS

radial position of wedge sample, for bark the number is zero

WA

Cross-sectional area of wood

WBA

Area of sample for wood borers

WBG

Number of wood borer galleries as indicated by larval?

WEIGHT

Weight of sample (either fresh or oven dried. data from electronic digital scale.

WEIGHT\_TYPE

Is sample wet weight or oven dried weight? W=wet weight D=dry weight

WETWT

Wet weight of sample

WSE

Water soluble extractives, 3 hours in 100 c water, ryan et al method

WSSUG

Percent of water soluble matter that is sugar, phenol-sulfuric acid assay

WVOL

Water displacement volume of bark. soaked 48-72 hours before measurement

YEAR

Year of measurement; does not necessarily reflect time decaying in field

ZN

Zinc concentration (icap inductively coupled argon spectrophotometry)

Enumerated Domains:

Enumerated Domain for Attribute: SITE

0	Sample from log at one of study sites (1-6), site unknown originally for knot samples taken from scraps pile at annual harvest
4	W of 350 road near junction of 350 and 1506
3	N of 410 road
5	SW of 354 road
1	End of 327 road
6	1506 road above 350 junction
2	End of 324 road
A	All sites combined for summaries

Enumerated Domain for Attribute: TREATMNT

N	Control - time series
J	Jumbo - large diameter logs (>75 cm)
E	Insect enclosure

Enumerated Domain for Attribute: DBCODE

TD014	FSDB Database code TD014
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Enumerated Domain for Attribute: EST\_DIAM

Y	Log diameter was estimated from a photo
N	No log diameter estimation made

Enumerated Domain for Attribute: SECTION

Y	2nd cross-section from log remnant 1st cross-section from log remnant in 1992
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X	1st cross-section from log remnant
A	1st cross-section from large end 1st sample
1	Cross-section from large end of log - initial sample
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C	3rd cross-section from large end 1st sample

E	5th cross-section from large end 1st sample
F	6th cross-section from large end 1st sample, usually insect enclosure logs
G	Partial harvest samples from 1993 full harvest logs collected in 1997
H	Partial harvest samples from 1993 full harvest logs collected in 1997

Enumerated Domain for Attribute: STUDYID

COW	Coweeta LTER
NBS	National Bureau of Standards, standard reference material
CED	Cedar Creek LTER
KON	Konza ILTER
MAC	MacDonald forest Corvallis
HJA	H.J. Andrews Experimental Forest, Oregon
WWN	Wallowa Valley Ranger district, Wallowa Whitman National Forest 25 miles NE Enterprise, Oregon
ALL	Material from TD23 LIDET study, see for source

Enumerated Domain for Attribute: DBCODE

TD014	FSDB Database code TD014
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Enumerated Domain for Attribute: SECTION

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H	Partial harvest samples from 1993 full harvest logs collected in 1997

Enumerated Domain for Attribute: SHAPE

1	Rectangular
4	Triangle (pie wedge)

Enumerated Domain for Attribute: SUBTYPE

W	Wood standard
K	Knot wood
S	Sapwood
E	Heartwood near log end (terminal)
I	Inner bark
H	Heartwood
3	Wood standard decay class 3
5	Wood standard decay class 5
1	Pine needle nbs standard reference material # 1575
2	Wood standard decay class 2
M	Mushroom or sporocarp tissues
O	Outer bark
A	Arthropod
T	Transition between sapwood and heartwood
R	Rotten wood
L	Leaf sample
X	Whole log in which all the bark and wood tissues are combined

Enumerated Domain for Attribute: DBCODE  
 TD014 FSDB Database code TD014

Enumerated Domain for Attribute: SECTION

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Enumerated Domain for Attribute: WEIGHT\_TYPE

D	Dry weight
W	Wet weight

Enumerated Domain for Attribute: DBCODE

TD014	FSDB Database code TD014
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Enumerated Domain for Attribute: SECTION

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Enumerated Domain for Attribute: SHAPE

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4	Triangle (pie wedge)

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Enumerated Domain for Attribute: DBCODE

TD014	FSDB Database code TD014
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Enumerated Domain for Attribute: SAWSET

1	saw was set once
2	saw was set twice
3	saw was set three times

Enumerated Domain for Attribute: RECTANGLE\_TYPE

R	Regular rectangular shaped piece
I	Irregular rectangular shaped piece

Enumerated Domain for Attribute: SECTION

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Enumerated Domain for Attribute: DBCODE

TD014 FSDB Database code TD014

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Enumerated Domain for Attribute: DBCODE

TD014 FSDB Database code TD014



Enumerated Domain for Attribute: STUDYID

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Enumerated Domain for Attribute: DBCODE

TD014	FSDB Database code TD014
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Enumerated Domain for Attribute: DBCODE  
 TD014 FSDB Database code TD014

Enumerated Domain for Attribute: POSITION

B	Bottom
S	Side
T	Top

Enumerated Domain for Attribute: TREATMNT

N	Control - time series
J	Jumbo - large diameter logs (>75 cm)
E	Insect enclosure

Enumerated Domain for Attribute: DBCODE  
 TD014 FSDB Database code TD014

Enumerated Domain for Attribute: LAB

MMI	Micro macro international inc. analytical lab Athens, Georgia
CAL	OSU Central analytical laboratory Corvallis, Oregon
HOR	OSU Central analytical laboratory Corvallis, Oregon

Enumerated Domain for Attribute: STUDYID

COW	Coweeta LTER
NBS	National Bureau of Standards, standard reference material
CED	Cedar Creek LTER
KON	Konza ILTER
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Enumerated Domain for Attribute: DBCODE

TD014	FSDB Database code TD014
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Enumerated Domain for Attribute: PIECENUM

B	Bottom
M	Middle
T	Top
1	Piece #1
2	Piece #2
3	Piece #3
4	Piece #4
5	Piece #5
6	Piece #6
7	Piece #7
8	Piece #8
9	Piece #9

Enumerated Domain for Attribute: SAMPLED\_SPECIES

OXSP	Oxyporus species
NACA	Naematoloma capnoides
MYOC	Mycena occidentalis
POVE	Polyporus versicolor
HEAB	Hericium abietes
PHTR	Phlebia tremellosus
AMSP	Ampedus spp., mixed species small brown elaterid beetles
BMIX	Buprestis rusticorum and dicerca tenebrosa, mixed buprestid beetles
ALME	Alaus melanops, large eye-spotted elaterid beetle
THUN	Thanasimus undatulus, checkered beetle
DEPS	Dendroctonus pseudotsugae , d.f.bark beetle
FOPI	Fomitopsis pinicola
CHAN	Chalcophora angulicollis, sculptured pine borer, buprestid beetle
BUAU	Buprestis aurulenta, golden buprestid beetle
WSTD	Psme hw wood standard
WST?	Wood standard with questionable values
RHIN	Rhagium inquistor, grey cerambycid beetle
PSM?	Suspect unknown sample, possibly psme
PSTD	Pire pine needle standard
NEMI	Neanthophilax mirificus, red and black cerambycid beetle
CTSP	Ctenicera spp., mixed species small striped elaterid beetles
THPL	Thuja plicata
ABAM	Abies amabilis
PSME	Pseudotsuga menziesii
TSHE	Tsuga heterophylla
QRC	Quercus species
ACSA	Acer saccharum

Enumerated Domain for Attribute: SUBTYPE

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L	Leaf sample
X	Whole log in which all the bark and wood tissues are combined

Enumerated Domain for Attribute: DBCODE  
 TD014 FSDB Database code TD014

Enumerated Domain for Attribute: SITE

0	Sample from log at one of study sites (1-6), site unknown originally for knot samples taken from scraps pile at annual harvest
4	W of 350 road near junction of 350 and 1506
3	N of 410 road
5	SW of 354 road
1	End of 327 road
6	1506 road above 350 junction
2	End of 324 road
A	All sites combined for summaries

Enumerated Domain for Attribute: DBCODE  
 TD014 FSDB Database code TD014

Enumerated Domain for Attribute: POST

A	Survey Post A
B	Survey Post B
C	Survey Post C
D	Survey Post D
E	Survey Post E
F	Survey Post F
G	Survey Post G
H	Survey Post H
I	Survey Post I

J	Survey Post J
K	Survey Post K
L	Survey Post L
M	Survey Post M

Enumerated Domain for Attribute: DBCODE  
 TD014 FSDB Database code TD014

Enumerated Domain for Attribute: SECTION

Y	2nd cross-section from log remnant 1st cross-section from log remnant in 1992
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 TD014 FSDB Database code TD014

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Enumerated Domain for Attribute: DBCODE  
 TD014 FSDB Database code TD014

Enumerated Domain for Attribute: BFRAG

Y	bark is fragmented
N	bark is not fragmented

Enumerated Domain for Attribute: SFRAG

Y	sapwood is fragmented
N	sapwood is not fragmented

Enumerated Domain for Attribute: HFRAG

Y	heartwood is fragmented
N	heartwood is not fragmented

Enumerated Domain for Attribute: SECTION  
 Y 2nd cross-section from log remnant 1st cross-section from log remnant in 1992

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Enumerated Domain for Attribute: SHAPE

1	Rectangular
4	Triangle (pie wedge)

Enumerated Domain for Attribute: SUBTYPE

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Enumerated Domain for Attribute: DBCODE  
TD014 FSDB Database code TD014

Enumerated Domain for Attribute: W\_RADPOS

1	top, sapwood
2	top, heartwood
3	bottom,heartwood
4	bottom, sapwood
5	left, sapwood
6	left, heartwood
7	right, heartwood
8	right, sapwood
0	bark

Enumerated Domain for Attribute: SECTION

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Enumerated Domain for Attribute: DBCODE

TD014	FSDB Database code TD014
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Enumerated Domain for Attribute: EQN\_FORM

LAG	Modified Chapman-Richards to include lag term: $PMR = 1 - (1 - \exp(-k*t))^{Lag}$ where PMR is proportion of mass remaining, t is time in years, and k and Lag are the model parameters
SINGLE	Single negative exponential: $PMR = \text{Int} * \exp(-k*t)$ where PMR is proportion of mass remaining, t is time in years, and k is the model parameter
DUAL	Dual negative exponential: $PMR = P1t0 * \exp(-k1*t) + (1 - P1t0) * \exp(-k2*t)$ where PMR is proportion of mass remaining, P1t0 is the proportion of part 1 at time zero, t is time in years, and k1 and k2 are the decomposition ra

Enumerated Domain for Attribute: INTERCEPT\_FORCED

Y	Yes, intercept forced
N	No, intercept not forced

Enumerated Domain for Attribute: OVERALL\_PV

N	P-value not significant (> 0.1)
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M	P-value moderately significant (0.05-0.1)
S	P-value significant (<0.05)
H	P-value highly significant (<0.01)