SR-101

AGRICULTURAL EXPERIMENT STATION
UNIVERSITY OF KENTUCKY — COLLEGE OF AGRICULTURE

Descriptions and Reference Laboratory Characterization Data for Some Soils in Kentucky

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Introduction

This is the ninth in a series of publications which are planned to be released periodically to compile and preserve the physical, chemical, mineralogical, and morphological data resulting from soil survey and selected research activities in the State of Kentucky. This report includes supplementary soil reference characterization data for the entire state. Many of these data have been distributed in unpublished form to those immediately concerned. Some of the data and descriptions have appeared in scientific journals, regional bulletins, and text of published soil surveys. However, most of these data have not previously been readily available to all potential users.

While these data were being assembled, some changes were made in laboratory methods. Some were improved and some new ones were devised. Consequently, laboratory data for different soils cannot always be directly compared without allowance for the method. The method used is indicated by a symbol in the column headings of the data table, or as a footnote to the table. These symbols are identified in Table 1. The methods are described in *Soil Survey Laboratory Methods and Procedures for Collecting Soil Samples,* SSIR No. 1, Soil Conservation Service, USDA (1984), and the *Soil Survey Laboratory Methods Manual* (1996). Symbols not shown in Table 1 indicate procedures on file with the Department of Plant and Soil Science and are briefly described in Table 2 on the next page.

The soil descriptions published here were prepared as working documents to meet a specific need at the time the soil samples were collected. The soil scientists who wrote them had no idea they would be published. Editing has been limited, for the most part to that necessary for conformance to *Soil Survey Manual* (1993). Field textural estimates have been retained even though some are at variance with laboratory data. Horizon designations have been adjusted for conformance to the *Soil Survey Manual* (1993).

There were several reasons for sampling these soils. Some were sampled to study soil genesis, some to facilitate classification, and some to obtain data to permit more useful agronomic and engineering interpretations. Partly because of these studies, the concepts of some soil series have been modified. As a consequence, the soil series name assigned to a soil at the time of sampling is not always the name that would be assigned today. After the laboratory determinations were completed, the descriptions and data were reviewed again to determine if the series names were still current. If they were not, they were changed to correspond with the current correlation of the mapping unit.

Although the pedon name corresponds with the *mapping unit* name, the laboratory data may not place the pedon within the limits of the series *taxonomic unit* definition. If the pedon deviated slightly from the taxonomic unit concept, no explanatory notes were made. If one or more diagnostic characteristics of the pedon sampled were outside the series definition, but the interpretations for all common uses of the soil were the same as for that series, a note was made that the pedon was a *taxadjunct.* If the characteristics of the pedon sampled were sufficiently different so that it would qualify for a new series, but the extent of the soil in the county was not great enough to establish a new series, the pedon was called a *variant*. In both cases, the reason for the deviation is noted.

Table 1. Code sheet for laboratory methods (SSIR #1, SCS-USDA, 1984).

1. Sample Collecting and Preparation
- A. Field Sampling
  - 1. Site Selection
  - 2. Pedon sampling
- B. Laboratory Preparation
  - 1. Standard (air-dry)
    - a. Square-hole 2-mm sieve
    - b. Round-hole 2-mm sieve

2. Conventions
- A. Size-fraction base for reporting
  - 1. < 2 mm
  - 2. > 2 mm, specified size
- B. Data sheet symbols
  - tr: Trace, not measurable by quantitative procedure used or less than reportable amount.
  - tr (S): Trace, detectable only by qualitative procedures more sensitive than quantitative procedure used.
  - -: Analysis run, but none detected.
  - -(S): None detected by/ sensitive qualitative test
  - blank: Analysis not run.
  - <: Less than reported amount or none present

3. Particle-size Analysis
- A. Particles , 2mm (pipet method)
  - 1. Air-dry samples
- B. Particles > 2 mm
  - 1. Weight estimates
    - a. By field and laboratory weighing
    - b. From column and weight estimates
  - 2. Volume estimates

5. Ion-exchange Analyses
- A. Cation-exchange capacity
  - 1. NH4OAc, pH 7.0 Buchner funnel (CEC-7)
    - a. Direct distillation
    - b. Displacement, distillation
  - 3. By summation
    - a. Sum of cations (CEC-8.2)
- B. Extractable bases
  - 1. NH4OAc, pH 7.0 Buchner funnel
    - a. Uncorrected
    - b. Corrected (exchangeable)
- C. Base saturation
  - 1. NH4OAc, pH 7.0
  - 3. Sum of cations, TEA, pH 8.2

6. Chemical Analyses
- A. Organic carbon
  - 1. Acid-dichromate digestion
    - a. FeSO4 titration
    - b. CO2 evolution, gravimetric
    - c. FeSO4 titration, automatic titrator
- G. Aluminum
  - 1. KCl extraction 1, 30 min
    - a. Aluminon I
    - b. Aluminon II
    - c. Aluminon III
    - d. Flouride titration
    - e. Atomic absorption
- H. Extractable acidity
  - 1. BaCl2-triethanolamine I
    - a. Back titration with HCl
- N. Calcium
  - 1. Saturation extract
    - a. EDTA titration
    - b. Atomic absorption
  - 2. NH4OAc extraction
    - a. EDTA-alcohol separation
    - b. Oxalate-permanganate I
    - c. Oxalate-permanganate II Fe, Al, and Mn removed
    - d. Oxalate-cerate
    - z. Atomic absorption
- O. Magnesium
  - 1. Saturation extract
    - a. EDTA titration
    - b. Atomic absorption
  - 2. NH4OAc extraction
    - a. EDTA-alcohol separation
    - b. Phosphate titration
    - c. Gravimetric, Mg2P2O7
    - z. Atomic absorption
- P. Sodium
  - 1. Saturation extract
    - a. Flame photometry
    - b. Atomic absorption
  - 2. NH4OAc extraction
    - a. Flame photometry
    - z. Atomic absorption
- Q. Potassium
  - 1. Saturation extract
    - a. Flame photometry
    - b. Atomic absorption
  - 2. NH4OAc extraction
    - z. Atomic absorption
- S. Phosphorus
  - 1. Perchloric acid digestion
    - a. Molybdovanadophosphoric acid colorimetry
  - 2. Adsorption coefficient

7. Mineralogy
- A. Instrumental analysis
  - 2. X-ray diffraction

8. Miscellaneous
- C. Reaction (pH)
  - 1. Soil suspension
    - a. Water dilution
    - b. Saturated paste
    - c. KCl
    - d. NaF

In some cases, laboratory data and field investigations showed that the soils in a certain mapping unit were dominantly in a series other than that originally used to name it. Then the names of the mapping unit and the pedon representing it were changed. Soil series names in this publication follow 2000 series definitions.

Table 2. Additional methods used by the Department of Plant and Soil Science.

Particle Size Analysis
3X2 Silt by elutriation, sand by sieving.

Chemical Analysis
6N2X. Calcium, Flame Photometer
6N2Y. Calcium, DU Spectrophotometer
7N7. $CaCO_3$ equivalent, Procedure 23b, USDA Handbook 60, U. S. Salinity Lab. 1954.
6O2X. Magnesium, Absorption Spectrophotometer
6O2Y. Magnesium, DU Spectrophotometer
6P2X. Sodium, Absorption Spectrometer
6P2Y. Sodium, DU Spectrometer
6O2X. Potassium, Flame Photometer
6O2Y. Potassium, DU Spectrometer
6S6. Phosphorus. Extractable P, Bray No. 1, Soil Sci. 59:39-45, 1945.

Miscellaneous
807. Lime Requirement, SSSA Proc. 25:274-277, 1961.

Key to mineral symbols not listed under Mineralogy Data Tables.

A	Amorphous
C	Chlorite
F	Feldspar
I	Illite
K	Kaolinite
M	Montmorillonite
Mc	Montmorillonite with Al interlayers
M/V	Interstratified Montmorillonite-Vermiculite
Q	Quartz
V	Vermiculite
V/I	Interstratified Vermiculite/Illite

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Soil Series Index

Series	Pedon #	Classification	County
Alford	00KY-111-01	Ultic Hapludalfs	Jefferson
Alford	00KY-111-02	Ultic Hapludalfs	Jefferson
Alford	00KY-111-03	Typic Hapludults	Jefferson
Allegheny	98KY-011-03	Typic Hapludults	Bath
Allegheny	99KY-065-03	Typic Hapludults	Estill
Allegheny	01KY-129-02	Typic Hapludults	Lee
Alticrest	94KY-133-01	Typic Dystrudepts	Letcher
Ashton	90KY-135-15	Mollic Hapludalfs	Lewis
Atkins	99KY-011-01	Fluvaquentic Endoaquepts	Bath
Berea		Aquic Hapludults	Madison
Berks	90KY-135-05	Typic Dystrudepts	Lewis
Blairton	90KY-135-01	Typic Hapludults	Lewis
Boonesboro	93KY-239-08	Typic Argiudolls	Woodford
Brownsville	90KY-135-02	Typic Dystrudepts	Lewis
Caneyville	94KY-135-55	Typic Hapludalfs	Lewis
Caneyville	94KY-135-59	Typic Hapludalfs	Lewis
Caneyville	94KY-135-60	Typic Hapludalfs	Lewis
Caneyville	94KY-135-64	Typic Hapludalfs	Lewis
Catalpa	98KY-075-01	Fluvaquentic Vertic Endoaquolls	Fulton
Catalpa	01KY-075-01	Fluvaquentic Vertic Endoaquolls	Fulton
Chavies	90KY-135-13	Ultic Hapludalfs	Lewis
Cumberland	96KY-227-08	Rhodic Paleudalfs	Warren
Cumberland	97KY-227-03	Typic Paleudalfs	Warren
Cynthiana	99KY-011-10	Lithic Hapludalfs	Bath
Egam	93KY-239-19	Cumulic Hapludolls	Woodford
Egam	99KY-011-03	Cumulic Hapludolls	Bath
Elk	90KY-135-16	Ultic Hapludalfs	Lewis
Elk	93KY-239-16	Ultic Hapludalfs	Woodford
Fairmount	93KY-239-06	Lithic Argiudolls	Woodford
Faywood	93KY-239-02	Typic Hapludalfs	Woodford
Faywood	99KY-011-08	Typic Hapludalfs	Bath
Feliciana	03KY-145-01	Ultic Hapludalfs	McCracken
Gilpin	90KY-027-01	Typic Hapludults	Breckinridge
Hagerstown	94KY-135-21	Typic Paleudalfs	Lewis
Hagerstown	99KY-011-04	Typic Paleudalfs	Bath
Hazleton	94KY-119-06	Typic Dystrudepts	Knott
Hazleton	94KY-159-01	Typic Dystrudepts	Martin
Helechawa	94KY-205-01	Typic Udipsamments	Rowan
Huntington	93KY-239-04	Cumulic Hapludolls	Woodford
Huntington	93KY-239-18	Fluventic Hapludolls	Woodford
Kinnick		Dystric Fluventic Eutrudepts	Madison
Lakin	90KY-135-10	Lamellic Udipsamments	Lewis
Lakin	90KY-135-11	Lamellic Udipsamments	Lewis
Lawrence		Aquic Fragiudalfs	Madison
Lily	91KY-175-11	Typic Hapludults	Morgan
Lindside	93KY-239-14	Fluvaquentic Hapludolls	Woodford
Lindside	93KY-239-17	Fluvaquentic Eutrudepts	Woodford
Loradale	93KY-239-01	Typic Argiudolls	Woodford
Lowell	93KY-239-05	Typic Hapludalfs	Woodford
Lowell	99KY-011-05	Typic Hapludalfs	Bath
Lowell	99KY-011-09	Typic Hapludalfs	Bath
Maury	93KY-239-09	Typic Paleudalfs	Woodford
Maury	93KY-239-11	Typic Paleudalfs	Woodford
Maury	93KY-239-12	Typic Hapludalfs	Woodford
Maury	93KY-239-13	Typic Paleudalfs	Woodford
Maury	93KY-239-15	Typic Paleudalfs	Woodford
McAfee	93KY-239-10	Mollic Hapludalfs	Woodford
Melvin	90KY-135-28	Typic Fluvaquents	Lewis
Memphis	03KY-007-02	Typic Hapludalfs	Ballard
Muse	94KY-135-16	Typic Hapludults	Lewis
Muse	94KY-135-38	Typic Hapludults	Lewis
Muse	94KY-135-39	Typic Paleudults	Lewis
Newark	93KY-239-07	Fluvaquentic Endoaquepts	Woodford
Nicholson	96KY-227-10	Oxyaquic Fraglossudalfs	Warren
Nolin	01KY-129-01	Dystric Fluventic Eutrudepts	Lee
Orrville	92KY-031-38	Oxyaquic Dystrudepts	Butler
Otwell	90KY-135-14	Oxyaquic Fragiudalfs	Lewis
Phillippy	01KY-075-03	Fluvaquentic Hapludolls	Fulton
Purdy	99KY-011-02	Typic Endoaquults	Bath
Ramsey	94KY-133-02	Lithic Dystrudepts	Letcher
Rigley	95KY-119-03	Typic Dystrudepts	Knott
Robinsonville	98KY-075-02	Fluventic Hapludolls	Fulton
Sandview	93KY-239-03	Typic Paleudalfs	Woodford
Sandview	99KY-011-07	Typic Hapludalfs	Bath
Shelocta	90KY-135-03	Typic Hapludults	Lewis
Shelocta	94KY-159-02	Typic Hapludults	Martin
Shelocta	94KY-205-02	Typic Hapludults	Rowan
Shrouts	99KY-011-06	Typic Hapludalfs	Bath
Shrouts	99KY-011-11	Typic Hapludalfs	Bath
Shrouts		Typic Hapludalfs	Madison
Trappist	90KY-135-26	Typic Hapludults	Lewis
Trappist	94KY-135-12	Typic Hapludults	Lewis
Trappist	94KY-135-13	Typic Hapludults	Lewis
Trappist	94KY-135-30	Typic Hapludults	Lewis
Vertrees	96KY-227-09	Typic Paleudalfs	Warren
Vertrees	97KY-227-19	Typic Paleudalfs	Warren
Wheeling	90KY-135-12	Ultic Hapludalfs	Lewis

Soil: Alford, silt loam (Taxadjunct)

Pedon #: S00KY-111-01-(1-8)

Classification: Fine-silty, mixed, semiactive, mesic Ultic Hapludalfs

Location: Jefferson Co., KY; typical pedon of Memphis Var. at Waverly park. 00KY111003; USGS Louisville West topographic quadrangle.

Parent Material: loess over residuum

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope: 11%

Described by:

Oi—0 to 1 inches; Leaf litter.

A—1 to 7 inches; dark grayish brown (10YR 4/2) silt loam, light gray (10YR 7/2) dry; moderate fine and medium granular structure; very friable; many fine to coarse roots throughout; abrupt wavy boundary.

BA—7 to 11 inches; yellowish brown (10YR 5/6) silt loam; moderate fine and medium subangular blocky structure; friable; many fine to coarse roots throughout; clear wavy boundary.

Bt1—11 to 25 inches; yellowish red (5YR 4/6) silt loam; moderate medium subangular blocky structure; friable; common fine to coarse roots; common distinct clay films; clear wavy boundary.

Bt2—25 to 39 inches; 70 percent yellowish red (5YR 4/6) and 30 percent yellowish brown 10YR 5/6 silt loam; moderate medium and coarse subangular blocky structure; friable; few fine to coarse roots; many distinct clay films; clear wavy boundary.

Bt3—39 to 55 inches; 60 percent strong brown (7.5YR 5/6) and 40 percent brownish yellow (10YR 6/6) silt loam; moderate medium subangular blocky structure; friable; few fine to coarse roots; common distinct clay films; clear wavy boundary.

2Bt4—55 to 66 inches; 60 percent yellowish brown (10YR 5/4) and 30 percent light brownish gray (10YR 6/2) and 10 percent strong brown(7.5YR 5/6) silt loam; moderate medium and coarse subangular blocky structure; friable; few fine and medium roots; few faint clay films; abrupt wavy boundary.

2Bt5—66 to 75 inches; 70 percent strong brown (7.5YR 4/6) and 20 percent yellowish brown (10YR 5/6) and 10 percent light brownish gray (10YR 6/2) silt loam; moderate medium and coarse subangular blocky structure; firm; few fine roots; many iron-manganese stains; common distinct clay films; 2 percent siltstone channers; clear wavy boundary.

2BC—75 to 84 inches; 80 percent yellowish brown (10YR 5/6) and 15 percent strong brown (7.5YR 5/8) and 5 percent pale brown (10YR 6/3) silt loam; moderate medium angular blocky structure; friable; 2 percent siderite; 5 percent siltstone channers.

SOIL TYPE ..... **ALFORD (TAXADJUNCT)** **PEDON #** ..... **S00-KY-111-01-(1-8)**
LOCATION ..... **JEFFERSON** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
1-7	A	9.5	75.2	15.3	0.1	0.7	1.2	1.4		6.1						sil			
7-11	BA	9.1	78.7	12.2	0.1	0.1	0.5	0.8		7.6						sil/si			
11-25	Bt_1	5.5	68.5	26.0	0	0	0.1	0.2		5.2						sil/sicl			
25-39	Bt_2	5.5	74.2	20.3	0	0.1	0.1	0.2		5.1						sil			
39-55	Bt_3	11.9	71.3	16.8	0	0.3	0.6	2.4		8.6						sil			
55-66	$2Bt_4$	4.4	88.8	6.8	0	0.2	0.4	0.4		3.4						si			
66-75	$2Bt_5$	5.8	78.3	15.9	0.5	0.8	0.7	0.5		3.3						sil			
75-84	2BC	10.6	70.9	18.5	3.3	2.5	1.5	0.7		2.6						sil			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
55-66	4.10			0.31	2.29	0.03	0.05	2.68	6.83	39	32		5.60	8.28					
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Alford, silt loam (Taxadjunct)

Pedon #: S00KY-111-02-(1-9)

Classification: Fine-silty, mixed, active, mesic Ultic Hapludalfs

Location: Jefferson Co., KY; typical pedon of Mike Burke 10 acre home site. 00KY111004; USGS Louisville West topographic quadrangle.

Parent Material: Loess over residuum

Vegetation:

Landscape Position: Upland, ridge

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope: 5%

Described by:

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam, pale brown (10YR 6/3) dry; moderate fine and medium granular structure; very friable; common fine and medium roots; abrupt smooth boundary.

BA—6 to 13 inches; yellowish brown (10YR 5/4) silt loam, moderate fine and medium subangular blocky structure; very friable; few fine roots; abrupt smooth boundary.

Bt1—13 to 31 inches; yellowish red (5YR 4/6) silt loam; moderate medium subangular blocky structure; friable; few fine roots; common distinct clay films and yellowish brown (10YR 5/4) silt coats; many mica flakes; clear wavy boundary.

Bt2—31 to 40 inches; 60 percent strong brown (7.5YR 4/6) and 40 percent yellowish brown (10YR 5/6) silt loam; moderate medium and coarse subangular blocky structure; friable; few fine roots; many distinct clay films; many mica flakes; clear wavy boundary.

Bt3—40 to 57 inches; 60 percent strong brown (7.5YR 4/6) and 40 percent yellowish brown (10YR 5/6) silt loam; common medium light olive brown (2.5Y 5.3) moist mottles; moderate medium subangular blocky structure; friable; few fine roots; common distinct clay films; many mica flakes; clear wavy boundary.

Bt4—57 to 76 inches; 50 percent yellowish red (5YR 4/6) and 50 percent strong brown (7.5YR 4/6) silt loam; many medium light olive brown (2.5Y 5/3) mottles; moderate fine and medium subangular blocky structure; friable; few fine roots; few iron-manganese stains; common distinct clay films; many mica flakes; clear wavy boundary.

2Bt5—76 to 84 inches; 50 percent yellowish red (5YR 4/6) and 50 percent strong brown (7.5YR 4/6) silt loam and loam; many medium light olive brown (2.5Y 5/3) moist mottles; weak fine and medium subangular blocky structure; firm; few fine roots; common iron-manganese stains; common distinct clay films; many mica flakes; clear wavy boundary.

2Bt6—84 to 95 inches; strong brown (7.5YR 5/6) and yellowish brown 10YR 5/6) and light olive brown (2.5Y 5/3) loam and silt loam; weak fine and medium subangular blocky structure; firm; few fine roots; common iron-manganese stains; few distinct clay films; many mica flakes; clear wavy boundary.

2Bt7—95 to 101 inches; 40 percent strong brown (7.5YR 4/6) and 30 percent red (2.5YR4/6) and 30 percent yellowish brown (10YR 5/4) loam and silt loam; common medium light brownish gray (10YR 6/2) moist mottles; weak fine and medium subangular blocky structure; firm; few fine roots; common iron-manganese stains; few distinct clay films; many mica flakes.

SOIL TYPE..... ALFORD (TAXADJUNCT) **PEDON # ..... S00-KY-111-02-(1-9)**
LOCATION ..... JEFFERSON COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-6	Ap	17.7	70.9	11.4	1.4	1.1	3.2	3.7	8.3							sil			
6-13	BA	7.5	82.1	10.4	0.1	0.1	0.4	0.8	6.1							si			
13-31	Bt_1	4.2	74.2	21.6	0	0	0.1	0.1	4.0							sil			
31-40	Bt_2	5.3	71.6	23.1	0	0	0	0.1	5.2							sil			
40-57	Bt_3	8.3	72.7	19.0	0	0.2	0.1	0.3	7.7							sil			
57-76	Bt_4	6.6	78.9	14.5	0.2	0.3	0.3	0.4	5.4							sil			
76-84	$2Bt_5$	8.7	79.8	11.5	0	0.6	0.6	0.5	7.0							si/sil			
84-95	$2Bt_6$	7.4	81.4	11.2	0.1	0.5	0.6	0.4	5.8							si/sil			
95-101	$2Bt_7$	5.4	76.8	17.8	0	0.1	0.3	0.2	4.8							sil			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
57-76	4.32			0.39	2.62	0.07	0.05	3.13	8.75	36	29		7.46	10.6					
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Alford, silt loam (Taxadjunct)

Pedon #: S00KY-111-03-(1-8)

Classification: Fine-silty, mixed, semiactive, mesic Typic Hapludults

Location: Jefferson County, Ky, Louisville West Topographic Quadrangle, southwest of old nut house. Latitude: Longitude:

Parent Material:

Vegetation:

Aspect:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date: 07-25-2000

Permeability:

Slope: 18%

Described by: Steve Blanford and Scott Aldridge

Oe—0 to 1 inches; leaf litter.

A— 1 to 6 inches; dark brown (10YR 3/3) silt loam; moderate fine and medium granular structure; very friable; many fine to coarse roots; clear wavy boundary.

AB—6 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; moderate fine and medium subangular blocky structure; very friable; common fine to coarse roots; clear wavy boundary.

Bt1—12 to 19 inches; strong brown (7.5YR 4/6) silt loam; moderate medium subangular blocky structure; friable; common fine to coarse roots; common distinct clay films; clear wavy boundary.

Bt2—19 to 33 inches; strong brown (7.5YR 4/6) silt loam; strong fine and medium subangular blocky structure; friable; few fine to coarse roots; common distinct clay films; clear wavy boundary.

Bt3—33 to 48 inches; strong brown (7.5YR 5/6) silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots; common distinct clay films; clear wavy boundary.

Bt4—48 to 65 inches; yellowish brown (10YR 5/6) silt loam and loam; weak medium prismatic and weak fine and medium subangular structure; friable; few fine roots; few distinct clay films; clear wavy boundary.

BC—65 to 82 inches; yellowish brown (10YR 5/8) and light yellowish brown (2.5Y 6/4) silt loam; weak fine and medium subangular blocky structure; very friable.

SOIL TYPE..... ALFORD (TAXADJUNCT) **PEDON # ..... S00-KY-111-03-(1-8)**
LOCATION ..... JEFFERSON COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
1-6	A	21.5	70.1	8.4	0.1	1.2	2.2	4.1	13.9							sil			
6-12	AB	12.0	76.9	11.1	0	0	0.1	0.5	11.4							sil			
12-19	Bt_1	8.1	71.2	20.7	0	0.1	0.1	0.2	7.7							sil			
19-33	Bt_2	13.5	61.7	24.8	0	0.1	0.1	2.1	11.2							sil			
33-48	Bt_3	12.5	73.1	14.4	0	0.1	0.1	1.0	11.3							sil			
48-65	Bt_4	6.0	82.6	11.4	0	0.1	0.1	0.1	5.7							si/sil			
65-82+	BC	7.1	80.8	12.1	0	0.1	0.1	0.1	6.8							si/sil			
72-82+	BC	4.1	75.6	20.3	0.2	.03	0.3	0.2	3.1							sil			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
48-65	4.19			0.24	1.49	0.05	0.01	1.79	6.05	29	22		6.24	8.03					
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Allegheny, loam

Pedon #: S98KY-011-03-(1-7)

Classification: Fine-loamy, mixed, mesic Typic Hapludults

Location: Bath County, Kentucky; Hillsboro SE Quarter Quad., update sheet 4B; about 1.1 miles NW of Kentucky Highway 1602 at Oakley in Bath Co.; about 1 mile W/SW of the confluence of Indian Cr. and the Licking R. and about 600 feet north of the Licking River.

Parent Material: high level fluvial deposits of silt, sand, and gravel

Vegetation: fescue, ironweed, ladino clover, Lespedeza, crabgrass

Landscape Position: old upland terraces

Drainage:

Moisture when sampled: moist

Sampling Date: 08/14/98

Permeability:

Slope: 5%

Described by: D. Hines and S. Jacobs

Ap—0 to 9 inches (0 to 23 cm); brown (10YR 4/3) loam; weak fine granular structure; friable; many fine roots; slightly acid; clear smooth boundary.

Bt1—9 to 15 inches (23 to 38 cm); yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; firm; common fine and few medium roots; few faint clay films on ped surfaces; slightly acid; gradual smooth boundary.

Bt2—15 to 39 inches (38 to 99 cm); yellowish brown (10YR 5/4) loam; moderate medium subangular blocky structure; firm; few fine and medium roots; many faint clay films on ped surfaces; very strongly acid; gradual smooth boundary.

Bt3—39 to 48 inches (99 to 122 cm); yellowish brown (10YR 5/6) sandy clay loam; weak platy structure; friable; common distinct clay films on ped surfaces; very strongly acid; gradual smooth boundary.

BC—48 to 56 inches (122 to 143 cm); yellowish brown (10YR 5/6) loamy sand; medium platy and single grain structure; friable; 1 percent rounded sandstone pebbles; few distinct clay bridges on sand grains; very strongly acid; clear smooth boundary.

C1—56 to 72 inches (142 to 183 cm); strong brown (7.5YR 5/6) loamy sand; single grain; friable; common clay nodules or lamellae present; very strongly acid; clear smooth boundary.

C2—72 to 79 inches (183 to 201 cm); yellowish brown (10YR 5/6) sandy clay loam; massive; friable; very strongly acid.

SOIL TYPE.....ALLEGHENY **PEDON # .....S98KY-011-003-(1-7)**
LOCATION .....BATH COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-9	Ap	36.0	50.8	13.2	0.4	1.4	11.7	15.6	6.9							sil/l			
9-15	Bt_1	31.1	55.1	13.8	0.3	1.6	9.4	13.4	6.4							sil			
15-39	Bt_2	33.5	42.5	24.0	0.7	1.4	11.0	13.7	6.7							l			
39-48	Bt_3	52.8	23.4	23.8	0.4	2.6	19.4	21.9	8.5							scl			
48-56	BC	63.5	14.2	22.3	2.1	5.2	35.5	15.3	5.4							scl			
56-72	C_1	67.6	4.3	28.1	1.0	7.9	48.8	8.1	1.8							scl			
72-79	C_2	61.7	15.5	22.8	2.7	7.7	29.6	13.9	7.8							scl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Allegheny, silt loam

Pedon #: S99KY-065-03-(1-5)

Classification: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Location: Estill Co., 1.25 miles southeast of Irvine on stream terrace of Kentucky River, Irvine topographical quadrangle. Latitude: 37° 38' 53"; Longitude: 83° 52' 15"

Parent Material: Alluvium of Pennsylvanian and Mississippian sandstones, siltstones, and shales.

Vegetation: Pasture

Aspect:

Landscape Position: Stream terrace

Drainage:

Moisture when sampled:

Sampling Date: 6/15/99

Permeability:

Slope: 2%

Described by: JDM

Ap—0 to 10 inches; brown (10YR 4/3) silt loam; weak fine granular structure; very friable; many fine roots; slightly acid; clear smooth boundary.

Bt1—10 to 22 inches; strong brown (10YR 4/3) silt loam; moderate medium subangular blocky structure; very friable; few fine roots; few fine tubular pores; common faint organoargillans on surfaces of peds; moderately acid; clear smooth boundary.

Bt2—22 to 32 inches; brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; friable; few fine roots; few distinct brown (10YR 4/4) organoargillans on surface of peds; strongly acid; clear smooth boundary.

Bt3—32 to 38 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; friable; very few fine roots; common distinct dark yellowish brown (10YR 4/4) organoargillans on faces of peds; strongly acid; clear smooth boundary.

Bt4—38 to 60 inches; yellowish brown (10YR 5/6) silty clay loam; weak coarse subangular blocky structure; friable; very few very fine roots; few faint organoargillans on faces of peds; moderately acid; clear smooth boundary.

BC—60 to 80 inches; yellowish brown (10YR 5/6) clay loam; weak coarse subangular blocky structure; friable; very few very fine roots; moderately acid.

SOIL TYPE.....ALLEGHENY **PEDON # .....S99KY-065-03-(1-4)**
LOCATION .....ESTILL COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-10	Ap	28.1	56.8	15.1	0.1	0.3	1.8	7.4	18.5							sil			
10-22	Bt_1	38.7	41.4	19.9	0	0.1	0.4	12.3	25.9							l			
22-32	Bt_2	45.8	35.2	19.0	0	0.1	0	13.8	31.9							l			
32-38	Bt_3	37.9	42.6	19.5	0	0	0.1	11.5	26.3							l			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
60-80	4.34			1.03	0.44	0.08	0.01	1.56	8.04	19	14		9.85	11.41					
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Allegheny, fine sandy loam

Pedon#: S01KY-129-02-(1-5)

Classification: Fine-loamy, semiactive, mixed, mesic Typic Hapludults

Location: Lee Co., north of confluence of North Fork and Middle Fork of Kentucky River; Beattyville topographic quadrangle. Latitude: 37° 35′ 25″; Longitude: 83° 40′ 15″

Parent Material: Alluvium of Pennsylvanian sandstones, siltstones, and shales.

Vegetation: Fescue

Aspect:

Landscape Position: Stream terrace

Drainage:

Moisture when sampled:

Sampling Date: 02/02/01

Permeability:

Slope: 2%

Described by: JDM

Ap—0 to 6 inches; brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable; common fine roots; slightly acid; abrupt wavy boundary.

Bt1—6 to 15 inches; strong brown (7.5YR 5/8) loam; weak medium subangular blocky structure; friable; few fine and medium roots; few fine tubular pores; few faint argillans on surfaces of peds; moderately acid; clear smooth boundary.

Bt2—15 to 24 inches; strong brown (7.5 YR 5/8) loam; moderate medium subangular blocky structure; friable; very few fine roots; faint sand bridging between grains; moderately acid; clear smooth boundary.

Bt3—24 to 36 inches; dark yellowish brown (10YR 4/4) sandy loam; weak coarse subangular blocky structure; friable; very few very fine roots; strongly acid; clear smooth boundary.

CB—36 to 60 inches; strong brown (7.5YR 5/8) sandy loam; loose; single grain; strongly acid.

SOIL TYPE.....ALLEGHENY **PEDON # .....01KY-129-02-(1-5)**
LOCATION ..... LEE COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-6	Ap	63.1	20.9	16.0	0.2	0.4	4.3	37.1	21.1							sl			
6-15	Bt_1	61.4	19.7	18.9	0.1	0.1	1.9	36.7	22.6							sl/scl			
15-24	Bt_2	61.8	17.8	20.4	0	0.2	1.7	36.1	23.8							scl/sl			
24-36	Bt_3	68.1	15.5	16.4	0	0	1.9	42.3	23.9							sl			
36-60	CB	72.8	14.2	13.0	0	0	2.7	44.9	25.2							sl			
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
				0.11	0.24	0.16	0.01	0.52	4.60	11	8		6.22	6.74					
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Alticrest, sandy loam

Pedon #: KY-94-133-01-(1-3)

Classification: Coarse-loamy, siliceous, semiactive, mesic, Typic Dystrudepts

Location: Letcher County, Whitesburg Topographic Quadrant; 400' NE of KY 119, 1000' W of Presley House Branch on Pine Mountain. x: 2,860,580, y: 281,800

Parent Material: Residuum of Lower Pennsylvanian Lee Sandstone

Vegetation: Chestnut oak and Virginia pine

Landscape Position: Ridge top

Drainage:

Moisture when sampled:

Sampling Date: 7/21/94

Permeability:

Slope: 30 percent

Described by: P.S. Aldridge

A—0 to 3 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable; common fine and medium roots; 5 percent sandstone channers; extremely acid; clear smooth boundary.

Bw1—3 to 13 inches; yellowish brown (10YR 5/6) sandy loam; weak fine subangular structure; friable; common fine and medium and few coarse roots; 5 percent sandstone channers; strongly acid; clear smooth boundary.

Bw2—13 to 25 inches; yellowish brown (10YR 5/8) channery sandy loam; weak medium subangular structure; friable; few fine and medium roots; 15 percent sandstone channers; strongly acid; clear smooth boundary.

Cr—25 to 30 inches; weathered sandstone bedrock; abrupt smooth boundary.

R—30 inches; sandstone bedrock.

SOIL TYPE..... ALTICREST **PEDON # .....S94KY-133-001-(1-3)**
LOCATION .....LETCHER COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	A	65.0	23.0	12.0	2.0	10.2	29.5	21.1	2.2							sl			
3-13	Bw_1	58.2	26.6	15.2	0.5	2.5	26.4	26.2	2.6							sl			
13-25	Bw_2	62.0	22.4	15.6	0.4	2.0	25.9	30.7	3.0							sl			
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bw1	98	2																	
Bw2	100																		

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Ashton, silt loam

Pedon #: S90KY-135-15(1-6)

Classification: Fine-silty, mixed, active, mesic, Mollic Hapludalfs

Location: Lewis County, Kentucky; Atlas sheet 3B; about 0.5 mile northeast of the junction of KY-57 and KY-8 at Concord, about 480 feet north of KY-8, about 350 feet north of the Chesapeake and Ohio railroad tracks, and 400 feet south of the Ohio River. x: 2,210,000 feet; Latitude: 38° 41′ 48″; y: 435,800 feet; Longitude: 83° 30′ 40″

Parent Material: Mixed alluvium of the Ohio River floodplain, Quaternary system

Vegetation: Orchardgrass, hayfield

Landscape Position: Terrace

Drainage:

Moisture when sampled: Moist

Sampling Date: 6/27/90

Permeability:

Slope: 1%

Described by: S. Jacobs and D. Dotson

Ap—0 to 10 inches (0 to 25 cm); dark brown (10YR 3/3) silt loam; weak fine granular structure; very friable; many fine roots; moderately alkaline; clear smooth boundary.

Bt1—10 to 15 inches (25 to 38 cm); brown (7.5YR 4/4) silt loam; moderate fine and medium subangular blocky structure; friable; common fine roots; many faint clay films on ped surfaces; few fine charcoal pieces; moderately alkaline; clear smooth boundary.

Bt2—15 to 28 inches (38 to 71 cm); brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; many faint clay films on ped surfaces; common fine charcoal pieces; moderately alkaline; gradual smooth boundary.

Bt3—28 to 40 inches (71 to 102 cm); brown (7.5YR 4/4) silty clay loam; moderate medium columnar structure parting to moderate medium subangular blocky; firm; few fine roots; many distinct clay films on ped surfaces; few fine charcoal pieces; neutral; gradual smooth boundary.

Bt4—40 to 51 inches (102 to 130 cm); brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure; friable; few fine roots; many faint clay films on ped surfaces; medium acid; gradual smooth boundary.

Bt5—51 to 80 inches (130 to 152 cm); brown (7.5YR 4/4) silt loam; weak fine and medium subangular blocky structure; friable; few fine roots; many faint clay films on ped surfaces; medium acid.

SOIL TYPE ..... **ASHTON** **PEDON #** ..... **S90KY-135-015-(1-6)**
LOCATION ..... **LEWIS COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-10	Ap	29.2	53.0	17.8	0.2	0.2	0.2	5.9	22.7							sil			
10-15	Bt_1	18.2	55.5	26.3	0.1	0	0.1	3.2	14.8							sil/sicl			
15-28	Bt_2	12.4	53.7	33.9	0.1	0.1	0.1	1.4	10.7							sicl			
28-40	Bt_3	21.5	48.3	30.2	0	0.1	0	3.1	18.3							cl/sicl			
40-51	Bt_4	34.8	41.5	23.7	0	0	0.1	5.9	28.8							l			
51-60	Bt_5	27.5	50.2	22.3	0	0.1	0.1	4.0	23.3							sil/l			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Atkins, silty clay loam

Pedon #: S99KY-011-01-(1-6)

Classification: Fine, mixed, active, acid, mesic Fluvaquentic Endoaquepts

Location: Bath County, Kentucky; Salt Lick NW Quarter Quad., update sheet 23T; about 1.8 miles S of junction of US-60 and Kentucky Highway 211 in Bath Co.; about 0.5 mile E of Kentucky Highway 211 and Mud Lick Road; about 920 feet NE of Kentucky Highway 211; and about 300 feet W of Salt Lick creek.

Parent Material: Alluvium

Vegetation: Cornfield—stubble and Johnson grass

Landscape Position: Flood plain

Drainage:

Moisture when sampled: moist

Sampling Date: 12/03/98

Permeability:

Slope: 1%

Described by: D. Hines and S. Jacobs

A1—0 to 2 inches (0 to 5 cm); light olive brown (2.5Y 5/3) silty clay loam; common fine prominent strong brown (7.5YR 5/6) redox accumulations; weak medium granular structure; friable; many fine and very fine roots; 2 percent rounded quartz pebbles; 1 percent black Fe/Mn nodules; moderately acid; clear smooth boundary.

A2—2 to 6 inches (5 to 15 cm); light olive brown (2.5Y (5/3) silty clay loam; common medium prominent yellowish red (5YR 4/6) and few medium prominent reddish brown (2.5YR 4/4) redox accumulations; weak fine subangular blocky structure; friable; many fine roots; 2 percent rounded quartz pebbles; 1 percent black Fe/Mn nodules; moderately acid; gradual smooth boundary.

Bg1—6 to 16 inches (15 to 41 cm); light brownish gray (2.5Y 6/2) silty clay loam; many medium and coarse prominent strong brown (7.5YR 5/8) redox accumulations; weak medium subangular blocky structure; firm; common fine roots; 2 percent rounded quartz pebbles; 1 percent black Fe/Mn nodules; very strongly acid; gradual wavy boundary.

Bg2—16 to 26 inches (41 to 66 cm); light brown gray (10YR 6/2) silty clay loam; many medium and coarse distinct yellowish brown (10YR 5/8) redox accumulations; weak medium subangular blocky structure; firm; few fine roots; 3 percent black Fe/Mn nodules 2 to 10 mm in size; very strongly acid; gradual smooth boundary.

C1—26 to 45 inches (66 to 114 cm); pale olive (5Y 6/3) silty clay; many fine and medium prominent strong brown (7.5YR 5/8) redox accumulations, many medium and coarse distinct gray (2.5Y 6/1) and light brownish gray (2.5Y 6/2) in ped and exterior ped coats; massive; firm; few fine roots; 20 percent black Fe/Mn modules 10 to 40 mm in size; very strongly acid; gradual smooth boundary.

C2—45 to 55 inches (114 to 140 cm); gray (5Y 6/1) silty clay; many medium prominent strong brown (7.5YR 5/6) redox accumulations and common medium faint pale olive (5Y 6/3) redox depletions; massive; firm; few fine 10 percent black Fe/Mn nodules; very strongly acid.

SOIL TYPE ..... **ATKINS** **PEDON #** ..... **S99-KY-011-01-(1-6)**
LOCATION ..... **BATH COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-2	A_1	21.4	49.4	29.2	0.7	1.9	5.8	6.2	6.8							cl/sicl			
2-6	A_2	20.8	52.5	26.7	0.5	1.6	5.2	6.4	7.1							sil/cl/sicl			
6-16	Bg_1	19.6	44.2	36.2	0.4	0.7	4.4	6.3	7.8							sicl/cl			
16-26	Bg_2	16.7	41.0	42.3	1.0	1.6	3.4	4.6	6.1							sic/sicl			
26-45	C_1	32.6	37.0	30.4	6.3	7.0	7.2	5.7	6.4							cl			
45-55	C_2	31.0	44.7	24.3	4.9	6.2	6.6	6.2	7.1							l			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Berea, silt loam (Taxadjunct)

Pedon #:

Classification: Fine-silty, mixed, semiactive, mesic Aquic Hapludults

Location: Madison Co., KY near Moberly on the EKU Meadowbrook Farm, near the entrance.

Parent Material: Residuum

Vegetation:

Landscape Position: Upland

Drainage:

Moisture when sampled:

Sampling Date: Sept., 1999

Permeability:

Slope: 0-2%

Described by: A.D. Karathanasis and Bill Craddock

Ap—0 to 6 in.; Brown (10YR 4/3) silt loam/silt; weak granular structure; friable; common faint redox depletions and concentrations; clear boundary.

Btx1—6 to 12 in.; Yellowish brown (10YR 5/4) silt loam; moderate prismatic structure; firm; common distinct redox depletions and concentrations; clear boundary.

Btx2—12 to 19 in.; Yellowish brown (10YR 5/4) silty clay loam/silt loam; moderate prismatic structure; firm; common distinct redox depletions and concentrations; clear boundary.

Bt1—19 to 27 in.; Yellowish brown (10YR 5/4) silty clay loam/silt loam; moderate subangular blocky structure; friable; common distinct redox depletions and concentrations; clear boundary.

Bt2—27 to 34 in.; Yellowish brown (10YR 5/4) silty clay; moderate subangular blocky structure; friable; common distinct redox depletions and concentrations; abrupt boundary.

Cr—34+ in.

SOIL TYPE..... BEREA (TAXADJUNCT) **PEDON #**
LOCATION .....MADISON COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-6	Ap	10.1	80.3	9.6	1.3	3.1	2.6	1.7	1.4							si/sil			
6-12	Btx_1	5.8	74.2	20.0	1.1	1.6	1.3	0.9	0.9							sil			
12-19	Btx_2	2.8	68.2	29.0	0.5	0.6	0.3	0.5	0.9							sicl/sil			
19-27	Bt_1	1.7	70.4	27.9	0.1	0.2	0.2	0.4	0.8							sicl/sil			
27-34	Bt_2	1.6	50.9	47.5	0.1	0.2	0.2	0.4	0.7							sic			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-6	4.91																1.99		
6-12	4.88																		
12-19	4.39																		
19-27	4.42																		
27-34	4.46																		
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Berks, channery silt loam

Pedon #: S90KY-135-05(1-5)

Classification: Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

Location: Lewis County, Kentucky; Atlas sheet 35A; about 2 miles northeast of the junction of KY-559 and KY-344 at Petersville, about 0.3 mile south of the junction of KY-344 and Bee Branch Road, about 500 feet northwest of Bee Branch Road. x: 2,225,750 feet; Latitude: 38° 27′ 11″; y: 347,700 feet; Longitude: 83° 27′ 23″

Parent Material: Residuum of sandstone, siltstone and shale of the Borden Formation, Mississippian Geologic System

Vegetation: White oak, hickory, sugar maple, black oak woodland

Landscape Position: Side slope

Drainage:

Moisture when sampled: Moist

Sampling Date: 1/2/90

Permeability:

Slope: 29%

Described by: S. Jacobs and D. Dotson

A—0 to 3 inches (0 to 8 cm); dark brown (10YR 4/3) channery silt loam; weak fine granular structure; very friable; many fine and medium roots; 18% sandstone channers; very strongly acid; clear smooth boundary.

Bw1—3 to 8 inches (8 to 20 cm); brown (10YR 5/3) channery loam; weak fine subangular blocky structure; friable; common fine and medium roots, few coarse roots; 30% sandstone channers and stones; common faint silt coats on ped surfaces and on coarse fragments; very strongly acid; gradual smooth boundary.

Bw2—8 to 16 inches (20 to 41 cm); yellowish brown (10YR 5/4) very channery loam; weak medium subangular blocky structure; friable; few fine and medium roots; 50% sandstone channers and stones; common faint silt coats on ped surfaces and coarse fragments; very strongly acid; clear wavy boundary.

Bw3—16 to 25 inches (41 to 64 cm); yellowish brown (10YR 5/4) extremely channery loam; weak fine and medium subangular blocky structure; friable; few fine roots; 65% sandstone channers and stones; common faint silt coats on ped surfaces and coarse fragments; very strongly acid; abrupt wavy boundary.

R—25 inches (64 cm); unweathered fine grained sandstone in 6 to 20 inch thick layers.

SOIL TYPE.....BERKS **PEDON # .....S90KY-135-005-(1-4)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)				>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	A	35.2	55.5	9.3	5.8	7.4	6.6	5.2	10.2							sil			
3-8	Bw_1	22.6	67.2	10.2	4.1	2.2	1.6	2.5	12.2							sil			
8-16	Bw_2	23.4	67.9	8.7	5.9	3.2	1.8	2.4	10.1							sil			
16-25	Bw_3	36.8	53.2	10.0	12.2	6.2	3.4	3.7	11.3							sil			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Blairton, silt loam (Taxadjunct)

Pedon #: S90KY-135-01-(1-4)

Classification: Fine-loamy, mixed, active, mesic, Typic Hapludults

Location: Lewis County, Kentucky; Atlas sheet 35A; about 2 miles northeast of the junction of KY-559 and KY-344 at Petersville, about 0.3 mile south of the junction of KY-344 and Bee Branch Road, about 500 feet northwest of Bee Branch Road. Latitude: 38° 27′ 11″; Longitude: 83° 27′ 23″; x: 2,225,750 feet; y: 347,700 feet

Parent Material: Residuum weathered from the shale member of the Borden Formation, Mississippian Geologic System

Vegetation: Hickory, white oak, sugar maple, flowering dogwood woodland

Landscape Position: Side slope below bench

Drainage:

Moisture when sampled: Moist

Sampling Date: 1/2/90

Permeability:

Slope: 82%

Described by: S. Jacobs and D. Dotson

A—0 to 3 inches (0 to 8 cm); dark brown (10YR 3/3) channery silt loam; weak fine granular structure; very friable; many fine roots, few medium and coarse roots; 15% sandstone gravels and channers; very strongly acid; clear smooth boundary.

Bt1—3 to 14 inches (8 to 36 cm); yellowish brown (10YR 5/6) channery loam; moderate fine and medium subangular blocky structure; friable; common fine roots, few medium and coarse roots; 25% sandstone channers; very strongly acid; clear smooth boundary.

2Bt2—14 to 25 inches (36 to 64 cm); reddish brown (5YR 4/4) channery silty clay loam; common fine and medium prominent pale olive (5Y 6/3) mottles; moderate fine subangular blocky structure; firm; common fine and medium roots; 30% shale fragments; very strongly acid; gradual smooth boundary.

2Cr—25 to 37 inches (64 to 94 cm); pale olive (5Y 6/3) very channery silty clay; firm; few fine roots; 40% shale fragments; very strongly acid; gradual smooth boundary.

R—37 inches (94 cm); soft layered pale olive (5Y 6/3) shale.

SOIL TYPE.....BLAIRTON (TAXADJUNCT) **PEDON # .....S90KY-135-001-(1-4)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	A	31.0	58.4	10.6	4.9	6.7	6.2	4.7	8.5							sil			
3-14	Bw_1	21.2	63.8	15.0	3.3	2.8	2.2	2.8	10.1							sil			
14-25	$2Bt_1$	13.7	51.5	34.8	3.4	4.7	3.2	1.4	1.0							sil			
25-37	2Cr	1.5	57.5	41.0	0.1	0.2	0.2	0.2	0.8							sic/sicl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Boonesboro, silt loam (Taxadjunct)

Pedon #: S93KY-239-08-(1-2)

Classification: Fine, mixed, mesic Typic Argiudolls

Location: Woodford Co., Ky

Parent Material: Alluvium

Vegetation: Fescue, white clover pasture

Landscape Position: Floodplain

Drainage:

Moisture when sampled: Moist

Sampling Date: 7/20/93

Permeability:

Slope: 1%

Described by: S. Jacobs

A—0 to 14 inches (0 to 36 cm); very dark grayish brown (10YR 3/2) silt loam; weak medium subangular blocky structure parting to medium fine granular; friable; many fine roots; neutral; gradual smooth boundary.

Bt—14 to 24 inches (36 to 61 cm); dark brown (10YR 3/3) silty clay; moderate fine and medium subangular blocky structure; firm; common fine roots; common distinct clay films on ped faces; 10 percent chert fragments; neutral; abrupt smooth boundary.

R—24 inches (61 cm); hard limestone bedrock.

SOIL TYPE..... BOONESBORO (TAXADJUNCT) **PEDON # .....S93KY-239-008-(1-2)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-14	A	21.7	55.9	22.4	2.9	5.6	5.9	4.9	2.4							sil			
14-24	Bt_1	21.5	43.1	35.4	2.9	5.5	5.4	4.9	2.8							cl/sicl			
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-14	6.20		6.48														6.35	211.5	100+
14-24	6.42		6.60														3.00	180.5	100+

Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Brownsville, channery silt loam

Pedon #: S90KY-135-02(1-7)

Classification: Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

Location: Lewis County, Kentucky; Atlas sheet 27B; about 2.3 miles southeast of the confluence of Town Branch and Kinniconick Creek near Tannery Church, about 2.0 miles west of the bridge across Mill Branch on Kinniconick Road, about 500 feet north of Mill Branch on the south facing sideslope. Latitude: 38° 31′ 09″; Longitude: 83° 16′ 04″; x: 2,280,600 feet; y: 377,900 feet

Parent Material: Colluvial material from siltstone, shale, and sandstone of the Borden Formation, Mississippian Geologic System

Vegetation: Scarlet oak, white oak, yellow-poplar, hickory, woodland

Landscape Position: Middle sideslope

Drainage:

Moisture when sampled: Moist

Sampling Date: 1/11/90

Permeability:

Slope: 45%

Described by: S. Jacobs and D. Dotson

A—0 to 4 inches (0 to 10 cm); dark brown (10YR 4/3) channery silt loam; weak fine granular structure; very friable; many fine and medium roots, few coarse roots; 25% sandstone gravels and channers; many faint silt coats on ped surfaces and on coarse fragments; very strongly acid; clear wavy boundary.

Bw1—4 to 11 inches (10 to 28 cm); light yellowish brown (10YR 6/4) very channery loam; weak fine subangular blocky structure; friable; common fine and medium roots; 35% sandstone gravels and channers; many faint silt coatings on ped surfaces and on coarse fragments; very strongly acid; gradual smooth boundary.

Bw2—11 to 21 inches (28 to 53 cm); light yellowish brown (10YR 6/4) very channery loam; weak medium subangular blocky structure; friable; common fine and medium roots, few coarse roots; 50% sandstone gravels and channers; many faint silt coatings on ped surfaces and on coarse fragments; very strongly acid; gradual wavy boundary.

Bw3—21 to 27 inches (53 to 69 cm); yellowish brown (10YR 5/8) very channery loam; weak medium subangular blocky structure; friable; few fine and medium roots; 60% sandstone gravels and channers; many faint silt coats on ped surfaces and on coarse fragments; very strongly acid; clear wavy boundary.

Bw4—27 to 43 inches (69 to 109 cm); yellowish brown (10YR 5/6) extremely channery loam; weak medium subangular blocky structure; friable; few fine and medium roots; 75% sandstone gravels, channers, and stones; many faint silt coats on ped surfaces and on coarse fragments; very strongly acid.

SOIL TYPE..... BROWNSVILLE **PEDON # .....S90KY-135-002-(1-5)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-4	A	32.2	62.0	5.8	3.0	3.4	2.9	4.9	18.0							sil			
4-11	Bw_1	24.8	65.4	9.8	2.2	1.1	0.9	1.3	19.3							sil			
11-21	Bw_2	27.5	64.1	8.4	3.7	1.8	1.3	1.7	19.0							sil			
21-27	Bw_3	48.4	40.9	10.7	7.2	4.5	3.1	5.9	27.7							l			
27-43	Bw_4	43.3	46.2	10.5	6.9	6.5	4.0	5.3	20.6							l			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Caneyville, silty clay loam

Pedon #: S94KY-135-55-(1-3)

Classification: Fine, mixed, active, mesic Typic Hapludalfs

Location: Lewis County, Kentucky

Parent Material:

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope:

Described by:

A—0 to 3 inches; dark brown (10YR 4/3) silty clay loam; weak fine granular structure; friable; many fine, few medium and coarse roots; 10% dolomite fragments; medium acid; gradual smooth boundary.

Bt1—3 to 10 inches; strong brown (7.5YR 4/6) clay; moderate medium subangular and angular blocky structure; firm; common fine, few medium and coarse roots; 10% dolomite fragments; many distinct clay films on peds; strongly acid; gradual smooth boundary.

Bt2—10 to 24 inches; strong brown (7.5YR 5/6) gravelly clay; moderate medium and coarse subangular and angular blocky structure; very firm; common fine, few medium and coarse roots; 30% dolomite fragments; many distinct and prominent clay films on peds; neutral; abrupt smooth boundary.

R—24 inches; hard dolomite bedrock.

SOIL TYPE.....CANEYVILLE **PEDON # .....S94KY-135-055-(1-3)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	A	24.3	50.7	25.0	1.7	4.6	4.2	4.5	9.3							sil/l/cl			
3-10	Bt_1	15.1	40.9	44.0	0.5	0.6	0.8	2.1	11.1							sic/c			
10-24	Bt_2	11.1	43.0	45.9	0.1	0.3	0.5	1.3	8.9							sic			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt_1										17			18	38	23	4			
Bt_2										21			22	28	24	4			1

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Caneyville, silt loam (Taxadjunct)

Pedon #: S94KY-135-59-(1-7)

Classification: Fine, montmorillonitic, active, mesic Typic Hapludalfs

Location: Lewis County, Kentucky

Parent Material:

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope:

Described by:

Ap—0 to 6 inches; brown (10YR 5/3) silt loam; weak fine granular structure; very friable; many fine roots; abrupt smooth boundary.

BA—6 to 11 inches; brown (10YR 5/3) and yellowish brown (10YR 5/6) silty clay loam; weak medium subangular blocky structure; friable; common fine roots; neutral; clear smooth boundary.

Bt1—11 to 25 inches; strong brown (7.5YR 5/6) silty clay; common medium distinct yellowish red (5YR 4/6) mottles; moderate medium subangular blocky structure; firm; common fine roots; common distinct clay films on peds; medium acid; clear smooth boundary.

Bt2—25 to 31 inches; yellowish brown (10YR 5/6), dark reddish brown (5YR 3/3), and light greenish gray (5GY 7/1) silty clay; moderate medium subangular blocky structure; firm, few fine roots; common distinct clay films on peds; medium acid; clear smooth boundary.

BC—31 to 40 inches; olive yellow (2.5Y 6/6) and light greenish gray (5GY 7/1) silty clay; weak medium subangular blocky structure; firm; few fine roots; 5% siltstone fragments; medium acid; gradual smooth boundary.

C—40 to 47 inches; light greenish gray (5GY 7/1) and olive yellow (2.5Y 6/6) channery silty clay loam; weak thin platy structure; friable; 25% siltstone fragments; slightly acid; clear smooth boundary.

Cr—47 inches; soft siltstone bedrock

SOIL TYPE.....CANEYVILLE (TAXADJUNCT) **PEDON # .....S94KY-135-059-(1-7)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-6	Ap	39.4	44.8	15.8	1.1	2.0	7.0	21.6	7.7							l			
6-11	BA	25.6	48.4	26.0	0.5	1.1	3.5	13.2	7.3							l/sil/cl			
11-25	Bt_1	4.7	46.8	48.5	0.4	0.4	0.8	2.0	1.1							sic			
25-31	Bt_2	2.0	53.4	44.6	0.3	0.4	0.4	0.5	0.4							sic			
31-40	BC	5.0	62.2	32.8	1.1	0.7	0.6	1.1	1.5							sicl			
40-47	C	9.4	64.2	26.4	2.0	1.6	1.5	2.2	2.1							sil/sicl			
47	Cr	14.5	60.7	24.8	4.5	3.6	2.5	2.0	1.9							sil			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt_1									44	31				15	8	2			
Bt_2									21	35			3	8	30	2			1

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Caneyville, silt loam

Pedon #: S94KY-135-60-(1-5)

Classification: Fine, mixed, active, mesic Typic Hapludalfs

Location: Lewis County, Kentucky

Parent Material:

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope:

Described by:

A—0 to 5 inches; dark brown (10YR 3/3) silt loam; weak fine granular structure; very friable; many fine and medium, few coarse roots; 10% chert fragments; strongly acid; gradual smooth boundary.

B/A—5 to 9 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure parting to weak fine granular; friable; common fine and medium, few coarse roots; 3 to 5% chert fragments; strongly acid; clear smooth boundary.

Bt1—9 to 12 inches; yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) silty clay loam; moderate fine and medium subangular blocky structure; firm; common fine, few coarse roots; few faint clay films on peds; medium acid; clear smooth boundary.

Bt2—12 to 24 inches; strong brown (7.5YR 4/6) channery clay; many fine and medium prominent red (2.5YR 4/6) mottles; moderate medium subangular blocky structure; very firm, few fine, medium and coarse roots; 20% limestone channers; many distinct clay films on peds; mildly alkaline; clear wavy boundary.

Bt3—24 to 30 inches; dark yellowish brown (10YR 4/6) and olive brown (2.5Y 4/4) channery clay; moderate medium subangular blocky structure; very firm; common fine, medium, and coarse roots; 30% limestone channers; many distinct clay films on peds; mildly alkaline; abrupt smooth boundary.

R—30 inches; hard limestone bedrock.

SOIL TYPE.....CANEYVILLE **PEDON # .....S94KY-135-060-(1-5)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-5	A	22.5	65.6	11.9	2.8	5.7	5.2	4.2	4.6							sil			
5-9	B/A	13.8	71.6	14.6	2.2	2.1	2.4	3.0	4.1							sil			
9-12	Bt_1	8.6	60.6	30.8	1.7	1.2	1.3	1.6	2.8							sicl			
12-24	Bt_2	4.4	31.8	63.8	0.7	0.7	0.8	0.9	1.3							c			
24-30	Bt_3	4.8	30.0	65.2	0.2	0.7	1.2	1.5	1.2							c			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt1	85	15							30		34			15	12	10			
Bt2									34		45			10	8	3			
Bt3									45	37				13	5				

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Caneyville, silt loam (Taxadjunct)

Pedon #: S94KY-135-64-(1-5)

Classification: Fine, vermiculitic, active, mesic Typic Hapludalfs

Location: Lewis County, Kentucky

Parent Material:

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope:

Described by:

A—0 to 3 inches; dark brown (7.5YR 3/2) silt loam; weak fine granular structure; friable; many fine and medium, few coarse roots; 10% limestone and sandstone fragments; neutral; clear wavy boundary.

Bt1—3 to 10 inches; brown (7.5YR 5/4) silty clay loam; moderate fine and medium subangular blocky structure; very firm; common fine and medium, few coarse roots; 2% chert fragments; many faint clay films on peds; strongly acid; clear smooth boundary.

Bt2—10 to 19 inches; dark brown (7.5YR 4/4) clay; strong medium subangular and angular blocky structure; very firm; few fine and medium roots; 10% chert fragments; many distinct clay films on peds; medium acid; clear wavy boundary.

Bt3—19 to 29 inches; dark brown (7.5YR 4/4) gravelly clay; moderate medium subangular and angular blocky structure; very firm; few fine and medium roots; 30% chert fragments; many distinct clay films on peds; slightly acid; clear wavy boundary.

C—29 to 36 inches; dark yellowish brown (10YR 4/4) clay; very firm; few fine roots; 35% chert fragments; many distinct clay films on peds; moderately alkaline.

R—36 inches; hard limestone bedrock.

SOIL TYPE.....CANEYVILLE (TAXADJUNCT) **PEDON # ..... S94-135-064-(1-5)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	A	34.6	48.9	16.5	6.0	9.7	5.8	8.7	4.4							sil/l			
3-10	Bt_1	21.7	58.3	20.0	0.4	0.8	3.2	10.5	6.8							sil			
10-19	Bt_2	7.8	40.6	51.6	0.3	0.5	1.3	3.0	2.7							sic/c			
19-29	Bt_3	8.2	31.1	60.7	1.5	1.2	1.5	2.2	1.8							c			
29-36	C	10.2	34.0	55.8	2.8	1.7	1.4	2.0	2.3							c			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt1	100									42			22	15	15	5			1
Bt2										36			30	10	21	2			1
Bt3										48			25	10	15	2			

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Catalpa, silty clay loam overwash

Pedon #: 98KY-075-01-(1-5)

Classification: Fine, smectitic, thermic Fluvaquentic Vertic Endoaquoll

Location: Fulton Co, KY, 5.7 miles west of Hickman along KY Hwy 94 in the Lower Bottom, about 700 feet SW of the junction of KY Hwy 94 and Helm Road north of Hamby Pond; Bondurant 7.5 minute USGS quadrangle; on soil map sheet 22T, east 956,000 feet and north 101,800 feet by the Kentucky coordinate system.

Parent Material: Mississippi River clayey alluvium

Vegetation: soybean residue

Landscape Position: Mississippi River flood plain

Drainage: somewhat poorly drained

Moisture when sampled: moist

Sampling Date: 5/15/98

Permeability: slow

Slope: <1 percent

Described by: J. E. McIntosh and P. G. Gregory

Ap1—0 to 3 inches; dark grayish brown (10YR 4/2) silty clay loam; weak medium subangular blocky structure; friable; common fine roots; common distinct dark gray (10YR 4/1) organic stains; slightly acid (pH 6.1); clear smooth boundary.

Ap2—3 to 8 inches; dark grayish brown (10YR 4/2) silty clay; weak medium subangular blocky structure; firm; few fine roots; common distinct dark gray (10YR 4/1) organic stains; slightly acid (pH 6.1); clear smooth boundary.

Ab—8 to 26 inches; very dark gray (2.5Y 3/1) silty clay; dark gray (2.5Y 4/1) dry; moderate fine angular blocky structure; very firm; few fine roots; few fine faint dark gray (2.5Y 4/1) iron depletions and common fine distinct olive brown (2.5Y 4/3) masses of iron accumulations; common pressure faces; slightly acid (pH 6.3); clear smooth boundary.

Bg—26 to 34 inches; olive brown (2.5Y 4/2) silty clay; moderate medium angular blocky structure; very firm; very few fine roots; many medium faint dark gray (2.5Y 4/1) iron depletions; many medium faint olive brown (2.5Y 4/3) and few medium prominent yellowish brown (10YR 5/6) and strong brown (7.5YR 5.6) masses of iron accumulations; common pressure faces; slightly acid (pH 6.4); gradual smooth boundary.

BCg—34 to 43+ inches; 50 percent olive brown (2.5Y 4/3) and 50 percent dark grayish brown (2.5Y 4/2) silty clay; weak medium angular blocky structure; very firm; many medium distinct dark gray (2.5Y 4/1) iron depletions; common fine prominent yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) masses of iron accumulations; common pressure faces; slightly acid (pH 6.3).

SOIL TYPE ..... **CATALPA** **PEDON #** **S98KY-075-001**
LOCATION ..... **FULTON COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	Ap_1	13.7	56.7	29.6	1.9	1.0	1.4	3.3	6.1							sicl			
3-8	Ap_2	7.7	45.2	47.1	0.1	0.3	0.8	2.8	3.7							sic			
8-26	AB	15.1	42.7	42.2	0.5	0.2	2.6	8.8	3.0							sic			
26-34	Bg	8.6	45.3	46.1	0.09	0.2	0.4	3.3	4.6							sic			
34-43+	BCg	11.1	40.8	48.1	0.4	0.7	0.7	2.1	7.2							sic			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-3																	2.87		
3-8																	2.22		
8-26																	1.94		
26-34																	1.45		
34-43+																	0.97		
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Catalpa, silty clay loam

Pedon #: S01KY-075-01-(1-8)

Classification: Fine, smectitic, thermic Fluvaquentic Vertic Endoaquolls

Location: Fulton County, Kentucky; 6.6 miles west of Hickman along KY Hwy 94 in the Lower Bottom, 3,200 feet northeast of the intersection of KY Highways 94 and 971 at Sassafras Ridge; Bondurant 7.5 minute USGS quadrangle; on soil map sheet 22T; east 952,300 feet and north 101,600 feet by the Kentucky coordinate system.

Parent Material: Mississippi River clayey alluvium

Vegetation: soybean residue

Landscape Position: Mississippi River flood plain

Drainage: somewhat poorly drained

Moisture when sampled: moist

Sampling Date: 10/23/00

Permeability: slow

Slope: <1 percent

Described by: J.E. McIntosh

Ap—0 to 3 inches; dark brown (10YR 3/3) silty clay loam, brown (10YR 5/3) dry; moderate medium granular structure; friable, common fine roots; neutral (pH 6.9); abrupt smooth boundary.

Ap2—3 to 8 inches; dark brown (10YR 3/3) silty clay; brown (10YR 5/3) dry; moderate medium subangular blocky structure; firm; common fine roots; neutral (pH 6.6); clear smooth boundary.

A—8 to 20 inches; very dark grayish brown (10YR 3/2) silty clay, dark grayish brown (10YR 4/2) dry; moderate medium prismatic structure parting to moderate medium subangular blocky; very firm; common fine roots; few fine faint dark gray (2.5Y 4/1) iron depletions along ped faces; common fine distinct olive brown (2.5Y 4/3) masses of iron accumulations; common pressure faces; common wormcasts; neutral (pH 6.6); gradual smooth boundary.

Bg1—20 to 33 inches; dark grayish brown (2.5Y 4/2) silty clay; moderate medium prismatic structure parting to strong medium angular blocky; very firm; few fine roots; common medium faint dark gray (2.5Y 4/1) iron depletions along ped faces; few fine prominent strong brown (7.5YR 5/6) masses of iron accumulations; common prominent very dark grayish brown (10YR 3/2) organic stains; common pressure faces; common wormcasts; neutral (pH 6.7); clear smooth boundary.

Bg2—33 to 48 inches; 50 percent dark grayish brown (2.5Y 4/2) and 50 percent olive brown (2.5Y 4/3) silty clay/silty clay loam; moderate medium subangular blocky structure; very firm; few fine roots; many medium faint dark gray (2.5Y 4/1) iron depletions along ped faces; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulations; neutral (pH 6.7); gradual smooth boundary.

2Bg3—48 to 65 inches; olive brown (2.5Y 4/2) clay loam; moderate medium subangular blocky structure; firm; very few fine roots; many medium faint dark gray (2.5Y 4/1) iron depletions along ped faces; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulations; neutral (pH 6.7) gradual smooth boundary.

2BCg—65 to 72 inches; 40 percent dark grayish brown (2.5Y 4/2), 30 percent gray (2.5Y 5/1) and 30 percent olive brown (2.5Y 4/3) clay loam; weak medium subangular blocky structure; firm; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulations; neutral (pH 6.7); clear smooth boundary.

2Cg—72 to 80 inches; 60 percent brown (10YR 4/3) and 40 percent gray (10YR 5/1) fine sandy loam; massive; very friable; few medium prominent yellowish brown (10YR 5/6) masses of iron accumulations; neutral (pH 6.8).

SOIL TYPE..... CATALPA **PEDON # ..... S01-KY-075-01-(1-8)**
LOCATION ..... FULTON COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	Ap_1	10.4	58.7	30.9	0.1	0.3	0.6	1.8	7.6							sicl			
3-8	Ap_2	8.9	53.9	37.2	0.1	0.1	0.2	0.8	7.7							sicl			
8-20	A	3.2	52.6	44.2	0	0	0.1	0.5	2.6							sic			
20-33	Bg_1	9.9	51.5	38.6	0	0.1	0.1	1.0	8.7							sicl/sic			
33-48	Bg_2	24.3	48.7	27.0	0	0.1	0.2	2.4	21.6							cl/l/sil			
48-65	$2Bg_3$	35.4	37.6	27.0	0	0.3	0.7	2.8	31.6							cl/l			
65-72	2BCg	34.7	38.6	26.7	0	0.3	0.2	3.9	30.3							cl/l			
72-80	2Cg	71.3	19.0	9.7	0	0.1	0.2	24.4	46.6							sl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in		8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Chavies, silt loam

Pedon #: S90KY-135-13(1-5)

Classification: Coarse-loamy, mixed, active, mesic, Ultic Hapludalfs

Location: Lewis County, Kentucky; Atlas sheet 3A; about 3.1 miles west of the intersection of KY-57 and KY-8 at Concord, about 1,800 feet north of KY-8, about 250 feet north of Chesapeake and Ohio railroad tracks and about 30 feet west of farm road. x: 2,194,000 feet; Latitude: 38° 41′ 38″; y: 434,850 feet; Longitude: 83° 33′ 25″

Parent Material: Mixed alluvium of the Ohio River floodplain, Quaternary system

Vegetation: Orchard grass, hayfield

Landscape Position: Terrace

Drainage:

Moisture when sampled: Moist

Sampling Date: 6/26/90

Permeability:

Slope: 1%

Described by: S. Jacobs and D. Dotson

A—0 to 8 inches (0 to 20 cm); brown (10YR 4/3) loam; moderate fine granular structure with some single grain; very friable; few fine roots; moderately alkaline; clear smooth boundary.

Bt1—8 to 22 inches (20 to 56 cm); dark yellowish brown (10YR 4/6) loam; weak fine and medium subangular blocky structure; very friable; few fine roots; few faint clay bridges on sand grains; moderately alkaline; gradual smooth boundary.

Bt2—22 to 49 inches (56 to 124 cm); dark yellowish brown (10YR 4/6) loam; moderate fine and medium subangular blocky structure in upper part and weak medium and coarse subangular blocky structure in lower part; very friable; few fine roots; few faint clay films on ped surfaces and common faint clay bridges on sand grains; medium acid; clear smooth boundary.

Bt3—49 to 54 inches (124 to 137 cm); dark yellowish brown (10YR 4/6) loamy sand; weak coarse subangular blocky structure and single grained; very friable; few faint clay films and many clay bridges on sand grains; very strongly acid; clear smooth boundary.

C—54 to 66 inches (137 to 168 cm); yellowish brown (10YR 5/6) sandy loam; structureless and single grained; very friable; very strongly acid.

SOIL TYPE.....CHAVIES **PEDON # .....S90KY-135-013-(1-5)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-8	Ap	64.8	22.3	12.9	0.2	0.6	6.6	40.0	17.4							sl			
8-22	Bt_1	65.6	17.6	16.8	0.1	0.4	6.2	42.3	16.6							sl			
22-49	Bt_2	60.5	22.1	17.4	0.1	0.2	1.9	38.5	19.8							sl			
49-54	Bt_3	68.0	18.2	13.8	0	0.1	2.9	43.6	21.4							sl			
54-66	C	87.4	5.1	7.5	0	0.5	11.7	62.8	12.4							ls			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Cumberland, silt loam (Taxadjunct)

Pedon #: S96KY-227-08-(1-7)

Classification: Fine-silty, mixed, mesic Rhodic Paleudalfs

Location: Warren Co., approximately 300 feet south of the intersection of Glen Lily Road and South Lee Drive; 200 feet west of South Lee Drive in garden site. Longitude: 86° 27' 49"; Latitude: 36° 59' 46"

Parent Material: Limestone

Vegetation:

Landscape Position: Ridge

Drainage:

Moisture when sampled:

Sampling Date: 8/22/96

Permeability:

Slope: 3%

Described by: Michael J. Mitchell

Ap—0 to 3 inches; dark brown (10YR 4/3) heavy silt loam; weak fine subangular blocky structure parting to moderate fine granular structure; firm; many fine and medium, few coarse roots; moderately acid; abrupt wavy boundary.

Bt1—3 to 7 inches; dusky red (10R 3/4) silty clay loam; moderate fine subangular blocky structure parting to weak fine subangular blocky structure; firm; many fine roots; many distinct clay films; slightly acid; gradual smooth boundary.

Bt2—7 to 17 inches; dark red (10R 3/6) >35% silty clay loam; moderate medium subangular blocky structure; firm; common black stains on ped faces; many fine roots; many prominent clay films; very strongly acid; gradual smooth boundary.

Bt3—17 to 28 inches; dark reddish brown (2.5YR 3/4) silty clay; strong medium subangular blocky structure; firm; small oval black concretions between ped faces; few fine roots; many distinct clay films; very strongly acid; gradual smooth boundary.

Bt4—28 to 42 inches; dusky red (10R 3/3) silty clay; strong coarse subangular blocky structure; very firm; few black stains on ped faces; few fine roots; many prominent clay films; <1% small chert fragments; gradual smooth boundary.

Bt5—42 to 61 inches; dusky red (10R 3/4) silty clay; strong coarse subangular blocky structure; very firm; common round black concretions between peds; few fine roots; many prominent clay films; very strongly acid; <1% quartzite and chert fragment.

Bt6—61 to 80 inches; dark red (10R 3/6) silty clay; moderate medium subangular blocky structure; very firm; common black concretions; few fine roots; common prominent clay films; <1% quartzite and chert fragments; very strongly acid.

SOIL TYPE ..... **CUMBERLAND (TAXADJUNCT)** **PEDON #** ..... **S96KY-227-08 –(1-7)**
LOCATION ..... **WARREN COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
3-7	Bt_1	6.8	64.0	29.2	0.5	0.6	0.8	2.4	2.5							sicl			
7-17	Bt_2	6.2	60.7	33.1	0.6	0.8	0.6	2.1	2.1							sicl			
17-28	Bt_3	7.1	61.5	31.4	0.6	0.7	0.8	2.3	2.7							sicl			
28-42	Bt_4	7.2	51.1	41.7	0.6	0.5	0.7	2.7	2.7							sic/sicl			
42-61	Bt_5	10.1	42.8	47.1	1.2	0.9	1.1	3.3	3.6							sic			
61-80	Bt_6	8.1	34.5	57.4	1.2	0.9	0.8	2.8	2.4							c			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
17-28	4.9		6.4															102.5	2
28-42	4.7		6.2															116.5	3.5
42-61	4.5		6.3															116.5	2
61-80	4.9		6.3															11.95	2

Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt_3									10	35			10	30	15				
Bt_4									15	33			15	30	12				
Bt_5									20	27			8	35	10				
Bt_6									20	25			5	40	10				

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Cumberland, silt loam (Taxadjunct)

Pedon #: S97KY-227-03-(1-4)

Classification: Fine, mixed, semiactive, mesic Typic Paleudalfs

Location: Warren County, approximately 1.5 miles north of the intersection of U.S. Highway 231 and Cumberland Trace Road; then .94 mile east of Cumberland Trace Road on ridge above Drakes Creek. Longitude: 86° 23′ 18′; Latitude: 36° 57′ 8″

Parent Material: Old alluvium/residuum

Vegetation:

Landscape Position: Ridge

Drainage:

Moisture when sampled:

Sampling Date: 4/9/97

Permeability:

Slope: 7%

Described by: Michael J. Mitchell

Ap—0 to 8 inches; brown (10YR 4/3) silt loam; weak fine granular structure; <5% small friable chert fragments; common fine roots; moderately acid; gradual wavy boundary.

AB—8 to 14 inches; brown (10YR 4/3) gravelly silty clay loam; weak medium subangular blocky structure; firm; few fine roots; 15% angular chert and water-worn fragments (siltstone, chert, and quartz); slightly acid; clear wavy boundary.

Bt1—14 to 25 inches; red (2.5YR 4/6) gravelly heavy silty clay loam; few faint clay films; yellowish red (5YR 4/6); light brown (7.5YR 6/4) iron accumulations; few black stains between ped faces; weak medium subangular blocky structure; firm; 15% chert and water-worn fragments; slightly acid; gradual wavy boundary.

Bt2—25 to 50 inches; dark red (2.5YR 3/6) silty clay; few black stains; moderate medium subangular blocky structure; firm; plastic; common distinct yellowish brown (10YR 5/6) clay films on ped faces; 12% water-worn and weathered chert fragments slightly acid; gradual wavy boundary.

2Bt3—50 to 80 inches; 60% red (2.5YR 4/6) and 40% strong brown (2.5YR 4/6) silty clay; moderate medium subangular blocky structure; firm; many distinct clay films; neutral.

SOIL TYPE..... CUMBERLAND (TAXADJUNCT) **PEDON # ..... S97-KY-227-003-(1-5)**
LOCATION ..... WARREN COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
14-25	Bt_1	26.0	54.0	20.0	2.8	2.7	4.2	8.8	7.5							sil			
25-50	Bt_2	28.6	36.9	34.5	1.9	2.6	4.3	10.3	9.5							cl			
50-80	$2Bt_3$	26.4	37.5	36.1	1.6	1.9	3.7	9.7	9.5							cl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
C.S.	72		28						22	24			23	14	12	5			

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Cynthiana, silty clay

Pedon #: S99KY-011-10-(1-2)

Classification: Clayey, mixed, active, mesic, Lithic Hapludalfs

Location: Bath County, Kentucky; Owingsville SE Quarter Quad., update sheet 13T; about 0.85 miles S of Reynoldsville in Bath Co., about 0.4 mile N. of road along Burbridge Branch and about 280 feet uphill from drain.

Parent Material: Residuum of layered limestone and thin shale of the Bull Fork formation

Vegetation: fescue, eastern red cedar

Landscape Position: Ridgetop and slide slopes

Drainage:

Moisture when sampled: moist

Sampling Date: 03/22/99

Permeability:

Slope: 31%

Described by: D. Hines

A—0 to 4 inches (0 to 10 cm); brown (10YR 4/3) silty clay; moderate subangular blocky structure; friable; common fine roots; 5 percent limestone flagstones; moderately alkaline; clear smooth boundary.

Bt1—4 to 18 inches (10 to 46 cm); light olive brown (2.5Y 5/4) silty clay; many distinct yellowish brown (10YR 5/6) lithochromic mottles; moderate medium subangular blocky structure; firm; common fine roots in upper part and few fine roots in lower part; 15 percent limestone flagstones and channers; common distinct clay films on faces of peds; moderately alkaline; abrupt smooth boundary.

R—18 to 22 inches (46 to 56 cm); hard limestone of the Bull Fork formation.

SOIL TYPE.....CYNTHIANA **PEDON # ..... S99-KY-011-10-(1-2)**
LOCATION .....BATH COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-4	A	15.3	45.9	38.8	1.3	4.8	3.7	3.5	2.8							sicl/sic			
4-18	Bt_1	15.8	40.4	43.8	4.4	4.1	3.7	2.4	1.2							sic/c			
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Egam, silt loam (Taxadjunct)

Pedon #: S93KY-239-19-(1-3)

Classification: Fine-silty, mixed, active, mesic Cumulic Hapludolls

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Alluvium

Vegetation: Fescue, white clover hay field

Landscape Position: Floodplain

Drainage:

Moisture when sampled: Moist

Sampling Date: 10/4/93

Permeability:

Slope: 3.5%

Described by: R. Jones

A—0 to 15 inches (0 to 38 cm); dark brown (10YR 3/3) silt loam; weak fine granular structure; very friable; common fine roots; mildly alkaline; gradual smooth boundary.

A2—15 to 30 inches (38 to 76 cm); very dark grayish brown (10YR 3/2) silt loam; moderate fine granular structure; friable; few fine roots; mildly alkaline; gradual smooth boundary.

Bw—30 to 42 inches (76 to 107 cm); very dark grayish brown (10YR 3/2) and dark brown (10YR 3/3) silty clay loam; common fine and medium dark yellowish brown (10YR 4/6) mottles; moderate medium subangular blocky structure; firm; mildly alkaline.

SOIL TYPE..... EGAM (TAXADJUNCT) **PEDON # .....S93KY-239-019-(1-3)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-15	A_1	8.4	77.7	13.9	1.3	1.3	1.4	1.9	2.5							sil			
15-30	A_2	8.5	75.7	15.8	1.2	1.2	1.6	2.1	2.4							sil			
30-42	Bw	10.7	64.0	25.3	2.9	2.5	2.0	1.9	1.4							sil/sicl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-15	6.66		6.73														5.37	196	100+
15-30	6.93		6.90														4.34	96.5	100+
30-42	6.81		6.92														1.87	108	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Egam, silty clay loam (Taxadjunct)

Pedon #: S99KY-011-03-(1-5)

Classification: Fine, mixed, active, mesic Cummulic Hapludolls

Location: Bath County, Kentucky; Olympia NW Quarter Quad., update sheet 21T; about 2.0 miles S of Owingsville in Bath Co.; about 0.7 mile SE of Kentucky Highway 36 bridge over Slate Creek; about 400 feet W of barn; and about 320 feet E of Slate Creek.

Parent Material: Alluvium

Vegetation: corn stubble, Johnsongrass, tall fescue strip between cornfields

Landscape Position: low terrace

Drainage:

Moisture when sampled: moist

Sampling Date: 1/29/99

Permeability:

Slope: 1%

Described by: D. Hines

Ap—0 to 9 inches (0 to 23 cm); very dark grayish brown (10YR 3/3), (10YR 4/3 dry), silty clay loam; moderate medium granular structure; friable; many medium and fine roots; 2 percent rounded chert; neutral; gradual smooth boundary.

Bw1—9 to 18 inches (23 to 46 cm); very dark grayish brown (10YR 3/3), (10YR 4/3 dry), silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; 2 percent rounded chert; common faint dark grayish brown (10YR 4/2) silt coatings on burrows and faces of peds; neutral; diffuse smooth boundary.

Bw2—18 to 42 inches (46 to 107 cm); very dark grayish brown (10YR 3/3) silty clay; moderate medium angular blocky structure; very friable; few fine roots; 2 percent rounded chert; common faint dark grayish brown (10YR 4/2) on faces of peds; neutral; gradual wavy boundary.

BC—42 to 49 inches (107 to 125 cm); very dark grayish brown (10YR 3/2) silty clay; common medium faint yellowish brown (10YR 5/6) lithochromic mottles; weak medium angular blocky structure; very firm; one fine root; 2 percent rounded chert; neutral; gradual smooth boundary.

C—49 to 86 inches (125 to 218 cm); dark grayish brown (2.5Y 4/2) silty clay; common medium distinct yellowish brown (10YR 5/6) lithochromic mottles; massive; very firm; neutral.

SOIL TYPE..... EGAM (TAXADJUNCT) **PEDON # ..... S99-KY-011-03-(1-5)**
LOCATION ..... BATH COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-9	Ap	8.7	62.9	28.4	0.4	1.3	1.8	2.4	2.8							sicl/sil			
9-18	Bw_1	5.0	60.8	34.2	0.1	0.3	0.7	1.3	2.6							sicl			
18-42	Bw_2	3.3	57.3	39.4	0.1	0.1	0.3	0.9	1.9							sicl/sic			
42-49	BC	4.8	62.1	33.1	0.5	0.8	0.6	0.8	2.1							sicl			
49-86	C	5.6	59.0	35.4	0.7	1.0	0.7	0.9	2.3							sicl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Elk, silt loam

Pedon #: S90KY-135-16-(1-6)

Classification: Fine-silty, mixed, active, mesic, Ultic Hapludalfs

Location: Lewis County, Kentucky; Atlas sheet 3B; about 3.1 miles northwest of the intersection of KY-57 and KY-8 at Concord, about 1,200 feet north of KY-8, about 100 feet west of farm road, and about 150 feet south of the CSX railroad tracks. Latitude: 38°41'30"; Longitude: 83°33'15"; x: 2,198,000 feet; y: 434,000 feet

Parent Material: Mixed alluvium of the Ohio River floodplain, Quaternary Geologic System

Vegetation: Orchard grass, sweet clover, hayfield

Landscape Position: Terrace

Drainage:

Moisture when sampled: Moist

Sampling Date: 6/27/90

Permeability:

Slope: 1%

Described by: S. Jacobs and D. Dotson

A—0 to 11 inches (0 to 28 cm); dark brown (10YR 4/3) silt loam; weak fine granular structure; very friable; common fine roots; medium acid; clear wavy boundary.

Bt1—11 to 17 inches (28 to 42 cm); dark yellowish brown (10YR 4/6) silt loam; weak fine and medium subangular blocky structure; firm; few fine roots; many faint clay films on ped surfaces; neutral; clear smooth boundary.

Bt2—17 to 30 inches (42 to 76 cm); yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; many distinct clay films on ped surfaces; very strongly acid; clear smooth boundary.

Bt3—30 to 45 inches (76 to 114 cm); yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; many distinct clay films on ped surfaces; very strongly acid; gradual smooth boundary.

BC—45 to 53 inches (114 to 135 cm); dark yellowish brown (10YR 4/6) loam; weak medium subangular blocky structure; friable; few faint clay films on ped surfaces; very strongly acid; abrupt smooth boundary.

C—53 to 65 inches (135 to 165 cm); dark yellowish brown (10YR 4/6) loamy sand; single grained; very friable; few clay bridges between sand grains; very strongly acid.

SOIL TYPE..... ELK **PEDON # .....S90KY-135-016-(1-6)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																		
		3A1																2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-11	Ap	11.0	73.1	15.9	0.6	2.9	0.1	3.7	3.7							sil			
11-17	Bt_1	6.0	69.4	24.6	0.3	2.1	0	1.5	2.1							sil			
17-30	Bt_2	3.0	68.1	28.9	0.2	0.8	0	1.0	2.0							sicl/sil			
30-45	Bt_3	22.5	58.0	19.5	0	0.7	0	1.8	20.0							sil			
45-53	BC	11.3	72.6	16.1	0	0.9	0	10.2	0.2							sil			
53-65	C	75.6	17.7	6.7	0.2	45.2	0	29.9	0.3							sl/ls			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Elk, silt loam

Pedon #: S93KY-239-16-(1-5)

Classification: Fine-silty, mixed, active, mesic Ultic Hapludalfs

Location: Woodford Co, KY; University of Kentucky farm

Parent Material: Alluvium

Vegetation: Bluegrass, fescue pasture

Landscape Position: Sinkhole bottom

Drainage:

Moisture when sampled: Moist

Sampling Date: 10/6/93

Permeability:

Slope: 1%

Described by:

A—0 to 14 inches (0 to 36 cm); dark brown (10YR 4/3) silt loam; weak medium subangular blocky structure parting to weak fine granular; strongly acid; gradual smooth boundary.

Bt1—14 to 27 inches (36 to 69 cm); dark brown (10YR 4/3) and brown (7.5YR 4/4) silt loam; weak medium subangular blocky structure; common faint clay films on ped faces; strongly acid; gradual smooth boundary.

Bw2—27 to 52 inches (69 to 132 cm); dark brown (7.5YR 4/4) silty clay loam; weak medium subangular blocky structure; many faint clay films on ped faces; medium acid; gradual smooth boundary.

Bt3—52 to 78 inches (132 to 198 cm); dark brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; many distinct clay films on ped faces; medium acid; gradual smooth boundary.

Bt4—78 to 88 inches (198 to 224 cm); dark brown (7.5YR 4/4) and dark yellowish brown (10YR 4/6) silty clay loam; weak medium subangular blocky structure; many faint clay films on ped faces; strongly acid.

SOIL TYPE ..... **ELK** **PEDON #** ..... **S93KY-239-016-(1-5)**
LOCATION ..... **WOODFORD COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)				>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-14	Ap	8.3	78.1	13.6	1.3	2.2	2.1	1.4	1.3							sil			
14-27	Bt_1	4.7	70.9	24.4	0.8	1.5	1.1	0.6	0.7							sil			
27-52	Bt_2	7.0	57.6	35.4	1.7	2.2	1.5	0.8	0.8							sicl			
52-78	Bt_3	9.6	55.2	35.2	2.0	2.7	2.1	1.4	1.4							sicl			
78-88	Bt_4	10.3	50.8	38.9	1.3	1.7	3.1	3.1	1.1							sicl/sic			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-14	5.31		6.36														5.45	250+	100+
14-27	5.23		6.53														1.19	250+	100+
27-52	5.49		6.40														0.61	250+	100+
52-78	5.17		6.11														0.38	176	100+
78-88	5.14		6.15														0.39	138	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite;MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Fairmount, silt loam (Taxadjunct)

Pedon #: S93KY-239-06-(1-3)

Classification: Clayey, mixed, mesic Lithic Argiudolls

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Limestone residuum

Vegetation: Oak, poplar, box elder, woodland

Landscape Position: Sideslope

Drainage:

Moisture when sampled: Moist

Sampling Date: 7/14/93

Permeability:

Slope: 25%

Described by: S. Jacobs

A—0 to 7 inches (0 to 18 cm); dark brown (10YR 3/3) silt loam; fine medium subangular blocky structure parting to moderate fine subangular blocky; friable; common fine, medium and coarse roots; mildly alkaline; gradual smooth boundary.

Bt1—7 to 16 inches (18 to 41 cm); dark brown (10YR 4/3) silty clay loam; common fine and medium subangular blocky structure; firm; common fine and coarse roots; mildly alkaline; clear smooth boundary.

Bt2—16 to 19 inches (41 to 48 cm); yellowish brown (10YR 5/4) clay; moderate medium subangular blocky and angular blocky structure; very firm; few fine roots; 30 percent limestone channers; mildly alkaline; abrupt smooth boundary.

R—19 inches; hard limestone bedrock.

SOIL TYPE..... FAIRMOUNT (TAXADJUNCT) **PEDON # .....S93KY-239-006-(1-3)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-7	A	16.0	65.7	18.3	1.7	3.1	4.6	3.9	2.7							sil			
7-16	Bt_1	6.4	56.4	37.2	0.7	0.8	1.2	1.8	1.9							sicl			
16-19	Bt_2	12.1	46.1	41.8	0.7	0.9	09	3.0	6.6							sic/sicl			
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-7	7.24		7.08														13.37	245.5	100+
7-16	7.47		7.14														3.82	138	100+
16-19	7.84		7.36														2.80	107.5	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Faywood, silt loam (Taxadjunct)

Pedon #: S93KY-239-02-(1-4)

Classification: Fine-silty, mixed, active, mesic Typic Hapludalfs

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Limestone residuum

Vegetation: Fescue, white clover, pasture field

Landscape Position: Ridgetop

Drainage:

Moisture when sampled: Moist

Sampling Date: 6/30/93

Permeability:

Slope: 5%

Described by: S. Jacobs

A—0 to 10 inches (0 to 25 cm); dark brown (10YR 4/4) silt loam; weak medium subangular blocky structure parting to moderate fine granular; very friable; many fine and medium roots; medium acid; gradual smooth boundary.

BA—10 to 16 inches (25 to 41 cm); dark yellowish brown (10YR 4/4) and (10YR 4/6) silt loam; moderate medium subangular structure; friable; common fine roots; slightly acid; gradual smooth boundary.

Bt1—16 to 27 inches (41 to 69 cm); yellowish brown (10YR 5/6) silty clay loam; moderate medium angular blocky and subangular blocky structure; friable; many faint clay films on ped faces; slightly acid; gradual smooth boundary.

Bt2—27 to 35 inches (69 to 89 cm); yellowish brown (10YR 5/6) silty clay; moderate medium columnar structure parting to moderate medium angular blocky; firm; many distinct clay films on ped faces; slightly acid; clear wavy boundary.

R—35 inches (89 cm); hard limestone bedrock

SOIL TYPE..... FAYWOOD (TAXADJUNCT) **PEDON # .....S93KY-239-002-(1-4)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-10	A	9.9	74.8	15.3	1.0	3.0	2.9	1.8	1.2							sil			
10-16	BA	5.1	75.8	19.1	0.2	1.5	1.6	1.1	0.7							sil			
16-27	Bt_1	14.2	59.6	26.2	0.9	3.3	2.3	6.6	1.1							sil/sicl			
27-35	Bt_2	7.7	61.9	30.4	0.9	2.8	2.0	1.1	0.9							sicl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-10	5.98		6.66														3.85	162.5	77.5
10-16	6.16		6.74														2.42	178.0	66
16-27	6.01		6.75														0.82	56.5	93
27-35	6.15		6.82														0.44	75.5	86.5
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Faywood, silty clay loam

Pedon #: S99KY-011-08-(1-4)

Classification: Fine, mixed, active, mesic Typic Hapludalfs

Location: Bath County, Kentucky; Owingsville NE Quarter Quad., update sheet 7B; about 0.6 mile NW of Reynoldsville in Bath Co., about 1120 feet N. of Kentucky Highway 36; and about 200 feet uphill from drain on a west facing slope.

Parent Material: Residuum of the layered limestone and thin shale of the upper Grant Lake formation

Vegetation: Fescue, broomsedge, bluegrass, orchardgrass

Landscape Position: Side slope

Drainage:

Moisture when sampled: Moist

Sampling Date: 03/17/99

Permeability:

Slope: 14%

Described by: D. Hines

A—0 to 6 inches (0 to 15 cm); dark yellowish brown (10YR 4/4) silty clay loam; few faint yellowish brown (10YR 5/6) lithochromic mottles; moderate fine subangular blocky structure; friable; many fine roots; slightly alkaline; clear smooth boundary.

Bt1—6 to 11 inches (15 to 28 cm); yellowish brown (10YR 5/6) silty clay; moderate medium subangular blocky structure; firm; common fine roots; common faint yellowish brown (10YR 5/4) clay films on faces of peds; strongly acid; clear smooth boundary.

Bt2—11 to 29 inches (28 to 74 cm); light olive brown (2.5Y 5/3) silty clay; common medium faint yellowish brown (10YR 5/6) lithochromic mottles; weak medium subangular blocky structure; few fine roots; common faint clay films on faces of peds; slightly alkaline; clear smooth boundary.

C—29 to 32 inches (74 to 81 cm); light yellowish brown (2.5Y 6/3) silty clay; common medium distinct yellowish brown (10YR 5/6) lithochromic mottles; massive; firm; few fine roots; 20 percent limestone gravel; moderately alkaline; abrupt smooth boundary.

R—32 to 36 inches (81 to 91 cm); hard limestone of the upper Grant Lake formation.

SOIL TYPE.....FAYWOOD **PEDON # ..... S99-KY-011-08-(1-4)**
LOCATION .....BATH COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-6	A	13.1	55.3	31.6	0.6	2.8	3.7	3.4	2.6							sicl			
6-11	Bt_1	4.1	43.7	52.2	0	0.5	0.9	1.3	1.4							sic			
11-29	Bt_2	3.9	46.5	49.6	0.1	0.1	0.6	1.5	1.6							sic			
29-32	C	30.7	39.9	29.4	7.9	8.9	5.9	5.1	3.2							cl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Feliciana, eroded

Pedon #: S03-KY-145-01

Classification: Fine-silty, mixed, active, thermic Ultic Hapludalfs

Location: McCracken County, KY; 2.5 miles east of Lovelaceville at the end of Trice Road. Lovelaceville 7.5′ USGS Quad. Latitude: 36° 97′ 36″N; Longitude: 88° 78′ 29″W

Parent Material: Loess, > 4 Ft.

Vegetation: Fescue and Johnsongrass, CRP

Aspect:

Landscape Position: Upland ridgetop

Drainage: Well drained

Moisture when sampled: Dry 0 to 13 inches; moist 13 to 80 inches.

Sampling Date: 8/12/03

Permeability: Moderate

Slope: 4 %

Described by: J. E. McIntosh

Ap—0 to 4 inches; brown (10YR 4/3) silt loam; weak medium granular structure; very friable; many fine roots; slightly acid (pH 6.3); abrupt smooth boundary.

Bt1—4 to 13 inches; strong brown (7.5YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; common fine roots; common distinct dark brown (7.5YR 4/3) clay skins in pores and on faces of peds; moderately acid (pH 6.0); clear smooth boundary.

Bt2—13 to 28 inches; strong brown (7.5YR 4/6) silty clay loam/silt loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct dark brown (7.5YR 4/3) clay skins in pores and on faces of peds; 2% prominent black (N 2.5/0) manganese or iron-manganese oxide stains on faces of peds; moderately acid (pH 6.0); clear smooth boundary.

Bt3—28 to 48 inches; strong brown (7.5YR 4/6) silt loam; moderate medium subangular blocky structure; friable; few fine roots; common distinct dark brown (7.5YR 4/3) clay skins in pores and on faces of peds; 5% prominent light yellowish brown (2.5Y 6/3) clay depletions (10YR 7/1 dry) on faces of peds; 1% prominent black (N 2.5/0) manganese or iron-manganese oxide stains on faces of peds; moderately acid (pH 5.6); gradual smooth boundary.

Bt4—48 to 65 inches; strong brown (7.5YR 4/6) silt loam; moderate fine and medium subangular blocky structure; friable; very few fine roots; few distinct brown (7.5YR 4/4) clay skins on faces of peds; 5% prominent light yellowish brown (2.5Y 6/3) clay depletions (10YR 7/1 dry) on faces of peds; strongly acid (pH 5.4); gradual smooth boundary.

BC—65 to 80 inches; strong brown (7.5YR 4/6) silt loam; weak medium subangular blocky structure; friable; 2% prominent light yellowish brown (2.5Y 6/3) clay depletions (10YR 7/1 dry) on faces of peds; strongly acid (pH 5.4).

SOIL TYPE..... FELICIANA, ERODED **PEDON # S03KY-145-01**
LOCATION .....MCCRACKEN COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
4-13	Bt_1																		
13-28	Bt_2																		
28-48	Bt_3																		
48-65	Bt_4																		
65-80	BC																		
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
4-13				7.13	2.72	0.39	0.06	10.30	13.70	75	59		7.25						
13-28				7.54	3.68	0.42	0.04	11.68	14.91	78	56		9.34						
28-48				3.13	3.19	0.28	0.04	6.64	11.56	57	43		9.90						
48-65				2.24	3.77	0.10	0.14	6.25	10.85	58	40		9.36						
65-80				2.56	3.98	0.09	0.18	6.81	10.59	64	47		7.57						
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Gilpin loam

Pedon #: 90KY-027-01-(1-5)

Classification: Fine-loamy, mixed, active, mesic Typic Hapludults

Location: 4 miles south of Hardinsburg on Hwy. 261, in Breckinridge County, 1.5 miles southeast of Kirk, 700 feet east of the Kirk-Axtel Road, 100 feet south of a tributary of Tules Creek.

Parent Material: Sandstone residuum on Hardinsburg member

Vegetation: Deciduous hardwoods

Landscape Position: Linear backslope

Drainage:

Moisture when sampled:

Sampling Date: 5/17/90

Permeability:

Slope: 25%

Described by:

A—0 to 3 inches; dark brown (10YR 3/3) loam; moderate fine and medium granular structure; very friable; many fine and medium roots, 10 percent sandstone channers; strongly acid; clear wavy boundary.

E—3 to 10 inches; yellowish brown (10YR 5/6) loam; moderate fine and medium subangular blocky structure; friable; common fine and medium roots, 5 percent sandstone channers; very strongly acid; clear smooth boundary.

Bt1—10 to 18 inches; strong brown (7.5YR 5/6) loam; moderate medium subangular blocky structure; friable; common fine and medium roots; few thin clay films on ped faces; 5 percent sandstone channers; very strongly acid; clear smooth boundary.

Bt2—18 to 24 inches; dark brown (7.5YR 4/4) channery loam; moderate medium subangular blocky structure; friable; few fine roots, common distinct clay films on ped faces; 30 percent (by volume) channers (2 to 76 mm); very strongly acid; clear smooth boundary.

Bt3—24 to 29 inches; strong brown (7.5YR 5/6) very channery loam; moderate medium subangular blocky structure; friable; few fine roots, 55 percent (by volume) channers (2 to 76 mm); very strongly acid; clear wavy boundary.

Cr—29 to 44 inches; fractured sandstone rock.

SOIL TYPE.....GILPIN **PEDON # .....S90KY-027-001-(1-5)**
LOCATION .....BRECKINRIDGE COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	A	24.0	64.3	11.7	2.7	3.4	1.9	6.2	9.9							sil			
3-10	E	17.2	70.7	12.1	0.4	0.5	0.4	3.8	12.0							sil			
10-18	Bt_1	11.4	68.0	20.6	0.7	0.3	0.3	2.0	8.3							sil			
18-24	Bt_2	23.7	57.0	19.3	3.2	2.0	1.2	4.6	12.6							sil			
24-29	Bt_3	38.1	45.4	16.5	9.0	3.5	1.2	5.0	19.3							l			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Hagerstown, silt loam (Taxadjunct)

Pedon #: S94KY-135-21-(1-4)

Classification: Fine, mixed, mesic, Typic Paleudalfs

Location: Lewis County, Kentucky

Parent Material:

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope:

Described by:

Ap—0 to 10 inch; brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine roots; neutral; clear smooth boundary.

Bt1—10 to 18 inches; dark yellowish brown (10YR 4/6) silty clay loam; moderate fine and medium subangular blocky structure; firm; few fine roots; common fine manganese concretions; common faint clay films on peds; slightly acid; gradual smooth boundary.

Bt2—18 to 38 inches; strong brown (7.5YR 5/6) silty clay; moderate medium subangular blocky structure; firm; few fine roots; many fine manganese concretions; many distinct clay films on peds; neutral; gradual smooth boundary.

Bt3—38 to 76 inches; strong brown (7.5YR 5/8) clay; moderate thin platy and moderate fine subangular blocky structure; very firm; many fine and medium manganese concretions; many distinct clay films on peds; neutral.

SOIL TYPE..... HAGERSTOWN (TAXADJUNCT) **PEDON # .....S94KY-135-021-(1-4)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-10	Ap	11.0	72.4	16.6	2.1	1.7	1.3	1.7	4.2							sil			
10-18	Bt_1	18.4	51.5	30.1	10.3	2.8	1.3	1.0	3.0							sicl			
18-38	Bt_2	7.5	51.5	41.0	3.0	1.2	0.5	0.3	2.5							sic/sicl			
38-76	Bt_3	5.4	50.4	44.2	0.8	0.7	0.5	0.5	2.9							sic			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V-HIV	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt1	100									42			11	28	8	6		3	2
Bt2										45			5	31	8	5		4	2

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Hagerstown, silt loam (Taxadjunct)

Pedon #: S99KY-011-04-(1-5)

Classification: Fine-silty, mixed, semiactive, mesic Typic Paleudalfs

Location: Bath County, Kentucky; Preston NE Quarter Quad., update sheet 20T; about 1.4 mile N of Preston in Bath Co.; about 1 mile E/NE of Kendall Springs; and about 75 feet N of farm road on a broad flat ridge top.

Parent Material: Silty and clayey residuum over New Albany Shale over Bisher Dolomite

Vegetation: Alfalfa and a minor component of orchardgrass

Landscape Position: Ridge top

Drainage:

Moisture when sampled: moist

Sampling Date: 02/11/99

Permeability:

Slope: 3%

Described by: D. Hines and S. Jacobs

Ap—0 to 15 inches (0 to 38 cm); brown (10YR 4/3) silt loam; weak fine and medium granular structure; friable; common fine roots; very strongly acid; gradual smooth boundary.

Bt1—15 to 24 inches (38 to 61 cm); brown (7.5YR 4/4) silt loam; weak fine and medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt2—24 to 34 inches (61 to 86 cm); reddish brown (5YR 4/4) silty clay loam; moderate medium subangular blocky structure; common fine and medium black stains; common faint clay films on faces of peds; moderately acid; diffuse smooth boundary.

Bt3—34 to 60 inches (86 to 152 cm); yellowish red (5YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; many medium black stains; 2 percent fine concretions; many distinct clay films on faces of peds; moderately acid; diffuse smooth boundary.

Bt4—60 to 92 inches (152 to 234 cm); yellowish red (5YR 5/6) silty clay loam; weak medium subangular blocky structure; firm; common medium black stains; 1 percent fine concretions; strongly acid.

SOIL TYPE..... HAGERSTOWN (TAXADJUNCT) **PEDON # ..... S99-KY-011-04-(1-5)**
LOCATION ..... BATH COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-15	Ap	7.1	78.3	14.6	0.4	1.5	1.6	2.0	1.6							sil			
15-24	Bt_1	11.0	61.1	27.9	1.2	3.7	2.9	1.6	1.6							sil/sicl			
24-34	Bt_2	10.4	57.6	32.0	0.7	3.8	2.6	1.7	1.6							sicl			
34-60	Bt_3	10.5	52.4	37.1	1.6	3.4	2.3	1.5	1.7							sicl			
60-92	Bt_4	9.8	53.8	36.4	2.2	2.9	1.8	1.4	1.5							sicl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Hazleton, very channery loam (Taxadjunct)

Pedon #: S94KY-119-06-(1-4)

Classification: Loamy-skeletal, mixed, active, mesic Typic Dystrudepts

Location: Knott County, Kentucky, Wayland Topographic Quadrant; about 0.1 miles up Thornsberry Branch from the mouth of Gibson Creek in gas well road cut by a pumping station. x: 2,843,400, y: 398,380

Parent Material: Colluvium of Pennsylvanian and Middle Breathitt

Vegetation: American beech, yellow-poplar, and sassafras

Landscape Position: Side slope

Drainage:

Moisture when sampled:

Sampling Date: 7/27/94

Permeability:

Slope: 60%

Described by: P.S. Aldridge

A—0 to 7 inches; dark grayish brown (10YR 4/2) very channery loam; weak fine granular structure; very friable; many fine, medium and coarse roots; 45 percent sandstone channers; moderately acid; clear smooth boundary.

BA—7 to 14 inches; yellowish brown (10YR 5/4) very channery loam; moderate medium subangular blocky structure; friable; common fine and medium roots; 35 percent sandstone channers; slightly acid; clear wavy boundary.

Bw1—14 to 32 inches; yellowish brown (10YR 5/6) very channery sandy loam; weak fine subangular blocky structure; friable; few fine roots; 40 percent sandstone channers and 20 percent sandstone flagstones; moderately acid; gradual smooth boundary.

Bw2—32 to 48 inches; yellowish brown (10YR 5/6); very channery sandy loam; moderate fine subangular blocky structure; firm; few fine roots; 45 percent sandstone channers; moderately acid; clear wavy boundary.

Bw3—48 to 58 inches; yellowish brown (10YR 5/6) channery sandy loam; moderate medium subangular blocky structure; friable; very few, very fine roots; 20 percent sandstone channers; moderately acid; clear smooth boundary.

BC—58 to 65 inches; yellowish brown (10YR 5/6) very channery sandy loam; weak coarse subangular blocky structure; firm; very few, very fine roots; 45 percent sandstone channers; moderately acid.

SOIL TYPE..... HAZLETON (TAXADJUNCT) **PEDON # ..... S94-119-006-(1-4)**
LOCATION ..... KNOTT COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF	VFS Plus Silt		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	(2-0.1)	(0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-7	A	51.3	40.0	8.7	4.7	5.8	14.3	18.7	7.8							l/sl			
7-14	BA	51.3	35.3	13.4	4.4	5.1	14.2	19.1	8.5							l/sl			
14-32	Bw_1	61.3	29.3	9.4	7.2	7.5	16.5	20.7	9.4							sl			
32-48	Bw_2	51.2	35.0	13.8	4.1	5.1	13.8	19.2	9.0							l/sl			
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
BA	71	29																	
Bw1	60	28	3	9															
Bw2	52	26	22																

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Hazleton, very channery sandy loam

Pedon #: S94KY-159-01-(1-5)

Classification: Loamy-skeletal, mixed, mesic Typic Dystrudepts

Location: Martin County, Kentucky, 7 miles southwest of Inez on Kentucky Highway 3 to Wolf Creek Road, 3 miles south to an intermittent drain between Right Fork and Straight Fork of Panther Fork of Wolf Creek; Thomas quadrangle

Parent Material: Colluvium from inter-bedded sandstone and siltstone

Vegetation:

Landscape Position: Side slope

Drainage: Well drained

Moisture when sampled:

Sampling Date:

Permeability: Moderately rapid to rapid

Slope: 30 to 80%

Described by:

Oa—1 to 0 inches; highly decomposed hardwood leaf litter.

A—0 to 2 inches; very dark grayish brown (10YR 3/2) very channery sandy loam; weak fine granular structure; very friable; many fine roots; 40 percent sandstone channers; medium acid; abrupt wavy boundary.

Bw1—2 to 7 inches; light yellowish brown (10YR 6/4) channery sandy loam; moderate fine and medium subangular blocky structure; friable; many fine, medium and coarse roots; 35 percent sandstone channers and flagstones; strongly acid; clear wavy boundary.

Bw2—7 to 19 inches; brownish yellow (10YR 6/6) extremely channery sandy loam; moderate fine and medium subangular blocky structure; friable; many fine, medium and coarse roots; 70 percent sandstone channers and flagstones; very strongly acid; clear wavy boundary.

Bw3—19 to 40 inches; brownish yellow (10YR 6/6) extremely channery sandy loam; moderate fine and medium subangular blocky structure; firm; common fine, medium and coarse roots; 75 percent sandstone channers and flagstones; very strongly acid; gradual smooth boundary.

Bw4—40 to 75 inches; yellowish brown (10YR 5/4) extremely channery sandy loam; weak medium subangular blocky structure; firm; few fine roots; 75 percent sandstone channers and flagstones; very strongly acid.

SOIL TYPE.....**HAZLETON** **PEDON #** ..... **S94-159-001-(1-5)**
LOCATION ..... **MARTIN COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-2	A																		
2-7	Bw_1																		
7-19	Bw_2																		
19-40	Bw_3																		
40-75	Bw_4																		
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-2				0. 65	0.11	0.15	0.01	0.94	7.9	12	8		11.4	12.3					
2-7				0.05	0.02	0.09	0.01	0.17	3.94	4	4		4.7	4.9					
7-19				0.05	0.03	0.11	0.01	0.20	3.87	5	1		14.3	14.5					
19-40				0.27	0.43	0.14	0.01	0.85	5.44	16	16		4.5	5.4					
40-75				0.15	0.47	0.12	0.01	0.74	5.09	15	13		5.0	5.8					
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Helechawa, sand (Taxadjunct)

Pedon #: S94KY-205-01(1-6)

Classification: Sandy, siliceous, mesic Typic Udipsamment

Location: Rowan County, Kentucky, 2,450 feet southeast of benchmark number 733; Morehead Quadrangle

Parent Material: Colluvium weathered from sandstone

Vegetation:

Landscape Position: Upper mountain side slopes and lower crests and saddles

Drainage: Somewhat excessively drained

Moisture when sampled:

Sampling Date:

Permeability: Moderately rapid

Slope: 30 to 50 percent

Described by:

Oi—1 to 0 inches; partially decomposed hardwood leaf litter.

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) sand; weak fine granular structure; very friable; many fine and medium roots; 2 percent sandstone and quartz pebbles; slightly acid; gradual smooth boundary.

A2—4 to 7 inches; brown (10YR 4/3) sand; weak medium subangular blocky parting to weak fine granular structure; very friable; common fine and medium roots; 2 percent quartz pebbles; strongly acid; clear smooth boundary.

Bw1—7 to 14 inches; yellowish brown (10YR 5/4) loamy sand; weak medium subangular blocky structure; very friable; common fine and medium roots; 1 percent quartz pebbles; strongly acid; clear smooth boundary.

Bw2—14 to 27 inches; brownish yellow (10YR 6/6); loamy sand; weak medium subangular blocky structure; friable; few fine and medium roots; 3 percent quartz pebbles; strongly acid; gradual smooth boundary.

Bw3—27 to 45 inches; light yellowish brown (10YR 6/4) loamy sand; weak medium subangular blocky structure; few fine and medium roots; 5 percent quartz pebbles; strongly acid; gradual smooth boundary.

BC—45 to 70 inches; light yellowish brown (10YR 6/4) sandy loam; weak medium subangular blocky structure; friable; few fine and medium roots; 5 percent quartz pebbles; strongly acid.

SOIL TYPE.....HELECHAWA (TAXADJUNCT) **PEDON # .....S94KY-205-01-(1-6)**
LOCATION .....ROWAN COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)				>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-4	A_1	91.3	5.6	3.1	0.9	12.9	54.6	21.2	1.7							s			
4-7	A_2	90.9	4.8	4.3	1.2	11.0	51.3	25.2	2.2							s			
7-14	Bw_1	89.3	7.7	3.0	1.3	10.1	50.5	25.1	2.3							s/ls			
14-27	Bw_2	90.1	6.6	3.3	1.2	8.1	47.6	29.9	3.3							s/ls			
27-45	Bw_3	87.0	9.3	3.7	1.4	7.3	42.8	32.0	3.5							s/ls			
45-70	BC	76.7	12.6	10.7	1.4	6.0	39.1	27.3	2.9							sl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Huntington, silt loam (Taxadjunct)

Pedon #: S93KY-239-04-(1-4)

Classification: Fine silty, mixed, active, mesic Cumulic Hapludolls

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Mixed alluvium

Vegetation: Bluegrass, orchard grass, hay field

Landscape Position: Upland sinkhole

Drainage:

Moisture when sampled: Moist

Sampling Date: 7/8/93

Permeability:

Slope: 1%

Described by: D. Hines

A—0 to 18 inches (0 to 46 cm); dark brown (10YR 3/3) silt loam; weak fine and medium granular structure; very friable; neutral; gradual smooth boundary.

Bw1—18 to 38 inches (46 to 97 cm); dark brown (10YR 3/3) silt loam; weak medium subangular blocky structure; very friable; slightly acid; gradual smooth boundary.

Bw2—38 to 62 inches (97 to 157 cm); very dark grayish brown (10YR 3/2) silt loam; weak medium subangular blocky structure; friable; slightly acid; gradual smooth boundary.

Bw3—62 to 86 inches (157 to 218 cm); dark brown (10YR 4/3) silt loam; moderate medium subangular blocky structure; friable; neutral.

SOIL TYPE..... HUNTINGTON (TAXADJUNCT) **PEDON # .....S93KY-239-04-(1-4)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-18	A	8.1	67.9	24.0	0.7	1.8	2.2	2.1	1.3							sil			
18-38	Bw_1	7.7	66.7	25.6	1.5	1.9	1.4	1.6	1.3							sil			
38-62	Bw_2	10.0	64.4	25.6	1.3	3.4	2.1	1.5	1.7							sil/sicl			
62-86	Bw_3	12.5	56.7	30.8	1.8	4.1	3.1	2.0	1.5							sicl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-18	6.25		6.62														3.95	250+	100+
18-38	6.10		6.50														3.11	250+	100+
38-62	6.48		6.64														3.40	250+	100+
62-86	6.48		6.71														1.54	245.5	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Huntington silt loam

Pedon #: S93-KY-239-18-(1-5)

Classification: Fine-silty, mixed, active, mesic Fluventic Hapludolls

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Alluvium

Vegetation: Fescue, clover hay field

Landscape Position: Floodplain

Drainage:

Moisture when sampled: Moist

Sampling Date: 10/12/93

Permeability:

Slope: 1%

Described by:

A—0 to 18 inches (0 to 46 cm); dark brown (10YR 3/3) silt loam; weak medium subangular blocky structure parting to weak fine granular; friable; many fine roots; slightly acid; gradual smooth boundary.

Bw1—18 to 29 inches (46 to 74 cm); dark yellowish brown (10YR 3/4) silt loam; weak medium subangular blocky structure; friable; common fine roots; moderately alkaline; gradual smooth boundary.

Bw2—29 to 65 inches (74 to 165 cm); brown (10YR 4/3) silt loam; weak fine and medium subangular blocky structure; friable; few fine roots; 2 percent chert fragments; moderately alkaline; clear smooth boundary.

2Bt—65 to 68 inches (165 to 224 cm); dark yellowish brown (10YR 4/6) silty clay; weak medium angular blocky structure; firm; common faint clay films on faces of peds; common fine manganese concretions; mildly alkaline.

C—88 to 94 inches (224 to 239 cm); dark yellowish brown (10YR 4/6) clay; massive; firm; common fine manganese concretions; mildly alkaline.

SOIL TYPE.....HUNTINGTON **PEDON # .....S93KY-239-018-(1-5)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-18	A	6.1	73.9	20.0	1.0	1.1	1.1	1.4	1.5							sil			
18-29	Bw_1	3.4	70.8	25.8	0.3	0.5	0.5	0.9	1.2							sil/sicl			
29-65	Bw_2	7.5	65.2	27.3	0.9	1.4	1.4	1.8	2.0							sil/sicl			
65-88	2Bt	10.2	55.8	34.0	1.4	2.4	2.4	2.3	1.7							sicl			
88-94	C	18.3	40.2	41.5	2.3	5.0	4.3	4.1	2.6							sic/c			
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-18	7.28		7.05														3.88	105	100+
18-29	7.44		7.09														3.45	78	100+
29-65	7.42		7.06														3.54	114	100+
65-88	7.32		6.94														1.17	161	100+
88-94	7.04		6.80														0.89	198.5	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Kinnick, silt loam

Pedon #:

Classification: Fine-silty, mixed, active, mesic Dystric Fluventic Eutrudepts

Location: Madison Co., KY near Moberly on the EKU Meadowbrook Farm

Parent Material: Alluvium

Vegetation:

Landscape Position: Flood plain

Drainage:

Moisture when sampled:

Sampling Date: Sept., 1999

Permeability:

Slope: 0-2%

Described by: A.D. Karathanasis and Bill Craddock

Ap—0 to 3 in.; Dark brown (10YR 3/3) silt loam; weak granular structure; friable; clear boundary.

Bw1—3 to 11 in.; Brown (10YR 4/3) silt loam; weak subangular blocky; friable; clear boundary.

Bw2—11 to 19 in.; Brown (10YR 4/3) silt loam; weak subangular blocky; friable, clear boundary.

Bw3—19 to 30 in.; Brown (10YR 4/3) silt loam; moderate subangular blocky; friable; clear boundary.

Bw4—30 to 38 in.; Dark grayish brown (10YR 4/2) silt loam/silty clay loam; moderate subangular blocky; common distinct redox depletions and concretions; firm; clear boundary.

BC—38 to 46 in.; Dark grayish brown (10YR 4/2) silt loam/silty clay loam; weak subangular blocky; common distinct redox concentrations; firm; clear boundary.

Cg—46 to 51 in.; Dark grayish brown (10YR 4/2) silt loam/silty clay loam; massive structureless; common distinct redox concentrations; firm.

SOIL TYPE..... KINNICK **PEDON #**
LOCATION ..... MADISON COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	Ap	12.1	74.5	13.4	0.8	2.0	2.0	3.0	4.3							sil			
3-11	Bw_1	8.6	75.5	15.9	0.9	0.8	1.1	2.3	3.5							sil			
11-19	Bw_2	6.1	71.9	22.0	0.1	0.1	0.4	2.1	3.4							sil			
19-30	Bw_3	1.8	71.4	26.8	0	0	0.1	0.3	1.5							sil/sicl			
30-38	Bw_4	2.4	72.5	25.1	0	0.1	0.1	0.4	1.7							sil/sicl			
38-46	BC	2.4	69.0	28.6	0	0.1	0.2	0.5	1.7							sicl/sil			
46-51	Cg	1.7	68.4	29.9	0	0.1	0.1	0.4	1.1							sicl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-3	6.75																2.82		
3-11	6.97																1.85		
11-19	7.16																		
19-30	7.11																		
30-38	7.16																		
38-46	7.04																		
46-51	6.93																		
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Lakin, fine sandy loam

Pedon #: S90KY-135-010-1-6)

Classification: Mixed, mesic Lamellic Udipsamments

Location: Lewis County, Kentucky; Atlas sheet 6; about 1.7 miles south of Sandhill, about 720 feet east of Sandhill Road, about 500 feet west of Crooked Creek, on bluff above floodplain. Latitude: 38° 38′ 55″; Longitude: 83° 37′ 43″; x: 2,177,400 feet; y: 418,800 feet

Parent Material: Sandy alluvium on the Ohio River floodplain, Quaternary Geologic System

Vegetation: Sugar maple, American beech, northern red oak woodland

Landscape Position: Side slope

Drainage:

Moisture when sampled: Moist

Sampling Date: 6/25/90

Permeability:

Slope: 60%

Described by: S. Jacobs and D. Dotson

A—0 to 8 inches (0 to 20 cm); dark yellowish brown (10YR 4/4) fine sandy loam; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; clear wavy boundary.

Bw1—8 to 20 inches (20 to 51 cm); yellowish brown (10YR 5/4) fine sandy loam; very weak fine granular and single grain structure; very friable; common fine and medium roots; 1% rounded pebbles 2 to 5 mm in size; very strongly acid; gradual smooth boundary.

Bw2—20 to 27 inches (51 to 69 cm); yellowish brown (10YR 5/4) sandy loam with discontinuous brown fine sandy loam lamellae and lumps; single grain; very friable; common fine roots; few fine rounded pebbles; medium acid; gradual wavy boundary.

Bw3—27 to 42 inches (69 to 107 cm); yellowish brown (10YR 5/4) sandy loam with discontinuous brown fine sandy loam lamellae and lumps; single grain; very friable; common fine roots; dark brown (10YR 3/3) organic stains on sand grains; strongly acid; clear wavy boundary.

C—42 to 60 inches (107 to 152 cm); dark yellowish brown (10YR 4/6) gravelly sand; very friable; few fine roots; 15 to 20% gravels; strongly acid; clear wavy boundary.

2Cr—60 inches (152 cm); calcareous shale; medium acid.

SOIL TYPE.....LAKIN **PEDON # .....S90KY-135-010-(1-6)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-8	A	44.7	41.4	13.9	0.9	3.3	22.6	17.8	0.1							l			
8-20	Bw1	86.0	6.4	7.6	2.5	10.1	32.3	35.5	5.6							ls			
20-27	Bw_2	92.6	2.7	4.7	2.6	52.1	0	35.4	2.5							s			
27-42	Bw_3	91.4	1.8	6.8	9.7	61.4	0	19.8	0.5							s			
42-60	C	95.0	0.4	4.6	13.2	73.2	0	7.9	0.7							s			
60+	Cr	1.8	49.1	49.1	0.2	1.1	0	0.2	0.3							sic			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Lakin, loamy fine sand

Pedon #: S90KY-135-011-(1-6)

Classification: Mixed, mesic Lamellic Udipsamments

Location: Lewis County, Kentucky; Atlas sheet 6; about 1.6 miles south of Sandhill, about 150 feet west of Sandhill Road, and about 100 feet southeast of Chesapeake and Ohio railroad tracks. Latitude: 38° 39′ 06″; Longitude: 83° 37′ 55″; x: 2,176,680 feet; y: 420,000 feet

Parent Material: Sandy alluvium on the Ohio River floodplain, Quaternary Geologic System

Vegetation: Johnson grass, soybeans, edge of crop field

Landscape Position: Terrace

Drainage:

Moisture when sampled: Moist

Sampling Date: 6/25/90

Permeability:

Slope: 2%

Described by: S. Jacobs and D. Dotson

Ap—0 to 12 inches (0 to 30 cm); dark brown (10YR 4/3) loamy fine sand; weak fine granular and single grain structure; very friable; common fine roots; moderately alkaline; abrupt smooth boundary.

Bw1—12 to 21 inches (30 to 53 cm); yellowish brown (10YR 5/6) loamy sand; single grain, weak fine and medium subangular blocky structure in lamellae; very friable; strong brown (7.5YR 4/6) very wavy and semi-continuous brown fine sandy loam lamellae; moderately alkaline; clear smooth boundary.

Bw2—21 to 32 inches (53 to 81 cm); yellowish brown (10YR 5/6) loamy sand; single grain, weak fine and medium subangular blocky structure in lamellae; very friable; strong brown (7.5YR 4/6) wavy semi-continuous brown fine sandy loam lamellae; moderately alkaline; clear smooth boundary.

Bw3—32 to 54 inches (81 to 137 cm); brownish yellow (10YR 6/6) sand; sand grains are coated and uncoated, 40% uncoated; single grain, weak fine and medium subangular blocky structure in lamellae; very friable; dark yellowish brown (10YR 4/6) wavy continuous brown fine sandy loam lamellae; moderately alkaline; abrupt smooth boundary.

Bw4—54 to 58 inches (137 to 147 cm); brownish yellow (10YR 6/6) sandy loam; sand grains are coated and uncoated; single grain, weak fine and medium subangular blocky structure in lamellae; very friable; yellowish brown (10YR 5/6) wavy continuous brown fine sandy loam lamellae; moderately alkaline; abrupt smooth boundary.

B/C—58 to 96 inches (147 to 249 cm); brownish yellow (10YR 6/6) sand; sand grains are coated and uncoated, 50% uncoated; single grain, weak fine and medium subangular blocky structure in lamellae; very friable; dark yellowish brown (10YR 4/6) sandy loam lamellae; moderately alkaline.

SOIL TYPE ..... **LAKIN** **PEDON #** ..... **S90KY-135-011-(1-6)**
LOCATION ..... **LEWIS COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-12	Ap	88.6	5.1	6.3	0.1	4.6	51.6	24.8	7.5							ls/s			
12-21	Bw_1	95.1	3.0	1.9	0	3.0	62.5	28.0	1.6							s			
21-32	Bw_2	93.7	2.6	3.7	0	2.5	62.0	25.5	3.7							s			
32-54	Bw_3	97.1	0.8	2.1	0	4.1	68.1	24.4	0.5							s			
54-58	Bw_4	86.0	8.8	5.2	0	3.2	53.8	24.0	5.0							ls/s			
58-96	B/C	87.7	11.1	1.2	0	0.9	62.0	22.6	2.2							s/ls			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
	Mineralogical Analysis—Estimated Percentages in Various Size Fractions																		
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Lawrence, silt loam

Pedon #:

Classification: Fine-silty, mixed, semiactive, mesic Aquic Fragiudalfs

Location: Madison Co, KY, near Moberly on the EKU Meadowbrook Farm.

Parent Material: Residuum

Vegetation:

Landscape Position: Upland

Drainage:

Moisture when sampled:

Sampling Date: Sept. 1999

Permeability:

Slope: 0-2%

Described by: A.D. Karathanasis and Bill Craddock

Ap—0 to 18 cm.; Brown (10YR 4/3) silt loam; weak granular structure; friable; common manganese concretions; abrupt boundary.

E—18 to 35 cm.; Light yellowish brown (2.5Y 6/4) silt loam; weak subangular blocky structure; friable; common distinct redox depletions and concretions; clear boundary.

BE—35 to 54 cm.; Olive yellow (2.5Y 6/6) silt loam; moderate subangular blocky structure; friable; common distinct redox depletions and concretions; gradual boundary.

Btx1—54 to 95 cm.; Yellowish brown (10YR 5/6) silt loam; moderate prismatic structure; firm; common distinct redox depletions and concretions; gradual boundary.

Btx2—95 to 123 cm.; Yellowish brown (10YR 5/6) silt loam/ silty clay loam; moderate prismatic structure; firm; common distinct redox depletions and concretions; gradual boundary.

C—123 to 150+ cm.; Dark yellowish brown (10YR 4/4) silty clay loam; massive structureless; firm; common distinct redox depletions and concretions; clear boundary.

SOIL TYPE..... LAWRENCE **PEDON #**
LOCATION .....MADISON COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth cm	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-18	Ap	23.8	66.0	10.2	10.2	5.1	2.8	2.6	3.1							sil			
18-35	E	14.4	69.6	16.0	7.1	2.6	1.1	1.3	2.3							sil			
35-54	BE	11.0	68.9	20.1	3.6	2.8	1.0	1.1	2.5							sil			
54-95	Btx_1	11.8	64.0	24.2	4.0	2.5	1.3	1.5	2.5							sil			
95-123	Btx_2	11.3	59.5	29.2	3.6	2.7	1.5	1.7	1.8							sicl/sil			
123-150	C	14.6	51.2	34.2	3.7	3.9	3.5	3.3	0.2							sicl			
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth cm	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-18	5.87																1.16		
18-35	5.65																0.22		
35-54	4.25																		
54-95	4.24																		
95-123	4.42																		
123-150	6.43																		
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Lily, fine sandy loam (Taxadjunct)

Pedon #: S91KY-175-011-(1-5)

Classification: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Location: Morgan Co., 1500 feet north east of confluence of Flaxseed Branch and Open Fork; 2.5 miles north east of Ebon near Cave Run Lake. Ezel 7.5 minute USGS quadrangle; Kentucky coordinate system. x: 2,240,490, y: 176,940.

Parent Material: Residuum of Pennsylvanian Lower Breathitt Sandstone

Vegetation: Upland oak species

Landscape Position: Ridge top crest

Drainage:

Moisture when sampled:

Sampling Date: 3/13/90

Permeability:

Slope: 18%

Described by: JDM

A—0 to 3 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; common fine and medium roots; 5% sandstone channers; strongly acid; clear smooth boundary.

BE—3 to 8 inches; brownish yellow (10YR 6/6) fine sandy loam; weak medium granular structure; very friable; common fine and medium roots; 5% sandstone channers; very strongly acid; clear smooth boundary.

Bt1—8 to 22 inches; strong brown (7.5YR 5/8) loam; weak medium subangular blocky structure; very friable; common fine and medium and few coarse roots; common thin (7.5YR 5/6) clay films on faces of peds; 5% sandstone channers; very strongly acid; gradual smooth boundary.

Bt2—22 to 30 inches; strong brown (7.5YR 5/8) channery loam; moderate medium subangular blocky structure; friable; common fine and medium roots; common thin (7.5YR 5.6) clay film on faces of peds and on rock fragments; 20% weathered (easily crushed between thumb and forefinger) sandstone channers; very strongly acid; gradual smooth boundary.

BC—30 to 38 inches; strong brown (10YR 5/8) channery loam with common medium prominent strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine and medium roots; extremely acid; abrupt smooth boundary.

R—38 inches; sandstone bedrock.

SOIL TYPE.....**LILY (TAXADJUNCT)** **PEDON #** .....**S91KY-175-011-(1-5)**
LOCATION .....**MORGAN COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	A	56.0	27.2	16.8	2.8	4.9	3.7	31.5	13.1							sl			
3-8	BE	48.9	36.0	15.1	0.5	0.9	1.5	32.8	13.2							l			
8-22	Bt_1	57.2	23.0	19.8	0.3	1.1	2.6	39.8	13.4							sl/scl			
22-30	Bt_2	62.3	23.0	14.7	0	1.3	4.4	47.0	9.6							sl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt_1	90		6	4															
Bt_2	80		15	5															

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Lindside, silt loam (Taxadjunct)

Pedon #: S93KY-239-014-(1-5)

Classification: Fine-silty, mixed, active, mesic Fluvaquentic Hapludolls

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Alluvium

Vegetation: Fescue, clover pasture field

Landscape Position: Floodplain

Drainage:

Moisture when sampled: Moist

Sampling Date: 10/5/93

Permeability:

Slope: 1.5%

Described by:

A—0 to 10 inches (0 to 25 cm); dark brown (10YR 3/3) silt loam; weak medium subangular blocky structure parting to weak fine granular; friable; many fine roots; moderately alkaline; gradual smooth boundary.

Bw1—10 to 21 inches (25 to 53 cm); brown (10YR 4/3) silt loam; weak medium subangular blocky structure; friable; common fine roots; moderately alkaline, clear smooth boundary.

Bw2—21 to 29 inches (53 to 74 cm); yellowish brown (10YR 5/4) silty clay loam; common medium faint grayish brown (10YR 5/2) and brown (10YR 5/3) mottles; moderate medium subangular blocky structure; firm; few fine roots; moderately alkaline; clear wavy boundary.

Bw3—29 to 36 inches (74 to 91 cm); yellowish brown (10YR 5/4 and 10YR 5/6) clay; many medium distinct grayish brown (10YR 5/2) and pale brown (10YR 6/3) mottles; moderate medium subangular blocky structure; firm; few fine roots; 3 percent manganese concretions; moderately alkaline; clear smooth boundary.

C—36 to 43 inches (91 to 109 cm); dark yellowish brown (10YR 4/6), dark gray (10YR 4/1), and grayish brown (10YR 5/2) clay; structureless; very firm; moderately alkaline; clear smooth boundary.

R—43 inches (109 cm); hard limestone bedrock.

SOIL TYPE.....LINDSIDE (TAXADJUNCT) **PEDON # .....S93KY-239-014-(1-5)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																		
		3A1																2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-10	Ap	13.5	66.4	20.1	3.0	2.6	2.6	2.9	2.4							sil			
10-21	Bw_1	9.3	63.6	27.1	3.9	2.2	1.7	1.4	1.1							sil/sicl			
21-29	Bw_2	6.4	64.5	29.1	1.2	1.7	1.3	1.1	1.1							sicl			
29-36	Bw_3	12.0	56.3	31.7	1.1	2.1	3.1	3.2	2.5							sicl			
36-43	C	20.0	38.6	41.4	1.7	2.7	4.5	6.9	4.2							c			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-10	6.75		6.86														3.92	63	100+
10-21	6.73		6.82														1.17	75.5	100+
21-29	6.80		6.90														0.81	86.5	100+
29-36	6.89		6.92														0.60	123	100+
36-43	7.29		7.04														1.24	131	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Lindside, silt loam (Taxadjunct)

Pedon #: S93KY-239-017-(1-4)

Classification: Fine, mixed, active, mesic Fluvaquentic Eutrudepts

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Alluvium

Vegetation: Bluegrass, fescue pasture

Landscape Position: Floodplain

Drainage:

Moisture when sampled: Moist

Sampling Date: 10/7/93

Permeability:

Slope: 1%

Described by:

A—0 to 10 inches (0 to 25 cm); brown (10YR 4/3) silt loam; weak fine and medium granular structure; very friable; many fine roots; moderately alkaline; clear smooth boundary.

Bw1—10 to 18 inches (25 to 46 cm); dark yellowish brown (10YR 4/4) silty clay loam; weak medium subangular blocky structure; friable; common fine roots; moderately alkaline, gradual smooth boundary.

Bw2—18 to 33 inches (46 to 84 cm); yellowish brown (10YR 5/4) and pale brown (10YR 6/3) silty clay loam; common faint light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; friable; few fine roots; mildly alkaline; gradual smooth boundary.

C—33 to 49 inches (84 to 124 cm); yellowish brown (10YR 5/6) and pale brown (10YR 6/3) silty clay loam; many medium light brownish gray (10YR 6/2) and gray (10YR 6/1) mottles; massive; firm; mildly alkaline.

SOIL TYPE.....LINDSIDE (TAXADJUNCT) **PEDON # .....S93KY-239-017-(1-4)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-10	A	15.6	58.0	26.4	4.2	3.7	2.6	2.4	2.7							sil/sicl			
10-18	Bw_1	19.4	41.2	39.4	8.4	4.0	2.4	2.3	2.3							sicl/sic/c			
18-33	Bw_2	17.2	37.8	45.0	2.6	2.1	2.1	4.8	5.6							c/sic			
33-49	C	16.7	43.1	40.2	2.6	2.7	2.5	4.8	4.1							sic/sicl			
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-10	6.13		6.62														3.93	245	100+
10-18	6.40		6.64														0.86	150	100+
18-33	6.15		6.65														0.56	74.5	100+
33-49	6.32		6.74														3.08	74.5	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Loradale, silt loam

Pedon #: S93KY-239-01-(1-3)

Classification: Fine, mixed, active, mesic Typic Argiudolls

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Limestone material

Vegetation: White clover, orchard grass, bluegrass, pasture

Landscape Position: Ridge top

Drainage:

Moisture when sampled: Moist

Sampling Date: 6/14/93

Permeability:

Slope: 4%

Described by: S. Jacobs

A—0 to 15 inches (0 to 38 cm); dark brown (10YR 3/3) silt loam; moderate medium subangular structure parting to moderate fine granular; very friable; common fine roots; moderately alkaline; gradual smooth boundary.

Bt—15 to 34 inches (38 to 86 cm); yellowish brown (10YR 5/6) silty clay; moderate medium subangular and angular blocky structure; firm; few fine roots; common fine clay films on ped faces; mildly alkaline; clear smooth boundary.

BC—34 to 43 inches (86 to 109 cm); yellowish brown (10YR 5/6) clay; many fine and medium light yellowish brown (10YR 6/4) mottles; weak coarse angular blocky structure; very firm; few fine roots; many fine clay films on ped faces; moderately alkaline; clear wavy boundary.

R—43 inches (109 cm); hard limestone bedrock.

SOIL TYPE.....LORADALE **PEDON # .....S93KY-239-01-(1-3)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-15	A	8.7	77.0	14.3	0.4	1.7	2.1	2.1	2.4							sil			
15-34	Bt	5.6	58.2	36.2	0.4	1.6	1.5	1.1	1.0							sicl			
34-43	BC	13.0	39.8	47.2	1.2	2.5	2.9	3.7	2.7							sic/c			
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-15	6.52		6.83														3.69	63	26
15-34	6.84		6.91														0.97	65.5	100
34-43	5.99		6.45														1.00	90.5	99.5

Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Lowell, silt loam

Pedon #: S93KY-239-05-(1-4)

Classification: Fine, mixed, active, mesic Typic Hapludalfs

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Limestone residuum

Vegetation: Fescue, orchard grass, bluegrass hay field

Landscape Position: Side slope

Drainage:

Moisture when sampled: Moist

Sampling Date: 7/13/93

Permeability:

Slope: 8%

Described by: S. Jacobs

A—0 to 9 inches (0 to 23 cm); dark brown (10YR 4/3) silt loam; weak fine granular structure; very friable; gradual smooth boundary.

Bt1—9 to 27 inches (23 to 69 cm); dark yellowish brown (10YR4/6) silty clay loam; weak medium subangular blocky structure; friable; few faint clay films on ped faces; gradual smooth boundary.

Bt2—27 to 35 inches (69 to 89 cm); yellowish brown (10YR 5/6) silty clay; moderate medium subangular blocky structure; firm; common distinct clay films on ped faces; clear smooth boundary.

BC—35 to 57 inches (89 to 145 cm); yellowish brown (10YR 5/6) clay; weak medium angular blocky structure; very firm; abrupt smooth boundary.

R—57 inches (145 cm); hard limestone bedrock.

SOIL TYPE.....LOWELL **PEDON # .....S93KY-239-005-(1-4)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-9	A	13.1	67.2	19.7	1.0	4.1	3.8	2.6	1.6							sil			
9-27	Bt_1	12.1	52.5	35.4	1.1	4.2	3.2	2.2	1.4							sicl			
27-35	Bt_2	14.0	35.8	50.2	2.0	3.9	3.2	2.9	2.0							c			
35-57	BC	17.5	27.1	55.4	2.0	3.2	4.3	4.8	3.2							c			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-9	6.06		6.61														4.99	212	31.5
9-27	5.61		6.36														1.05	101	76
27-35	5.37		5.98														0.79	108	89.5
35-57	5.25		5.31														0.67	114	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Lowell, silt loam

Pedon #: S99KY-011-05-(1-5)

Classification: Fine, mixed, active, mesic Typic Hapludalfs

Location: Bath County, Kentucky; Owingsville NW Quarter Quad., update sheet 7B; about 0.7 mile W of Reynoldsville in Bath Co., about 840 feet S. of Kentucky Highway 36; and about 200 feet W of farm road on a ridge top.

Parent Material: Residuum of the Tate Member limestone of the Upper Grant Lake formation

Vegetation: Alfalfa and a minor component of orchard grass

Landscape Position: Ridge top

Drainage:

Moisture when sampled: moist

Sampling Date: 02/26/99

Permeability:

Slope: 4%

Described by: D. Hines

Ap—0 to 8 inches (0 to 20 cm); brown (10YR 4/3) silt loam; moderate medium granular structure; friable; common fine roots; 1 percent limestone channers; slightly alkaline; gradual smooth boundary.

Bt1—8 to 18 inches (20 to 46 cm); yellowish brown (10YR 5/4) silty clay loam; many medium faint yellowish brown (10YR 5/6) lithochromic mottles; moderate medium angular blocky structure; friable; few fine roots; few fine black nodules; common distinct clay films on faces of peds; slightly alkaline; clear smooth boundary.

Bt2—18 to 25 inches (46 to 64 cm); yellowish brown (10YR 5/4) and (10YR 5/6) silty clay; weak medium angular blocky structure; friable; many medium black stains and soft nodules; common distinct clay films on faces of peds; neutral; clear smooth boundary.

Bt3—25 to 44 inches (64 to 112 cm); yellowish brown (10YR 5/6) and light yellowish brown (2.5Y 6/3) silty clay; weak medium angular blocky structure; firm; many medium black stains; many distinct clay films on faces of peds; moderately alkaline; abrupt smooth boundary.

C—44 to 57 inches (112 to 145 cm); dark yellowish brown (10YR 4/4) and light yellowish olive (2.5Y 6/3) silty clay; weak massive; firm; 30 percent rounded limestone gravels and channers; moderately alkaline; abrupt smooth boundary.

R—57 to 61 inches (145 to 164 cm); hard limestone of the Tate Member.

SOIL TYPE.....LOWELL **PEDON # ..... S99-KY-011-05-(1-5)**
LOCATION .....BATH COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-20	Ap	7.3	69.9	22.8	0.5	1.2	1.6	2.2	1.8							sil			
20-46	Bt_1	6.3	63.2	30.5	0.3	1.6	1.7	1.5	1.2							sicl			
46-64	Bt_2	8.1	51.7	40.2	0.6	2.1	1.8	1.9	1.7							sicl/sic			
64-112	Bt_3	4.9	38.2	56.9	0.1	0.3	0.7	1.4	2.4							sic/c			
112-145	C	16.1	44.6	39.3	4.4	4.5	2.8	2.3	2.1							sicl/sic			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Lowell, silt loam

Pedon #: S99KY-011-09-(1-6)

Classification: Fine, mixed, active, mesic Typic Hapludalfs

Location: Bath County, Kentucky; Owingsville NE Quarter Quad., update sheet 7B; about 0.4 miles NW of Reynoldsville in Bath Co., about 800 feet N. of Kentucky Highway 36 on a ridge top.

Parent Material: Residuum of layered limestone of the upper Grant Lake formation

Vegetation: Fescue, broomsedge, bluegrass, orchardgrass

Landscape Position: Ridge top

Drainage:

Moisture when sampled: moist

Sampling Date: 03/17/99

Permeability:

Slope: 6%

Described by: D. Hines

A—0 to 7 inches (0 to 18 cm); brown (10YR 4/3) silt loam; moderate medium granular structure; friable; many fine roots; moderately acid; clear smooth boundary.

Bt1—7 to 15 inches (18 to 38 cm); dark yellowish brown (10YR 4/4) silty clay; common medium faint yellowish brown (10YR 5/6) lithochromic mottles; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; moderately acid; clear smooth boundary.

Bt2—15 to 24 inches (38 to 61 cm); dark yellowish brown (10YR 5/6) silty clay; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt3—24 to 30 inches (61 to 76 cm); light olive brown (2.5Y 5.4) silty clay; common medium distinct dark yellowish brown (10YR 5/6) lithochromic mottles; common medium black masses; weak medium subangular blocky structure; firm; few fine roots; common distinct films on faces of peds; very strongly acid; clear smooth boundary.

BC—30 to 36 inches (76 to 91 cm); light olive brown (2.5Y 5/4) silty clay; weak medium subangular blocky structure; firm; few fine roots; few fine black masses; neutral; clear smooth boundary.

C—36 to 41 inches (91 to 104 cm); light olive brown (2.5Y 5/3) silty clay; few fine distinct dark yellowish brown (10YR 5/6) lithochromic mottles; massive; firm; few fine roots; 30 percent limestone channers; moderately alkaline; abrupt smooth boundary.

R—41 to 45 inches (104 to 117 cm); hard limestone of the upper Grant Lake formation.

SOIL TYPE.....LOWELL **PEDON # ..... S99-KY-011-09-(1-6)**
LOCATION .....BATH COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-7	A	13.6	69.2	17.2	0.6	2.7	3.5	4.2	2.6							sil			
7-15	Bt_1	4.6	58.6	36.8	0.1	0.6	1.0	1.6	1.3							sicl			
15-24	Bt_2	3.7	40.9	55.4	0.2	0.5	0.7	1.3	1.0							sic			
24-30	Bt_3	4.3	37.2	58.5	0.1	0.4	0.9	1.4	1.5							c/sic			
30-36	BC	3.5	44.5	52.0	0.2	0.3	0.5	1.2	1.3							sic			
36-41	C	21.3	47.0	31.7	2.1	4.6	5.3	4.7	4.6							cl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Maury, silt loam

Pedon #: S93KY-239-09-(1-6)

Classification: Fine, mixed, semiactive, mesic Typic Paleudalfs

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Limestone residuum

Vegetation: Fescue, white clover grass strip

Landscape Position: Ridge top

Drainage:

Moisture when sampled: Moist

Sampling Date: 7/20/93

Permeability:

Slope: 3.5%

Described by: R. Jones

A—0 to 13 inches (0 to 33 cm); dark brown (10YR 4/3) silt loam; weak fine granular structure; very friable; many fine roots; 1 percent chert fragments; slightly acid; gradual smooth boundary.

Bt1—13 to 25 inches (33 to 64 cm); dark yellowish brown (10YR 4/4) silty clay loam; weak medium subangular blocky structure; friable; few fine roots; common faint clay films on ped faces; neutral; gradual smooth boundary.

Bt2—25 to 40 inches (64 to 102 cm); dark brown (7.5YR 4/4) silty clay loam; moderate medium subangular structure; firm; few fine roots; many faint clay films on ped faces; slightly acid; gradual smooth boundary.

Bt3—40 to 54 inches (102 to 137 cm); dark brown (7.5YR 4/4) silty clay; moderate medium subangular structure; firm; many distinct clay films on ped faces; 2 percent chert fragments; medium acid; gradual smooth boundary.

Bt4—54 to 74 inches (137 to 188 cm); dark brown (7.5YR 4/4) clay; moderate medium angular and subangular blocky structure; very firm; many distinct clay films on ped faces; strongly acid; clear smooth boundary.

BC—74 to 100 inches; (188 to 254 cm); strong brown (7.5YR 4/6) and dark brown (7.5YR 3/2) clay; common medium and coarse prominent yellow (2.5Y 7/6) mottles; weak medium subangular blocky structure; very firm; few faint clay films on ped faces; 3 percent chert fragments; strongly acid.

SOIL TYPE ..... **MAURY** **PEDON #** ..... **S93KY-239-0 9-(1-6)**
LOCATION ..... **WOODFORD COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-13	A	9.0	72.6	18.4	0.4	3.4	2.6	1.5	1.1							sil			
13-25	Bt_1	6.9	61.9	31.2	0.7	2.7	1.6	1.0	0.9							sicl			
25-40	Bt_2	8.8	52.6	38.6	1.1	3.4	2.0	1.2	1.1							sicl			
40-54	Bt_3	13.9	38.7	47.4	1.3	4.2	3.0	3.0	2.4							sic/c			
54-74	Bt_4	14.1	23.1	62.8	0.6	1.6	2.3	5.2	4.4							c			
74-100	BC	26.6	23.6	49.8	1.9	3.7	6.6	8.9	5.5							c			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-13	6.69		6.81														4.03	209.5	100+
13-25	6.63		6.72														1.27	78	100+
25-40	6.30		6.46														0.85	74	100+
40-54	5.91		6.18														0.61	89.5	100+
54-74	5.46		5.91														0.70	111.5	100+
74-100	5.45		6.03														0.28	89	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Maury, silt loam

Pedon #: S93KY-239-011-(1-4)

Classification: Fine, mixed, active, mesic Typic Paleudalfs

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Limestone residuum

Vegetation: Fescue, white clover, pasture field

Landscape Position: Ridge top

Drainage:

Moisture when sampled: Moist

Sampling Date: 10/4/93

Permeability:

Slope: 3%

Described by: S. Jacobs

Ap—0 to 12 inches (0 to 30 cm); dark brown (10YR 4/3) silt loam; weak medium subangular blocky structure parting to weak fine granular; friable; many fine and few medium roots; few fine manganese concretions; 1 percent chert fragments; medium acid; clear smooth boundary.

Bt1—12 to 33 inches (30 to 84 cm); brown (10YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; common fine roots; common distinct clay films on ped faces; many fine manganese concretions; 1 percent chert fragments; neutral; gradual smooth boundary.

Bt2—33 to 50 inches (84 to 127 cm); strong brown (7.5YR 4/6) silty clay; moderate medium subangular blocky structure; very firm; few fine roots; many distinct clay films on ped faces; 3 percent chert fragments; neutral; clear smooth boundary.

Bt3—50 to 80 inches (127 to 203 cm); strong brown (7.5YR 5/6) and reddish yellow (7.5YR 6/8) clay; relict platy parting to strong medium angular blocky structure; very firm; many prominent clay films on ped faces; 10 percent chert fragments; neutral.

SOIL TYPE.....MAURY **PEDON # .....S93KY-239-011-(1-4)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-12	Ap	8.6	72.1	19.3	1.5	2.9	2.1	1.1	1.0							sil			
12-33	Bt_1	8.5	54.4	37.1	1.6	3.0	1.9	1.1	0.9							sicl			
33-50	Bt_2	9.8	44.4	45.8	2.9	3.2	1.7	1.0	1.0							sic			
50-80	Bt_3	8.4	40.4	51.2	1.2	2.6	1.8	1.3	1.5							sic/c			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-12	5.24		6.37														3.88	250+	100+
12-33	6.32		6.68														0.84	250+	100+
33-50	6.17		6.56														0.64	163	100+
50-80	6.06		6.48														0.12	182	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Maury, silt loam (Taxadjunct)

Pedon #: S93KY-239-12-(1-5)

Classification: Fine, mixed, mesic Typic Hapludalfs

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Limestone residuum

Vegetation: Fescue, clover hayfield

Landscape Position: Side slope

Drainage:

Moisture when sampled: Moist

Sampling Date: 10/4/93

Permeability:

Slope: 6%

Described by:

Ap—0 to 15 inches (0 to 38 cm); dark yellowish brown (10YR 4/4) loam; weak fine granular structure; friable; common fine roots; neutral; clear smooth boundary.

Bt1—15 to 23 inches (38 to 58 cm); strong brown (7.5YR 4/6) silt loam; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on ped faces; common iron and manganese concretions; neutral; clear smooth boundary.

Bt2—23 to 45 inches (58 to 114 cm); strong brown (7.5YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; common distinct clay films on ped faces; common iron and manganese concretions; medium acid; gradual smooth boundary.

Bt3—45 to 53 inches (114 to 135 cm); strong brown (7.5YR 4/6) clay; moderate medium subangular blocky structure; very firm; common distinct clay films on ped faces; common iron and manganese concretions; medium acid; gradual smooth boundary.

C—53 to 72 inches (135 to 183 cm); dark brown (7.5YR 4/3) clay; massive; very firm; 5 percent chert fragments; medium acid.

SOIL TYPE.....MAURY (TAXADJUNCT) **PEDON # .....S93KY-239-012-(1-5)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-15	Ap	8.9	71.7	19.4	1.2	2.9	2.4	1.3	1.1							sil			
15-23	Bt_1	6.1	63.6	30.3	0.9	1.9	1.6	0.9	0.8							sicl			
23-45	Bt_2	11.3	50.7	38.0	2.2	3.1	2.6	1.8	1.6							sicl			
45-53	Bt_3	12.6	33.4	54.0	1.3	1.8	2.7	3.9	2.9							c			
53-72	C	26.0	26.8	47.2	2.9	3.8	6.9	8.1	4.3							c			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-15	5.97		6.61														3.38	250+	100+
15-23	6.14		6.58														0.83	250+	100+
23-45	6.13		6.43														0.53	124	100+
45-53	5.49		6.00														0.40	138	100+
53-72	5.43		6.02														0.15	112	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Maury, silt loam (Taxadjunct)

Pedon #: S93KY-239-13-(1-7)

Classification: Fine-silty, mixed, active, mesic Typic Paleudalfs

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Limestone residuum

Vegetation: Tobacco

Landscape Position: Ridge top

Drainage:

Moisture when sampled: Moist

Sampling Date: 10/5/93

Permeability:

Slope: 2 to 6 percent

Described by:

Ap—0 to 9 inches (0 to 23 cm); dark yellowish brown (10YR 4/4) silt loam; weak fine granular structure; friable; many fine roots; 1 percent fine manganese concretions; medium acid; gradual smooth boundary.

BA—9 to 21 inches (23 to 53 cm); dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure parting to weak fine granular; friable; few very fine roots; 5 percent fine manganese concretions; slightly acid; gradual smooth boundary.

Bt1—21 to 33 inches (53 to 84 cm); dark brown (7.5YR 4/4) silty clay loam; weak medium subangular blocky structure; firm; few very fine roots; few faint clay films on ped faces; 10 percent fine and medium manganese concretions; medium acid; clear smooth boundary.

Bt2—33 to 52 inches (84 to 132 cm); strong brown (7.5YR 4/6) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; many faint clay films on ped faces; 15 percent fine and medium manganese concretions; medium acid; gradual smooth boundary.

Bt3—52 to 64 inches (132 to 163 cm); yellowish red (5YR 4/6) silty clay loam; thin platy structure parting to moderate medium subangular blocky; firm; many faint clay films on ped faces; 15 percent fine manganese concretions; medium acid; gradual smooth boundary.

Bt4—64 to 74 inches (163 to 188 cm); yellowish red (5YR 4/6) silty clay; strong medium subangular blocky structure; very firm; many distinct clay films on ped faces; 20 percent fine manganese concretions; strongly acid; gradual smooth boundary.

Bt5—74 to 98 inches (188 to 249 cm); yellowish red (5YR 4/6) clay; moderate medium subangular blocky structure; very firm; many distinct clay films on ped faces; 20 percent fine and medium manganese concretions; slightly acid.

SOIL TYPE.....MAURY (TAXADJUNCT) **PEDON # .....S93KY-239-013-(1-7)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-9	Ap	6.5	75.7	17.8	0.8	1.7	1.6	1.3	1.1							sil			
9-21	BA	5.5	68.0	26.5	1.4	1.9	1.1	0.5	0.6							sil/sicl			
21-33	Bt_1	9.1	59.8	31.1	2.5	3.6	1.6	0.6	0.8							sicl			
33-52	Bt_2	8.1	56.0	35.9	1.5	3.0	1.9	0.8	0.9							sicl			
52-64	Bt_3	8.2	52.3	39.5	2.0	2.7	1.6	0.8	1.1							sicl/sic			
45-50	$2Bt_4$	34.0	43.4	22.5	12.9	9.5	6.0	3.6	2.0							l			
50-73	$3Bt_5$	7.3	63.9	28.8	3.8	2.6	1.5	1.4	2.0							sicl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-9	5.52		6.55														2.77	208	100+
9-21	5.41		6.42														0.82	96	100+
21-33	4.91		5.91														0.56	77.5	74.5
33-52	4.85		5.78														0.36	80	65.5
52-64	4.90		5.89														0.33	94.5	86.5
64-74	5.01		5.98														0.28	91.5	100+
74-98	5.31		6.11														0.21	97.5	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Maury, silt loam (Taxadjunct)

Pedon #: S93KY-239-15-(1-6)

Classification: Fine-silty, mixed, mesic Typic Paleudalfs

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Limestone residuum

Vegetation: Bluegrass, fescue pasture

Landscape Position: Ridge top

Drainage:

Moisture when sampled: Moist

Sampling Date: 10/6/93

Permeability:

Slope: 2%

Described by:

A1—0 to 12 inches (0 to 30 cm); dark brown (10YR 4/3) silt loam; weak fine granular structure; common fine black concretions; mildly alkaline; gradual smooth boundary.

A2—12 to 20 inches (30 to 51 cm); dark brown (10YR 4/3 and 7.5YR 4/3) silt loam; weak fine subangular blocky structure parting to weak fine granular; common fine manganese concretions; neutral; clear smooth boundary.

Bt1—20 to 38 inches (51 to 97 cm); dark brown (7.5YR 4/4) silty clay loam; weak medium subangular blocky structure; few faint clay films on ped faces; common fine manganese concretions; neutral; gradual smooth boundary.

Bt2—38 to 61 inches (97 to 155 cm); dark brown (7.5YR 4/4) silty clay; moderate medium subangular blocky structure; common faint clay films on ped faces; common fine manganese concretions; neutral; gradual smooth boundary.

Bt3—61 to 84 inches (155 to 213 cm); dark brown (7.5YR 4/4) clay; common medium distinct yellowish brown (10YR 5/6) mottles; moderate medium angular and subangular blocky structure; common distinct clay films on ped faces; many fine and medium manganese concretions; slightly acid; clear smooth boundary.

BC—84 to 113 inches; (213 to 287 cm); dark brown (7.5YR 4/4 and 7.5YR 4/6) clay; many medium distinct yellowish brown (10YR 5/6) mottles; weak medium angular blocky structure; many fine manganese concretions; slightly acid.

R—113 inches (287 cm); hard limestone bedrock.

SOIL TYPE.....MAURY (TAXADJUNCT) **PEDON # .....S93KY-239-015-(1-6)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-12	A_1	6.8	79.5	13.7	0.9	1.6	1.5	1.4	1.4							sil			
12-20	A_2	5.9	73.3	20.8	1.0	1.7	1.4	0.9	0.9							sil			
20-38	Bt_1	9.1	57.5	33.4	1.4	2.8	2.2	1.5	1.2							sicl			
38-61	Bt_2	21.8	33.3	44.9	2.5	3.4	4.6	6.9	4.4							c			
61-84	Bt_3	22.6	31.6	45.8	0.3	1.4	3.6	9.5	7.8							c			
84-113	BC	19.5	37.9	42.6	0.3	0.9	3.2	8.1	7.0							c			
		pH			Exchangeable Bases (5A1)						Base Saturation	6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-12	6.38		6.74														4.30	250+	100+
12-20	6.30		6.69														2.10	218	100+
20-38	6.27		6.56														0.82	156	100+
38-61	6.05		6.40														0.43	162	100+
61-84	6.06		6.37														0.44	180	100+
84-113	5.97		6.51														0.45	145	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

McAfee, silt loam (Taxadjunct)

Pedon #: S93KY-239-10-(1-3)

Classification: Fine-silty, mixed, mesic Mollic Hapludalfs

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Limestone residuum

Vegetation: Fescue, white clover hay field

Landscape Position: Sideslope

Drainage:

Moisture when sampled: Moist

Sampling Date: 7/21/93

Permeability:

Slope: 12%

Described by: R. Jones

A—0 to 13 inches (0 to 33 cm); dark brown (7.5YR 3/3) silt loam; weak medium subangular blocky structure parting to weak fine granular; friable; many fine roots; neutral; clear smooth boundary.

Bt1—13 to 19 inches (33 to 48 cm); dark reddish brown (5YR 3/4) silty clay loam; weak medium subangular blocky structure; firm; common fine roots; few faint clay films on ped faces; neutral; gradual smooth boundary.

Bt2—19 to 28 inches (48 to 71 cm); reddish brown (5YR 4/4) silty clay loam; moderate medium subangular structure; firm; few fine roots; common distinct clay films on ped faces; 1 percent chert fragments; slightly acid; abrupt smooth boundary.

R—28 inches (71 cm); hard limestone bedrock.

SOIL TYPE..... MCAFEE (TAXADJUNCT) **PEDON # .....S93KY-239-010-(1-3)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF	VFS Plus Silt		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	(2-0.1)	(0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-13	A	14.6	70.7	14.7	2.8	4.6	3.6	2.2	1.4							sil			
13-19	Bt_1	13.0	60.0	27.0	1.8	4.7	3.3	1.8	1.4							sil/sicl			
19-28	Bt_2	15.8	52.0	32.2	2.2	5.5	3.8	2.4	1.9							sicl			
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-13	6.35		6.62														4.63	190	100+
13-19	6.63		6.67														1.49	189	100+
19-28	6.33		6.54														1.01	145	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Melvin, silt loam (Taxadjunct)

Pedon #: S90KY-135-28-(1-4)

Classification: Fine-silty, mixed, nonacid, mesic Typic Fluvaquents

Location: Lewis County, Kentucky; Atlas sheet 30B; about 1.2 miles southeast of the junction of KY-989 and Buck Lick Branch Road at Burtonville, about 350 feet south of Buck Lick Branch Road, and about 400 feet north of Buck Lick Branch. x: 2,197,200 feet; Latitude: 38° 28′ 58″; y: 358,560 feet; Longitude: 83° 33′ 35″

Parent Material: Mixed alluvium of the Quaternary Geologic System

Vegetation: Chinkapin oak, pin oak, silver maple woodland

Landscape Position: Floodplain

Drainage:

Moisture when sampled: Moist

Sampling Date: 11/2/90

Permeability:

Slope: 2%

Described by: S. Jacobs and D. Dotson

Ag—0 to 7 inches (0 to 18 cm); light brownish gray (2.5Y 6/2) and gray (5GY 6/1) silt loam; many fine and medium prominent yellowish red (5YR 5/6) mottles; weak fine granular structure; friable; many fine roots, one coarse root; very strongly acid; gradual smooth boundary.

Cg1—7 to 21 inches (18 to 53 cm); gray (5GY 6/1) silt loam; many medium and coarse and common fine prominent reddish brown (7.5YR 6/8) mottles; massive; friable; common fine roots; strongly acid; diffuse smooth boundary.

Cg2—21 to 40 inches (53 to 102 cm); gray (10YR 6/1) and (5GY 6/1) silt loam; many medium and coarse faint brownish yellow (10YR 6/8) mottles; structureless; friable; common fine roots, one medium root; many fine black concretions and Fe stains; strongly acid; diffuse smooth boundary.

Cg3—40 to 70 inches (102 to 178 cm); gray (10YR 6/1) silt loam; common medium faint brownish yellow (10YR 6/8) mottles; structureless; friable; few fine roots; slightly acid.

SOIL TYPE..... MELVIN (TAXADJUNCT) **PEDON # .....S90KY-135-028-(1-5)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-7	Ag	22.9	58.9	18.2	2.0	4.0	2.9	2.9	11.1							sil			
7-21	Cg_1	19.4	59.4	21.2	0.4	1.2	2.2	2.8	12.8							sil			
21-40	Cg_2	19.9	56.2	23.9	0.9	2.3	2.0	2.3	12.4							sil			
40-70	Cg_3	22.5	53.3	24.2	1.5	2.4	2.6	2.3	13.7							sil			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Memphis, silt loam

Pedon #: S03-KY-007-02

Classification: Fine-silty, mixed, active, thermic Typic Hapludalfs

Location: Ballard County, KY; 2.3 miles southeast of Barlow, 1.4 miles east of the JCT of US 60 and KY 1368 on south side of KY 1368; Barlow 7.5' USGS Quad. Latitude: 37° 02' 11"N; Longitude: 89° 03' 13"W

Parent Material: Loess, > 4 Ft.

Vegetation: Fescus and Johnsongrass, CRP

Aspect:

Landscape Position: Upland ridgetop

Drainage: Well drained

Moisture when sampled: Dry 0 to 14 inches; moist 14 to 80 inches.

Sampling Date: 8/12/03 & 8/29/03

Permeability: Moderate

Slope: 2-3 %

Described by: J. E. McIntosh

Ap—0 to 7 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; very friable; many fine roots; slightly acid (pH 6.2); clear smooth boundary.

Bt1—7 to 14 inches; strong brown (7.5YR 4/6) silt loam; moderate medium subangular blocky structure; friable; common fine roots; few distinct dark brown (7.5YR 4/3) clay skins in pores and on faces of peds; neutral (pH 6.7); clear smooth boundary.

Bt2—14 to 30 inches; strong brown (7.5YR 4/6) silt loam; moderate medium subangular blocky structure; firm; common fine roots; many distinct dark brown (7.5YR 4/3) clay skins in pores and on faces of peds; 1% prominent light yellowish brown (2.5YR6/3) clay depletions (10YR 7/1 dry) on faces of peds; 1% prominent black (N 2.5/0) manganese or iron-manganese oxide stains on faces of peds; slightly acid (pH 6.4); clear smooth boundary.

Bt3—30 to 52 inches; brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure; firm; few fine roots; many distinct dark brown (7.5YR 4/3) clay skins in pores and on faces of peds; 1% prominent light yellowish brown (2.5Y 6/3) clay depletions (10YR 7/1 dry) on faces of peds; 1% prominent black (N 2.5/0) manganese or iron-manganese oxide stains on faces of peds; moderately acid (pH 5.8); clear smooth boundary.

Bt4—52 to 72 inches; brown (7.5YR 4/4) silt loam; moderate medium subangular blocky structure; firm; few fine roots; common distinct dark brown (7.5YR 4/3) clay skins in pores and on faces of peds; 5 to 7% prominent light yellowish brown (2.5Y 6/3) clay depletions (10YR 7/1 dry) on faces of peds; 1% prominent black (N 2.5/0) manganese or iron-manganese oxide stains on faces of peds; moderately acid (pH 5.6); clear smooth boundary.

BC—72 to 80 inches; brown (7.5YR 4/4) silt loam; weak medium subangular blocky structure; friable; very few fine roots; 2% prominent light yellowish brown (2.5Y 6/3) clay depletions (10YR 7/1 dry) on faces of peds; 1% prominent black (N 2.5/0) manganese or iron-manganese oxide stains on faces of peds; moderately acid (pH 5.6).

SOIL TYPE.....MEMPHIS **PEDON # S03KY-007-02**
LOCATION .....BALLARD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
7-14	Bt_1																		
14-30	Bt_2																		
30-52	Bt_3																		
52-72	Bt_4																		
72-80	BC																		
	pH			Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
7-14				6.98	1.43	0.19	0.03	8.63	10.84	80	60		5.77						
14-30				7.46	4.15	0.38	0.04	12.03	15.31	78	62		7.50						
30-52				5.27	4.00	0.27	0.06	9.60	13.31	72	52		9.03						
52-72				4.88	3.59	0.12	0.08	8.67	11.68	74	53		7.78						
72-80				4.70	3.14	0.09	0.06	7.99	10.06	79	53		7.09						
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Muse, channery silt loam (Taxadjunct)

Pedon #: S94KY-135-16-(1-8)

Classification: Fine-loamy, mixed, semiactive, mesic Typic Hapludults

Location: Lewis County, Kentucky

Parent Material:

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope:

Described by:

A—0 to 4 inches; dark grayish brown (10YR 4/2) channery silt loam; weak fine subangular blocky structure parting to weak fine granular; friable; many fine and medium roots, few coarse roots; 25% shale fragments; very strongly acid; gradual smooth boundary.

AB—4 to 8 inches; dark brown (10YR 4/3) channery silt loam; weak fine subangular blocky structure parting to weak fine granular; friable; common fine and medium roots; few coarse roots; 15% shale fragments; very strongly acid; clear smooth boundary.

Bt1—8 to 16 inches; yellowish brown (10YR 5/4)channery silt loam; weak fine and medium subangular blocky structure; friable; few fine medium and coarse roots; 30% shale fragments; few faint clay films on peds and fragments; extremely acid; clear wavy boundary.

Bt2—16 to 22 inches; yellowish brown (10YR 5/4) channery silty clay loam; weak fine and medium subangular blocky structure; friable; few fine and medium roots; 15% shale fragments; common faint clay films on peds; extremely acid; clear wavy boundary.

BC—22 to 30 inches; dark yellowish brown (10YR 4/4) very channery silty clay loam; weak fine subangular blocky structure; friable; few fine and medium roots; 60% shale fragments; common faint clay films on fragments; extremely acid; abrupt wavy boundary.

2Bt3—30 to 45 inches; reddish brown (2.5Y 4/4) very channery clay; many fine prominent light yellowish brown (2.5Y 6/3) mottles; moderate medium and coarse subangular blocky structure; very firm; few fine and medium roots; 40% shale fragments; many distinct clay films on peds and fragments; extremely acid; abrupt wavy boundary.

2Bt4—45 to 50 inches; weak red (2.5YR 4/2) extremely channery clay; many fine distinct red (2.5YR 4/6) mottles; moderate medium subangular blocky structure; very firm; few fine roots; 70% shale fragments; many distinct clay films on peds and fragments; extremely acid; abrupt wavy boundary.

3Bt5—50 to 73 inches; weak red (2.5YR 4/2) and red (10R 4/6) very channery clay; many fine prominent light yellowish brown (2.5Y 6/3) mottles; weak medium subangular blocky structure; very firm; common fine and medium roots; 50% shale fragments; many distinct clay films on ped faces; extremely acid; abrupt smooth boundary.

3Cr—73 to 80 inches; soft shale bedrock.

SOIL TYPE.....MUSE (TAXADJUNCT) **PEDON # .....S94KY-135-016-(1-5)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-4	A	31.6	51.8	16.6	12.6	8.9	4.6	2.5	3.0							sil			
4-8	AB	25.3	50.9	23.8	8.2	7.2	5.0	2.6	2.3							sil			
8-16	Bt_1	25.4	49.0	25.6	11.5	7.5	3.3	1.6	1.5							l/sil			
16-22	Bt_2	20.7	49.0	30.3	10.0	6.1	2.4	1.1	1.1							sicl/cl			
22-30	BC	34.5	40.2	25.3	15.5	11.9	4.8	1.6	0.7							l			
30-45	$2Bt_3$	17.7	51.1	31.2	5.7	5.1	3.0	1.9	2.0							sicl			
45-50	$2Bt_4$	34.0	43.4	22.5	12.9	9.5	6.0	3.6	2.0							l			
50-73	$3Bt_5$	7.3	63.9	28.8	3.8	2.6	1.5	1.4	2.0							sicl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt1	44	20	36							9			15	10	58	7			1
Bt2	75	10	15										17	10	63	9			1
BC	60		40										17	10	63	9			

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Muse, channery silt loam

Pedon #: S94KY-135-38-(1-4)

Classification: Fine, illitic, semiactive, mesic Typic Hapludults

Location: Lewis County, Kentucky

Parent Material:

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope:

Described by:

A—0 to 4 inches; dark yellowish brown (10YR 3/4) channery silt loam; weak fine granular structure; friable; many fine, common medium, few coarse roots; 15% sandstone fragments; slightly acid; clear smooth boundary.

Bt1—4 to 15 inches; yellowish brown (10YR 5/6) silty clay; moderate fine and medium subangular blocky structure; firm; common fine and medium, few coarse roots; 3% sandstone, 10% shale fragments; many faint and distinct clay films on peds; very strongly acid; gradual smooth boundary.

Bt2—15 to 26 inches; yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) channery clay; common fine prominent light yellowish brown (2.5Y 6/3) mottles; moderate fine and medium subangular blocky structure; very firm; few fine and medium roots; 5% sandstone, 10% shale fragments; many distinct clay films on peds; very strongly acid; gradual wavy boundary.

Bt3—26 to 46 inches; brownish yellow (10YR 6/6) channery clay, moderate medium and coarse subangular blocky structure; very firm; few fine roots; 8% sandstone, 10% shale fragments; many faint clay films on peds; very strongly acid.

SOIL TYPE.....MUSE **PEDON # .....S94KY-135-038-(1-4)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-4	A	22.6	66.6	10.8	5.1	6.6	3.7	2.9	4.3							sil			
4-15	Bt_1	6.0	56.9	37.1	1.4	1.7	1.0	0.7	1.2							sicl			
15-26	Bt_2	9.5	49.6	40.9	3.3	2.9	1.6	0.8	0.9							sic/sicl			
26-46	Bt_3	9.2	52.2	38.6	3.2	2.1	1.2	0.9	1.8							sic/sicl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt1										10			10	20	54	6			
Bt2													5	20	68	7			

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Muse, silty clay loam (Taxadjunct)

Pedon #: S94KY-135-39-(1-6)

Classification: Fine-silty, mixed, semiactive, mesic Typic Paleudults

Location: Lewis County, Kentucky

Parent Material:

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope:

Described by:

Ap—0 to 7 inches; dark yellowish brown (10YR 4/4) silty clay loam; weak fine subangular blocky structure parting to weak fine granular; friable; common fine roots; moderately alkaline; clear smooth boundary.

B/A—7 to 10 inches; dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/6) silty clay loam; weak fine and medium subangular blocky structure; firm; common fine roots; few faint clay films on peds; moderately alkaline; clear smooth boundary.

Bt1—10 to 28 inches; yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; few fine concretions; many distinct clay films on peds; very strongly acid; gradual smooth boundary.

Bt2—28 to 44 inches; yellowish brown (10YR 5/6) silty clay; common fine and medium prominent light yellowish brown (2.5Y 6/3) mottles; moderate medium subangular blocky structure; very firm; few iron concretions; many distinct clay films on peds; very strongly acid, clear smooth boundary.

Bt3—44 to 67 inches; light gray (10YR 7/2) and yellowish brown (10YR 5/6 and 10YR 5/8) silty clay; weak medium and coarse subangular blocky structure; very firm; few iron concretions; common distinct clay films on peds; very strongly acid; gradual smooth boundary.

C—67 to 71 inches; light gray (10YR 7/2) and brownish yellow (10YR 6/8) clay; few shale fragments and iron concretions; very strongly acid.

SOIL TYPE.....**MUSE (TAXADJUNCT)** **PEDON #** .....**S94KY-135-039-(1-6)**
LOCATION .....**LEWIS COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-7	Ap	15.1	59.9	25.0	2.2	3.0	2.6	2.7	4.6							sil			
7-10	B/A	10.0	57.6	32.4	2.6	1.6	1.2	1.3	3.3							sicl			
10-28	Bt_1	5.9	62.2	31.9	1.1	0.8	0.7	0.6	2.7							sicl			
28-44	Bt_2	10.6	58.9	30.5	1.1	1.8	1.6	1.6	4.5							sicl			
44-67	Bt_3	7.2	61.7	31.1	1.3	1.0	0.9	0.9	3.1							sicl			
67-71	C	12.2	45.6	42.2	3.5	2.5	2.0	1.6	2.6							sic			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm

Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt1	80	20								11			17	23	41	7			1
Bt2	91	4	5							18			16	22	35	8			1

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Newark, silt loam

Pedon #: S93KY-239-07-(1-8)

Classification: Fine silty, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Alluvium

Vegetation: Fescue, white clover pasture

Landscape Position: Sinkhole bottom

Drainage:

Moisture when sampled: Moist

Sampling Date: 7/20/93

Permeability:

Slope: 1%

Described by: S. Jacobs

A1—0 to 11 inches (0 to 28 cm); dark brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine roots; neutral; gradual smooth boundary.

A2—11 to 16 inches (28 to 41 cm); dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure parting to weak fine granular; friable; few fine roots; neutral; clear smooth boundary.

Bg1—16 to 21 inches (41 to 53 cm); light brownish gray (10YR 6/1) and yellowish brown (10YR 5/4) silt loam; moderate fine platy structure parting to moderate medium subangular blocky; friable; few very fine roots; neutral; clear smooth boundary.

Bw—21 to 32 inches (53 to 81 cm); light brownish gray (10YR 6/2) and yellowish brown (10YR 5/4 and 10YR 5/8) silty clay loam; moderate fine and medium subangular blocky structure; firm; neutral; clear smooth boundary.

Bg2—32 to 54 inches (81 to 137 cm); light brownish gray (10YR 6/2) and pale brown (10YR 6/3) silty clay loam; common fine and medium brownish yellow (10YR 6/8) mottles; weak medium platy structure parting to moderate medium subangular blocky; firm; slightly acid; gradual smooth boundary.

Bg3—54 to 66 inches (137 to 167 cm); light brownish gray (10YR 6/2) and pale brown (10YR 6/3) silty clay loam; many fine and medium brownish yellow (10YR 6/8) and dark yellowish brown (10YR 4/6) mottles; weak medium subangular blocky structure; firm; strongly acid; gradual smooth boundary.

BC—66 to 71 inches (167 to 180 cm); yellowish brown (10YR 5/4) silty clay; many medium and coarse light brownish gray (10YR 6/2) and pale brown (10YR 6/3) mottles; weak fine platy structure parting to weak fine subangular blocky; friable; medium acid; gradual smooth boundary.

C—71 to 90 inches (180 to 229 cm); light brownish gray (10YR 6/2) clay; many medium and coarse brown (10YR 5/3) and brownish yellow (10YR 6/6) mottles; massive; very firm; slightly acid; abrupt smooth boundary.

R—90 inches (229 cm); hard limestone bedrock

SOIL TYPE.....**NEWARK** **PEDON #** .....**S93KY-239-007-(1-8)**
LOCATION .....**WOODFORD COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-11	A_1	6.5	73.1	20.4	0.7	1.2	1.4	1.2	2.0							sil			
11-16	A_2	7.4	72.2	20.4	0.6	1.7	2.1	1.8	1.2							sil			
16-21	Bg_1	5.4	63.9	30.7	0.3	1.3	1.4	1.2	1.2							sicl			
21-32	Bw	6.7	60.1	33.2	0.6	1.9	1.8	1.2	1.2							sicl			
32-54	Bg_2	3.7	64.8	31.5	0.3	1.0	0.8	0.7	0.9							sicl			
54-66	Bg_3	20.2	51.2	28.6	2.1	6.7	5.4	3.8	2.2							sicl/cl			
66-71	BC	16.1	49.1	34.8	0.5	5.4	5.4	3.2	1.6							sicl			
71-90	C	3.7	56.9	39.4	0.1	0.7	0.9	1.0	1.0							sicl/sic			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-11	7.01		7.10														2.78	132.5	100+
11-16	7.14		7.05														1.47	122	100+
16-21	6.84		6.94														0.17	179.5	100+
21-32	6.38		6.72														0.62	216	100+
32-54	5.29		6.29														0.56	165.5	100+
54-66	5.24		6.17														0.93	247	100+
66-71	5.55		6.52														1.22	250+	100+
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Nicholson, silt loam (Taxadjunct)

Pedon #: S96KY-227-10-(1-8)

Classification: Fine-silty, mixed, active, mesic Oxyaquic Fraglossudalfs

Location: Warren Co., KY; approximately 0.18 mile south of the intersection of William Natcher Parkway and 31-W; 0.9 mile west of Bennett Road; then 0.13 mile north of Bennett road in outdoor classroom site. Longitude: 86° 28′ 05″; Latitude: 36° 56′ 06″

Parent Material:

Vegetation:

Landscape Position: Karst depression

Drainage:

Moisture when sampled:

Sampling Date: 9/19/96

Permeability:

Slope: 3%

Described by: Michael J. Mitchell

Ap—0 to 8 inches; brown (10YR 4/3) silt loam; weak very fine granular structure; friable; many fine and medium roots; abrupt wavy boundary.

Bt1—8 to 12 inches; yellowish brown (10YR 5/4) silt loam; <5% black concretions; weak fine subangular blocky structure; friable; common fine and very fine roots; clay films (7.5YR 5/4) coating on ped faces; gradual wavy boundary.

Bt2—12 to 20 inches; yellowish brown (10YR 5/6) light silty clay loam; <2% black and brown concretions; moderate medium subangular blocky structure; firm; common fine roots; common distinct clay films (10YR 5/4) between ped faces; gradual wavy boundary.

Bt3—20 to 26 inches; yellowish brown (10YR 5/6), 20% light yellowish brown (10YR 6/4) iron accumulations; silty clay loam; moderate medium subangular blocky structure; firm; common fine roots; common distinct clay films (10YR 5/6) on ped faces; <1% ironstone fragments; gradual wavy boundary.

B/E—26 to 31 inches; 60% light yellowish brown (10YR 6/4) E part; 20% very pale brown (10YR 7/3), 15% light gray (10YR 7/2) clay depletions, 5% black stains and concretions, silt loam; coarse prismatic parting to moderate medium subangular blocky structure; very firm; few fine roots; common distinct clay films; <1% ironstone fragments; abrupt wavy boundary.

Bx1—31 to 38 inches; pale brown (10YR 6/3) silt loam; common black concretions and stains; common medium distinct light gray (10YR 7/2) clay depletions; very coarse prismatic structure; very firm; brittle; compact; few fine roots between ped faces; common distinct clay films; <1% ironstone; abrupt smooth boundary.

BC—38 to 56 inches; yellowish brown (10YR 5/6) silty clay loam; many medium distinct light gray (10YR 7/1) clay depletions on coating over peds and faces; many black concretions and stains; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films; gradual wavy boundary.

C—56 to 67 inches; gray (10YR 5/1) silty clay; 20% dark yellowish (10YR 4/6) iron accumulations throughout layer; common black concretions; massive; very firm; few fine roots in channels.

SOIL TYPE..... NICHOLSON (TAXADJUNCT) **PEDON # S96KY-227-010**
LOCATION ..... WARREN COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
8-12	Bt_1	14.5	69.6	15.9	4.7	1.7	1.2	3.6	3.3							sil			
12-20	Bt_2	8.2	64.6	27.2	1.9	0.7	0.7	2.3	2.6							sil/sicl			
20-26	Bt_3	9.9	64.5	25.6	2.7	1.3	0.8	2.7	2.4							sil/sicl			
26-31	B/E	13.3	65.5	21.2	4.6	1.3	1.2	3.0	3.2							sil			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm

Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	2:1	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt_1	68			10	10	12													
Bt_2	78	11	11																
Bt_3	83	17																	
B/E	87	13																	

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Nolin, silt loam

Pedon #: S01KY-129-01-(1-4)

Classification: Coarse-loamy, active, mixed, mesic Dystric Fluventic Eutrudepts

Location: Lee County, near confluence of North Fork and Middle Fork of Kentucky River, Beattyville quadrangle. Latitude: 37° 35′ 20″; Longitude: 83° 39′ 48″

Parent Material: Alluvium of Pennsylvanian sandstones, siltstones, and shales.

Vegetation: Fescue

Landscape Position: Low terrace

Drainage:

Moisture when sampled:

Sampling Date: 02/02/01

Permeability:

Slope: 2%

Described by: JDM

Ap—0 to 10 inches; brown (10YR 4/3) silt loam; weak fine granular structure; very friable; common fine roots; neutral; abrupt wavy boundary.

Bw1—10 to 22 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; very friable; common fine and medium roots; few fine tubular pores; slightly acid; clear smooth boundary.

Bw2—22 to 32 inches; dark yellowish brown (10YR 4/4) silt loam; moderate medium subangular blocky structure; friable; very few fine roots; slightly acid; clear smooth boundary.

BC—32 to 60 inches; dark yellowish brown (10YR 4/4) silt loam; weak coarse subangular blocky structure; friable; very few, very fine roots; slightly acid; clear smooth boundary.

CB—60 to 80 inches; dark yellowish brown (10YR 4/4) sandy loam; loose; firm; few fine and medium roots; 50 percent siltstone and shale channers; very strongly acid; clear smooth boundary.

SOIL TYPE.....**NOLIN** **PEDON #** .....**01KY-129-01-(1-5)**
LOCATION ..... **LEE COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-10	Ap	47.2	41.0	11.8	0	0.1	1.0	19.4	26.7							l			
10-22	Bw_1	46.2	39.0	14.8	0	0	0.2	14.9	31.1							l			
22-32	Bw_2	51.4	35.4	13.2	0	0	0.2	20.9	30.3							l/sl			
32-60	BC	43.1	41.8	15.1	0	0	0.1	11.9	31.1							l			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
$Bw_1$10-22″	5.00			2.04	0.65	0.06	0.01	2.76	7.08	39	25		8.37	11.13					
$Bw_2$22-32″	5.03			1.99	0.65	0.06	0.02	2.72	6.26	43	25		8.32	11.04					
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Orrville, loam (Taxadjunct)

Pedon #: S92KY-031-38-(1-5)

Classification: Coarse-loamy, mixed, active, nonacid, mesic Oxyaquic Dystrudepts

Location: Butler Co., KY; approximately 100 feet south of Kentucky 79 and 2200 feet west of US 231 in bottom on the Thomas Ragland Farm.

Parent Material: Alluvium

Vegetation:

Landscape Position: Bottom

Drainage:

Moisture when sampled:

Sampling Date: 7/20/92

Permeability:

Slope: 1%

Described by: Michael Mitchell

Ap—0 to 6 inches; Brown (10YR 4/3) loam; weak fine granular structure; common fine roots; slightly acid; abrupt wavy boundary.

E—6 to 11 inches; Pale brown (10YR 6/3) loam; few fine distinct dark yellowish brown (10YR 4/6) mottles; weak fine granular structure; friable; slightly acid; abrupt wavy boundary.

Bw1—11 to 28 inches; Yellowish brown (10YR 5/4) loam; common fine distinct brown (10YR 5/3) and dark yellowish brown (10YR 4/6) mottles; weak fine subangular blocky structure; friable; few fine roots; strongly acid; gradual wavy boundary.

Bg1—28 to 39 inches; Light brownish gray (10YR 6/2) loam; common fine distinct dark yellowish brown (10YR 4/4) mottles; weak fine subangular blocky structure; friable; strongly acid; gradual wavy boundary.

Bg2—39 to 54 inches; Light brownish gray (10YR 6/2) loam; common fine distinct dark yellowish brown (10YR 3/4), and few fine distinct grayish brown (10YR 5/2) mottles; weak fine subangular blocky structure; friable; strongly acid; gradual wavy boundary.

C1—54 to 73 inches; Light brownish gray (10YR 6/2) sandy loam; massive; firm; few black stains; strongly acid; abrupt wavy boundary.

C2—73 to 80 inches; Light brownish gray (10YR 6/1) sandy loam; common medium distinct yellowish brown (10YR 5/6) mottles; massive; firm; common black concretions; slightly acid.

SOIL TYPE..... ORRVILLE (TAXADJUNCT) **PEDON # .....S92KY-031-038-(1-5)**
LOCATION .....BUTLER COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																		
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-6	Ap	25.1	63.8	11.1	0.2	0.6	3.4	12.8	8.1							sil			
6-11	E	19.4	71.6	9.0	0.2	0.5	1.8	9.6	7.3							sil			
11-28	Bw_1	24.9	64.1	11.0	0.4	0.8	1.6	11.5	10.6							sil			
28-39	Bg_1	36.5	52.0	11.5	1.1	1.7	2.3	14.6	16.8							sil			
39-54	Bg_2	41.0	47.8	11.2	0.6	1.2	2.7	18.4	18.1							l/sil			
11-40	C.S.	29.7	58.0	12.3	0.5	0.7	2.0	13.9	12.8							sil			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
C.S.	90	7	3																

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Otwell, silt loam

Pedon #: S90KY-135-14-(1-6)

Classification: Fine-silty, mixed, mesic, Oxyaquic Fragiudalfs

Location: Lewis County, Kentucky; Atlas sheet 3A; about 3.1 miles northwest of the junction of KY-57 and KY-8 at Concord, about 1,720 feet north of KY-8, about 240 feet west of farm road, and about 300 feet north of the CSX railroad tracks. x: 2,194,000 feet; Latitude: 38° 41′ 45″; y: 434,500 feet; Longitude: 83° 33′ 25″

Parent Material: Mixed alluvium of the Ohio River floodplain, Quaternary Geologic System

Vegetation: Plowed ground, some scattered orchard grass

Landscape Position: Terrace

Drainage:

Moisture when sampled: Moist

Sampling Date: 6/26/90

Permeability:

Slope: 4%

Described by: S. Jacobs and D. Dotson

Ap—0 to 9 inches (0 to 23 cm); dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; very friable; few fine roots; common rounded gravels and pebbles (2 mm to 5 inches in diameter); slightly acid; clear smooth boundary.

BA—9 to 15 inches (23 to 38 cm); yellowish brown (10YR 5/4) and dark grayish brown (10YR 4/2) silt loam; weak fine subangular blocky and granular structure; friable; few fine roots; medium acid; clear smooth boundary.

Bt1—15 to 23 inches (38 to 58 cm); yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; firm; few fine roots; common faint clay films on ped surfaces; strongly acid; gradual smooth boundary.

Bt2—23 to 29 inches (58 to 74 cm); yellowish brown (10YR 5/4) silt loam; common fine faint pale brown (10YR 6/3) mottles; weak fine and medium subangular blocky structure; firm; few fine roots; many faint clay films on ped surfaces; very strongly acid; abrupt wavy boundary.

Btx1—29 to 40 inches (74 to 102 cm); yellowish brown (10YR 5/4) silt loam; many medium and coarse faint gray (10YR 6/1) mottles, many medium faint pale brown (10YR 6/3) mottles, and common fine faint yellowish brown (10YR 5/8) mottles; strong coarse prismatic structure; brittle; few medium dark yellowish brown (10YR 4/4) manganese stains; strongly acid; gradual smooth boundary.

Btx2—40 to 65 inches (102 to 165 cm); dark yellowish brown (10YR 4/6) silt loam; many medium and coarse faint pale brown (10YR 6/3) and gray (10YR 6/1) mottles, common fine faint yellowish brown (10YR 5/8) mottles; strong very coarse prismatic structure; brittle; common medium dark yellowish brown (10YR 4/4) manganese stains; strongly acid.

SOIL TYPE ..... **OTWELL** **PEDON #** ..... **S90KY-135-014-(1-6)**
LOCATION ..... **LEWIS COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-9	Ap	28.7	55.9	15.4	0.7	1.0	1.6	12.3	13.1							sil			
9-15	BA	26.0	55.1	18.9	0.9	1.8	1.5	9.9	11.9							sil			
15-23	Bt_1	26.7	52.7	20.6	0.8	1.4	1.1	8.9	14.5							sil			
23-29	Bt_2	32.0	50.0	18.0	1.7	2.0	1.4	11.0	15.9							sil/l			
29-40	Btx_1	32.5	47.4	20.1	0.9	1.5	1.3	16.8	12.0							l			
40-65	Btx_2	25.8	51.2	23.0	0.3	1.1	1.0	7.5	15.9							sil			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
	Mineralogical Analysis—Estimated Percentages in Various Size Fractions																		
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Phillippy, silty clay loam (Taxadjunct)

Pedon #: S01KY-075-03-(1-6)

Classification: Fine loamy, mixed, thermic Fluvaquentic Hapludolls

Location: Fulton County, Kentucky; 7.4 miles west of Hickman along KY Hwy 94 in the Lower Bottom to Sassafras Ridge, then 2.6 miles on a line due west of the intersection of KY Highways 94 and 971 at Sassafras Ridge on the west side of a drainage canal, then 500 feet south into a cultivated field; Bondurant 7.5 minute USGS quadrangle; on soil map sheet 21T; east 936,000 feet and north 100,400 feet by the Kentucky coordinate system

Parent Material: Mississippi River clayey overwash over loamy alluvium

Vegetation: soybean residue

Landscape Position: low-lying ridge of the Mississippi River flood plain

Drainage: moderately well drained

Moisture when sampled: moist

Sampling Date: 11/17/00

Permeability: slow to 20 inches; moderate from 20 inches to 36 inches; moderately rapid in the substratum

Slope: <1 percent

Described by: J.E. McIntosh and P.G. Gregory

Ap—0 to 5 inches; very dark brown (10YR 3/3) silty clay loam, brown (10YR 5/3 dry); moderate medium granular structure; friable, many fine roots; slightly acid (pH 6.5); abrupt smooth boundary.

A—5 to 20 inches; very dark grayish brown (10YR 3/2) silty clay loam/silty clay, grayish brown (10YR 5/2 dry); moderate medium subangular blocky structure; very firm; common fine roots; neutral (pH 6.8); clear smooth boundary.

2Bw1—20 to 25 inches; brown (10YR 4/3) loam/silt loam; moderate fine and medium subangular blocky structure; friable; few fine roots; few medium distinct grayish brown (10YR 5/2) iron depletions on surfaces along pores; few medium distinct strong brown (7.5YR 4/6) masses of iron accumulations around depletions; neutral (pH 6.8); clear smooth boundary.

2Bw2—25 to 36 inches; brown (10YR 4/3) very fine sandy loam; weak medium subangular blocky structure; very friable; very few fine roots; few medium distinct grayish brown (10YR 5/2) iron depletions on surfaces along pores; common fine distinct strong brown (7.5YR 4/6) masses of iron accumulations around depletions; neutral (pH 6.8); clear smooth boundary.

2C1—36 to 62 inches; light olive brown (2.5Y 5/3) loamy fine sand; single grain; loose; common medium faint grayish brown (2.5Y 5/2) iron depletions on surfaces along pores; common medium prominent strong brown (7.5YR 4/6) masses of iron accumulations around depletions; neutral (pH 7.0); gradual smooth boundary.

2C2—62 to 80 inches; 50 percent light olive brown (2.5Y 5/3) and 50 percent light brownish gray (2.5Y 6/2) loamy fine sand; single grain; loose; common medium prominent gray (2.5Y 5/1) iron depletions; neutral (pH 7.0).

SOIL TYPE..... PHILLIPPY (TAXADJUNCT) **PEDON # ..... S01-KY-075-03-(1-6)**
LOCATION ..... FULTON COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-5	Ap	2.9	71.7	25.4	0.1	0.2	0.3	0.7	1.6							sil			
5-20	A	4.6	61.1	34.3	0	0.1	0.2	0.8	3.5							sicl			
20-25	$2Bw_1$	29.6	50.0	20.4	0	0.1	0.1	1.7	27.7							sil/l			
25-36	$2Bw_2$	49.2	37.8	13.0	0	0.1	0.1	6.3	42.7							l			
36-62	$2C_1$	49.1	42.3	8.6	0	0.1	0.1	4.8	44.1							l/sl			
62-80	$2C_2$	80.4	13.5	6.1	0	0	0.1	12.6	67.7							ls			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Purdy, silty clay loam (Taxadjunct)

Pedon #: S99KY-011-02-(1-4)

Classification: Fine-silty, mixed, active, mesic Typic Endoaquults

Location: Bath County, Kentucky; Salt Lick NW Quarter Quad., update sheet 23T; about 1.9 miles S of the junction of US-60 and Kentucky Highway 211 in Bath Co.; about 0.8 mile E of Kentucky Highway 211 and Mud Lick Road; about 880 feet E of Kentucky Highway 211; and about 1200 feet SW of Salt Lick Creek.

Parent Material: Alluvium

Vegetation: nutsedge, broomsedge, alder seedlings, shellbark hickories, pin oak, sweet gum

Landscape Position: Flood plain

Drainage:

Moisture when sampled: moist

Sampling Date: 12/03/98

Permeability:

Slope: 1%

Described by: D. Hines and S. Jacobs

Ap—0 to 8 inches (0 to 20 cm); olive gray (2.5Y 5.2) silty clay loam; common coarse prominent red (2.5YR 4/6) and common medium prominent strong brown (7.5YR 5/6) redox accumulations; weak fine subangular blocky structure; friable; many fine and common medium roots; 5 percent rounded quartz pebbles; common light olive brown (2.5Y 5/3) silt coats on pressure faces; very strongly acid; gradual smooth boundary.

Bg—8 to 15 inches (20 to 38 cm); light brownish gray (2.5Y 6/2) silty clay loam; many fine and medium prominent strong brown (7.5YR 5/8) redox accumulations; weak medium subangular blocky structure; friable; common fine and medium roots; 5 percent rounded quartz pebbles; many distinct grayish brown (2.5Y 5/2) silt coatings on burrows and faces of peds; very strongly acid; diffuse smooth boundary.

Btg—15 to 42 inches (38 to 107 cm); gray (2.5Y 6/1) silty clay; many medium and coarse prominent strong brown (7.5YR 5/8) redox accumulations; weak medium subangular blocky structure; friable; common and medium fine roots; 5 percent rounded quartz pebbles; many distinct clay films on faces of peds; very strongly acid; diffuse wavy boundary.

Cg—42 to 72 inches (107 to 183 cm); gray (2.5Y 6/1) silty clay; many very coarse distinct yellowish brown (10YR 5/8) and common medium and coarse reddish brown (2.5YR 4/4) redox accumulations; massive; firm; one fine root; 5 percent rounded quartz pebbles; very strongly acid.

SOIL TYPE.....PURDY (TAXADJUNCT) **PEDON # ..... S99-KY-011-02-(1-4)**
LOCATION .....BATH COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-8	Ap	7.7	67.7	24.6	0.2	0.8	1.9	2.2	2.6							sil			
8-15	Bg	3.0	69.3	27.7	0	0.2	0.7	0.1	2.0							sil/sicl			
15-42	Btg	4.0	59.7	36.3	0	0.1	0.7	1.1	2.1							sicl			
42-75	Cg	5.3	60.3	34.4	0	0.2	1.0	1.3	2.8							sicl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Ramsey, loam

Pedon #: S94KY-133-02-(1-4)

Classification: Loamy, siliceous, subactive, mesic Lithic Dystrudepts

Location: Letcher County, Ky; Whitesburg Topographic Quadrant; 100' W of old sand pit road, 200' NE of the Little Shepherd Trail on Pine Mountain. x: 2,856,200, y: 2,821,250

Parent Material: Residuum of Lower Pennsylvanian Lee Sandstone

Vegetation: Black oak, red maple, and Virginia pine

Landscape Position: Ridge top

Drainage:

Moisture when sampled:

Sampling Date: 7/21/94

Permeability:

Slope: 45 percent

Described by: P.S. Aldridge

A—0 to 1 inches; dark brown (10YR 3/3) loam; weak fine granular structure; very friable; many fine and medium roots; 5 percent sandstone channers; extremely acid; abrupt smooth boundary.

Bw1—1 to 7 inches; yellowish brown (10YR 5/6) loam; weak fine subangular structure; friable; common fine and medium and few coarse roots; 5 percent sandstone channers; strongly acid; clear smooth boundary.

Bw2—7 to 12 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular structure; friable; common fine and medium roots; 10 percent sandstone channers; strongly acid; clear smooth boundary.

BC—12 to 16 inches; yellowish brown (10YR 5/8) channery loam; weak medium subangular structure; friable; common fine roots; 25 percent sandstone channers; strongly acid; abrupt smooth boundary.

R—12 to 16 inches; sandstone bedrock.

SOIL TYPE..... RAMSEY **PEDON # .....S94KY-133-02-(1-4)**
LOCATION .....LETCHER COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF	VFS Plus Silt		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	(2-0.1)	(0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-1	A	60.2	28.3	11.5	2.1	7.8	17.2	24.9	8.2							sl			
1-7	Bw_1	50.9	32.4	16.7	0.5	1.3	11.9	26.9	10.3							l/sl			
7-12	Bw_2	48.4	34.4	17.2	0.8	1.0	10.6	25.6	10.4							l			
12-16	BC	50.5	34.1	15.4	0.8	0.9	11.2	26.4	11.2							l/sl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bw2	98	2																	
BC	100																		

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Rigley, loam (Taxadjunct)

Pedon #: S95KY-119-03-(1-6)

Classification: Coarse-loamy, mixed, active, mesic Typic Dystrudepts

Location: Knott County, Carrie topographic quadrant; 1000 feet north of Kentucky Highway 80; 3 miles west of Hindman, Kentucky. Latitude: 37° 22′ 00″; Longitude: 83° 02′ 36″

Parent Material: Colluvium of Mississippian siltstone of the Granger formation

Vegetation: Yellow poplar, shagbark hickory, and sugar maple

Landscape Position: Back slope

Drainage:

Moisture when sampled:

Sampling Date: 11/06/95

Permeability:

Slope: 55%

Described by: P.S. Aldridge

Oi—0 to 2 inches; partially decomposed leaf litter.

A—2 to 5 inches; dark brown (10YR 3/3) loam, brown (10YR 5/3) dry; weak fine granular structure; very friable; many fine roots; 1 percent sandstone channers; slightly acid; clear smooth boundary.

BA—5 to 9 inches; dark yellowish brown (10YR 4/6) loam; weak fine granular structure; very friable; many fine and medium, and few coarse roots; 5 percent sandstone channers; moderately acid; clear smooth boundary.

Bw1—9 to 18 inches; dark yellowish brown (10YR 4/6) loam; weak fine subangular blocky structure; very friable; common fine, medium and coarse roots; 10 percent sandstone channers; strongly acid; clear smooth boundary.

Bw2—18 to 26 inches; dark yellowish brown (10YR 4/6) channery loam; weak fine subangular blocky structure; friable; few fine, medium and coarse roots; 30 percent sandstone channers; slightly acid; clear smooth boundary.

Bw3—26 to 32 inches; yellowish brown (10YR 5/6) very channery loam; weak fine subangular blocky structure; friable; few fine and medium roots; 35 percent sandstone channers and 15 percent sandstone flagstones; moderately acid; clear smooth boundary.

Bw4—32 to 52 inches; yellowish brown (10YR 5/6) very channery loam; weak fine subangular blocky structure; friable; few fine roots; 60 percent sandstone channers; faint sand bridging within peds; slightly acid; clear smooth boundary.

CB—52 to 62 inches; brownish yellow (10YR 6/8) extremely stony sandy loam; weak coarse subangular blocky structure; firm; few fine roots; 90 percent sandstone channers; strongly acid; abrupt wavy boundary.

R—62 inches; sandstone bedrock

SOIL TYPE..... RIGLEY (TAXADJUNCT) **PEDON # ..... S 95 KY-119-03-(1-6)**
LOCATION ..... KNOTT COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
2-5	A	52.1	33.5	14.4	5.1	6.1	15.9	16.7	8.3							sl/l			
5-9	BA	49.6	35.0	15.4	4.0	5.8	15.3	15.9	8.6							l			
9-18	Bw1	48.1	36.3	15.6	4.0	6.0	15.2	15.1	7.8							l			
18-26	Bw2	44.6	38.2	17.2	3.8	5.2	14.2	13.7	7.7							l			
26-32	Bw3	46.8	37.6	15.6	6.1	7.0	12.0	14.4	7.3							l			
32-52	Bw4	57.4	31.4	11.2	4.5	8.5	19.7	16.7	8.0							sl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
2-5	5.69																		
5-9	4.84																		
9-18	4.95																		
18-26	5.22																		
26-32	5.31																		
32-52	5.17																		
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Robinsonville, silt loam (Taxadjunct)

Pedon #: S98KY-075-02-(1-6)

Classification: Fine-loamy, mixed, superactive, thermic Fluventic Hapludolls

Location: Fulton Co. KY, 8.5 miles west of Hickman along KY Hwy 94 in the Lower Bottom, 1.8 miles NW of Sassafras Ridge, about 1000 feet west of the S-curve just north of Pond Slough; Bondurant 7.5 minute quadrangle; on soil map sheet 9B, east 942,900 feet and north 106,500 feet by the Kentucky coordinate system.

Parent Material: Mississippi River loamy alluvium

Vegetation: soybean residue

Landscape Position: Mississippi River flood plain/low lying terrace

Drainage: Well drained

Moisture when sampled: Moist

Sampling Date: 5-28-98

Permeability: Moderate

Slope: < 1%

Described by: J. E. McIntosh and P. G. Gregory

Ap1—0 to 3 inches; very dark grayish brown (10YR 3/2) silt loam; dark grayish brown (10YR 4/2) dry; moderate medium granular structure; very friable; common fine roots; few krotivinas; moderately acid (pH 5.9); clear smooth boundary.

Ap2—3 to 9 inches; very dark grayish brown (10YR 3/2) silty clay loam; dark grayish brown (10YR 4/2) dry; moderate medium subangular blocky structure; friable; few fine roots; few krotivinas; slightly acid (pH 6.1); clear smooth boundary.

A—9 to 13 inches; very dark grayish brown (10YR 3/2) silt loam, brown (10YR 4/3)dry; weak fine subangular blocky structure; friable; very few fine roots; few krotivinas; neutral (pH 6.6); clear smooth boundary.

Bw1—13 to 22 inches; dark brown (10YR 3/3) silt loam; brown (10YR 4/3) dry; weak fine subangular blocky structure; friable; very few fine roots; slightly acid (pH 6.5); clear smooth boundary.

2Bw2—22 to 27 inches; dark yellowish brown (10YR 3/4)loam/fine sandy loam; weak fine subangular blocky structure; very friable; neutral (pH 6.6); clear smooth boundary.

2C—27 to 48+ inches; brown (10YR 4/3) sandy loam; massive; very friable; slightly acid (pH 6.5).

SOIL TYPE.....ROBINSONVILLE (TAXADJUNCT) **PEDON # ..... S98KY-075-02 –(1-6)**
LOCATION ..... FULTON COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	Ap_1	17.7	58.9	23.4	0.3	0.2	0.1	8.4	8.7							sil			
3-9	Ap_2	9.7	57.4	32.9	0.1	0.3	0.5	1.9	6.9							sicl			
9-13	A	13.6	63.8	22.6	0.09	0.1	0.1	1.6	11.7							sil			
13-22	Bw_1	23.8	52.4	23.8	0.09	0.1	0.2	4.5	18.9							sil			
22-27	$2Bw_2$	71.2	16.0	12.8	0.07	0.09	0.3	22.6	48.1							sl			
27-48+	2C	79.3	2.1	18.6	0.09	0.2	1.5	35.3	42.2							sl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-3																	2.48		
3-9																	2.19		
9-13																	1.40		
13-22																	1.11		
22-27																	0.50		
27-48+																	0.27		
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Sandview, silt loam (Taxadjunct)

Pedon #: S93KY-239-03-(1-5)

Classification: Fine-silty, mixed, mesic Typic Paleudalfs

Location: Woodford Co., KY; University of Kentucky farm.

Parent Material: Silt loess over limestone residuum

Vegetation: Fescue, white clover, orchard grass, pasture

Landscape Position: Ridge top

Drainage:

Moisture when sampled: Moist

Sampling Date: 7/1/93

Permeability:

Slope: 3%

Described by: S. Jacobs

A—0 to 14 inches (0 to 36 cm); dark brown (10YR 4/3) silt loam; weak medium subangular blocky structure parting to weak fine granular; friable; many fine roots; slightly acid; gradual smooth boundary.

Bt1—14 to 28 inches (36 to 71 cm); dark brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; common distinct clay films on ped faces; many black stains and concretions; slightly acid; gradual smooth boundary.

Bt2—28 to 48 inches (71 to 122 cm); dark brown (7.5YR 4/4) silty clay loam; weak fine platy structure parting to moderate fine and medium subangular blocky; friable; many distinct clay films on ped faces; many black stains and concretions; slightly acid; gradual smooth boundary.

BC—48 to 53 inches (122 to 135 cm); strong brown (7.5YR 4/6) silty clay; weak medium columnar structure parting to weak medium subangular blocky; firm; many black stains and concretions; slightly acid; gradual smooth boundary.

C—53 to 62 inches (135 to 157 cm); yellowish brown (10YR 5/8) clay; massive; very firm; many black stains and concretions; 1 percent chert gravel; medium acid.

SOIL TYPE..... SANDVIEW (TAXADJUNCT) **PEDON # .....S93KY-239-003-(1-5)**
LOCATION .....WOODFORD COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-14	A	9.2	76.4	14.4	0.6	3.2	2.3	1.8	1.3							sil			
14-28	Bt_1	9.2	62.3	28.5	1.4	3.8	2.2	1.0	0.8							sicl/sil			
28-48	Bt_2	15.3	55.3	29.4	1.2	6.5	4.0	2.1	1.5							sicl			
48-53	BC	18.8	41.8	39.4	2.2	7.2	4.8	2.8	1.8							sicl/sic			
53-62	C	8.9	33.6	57.5	1.0	2.0	2.1	2.2	1.6							c			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-14	6.21		6.79														2.92	58.5	29.5
14-28	6.22		6.89														0.93	67.5	20
28-48	6.03		6.79														0.52	69	35.5
48-53	5.91		6.63														0.59	85.5	47
53-62	5.50		6.09														0.46	89.5	89
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Sandview, silt loam

Pedon #: S99KY-011-07-(1-6)

Classification: Fine-silty, mixed, active, mesic Typic Hapludalfs

Location: Bath County, Kentucky; Sherburne SE Quarter Quad., update sheet 2B; about 2.1 miles W/SW of Kentucky Highway 11 bridge over the Licking R. at Sherburne, about 1.8 miles S of the junction of Bath/Fleming/Nicholas Co. lines; about 0.6 mile NW of Kentucky Highway 11, and about 400 NE of farm road on a ridge top.

Parent Material: Residuum of Tate Member limestone of the Grant Lake formation

Vegetation: cover crop of wheat

Landscape Position: Ridge top

Drainage:

Moisture when sampled: moist

Sampling Date: 03/04/99

Permeability:

Slope: 3%

Described by: D. Hines

Ap—0 to 10 inches (0 to 25 cm); brown (10YR 4/3) silt loam; moderate fine granular structure; friable; common fine roots; slightly alkaline; clear smooth boundary.

Bt1—10 to 27 inches (25 to 69 cm); yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; few fine soft black masses; common distinct clay films on faces of peds; slightly alkaline; clear smooth boundary.

Bt2—27 to 34 inches (69 to 86 cm); yellowish brown (10YR 5/6) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; many medium soft black masses; common distinct clay films on faces of peds; slightly alkaline; clear smooth boundary.

Bt3—34 to 39 inches (86 to 99 cm); yellowish brown (10YR 5/6) and light yellowish brown (2.5Y 6/3) silty clay; moderate medium subangular blocky structure; firm; common medium soft black masses; common distinct clay films on faces of peds; neutral; gradual smooth boundary.

Bt4—39 to 55 inches (99 to 140 cm); yellowish brown (10YR 5/6) and light yellowish brown (2.5Y 6/3) silty clay; weak medium subangular blocky structure; firm; few medium soft black masses; common distinct clay films on faces of peds; moderately acid; gradual smooth boundary.

C—55 to 70 inches (140 to 178 cm); yellowish brown (10YR 5/6) and light olive brown (2.5Y 5/3) silty clay; massive; very firm; few medium soft black masses; 1 percent limestone channers; slightly alkaline; abrupt smooth boundary.

R—70 to 74 inches (178 to 188 cm); hard limestone of the Tate Member of the upper Grant Lake formation.

SOIL TYPE.....SANDVIEW **PEDON # ..... S99-KY-011-007-(1-6)**
LOCATION .....BATH COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)				>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-10	Ap	8.7	71.8	19.5	1.4	2.7	1.8	1.6	1.2							sil			
10-27	Bt_1	11.1	63.6	25.3	1.4	3.9	2.7	1.5	1.6							sil/sicl			
27-34	Bt_2	20.5	42.9	36.6	7.0	7.1	2.8	1.7	1.9							sicl/cl			
34-39	Bt_3	10.1	32.7	57.2	2.8	2.9	1.4	1.1	1.9							c			
39-55	Bt_4	5.0	29.3	65.7	1.0	1.6	0.9	0.6	0.9							c			
55-70	C	7.9	54.8	37.4	1.4	1.6	1.1	1.1	2.7							sicl/sic			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Shelocta, gravelly silt loam (Taxadjunct)

Pedon #: S90KY-135-03-(1-7)

Classification: Coarse-loamy, mixed, active, mesic, Typic Hapludults

Location: Lewis County, Kentucky; Atlas sheet 32A; about 3.1 miles southwest of the confluence of Straight Fork and Kinniconick Creek at Camp Dix, about 2 miles west of confluence of Straight Fork and Mosby Creek, and about 40 feet north of Mosby Creek in road bank. x: 2,262,350 feet; Latitude: 38° 27′ 40″; y: 350,550 feet; Longitude: 83° 19′ 54″

Parent Material: Shale, siltstone, and sandstone colluvium and residuum of the Borden Formation, Mississippian Geologic System

Vegetation: White oak, northern red oak woodland

Landscape Position: Toeslope

Drainage:

Moisture when sampled: Moist

Sampling Date: 1/9/90

Permeability:

Slope: 25%

Described by: S. Jacobs and D. Dotson

A—0 to 4 inches (0 to 10 cm); dark brown (10YR 3/3) gravelly silt loam; weak fine granular structure; very friable; many fine and common medium roots; 20% sandstone gravels; medium acid; clear wavy boundary.

E—4 to 8 inches (10 to 20 cm); yellowish brown (10YR 5/4) and dark brown (10YR 3/3) gravelly silt loam; weak fine subangular blocky structure parting to weak fine granular; very friable; common fine and medium roots; 20% sandstone gravels; very strongly acid; clear wavy boundary.

Bt1—8 to 15 inches (20 to 38 cm); yellowish brown (10YR 5/4) gravelly silt loam; weak fine subangular blocky structure; friable; common fine and medium roots, few coarse roots; 15% sandstone gravels; common faint clay films on ped surfaces; strongly acid; clear wavy boundary.

Bt2—15 to 23 inches (38 to 58 cm); yellowish brown (10YR 5/8) loam; moderate fine and medium subangular blocky structure; firm; few fine roots; 5% sandstone gravels; many distinct clay films on ped surfaces and on coarse fragments; very strongly acid; gradual smooth boundary.

Bt3—23 to 28 inches (58 to 71 cm); strong brown (7.5YR 5/8) loam; moderate medium subangular and angular blocky structure; firm; few fine roots; 8% sandstone and siltstone gravels; many distinct clay films on ped surfaces and coarse fragments; strongly acid; gradual smooth boundary.

Bt4—28 to 36 inches (71 to 91 cm); strong brown (7.5YR 5/8) loam; common fine faint olive (5Y 5/4) mottles; moderate fine and medium angular blocky structure; firm; few fine roots; 13% sandstone and siltstone gravels; many prominent clay films on ped surfaces; very strongly acid; clear smooth boundary.

Bt5—36 to 40 inches (91 to 102 cm); strong brown (7.5YR 5/8) very gravelly loam; common fine faint olive yellow (5Y 6/8) and olive (5Y 5/4) mottles; moderate fine and medium subangular blocky structure; firm; few fine roots; estimated 50% sandstone and siltstone gravels; many distinct clay films on ped surfaces; very strongly acid.

SOIL TYPE..... SHELOCTA (TAXADJUNCT) **PEDON # .....S90KY-135-003-(1-7)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-4	A	29.4	59.4	11.2	5.1	5.1	3.3	2.7	13.2							sil			
4-8	E	25.0	62.7	12.3	3.7	1.8	1.2	2.1	16.2							sil			
8-15	Bt_1	23.4	64.7	11.9	3.2	2.1	1.0	1.6	15.6							sil			
15-23	Bt_2	24.2	58.0	17.8	1.9	1.0	0.6	1.2	19.5							sil			
23-28	Bt_3	31.4	45.2	23.4	0.6	0.4	0.5	2.2	27.7							l			
28-36	Bt_4	45.2	33.6	21.2	0.6	0.7	0.7	4.4	38.8							l			
36-40	Bt_5	51.1	28.0	20.9	10.6	9.7	5.1	5.4	20.3							l/scl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Shelocta, silt loam

Pedon #: S94KY-159-02-(1-7)

Classification: Fine-loamy, mixed, active, mesic Typic Hapludults

Location: Martin County, Kentucky, 4.5 miles southwest of Pigeonroost on Kentucky Highway 1439 to the confluence of Wolf Creek and Meathouse Creek, 2.25 miles south on Kentucky Highway 1439 along Meathouse Creek to a gas well road, 1 mile southeast along the gas well road to the confluence on an intermittent drain and Meathouse Creek; Varney quadrangle

Parent Material: Mixed colluvium from acid shale, siltstone and sandstone

Vegetation:

Landscape Position: Side slope

Drainage: Well drained

Moisture when sampled:

Sampling Date:

Permeability: Moderate

Slope: 30 to 80%

Described by:

Oi—1 to 0 inches; partially decomposed hardwood leaf litter.

A—0 to 3 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine and medium granular structure; friable; many fine and medium roots; 5 percent sandstone channers; strongly acid; abrupt smooth boundary.

Bt1—3 to 13 inches; dark brown (7.5 YR 4/4) channery silt loam; moderate fine and medium subangular blocky structure; friable; common fine and medium roots; many distinct clay films on ped faces and in root channels; 15 percent sandstone channers; strongly acid; gradual smooth boundary.

Bt2—13 to 26 inches; strong brown (7.5YR 4/6) silt loam; moderate medium subangular blocky structure; friable; few fine roots; common distinct clay films on ped faces and in root channels; 10 percent sandstone channers; strongly acid; gradual smooth boundary.

Bt3—26 to 36 inches; strong brown (7.5YR 4/6) channery silt loam; moderate medium subangular blocky structure; firm; common distinct clay films on ped faces; 15 percent sandstone channers; strongly acid; clear smooth boundary.

Bt4—36 to 52 inches; strong brown (7.5YR 4/6) channery loam; moderate medium subangular blocky structure; firm; many distinct clay films on ped faces; 15 percent sandstone channers; strongly acid; clear wavy boundary.

Bt5—52 to 60 inches; strong brown (7.5YR 4/6) loam; moderate fine and medium subangular blocky structure; firm; many distinct clay films on ped faces; 10 percent siltstone channers; strongly acid; clear wavy boundary.

C—60 to 66 inches; strong brown (7.5YR 4/6) extremely channery silt loam; many medium prominent light brownish gray (2.5YR 6/2) redox depletions; massive structure; very firm; 90 percent siltstone channers; medium acid; abrupt wavy boundary.

Cr—66 to 70 inches; fractured siltstone.

SOIL TYPE ..... **SHELOCTA** **PEDON #** ..... **S94-159-002-(1-7)**
LOCATION ..... **MARTIN COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	A	43.0	41.3	15.7	5.8	9.7	12.0	10.5	5.0							l			
3-13	Bt_1	41.6	41.5	16.9	5.7	6.4	10.8	11.7	7.0							l			
13-26	Bt_2	40.0	41.6	18.4	3.6	5.3	11.5	12.4	7.2							l			
26-36	Bt_3	38.0	42.2	19.8	3.4	4.6	10.6	12.1	7.3							l			
36-52	Bt_4	38.2	42.2	19.6	2.2	4.9	11.4	12.5	7.2							l			
52-60	Bt_5	41.5	38.9	19.6	2.1	4.2	13.3	14.5	7.4							l			
60-66	C	36.9	52.4	10.7	4.8	6.6	9.2	7.5	8.8							sil			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Shelocta, silt loam

Pedon #: S94KY-205-02-(1-7)

Classification: Fine-loamy, mixed, mesic, Typic Hapludults

Location: Rowan County, Kentucky, on United States Forest Service Road 117, 3,200 feet north northeast of the intersection of USFS roads 116 and 117; Cranston Quadrangle

Parent Material: Loamy colluvium over residuum of weathered shale and siltstone

Vegetation:

Landscape Position: Lower side slopes

Drainage: Well drained

Moisture when sampled:

Sampling Date:

Permeability: Moderate to slow

Slope: 20 to 50 percent

Described by:

A—0 to 4 inches; brown (10YR 4/3) silt loam; weak fine granular structure; very friable; many fine and medium roots; 2 percent siltstone channers; very strongly acid; clear smooth boundary.

BA—4 to 8 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky parting to weak fine granular structure; very friable; common fine and medium roots; few fine tubular pores; 2 percent siltstone channers; very strongly acid; gradual smooth boundary.

Bt1—8 to 16 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; friable; common fine and medium, and few coarse roots; few fine tubular pores; few discontinuous clay films on faces of peds; 5 percent siltstone channers; clear smooth boundary.

Bt2—16 to 24 inches; yellowish brown (10YR 5/6) channery silt loam; moderate medium subangular blocky structure; firm; few fine and medium, and common coarse roots; common fine tubular pores; common continuous clay films on faces of peds; 20 percent siltstone channers; very strongly acid; clear smooth boundary.

Bt3—24 to 32 inches; yellowish brown (10YR 5/8); channery silt loam; moderate medium subangular blocky structure; firm; few fine and medium roots; common fine tubular pores; common discontinuous clay films on faces of peds; 15 percent siltstone channers; very strongly acid; clear smooth boundary.

2BC—32 to 45 inches; yellowish brown (10YR 5/6) channery silt loam; weak medium subangular blocky structure; firm; few fine roots; few fine tubular pores; 25 percent siltstone channers; very strongly acid.

SOIL TYPE..... SHELOCTA **PEDON # .....S94KY-205-002-(1-6)**
LOCATION .....ROWAN COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-4	A	20.9	63.5	15.6	2.1	3.2	3.4	3.2	9.0							sil			
4-8	BA	12.2	75.6	12.2	1.1	0.9	11	1.5	7.6							sil			
8-16	Bt_1	11.3	74.9	13.8	1.6	1.6	1.2	1.3	5.6							sil			
16-24	Bt_2	11.0	62.0	27.0	1.8	2.1	1.1	0.9	5.1							sil			
24-32	Bt_3	16.9	62.2	20.9	4.2	4.0	2.7	1.8	4.2							sil			
32-45	2BC	22.3	60.3	17.4	5.2	5.0	3.5	2.9	5.7							sil			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
C. S.				0.08	1.34	0.12	1.56	7.3	21	17			7.58	9.14					
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Shrouts, silty clay loam (Taxadjunct)

Pedon #: S99KY-011-06-(1-5)

Classification: Fine-loamy, mixed, active, mesic, Typic Hapludalfs

Location: Bath County, Kentucky; Owingsville NW Quarter Quad., update sheet 7B; about 0.4 mile E/NE of Reynoldsville in Bath Co.; about 1600 feet N of Kentucky Highway 36; and about 150 feet N of old building foundations on a ridge top.

Parent Material: Residuum of the shale and dolomite of the Preachersville Member of the Drakes formation

Vegetation: Fescue and bluegrass

Landscape Position: Ridge top

Drainage:

Moisture when sampled: moist

Sampling Date: 03/02/99

Permeability:

Slope: 6%

Described by: D. Hines and S. Jacobs

Ap—0 to 6 inches (0 to 15 cm); brown (10YR 4/3) silty clay loam; moderate medium granular structure; friable; many fine roots; 2 percent limestone and chert channers; moderately alkaline; gradual smooth boundary.

BA—6 to 10 inches (15 to 25 cm); brown (10YR 4/3) silty clay loam; moderate medium subangular blocky structure; friable; common fine roots; 6 percent limestone and chert channers; moderately alkaline; clear smooth boundary.

Bt1—10 to 13 inches (15 to 33 cm); light yellowish brown (2.5Y 6/3) silty clay loam; common medium distinct yellowish brown (10YR 5/6) lithochromic mottles; weak fine subangular blocky structure; friable; few fine roots; 4 percent limestone and chert channers; prominent distinct clay films on faces of peds; moderately alkaline; gradual smooth boundary.

Bt2—13 to 22 inches (33 to 56 cm); light yellowish brown (2.5Y 6/3) and light olive brown (2.5Y 5/4) silty clay; common medium distinct yellowish brown (10YR 5/6) lithochromic mottles; weak fine subangular blocky structure; friable; few fine roots; 30 percent weathered dolomite fragments; common distinct clay films on faces of peds; moderately alkaline; gradual smooth boundary.

C—22 to 28 inches (56 to 71 cm); light greenish gray (7/5GY) and 20 percent bands of yellowish brown (10YR 5/6) silty clay; massive; firm; 10 percent weathered dolomite; moderately alkaline; abrupt smooth boundary.

Cr—28 to 32 inches (71 to 81 cm); 20 percent thin hard dolomite and 80 percent soft mudstone of the Preachersville Member of the Drakes formation.

SOIL TYPE.....SHROUTS (TAXADJUNCT) **PEDON # ..... S99-KY-011-06-(1-5)**
LOCATION .....BATH COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-15	Ap	36.5	36.2	27.3	0.8	1.9	3.2	13.6	17.0							l/cl			
15-25	BA	41.0	34.9	24.1	3.4	2.7	3.2	12.7	19.1							l			
25-33	Bt_1	51.7	28.7	19.6	0.9	2.5	3.8	12.1	32.4							l/sl/scl			
33-56	Bt_2	63.4	21.8	14.8	5.8	8.3	7.3	17.9	24.1							sl			
56-71	C	43.5	32.1	24.4	2.8	3.6	3.8	8.4	24.9							l			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Shrouts, silty clay loam

Pedon #: S99KY-011-11-(1-5)

Classification: Fine, mixed, active, mesic, Typic Hapludalfs

Location: Bath County, Kentucky; Colfax SE Quarter Quad., update sheet 16; about 0.8 miles NE junction of Vance Road and US-60; about 0.2 mile N of Polksville on the northwest facing slope near the summit of a hill.

Parent Material: Residuum of soft calcareous clay shales of the Upper Crab Orchard formation

Vegetation: Fescue, black locust, briars, eastern red cedar

Landscape Position: Ridge top and slide slopes

Drainage:

Moisture when sampled: moist

Sampling Date: 04/08/99

Permeability:

Slope: 26%

Described by: D. Hines and S. Jacobs

A—0 to 4 inches (0 to 10 cm); dark grayish brown (2.5Y 4.2) silty clay loam; moderate medium granular structure; friable; many fine and medium roots; neutral; clear smooth boundary.

Bt1—4 to 13 inches (10 to 33 cm); light olive brown (2.5Y 5/4) silty clay; common fine prominent yellowish brown (10YR 5/6) lithochromic mottles; moderate medium angular blocky structure; firm; common fine and few medium roots; many distinct grayish brown (2.5Y 5/2) clay films on ped surfaces; moderately alkaline; clear smooth boundary.

Bt2—13 to 22 inches (33 to 56 cm); light olive brown (2.5Y 5/4) silty clay; common medium prominent yellowish brown (10YR 5/6) lithochromic mottles; weak medium angular blocky structure; firm; common fine and medium roots; many prominent gray (5Y 6/1) clay films on ped surfaces and shale fragments; 10 percent soft shale; moderately alkaline; gradual smooth boundary.

BC—22 to 28 inches (56 to 71 cm); light olive brown (2.5Y 5/4) channery silty clay; common medium and coarse yellow (2.5Y 7/4) concentrations of carbonates; weak medium angular blocky structure and relic platy structure; very firm; common fine and medium roots; many prominent gray (5Y 6/1) clay films and coatings on ped surfaces and shale fragments; 15 percent very soft shale; moderately alkaline; gradual smooth boundary.

C—28 to 34 inches (71 to 86 cm); olive (5Y 5/3) and light olive brown (2.5Y 5/6) channery silty clay; relic platy shale structure; very firm; 20 percent very soft shale; moderately alkaline; clear smooth boundary.

Cr—34 to 38 inches (86 to 97 cm); alkaline soft clay shale; few fine roots between shale layers.

SOIL TYPE ..... **SHROUTS** **PEDON #** ..... **S99-KY-011-11-(1-5)**
LOCATION ..... **BATH COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-4	A	10.7	60.6	28.7	1.0	2.8	1.7	1.9	3.3							sicl/sil			
4-13	Bt_1	7.3	56.5	36.2	0.5	1.8	1.6	1.4	2.0							sicl			
13-22	Bt_2	7.6	56.3	36.1	1.3	1.5	1.7	1.5	1.6							sicl			
22-28	BC	4.1	62.9	33.0	0.6	0.5	0.4	0.5	2.1							sicl			
28-34	C	4.1	60.3	35.6	1.2	0.7	0.4	0.4	1.4							sicl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Shrouts, clay loam

Pedon #:

Classification: Fine, mixed, active, mesic Typic Hapludalfs

Location: Madison Co., KY near Moberly on the EKU Meadowbrook Farm.

Parent Material: Residuum

Vegetation:

Landscape Position: Upland

Drainage:

Moisture when sampled:

Sampling Date: Sept., 1999

Permeability:

Slope: 6-12%

Described by: A.D. Karathanasis and Bill Craddock

Ap—0 to 3 in.; Dark yellowish brown (10YR 4/4) clay loam; moderate granular; friable; abrupt boundary.

Bt1—3 to 11 in.; Light olive brown (2.5Y 5/6) silty clay; moderate angular blocky; friable; clear boundary.

Bt2—11 to 19 in.; Olive yellow (2.5Y 6/6) silty clay/clay; moderate angular blocky; firm; abrupt boundary.

Bt3—19 to 26 in.; Olive yellow (2.5Y 6/6) silty clay; moderate angular blocky; firm; abrupt boundary.

Cr—26+ in.

SOIL TYPE.....SHROUTS **PEDON #**
LOCATION .....MADISON COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	Ap	22.9	45.2	31.9	1.8	2.8	4.4	6.3	7.6							cl			
3-11	Bt_1	4.7	45.4	49.9	0.7	1.0	0.8	0.8	1.4							sic			
11-19	Bt_2	5.4	46.8	47.8	0.7	1.0	1.3	1.2	1.2							sic			
19-26	Bt_3	7.5	45.8	46.7	0.8	1.6	1.6	2.1	1.4							sic			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
0-3	6.90																3.26		
3-11	7.51																0.73		
11-19	7.58																		
19-26	7.53																		
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Trappist, silt loam (Taxadjunct)

Pedon #: S90KY-135-26-(1-8)

Classification: Fine, illitic, semiactive, mesic Typic Hapludults

Location: Lewis County, Kentucky; Atlas sheet 7B; about 6.0 miles northeast of Tollesboro, about 1,000 feet northeast of intersection of KY-57 and Quick Run Road, about 1,350 feet north of Sulphur Knob lookout tower, and about 100 feet from barn along farm road. x: 2,210,500 feet; Latitude: 38° 37′ 45″; y: 411,800 feet; Longitude: 83° 30′ 39″

Parent Material: Residuum from acid, black fissile shale of the Ohio Formation, Devonian Geologic System

Vegetation: Shortleaf pine, woodland

Landscape Position: Toeslope

Drainage:

Moisture when sampled: Moist

Sampling Date: 4/12/90

Permeability:

Slope: 10%

Described by: S. Jacobs and D. Dotson

A—0 to 1 inches (0 to 2 cm); dark brown (10YR 4/3) silt loam; moderate fine granular structure; friable; common fine and medium roots; very strongly acid; clear smooth boundary.

E—1 to 4 inches (2 to 10 cm); strong brown (7.5YR 4/6) silt loam; weak fine subangular blocky structure parting to weak fine granular; friable; common fine and medium roots, few coarse roots; very strongly acid; clear wavy boundary.

Bt1—4 to 11 inches (10 to 28 cm); strong brown (7.5YR 5/6) silty clay loam; moderate fine and medium subangular blocky structure; firm; common fine roots, few medium and coarse roots; 5% weathered black fissile shale fragments; common faint clay films on ped surfaces; very strongly acid; gradual smooth boundary.

Bt2—11 to 21 inches (28 to 53 cm); yellowish red (5YR 5/6) silty clay; moderate fine and medium subangular blocky and angular blocky structure; firm; common fine roots, few medium roots, and one coarse root; 10% weathered black fissile shale fragments, many distinct clay films on ped surfaces; very strongly acid; gradual smooth boundary.

Bt3—21 to 26 inches (53 to 66 cm); yellowish red (5YR 5/6) silty clay; moderate fine and medium subangular blocky and angular blocky structure; common fine roots, few coarse roots; 10% pale brown (10YR 6/3) weathered black fissile shale fragments; many distinct clay films on ped surfaces; very strongly acid; clear smooth boundary.

BC—26 to 29 inches (66 to 75 cm); yellowish red (5YR 5/6) and red (2.5YR 5/8) channery clay; common medium distinct pale red (2.5YR 6/2) mottles; moderate medium angular blocky structure; friable; few fine roots, one coarse root; 20% weathered black fissile shale fragments; few faint clay coats on ped surfaces; very strongly acid; clear smooth boundary.

C—29 to 36 inches (74 to 91 cm); dark yellowish brown (10YR 4/4) extremely channery clay; common medium prominent red (10YR 4/8), distinct olive yellow (2.5Y 6/8), and prominent light gray (5Y 7/1) mottles; strong medium platy structure; very firm; few fine and medium roots; 80% weathered black fissile shale; many faint clay coats on shale fragments; extremely acid; clear smooth boundary.

Cr—36 to 45 inches (91 to 114 cm); dark yellowish brown (10YR 4/4) extremely channery clay; strong medium platy structure (99% layered black fissile shale); very firm or hard; very few fine roots between layers greater than 4″ apart; extremely acid; abrupt smooth boundary.

R—45 inches (114 cm); layered black fissile shale.

SOIL TYPE ..... **TRAPPIST (TAXADJUNCT)** **PEDON #** ..... **S90KY-135-026-(1-8)**
LOCATION ..... **LEWIS COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-1	A	30.0	47.0	23.0	3.8	17.1	5.0	2.6	1.5							l			
1-4	E	8.3	64.0	27.7	2.0	2.2	1.8	1.3	1.0							sicl/sil			
4-11	Bt_1	6.2	58.6	35.2	1.8	1.4	1.3	0.9	0.8							sicl			
11-21	Bt_2	4.9	47.7	47.4	1.2	1.1	1.0	0.8	0.8							sic			
21-26	Bt_3	7.8	45.7	46.5	2.3	1.3	1.0	1.3	1.9							sic			
26-29	BC	14.6	39.8	45.6	3.3	3.2	2.9	2.9	2.3							sic/c			
29-36	C	21.4	40.6	38.0	6.7	5.0	4.3	3.4	2.0							cl/sicl/c			
36-45	Cr	27.5	43.3	29.2	7.7	7.4	5.4	3.8	3.2							cl			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt_1	85	10	5							10			13	15	40	20			
Bt_2	88		8	4						5			10	10	55	20			
Bt_3	81	4	11	4						5			10	10	60	15			

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Trappist, silt loam

Pedon #: S94KY-135-12-(1-5)

Classification: Fine, mixed, semiactive mesic Typic Hapludults

Location: Lewis County, Kentucky

Parent Material:

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope:

Described by:

O—1 to 0 inches; dark brown (7.5YR 3/3) silt loam; weak fine granular structure; many fine and few medium roots; clear smooth boundary.

A/B—0 to 2 inches; yellowish brown (10YR 5/4) silt loam; weak fine granular and weak fine subangular blocky structure; friable; common fine and medium roots; extremely acid; clear smooth boundary.

Bt1—2 to 6 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; common fine and medium roots; 5% shale fragments; common faint clay films on ped faces; extremely acid; clear wavy boundary.

Bt2—6 to 11 inches; strong brown (7.5YR 5/6) silty clay; moderate fine angular blocky structure; firm; common fine and few medium roots; 5 to 10% shale fragments, common faint clay films on ped faces; extremely acid; clear wavy boundary.

Bt3—11 to 15 inches; yellowish brown (10YR 5/6) channery clay; few fine faint brown (10YR 5/3) mottles; weak thin platy and weak fine subangular blocky structure; firm; common fine and few medium roots; 20% shale fragments; many faint clay films on ped faces; extremely acid; clear wavy boundary.

C—15 to 29 inches; reddish brown (5YR 5/4), strong brown (7.5YR 5/6), and yellowish brown (10YR 5/6) very channery clay; weak thin and medium platy structure; firm; common fine and medium roots; few coarse roots; 50% shale fragments; extremely acid; clear smooth boundary.

Cr—29 inches; soft black shale bedrock.

SOIL TYPE.....TRAPPIST **PEDON # .....S94KY-135-012-(1-5)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)			Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-2	A/B	11.7	66.9	21.4	3.2	3.9	2.3	1.3	1.0							sil			
2-6	Bt_1	6.7	61.1	32.2	2.2	2.1	1.2	0.7	0.5							sicl			
6-11	Bt_2	3.0	50.6	46.4	1.2	0.8	0.5	0.3	0.2							sic			
11-15	Bt_3	3.9	55.3	40.8	1.5	1.3	0.6	0.3	0.2							sic/sicl			
15-29	C	13.9	56.5	29.6	4.9	4.4	2.9	1.2	0.5							c			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt_1	90		10											15	68	15			2
Bt_2														20	10	62	8		
Bt_3														15	10	66	9		
C										15				15	5	60	5		

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Trappist, channery silty clay loam

Pedon #: S94KY-135-13-(1-4)

Classification: Fine, mixed, semiactive, mesic Typic Hapludults

Location: Lewis County, Kentucky

Parent Material:

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope:

Described by:

A—0 to 3 inches; dark brown (10YR 4/3) channery silty clay loam; weak fine granular structure; friable; few fine and medium roots; 30% shale fragments; extremely acid; clear wavy boundary.

Bt1—3 to 10 inches; yellowish brown (10YR 5/6) and brown (7.5YR 5/4) very channery clay; weak fine and medium subangular blocky structure; firm; common fine and few medium roots; 40% shale fragments; common faint clay films on ped faces; extremely acid; abrupt wavy boundary.

Bt2—10 to 27 inches; dark brown (7.5YR 4/4) very channery clay; common fine faint yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; firm; common fine and few medium roots; 50% shale fragments; common faint clay films on ped faces; extremely acid; clear wavy boundary.

C—27 to 36 inches; yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2) clay; structureless; firm; few fine and medium roots; 50% shale fragments; extremely acid; abrupt wavy boundary.

Cr—36 inches; soft shale bedrock.

SOIL TYPE.....TRAPPIST **PEDON # .....S94KY-135-013-(1-4)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-3	A	27.5	49.1	23.4	13.0	8.4	3.5	1.6	1.0							l/sil			
3-10	Bt_1	13.3	49.4	37.3	6.5	4.3	1.5	0.6	0.4							sicl			
10-27	Bt_2	4.6	52.5	42.9	2.0	1.4	0.6	0.3	0.3							sic/sicl			
27-36	C	8.3	51.5	40.2	4.3	2.6	0.9	0.3	0.2							sic/sicl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/ 100gm	602z Mg meq/ 100gm	602z K meq/ 100gm	6P2z Na meq/ 100gm	5B1a TEB meq/ 100gm	5A1z CEC meq/ 100gm	5C1 Pct	5C3 Pct	H+Al meq/ 100 gm	EA meq/ 100gm	SC meq/ 100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt_1										12			20	13	50	5			
Bt_2										10			23	12	50	5			

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Trappist, silt loam (Taxadjunct)

Pedon #: S94KY-135-30-(1-5)

Classification: Fine, illitic, semiactive, mesic Typic Hapludults

Location: Lewis County, Kentucky

Parent Material:

Vegetation:

Landscape Position:

Drainage:

Moisture when sampled:

Sampling Date:

Permeability:

Slope:

Described by:

A—0 to 2 inches; dark brown (10YR 4/3) silt loam; weak fine granular structure; very friable; many fine and medium roots; 3% shale fragments; extremely acid; clear smooth boundary.

B/A—2 to 5 inches; yellowish brown (10YR 5/4) silt loam; weak fine subangular blocky parting to weak fine granular structure; friable; many fine and common medium roots; 6% shale fragments; extremely acid; clear wavy boundary.

Bt1—5 to 10 inches; yellowish brown (10YR 5/6) channery silty clay loam; common fine and medium distinct yellowish brown (10YR 5/8) mottles; moderate fine and medium subangular blocky structure; firm; common fine and medium, few coarse roots; 20% shale fragments; common fine clay films on peds; extremely acid; clear wavy boundary.

Bt2—10 to 22 inches; yellowish brown (10YR 5/8) silty clay; common fine distinct strong brown (7.5YR 5/6) mottles; weak fine subangular blocky structure; firm; common fine and medium, few coarse roots; 50% shale fragments; common faint clay films on peds; extremely acid; clear wavy boundary.

C—22 to 35 inches; brown (7.5YR 5/4) clay; many fine prominent olive gray (5Y 5/2) mottles; few fine distinct strong brown (7.5YR 5/8) mottles; moderate thin and very thin platy structure; very firm; few fine and medium roots; 75 to 80% shale fragments; extremely acid; clear smooth boundary.

Cr—35 inches; soft shale bedrock.

SOIL TYPE.....TRAPPIST (TAXADJUNCT) **PEDON # .....S94KY-135-030-(1-6)**
LOCATION .....LEWIS COUNTY, KENTUCKY **GENERAL METHODS 1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand Coarser Than VF	VFS Plus Silt		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	(2-0.1)	(0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-2	A	34.1	43.6	22.3	9.3	14.4	6.3	2.7	1.4							l			
2-5	BA	11.2	65.0	23.8	4.0	3.4	2.1	1.1	0.6							sil			
5-10	Bt_1	7.5	60.1	32.4	2.2	2.3	1.6	0.9	0.5							sicl			
10-22	Bt_2	15.9	45.4	38.7	6.6	4.8	2.7	1.3	0.5							sicl/sic			
22-35	C	25.0	46.2	28.8	8.8	6.7	5.3	3.2	1.0							cl/l			
35″	Cr	16.5	51.1	32.4	5.2	5.5	3.7	1.6	0.5							sicl			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
C.S.	75		25							4			15	10	61	10			

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Vertrees, silt loam

Pedon #: S96KY-227-09-(1-7)

Classification: Fine, mixed, active, mesic, Typic Paleudalfs

Location: Warren Co., KY; approximately 0.18 mile south of the intersection of William Natcher Parkway and 31-W south; 0.9 mile west on Bennett Road; 300 feet north of Bennett Road in outdoor classroom site. Longitude: 86° 28′ 08″; Latitude: 36° 56′ 04″

Parent Material: Residuum from limestone

Vegetation:

Landscape Position: Karst ridge

Drainage:

Moisture when sampled:

Sampling Date: 9/16/96

Permeability:

Slope: 4%

Described by: Michael J. Mitchell

Ap—0 to 3 inches; brown (10YR 4/3) silt loam; moderate fine granular structure; friable; common very fine roots; slightly acid; abrupt smooth boundary.

BA—3 to 6 inches; dark reddish brown (5YR 3/3) silt loam; moderate medium granular structure; friable; common fine roots; very strongly acid; abrupt smooth boundary.

Bt1—6 to 12 inches; dark reddish brown (2.5YR 3/4) silty clay loam; moderate medium subangular blocky structure; friable; common fine and coarse roots; common faint films; strongly acid; gradual wavy boundary.

Bt2—12 to 18 inches; red (2.5YR 4/6) silty clay loam; few black concretionary stains on ped faces; moderate medium subangular blocky structure; firm; common fine roots; common distinct clay films on ped faces and in pores; strongly acid; gradual wavy boundary.

Bt3—18 to 35 inches; dark red (2.5YR 3/6) silty clay; few black stains on ped faces; moderate medium angular and subangular blocky structure; firm; few fine roots; many prominent clay films on ped faces and pores; <1% chert fragments; moderately acid; gradual wavy boundary.

Bt4—35 to 44 inches; dark reddish brown (2.5YR 3/4) silty clay; few black round concretions; strong medium to coarse angular blocky structure; very firm; few fine roots; many prominent clay films on ped faces; <1% weathered chert fragments; slightly acid; gradual wavy boundary.

Bt5—44 to 62 inches; dark red (10YR 3/6) silty clay; few black and brown round concretions; strong coarse to medium subangular blocky structure; very firm; few very fine roots; many prominent clay films; <1% weathered chert fragments; slightly acid.

SOIL TYPE ..... **VERTREES** **PEDON #** **S96KY-227-09**
LOCATION ..... **WARREN COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
6-12	Bt_1	7.0	60.8	32.2	0.1	0.4	0.7	3.0	2.8							sicl			
12-18	Bt_2	8.0	49.5	42.5	0.4	0.4	0.6	3.7	2.9							sic/sicl			
18-35	Bt_3	9.6	50.9	39.5	0.2	0.6	0.8	4.1	3.9							sic/sicl			
35-44	Bt_4	12.1	32.9	55.0	2.0	1.2	0.8	4.5	3.6							c			
44-62	Bt_5	13.7	29.9	56.4	2.9	1.1	1.2	4.6	3.9							c			
		pH		Exchangeable Bases (5A1)						Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
Bt_1									10	34			6	35	15				
Bt_2									14	30			5	40	8	3			
Bt_3									14	40				40	6				

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Vertrees, silt loam

Pedon #: S97KY-227-19-(1-7)

Classification: Fine, mixed, semiactive, mesic Typic Paleudalfs

Location: Warren County, Kentucky, approximately 0.31 mile east of U.S. 31-W and Bennet Road; then 0.2 mile north of Bennett Road in pasture field. Longitude: 86° 28′ 41″; Latitude: 36° 56′ 16″

Parent Material: Loess/residuum

Vegetation:

Landscape Position: Broad ridges

Drainage:

Moisture when sampled:

Sampling Date: 6/2/97

Permeability:

Slope: 3%

Described by: Michael J. Mitchell

Ap1—0 to 4 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine roots; neutral; gradual wavy boundary.

Ap2—4 to 6 inches; yellowish brown (10YR 5/4) silt loam; weak medium granular structure; friable; common fine roots; neutral; abrupt wavy boundary.

Bt1—6 to 15 inches; red (2.5YR 4/6) silty clay loam; weak medium subangular blocky structure; firm; common fine roots; common distinct clay films; reddish brown (2.5YR 4/4) intrusion; black concretions throughout; neutral; gradual wavy boundary.

Bt2—15 to 27 inches; red (2.5YR 4/6) silty clay; moderate medium subangular blocky structure; firm; common fine roots; common prominent clay films; black concretions throughout horizon; weathered chert fragments <1%; slightly acid; gradual smooth boundary.

Bt3—27 to 44 inches; dark red (10R 3/6) silty clay/clay; moderate medium subangular blocky structure; firm; few fine roots; coarse prominent clay films; few yellowish brown (10YR 5/6) iron accumulations; slightly acid; gradual smooth boundary.

Bt4—44 to 59 inches; dark red (10R 3/6) silty clay; moderate medium subangular blocky structure; firm; few fine roots; common prominent clay films; few dark yellowish brown (10YR 4/6) yellowish brown accumulations; slightly acid; gradual smooth boundary.

Bt5—59 to 71 inches; dusky red (10R 3/4) silty clay; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films; few strong brown (7.5YR 5/6) accumulations; slightly acid.

SOIL TYPE ..... **VERTREES** **PEDON #** ..... **S97-KY-227-19-(1-7)**
LOCATION ..... **WARREN COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt				Sand	VFS Plus		Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Coarser Than VF (2-0.1)	Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
6-15	Bt_1	14.6	53.8	31.6	0.7	0.6	1.1	7.8	4.4							sicl			
15-27	Bt_2	16.6	42.0	41.4	2.1	1.1	1.2	7.4	4.8							sic/sicl			
27-44	Bt_3	9.5	36.9	53.6	0.8	0.6	0.5	3.4	4.2							c/sic			
44-59	Bt_4	7.1	34.8	58.1	0.2	0.5	0.5	1.8	4.1							c			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt									Clay									
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F
C.S.	75		5			10			9	22			21	28	20				

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

Wheeling, silt loam

Pedon #: S90KY-135-12-(1-9)

Classification: Fine-loamy, mixed, active, mesic, Ultic Hapludalfs

Location: Lewis County, Kentucky; Atlas sheet 6; about 2.5 miles east of intersection of CSX railroad tracks and Mason-Lewis County line, about 225 feet north of the CSX railroad tracks, about 50 feet north of a barn. x: 2,178,560 feet; Latitude: 38° 40′ 09″; y: 425,450 feet; Longitude: 83° 37′ 30″

Parent Material: Mixed alluvium of the Ohio River floodplain, Quaternary Geologic System

Vegetation: Tobacco, cropland

Landscape Position: Terrace

Drainage:

Moisture when sampled: Moist

Sampling Date: 6/26/90

Permeability:

Slope: 5%

Described by: S. Jacobs and D. Dotson

A—0 to 9 inches (0 to 23 cm); dark yellowish brown (10YR 3/4) loam; weak fine granular structure; very friable; few fine roots; moderately alkaline; clear smooth boundary.

Bt1—9 to 20 inches (51 to 69 cm); dark yellowish brown (10YR 4/6) loam; weak fine subangular blocky structure; friable; common faint clay films on ped surfaces, common faint clay bridges between peds; moderately alkaline; gradual smooth boundary.

Bt2—20 to 27 inches (51 to 69 cm); dark yellowish brown (10YR 4/6) loam; weak fine and medium subangular blocky structure; friable; many faint clay films on ped surfaces; moderately alkaline; clear smooth boundary.

Bt3—27 to 32 inches (69 to 81 cm); dark brown (10YR 4/3) loam; weak medium subangular blocky structure; friable; many faint clay films on ped surfaces; moderately alkaline; clear smooth boundary.

2Bw1—32 to 44 inches (81 to 112 cm); dark yellowish brown (10YR 3/4) sandy loam; weak fine granular structure, some single grain structure; very friable; few faint clay bridges between sand grains; moderately alkaline; clear smooth boundary.

3Bt4—44 to 56 inches (112 to 142 cm); yellowish brown (10YR 5/4) silty clay loam; common fine faint yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; few faint clay films on ped surfaces; moderately alkaline; clear smooth boundary.

4Bw2—56 to 58 inches (142 to 147 cm); dark yellowish brown (10YR 4/6) sandy loam; weak fine granular and single grain structure; very friable; few faint clay bridges between sand grains; moderately alkaline; clear smooth boundary.

5Bt5—58 to 64 inches (147 to 163 cm); dark yellowish brown (10YR 3/4) loamy sand; weak medium subangular blocky structure; friable; few faint clay films on ped surfaces and sand grains; moderately alkaline; clear smooth boundary.

SOIL TYPE.....**WHEELING** **PEDON #** .....**S90KY-135-012-(1-9)**
LOCATION .....**LEWIS COUNTY, KENTUCKY** **GENERAL METHODS** **1A1 1A2 1B1B 2A1**

		Particle Size Class and Particle Diameter (mm)																	
		3A1															2A2		3B1a
		Total			Sand					Silt							Coarse Fragments		
Depth in	Horizon	Sand (2-0.05)	Silt (0.05-0.002)	Int. IV Clay <0.002	Very Coarse (2-1)	Coarse (1-0.5)	Medium (0.5-0.25)	Fine (0.25-.01)	Very Fine (0.1-0.05)	(0.05-0.02)	Int. III (.02-.002)	Int. II (0.2-0.02)	Int. I (2-0.2)	Sand Coarser Than VF (2-0.1)	VFS Plus Silt (0.1-0.002)	Textural Class	>2 Pct	2-19 Pct of <76mm	19-76 Pct of <76mm
0-9	Ap	50.7	31.9	17.4	1.0	9.2	0	25.6	14.9							l/sl			
9-20	Bt_1	45.1	30.0	24.9	0.2	0.5	6.1	24.3	14.0							l			
20-27	Bt_2	61.1	17.6	21.3	0	0.5	10.7	33.2	16.7							scl			
27-32	Bt_3	70.9	12.4	16.7	0.2	0.5	18.1	42.7	9.4							sl			
32-44	$2Bw_1$	69.7	18.5	11.8	0.1	0.4	14.0	43.3	11.9							sl			
44-56	$3Bt_4$	61.1	24.5	14.4	0	0.3	5.7	32.0	23.1							sl			
56-58	$4Bw_2$	83.5	11.3	5.2	0.2	0.6	23.0	47.3	12.4							ls			
58-64	$5Bt_5$	71.1	12.6	16.3	0	0.3	11.6	43.5	15.7							sl			
64-69	$6Bw_3$	80.4	8.5	11.1	0.1	0.7	22.0	47.0	10.6							sl/ls			
		pH			Exchangeable Bases (5A1)					Base Saturation		6G1x	6H1a	5A3a		6N7	6A1a	60sz	6S6
Depth in	8C1a (1:1) H_2O	8C1c (1:1) KCl	8D7 SMP Buff.	6N2z Ca meq/100gm	602z Mg meq/100gm	602z K meq/100gm	6P2z Na meq/100gm	5B1a TEB meq/100gm	5A1z CEC meq/100gm	5C1 Pct	5C3 Pct	H+Al meq/100 gm	EA meq/100gm	SC meq/100gm	Fe_2O_3 Pct	$CaCO_3$ Eq. Pct	Organic Matter Pct	K ppm	P Bray No.1 ppm
Mineralogical Analysis—Estimated Percentages in Various Size Fractions																			
Horizon	Sand + Silt								Clay										
	Q	F	MI	K	CL	INT	RE	CA	SM	V	HIV	CL	INT	K	MI	Q	GI	GO	F

Minerals: SM = smectite; V = vermiculite; HIV = hydroxyinterlayered vermiculite; CL = chlorite; INT = interstratified; K= kaolinite; MI = mica; Q = quartz; GO = goethite; GI = gibbsite; F = feldspars; CA = calcite; RE = other resistant minerals

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