ERDC/CERL TR-03-16

Construction Engineering Research Laboratory

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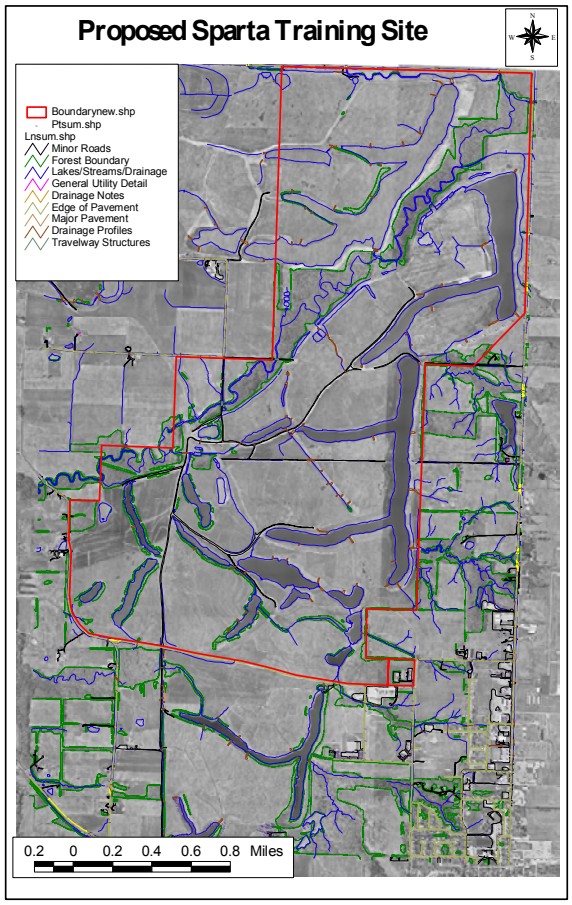
Initial Assessment of the Soil and Vegetation of the Illinois National Guard Sparta Training Area

Jeffrey S. Fehmi, Robert L. McLeese, and Jonathan L. Casebeer

June 2003



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Final Report

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ABSTRACT: The Illinois National Guard (ILNG) is acquiring a new 2800-acre training area near Sparta, Illinois. This acquisition is important in that it allows the National Guard units in southern Illinois a readily available place to train, which will increase training effectiveness and save time and money through decreased travel costs associated with using the existing training area in the northern part of the state.

The recent acquisition of the Sparta training area represents a unique opportunity to gather baseline data before any training takes place. This data will be valuable in that it gives the Army the unique opportunity to learn about the conditions before and after training as well as strengthening any future empirically collected research data. This represents a fundamental knowledge gap in much of the current research on Army lands and represents a high priority, high payoff area of research.

The initial plant and soil data were collected using a grid-based sampling protocol to allow uniform and unbiased cover. The specific sampling protocols for each type of data follows in the vegetation and soils sections and the data are included in the appendices.

Contents

Conversion Factors

Non-SI units of measurement used in this report can be converted to SI units as follows:

Multiply	By	To Obtain
acres	4,046.873	square meters
cubic feet	0.02831685	cubic meters
cubic inches	0.00001638706	cubic meters
degrees (angle)	0.01745329	radians
degrees Fahrenheit	(5/9) x (°F – 32)	degrees Celsius
degrees Fahrenheit	(5/9) x (°F – 32) + 273.15	kelvins
feet	0.3048	meters
gallons (U.S. liquid)	0.003785412	cubic meters
horsepower (550 ft-lb force per second)	745.6999	watts
inches	0.0254	meters
kips per square foot	47.88026	kilopascals
kips per square inch	6.894757	megapascals
miles (U.S. statute)	1.609347	kilometers
pounds (force)	4.448222	newtons
pounds (force) per square inch	0.006894757	megapascals
pounds (mass)	0.4535924	kilograms
square feet	0.09290304	square meters
square miles	2,589,998	square meters
tons (force)	8,896.443	newtons
tons (2,000 pounds, mass)	907.1847	kilograms
yards	0.9144	meters

Preface

This study was conducted for the Office of the Directorate of Environmental Programs (DAIM), Assistant Chief of Staff (Installation Management) (ACS[IM]) under project 622720896, "Environmental Quality Technology"; Work Unit CNN-T081. The technical monitor was Dr. Vic Diersing, DAIM-ED-N.

The Construction Engineering Research Laboratory (CERL) Principal Investigator was Jeffrey S. Fehmi. The Illinois National Guard manager was Jonathan L. Casebeer. The work was performed by Robert McLeese, Dan Steinman, David Webber, Ellen Starr, Jerry Berning, Jon Bathgate, Matt McCauley, Paul Kremmel, and Roger Windhorn, all with the U.S. Department of Agriculture – Natural Resources Conservation Service and Illinois Department of Natural Resources District Forester, Mark Brown. Mr. Stephen Hodapp is Chief, CEERD-CN-N, and Dr. John T. Bandy is Chief, CEERD-CN. The associated Technical Director was Dr. William D. Severinghaus, CEERD-CV-T. The Director of CERL is Dr. Alan W. Moore.

CERL is an element of the U.S. Army Engineer Research and Development Center (ERDC), U.S. Army Corps of Engineers. The Commander and Executive Director of ERDC is COL John Morris III, EN and the Director of ERDC is Dr. James R. Houston.

1 Introduction

Background

Army User Requirements

Documentation of the Army's environmental technology requirements has been an iterative process that began with a series of meetings in 1993 and the publication, *U.S. Army Environmental Requirements and Needs* from the Office of the Directorate of Environmental Programs. The Army's environmental technology requirements describe the critical research, development, test, and evaluation needs for accomplishing the Army's mission with the least impact or threat to the environment. These requirements are Army-level requirements that were reviewed for their impacts to readiness and quality of life, impact or threat to the environment, and timeliness needed for the Army to maintain compliance with environmental regulations. All major commands, major subcommands, the Office of the Deputy Chief of Staff for Operations, and the Office of the Deputy Chief of Staff for Logistics were involved in establishing the prioritized and validated list of the Army's environmental technology requirements.

Land Capacity and Characterization is the third priority conservation user requirement. This user requirement defines the Army's need to estimate training land carrying capacity. Twenty-eight exit criteria were identified in the *Land Capacity and Characterization* user requirement. Each exit criteria defines a specific product required to address a specific aspect of the overall requirement. Several of the exit requirements require detailed understanding of installation natural resources.

The Sparta Training Area

The Illinois National Guard (ILNG) is acquiring a new 2800-acre training area near Sparta, Illinois. This acquisition is important in that it allows the National Guard units in southern Illinois a readily available place to train, which will increase training effectiveness and save time and money through decreased travel costs associated with using the existing training area in the northern part of the state.

The activities likely to take place at the Sparta Training Area include bivouac operations, assembly area and unit training of vehicle units, and various foot-traffic type operations. The ILNG plans site improvements including an improved road network, hardening sites where substantial erosion would otherwise occur, and extensive tree planting to provide for tactical concealment areas. These improvements will increase the training realism and effectiveness and decrease any off-site impacts.

Prior to acquisition by the ILNG the site was used by the Peabody Coal Co. for coal extraction activities. After the mining activities had been completed, the site was rehabilitated with topsoil and vegetation. Before mining began, the land was used for various agricultural operations since about the 1830's. Before that time the land was a natural prairie system.

Objective

The recent acquisition of the Sparta training area represents a unique opportunity to gather baseline data before any training takes place. This data will be valuable in that it gives the Army the unique opportunity to learn about the conditions before and after training as well as strengthening any future empirically collected research data. This represents a fundamental knowledge gap in much of the current research on Army lands. Installation personnel and researchers from the Army as well as outside sources have corroborated that this kind of data represents a high priority, high payoff area of research.

Approach

The initial plant and soil data were collected using a grid-based sampling protocol. The grid-based protocol was chosen because it is difficult to predict the future use of any particular part of the site, current cover type, or current road network, since the ILNG plans to change the road network, increase tree cover, and set up a compartmental training schema. Having the sampling on a grid allows uniform and unbiased cover, which should capture multiple examples of any future common land uses. The specific sampling protocols for each type of data follows in the vegetation and soils sections and the data are included in the appendices.

Scope

This report outlines the research and monitoring activities undertaken at the Illinois National Guard Sparta Training Area during 2001 and 2002. The general activities may be applicable to any Army site; however the specific research and monitoring apply only to the Sparta Training Area.

Mode of Technology Transfer

The data gathered during this project have been provided to the ILNG. It is also available to other land managers and research personnel.

This report will be made accessible through the World Wide Web (WWW) at URL:

http://www.cecer.army.mil

2 Data Collection

The Sample Grid

The data collected in this study represent the site locations of the natural resource inventory conducted for the National Guard Sparta Training Area. Using a geographic information system (GIS), a 210-meter sampling grid was constructed to create 271 data collection points. At the time of this natural resource inventory, the proposed boundary for the site was not yet finalized, thus points were generated for all possible areas. Of the 271 points generated, only 212 fell inside the final property boundary and fell on land. (Point of contact: Jon Bathgate jon.bathgate@il.usda.gov.)

Vegetation and soils data were collected at each point (Figure 1). The purpose of the inventory was to provide baseline data to the National Guard on the natural resources of their newly acquired property.

The Digital Elevation Model

A digital elevation model (DEM) with a 2-meter horizontal resolution was constructed from 1-meter stereo plotter data provided by the Illinois National Guard. It was created with Arc Info's* TOPOGRID command using the Light Detection and Ranging (LIDAR) point data, a streams line coverage (digitized from Digital Orthophoto Quarter Quads [DOQQ]), and a lakes polygon coverage (also digitized from DOQQ).

* Arc Info is a product of ESRI, 380 New York St., Red Oak, CA 92373.

The Shaded Relief Data

Color-painted, shaded relief data was created with a five-unit vertical exaggeration. It was created from the 2-meter DEM that was created from 1-meter stereo plotter data.

Staking of Grid Points

Points were selected for stakeout (Figure 1). A database file was obtained of the Universal Transverse Mercator (UTM) coordinates of each point for stakeout. This file was imported into AutoCAD®* Land Desktop software. (Point of contact: David Webber David.Webber@il.usda.gov.)

* AutoCad is a product of Autodesk, Inc., 111 McInnis Parkway, San Rafael, CA 94903.

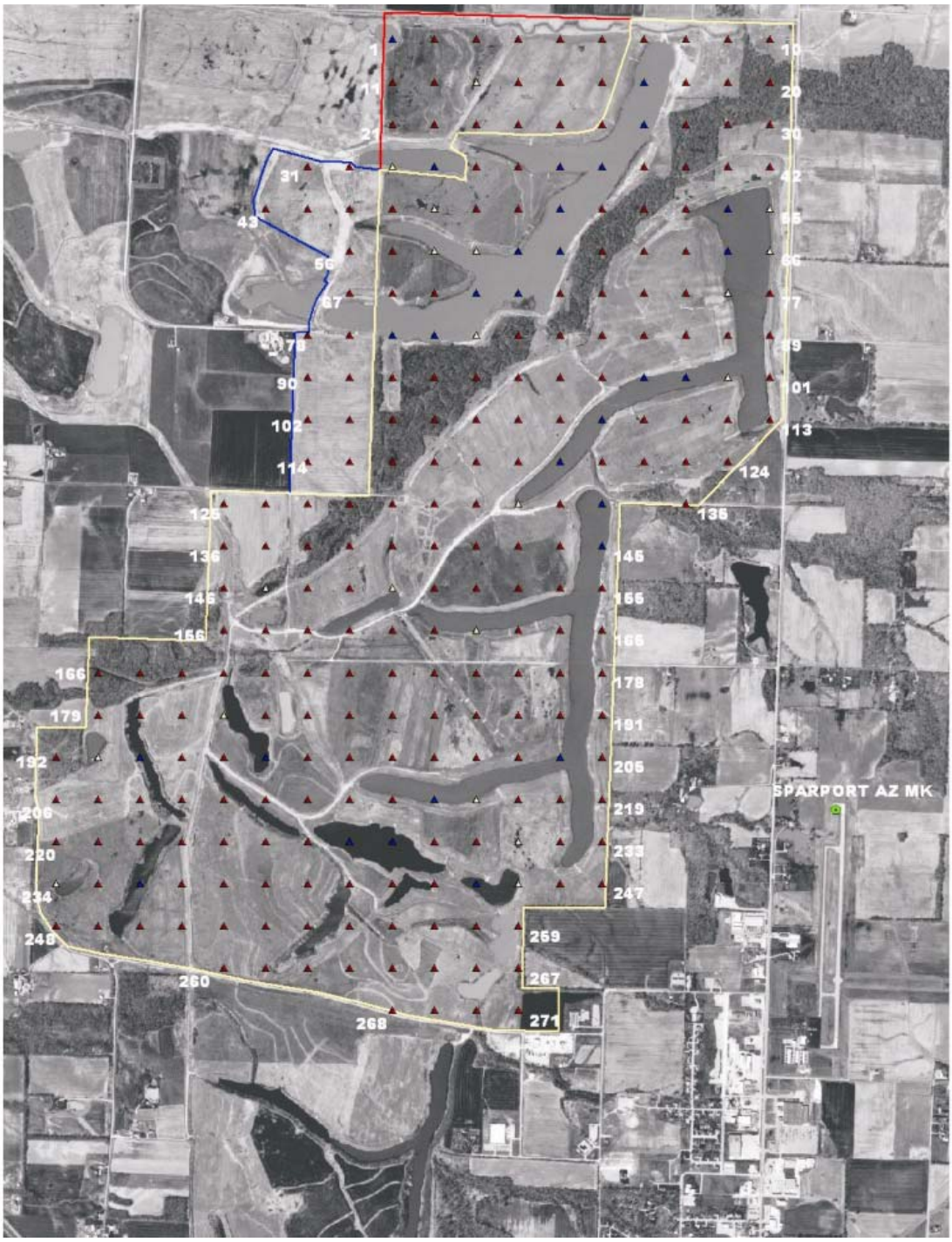

Figure 1. The sample points on an aerial photograph of the Sparta Training Area.

3 Vegetation

Methods

The vegetation data were collected on the grid points shown in Figure 1. The grid points are 210 m apart. The fieldwork was completed in May and June of 2002. The herbaceous vegetative survey was based on percent visual cover of the species composition adding up to 100 percent in a 2-meter square plot centered on the grid point. Appendix A contains the consolidated species list. Appendix B contains the vegetation field data. For this research, woody trees are larger than 20 feet tall and greater than 4 inches diameter at breast height (dbh). The IDNR District Forester, Mark Brown, took the tree measurements that provided basal composition using the 1/10 acre prism method. Appendix C contains the tree data. All other fieldwork was done by Ellen Starr ellen.star@il.usda.gov. Additional field notes are in Appendix D.

Common Species

The species that occur on 10 or more of the sample plots include:

Common name	Species	Number of plots
Broomsedge	*Andropogon virginicus*	10
Honey Locust	*Gleditsia triacanthos*	10
Chickweed	*Stellaria* sp.	10
American Elm	*Ulmus americana*	10
Box Elder	*Acer negundo*	11
Kentucky Bluegrass	*Poa pratensis*	11
Virginia Wild Rye	*Elymus virginicus*	13
Poison Ivy	*Rhus radicans*	13
Sweet Clover	*Melilotus officinalis*	14
Aster	*Aster* sp.	15
Fox Sedge	*Carex vulpinoidea*	15
Red Clover	*Trifolium pratense*	17
Orchardgrass	*Dactylis glomerata*	41
Goldenrod	*Solidago* sp.	58
Fescue	*Festuca arundinacea*	74
Smooth Brome	*Bromus inermus*	91

Species Recommended for Control

The species on the site that are recommended for control by the Illinois Nature Preserves Commission *Vegetation Management Guideline* (2002) include:

Common name	Species	Number of plots
Autumn Olive	*Elaeagnus umbellata*	7
Bush Honeysuckle	*Lonicera* sp.	2
Japanese Honeysuckle	*Lonicera japonica*	3
Moneywort	*Lysimachia nummularia*	1
Multiflora Rose	*Rosa multiflora*	3
Sweet Clover	*Melilotus officinalis*	14
Wild Carrot	*Daucus carota*	4

Autumn Olive

Excerpts from the Illinois Nature Preserves Commission Vegetation Management Guideline 2002, http://www.inhs.uiuc.edu/edu/VMG/VMG.html

Autumn olive was introduced into the United States in 1830 from its native range in China, Japan, and Korea. The strain 'Cardinal' was released in 1963 for commercial propagation. In the eastern and central United States, autumn olive has been planted primarily to provide food and cover for wildlife. It has also been planted as screens and barriers along highways, to stabilize and revegetate road banks, and to reclaim mine spoil. As late as 1975 this species was described as escaping rarely from cultivation. By 1981, it had been documented as naturalized in Illinois. Autumn olive has been officially recorded from only six counties; however, it is probably found in most counties now.

Control practices in natural communities of high quality

Young seedlings and sprouts can be handpulled in early spring when adequate ground moisture is present to allow removal of the root system along with aboveground growth. Autumn olive is easily seen in early spring because its leaves appear while most native vegetation is still dormant.

Cutting the plant off at the main stem and applying herbicide to the stump has been effective in killing root systems and preventing resprouting. Roundup herbicide (a formulation of glyphosate) has been effective in controlling autumn olive when used as a 10 to 20 percent solution and applied directly to the cut stump. Although the Roundup label specifies a higher concentration for cut-stump application (50 to 100 percent), the lower concentration has proven effective. Roundup can be applied either by spraying individual stumps with a low-

pressure hand-held sprayer or by wiping each stump using a sponge applicator. With cut-stump treatment, herbicide is applied specifically to the target plant, reducing the possibilities of damaging nearby, desirable vegetation. Cut-stump treatment is particularly effective late in the growing season (July through September), but is also effective during the dormant season. Glyphosate is a nonselective herbicide, so take care to avoid contacting nontarget species. By law, herbicides may be applied only according to label directions and by licensed herbicide applicators or operators when working on public properties.

Control practices on buffer and severely disturbed sites

In addition to the recommended control practices for high-quality natural communities, the following treatments are effective. Thin-line basal bark treatments with triclopyr herbicides (tradename Garlon) have demonstrated 95 percent kill. Undiluted Garlon 4 (or Garlon 4 diluted 50:50 with diesel fuel) should be applied in a thin line around the base of the plant 6 to 12 inches (15 to 30 cm) above the ground. Application can be made with a hand-held plant sprayer and should be performed during the dormant season to minimize risk to nontarget species. To be effective, a narrow band of Garlon 4 needs to completely encircle the stem. Great care should be exercised to avoid getting any of the mixtures on the ground near the target plant since some nontarget species may be harmed. This method should not be used in high-quality natural areas because the diesel fuel may kill vegetation around the tree. Avoid using Triclopyr if rain is forecast for the following 1 to 4 days; otherwise runoff can harm nontarget species. By law, herbicides may be applied only according to label directions and by licensed herbicide applicators or operators when working on public properties.

Foliar application of dicamba herbicides (available under the tradename Banvel) and 2,4-D herbicides (available under a variety of brand names, including Crossbow) can provide total kill with little or no regrowth the following year. Banvel is mixed at the rate of 1 ounce per gallon of water plus 1/2 ounce of surfactant. The 2,4-D herbicide should be mixed according to label instructions. One hundred percent coverage of foliage should be achieved during the growing season (April through September). Although application can be done any time during the growing season, summer application (July through August) is especially effective. Banvel and 2,4-D are selective against broadleaf plants, so care must be taken to avoid contacting desirable, broadleaf vegetation. Do not spray so heavily that herbicide drips off the target species. Foliar spray of herbicides should be used only in less sensitive areas because of problems with contacting nontarget species. The herbicide should be applied while backing away from treated areas to avoid walking through the wet herbicide.

Although glyphosate (Roundup) is an effective foliar spray when applied during the growing season, it is not recommended because it is nonselective. Use of this herbicide as a foliar spray can result in unnecessary damage to nontarget species.

Failed or ineffective practices

Repeated pruning of established plants to ground level without subsequent herbicide application is not effective for controlling autumn olive. Each regrowth results in a thicker stem base and denser branches. Prescribed burning has not proven effective in controlling established autumn olive.

Bush Honeysuckle

Excerpts from the Illinois Nature Preserves Commission Vegetation Management Guideline 2002, http://www.inhs.uiuc.edu/edu/VMG/VMG.html

Bush honeysuckles are native to Asia and Western Europe. Tartarian honeysuckle was introduced to North America in 1752. The other species were introduced in the late 1800's and 1900's. Although their distribution is closely related to horticultural outlets, especially near larger urban areas where they are used as ornamentals, rural infestations are common when the species are used to improve wildlife habitat. In Illinois, the northern two-thirds of the state is the prime area of naturalization. Some localized outbreaks in southern and central Illinois have been noted. Although not recorded officially in many counties, bush honeysuckles are probably now found in most Illinois counties.

Control measures may include: prescribed burning, handpulling of seedlings, cutting, and herbicide treatments.

A recently introduced pest, the European Honeysuckle aphid, somewhat controls flower and fruit production in some of the bush honeysuckles. Heavy infestations cause tips of branches to form "witches brooms" or deformed twigs. This often greatly reduces fruit production. Native ladybug beetles, however, have been noted to control this aphid.

Control practices in natural communities of high quality

In fire-adapted communities, spring burning will kill seedlings and kill the tops of mature plants. Bush honeysuckles readily resprout and repeated fires are necessary for adequate control. It may be necessary to burn annually or biennially for 5 years or more for effective control.

Seedlings may be pulled by hand when soils are moist. All of the root should be removed or resprouting will occur. Physical removal by pulling smaller plants or grubbing out large plants should not be used in sensitive habitats because open soil and remaining root stocks will result in rapid reinvasion or resprouting of honeysuckles and other exotics.

Bush honeysuckle stems can be cut at the base with brushcutters, chainsaws, or hand tools. The wood of bush honeysuckle is very tough and easily dulls power-tool blades. After cutting, a 20 percent solution of glyphosate (Roundup or Rodeo) should be applied to the cut stump either by spraying the stump with a low-pressure hand-held sprayer or by wiping the herbicide on the stump with a sponge applicator to prevent resprouting. The Roundup and Rodeo labels recommend a 50 to 100 percent concentration of herbicide for stump treatment; however, a 20 percent concentration of Roundup has proven effective. It is not known if this lesser concentration is effective for Rodeo also. Rodeo can be used in wetlands and over open water, but Roundup is labeled for use only in nonwetlands. Herbicides should be applied to the cut stump immediately after cutting for best results. Application in late summer, early fall, or during the dormant season has proven effective. Because some resprouting may occur, follow-up treatment may be necessary. Glyphosate is nonselective, so take care to avoid contacting nontarget plants. By law, herbicides may be applied only according to label directions and by licensed herbicide applicators or operators when working on public properties.

Control practices on buffer and severely disturbed sites

Methods given above for high-quality natural communities are also effective and preferred on buffer and disturbed sites. When an area with bush honeysuckle lacks sufficient fuel to carry a fire, herbicides may be necessary to obtain control.

In dry, upland areas, a foliar spray of 1 percent Roundup (glyphosate) will control seedlings. A 1½ percent foliar spray of Roundup just after plant blooming in June will control mature shrubs. Application should occur from late June to just prior to leaf color changes in fall. The herbicide should be applied while backing away from treated areas so as not to walk through the wet herbicide.

In moist areas, a foliar spray of 1 percent Rodeo (glyphosate) with Ortho-X27 spreader, will control seedlings. Application should occur from late June to just prior to changes in leaf color in the fall. Foliar application of a 1½ percent solution of Rodeo will kill mature plants if all foliage is sprayed. This control method usually requires less labor but more herbicide.

In addition, Krenite controls bush honeysuckle when applied according to label instructions.

Any treatment should be rechecked in following years for reinvasion. Glyphosate is a nonselective herbicide and care should be taken to avoid contacting nontarget plants with herbicide. Do not spray so heavily that herbicide drips off the target species. By law, herbicides may be applied only according to label instructions and by licensed herbicide applicators or operators when working on public properties.

Failed or ineffective practices

The herbicide Garlon does not control bush honeysuckle.

Japanese Honeysuckle

Excerpts from the Illinois Nature Preserves Commission Vegetation Management Guideline 2002, http://www.inhs.uiuc.edu/edu/VMG/VMG.html

Japanese honeysuckle, a native of Japan, was introduced to the United States in 1806 as a horticultural groundcover. It was slow to escape and did not become widely established over the eastern United States until the early 1900's. It has rapidly spread into many open natural communities in the southern two-thirds of Illinois. It has not been found to be a serious pest north of Peoria, although it is recorded from 10 northern Illinois counties. Bitter cold winter temperatures appear to limit this species somewhat. Nonetheless, this vine is becoming increasingly common in central Illinois.

Control practices

Efforts to control Japanese honeysuckle infestations have included the following methods: mowing, grazing, prescribed burning, and herbicides. While grazing and mowing reduce the spread of vegetative stems, prescribed burns or a combination of prescribed burns and herbicide spraying appears to be the best way to eradicate this vine.

In fire-adapted communities, spring prescribed burns greatly reduced Japanese honeysuckle coverage and crown volume. Repeated fires reduced honeysuckle by as much as 50 percent over a single burn. A previously burned population of honeysuckle will recover after several years if fire is excluded during this period. By reducing honeysuckle coverage with fire, refined herbicide treatments may be applied, if considered necessary, using less chemical.

Because Japanese honeysuckle is semi-evergreen, it will continue to photosynthesize after surrounding deciduous vegetation is dormant. This condition allows managers to detect the amount of infestation, and allows for treatment of the infestation with herbicides without damage to the dormant vegetation.

Glyphosate herbicide (Roundup) is the recommended treatment for this honeysuckle. A 1.5 to 2 percent solution applied as a spray to the foliage will effectively eradicate Japanese honeysuckle. The herbicide should be applied after surrounding vegetation has become dormant in autumn and before a hard freeze (25 °F). Roundup should be applied carefully using a hand sprayer, and spray coverage should be uniform and complete. Do not spray so heavily that herbicide drips off the target species. Retreatment may be necessary for plants that are missed because of dense growth. Although glyphosate is effective when used during the growing season, use at this time is not recommended in natural areas because of the potential harm to nontarget plants. Glyphosate is nonselective, so care should be taken to avoid contacting nontarget species. Nontarget plants will be important in recolonizing the site after Japanese honeysuckle is controlled.

Crossbow, a formulation of triclopyr and 2,4-D, is also a very effective herbicide that controls Japanese honeysuckle. Crossbow should be mixed according to label instructions for foliar application and applied as a foliar spray. It may be applied at dormant periods, like glyphosate, and precautions given above for glyphosate should be followed when using Crossbow. Either herbicide should be applied while backing away from the treated area to avoid walking through the wet herbicide. By law, herbicides may be applied only according to label instructions and by licensed herbicide applicators or operators when working on public properties.

Maintenance Control

In fire-adapted communities, periodic spring burning should control this species.

Failed or ineffective practices

Mowing limits the length of Japanese honeysuckle vines, but will increase the number of stems produced. Grazing may have the same effects as mowing, but is less predictable due to uneven treatment given by browsing animals. Herbicides that have given poor control results or that are more persistent in the environment than other types are picloram, annitrole, aminotriazole, atrazine, dicamba, dicamba and 2,4-D, 2,4-D, DPX 5648, fenac, fenuron, simazine, and triclopyr.

Moneywort

Excerpts from the Illinois Nature Preserves Commission Vegetation Management Guideline 2002, http://www.inhs.uiuc.edu/edu/VMG/VMG.html

This plant is a native of Great Britain and much of Europe. It was first introduced as an ornamental and was widespread from Georgia to Maine. It now can be found into Canada, throughout the north-central states, and along the west coast. It is distributed throughout Illinois. Moneywort invades floodplain forests, wet and mesic prairies, marshes, and swamps throughout the state. The plant tends to cover the ground with a mat of low-growing vegetation that excludes other herbaceous vegetation. Its ability to root at nodes enables it to cover large areas.

Control practices in natural communities of high quality

Generally, moneywort is not a major problem in high-quality communities. In low wetland woods where it is invading, one possible means of control is by prescribed burning in spring or fall when moneywort is green but most native vegetation is dormant. The plant can be handpulled where practical. All stems and stem fragments should be removed from the area to prevent the stems from rooting again in the soil.

Control practices on buffer and severely disturbed sites

In addition to the recommended control practices for high-quality natural communities, in low-quality buffer areas, prolonged submergence will kill moneywort. At restoration sites, moneywort can be controlled by establishing native grasses to shade it out. Suggested grasses include *Cinna arundinacea* and *Elymus virginicus*. Seeding of native grasses should be used only at restoration sites and not at natural areas. Herbicides such as Roundup or Rodeo may be effective control measures, but they have not been tested by Illinois natural area managers.

Failed or ineffective practices

Mowing is not effective since moneywort remains close to the ground due to its many rooting nodes. More research is needed concerning the effectiveness of herbicides. No biological controls that are feasible in natural areas are known.

Multiflora Rose

Excerpts from the Illinois Nature Preserves Commission Vegetation Management Guideline 2002, http://www.inhs.uiuc.edu/edu/VMG/VMG.html

Multiflora rose was introduced into Illinois in the 1950's from eastern Asia as wildlife cover and food. Land managers recognized that plantings of this thorny, bushy shrub provided excellent escape cover and winter food. Because of its dense thorny nature, the commercial nursery trade began marketing it as a "living fence." The species soon spread and became a serious invader of agricultural lands, pastures, and natural communities throughout Illinois. It can form impenetrable thickets and smother out other vegetation. It is a serious pest species throughout the eastern United States.

Control practices in natural communities of high quality

Pulling, grubbing, or removing individual plants from the soil can be effective only when all roots are removed or when plants that develop subsequently from severed roots are destroyed. These approaches are most practical for light, scattered infestations.

In fire-adapted communities, a routine prescribed burn program will hinder invasion and establishment of multiflora rose.

Research indicates that 3 to 6 cuttings or mowings per growing season for more than 1 year can achieve high plant mortality. Such treatment may need to be repeated for 2 to 4 years. Increased mowing rates (more than 6 per season) did not increase plant mortality. In high-quality communities, repeated cutting is preferred over mowing, because repeated mowing will damage native vegetation as well as multiflora rose.

Cutting stems and either painting herbicide on the stump with a sponge applicator or spraying herbicide on the stump with a low-pressure hand-held sprayer kills root systems and prevents resprouting. Roundup herbicide (glyphosate) has been effective in controlling multiflora rose when used as a 10 to 20 percent solution and applied directly to the cut stump. Although the Roundup label recommends a higher concentration for cut-stump treatment (50 to 100 percent), the lower concentration has proven effective. With this technique, herbicide is applied specifically to the target plant, reducing the possibility of damaging nearby, desirable vegetation. Cut-stump treatment is effective late in the growing season (July through September), and also during the dormant season. Dormant season application is preferred because it will minimize potential harm to non-

target species. Glyphosate is a nonselective herbicide, so take care to avoid contacting nontarget species. In addition, Triclopyr (tradename Garlon 3A) can be applied to cut stems or canes for selective control of multiflora rose. Garlon 3A diluted in water at a rate of 50 percent can be sprayed, using a hand-held sprayer, to the cut surface. Application should be within a few hours of cutting. Use of Garlon 3A is best done in the dormant season to lessen damage to nontarget species. Great care should be exercised to avoid getting any of the herbicide on the ground near the target plant since some nontarget species may be harmed. Avoid using Triclopyr if rain is forecast for the following 1 to 4 days; otherwise the runoff will harm nontarget species. By law, herbicides may be applied only according to label directions and by licensed herbicide applicators or operators when working on public properties.

Control practices on buffer and severely disturbed sites

Repeated cutting, as discussed above, is effective. For large populations on severely disturbed areas, mowing can be substituted for cutting individual plants. However, mowing multiflora rose can quickly flatten vehicle tires. Filling mower tires with foam is recommended.

Fosamine (tradename Krenite) can be applied as a foliar spray in a 2 percent solution plus 0.25 percent surfactant. The Krenite S formulation contains the appropriate amount of surfactant. Coverage of foliage should be complete. Krenite should be applied only in July through September. No effects will be observed during the autumn season following application. Slight regrowth may occur the following season but canes will die during summer. Fosamine kills only woody species and is nonvolatile; therefore it is the preferred foliar spray treatment.

Dicamba (tradename Banvel) is an effective foliar spray that is less preferred than Krenite. Banvel is selective against broadleaf plants, so care must be taken to avoid contacting desirable, broadleaf vegetation. It can be applied as a foliar spray in a 1 percent solution. Though this solution can be applied any time during the growing season, best results are obtained during May and June when plants are actively growing and flowering, following full leaf-out. One-half ounce of a surfactant should be added when treating dense foliage and, to enhance control in late season applications, complete coverage of all green leaves should be achieved. Do not spray Krenite or Dicamba so heavily that herbicide drips off the target species. Foliar spray of herbicides should be used only in less sensitive areas because of problems with contacting nontarget species. By law, herbicides may be applied only according to label directions and by licensed herbicide applicators or operators when working on public properties.

Glyphosate (tradename Roundup) is an effective foliar spray when applied as a 1 percent solution to multiflora rose plants that are flowering or in bud. Roundup is not a preferred chemical treatment, however, because it is nonselective and the selective herbicides mentioned above are effective. Nevertheless, Roundup can be used as a foliar spray during the growing season on severely disturbed sites if care is taken to avoid contacting nontarget plants. Roundup should not be used as a foliar spray during the growing season in high-quality natural areas because it can result in damage to nontarget species. Roundup is useful as a foliar spray for alien plants that remain green and retain their leaves after native vegetation is dormant or senescent. Multiflora rose does not fit this description adequately and is controlled most effectively when treating during the growing season.

Failed or ineffective practices

No effective biological controls that are feasible in natural communities are known. Rose rosette is a sometimes fatal viral disease that attacks multiflora rose and other roses. This disease is not considered a useful biological control at this time because it may infect native roses and plums, as well as commercially important plants in the rose family such as apples, some types of berries, and ornamental roses.

Sweet Clover

Excerpts from the Illinois Nature Preserves Commission Vegetation Management Guideline 2002, http://www.inhs.uiuc.edu/edu/VMG/VMG.html

Sweet clover is native to Europe and Asia. It can be found in all 50 United States. The earliest records of its occurrence in North America date to 1664. More recently, around the turn of the century, sweet clover was cultivated as a forage crop and soil builder. Today it also is used as a wildlife cover crop and in the production of honey. Each species of sweet clover has been recorded from every county in Illinois, and adventive populations occur in disturbed habitats throughout most of the state. Since this exotic is considered economically important, and thus will continue to be planted, it will remain a problem for land managers well into the future.

Control practices in natural communities of high quality

Handpulling is effective if done when the ground is moist and most of the root can be removed. The best times to handpull sweet clover are in the late fall, after the first-year plant root-crown buds have developed, or anytime early in

spring, before second-year plants develop flower buds. Fall weeding is recommended because: (1) the bright green sweet clover is easily spotted within the yellowing prairie, (2) moist fall conditions and an immature first-year root may make pulling easier, and (3) fall weeding is less stressful to native vegetation. However, sweet clover is easily located in the spring also, because it becomes green before native prairie vegetation. Handpulling in summer can be effective if done when the ground is moist. Handpulling is labor-intensive and must be done consistently. This treatment is feasible for light and moderate infestations, but may be too time consuming in heavy infestations.

In large, dense colonies of sweet clover, cutting first- and second-year stems close to the ground with a hand-held scythe is effective if done after leaves on the lower stems have died (before flowering occurs) and up to early stages of flowering (before seeds form). Sweet clover usually does not resprout when the stems are cut close to the ground during this time.

Prescribed burning can control sweet clover. A combination of an April burn in the first year, followed by a May burn the following year is most successful in eradicating an even-aged stand of sweet clover. A hot, complete, first-year April burn scarifies sweet clover seeds, stimulating them to grow (a late fall burn will also have this effect). A hot, complete, second-year May burn kills the emerging shoots before they can go to seed. Heavily infested stands are best controlled with the above sequence twice, separated by 2 years without burning. Problems with this method may arise if the burn is patchy, leaving viable seeds or second-year shoots unscathed.

In an uneven-aged stand of sweet clover, second-year clover may escape the harmful effects of the early first-year burn because their shoots were not fully emerged. These plants would live to set seed. In this case, a combination of other procedures can be used. Spring burns could be later (after shoots emerge, but before second-year plants set seed) in a sequence of 3 to 5 years. You can also follow up the early burn with handpulling, if practical.

In an even-aged stand of sweet clover, fall mowing can speed up the 2-year burn program: burn in April; mow first-year plants in August, leaving the stems behind to dry; and burn again in mid-late September.

Control practices on buffer and severely disturbed sites

Control practices are the same as given above for high quality areas, with the following addition. Herbicide can be useful in controlling large sweet clover populations in degraded areas. Following a fall burn, hand-spray individual

seedlings with an amine formulation of 2,4-D according to label instructions in spring, before native prairie vegetation emerges. This treatment also is effective when plants are in the cotyledon stage (i.e., when the first leaves appear in the development of the seedling). To reduce vapor drift, use an amine formulation of 2,4-D rather than an ester formulation. A 1 percent solution of Mecamine (2,4-D plus Dicamba) applied to the foliage as a spray is very effective. The herbicide 2,4-D amine is selective for broadleaf plants.

When applying either herbicide described above, spot application should be done such that coverage is uniform with the entire leaf being wet. Precautions should be taken to avoid contacting non-target plants with the solution. Do not spray so heavily that herbicide drips off the target species. By law, herbicides may be applied only according to label instructions and by licensed herbicide applicators or operators when working on public properties.

Failed or ineffective practices

No effective biological controls that are currently feasible in natural areas are known.

DoD Priority Invasives

Invasive plant species found on the Sparta Training Area that are high priority for DoD include:

Common name	Scientific Name	Number of plots
Multiflora Rose	*Rosa multiflora*	3
Musk Thistle	*Carduus nutans*	5
Phragmites	*Phragmites australis*	1

Musk Thistle

Excerpts from the Illinois Nature Preserves Commission Vegetation Management Guideline 2002, http://www.inhs.uiuc.edu/edu/VMG/VMG.html

A native of western Europe, musk thistle was introduced into the eastern United States in the early 1800's and has a long history as a rangeland pest. It was first discovered in Davidson County, Tennessee in 1942 and has been declared a noxious weed in many states. Because musk thistle is unpalatable to wildlife and livestock, selective grazing leads to severe degradation of native meadows and grasslands as wildlife focus their foraging on native plants, giving musk thistle a competitive advantage. Although musk thistle is infrequently found in dense

forests, it can colonize areas subjected to natural disturbances such as landslides or frequent flooding. Meadows, prairies, grassy balds, and other open areas are susceptible to invasion.

Mechanical, biological, and chemical methods are effective and available for control of musk thistle. Handpulling is most effective on small populations and can be done throughout the year, but is most effective prior to the development of seeds. Flowers and seedheads should be bagged and disposed of in a landfill to prevent or minimize seed dispersal. Minimizing disturbance to the soil during removal activities will help reduce the chance of germination of seeds stored in the soil.

Two weevils have been introduced from Europe and released in the United States as a biological control for musk thistle: the thistlehead-feeding weevil (*Rhinocyllus conicus*) and the rosette weevil (*Trichosirocalus horridus*). These weevils have been released in a number of western states with some notable successes achieved. However, recent observations of unintentional and unanticipated impacts of the thistlehead-feeding weevil to native thistles, including some rare species, has raised a red flag about its continued use, at least in the western United States.

Foliar spraying is effective on established populations of musk thistle. Apply a 2 percent solution of glyphosate (Roundup) or triclopyr (Garlon) and water plus a 0.5 percent nonionic surfactant wetting all leaves and stems. Chlorpyralid (Transline) is effective at a concentration of 0.5 percent and is selective to Aster, Buckwheat, and Pea families. A low pressure and coarse spray pattern will limit drift and damage to nontarget species. Treatments should be applied during the rosette stage or prior to flowering. Glyphosate is a non-selective systemic herbicide that can kill nontarget plants that are only partially contacted by spray. Triclopyr is selective to broadleaf species and is a better choice if native grasses are present.

Phragmites

Excerpts from the Illinois Nature Preserves Commission Vegetation Management Guideline 200), http://www.inhs.uiuc.edu/edu/VMG/VMG.html

Common reed thrives in sunny wetland habitats. It grows along drier borders and elevated areas of brackish and freshwater marshes and along riverbanks and lakeshores. The species is particularly prevalent in disturbed or polluted soils found along roadsides, ditches, and dredged areas. Common reed has become a destructive weed, quickly displacing desirable plants species such as wild

rice, cattails, and native plants. Invasive stands of common reed eliminate diverse wetland plant communities, and provide little food or shelter for wildlife.

Once established, common reed is very difficult to completely eradicate. However, careful planning and long-term management can yield varying levels of control. Herbicide use in combination with burning has generally proven to be the most effective means of control, and results in minimal disturbance to wetlands. Only a biodegradable herbicide that is licensed for use in wetlands and is nontoxic to animals can be used. Because a healthy wetland ecosystem is generally resistant to invasive species, long-term control of common reed depends on restoration of the health of the ecosystem.

Illinois Listed Noxious Weeds

The native plant, Common Ragweed, and the introduced Musk Thistle are listed Illinois noxious weeds (1994). The control measures for Ragweed and Wild Carrot (also know as Queen Anne's Lace) on natural areas were not available, but are likely to be similar to those recommended for other invasive plants.

4 Soils

Methods

The soils data were collected on the grid points as described earlier. The field-work was completed in May and June of 2002. Of the 271 sites, several were in cropland where the flags had been removed for cultivation or were never placed knowing that they would be removed. Where there were no flags, a Rockwell PLUGGER was used to locate the site. At each site, a certified soil classifier employed by the Natural Resource Conservation Service completed a detailed description of the soil to a depth of 60 inches. The samples were collected using a Giddings probe and 2-inch diameter tube or a 1-inch diameter hand-driven probe. Where the site was not accessible by truck, the hand probe was used. Primary point of contact for this protocol and these data is Jerry Berning jerry.berning@il.usda.gov.

The Field Book for Describing and Sampling Soils, Version 1.1 was used to describe the color, texture, structure, consistence, pH, and horizon boundaries. Hellige Reagent N Triplex Indicator was used to determine soil pH in the field. After the soil was described in the field, soil classifiers classified the soils to the series level when the soil characteristics fell within the range of characteristics of a defined soil series. Where the soil characteristics were not within the range of a soil series, the series most closely resembling the soil characteristics was assigned noting the soil characteristic that was outside the series range. Official soil series descriptions can be found at: http://ortho.ftw.nrcs.usda.gov/osd/osd.html. The soils field data can be found in Appendix E.

Common Soil Series

The two most common soil series on the site were Schuline and Lenzburg.

Soil Series or land type	Percent of the site
BIRDS	5.7
OCONEE	0.5
HAUL ROAD	1.4
HICKORY	1.4
HOSMER	2.4
HURST	0.5
LENZBURG	17.2
LENZBURG (NON CALCAREOUS)	2.4
MARINE	1.9
MORRISTOWN	2.4
RIPRAP	0.5
SCHULINE	45.2
SCHULINE (NON CALCAREOUS)	8.6
STOY	4.3
SWANWICK	1.4
WAKELAND	3.8
WILBUR	0.5

pH Summary

The soil profile pH varied from 3.5 to 9.5 with an average of about 6.5.

pH value	Percent of the site
3.5 - 3.9	0.23
4.0 - 4.4	0.00
4.5 - 4.9	0.23
5.0 - 5.4	1.85
5.5 - 5.9	15.92
6.0 - 6.4	23.18
6.5 - 6.9	9.69
7.0 - 7.4	10.38
7.5 - 7.9	16.72
8.0 - 8.4	18.22
8.5 - 8.9	0.00
9.0 - 9.4	0.00
9.5 -9.9	0.12

References

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Field Book for Describing and Sampling Soils by National Soil Survey Center, NRCS, Soil Survey Division Staff under the leadership of P.J. Schoeneberger, D.A. Wysocki, E.C. Benham, and W.D. Broderson, 1998. Version 2.0 is available at http://soils.usda.gov/procedures/field_bk/main.htm

Illinois Nature Preserves Commission, 2002. *Vegetation Management Guideline* http://www.inhs.uiuc.edu/edu/VMG/VMG.html

Information about the high priority invasive species can be found at: http://www.invasivespecies.gov/profiles/main.shtml

Mclemore, B.F. 1981. "Evaluation of Chemicals for Controlling Japanese Honeysuckle." *Proc. South. Weed Sci. Soc.* 34:298-210.

National Park Service Integrated Pest Management Manual, 2002. http://www.nature.nps.gov/wv/ipm/manual.html

Official soil series descriptions can be found at: http://ortho.ftw.nrcs.usda.gov/osd/osd.html

Appendix A: Consolidated Species List

Species	Scientific Name	Number of Sites	Control Recommended
Ag. Field	*NA*	10	
Agrimony	*Agrimonia sp.*	2	
Alfalfa	*Medicago sativa*	5	
American Elm	*Ulmus americana*	10	
Ash	*Fraxinus sp.*	1	
Aster	*Aster sp.*	15	
Autumn Olive	*Elaeagnus umbellata*	7	Yes_1
Bare Ground	*NA*	27	
Barley	*Hordeum vulgare*	1	
Bedstraw	*Galium sp.*	2	
Bitternut Hickory	*Carya cordiformis*	2	
Black Raspberry	*Rubus occidentalis*	1	
Black Snakeroot	*Sanicula marilandica*	8	
Blackberry	*Rubus allegheniensis*	1	
Blue Vervain	*Verbena hastata*	4	
Blue-Eyed Mary	*Collinsia verna*	5	
Box Elder	*Acer negundo*	11	
Broomsedge	*Andropogon virginicus*	10	
Bush Honeysuckle	*Lonicera sp.*	2	Yes_1
Buttercup	*Ranunculus sp.*	2	
Butterweed	*Senecio aureus*	2	
Canada Wild Rye	*Elymus canadensis*	2	
Canada Wild Rye	*Elymus cnandensis*	1	
Catbrier	*Smilax sp.*	2	
Chickweed	*Stellaria sp.*	10	
Cleavers	*Galium aparine*	5	
Common Milkweed	*Asclepias syriaca*	7	
Common Ragweed	*Ambrosia artemisiifolia*	3	Yes_3
Coralberry	*Symphoricarpos orbiculatus*	5	
Curled Dock	*Rumex crispus*	6	
Dogwood Shrub	*Cornus sp.*	2	
Downy Brome	*Bromus tectorum*	1	
Dwarf Larkspur	*Delphinium tricorne*	1	
Eastern Red Cedar	*Juniperus virginiana*	2	
Exposed leaf litter	*NA*	1	
Fescue	*Festuca arundinacea*	74	

Species	Scientific Name	Number of Sites	Control Recommended
Flowering Dogwood	*Cornus florida*	1	
Fox Sedge	*Carex vulpinoidea*	15	
Foxglove Beardtongue	*Penstemon digitalis*	1	
Foxtail	*Setaria sp.*	1	
Goldenrod	*Solidago sp.*	58	
Grapevine	*Vitis sp.*	8	
Gravel	*NA*	2	
Green Ash	*Fraxinus pennsylvanica*	8	
Green Bulrush	*Scirpus atrovirens*	1	
Hackberry	*Celtis occidentalis*	7	
Hawthorn	*Crataegus sp.*	1	
Henbit	*Lamium amplexicaule*	2	
Honewort	*Cryptotaenia canadensis*	3	
Honey Locust	*Gleditsia triacanthos*	10	
Horseweed	*Erigeron canadensis*	4	
Indian Hemp	*Apocynum cannabinum*	1	
Japanese Honeysuckle	*Lonicera japonica*	3	Yes[1]
Jewelweed	*Impatiens capensis*	5	
Jimsonweed	*Datura stramonium*	1	
Kentucky Bluegrass	*Poa pratensis*	11	
Korean Lespedeza	*Lespedeza stipulacea*	1	
Ladino Clover	*Trifolium repens latum*	4	
Late-Flowering Thoroughwort	*Eupatorium serotinum*	6	
Late-Flowering Thouroughwort	*Eupatorium serotinum*	1	
Lespedeza	*Lespedeza sp.*	7	
May Apple	*Podophyllum peltatum*	3	
Mixed Weeds	*NA*	2	
Moneywort	*Lysimachia nummularia*	1	Yes[1]
Multiflora Rose	*Rosa multiflora*	3	Yes[1,2]
Musk Thistle	*Carduus nutans*	5	Yes[2,3]
Narrow-leaved Cattail	*Typha angustifolia*	1	
Oats	*Avena sativa*	9	
Orchardgrass	*Dactylis glomerata*	41	
Panicgrass	*Dicanthelium sp.*	1	
Pennsylvania Bittercress	*Cardamine pensylvanica*	1	
Perennial Rye	*Lolium perenne*	4	
Persimmon	*Diospyros virginiana*	1	
Phlox	*Phlox sp.*	4	
Phragmites	*Phragmites australis*	1	Yes[2]
Pigweed	*Amaranthus sp.*	4	
Pin Oak	*Quercus palustris*	3	
Poison Ivy	*Rhus radicans*	13	
Pokeweed	*Phytolacca americana*	2	
Prickly Brambles	*Rubus sp.*	3	
Red Clover	*Trifolium pratense*	17	

Species	Scientific Name	Number of Sites	Control Recommended
Red Trillium	*Trillium erectum*	1	
Residue Covered Ground	*NA*	51	
Residue Covered Ground and Bare Ground	*NA*	10	
Rip-Rap	*NA*	1	
River Birch	*Betula nigra*	1	
Rush	*Juncus sp.*	8	
Sedge	*Carex sp.*	9	
Sericea	*Sericea lespedeza*	1	
Shellbark Hickory	*Carya laciniosa*	5	
Shepard's-purse	*Capsella bursa-pastoris*	1	
Silver Maple	*Acer saccharinum*	4	
Slender Rush	*Juncus sp.*	1	
Smartweed	*Polygonum pensylvanicum*	4	
Smooth Brome	*Bromus inermus*	91	
Solomon's Seal	*Smilacina sp.*	2	
Soybeans	*Glycine max*	5	
Spring Beauty	*Claytonia virginica*	5	
St. John's Wort	*Hypericum sp.*	1	
Stinging Nettle	*Urtica dioica*	6	
Stout Woodreed	*Cinna arundinacea*	2	
Sugarberry	*Celtis laevigata*	4	
Sumac	*Rhus sp.*	2	
Swamp White Oak	*Quercus bicolor*	2	
Sweet Cicely	*Osmorhiza longistylis*	7	
Sweet Clover	*Melilotus sp.*	3	Yes[1]
Sweet White Clover	*Melilotus alba*	3	
Sweet William	*Phlox maculata*	2	
Sweet Yellow Clover	*Melilotus officinalis*	11	Yes[1]
Sycamore	*Platanus occidentalis*	2	
Timothy	*Phleum pratense*	5	
Trout Lily	*Erythronium americanum*	1	
Trumpet Creeper	*Campsis radicans*	9	
Tumble mustard	*Sisymbrium altissimum*	1	
Virginia Bluebell	*Mertensia virginica*	2	
Virginia Creeper	*Parthenosensis quinqifolia*	3	
Virginia Wild Rye	*Elymus virginicus*	13	
Wet bare ground	*NA*	1	
Wheat	*Triticum aestivum*	5	
White Clover	*Trifolium repens*	6	
Wild Carrot	*Daucus carota*	4	Yes[2]
Wild Geranium	*Geranium maculatum*	2	
Wild Onion	*Allium canadense*	8	
Willow	*Salix sp.*	1	
Winter Wheat	*Triticum aestivum*	2	

Species	Scientific Name	Number of Sites	Control Recommended
Wood-Sorrel	*Oxalis sp.*	2	
Woolgrass	*Scirpus cyperinus*	1	
Yarrow	*Achillea millefolium*	7	
Yellow Violet	*Viola pensylvanica*	7	

1. Recommended for control by the Illinois Nature Preserves Commission, 2002. Vegetation Management Guide [online] http://www.inhs.uiuc.edu/edu/VMG/VMG.html

2. High priority invasive plant species for DoD. [online] http://www.invasivespecies.gov/profiles/main.shtml

3. Bureau of Environmental Programs. 1994. Illinois Noxious Weed Law and Rules. Illinois Department of Agriculture. [online] http://plants.usda.gov/cgi_bin/state_noxious.cgi?statefips=17

Appendix B: Vegetation Field Data

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
7	Goldenrod	*Solidago sp.*	70	H
7	Sweet White Clover	*Melilotus alba*	20	H
7	Canada Wild Rye	*Elymus cnandensis*	10	H
7	Green Ash	*Fraxinus pennsylvanica*	60	S
8	Fescue	*Festuca arundinacea*	85	H
8	Timothy	*Phleum pratense*	5	H
8	Goldenrod	*Solidago sp.*	10	H
8	Honey Locust	*Gleditsia triacanthos*	70	S
9	Orchardgrass	*Dactylis glomerata*	70	H
9	Agrimony	*Agrimonia sp.*	20	H
9	Goldenrod	*Solidago sp.*	10	H
9	Coralberry	*Symphoricarpos orbiculatus*	10	S
9	Box Elder	*Acer negundo*	5	S
9	Ash	*Fraxinus sp.*	50	S
10	Smooth Brome	*Bromus inermus*	90	H
10	Smartweed	*Polygonum pensylvanicum*	5	H
10	Wild Onion	*Allium canadense*	5	H
18	Fescue	*Festuca arundinacea*	70	H
18	Sweet Yellow Clover	*Melilotus officinalis*	20	H
18	Goldenrod	*Solidago sp.*	10	H
19	Japanese Honeysuckle	*Lonicera japonica*	60	V
19	Goldenrod	*Solidago sp.*	30	H
19	Trumpet Creeper	*Campsis radicans*	30	H
19	Indian Hemp	*Apocynum cannabinum*	20	H
19	Blue Vervain	*Verbena hastata*	20	H
19	Box Elder	*Acer negundo*	10	S
19	Green Ash	*Fraxinus pennsylvanica*	10	S
19	Autumn Olive	*Elaeagnus umbellata*	70	S
19	American Elm	*Ulmus americana*	10	S
20	Blue-Eyed Mary	*Collinsia verna*	35	H

Data collected in May and June 2002. H=herbaceous, S=shrub, V=vine and G=ground. Plots were centered on the points. Plots containing shrubs or vines may add up to more than 100% cover (visually estimated) due to the presence of both herbaceous and shrub canopies.

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
20	Sweet Cicely	*Osmorhiza longistylis*	45	H
20	Virginia Wild Rye	*Elymus virginicus*	15	H
20	Henbit	*Lamium amplexicaule*	3	H
20	Chickweed	*Stellaria sp.*	2	H
20	Coralberry	*Symphoricarpos orbiculatus*	3	S
20	Box Elder	*Acer negundo*	10	S
20	Shellbark Hickory	*Carya laciniosa*	10	S
20	Pin Oak	*Quercus palustris*	5	S
20	Grapevine	*Vitis sp.*	2	V
26	Smooth Brome	*Bromus inermus*	85	H
26	Residue Covered Ground	*NA*	15	G
28	Sweet Cicely	*Osmorhiza longistylis*	70	H
28	Virginia Wild Rye	*Elymus virginicus*	35	H
28	Virginia Bluebell	*Mertensia virginica*	5	H
28	Bedstraw	*Galium sp.*	25	H
28	Grapevine	*Vitis sp.*	2	V
28	Blue-Eyed Mary	*Collinsia verna*	5	H
28	Yellow Violet	*Viola pensylvanica*	5	H
28	Swamp White Oak	*Quercus bicolor*	2	S
28	Poison Ivy	*Rhus radicans*	5	H
28	Hackberry	*Celtis occidentalis*	2	S
28	Coralberry	*Symphoricarpos orbiculatus*	1	S
29	Virginia Wild Rye	*Elymus virginicus*	50	H
29	Stout Woodreed	*Cinna arundinacea*	20	H
29	Solomon's Seal	*Smilacina sp.*	2	H
29	Sweet Cicely	*Osmorhiza longistylis*	10	H
29	Spring Beauty	*Claytonia virginica*	25	H
29	Phlox	*Phlox sp.*	5	H
29	Poison Ivy	*Rhus radicans*	5	H
29	Poison Ivy	*Rhus radicans*	2	V
29	Trumpet Creeper	*Campsis radicans*	2	V
29	Black Raspberry	*Rubus occidentalis*	2	S
29	Coralberry	*Symphoricarpos orbiculatus*	5	S
29	Shellbark Hickory	*Carya laciniosa*	2	S
29	Hackberry	*Celtis occidentalis*	5	S
29	Dwarf Larkspur	*Delphinium tricorne*	2	H
29	Yellow Violet	*Viola pensylvanica*	5	H
30	Soybeans	*Glycine max*	100	H
31	Ag. Field	*NA*	100	H
32	Ag. Field	*NA*	100	H
35	Smooth Brome	*Bromus inermus*	85	H
35	Sweet White Clover	*Melilotus alba*	5	H
35	Goldenrod	*Solidago sp.*	5	H
35	Yarrow	*Achillea millefolium*	5	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
36	Smooth Brome	*Bromus inermus*	100	H
36	Honey Locust	*Gleditsia triacanthos*	30	S
39	Rush	*Juncus sp.*	40	H
39	Fox Sedge	*Carex vulpinoidea*	25	H
39	Smartweed	*Polygonum pensylvanicum*	5	H
39	Late-Flowering Thoroughwort	*Eupatorium serotinum*	5	H
39	Goldenrod	*Solidago sp.*	25	H
39	Green Ash	*Fraxinus pennsylvanica*	20	S
39	Silver Maple	*Acer saccharinum*	5	S
40	Sweet Cicely	*Osmorhiza longistylis*	60	H
40	Black Snakeroot	*Sanicula marilandica*	40	H
40	Spring Beauty	*Claytonia virginica*	20	H
40	Virginia Wild Rye	*Elymus virginicus*	20	H
40	Yellow Violet	*Viola pensylvanica*	10	H
40	Blue-Eyed Mary	*Collinsia verna*	2	H
40	Poison Ivy	*Rhus radicans*	1	H
40	Bitternut Hickory	*Carya cordiformis*	2	S
40	Shellbark Hickory	*Carya laciniosa*	2	S
40	Hawthorn	*Crataegus sp.*	2	S
40	Hackberry	*Celtis occidentalis*	2	S
40	Grapevine	*Vitis sp.*	1	V
40	May Apple	*Podophyllum peltatum*	1	H
41	Aster	*Aster sp.*	10	H
41	Goldenrod	*Solidago sp.*	10	H
41	Broomsedge	*Andropogon virginicus*	10	H
41	Trumpet Creeper	*Campsis radicans*	10	H
41	Bare Ground	*NA*	60	G
42	Goldenrod	*Solidago sp.*	30	H
42	Sedge	*Carex sp.*	60	H
42	Wild Onion	*Allium canadense*	10	H
42	Sycamore	*Platanus occidentalis*	80	S
42	Box Elder	*Acer negundo*	10	S
42	Persimmon	*Diospyros virginiana*	10	S
43	Soybeans	*Glycine max*	15	H
43	Wild Onion	*Allium canadense*	10	H
43	Wheat	*Triticum aestivum*	10	H
43	Bare Ground	*NA*	65	G
44	Soybeans	*Glycine max*	15	H
44	Wild Onion	*Allium canadense*	10	H
44	Wheat	*Triticum aestivum*	10	H
44	Bare Ground	*NA*	65	G
45	Soybeans	*Glycine max*	15	H
45	Wild Onion	*Allium canadense*	10	H
45	Wheat	*Triticum aestivum*	10	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
45	Bare Ground	*NA*	65	G
46	Smooth Brome	*Bromus inermus*	70	H
46	Broomsedge	*Andropogon virginicus*	10	H
46	Late-Flowering Thoroughwort	*Eupatorium serotinum*	10	H
46	Goldenrod	*Solidago sp.*	5	H
47	Narrow-leaved Cattail	*Typha angustifolia*	25	H
47	Slender Rush	*Juncus sp.*	50	H
47	Fox Sedge	*Carex vulpinoidea*	20	H
47	Broomsedge	*Andropogon virginicus*	5	H
48	Smooth Brome	*Bromus inermus*	90	H
48	Goldenrod	*Solidago sp.*	10	H
49	Smooth Brome	*Bromus inermus*	94	H
49	Common Milkweed	*Asclepias syriaca*	5	H
49	Yarrow	*Achillea millefolium*	1	H
51	Goldenrod	*Solidago sp.*	30	H
51	Sericea	*Sericea lespedeza*	65	H
51	Curled Dock	*Rumex crispus*	2	H
51	Fox Sedge	*Carex vulpinoidea*	3	H
51	Sycamore	*Platanus occidentalis*	5	S
51	American Elm	*Ulmus americana*	2	S
53	Oats	*Avena sativa*	80	H
53	Ladino Clover	*Trifolium repens latum*	20	H
53	Green Ash	*Fraxinus pennsylvanica*	20	S
53	Pin Oak	*Quercus palustris*	5	S
53	Box Elder	*Acer negundo*	5	S
55	Oats	*Avena sativa*	50	H
55	Goldenrod	*Solidago sp.*	50	H
56	Soybeans	*Glycine max*	15	H
56	Bare Ground	*NA*	85	G
57	Smooth Brome	*Bromus inermus*	100	H
58	Wild Carrot	*Daucus carota*	65	H
58	Canada Wild Rye	*Elymus canadensis*	20	H
58	Common Milkweed	*Asclepias syriaca*	5	H
58	Rip-Rap	*NA*	10	G
62	Virginia Wild Rye	*Elymus virginicus*	75	H
62	Black Snakeroot	*Sanicula marilandica*	15	H
62	Blue-Eyed Mary	*Collinsia verna*	5	H
62	Phlox	*Phlox sp.*	2	H
62	Chickweed	*Stellaria sp.*	2	H
62	Virginia Bluebell	*Mertensia virginica*	2	H
62	Spring Beauty	*Claytonia virginica*	1	H
62	American Elm	*Ulmus americana*	2	S
62	Sugarberry	*Celtis laevigata*	5	S
62	Shellbark Hickory	*Carya laciniosa*	5	S

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
62	Swamp White Oak	*Quercus bicolor*	1	S
62	Poison Ivy	*Rhus radicans*	1	V
62	Sweet Cicely	*Osmorhiza longistylis*	5	H
62	Cleavers	*Galium aparine*	5	H
62	Coralberry	*Symphoricarpos orbiculatus*	5	S
63	Fescue	*Festuca arundinacea*	70	H
63	Smooth Brome	*Bromus inermus*	20	H
63	Residue Covered Ground	*NA*	10	G
64	Red Clover	*Trifolium pratense*	65	H
64	Fescue	*Festuca arundinacea*	25	H
64	Residue Covered Ground	*NA*	10	G
67	Smooth Brome	*Bromus inermus*	85	H
67	Musk Thistle	*Carduus nutans*	5	H
67	Sweet Clover	*Melilotus sp.*	10	H
68	Fescue	*Festuca arundinacea*	95	H
68	Goldenrod	*Solidago sp.*	5	H
69	Smooth Brome	*Bromus inermus*	95	H
69	Musk Thistle	*Carduus nutans*	5	H
69	Honey Locust	*Gleditsia triacanthos*	85	S
72	Oats	*Avena sativa*	30	H
72	Goldenrod	*Solidago sp.*	70	H
72	Green Ash	*Fraxinus pennsylvanica*	5	S
72	American Elm	*Ulmus americana*	2	S
72	Honey Locust	*Gleditsia triacanthos*	5	S
73	Fescue	*Festuca arundinacea*	100	H
74	Fescue	*Festuca arundinacea*	88	H
74	Timothy	*Phleum pratense*	2	H
74	Residue Covered Ground	*NA*	10	G
75	Fescue	*Festuca arundinacea*	80	H
75	Red Clover	*Trifolium pratense*	10	H
75	Smooth Brome	*Bromus inermus*	10	H
77	Orchardgrass	*Dactylis glomerata*	45	H
77	Goldenrod	*Solidago sp.*	30	H
77	Smooth Brome	*Bromus inermus*	10	H
77	Residue Covered Ground	*NA*	15	G
77	Eastern Red Cedar	*Juniperus virginiana*	5	S
77	Dogwood Shrub	*Cornus sp.*	5	S
78	Ag. Field	*NA*	100	NA
79	Ag. Field	*NA*	100	NA
82	Goldenrod	*Solidago sp.*	75	H
82	Red Clover	*Trifolium pratense*	20	H
82	Sweet White Clover	*Melilotus alba*	5	H
84	Green Ash	*Fraxinus pennsylvanica*	20	S
84	Box Elder	*Acer negundo*	20	S

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
84	Silver Maple	*Acer saccharinum*	20	S
84	American Elm	*Ulmus americana*	20	S
84	Prickly Brambles	*Rubus sp.*	10	S
84	Japanese Honeysuckle	*Lonicera japonica*	30	V
84	Grapevine	*Vitis sp.*	10	V
84	Trumpet Creeper	*Campsis radicans*	20	H
84	Fox Sedge	*Carex vulpinoidea*	10	H
84	Sedge	*Carex sp.*	20	H
84	Poison Ivy	*Rhus radicans*	10	H
84	Common Ragweed	*Ambrosia artemisiifolia*	10	H
84	Canada Wild Rye	*Elymus canadensis*	10	H
84	Rush	*Juncus sp.*	10	H
84	Smartweed	*Polygonum pensylvanicum*	10	H
85	Fescue	*Festuca arundinacea*	70	H
85	Curled Dock	*Rumex crispus*	5	H
85	Sweet Yellow Clover	*Melilotus officinalis*	20	H
85	Smooth Brome	*Bromus inermus*	5	H
86	Fescue	*Festuca arundinacea*	80	H
86	Smooth Brome	*Bromus inermus*	10	H
86	Residue Covered Ground	*NA*	10	G
87	Fescue	*Festuca arundinacea*	60	H
87	White Clover	*Trifolium repens*	10	H
87	Residue Covered Ground	*NA*	30	G
88	Fescue	*Festuca arundinacea*	60	H
88	Orchardgrass	*Dactylis glomerata*	5	H
88	Smooth Brome	*Bromus inermus*	10	H
88	Residue Covered Ground	*NA*	25	G
89	Smooth Brome	*Bromus inermus*	70	H
89	Orchardgrass	*Dactylis glomerata*	10	H
89	Fescue	*Festuca arundinacea*	10	H
89	Goldenrod	*Solidago sp.*	10	H
89	American Elm	*Ulmus americana*	5	S
89	Dogwood Shrub	*Cornus sp.*	10	S
90	Ag. Field	*NA*	100	NA
91	Ag. Field	*NA*	100	NA
92	Fescue	*Festuca arundinacea*	80	H
92	Goldenrod	*Solidago sp.*	10	H
92	Orchardgrass	*Dactylis glomerata*	10	H
92	Sumac	*Rhus sp.*	20	S
92	Willow	*Salix sp.*	60	T
92	Grapevine	*Vitis sp.*	5	V
93	Black Snakeroot	*Sanicula marilandica*	40	H
93	Virginia Wild Rye	*Elymus virginicus*	10	H
93	Virginia Creeper	*Parthenosensis quinqifolia*	5	H/V

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
93	Yellow Violet	*Viola pensylvanica*	5	H
93	Phlox	*Phlox sp.*	2	H
93	Jewelweed	*Impatiens capensis*	2	H
93	Pennsylvania Bittercress	*Cardamine pensylvanica*	1	H
93	Catbrier	*Smilax sp.*	1	V
93	Trumpet Creeper	*Campsis radicans*	10	V
93	Shellbark Hickory	*Carya laciniosa*	10	S
93	Sugarberry	*Celtis laevigata*	10	S
93	May Apple	*Podophyllum peltatum*	2	H
93	Red Trillium	*Trillium erectum*	2	H
93	Solomon's Seal	*Smilacina sp.*	1	H
93	Poison Ivy	*Rhus radicans*	5	H
93	Honewort	*Cryptotaenia canadensis*	2	H
93	Grapevine	*Vitis sp.*	1	V
93	Trout Lily	*Erythronium americanum*	1	H
95	Fescue	*Festuca arundinacea*	100	H
96	Goldenrod	*Solidago sp.*	20	H
96	Sweet Yellow Clover	*Melilotus officinalis*	20	H
96	Orchardgrass	*Dactylis glomerata*	40	H
96	Smooth Brome	*Bromus inermus*	20	H
97	Fescue	*Festuca arundinacea*	100	H
101	Fescue	*Festuca arundinacea*	20	H
101	Orchardgrass	*Dactylis glomerata*	60	H
101	Bare Ground	*NA*	20	G
102	Ag. Field	*NA*	100	NA
103	Ag. Field	*NA*	100	NA
104	Sweet Cicely	*Osmorhiza longistylis*	10	H
104	Virginia Wild Rye	*Elymus virginicus*	30	H
104	Cleavers	*Galium aparine*	10	H
104	Black Snakeroot	*Sanicula marilandica*	5	H
104	Honewort	*Cryptotaenia canadensis*	5	H
104	Stinging Nettle	*Urtica dioica*	1	H
104	Trumpet Creeper	*Campsis radicans*	5	V
104	Bitternut Hickory	*Carya cordiformis*	2	S
104	American Elm	*Ulmus americana*	5	S
104	Silver Maple	*Acer saccharinum*	5	S
104	Box Elder	*Acer negundo*	5	S
106	Fescue	*Festuca arundinacea*	75	H
106	Fox Sedge	*Carex vulpinoidea*	20	H
106	Rush	*Juncus sp.*	5	H
107	Fescue	*Festuca arundinacea*	90	H
107	Smooth Brome	*Bromus inermus*	10	H
108	Fescue	*Festuca arundinacea*	50	H
108	Orchardgrass	*Dactylis glomerata*	30	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
108	Smooth Brome	*Bromus inermus*	20	H
110	Fescue	*Festuca arundinacea*	80	H
110	Residue Covered Ground	*NA*	20	G
111	Smooth Brome	*Bromus inermus*	90	H
111	Residue Covered Ground	*NA*	10	G
112	Smooth Brome	*Bromus inermus*	70	H
112	Orchardgrass	*Dactylis glomerata*	30	H
113	Smooth Brome	*Bromus inermus*	70	H
113	Goldenrod	*Solidago sp.*	20	H
113	Prickly Brambles	*Rubus sp.*	1	H
113	Residue Covered Ground	*NA*	9	G
114	Ag. Field	*NA*	100	NA
115	Ag. Field	*NA*	100	NA
116	Black Snakeroot	*Sanicula marilandica*	30	H
116	Stinging Nettle	*Urtica dioica*	20	H
116	Virginia Wild Rye	*Elymus virginicus*	5	H
116	Buttercup	*Ranunculus sp.*	2	H
116	Jewelweed	*Impatiens capensis*	10	H
116	Catbrier	*Smilax sp.*	2	H
116	Box Elder	*Acer negundo*	2	S
116	Pin Oak	*Quercus palustris*	2	S
116	Spring Beauty	*Claytonia virginica*	10	H
116	Yellow Violet	*Viola pensylvanica*	1	H
116	Poison Ivy	*Rhus radicans*	5	H
116	Bedstraw	*Galium sp.*	10	H
116	Sugarberry	*Celtis laevigata*	2	S
116	Multiflora Rose	*Rosa multiflora*	1	S
116	Chickweed	*Stellaria sp.*	2	H
116	Sweet Cicely	*Osmorhiza longistylis*	10	H
117	Smooth Brome	*Bromus inermus*	10	H
117	Fescue	*Festuca arundinacea*	70	H
117	White Clover	*Trifolium repens*	10	H
117	Late-Flowering Thoroughwort	*Eupatorium serotinum*	5	H
117	Curled Dock	*Rumex crispus*	5	H
118	Fescue	*Festuca arundinacea*	100	H
119	Fescue	*Festuca arundinacea*	90	H
119	Timothy	*Phleum pratense*	5	H
119	Fox Sedge	*Carex vulpinoidea*	5	H
121	Smooth Brome	*Bromus inermus*	85	H
121	Sweet Yellow Clover	*Melilotus officinalis*	5	H
121	Residue Covered Ground	*NA*	10	G
122	Fescue	*Festuca arundinacea*	60	H
122	Goldenrod	*Solidago sp.*	30	H
122	Residue Covered Ground	*NA*	10	G

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
123	Fescue	*Festuca arundinacea*	60	H
123	Goldenrod	*Solidago sp.*	30	H
123	Residue Covered Ground	*NA*	10	G
124	Fescue	*Festuca arundinacea*	85	H
124	Broomsedge	*Andropogon virginicus*	5	H
124	Goldenrod	*Solidago sp.*	10	H
125	Sedge	*Carex sp.*	20	H
125	Horseweed	*Erigeron canadensis*	5	H
125	Pigweed	*Amaranthus sp.*	10	H
125	Wild Onion	*Allium canadense*	2	H
125	Winter Wheat	*Triticum aestivum*	2	H
125	Late-Flowering Thoroughwort	*Eupatorium serotinum*	2	H
125	Residue Covered Ground and Bare Ground	*NA*	59	G
126	Sedge	*Carex sp.*	5	H
126	Horseweed	*Erigeron canadensis*	5	H
126	Butterweed	*Senecio aureus*	2	H
126	Pigweed	*Amaranthus sp.*	5	H
126	Buttercup	*Ranunculus sp.*	2	H
126	Residue Covered Ground and Bare Ground	*NA*	81	G
127	Chickweed	*Stellaria sp.*	70	H
127	Horseweed	*Erigeron canadensis*	5	H
127	Pokeweed	*Phytolacca americana*	5	H
127	Jimsonweed	*Datura stramonium*	2	H
127	Pigweed	*Amaranthus sp.*	5	H
127	Residue Covered Ground	*NA*	13	H
128	Virginia Wild Rye	*Elymus virginicus*	85	H
128	Honewort	*Cryptotaenia canadensis*	5	H
128	Black Snakeroot	*Sanicula marilandica*	10	H
128	Stinging Nettle	*Urtica dioica*	10	H
128	Phlox	*Phlox sp.*	2	H
128	Grapevine	*Vitis sp.*	2	V
128	American Elm	*Ulmus americana*	2	S
128	Sugarberry	*Celtis laevigata*	2	S
128	Virginia Creeper	*Parthenosensis quinqifolia*	1	V
128	Jewelweed	*Impatiens capensis*	2	H
128	Yellow Violet	*Viola pensylvanica*	2	H
128	Spring Beauty	*Claytonia virginica*	2	H
128	Blue-Eyed Mary	*Collinsia verna*	1	H
129	Fescue	*Festuca arundinacea*	60	H
129	Goldenrod	*Solidago sp.*	10	H
129	Bare Ground	*NA*	30	H
130	Smooth Brome	*Bromus inermus*	70	H
130	Residue Covered Ground	*NA*	30	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
131	Smooth Brome	*Bromus inermus*	60	H
131	Residue Covered Ground and Bare Ground	*NA*	40	H
133	Fescue	*Festuca arundinacea*	60	H
133	Goldenrod	*Solidago sp.*	10	H
133	Ladino Clover	*Trifolium repens latum*	10	H
133	Smooth Brome	*Bromus inermus*	5	H
133	Curled Dock	*Rumex crispus*	2	H
133	Bare Ground	*NA*	13	G
136	Fescue	*Festuca arundinacea*	90	H
136	Sweet Yellow Clover	*Melilotus officinalis*	5	H
136	Red Clover	*Trifolium pratense*	5	H
137	Sedge	*Carex sp.*	10	H
137	Pigweed	*Amaranthus sp.*	5	H
137	Horseweed	*Erigeron canadensis*	5	H
137	Butterweed	*Senecio aureus*	5	H
137	Aster	*Aster sp.*	5	H
137	Residue Covered Ground and Bare Ground	*NA*	70	G
138	Virginia Wild Rye	*Elymus virginicus*	70	H
138	Black Snakeroot	*Sanicula marilandica*	20	H
138	Cleavers	*Galium aparine*	5	H
138	Yellow Violet	*Viola pensylvanica*	2	H
138	Jewelweed	*Impatiens capensis*	5	H
138	Stinging Nettle	*Urtica dioica*	5	H
138	Sweet William	*Phlox maculata*	2	H
138	Hackberry	*Celtis occidentalis*	5	S
138	Box Elder	*Acer negundo*	2	S
139	Fescue	*Festuca arundinacea*	50	H
139	Sweet Yellow Clover	*Melilotus officinalis*	40	H
139	Bare Ground	*NA*	10	G
140	Smooth Brome	*Bromus inermus*	80	H
140	Aster	*Aster sp.*	1	H
140	Residue Covered Ground	*NA*	19	G
141	Smooth Brome	*Bromus inermus*	100	H
142	Smooth Brome	*Bromus inermus*	70	H
142	Orchardgrass	*Dactylis glomerata*	30	H
143	Smooth Brome	*Bromus inermus*	80	H
143	Orchardgrass	*Dactylis glomerata*	20	H
144	Kentucky Bluegrass	*Poa pratensis*	60	H
144	Fescue	*Festuca arundinacea*	10	H
144	Fox Sedge	*Carex vulpinoidea*	5	H
144	Red Clover	*Trifolium pratense*	1	H
144	Residue Covered Ground	*NA*	24	G
146	Fescue	*Festuca arundinacea*	95	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
146	Sweet Yellow Clover	*Melilotus officinalis*	5	H
148	Smooth Brome	*Bromus inermus*	90	H
148	Residue Covered Ground	*NA*	10	G
149	Smooth Brome	*Bromus inermus*	65	H
149	Goldenrod	*Solidago sp.*	10	H
149	Red Clover	*Trifolium pratense*	5	H
149	Residue Covered Ground	*NA*	20	G
150	Phragmites	*Phragmites australis*	100	H
151	Smooth Brome	*Bromus inermus*	50	H
151	Orchardgrass	*Dactylis glomerata*	50	H
152	Smooth Brome	*Bromus inermus*	75	H
152	Orchardgrass	*Dactylis glomerata*	10	H
152	White Clover	*Trifolium repens*	5	H
152	Residue Covered Ground	*NA*	10	G
153	Orchardgrass	*Dactylis glomerata*	90	H
153	Smooth Brome	*Bromus inermus*	10	H
154	Smooth Brome	*Bromus inermus*	50	H
154	Fescue	*Festuca arundinacea*	25	H
154	Green Bulrush	*Scirpus atrovirens*	10	H
154	Wet bare ground	*NA*	15	G
155	Smooth Brome	*Bromus inermus*	65	H
155	Orchardgrass	*Dactylis glomerata*	10	H
155	Alfalfa	*Medicago sativa*	15	H
155	Residue Covered Ground	*NA*	10	G
156	Fescue	*Festuca arundinacea*	45	H
156	Sweet Yellow Clover	*Melilotus officinalis*	15	H
156	Red Clover	*Trifolium pratense*	30	H
156	Goldenrod	*Solidago sp.*	10	H
157	Sweet Yellow Clover	*Melilotus officinalis*	30	H
157	Fescue	*Festuca arundinacea*	5	H
157	Goldenrod	*Solidago sp.*	5	H
157	Bare Ground	*NA*	60	G
158	Barley	*Hordeum vulgare*	5	H
158	Gravel	*NA*	95	G
159	Sweet Yellow Clover	*Melilotus officinalis*	75	H
159	Red Clover	*Trifolium pratense*	5	H
159	Smooth Brome	*Bromus inermus*	10	H
159	Fescue	*Festuca arundinacea*	5	H
159	Gravel	*NA*	5	G
160	Smooth Brome	*Bromus inermus*	85	H
160	Residue Covered Ground	*NA*	15	G
161	Smooth Brome	*Bromus inermus*	80	H
161	Orchardgrass	*Dactylis glomerata*	20	H
162	Smooth Brome	*Bromus inermus*	40	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
162	Broomsedge	*Andropogon virginicus*	20	H
162	Goldenrod	*Solidago sp.*	35	H
162	Panicgrass	*Dicanthelium sp.*	5	H
162	Prickly Brambles	*Rubus sp.*	2	H
162	Trumpet Creeper	*Campsis radicans*	2	H
162	Sedge	*Carex sp.*	1	H
163	Broomsedge	*Andropogon virginicus*	30	H
163	Smooth Brome	*Bromus inermus*	60	H
163	Common Milkweed	*Asclepias syriaca*	2	H
163	Goldenrod	*Solidago sp.*	3	H
163	Musk Thistle	*Carduus nutans*	5	H
164	Smooth Brome	*Bromus inermus*	80	H
164	Residue Covered Ground	*NA*	20	G
165	Orchardgrass	*Dactylis glomerata*	35	H
165	Fescue	*Festuca arundinacea*	20	H
165	Ladino Clover	*Trifolium repens latum*	10	H
165	Red Clover	*Trifolium pratense*	5	H
165	Aster	*Aster sp.*	2	H
165	Bare Ground	*NA*	28	G
166	Stinging Nettle	*Urtica dioica*	25	H
166	Black Snakeroot	*Sanicula marilandica*	20	H
166	May Apple	*Podophyllum peltatum*	10	H
166	Hackberry	*Celtis occidentalis*	5	S
166	Grapevine	*Vitis sp.*	1	V
166	Poison Ivy	*Rhus radicans*	2	H
166	Stout Woodreed	*Cinna arundinacea*	2	H
166	Bare Ground	*NA*	35	G
167	Virginia Wild Rye	*Elymus virginicus*	10	H
167	Stinging Nettle	*Urtica dioica*	10	H
167	Cleavers	*Galium aparine*	5	H
167	Moneywort	*Lysimachia nummularia*	5	H
167	Box Elder	*Acer negundo*	2	S
167	Silver Maple	*Acer saccharinum*	5	S
167	Poison Ivy	*Rhus radicans*	2	H
167	Bare Ground	*NA*	61	G
168	Virginia Wild Rye	*Elymus virginicus*	20	H
168	Chickweed	*Stellaria sp.*	20	H
168	Henbit	*Lamium amplexicaule*	15	H
168	Sweet William	*Phlox maculata*	5	H
168	Tumble mustard	*Sisymbrium altissimum*	2	H
168	Box Elder	*Acer negundo*	5	S
168	River Birch	*Betula nigra*	5	S
168	Poison Ivy	*Rhus radicans*	2	V
168	Green Ash	*Fraxinus pennsylvanica*	2	S

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
168	Hackberry	*Celtis occidentalis*	1	S
168	Bare Ground	*NA*	23	G
169	Wheat	*Triticum aestivum*	7	H
169	Goldenrod	*Solidago sp.*	5	H
169	Oats	*Avena sativa*	1	H
169	Fescue	*Festuca arundinacea*	2	H
169	Bare Ground	*NA*	85	G
170	Honey Locust	*Gleditsia triacanthos*	60	H/S
170	American Elm	*Ulmus americana*	35	H/S
170	Virginia Wild Rye	*Elymus virginicus*	40	H
170	Pokeweed	*Phytolacca americana*	5	H
170	Poison Ivy	*Rhus radicans*	10	H
170	Virginia Creeper	*Parthenosensis quinqifolia*	5	H
170	Jewelweed	*Impatiens capensis*	5	H
171	Smooth Brome	*Bromus inermus*	90	H
171	Fescue	*Festuca arundinacea*	5	H
171	Aster	*Aster sp.*	5	H
172	Smooth Brome	*Bromus inermus*	60	H
172	Rush	*Juncus sp.*	5	H
172	Orchardgrass	*Dactylis glomerata*	2	H
172	Blue Vervain	*Verbena hastata*	5	H
172	Fescue	*Festuca arundinacea*	3	H
172	Residue Covered Ground and Bare Ground	*NA*	25	G
173	Smooth Brome	*Bromus inermus*	75	H
173	Orchardgrass	*Dactylis glomerata*	2	H
173	Residue Covered Ground	*NA*	23	G
174	Smooth Brome	*Bromus inermus*	65	H
174	Aster	*Aster sp.*	5	H
174	Residue Covered Ground and Bare Ground	*NA*	30	G
175	Smooth Brome	*Bromus inermus*	85	H
175	Orchardgrass	*Dactylis glomerata*	5	H
175	Trumpet Creeper	*Campsis radicans*	10	H
176	Smooth Brome	*Bromus inermus*	70	H
176	Orchardgrass	*Dactylis glomerata*	10	H
176	Oats	*Avena sativa*	10	H
176	Residue Covered Ground	*NA*	10	G
177	Smooth Brome	*Bromus inermus*	55	H
177	Residue Covered Ground	*NA*	45	G
178	Fescue	*Festuca arundinacea*	70	H
178	Alfalfa	*Medicago sativa*	15	H
178	Orchardgrass	*Dactylis glomerata*	5	H
178	Aster	*Aster sp.*	2	H
178	Bare Ground	*NA*	8	G

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
179	Winter Wheat	*Triticum aestivum*	100	H
180	Goldenrod	*Solidago sp.*	40	H
180	Wheat	*Triticum aestivum*	50	H
180	Wild Carrot	*Daucus carota*	10	H
181	Fescue	*Festuca arundinacea*	100	H
183	White Clover	*Trifolium repens*	75	H
183	Sweet Yellow Clover	*Melilotus officinalis*	8	H
183	Aster	*Aster sp.*	5	H
183	Smooth Brome	*Bromus inermus*	5	H
183	Goldenrod	*Solidago sp.*	5	H
183	Common Milkweed	*Asclepias syriaca*	2	H
184	Smooth Brome	*Bromus inermus*	100	H
185	Smooth Brome	*Bromus inermus*	70	H
185	Rush	*Juncus sp.*	1	H
185	Late-Flowering Thouroughwort	*Eupatorium serotinum*	2	H
185	Chickweed	*Stellaria sp.*	2	H
185	Residue Covered Ground and Bare Ground	*NA*	25	G
186	Smooth Brome	*Bromus inermus*	90	H
186	Residue Covered Ground	*NA*	10	G
187	Fescue	*Festuca arundinacea*	40	H
187	Orchardgrass	*Dactylis glomerata*	40	H
187	Residue Covered Ground	*NA*	15	H
187	Trumpet Creeper	*Campsis radicans*	5	H
188	Goldenrod	*Solidago sp.*	30	H
188	Smooth Brome	*Bromus inermus*	70	H
188	Honey Locust	*Gleditsia triacanthos*	70	S
189	Fescue	*Festuca arundinacea*	60	H
189	Smooth Brome	*Bromus inermus*	10	H
189	Orchardgrass	*Dactylis glomerata*	5	H
189	Late-Flowering Thoroughwort	*Eupatorium serotinum*	5	H
189	Rush	*Juncus sp.*	10	H
189	Residue Covered Ground	*NA*	10	G
190	Smooth Brome	*Bromus inermus*	85	H
190	Residue Covered Ground	*NA*	15	G
191	Fescue	*Festuca arundinacea*	80	H
191	Kentucky Bluegrass	*Poa pratensis*	5	H
191	Residue Covered Ground and Bare Ground	*NA*	15	G
195	Perennial Rye	*Lolium perenne*	50	H
195	Chickweed	*Stellaria sp.*	20	H
195	Downy Brome	*Bromus tectorum*	2	H
195	Bare Ground	*NA*	28	G
196	Red Clover	*Trifolium pratense*	75	H
196	Smooth Brome	*Bromus inermus*	25	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
196	Orchardgrass	*Dactylis glomerata*	2	H
196	Sweet Clover	*Melilotus sp.*	5	H
196	Aster	*Aster sp.*	5	H
196	Lespedeza	*Lespedeza sp.*	2	H
198	Fescue	*Festuca arundinacea*	85	H
198	Broomsedge	*Andropogon virginicus*	2	H
198	Aster	*Aster sp.*	8	H
198	Red Clover	*Trifolium pratense*	5	H
199	Smooth Brome	*Bromus inermus*	85	H
199	Orchardgrass	*Dactylis glomerata*	10	H
199	Blue Vervain	*Verbena hastata*	5	H
200	Goldenrod	*Solidago sp.*	40	H
200	Orchardgrass	*Dactylis glomerata*	10	H
200	Rush	*Juncus sp.*	15	H
200	Bare Ground	*NA*	25	G
200	Aster	*Aster sp.*	5	H
200	Residue Covered Ground	*NA*	5	G
201	Smooth Brome	*Bromus inermus*	20	H
201	Goldenrod	*Solidago sp.*	5	H
201	Mixed Weeds	*NA*	25	H
201	Residue Covered Ground	*NA*	50	G
202	Orchardgrass	*Dactylis glomerata*	20	H
202	Goldenrod	*Solidago sp.*	5	H
202	Mixed Weeds	*NA*	25	H
202	Residue Covered Ground and Bare Ground	*NA*	50	G
203	Smooth Brome	*Bromus inermus*	70	H
203	Orchardgrass	*Dactylis glomerata*	10	H
203	Residue Covered Ground	*NA*	20	G
205	Fescue	*Festuca arundinacea*	75	H
205	Timothy	*Phleum pratense*	15	H
206	Perennial Rye	*Lolium perenne*	100	H
207	Perennial Rye	*Lolium perenne*	100	H
208	Perennial Rye	*Lolium perenne*	97	H
208	Oats	*Avena sativa*	3	H
209	Smooth Brome	*Bromus inermus*	80	H
209	Orchardgrass	*Dactylis glomerata*	15	H
209	Goldenrod	*Solidago sp.*	15	H
209	Common Milkweed	*Asclepias syriaca*	5	H
209	Autumn Olive	*Elaeagnus umbellata*	10	S
210	Smooth Brome	*Bromus inermus*	90	H
210	Goldenrod	*Solidago sp.*	2	H
210	Curled Dock	*Rumex crispus*	1	H
210	Residue Covered Ground	*NA*	7	G
211	Fescue	*Festuca arundinacea*	80	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
211	Smooth Brome	*Bromus inermus*	15	H
211	Red Clover	*Trifolium pratense*	5	H
212	Smooth Brome	*Bromus inermus*	70	H
212	Red Clover	*Trifolium pratense*	15	H
212	Goldenrod	*Solidago sp.*	5	H
212	Aster	*Aster sp.*	3	H
212	Smartweed	*Polygonum pensylvanicum*	2	H
212	Residue Covered Ground	*NA*	5	G
213	Smooth Brome	*Bromus inermus*	100	H
214	Goldenrod	*Solidago sp.*	65	H
214	Fox Sedge	*Carex vulpinoidea*	10	H
214	Oats	*Avena sativa*	15	H
214	Fescue	*Festuca arundinacea*	10	H
217	Fescue	*Festuca arundinacea*	65	H
217	Smooth Brome	*Bromus inermus*	35	H
218	Fescue	*Festuca arundinacea*	85	H
218	Orchardgrass	*Dactylis glomerata*	10	H
218	Fox Sedge	*Carex vulpinoidea*	5	H
219	Fescue	*Festuca arundinacea*	50	H
219	Smooth Brome	*Bromus inermus*	35	H
219	Bare Ground	*NA*	15	G
220	White Clover	*Trifolium repens*	55	H
220	Fescue	*Festuca arundinacea*	30	H
220	Yarrow	*Achillea millefolium*	15	H
221	Fescue	*Festuca arundinacea*	85	H
221	Fox Sedge	*Carex vulpinoidea*	5	H
221	Goldenrod	*Solidago sp.*	5	H
221	Lespedeza	*Lespedeza sp.*	5	H
222	Fescue	*Festuca arundinacea*	35	H
222	Goldenrod	*Solidago sp.*	45	H
222	Orchardgrass	*Dactylis glomerata*	5	H
222	Lespedeza	*Lespedeza sp.*	2	H
222	Red Clover	*Trifolium pratense*	3	H
222	Curled Dock	*Rumex crispus*	2	H
222	Fox Sedge	*Carex vulpinoidea*	3	H
222	White Clover	*Trifolium repens*	5	H
223	Sweet Clover	*Melilotus sp.*	30	H
223	Fescue	*Festuca arundinacea*	20	H
223	Bare Ground	*NA*	50	G
224	Kentucky Bluegrass	*Poa pratensis*	40	H
224	Broomsedge	*Andropogon virginicus*	20	H
224	Yarrow	*Achillea millefolium*	15	H
224	Goldenrod	*Solidago sp.*	2	H
224	Fescue	*Festuca arundinacea*	5	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
224	Residue Covered Ground	*NA*	18	G
225	Smooth Brome	*Bromus inermus*	65	H
225	Common Milkweed	*Asclepias syriaca*	1	H
225	Chickweed	*Stellaria sp.*	2	H
225	Residue Covered Ground	*NA*	32	G
226	Green Ash	*Fraxinus pennsylvanica*	30	T/S
226	Honey Locust	*Gleditsia triacanthos*	20	S
226	Fescue	*Festuca arundinacea*	60	H
226	Smooth Brome	*Bromus inermus*	40	H
226	Goldenrod	*Solidago sp.*	2	H
226	Wild Carrot	*Daucus carota*	20	H
229	Smooth Brome	*Bromus inermus*	70	H
229	Residue Covered Ground	*NA*	30	G
230	Smooth Brome	*Bromus inermus*	70	H
230	Residue Covered Ground	*NA*	30	G
231	Fescue	*Festuca arundinacea*	10	H
231	Timothy	*Phleum pratense*	55	H
231	Fox Sedge	*Carex vulpinoidea*	15	H
231	Rush	*Juncus sp.*	10	H
231	Residue Covered Ground	*NA*	10	G
232	Oats	*Avena sativa*	85	H
232	Fescue	*Festuca arundinacea*	15	H
233	Fescue	*Festuca arundinacea*	80	H
233	Residue Covered Ground	*NA*	20	G
235	Lespedeza	*Lespedeza sp.*	45	H
235	Fescue	*Festuca arundinacea*	30	H
235	Red Clover	*Trifolium pratense*	15	H
235	Yarrow	*Achillea millefolium*	5	H
235	Orchardgrass	*Dactylis glomerata*	5	H
237	Fescue	*Festuca arundinacea*	94	H
237	Orchardgrass	*Dactylis glomerata*	5	H
237	Korean Lespedeza	*Lespedeza stipulacea*	1	H
238	Smooth Brome	*Bromus inermus*	65	H
238	Wild Carrot	*Daucus carota*	5	H
238	Goldenrod	*Solidago sp.*	1	H
238	Cleavers	*Galium aparine*	1	H
238	Wild Onion	*Allium canadense*	1	H
238	Yarrow	*Achillea millefolium*	1	H
238	Musk Thistle	*Carduus nutans*	2	H
238	Bare Ground	*NA*	24	G
239	Smooth Brome	*Bromus inermus*	98	H
239	Residue Covered Ground	*NA*	2	G
240	Smooth Brome	*Bromus inermus*	85	H
240	Kentucky Bluegrass	*Poa pratensis*	10	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
240	Residue Covered Ground	*NA*	5	G
241	Fescue	*Festuca arundinacea*	90	H
241	Common Milkweed	*Asclepias syriaca*	7	H
241	Multiflora Rose	*Rosa multiflora*	5	S
241	Late-Flowering Thoroughwort	*Eupatorium serotinum*	3	H
242	Smooth Brome	*Bromus inermus*	100	H
243	Smooth Brome	*Bromus inermus*	80	H
243	Residue Covered Ground	*NA*	20	G
246	Fescue	*Festuca arundinacea*	75	H
246	Autumn Olive	*Elaeagnus umbellata*	1	S
246	Residue Covered Ground	*NA*	24	G
247	Fescue	*Festuca arundinacea*	80	H
247	Wood-Sorrel	*Oxalis sp.*	1	H
247	Blackberry	*Rubus allegheniensis*	2	H
247	Autumn Olive	*Elaeagnus umbellata*	1	S
247	Residue Covered Ground	*NA*	16	G
248	Fescue	*Festuca arundinacea*	95	H
248	Orchardgrass	*Dactylis glomerata*	3	H
248	Goldenrod	*Solidago sp.*	2	H
249	Orchardgrass	*Dactylis glomerata*	10	H
249	Kentucky Bluegrass	*Poa pratensis*	40	H
249	Fescue	*Festuca arundinacea*	5	H
249	Lespedeza	*Lespedeza sp.*	25	H
249	Red Clover	*Trifolium pratense*	10	H
250	Fescue	*Festuca arundinacea*	40	H
250	Orchardgrass	*Dactylis glomerata*	10	H
250	Lespedeza	*Lespedeza sp.*	40	H
250	Kentucky Bluegrass	*Poa pratensis*	8	H
250	Musk Thistle	*Carduus nutans*	1	H
251	Orchardgrass	*Dactylis glomerata*	40	H
251	Fescue	*Festuca arundinacea*	20	H
251	Goldenrod	*Solidago sp.*	5	H
251	Kentucky Bluegrass	*Poa pratensis*	20	H
251	Lespedeza	*Lespedeza sp.*	2	H
251	Red Clover	*Trifolium pratense*	2	H
251	Bare Ground	*NA*	11	G
252	Smooth Brome	*Bromus inermus*	60	H
252	Broomsedge	*Andropogon virginicus*	1	H
252	Alfalfa	*Medicago sativa*	1	H
252	Autumn Olive	*Elaeagnus umbellata*	5	S
252	Residue Covered Ground	*NA*	38	G
253	Smooth Brome	*Bromus inermus*	85	H
253	Residue Covered Ground	*NA*	15	G
254	Fescue	*Festuca arundinacea*	80	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
254	Kentucky Bluegrass	*Poa pratensis*	20	H
256	Smooth Brome	*Bromus inermus*	60	H
256	Orchardgrass	*Dactylis glomerata*	40	H
257	Smooth Brome	*Bromus inermus*	85	H
257	Honey Locust	*Gleditsia triacanthos*	25	S
257	Residue Covered Ground	*NA*	15	G
258	Smooth Brome	*Bromus inermus*	50	H
258	Kentucky Bluegrass	*Poa pratensis*	50	H
258	Goldenrod	*Solidago sp.*	20	H
258	Honey Locust	*Gleditsia triacanthos*	50	S
259	Smooth Brome	*Bromus inermus*	75	H
259	Ladino Clover	*Trifolium repens latum*	10	H
259	Goldenrod	*Solidago sp.*	5	H
259	Broomsedge	*Andropogon virginicus*	1	H
259	Residue Covered Ground	*NA*	9	G
260	Smooth Brome	*Bromus inermus*	90	H
260	Goldenrod	*Solidago sp.*	5	H
260	Bare Ground	*NA*	5	G
261	Kentucky Bluegrass	*Poa pratensis*	65	H
261	Blue Vervain	*Verbena hastata*	20	H
261	Goldenrod	*Solidago sp.*	2	H
261	Alfalfa	*Medicago sativa*	1	H
261	Yarrow	*Achillea millefolium*	1	H
261	Smooth Brome	*Bromus inermus*	5	H
261	Autumn Olive	*Elaeagnus umbellata*	1	S
261	Bare Ground	*NA*	5	G
262	Oats	*Avena sativa*	55	H
262	Fox Sedge	*Carex vulpinoidea*	5	H
262	Goldenrod	*Solidago sp.*	15	H
262	Foxtail	*Setaria sp.*	2	H
262	Sedge	*Carex sp.*	5	H
262	Alfalfa	*Medicago sativa*	3	H
262	Kentucky Bluegrass	*Poa pratensis*	3	H
262	Bare Ground	*NA*	12	G
262	Smooth Smooth Brome	*Bromus inermus*	65	H
263	Aster	*Aster sp.*	10	H
263	Goldenrod	*Solidago sp.*	2	H
263	Foxglove Beardtongue	*Penstemon digitalis*	1	H
263	Common Ragweed	*Ambrosia artemisiifolia*	1	H
263	Sedge	*Carex sp.*	1	H
263	Residue Covered Ground and Bare Ground	*NA*	20	G
264	Smooth Brome	*Bromus inermus*	60	H
264	Fox Sedge	*Carex vulpinoidea*	10	H
264	Aster	*Aster sp.*	5	H

SITE	COMMON NAME	SCIENTIFIC NAME	COVER	STRATUM
264	Goldenrod	*Solidago sp.*	10	H
264	Sedge	*Carex sp.*	2	H
264	Bare Ground	*NA*	13	G
265	Smooth Brome	*Bromus inermus*	75	H
265	Aster	*Aster sp.*	3	H
265	Chickweed	*Stellaria sp.*	1	H
265	St. John's Wort	*Hypericum sp.*	2	H
265	Autumn Olive	*Elaeagnus umbellata*	1	S
265	Wild Geranium	*Geranium maculatum*	1	H
265	Wood-Sorrel	*Oxalis sp.*	1	H
265	Bare Ground	*NA*	16	G
266	Woolgrass	*Scirpus cyperinus*	25	H
266	Fox Sedge	*Carex vulpinoidea*	25	H
266	Goldenrod	*Solidago sp.*	40	H
266	Smooth Brome	*Bromus inermus*	10	H
267	American Elm	*Ulmus americana*	30	S
267	Flowering Dogwood	*Cornus florida*	40	S
267	Eastern Red Cedar	*Juniperus virginiana*	5	S
267	Bush Honeysuckle	*Lonicera sp.*	15	S
267	Japanese Honeysuckle	*Lonicera japonica*	15	V
267	Poison Ivy	*Rhus radicans*	1	H
267	Agrimony	*Agrimonia sp.*	20	H
267	Goldenrod	*Solidago sp.*	3	H
267	Multiflora Rose	*Rosa multiflora*	5	S
267	Exposed leaf litter	*NA*	30	G
269	Wild Geranium	*Geranium maculatum*	5	H
269	Wild Onion	*Allium canadense*	5	H
269	Chickweed	*Stellaria sp.*	5	H
269	Common Ragweed	*Ambrosia artemisiifolia*	2	H
269	Shepard's-purse	*Capsella bursa-pastoris*	53	H
270	Orchardgrass	*Dactylis glomerata*	50	H
270	Fescue	*Festuca arundinacea*	50	H
270	Honey Locust	*Gleditsia triacanthos*	20	S
270	Bush Honeysuckle	*Lonicera sp.*	5	S
270	Hackberry	*Celtis occidentalis*	2	S
270	Sumac	*Rhus sp.*	2	S
271	Orchardgrass	*Dactylis glomerata*	65	H
271	Fescue	*Festuca arundinacea*	35	H

Appendix C: Tree Field Data

SITE	COMMON NAME	SCIENTIFIC NAME	DBH (IN)
20	Green Ash	*Fraxinus pennsylvanica*	4
20	Green Ash	*Fraxinus pennsylvanica*	6
20	Green Ash	*Fraxinus pennsylvanica*	8
20	Honey Locust	*Gleditsia triacanthos*	16
20	Honey Locust	*Gleditsia triacanthos*	10
20	Osage Orange	*Maclura pomifera*	6
28	Box Elder	*Acer negundo*	14
28	Green Ash	*Fraxinus pennsylvanica*	16
28	Hackberry	*Celtis occidentalis*	12
28	Hackberry	*Celtis occidentalis*	8
28	Red Elm	*Ulmus rubra*	16
28	Red Elm	*Ulmus rubra*	8
28	Red Elm	*Ulmus rubra*	22
28	Red Elm	*Ulmus rubra*	8
28	Red Elm	*Ulmus rubra*	8
28	Red Elm	*Ulmus rubra*	12
28	Silver Maple	*Acer saccharinum*	20
29	Red Elm	*Ulmus rubra*	6
29	Pin Oak	*Quercus palustris*	22
29	Red Elm	*Ulmus rubra*	14
29	Pin Oak	*Quercus palustris*	18
29	Shingle Oak	*Quercus imbricaria*	10
29	Red Elm	*Ulmus rubra*	4
29	Green Ash	*Fraxinus pennsylvanica*	8
29	Red Elm	*Ulmus rubra*	8
29	Shingle Oak	*Quercus imbricaria*	4
29	Hackberry	*Celtis occidentalis*	22
40	Hawthorn	*Crataegus sp.*	2
40	Osage Orange	*Maclura pomifera*	16
40	Honey Locust	*Gleditsia triacanthos*	18
40	Osage Orange	*Maclura pomifera*	8
40	Hackberry	*Celtis occidentalis*	10
40	Bitternut Hickory	*Carya cordiformis*	12
40	American Elm	*Ulmus americana*	18
52	Box Elder	*Acer negundo*	4
52	Osage Orange	*Maclura pomifera*	6
52	Ash	*Fraxinus sp.*	8
52	Ash	*Fraxinus sp.*	8

SITE	COMMON NAME	SCIENTIFIC NAME	DBH (IN)
52	Sugarberry	*Celtis laevigata*	8
52	Bitternut Hickory	*Carya cordiformis*	8
52	Sugarberry	*Celtis laevigata*	8
52	Ash	*Fraxinus sp.*	8
52	Sugarberry	*Celtis laevigata*	8
62	Silver Maple	*Acer saccharinum*	26
62	Silver Maple	*Acer saccharinum*	48
62	Shellbark Hickory	*Carya laciniosa*	2
62	Shellbark Hickory	*Carya laciniosa*	2
62	Osage Orange	*Maclura pomifera*	6
62	Honey Locust	*Gleditsia triacanthos*	18
62	Osage Orange	*Maclura pomifera*	16
62	Osage Orange	*Maclura pomifera*	24
62	Hackberry	*Celtis occidentalis*	2
93	American Elm	*Ulmus americana*	14
93	Green Ash	*Fraxinus pennsylvanica*	8
93	Shellbark Hickory	*Carya laciniosa*	8
93	Shellbark Hickory	*Carya laciniosa*	10
93	Pin Oak	*Quercus palustris*	18
93	Hackberry	*Celtis occidentalis*	6
93	Green Ash	*Fraxinus pennsylvanica*	10
93	Pin Oak	*Quercus palustris*	24
93	Green Ash	*Fraxinus pennsylvanica*	8
93	Pin Oak	*Quercus palustris*	22
93	Pin Oak	*Quercus palustris*	20
104	Green Ash	*Fraxinus pennsylvanica*	8
104	Green Ash	*Fraxinus pennsylvanica*	8
104	Box Elder	*Acer negundo*	10
104	Green Ash	*Fraxinus pennsylvanica*	24
104	Green Ash	*Fraxinus pennsylvanica*	24
104	Silver Maple	*Acer saccharinum*	6
104	Green Ash	*Fraxinus pennsylvanica*	8
104	Silver Maple	*Acer saccharinum*	6
104	Hackberry	*Celtis occidentalis*	20
104	Green Ash	*Fraxinus pennsylvanica*	14
104	Silver Maple	*Acer saccharinum*	26
104	Silver Maple	*Acer saccharinum*	22
104	Silver Maple	*Acer saccharinum*	26
116	Silver Maple	*Acer saccharinum*	5
116	River Birch	*Betula nigra*	24
116	River Birch	*Betula nigra*	18
116	River Birch	*Betula nigra*	12
116	Green Ash	*Fraxinus pennsylvanica*	12
116	Green Ash	*Fraxinus pennsylvanica*	16

SITE	COMMON NAME	SCIENTIFIC NAME	DBH (IN)
116	Elm	*Ulmus sp.*	4
116	Silver Maple	*Acer saccharinum*	22
116	Pin Oak	*Quercus palustris*	20
116	Pin Oak	*Quercus palustris*	20
116	Green Ash	*Fraxinus pennsylvanica*	14
116	River Birch	*Betula nigra*	16
116	River Birch	*Betula nigra*	14
128	American Elm	*Ulmus americana*	10
128	Osage Orange	*Maclura pomifera*	8
128	Osage Orange	*Maclura pomifera*	18
128	American Elm	*Ulmus americana*	8
128	Osage Orange	*Maclura pomifera*	10
128	American Elm	*Ulmus americana*	6
128	Sugarberry	*Celtis laevigata*	4
128	Honey Locust	*Gleditsia triacanthos*	24
128	Osage Orange	*Maclura pomifera*	20
128	Osage Orange	*Maclura pomifera*	8
138	Sycamore	*Platanus occidentalis*	18
138	Sycamore	*Platanus occidentalis*	8
138	Sycamore	*Platanus occidentalis*	16
138	Hackberry	*Celtis occidentalis*	4
138	American Elm	*Ulmus americana*	6
138	Osage Orange	*Maclura pomifera*	14
138	Mulberry	*Morus sp.*	12
138	Sycamore	*Platanus occidentalis*	30
138	Osage Orange	*Maclura pomifera*	10
138	Osage Orange	*Maclura pomifera*	14
138	Box Elder	*Acer negundo*	10
166	Silver Maple	*Acer saccharinum*	14
166	Silver Maple	*Acer saccharinum*	8
166	Silver Maple	*Acer saccharinum*	16
166	Pin Oak	*Quercus palustris*	16
166	Silver Maple	*Acer saccharinum*	18
166	Silver Maple	*Acer saccharinum*	16
166	Silver Maple	*Acer saccharinum*	8
166	Green Ash	*Fraxinus pennsylvanica*	8
166	Green Ash	*Fraxinus pennsylvanica*	4
166	Hackberry	*Celtis occidentalis*	2
166	Silver Maple	*Acer saccharinum*	18
167	Silver Maple	*Acer saccharinum*	8
167	Pin Oak	*Quercus palustris*	18
167	Silver Maple	*Acer saccharinum*	12
167	Green Ash	*Fraxinus pennsylvanica*	2
167	Silver Maple	*Acer saccharinum*	10

SITE	COMMON NAME	SCIENTIFIC NAME	DBH (IN)
167	Silver Maple	*Acer saccharinum*	8
167	Silver Maple	*Acer saccharinum*	10
167	Silver Maple	*Acer saccharinum*	10
167	Silver Maple	*Acer saccharinum*	6
167	Silver Maple	*Acer saccharinum*	12
167	Silver Maple	*Acer saccharinum*	8
167	Silver Maple	*Acer saccharinum*	8
167	Pin Oak	*Quercus palustris*	22
168	Black Walnut	*Juglans nigra*	8
168	Siberian Elm	*Ulmus pumila*	2
168	Siberian Elm	*Ulmus pumila*	8
168	Siberian Elm	*Ulmus pumila*	2
168	Siberian Elm	*Ulmus pumila*	8
168	Siberian Elm	*Ulmus pumila*	6
168	Siberian Elm	*Ulmus pumila*	6

Appendix D: Field Notes

SITE	NOTES
9	Yellow Billed Cuckoo sighted
19	Very dense shrubs, herbaceous layer covered with Japanese Honeysuckle (*Lonicera japonica*)
19	Trees are in the surrounding area, approximate location, engineer could not get exact location because of dense shrubs
30	agricultural field, treated with roundup and planted to Soybeans (*Glycine max*)
31	agricultural field, planted to Soybeans (*Glycine max*)
32	agricultural field, planted to Soybeans (*Glycine max*)
40	Hawthorn (*Crataegus* sp.) 2", Osage Orange 16" (*Maclura pomifera*), Honey Locust (*Gleditsia triacanthos*) 18", Osage Orange 8",
40	Hackberry (*Celtis occidentalis*) 10", Bitternut Hickory (*Carya cordiformis*) 12", American Elm (*Ulmus americana*) 18"
41	Sparse Vegetation at this site
42	Saplings: Sycamore (*Platanus occidentalis*), Greed Ash (*Fraxinus* sp.) and River Birch (*Betula nigra*)
42	Shrub: Multiflora rose (*Rosa multiflora*) and Common Milkweed (*Asclepias syriaca*)
43	No Till Beans
44	No Till Beans
45	No Till Beans
47	Narrow-leaved Cattails (*Typha angustifolia*) and Slender Rush (*Juncus tenuis*) next to site
53	A lot of saplings in this area: Burr Oak (*Quercus macrocarpa*), Green Ash (*Fraxinus pennsylvanica*)
53	Pin Oak (*Quercus palustris*), Box Elder (*Acer negundo*)
56	Ag. Field sprayed with Roundup
58	Honey Locust (*Gleditsia triacanthos*) 50% cover, Persimmon (*Diospyros virginiana*) 20% cover both over plot, not in plot
84	Shrubby, dense, grown-up vegetation next to woods
87	Site is adjacent to a small wetland dominated by Narrow-leaved Cattail (*Typha angustifolia*) 50% and Common Reed (*Phragmites australis*), 50%
95	Used GPS to locate, not staked or flagged
96	GPS used to locate site (not staked)
97	GPS used to locate site (not staked)
104	In a depressional spot-bare soil.

SITE	NOTES
106	Site near a wetland.
113	Site is next to drain ravine into strip pit.
116	Plot adjacent to a wet slough.
117	Willow (*Salix* sp.) is next to strip pit adjacent to site.
125	Agricultural field, no-till (Corn last year) "Ag. Weeds" could not find stake, used GPS to find the site.
126	Agriculture field - No Lath, so used GPS to find the site. Corn stubble and agricultural weeds
127	Agricultural field, no lath stake, located site with the GPS.
129	Site next to road.
132	Sparsely vegetated site.
136	No lath, so used GPS to locate site.
137	No lath, so used GPS to locate site, agricultural field (no-till) corn stubble.
139	Site next to road
140	Site on slope of a strip pit.
144	No exposed ground, all covered with leaf litter, sparse stand of vegetation.
154	Site is on a berm next to strip pit slope. Berm impounds water to form a small wetland.
157	Site next to limestone gravel road-gravelly site
158	Site in gravel road.
159	Gravelly site-next to limestone gravel road.
161	Common Milkweed (*Asclepias syriaca*)
164	Trumpet Creeper (*Campsis radicans*) on strip pit slope
164	1 Aster (*Aster* sp.), 1 Eastern Red Cedar (*Juniperus virginiana*), 1 Autumn Olive (*Elaeagnus umbellata*)
165	Sparse Vegetation at this site.
169	Site adjacent to road, cracked mud with vary sparse vegetation
170	Site located at the edge of the woods.
171	Autumn Olive (*Elaeagnus umbellata*) shrubs adjacent to site.
172	Autumn Olive (*Elaeagnus umbellata*) shrubs near site scattered about 25%.
174	Sparse vegetation at this site.
177	Sparse vegetation at this site.
179	Field planted to Winter Wheat (*Triticum aestivum*).
180	Dense stand of autumn olive shrubs (*Eleagnus umbellata*) alder (*Alnus* sp.) and cypress trees (*Taxodium distichum*) next to strip pit.
181	Island of Fescue (*Festuca arundinacea*) surrounded by Perennial Rye (*Lolium perenne*) and Oats (*Avena sativa*).
188	Honey Locust (*Gleditsia triacanthos*), fairly dense, scattered along slope of ravine. Common Reed (*Phragmites australis*) near site,

SITE	NOTES
188	1 Sycamore (*Platanus occidentalis*) and 1 Cottonwood (*Populus deltoides*).
189	Foxglove Beardtongue (*Penstemon digitalis*) and Mountain Mint (*Pycanthemum tenuifolium*) near plot,
189	also some Broomsedge (*Andropogon virginicus*).
191	Lots of grass residue. Early in season will be 100% Fescue (*Festuca arundinacea*)
195	Sparse stand: planted in Winter Wheat (*Triticum aestivum*).
196	Dense vegetation cover, at least 2 quail calling.
202	Sparsely vegetated site.
202	*Mixed Weeds: Shepherd's Purse (*Capsella bursa-pastoris*), Yellow Wood-Sorrel (*Oxalis* sp.), Wild Onion (*Allium* sp.),
202	Aster (Aster sp.), Plantain sp., Rush (*Juncus* sp.), Common Ragweed (*Ambrosia artemisiifolia*).
203	Somewhat sparse stand of vegetation.
210	Honey Locust (*Gleditsia triacanthos*) trees living edge of strip pit. Scattered Autumn Olive shrubs (*Eleagnus umbellata*) and Honey Locust trees
210	throughout the area surrounding the site.
218	One Musk Thistle (*Carduus nutans*) in plot.
223	By "Road Side" Gravelly-Limestone.
225	Autumn Olive (*Elaeagnus umbellata*) shrubs scattered thoughout area, Common Milkweed (*Asclepias syriaca*)
225	Goldedrod (*Solidago* sp.). Smooth Brome (*Bromus inermus*) not very dense
226	Steep slope of strip pit. Dense Vegetation over 100% cover (species overlap).
231	Flushed 3 Mallards, Little green Heron and 2 Redwing Blackbirds from a wetland adjacent to the site.
232	Area around site mix of Fescue (*Festuca arundinacea*), Oats (*Avena sativa*) interspersed with volunteer Goldenrod (*Solidago* sp.),
232	Moth Mullein, Late-Flowering Thoroughwort (*Eupatorium serotinum*), Yarrow (*Achillea millefolium*), sparse Autumn Olive
232	(*Elaeagnus umbellata*) near top slope to strip pit ~2 yr old and a few Willow (Salix sp.) on the opposite shore with a lot of Meadowlarks and 2 Quail
237	Site next to road, near fence.
238	Smooth Brome (*Bromus inermus*) will fill in later in the season.
241	Multiflora Rose, (*Rosa multiflora*) is adjacent to plot but is hanging over this plot.
241	Couldn't find stake, used the GPS plugger to locate site coordinates.
249	Grass stunted at this site.
254	Honey Locust (*Gleditsia triacanthos*) trees next to plot on banks of strip pit (very steep banks). Autumn Olive (*Eleagnus umbellata*)

SITE	NOTES
254	and Honey Locust scattered around area, lots of Goldenrod (*Solidago* sp.), some Broomsedge (*Andropogon virginicus*), Late-flowering
254	Late-Flowering Thoroughwort (*Eupatorium serotinum*), Blue Vervain (*Verbena hastata*) and Yarrow (*Achillea millefolium*).
257	Site is adjacent to a ravine covered with Honey Locust (*Gleditsia triacanthos*)
258	Lots of Honey Locust (*Gleditsia triacanthos*) saplings, dense vegetation.
263	Common Ragweed is just coming up. Some exposed ground with leaf litter. Site is inundated with about 1/2 inch of water.
264	Half of site inundated ~1-3" ponded water
267	Lots of bush honeysuckle adjacent to plot. Understory sparse because of shade
270	Riparian Zone: 4 Canadian Geese in a low spot in open area between sites 269 and 270

These notes were taken during site visits during May and June 2002.

Appendix E: Soils Field Data

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
7	LENZBURG	10	NE	A	0-6	Mixed 10YR5/4&5/1	CL	CP	Vfirm	6	As
7	LENZBURG	10	NE	B/C 1	6-18.	Mixed 5/6,5/2& 5/1	CL 5%	CP	Vfirm	7.5fc	Cs
7	LENZBURG	10	NE	B/C 2	18-60	Mixed 2.5Y6/2Y& 10YR5/6,5/2	CL 5%	CP	Vfirm	7.5fc	NA
8	MORRISTOWN	3	W	Ap	0-6	Mixed 5/6&5/2 & CFD5/8	CL	CP	Vfirm	5	As
8	MORRISTOWN	3	W	B/C 1	6-20.	Mixed 5/2&5/6 & MFD5/8	CL	CP	Vfirm	5	As
8	MORRISTOWN	3	W	B/C 2	20-35	Mixed 5/2,5/1&5/6	CL	CP	Vfirm	5	As
9	HOSMER	2	NA	Ap	0-7	5/3.	SIL	2Fgr	FR	6	As
9	HOSMER	2	NA	Bt1	0-16	5/4.	SIL	2Msbk	FR	5.5	Cs
9	HOSMER	2	NA	Bt2	16-30	5/4. CFD5/2&5/8	SICL	2Msbk	FR	5.5	Cs
9	HOSMER	2	NA	Bt3	30-40	5/4. M5/2Y5/8 Cf5/3	SICL	2Msbk	FR	5.5	Cs
9	HOSMER	2	NA	Bt4	40-52	10YR5/3 & CFF5/2,5/8 FEW CF5/2	SICL	2Msbk	FR	5.5	Cs
9	HOSMER	2	NA	BC	52-60	10YR5/3 & CFF5/2,5/8	SICL	2Msbk	FR	6	NA
10	BIRDS	0	NA	Ap	0-8	10YR5/2 & MMF4R, CFD5/8	SIL	2FGR	FR	5.5	AS
10	BIRDS	0	NA	Bw	8-13.	10YR5/2 & FMD10YR4/2,CFD5/8	SIL	2FSBK	FR	5.5	CS
10	BIRDS	0	NA	Cg1	13-20	10YR5/1 & CFD5/8&5/4	SIL	2MSBK	FR	5	CS
10	BIRDS	0	NA	Cg2	20-39	10YR6/2 & CFD5/8&5/2	SIL	massive	FR	5.5	CS
10	BIRDS	0	NA	Cg2	39-60	10YR5/1 & CMF2.5R6/2,CFD5/8	SIL	massive	FR	6	CS
18	LENZBURG	2	W	Ap	0-8	Mixed 5/0 5/6,5/3	HvyCL	CP	Vfirm	5.5	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
18	LENZBURG	2	W	B/C1	8-27.	Mixed 5/6,5/1, 5/2 CFD 5/8	CL	CP	Vfirm	6.5	As
18	LENZBURG	2	W	B/C2	27-40	Mixed5/2,5/4,5/6	CL	CP	Vfirm	6.5	As
18	LENZBURG	2	W	B/C3	40-60	Mixed 5/4,5/1,5/6	CL	CP	Vfirm	7.5,FC	As
19	HOSMER	3	S	Ap	0-8	10YR4/3	SIL	2Mgr	FR	6	NA
19	HOSMER	3	S	Bt1	8-17.	10YR5/4 C CF4/4	SICL	2Msbk	Fr	6	NA
19	HOSMER	3	S	B/E	17-25	10yr5/4 CFD5/8 MSC7/3	SICL	2 Msbk	firm	6	NA
19	HOSMER	3	S	B'X	25-36	10YR5/4,MFD5/8,SC7/3,6/3	SICL	2Msbk	firm	6	NA
19	HOSMER	3	S	BTX	36-50	NA	SICL	2Msbk	firm	6	NA
19	HOSMER	3	S	C	50-60	10yr5/3,MFD5/8, 5/2	SIL	2Msbk	FR	6	NA
20	WAKELAND	0	NA	A	0-7	10YR4/2	SIL	2Fgr	FR	N	CS
20	WAKELAND	0	NA	Bw1	7-13.	10YR4/3,2F10 4/2	SIL	1Fsbk	FR	N	NA
20	WAKELAND	0	NA	Bw2	13-30	10YR5/2,10YR4/6,RCYM	SIL	1Msbk	FR	N	NA
20	WAKELAND	0	NA	C	30-60	10YR5/1, 4/6, 4/8	SIL	1Msbk	FR	N	NA
26	LENZBURG	10	NE	A	0-6	mixed 10yr 5/4, 5/1	CL	cp	Vfirm	6	As
26	LENZBURG	10	NE	B/C1	006-18	mixed 5/6, 5/2, 5/1	CL 5%	cp	Vfirm	7.5FC	Cs
26	LENZBURG	10	NE	B/C2	18-60	mixed 2.5 yr 6/2yr 10yr 5/6, 5/2	CL 5%	cp	Vfirm	7.5FC	NA
28	WAKELAND	0	NA	A	0-5	4/2.	SIL	2Fsbk	Fr	N	Cs
28	WAKELAND	0	NA	Bw1	5-13.	10YR4/3	SIL	1Msbk	Fr	N	Cs

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
28	WAKELAND	0	NA	BW2	13-35	10YR4/3, 5/2f4/6	SIL	1Msbk	Fr	N	Cs
28	WAKELAND	0	NA	C1	35-50	10YR4/3, M5/2&4/6	SIL	M	Fr	N	Cs
28	WAKELAND	0	NA	C2	50-60	10YR5/2,C4/3&6/8	SIL	M	Fr	N	Cs
29	WILBUR	0	NA	Ap	0-8	10YR4/2	SIL	2Fgr	F	N	Cs
29	WILBUR	0	NA	Bw1	8-17.	10YR4/3	SIL	1Fsbk	F	N	Cs
29	WILBUR	0	NA	Bw2	17-30	10yr4/3,w4/2y4/6RC	SIL	1Msbk	F	N	Cs
29	WILBUR	0	NA	C	30-42	10yr5/1,M4/2,6/8RC	SIL	Massive	F	N	Cs
29	WILBUR	0	NA	C	42-60	10yr6/1,6/4,5/8,4/3	SIL	Massive	F	N	NA
30	STOY	0	NA	Ap	0-7	10YR4/3	SIL	2Fgr	Fr	6	As
30	STOY	0	NA	E	7-13	10yr 5/3	sil	1fpty	fr	6	cs
30	STOY	0	NA	Bt1	13-22	10YR5/3,ffd 5/6,5/2	sicl	2msbk	FR	6	CS
30	STOY	0	NA	bt2	22-30	10yr 5/2, cfd 5/8,5/4	sicl	2msbk	FIRM	6	CS
30	STOY	0	NA	Btg1	30-45	10yr 5/1, cfd 5/8,5/4	sicl	2msbk	f	6	CS
30	STOY	0	NA	Btg2	45-60	10yr 5/1, cfd 5/8,5/4	sil	2fmsbk	fr	6	CS
31	SCHULINE	2	n/nw	Ap	0-4	10YR4/2 & 4/3	SIL	Wfsbk	Fr	6	As
31	SCHULINE	2	n/nw	B/C1	4-11.	10YR5/1, 5/4, &4/3	SIL&SICL	Mass.CP	Firm	6.5	As
31	SCHULINE	2	n/nw	B/C2	11-18.	10YR4/2 & 5/1	SIL&SICL	Mass.CP	Firm	7	As
31	SCHULINE	2	n/nw	B/C3	18-38	10YR5/6, 5/2,& 5/1	CL&SICL	Mass.CP	Firm	7	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
31	SCHULINE	2	n/nw	B/C4	38-60	10YR5/6, 4/1, & 5/1	CL	Mass.CP	Firm	7	NA
32	MORRISTOWN	6	NE	Ap	0-5	10yr5/1, 5/6,CFD5/8	C Loam	CP, M	Vfirm	5	As
32	MORRISTOWN	6	NE	B/C1	5-25.	5Y5/1, 5/6, & 5/3	C&CL	CP, M	Vfirm	5	NA
32	MORRISTOWN	6	NE	B/C2	25-60	5Y4/1, 10YR5/1	Clayshale	CP	Vfirm	7.5,FC	As
35	MORRISTOWN	2	SW	Ap	0-5	Mixed 10YR3/1&4/2	SIL	1FGR	Fr	6	As
35	MORRISTOWN	2	SW	B/C1	5-12.	Mixed 10YR4/2&5/3	SIL	1Msbk	Fr	7.5FC	As
35	MORRISTOWN	2	SW	B/C2	12-32.	Mixed 10yr6/1,5/2,5/6	CL X,	Cp	Vfirm	7.5,FC	As
35	MORRISTOWN	2	SW	B/C3	32-60	Mixed 10YR4/1,	Shale	CP	Vfirm	7.5,FC	NA
36	MORRISTOWN	13	N	Ap	0-6	Mixed 10YR4/2&5/6	SIL&SICL	1Fsbk	Fr	6	As
36	MORRISTOWN	13	N	B/C	006-30	Mixed 10YR5/1&5/6	CL&5%	CP	Vfirm	7.5,FC	NA
39	HURST	0	NA	Ap	0-8	10YR5/2,Ffd 5/8	SIL	2FGR	Fr	5.5	Cs
39	HURST	0	NA	Bt1	8-12.	10YR5/4, Cfd5/8&5/2	HSICL	2Msbk	Firm	5.5	Cs
39	HURST	0	NA	Btg1	12-28.	10yr5/2,Cmd5/8,CF5/1 5/4	HSICL	2Msbk	Firm	6	Cs
39	HURST	0	NA	Btg2	28-40	10yr5/1,Cmd5/8,4/6	HSICL	2Msbk	Firm	6	Cs
39	HURST	0	NA	Btg3	40-60	2.5y6/2 CMD5/8,4/6,CF5/1	SICL	2Msbk	Firm	7.5 FC	Cs
40	WAKELAND	0	NA	A	0-8	10YR4/2	SIL	2Fgr	Fr	N	Cs
40	WAKELAND	0	NA	Bw1	8-16.	10YR4/3 5/2&5/8	SIL	1Msbk	Fr	N	Cs
40	WAKELAND	0	NA	Bw2g	16-30	10YR5/2 M5/3&5/8	SIL	1Msbk	Fr	N	Cs

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
40	WAKELAND	0	NA	C	30-50	10YR6/2 M 5/2&4/6	SIL	M	Fr	N	Cs
40	WAKELAND	0	NA	C	50-60	10YR6/1 M 5/2&4/6	SIL	M	Fr	N	Cs
41	STOY	0	NA	AP	0-8	10YR4/2	SIL	2fgr	friable	5.5	AS
41	STOY	0	NA	E	8-13.	10YR5/3	SIL	2fpty	friable	5.5	CS
41	STOY	0	NA	BT1	13-22	10yr5/4, ffd5/8, ccf5/3	SICL	2msbk	firm	5	CS
41	STOY	0	NA	BT2	22-30	10yr514,ffd5/2,5/8 ccf5/1	SICL	2msbk	firm	5.5	CS
41	STOY	0	NA	BTg1	30-42	10yr5/2, cfd5/8,5/4 ccf5/1	SICL	2msbk	firm	6	CS
41	STOY	0	NA	BTg2	42-60	5/1 cfd 5/8, 5/2, ccf5/1	SICL	2msbk	firm	6	NA
42	STOY	1	NA	AP	0-6	10yr5/6 cfd5/1,5/8,c10yr5/2cf	SICL	2msbk	firm	5	AS
42	STOY	1	NA	Bt1	6-18.	10yr5/4,cfd5/8,5/1 cf5/2	SICL	2msbk	firm	5	Cs
42	STOY	1	NA	Bt2	18-30	10yr5/3,cfd5/8,5/1 c cf 5/1	SICL	2msbk	firm	5.5	Cs
42	STOY	1	NA	Btg1x	30-43	10yr5/2 cfd5/8,5/4 cf5/1	SICL	2msbk	firm	6	Cs
42	STOY	1	NA	Btg2	43-60	10yr5/2cfd 10YR5/8&5/4 dis 5/1 cf	NA	NA	NA	NA	NA
43	NON-CALCAREOUS SCHULINE	2	NW	Ap	0-8	Mixed 10YR4/2&3/2	SIL	1fgr	Fr	6	As
43	NON-CALCAREOUS SCHULINE	2	NW	B/C1	8-19.	mixed10yr5/6,5/1,4/2 cfd 5/8	SIL&SICL	1msbk	firm	6	As
43	NON-CALCAREOUS SCHULINE	2	NW	B/C2	19-24	Mixed 10yr 3/1,4/2 cfd 5/8	SIL	1fgr	Fr	6.5	As
43	NON-CALCAREOUS SCHULINE	2	NW	B/C3	24-39	mixed 10yr5/2, 5/6 cfd 5/8	SICL	CP&Mass	Vfirm	7	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
43	NON-CALCAREOUS SCHULINE	2	NW	B/C3	39-60	mix 10yr5/2,5/6,5/1 cfd 5/8	Cl&SICL	CP&Mass	Vfirm	7	NA
44	NON-CALCAREOUS SCHULINE	1	N	Ap	0-11	Mixed 10YR3/2&5/2	SIL	1mgr	Fr	5.5	As
44	NON-CALCAREOUS SCHULINE	1	N	B/C1	11-20.	mixed 10yr5/6,5/1 and 6/2	SICL	Mass&Cp	Vfirm	5.5	As
44	NON-CALCAREOUS SCHULINE	1	N	B/C2	20-60	mix 10yr4/3,5/6 and 5/1	CL&SICL	Mass&Cp	Vfirm	6.5	NA
45	SCHULINE	2	S	Ap	0-8	10yr 4/2ccf5/2, ffd10yr5/8	SIL	2fgr	Fr	6	As
45	SCHULINE	2	S	B/C1	8-16.	10yr4/2 mmf 5/2, cfa 5/8	SIL	2msbk	Fr	6	As
45	SCHULINE	2	S	B/C2	16-24	Mixed 10YR5/1&5/6	SIL&SICL	CP	Vfirm	7	As
45	SCHULINE	2	S	B/C3	24-50	mixed 10yr5/1,5/2,5/6 cfd 5/8	CL	CP	Vfirm	7.5,FC	As
45	SCHULINE	2	S	B/C4	50-60	Mixed 10YR5/6y	NA	NA	NA	NA	NA
46	SCHULINE	2	S	Ap	0-4	mixed 10yr 5/1,5/3, cfd 5/8	SIL	CP	Fr	5.5	As
46	SCHULINE	2	S	B/C1	4-10.	mix10yr5/1,5/6, cfd 5/8	SIL	CP	Fr	6	As
46	SCHULINE	2	S	B/C2	10-30.	mixed 10yr 5/4,5/2, cfd 5/8	CL	CP	Vfrim	7.5FC	As
46	SCHULINE	2	S	B/C3	30-60	mixed 10yr5/2,5/4o5/6,cfa 5/8	CL	CP	Vfirm	7.5,FC	NA
47	SCHULINE	0	NA	Ap	0-7	10yr 5/1 cfd 5/8 4/6	SIL	1 Msbk	Fr	5.5	AS
47	SCHULINE	0	NA	B /C1	7-14.	mixed 5/1 5/6 5/4 Cmd 5/8	CL	CP	Vfirm	5.5	AS
47	SCHULINE	0	NA	B/C2	14-30	Mixed 5/1 6/2 5/4	CL & clay	CP	Vfirm	7	AS
47	SCHULINE	0	NA	B/C3	30-60	Mixed 5/6 5/1 5/3	CL	CP	Vfirm	8	NA

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
48	LENZBURG	1	W	AP	0-7	Mixed 5/2 5/4	SIL & SICL	CP	firm	5.5	AS
48	LENZBURG	1	W	B/C1	7-18.	Mixed 5/2 5//1 5/4	SICL	CP	firm	6.5	AS
48	LENZBURG	1	W	B/C2	18-30	Mixed 5/2 5/1 5/6	CL	CP	Vfirm	7.5,FC	AS
49	LENZBURG	2	E	AP	0-6	Mixed 10YR 4/2 5/4	SIL SILC	1 Msbk	fr	5.5	AS
49	LENZBURG	2	E	B/C1	6-20.	Mixed ftd 5/6 5/1 5/2 10yr 5r	CL	CP	Vfirm	6.5	AS
49	LENZBURG	2	E	B/C2	20-40	Mixed 5/6 5/1 5/8	CL	CP	Vfirm	7	AS
51	BIRDS	2	W	AP	0-7	10YR5/2 cfd 5/8	SIL	2fgr	fr	5.5	AS
51	BIRDS	2	W	Cg1	7-14.	10YR5/1 cfd 5/8 5/12	SIL	M	fr	5.5	CS
51	BIRDS	2	W	Cg2	14-30	10YB6/1 cfd 5/8 5/12	SIL	M	fr	6	CS
51	BIRDS	2	W	Cg3	30-42	10YR5/1 cfd 5/8 6/1	SIL	M	fr	7.5,FC	CS
51	BIRDS	2	W	Cg4	42-60	2.5Y6/2 cfd 5/1 5/8	SIL	M	fr	7.5,FC	CS
53	SCHULINE	15	E	A	0-7	mix 10yr 5/2, 4/2	SIL	lfsbk	fr	5.5	As
53	SCHULINE	15	E	B/C1	007-15	mixed 10yr 5/2, 5/6	Sil, Sicl	cp	fr	6	As
53	SCHULINE	15	E	B/C2	15-31	mixed 10yr 5/6, 5/3, cfd 5/8	cl 5%	cp	firm	7.5 FC	As
53	SCHULINE	15	E	B/C3	31-60	mixed 10yr 5/1, 5/6, 5/3	cl 5%	cp	firm	7.5 FC	NA
55	LENZBURG	7	W	A	0-11	mix 5/6, 5/2 cmd 5/8	SICL & CL	CP	firm	5.5	AS
55	LENZBURG	7	W	B/C	11-20.	Mixed 10YR 5/2 4/1 & 5/4 cmd 5/8	CL&L	CP	vfirm	6.5	AS
55	LENZBURG	7	W	Cg1	20-40	5Y 5/1 cmd 5/8 5/4	CL	CP	vfirm	7.3	AS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
55	LENZBURG	7	W	Cg2	40-60	10YR 6/2 cmd 5/8 5/4	CL	CP	vfirm	7.5FC	NA
56	SCHULINE	3	E	AP	0-4	10YR 4/2	SIL	2f gr	fr.	5.5	AS
56	SCHULINE	3	E	B/C1	4-7.	Mixed 10Y 5 5/4 5/6 5/2	CL	CP	firm	5.5	AS
56	SCHULINE	3	E	B/C 2	7-22.	Mixed 10 YR 5/2 5/3 & 5/4 cfd 5/4	SIL&CL	CP	firm	6.5	AS
56	SCHULINE	3	E	B/C 3	22-40	Mixed 10YR 6/2 5/2 &5/6	CL	CP	vfirm	7.5,FC	AS
56	SCHULINE	3	E	B/C 4	40-60	Mixed 10YR 5/2 6/1 & 5/6	CL	CP	vfirm	7.5FC	NA
57	SCHULINE	3	E	AP	0-8	Mixed 10YR 5/2 5/1, 5/6	SIL & SICL	1 fsbk	fr	5.5	AS
57	SCHULINE	3	E	B/C 1	8-17.	Mixed 10YR 5/6 5/2 5/1cfd 5/8	SICL & CL	CP	firm	6.0.	AS
57	SCHULINE	3	E	B/C 2	17-30	Mixed 10YR 5/6 4/3 5/2cfd 5/8	SICL & CL	CP	firm	7.5,FC	CS
57	SCHULINE	3	E	B/C 3	30-60	Mixed 10YR 5/6 5/2 5/1cfd 5/8	CL	CP	firm	7.5,FC	B
62	WAKELAND	1	N	A	0-7	10YR 4/3 S	Silt Loam	2fgr	fr	6.0.	AS
62	WAKELAND	1	N	C	37453	10YR 5/3 cff 5/2 5/6	SIL	M	fr	6.0.	CS
62	WAKELAND	1	N	C	16-38	10YR 5/2 cff 5/6 6/4	SIL	M	fr	6.0.	CS
62	WAKELAND	1	N	C	38-60	10YR 5/2 mfd 10yr 5/6 6/1	SIL	M	fr	6.0.	CS
63	SCHULINE	1	N	A	0-5	10YR41/3	SIL	lfq2	fr	5	AS
63	SCHULINE	1	N	B/C	005-17	10YR414 60YR4/2	SICL	VCP	EXFI	6	ES
63	SCHULINE	1	N	C	17-60	N 2/0 10YR4/2 2.5YR4/2	CL	m	vfi	8,FC	NA
64	SCHULINE	1	N	A	0-3	10YR5/3	SIL	lfgr	fr	5.5	AS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
64	SCHULINE	1	N	AE	003-13	10YR5/2 10YR4/6 10YR4/3	SIL	lfsbk	fr	5.5	AS
64	SCHULINE	1	N	C1	13-33	10YR4/4 5Y511 2.5YR4/2	SICL	vcp	vfi	7	AS
64	SCHULINE	1	N	C2	33-60	N2/0 5Y511 2.5Y4/4	CL	m	exfi	8,FC	NA
67	SCHULINE	1	N	A	0-7	Mixed 5/2 1412 &516	SIL & CL	cp	firm	7	AS
67	SCHULINE	1	N	B/C1	007-20	mixed 10YR5/6 &5/2 cfd5/8	CL	cp	firm	7	AS
67	SCHULINE	1	N	B/C2	20-35	mixed 5/6 1 5/8 & 5/2	SCL& CL	cp	firm	7.5FC	AS
67	SCHULINE	1	N	B/C2	35-60	mixed 5/2,5/18,5/6 cfd 5/18	CL	cp	firm	7.5,FC	NA
68	LENZBURG	0	NA	A	0-10	Mixed 5/6,5/2,5/1 cfd. 518	sil & cl % or gr	cp	firm	6.6	AS
68	LENZBURG	0	NA	B/C1	010-15	mixed 5/2,5/6 &5/1	cl 5%gr	cp	vfirm	6.5	AS
68	LENZBURG	0	NA	B/C2	15-30	mixed 5/2,5/1&5/6	cl	cp	vfirm	7	AS
68	LENZBURG	0	NA	B/C3	30-60	mixed 5/3,5/2,5/1&5/6	cl	cp	vfirm	7.5FC	NA
69	SCHULINE	15	E	A	0-7	mixed 10YR 5/2&4/2	SIL	lfsbk	fr	5.5	AS
69	SCHULINE	15	E	B/C1	007-15	mixed 10YR 5/2&5/6	Sil & Sicl	cp	fr	6	AS
69	SCHULINE	15	E	B/C2	15-31	mixed 10YR5/6& 5/3 cfd 5/8	cl 5%gf	cp	firm	7.5,FC	AS
69	SCHULINE	15	E	B/C3	31-60	mixed 10YR5/1,5/6,5/3	cl 5%gf	cp	firm	7.5,FC	NA
72	BIRDS	0	NA	AP	0-5	10YR5/2 MMf4/2FLD10YR5/8	Sil	2fsbk	fr	6.5	AS
72	BIRDS	0	NA	Cg1	005-18	5YR5/1 cff 10YR6/2&5/8	Sil	1fsbk	fr	6.5	CS
72	BIRDS	0	NA	Cg2	18-30	5YR5/1 cfd 6/1&5/8	Sil	M	fr	7	CS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
72	BIRDS	0	NA	Cg3	30-60	2.5YR6/2 cmd 10YR5/2,5/8	SIL	M	fr	7	NA
73	MORRISTOWN	0	NA	A	0-4	10YR 5/3	SIL	1fgr	fr	7	AS
73	MORRISTOWN	0	NA	B/C	004-12	mixed 10YR 5/6&5/2	CL5%	M	vfirm	7	NA
74	SCHULINE	0	NA	A	0-3	10YR4/6 10YR 5/4	SiL	lfgr	fr	6	AS
74	SCHULINE	0	NA	B/C	3-20.	10YR4/6 10YR511 10YR4/3	Sicl	vcp	vfi	7	CS
74	SCHULINE	0	NA	C	20-60	10YR4/4 M510 2.5Y4/2	CL	m	vfi	8,FC	NA
75	SCHULINE	15	W	AB	0-3	10YR4/3 10YR 4/6	sicl	lfsbk	fi	6	AS
75	SCHULINE	15	W	BC	003-12	10YR4/3 5Y511 7.5YR 4/6	sicl	vcp	vfi	8,FC	AS
75	SCHULINE	15	W	C	22251	N2/0 N5/0 5Y4/1 7.5YR4/6	cl	vcp	vfi	8,FC	NA
77	LENZBURG	15	W	AP	0-6	mixed 10YR5/6&5/2	SICL	CP	firm	5.5	AS
77	LENZBURG	15	W	B/C1	006-20	mixed10YR 5/1&5/6 cf 5/8	CL 5%gr	CP	vfirm	6	AS
77	LENZBURG	15	W	B/C2	20-42	mixed 10YR 5/6 & 5/1	cl&slcl	CP	firm	5.5	AS
77	LENZBURG	15	W	B/C3	42-60	10YR5/1 cmd 5/8,4/6	cl	CP	firm	7.5,FC	NA
78	STOY	7	SE	AP	0-8	ff conc. 5/2	SIL	sil2fgr	fr	6	AS
78	STOY	7	SE	Bti	008-16	ffconc.5yr5/4,mfdM5/2cf5/2, 5/8	SILC	2fgbk	fr	6	CS
78	STOY	7	SE	Bt2	16-30	ff.conc. 10YR MMD 5/2	NA	NA	NA	NA	NA
78	STOY	7	SE	NA	NA	& 5/8 M5/2 cf	SICL	2fsbk	firm	5.5	CS
78	STOY	7	SE	Btg1	30-40	ff.conc.10yr5/2MMD5/4,5/8 M5/1cf	SICL	2msbk	firm	5.5	CS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
78	STOY	7	SE	Btg2	40-52	ff.conc.10yr5/2mmd5/4,5/8 m5/1 cf	SICL	2msbk	firm	5.5	CS
78	STOY	7	SE	Btg3	52-60	ff.conc.10yr5/1mmd5/4,5/8m5/1cf	SICL	2msbk	firm	5.5	CS
79	STOY	4	S	AP	0-8	ff.conc 10YR 4/2	SIL	2fgr	fr	6	AS
79	STOY	4	S	E	008-14	ff.conc 5/2 ffd 5/8	SIL	2fpty	fr	6	CS
79	STOY	4	S	Bt1	14-20	ff.conc.10yr5/4cfd5/2,5/8m5/1 cf	SICL	2fsbk	firm	5.5	CS
79	STOY	4	S	Bt2	20-32	ff.conc.10yr mfd5/2,5/8 m 5/2 cf	SICL	2fsbk	firm	5.5	CS
79	STOY	4	S	Btg1	32-43	ff.conc 5/2 mfd 5/8 & 5/4 M5/1 cf	SICL	2fsbk	firm	5.5	CS
79	STOY	4	S	Btg2	43-60	ff.conc. 5/1 mfd 5/6&5/2 M 5/1 CP	Hvy SIL	2msbk	fr	5.5	NA
82	BIRDS	1	W	AP	0-5	mised 4/3&5/2	SIL	1msbk	fr	6	AS
82	BIRDS	1	W	B/C	005-13	mixed 10YR 5/1&4/3&5/6	SIcl 3%	cp	firm	6	AS
82	BIRDS	1	W	B/C	13-22	conc. Mixed 5/1 &6/2 cpd 5/8	sil	M	fr	6	AS
82	BIRDS	1	W	Cg1	22-40	conc 10YR 5/1 MMD 5&	sil	M	fr	6	CS
82	BIRDS	1	W	Cg2	40-60	10YR 6/2 MMD 5/8 & 5/4	sil	M	fr	6	NA
84	BIRDS	0	NA	A	0-5	10YR 5/2	Sil	Mfgz	fr	5.5	AS
84	BIRDS	0	NA	Bg1	005-13	10YR 4/2	Sil	2MPL	fr	6	CS
84	BIRDS	0	NA	Bg2	13-20	ED 10YR4/2 CD 10YR5/2	Sil	1msbk	fr	6	CS
84	BIRDS	0	NA	Bg3	20-32	10YR4/6CD 10YA 5/2	Sil	1msbk	fr	6.5	CS
84	BIRDS	0	NA	Bg4	32-60	10YR5/4CD 10YR 5/2	Sil	1msbk	fr	7.2	CS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
85	SCHULINE	0	NA	AB	0-4	10YR4/610YR4/3	Sicl	lfsbk	fi	7.5,FC	AS
85	SCHULINE	0	NA	BC	004-19	10YR5/6 10YR4/2	sicl	vep	fi	7.5,FC	CS
85	SCHULINE	0	NA	C	19-60	5y 5/1 10YR 4/4 2.5 y 4/2	CL	M	exfi	8,FC	NA
86	SCHULINE	0	NA	A	0-4	10YR4/3	Sil	lfsbk	fr	6	AS
86	SCHULINE	0	NA	AB	004-17	10YR4/3 10YR4/6	Sicl	1msbk	fi	6	AS
86	SCHULINE	0	NA	C	17-60	5Y5/1 10YR 4/6	sicl	vcp	exfi	8,FC	NA
87	SCHULINE	0	NA	AB	0-3	10YR 4/4	Sicl	lmsbk	fi	6	AS
87	SCHULINE	0	NA	B/C	003-18	5YR 5/8 N5/10 7.5YR 5/6	Sicl	vcp	vfi	8,FC	AS
87	SCHULINE	0	NA	C	18-60	7.5YR5/6 10YR4/2 5Y 4/1	CL	m	exfi	8,FC	NA
88	SCHULINE	0	NA	A	0-5	10YR 5/3	SIL	lfgv	fv	6.5	AS
88	SCHULINE	0	NA	B/C1	005-17	10YR 4/6 10YR5/4 10YR4/2	Sicl	2mpl/vco	FI	7.5,FC	CS
88	SCHULINE	0	NA	BC2	17-36	7.5YR5/6 10YR4/6 10YR4/2	sicl	vcp	FI	5.5	CS
88	SCHULINE	0	NA	C	36-60	N 2/0 5 YR5/8 5YR 4/1	CL	vcp	FI	8,FC	NA
89	SCHULINE	0	NA	A	0-3	conc mixed 10YR 5/6,5/2	sil &SICL	cp	fr	5.5	AS
89	SCHULINE	0	NA	B/C1	003-11	conc mixed 10YR 5/6,5/2,5/1	sil	cp	firm	6.5	AS
89	SCHULINE	0	NA	B/C2	16-60	conc mixed 10YR 5/6 & 5/2	cl 5%	cp	firm	6.5	AS
90	MARINE	1	S	AP	0-9	f conc. 10YR 4/2	sil	2fgr	fr	6	AS
90	MARINE	1	S	E	009-16	f. conc. 10yr 5/2 ffd 5/8	sil	2fptk	fr	6	CS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
90	MARINE	1	S	Bt1	16-24	f.conc. 10YR5/4 cfd 5/8&5/2 m5/2cf	sil	2msbk	firm	6	CS
90	MARINE	1	S	Bt2	24-35	10yr5/4 cfd 5/8 & 5/1 M 5/1 cf	sicl	2msbk	firm	5.5	CS
90	MARINE	1	S	BTg1	35-45	f.conc. 10yr5/2 cfd 5/8 & 5/1m5/1cf	sicl	2msbk	firm	5.5	CS
90	MARINE	1	S	BTg2	45-60	10yr5/1, mfd 5/8&5/4 m slict	sicl	2msbk	firm	5.5	CS
91	MARINE	001/2	E	AP	0-8	cf. Conc. 10YR 5/2	Sil	2fpty	fr	6	AS
91	MARINE	001/2	E	Eg1	008-18	cf. Conc. 10YR5/1 cfd 5/8	Sil	2fpty	fr	6	CS
91	MARINE	001/2	E	Eg2	18-24	cf. Conc. 10YR5/1 MFD 5/8 2.5yr6/2	Sil	2fpty	fr	6	CS
91	MARINE	001/2	E	Btg1	24-32	cf. Conc. 10YR5/2 MFD 5/8 5/4m5/2 cf	Sicl	2msbk	firm	5.5	CS
91	MARINE	001/2	E	Btg2	32-42	cf. Conc. 10YR5/2 MFD 5/8 5/4M5/1cf	Sicl	2msbk	firm	5.5	CS
91	MARINE	001/2	E	Btg3	42-60	cf. Conc. 10YR5/1 MF 5/8 5/2m5/1cf	Sicl	2msbk	firm	5.9	NA
92	LENZBURG	3	NA	A	0-4	Mixed 10YR4/2&5/1 cfd 10yr 5/8	Sil & Sicl	massive cp	firm	6.5	AS
92	LENZBURG	3	NA	B/C1	004-15	mixed 10YR5/2 & 5/6 CFD 10yr5/8	CL	massive cp	v firm	7	AS
92	LENZBURG	3	NA	B/C2	15-48	mixed 10YR5/2, 5/1& 4/3	sil & cl	massive cp	firm	7	AS
92	LENZBURG	3	NA	B/C3	48-60	mixed 5YR5/1&5/4 cfd 5/8&4/6	cl & sil	massive cp	v firm	7.5,FC	NA
93	BIRDS	001/3	W	AP	0-7	10YR5/3	sil	mf gk	fr	5.5	AS
93	BIRDS	001/3	W	C1	007-16	10YR5/2 cfd 5/6& 4/3	sil	M	fr	6	CS
93	BIRDS	001/3	W	C2	16-38	10YR5/2 mmd 5/6, 4/3	sil	M	fr	6	CS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
93	BIRDS	001/3	W	Cg	38-60	10YR 5/1 mmd 5/6,4/3	sil	M	fr	6	NA
94	BIRDS	0	NA	A	0-7	conc. 10YR 4/3	sil	2fgr	fr	5.5	CS
94	BIRDS	0	NA	C	007-15	conc. 10YR 5/3 cfd 5/6, 5/2	sil	M	fr	5.5	CS
94	BIRDS	0	NA	Cg1	15-35	conc. 10YR5/2 cmd 5/6,5/4	sil	M	fr	6	CS
94	BIRDS	0	NA	Bg2	35-60	conc. 10YR5/2 mmd 5/6,6/1	sil	M	fr	6	NA
95	SCHULINE	0	NA	0-7	A	10YR 5/3	Sil	f cp	FR	7.5,FC	AS
95	SCHULINE	0	NA	007-34	B/C	10YR4/4, 7/5YR5/6 5YR5/1	Sicl	vcp	efi	8,FC	CS
95	SCHULINE	0	NA	34-60	C	N2/0 10YR4/1,5/1,5/1	CL	m	efi	8,FC	NA
96	SCHULINE	0	NA	A	0-6	10YR 5/3	sil	1fgr	fr	7	AS
96	SCHULINE	0	NA	BC	006-15	10YR 4/6 10YR 4/2	sil	1sbk	fi	7.5,FC	AS
96	SCHULINE	0	NA	C1	15-30	10YR4/4 n6/0 10YR 4/2	sicl	vcp	exfi	8,FC	GS
96	SCHULINE	0	NA	C2	30-60	N2/0 N 5/0 10YR 4/4	cl	vcp	exfi	8,FC	NA
97	SCHULINE	0	NA	A	0-5	10YR 5/3	sil	1fgr	fr	6.5	AS
97	SCHULINE	0	NA	B/C1	005-13	10YR4/4 5YR 5/1	sicl	vcp	exfi	8,FC	CS
97	SCHULINE	0	NA	B/C2	13-28	10YR 6/ 5YR 5/1	sicl	vcp	exfi	3.5	CS
97	SCHULINE	0	NA	B/C3	28-42	5YR 5/8 5YR 5/1	sicl	vcp	exfi	8,FC	CS
97	SCHULINE	0	NA	B/C4	42-60	10YR4/4 5YR 5/1	cl	m	exfi	8,FC	NA
101	LENZBURG	15	NA	C	0-60	calc 10YR 5/6, 5/2	loam,cl till	cp	vfirm	7.5,FC	NA

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
102	MARINE	0	NA	AP	0-8	f. conc. 5/2	sil	2fgr	fr	6	AS
102	MARINE	0	NA	AP	008-13	f. conc. 5/2 cf 5/8	sil	2fpty	fr	6	CS
102	MARINE	0	NA	AP	13-20	f. conc. 5/6 cf 5/8&5/2 m5/2 cf	sicl	2fpsbk	firm	6	CS
102	MARINE	0	NA	AP	20-32	f. conc. 5/6 cf 5/8, 5/2 m 5/2 cf	sicl	2fsbk	firm	6	CS
102	MARINE	0	NA	AP	32-45	f. conc. 5/2 cf 5/8, 5/3 m 5/1 cf	sicl	2fsbk	firm	5.5	CS
102	MARINE	0	NA	AP	45-60	f. conc. 5/1 cf 5/8,5/3 m 5/1 cf	sil	2fsbk	fria	5.5	NA
103	MARINE	0	NA	AP	0-8	f.conc. 5/2	sil	2fgy	fr	6	AS
103	MARINE	0	NA	E	008-12	f.conc. Crd 5/6	sil	2fgty	fr	6	AS
103	MARINE	0	NA	Bt1	37620	f. conc.10YR5/6 ffd5/8, 5/2 m5/2cf	sicl	2fsbk	fr	5.5	CS
103	MARINE	0	NA	Bt2	30-39	f. conc.10YR5/4 ffd 5/2,5/6 m5/2cf	sicl	2msbk	firm	5.5	CS
103	MARINE	0	NA	Btg1	39-50	10yr5/2 cfd 5/8, 3/7 Md 5/6 ct	sicl	2msbk	firm	5.5	NA
103	MARINE	0	NA	B/C	50-60	10YR 5/1 cfd 5/8 MD3/1 cfd	NA	NA	NA	NA	NA
104	BIRDS	0	NA	A	0-8	10YR5/2 ffd 5/8	Sil	mmgr	fr	6	NA
104	BIRDS	0	NA	Cg1	008-16	10YR5/2mmd 5/8&4/6	sil	m	fr	6	NA
104	BIRDS	0	NA	Cg2	16-30	10YR5/1 mmd 5/8,4/6	sil	m	fr	6	NA
104	BIRDS	0	NA	Cg3	30-60	2.5 YR 6/2 mmd 5/8,4/6	sil	m	fr	6	NA
105	WAKELAND	0	NA	A	0-8	conc. 10YR 4/3	sil	2fgr	fr	5.5	AS
105	WAKELAND	0	NA	C1	008-17	conc. 5/3 fff 5/2	sil	n	fr	5.5	CS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
105	WAKELAND	0	NA	Cg1	17-29	conc. 5/2 cmd 5/6&6/1	sil	n	fr	5.5	CS
105	WAKELAND	0	NA	Cg2	29-60	conc. 5/1 cmd 5/6, 5/2, 6/1	sil	n	fr	5.5	NA
106	LENZBURG	0	NA	A	0-6	10YR 4/6 10YR 5/3	sil	1fgr	fr	6	AS
106	LENZBURG	0	NA	BC	006-18	10YR4/3 5YR5/8 2.5YR4/2	sicl	vcp	vfl	8,FC	AS
106	LENZBURG	0	NA		18-60	N2/0 5YR5/1 10YR4/3	cl	m	exfi	8,FC	NA
107	SCHULINE	0	NA	A	0-5	10YR 3/3	sil	1fgr	fr	6	AS
107	SCHULINE	0	NA	A/E	005-13	10YR 5/4 10YR 5/2	sil	1fgr	fr	7	CS
107	SCHULINE	0	NA	B/C	13-24	10YR5/1,10YR5/4, 2.5YR 4/2	sicl	vcp	vfi	8,FC	CS
107	SCHULINE	0	NA	C	24-60	7.5YR4/6 2.5YR4/2 5YR 5/1	cl	m	VFI	8,FC	NA
108	SCHULINE	0	NA	A	0-4	10YR 5/3	sil	1fgr	fr	6	AS
108	SCHULINE	0	NA	A/B	004-14	10YR 4/6 10YR 5/3	sil	1fsbk,1fgv	fr	6.5	AS
108	SCHULINE	0	NA	B/C	14-28	5YR5/1 5YR5/6 2.5YR 4/2	sicl	vcp	vfi	8,FC	GS
108	SCHULINE	0	NA	C	28-60	N2/0 10YR5/8 5YR 5/1	cl	vcp	esfi	8,FC	NA
110	SCHULINE	0	NA	A	0-4	10YR 5/3	sil	2fgv	fv	6	CS
110	SCHULINE	0	NA	A/E	004-17	10yr4/6, 10yr5/6, 10yr5/3	sicl	1fgv	fv	7	AS
110	SCHULINE	0	NA	B/C	17-29	10yr4/4,10yr4/1, 10yr5/6	sicl	vcp	vfi	8,FC	AS
110	SCHULINE	0	NA	C	29-45	N2/0 7.5yr4/6, N5/1 coal	sicl	m	exfi	8,FC	NA
111	SCHULINE	0	NA	A	0-8	10YR 5/3	sil	1fgr	fr	6.5	AS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
111	SCHULINE	0	NA	A/B	008-25	10yr4/4, 7.5yr4/6,10yr5/2	sil	1mpl/cp	fv	7	CS
111	SCHULINE	0	NA	B/C	25-46	10yr5/6,10yr4/4, 10yr4/2	sicl	vcp	exfi	8,FC	AS
111	SCHULINE	0	NA	C	46-50	5G 5/1 7.5yr4/6	sicl	vcp/m	exfi	8,FC	NA
112	SCHULINE	0	NA	A	0-9	10yr5/2 10yr5/3	sil	1fgr	fr	6	AS
112	SCHULINE	0	NA	A/E	009-14	10yr4/6 10yr4/3	sil	1fgr	fr	6	AS
112	SCHULINE	0	NA	B/C1	14-48	10yr5/1 7.5yr5/1 10yr5/4	sicl	vcp	vfi	8,FC	CS
112	SCHULINE	0	NA	B/C2	48-60	7.5yr4/6, 10yr5/4 5B 5/1	cl	vcp	exfi	8,FC	
113	SCHULINE	0	NA	A	0-7	mixed 10yr5/6&5/2	cl 5%	1msbk	firm	7	AS
113	SCHULINE	0	NA	B/C1	007-18	mixed 10yr5/2 & 5/6	cl 5%	cp	firm	7.5,FC	AS
113	LENZBURG	0	NA	B/C2	18-60	mixed 10yr5/6, 5/8, 5/2	cl 5%	cp	v firm	7.5,FC	NA
114	STOY	0	NA	AP	0-8	cfconc. 5/2 fififout 5/3	SIL	2fgr	fr	6	AS
114	STOY	0	NA	E	008-13	cfconc. 5/2 cff 6/2 & 5/4	SIL	2fpty	fr	5.5	CS
114	STOY	0	NA	Bt1	13-22	cfconc. 10yr 5/4, cfd 5/2& 5/8M10yr 5/2 cf & 7/2 silt coats	SIL	2msbk	firm	5.5	CS
114	STOY	0	NA	Bt2	22-40	10yr3/4 cfd 5/2 &5/8 M5/2cf f7/2 s.c.	hvy SICL	2msbk	firm	5.5	CS
114	STOY	0	NA	Btg1	40-48	10yr5/2 cfd 5/2 cf 5/8 & 5/1	SICL	2msbk	firm	5.5	CS
114	STOY	0	NA	Btg2	48-60	10yr 5/1 cfd 6/8 & 5/4 f 5/2 cf	SICL	1msbk	firm	6	NA
115	STOY	1	NA	AP	0-8	f. conc. 10YR 5/2	sil	1fgr	fr	6	AS
115	STOY	1	NA	E	008-12	10yr 5/3 cff 5/2	sil	2fpty	fr	6	CS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
115	STOY	1	NA	Bt1	012-20	f.conc.10yr5/4cff5/8 M5/2,5/3 cf	sicl	2fsbk	fr	5.5	CS
115	STOY	1	NA	Bt2	20-35	10yr5/4 Mff5/8 & 5/1 M5/1 cf	sicl	2msbk	firm	5.5	CS
115	STOY	1	NA	Btg1	35-49	f. conc. 2.5yr6/2 cfd 5/8 & 5/4 5/1 cf	sicl	2msbk	frim	5.5	CS
115	STOY	1	NA	Btg2	49-60	5Yr11 Cfd5/8&5/3 C 5/1 cf	sil	2msbk	fr	5.5	CS
116	BIRDS	0	NA	A	0-7	f. conc. 5Yr5/1 cfd 5/8 3/1	sil	1fsbk	fr	6	CS
116	BIRDS	0	NA	C1	007-17	f.conc. 5yr5/1, mfd 5/8, 4/2	sil	m	fr	6	CS
116	BIRDS	0	NA	C2	17-35	f.conc. 2.5yr6/2 mfd 5/8 & 5/2	sil	m	fr	6	CS
116	BIRDS	0	NA	C3	35-40	f.conc. 2.5yr 6/2 mmd 5/8	sil	m	fr	6	NA
117	SCHULINE	0	NA	A	0-10	10Yr 4/3	sil	1fgr	fr	6	AS
117	SCHULINE	0	NA	B/C1	010-15	10yr 7/4 10yr 5/6	sl	1fsbk	fr	7	CS
117	SCHULINE	0	NA	B/C2	15-24	10yr5/4, 10yr5/6, 10yr 4/2	cl	vcp	exfi	8,FC	CS
117	SCHULINE	0	NA	B/C3	24-60	2.5yr 4/1 10yr 4/2	cl	m	exfi	8,FC	NA
118	SCHULINE	0	NA	A	0-4	10yr 5/3	sil	1fgl	fr	6	AS
118	SCHULINE	0	NA	BC	004-15	7.5yr 4/4 10yr 4/2	sicl	vcp	vfi	8,FC	AS
118	SCHULINE	0	NA	C	15-60	5yr 5/1 7.5yr4/6, 10yr 5/6	cl	m	vfi	8,FC	NA
119	SCHULINE	0	NA	A	0-10	10yr 5/3	sil	1fgr	fr	6	AS
119	SCHULINE	0	NA	B/C1	010-15	10yr5/4 10yr 5/2	sicl	vcp	fi	8,FC	CS
119	SCHULINE	0	NA	B/C2	15-25	10yr5/8, 10yr5/1, 10yr5/6	sicl	vcp	vfi	8,FC	CS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
119	SCHULINE	0	NA	B/C3	25-29	7.5yr4/6, 10yr5/6, 5yr5/1	l	vcp	fi	3.5	CS
119	SCHULINE	0	NA	B/C4	29-60	7.5yr4/6 10yr5/4 10yr5/1	cl	vcp	exfi	8,FC	NA
121	LENZBURG	10	NA	A	0-6	mixed 10yr 5/6, 5/2	cl 5%	1msbk	firm	7	AS
121	LENZBURG	10	NA	B/C1	007-18	mixed 10yr 5/2, 5/6	cl 5%	NA	firm	7.5, FC	AS
121	LENZBURG	10	NA	B/C2	18-60	mixed 10yr 5/6, 5/8, 5/2	cl 5%	NA	v firm	7.5, FC	NA
122	LENZBURG	1	NA	A	0-8	mixed 10yr5/6, 4/2,5/1, 5%	cl, sicl, sil	1msbk	firm	6	AS
122	LENZBURG	1	NA	B/C1	008-23	mixed 5yr5/1,10yr5/6, 6/3 5%	cl&sicl	cp	firm	7.5,FC	AS
122	LENZBURG	1	NA	B/C2	23-49	mixed 5yr5/1, 10yr5/3, 5/6 5%	cl	cp	v firm	7.5,FC	AS
122	LENZBURG	1	NA	B/C3	49-60	mixed 5yr5/1,5/3,5/6,5-10% coal	cl	cp	v firm	7.5,FC	NA
123	na	NA	NA	NA	NA	Middle of Rock Spill way 2 ft of RR5 rip rap	NA	NA	NA	NA	NA
124	HOSMER	3	W	AP	0-6	10yr 4/3	sil	2fsbk	fr	6.5	AS
124	HOSMER	3	W	Bt1	006-12	10yr5/6, 4/4 cf cfd 10yr5/2	sicl	2msbk	firm	6	CS
124	HOSMER	3	W	Bt2	012-20	10yr5/4c5/2cf &5/2,5/3	sicl	2msbk	firm	5.5	CS
124	HOSMER	3	W	Bt2	20-28	10yr5/4, 10yr5/2 cf md 5/8	sicl	2msbk	firm	5.5	CS
124	HOSMER	3	W	Bt3	28-45	10yr5/2 mld. 5/8 & 4/6	sicl	2msbk	fr	5.5	CS
124	HOSMER	3	W	BC	45-60	10yr5/2mid10yr5/8, 4/6	sil	2msbk	fr	5.5	CS
125	STOY	0	NA	AP	0-7	10yr 4/7	sil	2fgr	fr	6	As
125	STOY	0	NA	Bt1	007-16	10yr5/4 cfd 5/8&5/2 5/3 cf	sicl	2msbk	fr	6	Cs

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
125	STOY	0	NA	Btg1	16-26	10yr5/2 cfd 5/8,5/4C5/1 cf	sicl	2msbk	firm	7	Cs
125	STOY	0	NA	Btg2	26-32	10yr5/1 cfd 5/8& 5/4 c 5/1 cf	sicl	2msbk	firm	7	Cs
125	STOY	0	NA	Btg3	32-47	f.corc.5/1 ffd 5/8 & 4/6 cf 5/1	sicl	2msbk	firm	7.5	Cs
125	STOY	0	NA	Btg4	47-60	f.corc.5/1 ffd 5/8 & 4/6 cf 5/1	sil	2msbk	firm	7.5	Cs
126	STOY	0	NA	AP	0-9	f. conc. 5/2	sil	2fgr	fr	6	AS
126	STOY	0	NA	Bt1	009-17	10yr 5/3 cff 5/2, 5/6 CF 5/1	sicl	2msbk	firm	5.5	CS
126	STOY	0	NA	Btg1	17-28	10yr 5/2, cfd 5/4,5/6 cf 5/1	sicl	2msbk	firm	5.5	CS
126	STOY	0	NA	Btg2	28-40	10yr5/1 cfd 5/8, 4/6 cf 5/1	sicl	2msbk	firm	5.5	CS
126	STOY	0	NA	Btg3	40-60	10yr5/1 M5/8 cf 5/1	sicl	2msbk	firm	6	NA
127	Good Oconee	001/2	S	A	0-9	con. 10yr 3/1	sil	2for	fr	6	As
127	Good Oconee	001/2	S	E1	009-13	con. 10yr5/2 com 3/1 oc	sil	2fpty	fr	5.5	Cs
127	Good Oconee	001/2	S	E2	13-18	conc. 10yr5/1 ffd10yr 5/8	sil	2fpty	firm	5.5	Cs
127	Good Oconee	001/2	S	Bt1	18-27	10yr5/4 crd 5/2,5/8 5/1cf conc	sicl	2msbk	firm	5.5	Cs
127	Good Oconee	001/2	S	Btg1	27-40	10yr5/1 m 10yr5/8,1/6	sicl	2mskk	firm	5.5	Cs
127	Good Oconee	001/2	S	Btg2	40-60	5yr 5/1 ffd 5/8 & 4/6	sicl	1msbk	firm	6	NA
128	WAKELAND	0	NA	A	0-6	10yr4/3 cff 10yr4/2	sil	2msbk	fr	6	Cs
128	WAKELAND	0	NA	Bw1	006-16	10yr5/3 cff 10yr5/2, 4/2	sil	2msbk	fr	6	Cs
128	WAKELAND	0	NA	Bw2	16-25	10yr 5/2 cff5/3,5/8	sil	2msbk	fr	5.5	Cs

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
128	WAKELAND	0	NA	Bw3	25-40	10yr5/2 cff5/2, 5/8	sil	2msbk	fr	6	Cs
128	WAKELAND	0	NA	C	40-60	10yr5/2 cff 10yr4/2,5/8	sil	massive	fr	6	Cs
129	LENZBURG	0	NA	AP	0-5	mix 5yr5/1 fl10yr5/8 5% coal	cl 5%coal	cp	firm	7.5,FC	As
129	LENZBURG	0	NA	B/C1	005-16	mix 10yr 4/2, 4/3,5/6	sil & sicl	cp	vfirm	6	As
129	LENZBURG	0	NA	B/C2	16-30	mix 10yr5/1, 2.5yr 6/1	hvy cl	cp	v firm	6	As
129	LENZBURG	0	NA	B/C3	30-60	mix 10yr 5/1 & 5/6	hvy cl	cp	v firm	7.5,FC	As
130	LENZBURG	1	N	B/C1	0-30	mix 5yr4/14 10yr5/2 10yr 5/65-10% shale fragel coal farm	hvy cl	cp	v firm	7.5,FC	As
130	LENZBURG	1	N	B/C2	30-60	mixed 10yr 4/11,5/6	cl	cp	v firm	7.5,FC	NA
131	na	8	E	AP	0-8	10yr 4/2	sil	1fgr	fr	5.5	As
131	na	8	E	B/C1	008-26	2.5yr 4/1 10yr6/2 cfd 10yr 5/6	hvy cl	cp	v firm	7.5,FC	AS
131	na	8	E	B/C2	26-60	mix 10yr 5/6, 2.5 yr 5/2	hvy cl	cp	v firm	7	NA
132	SCHULINE	25	N	AP	0-4	10yr 4/2	sil	2fgr	fr	6.5	As
132	SCHULINE	25	N	B/C1	004-11	mix 10yr4/2,5/18,5/6	sil	1fsbk	fr	7	As
132	SCHULINE	25	N	B/C2	011-30	mix 10yr5/1, 10yr 5/3,5/8	hvy cl	cp	firm	7.5,FC	As
132	SCHULINE	25	N	B/C3	30-60	mix 10yr 5/8 5/6 5/8 cfd	hvy cl	cp	v firm	7.5,FC	As
133	SCHULINE	0	NA	A	0-6	10yr4/2 some in mixing of subs 5/6, 5 lbs	sil	1fgr	fr	6	As
133	SCHULINE	0	NA	B/C1	006-17	10yr5/1 1 ft 10yr 5/6	cl 5g	cp	firm	7.5,FC	As
133	SCHULINE	0	NA	B/C2	17-32	mix 10yr5/1, 2.5 6/2	cl & sicl	cp	firm	7.5,FC	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
133	SCHULINE	0	NA	B/C3	32-60	mix 10yr 5/6, 5/8, 5/1	cl 5%	c	v firm	7.5,FC	AS
136	na	0	NA	NA	NA	Old Road Bed Gravely Rock	NA	NA	NA	NA	NA
137	HOSMER	0	NA	AP	0-7	f.conc. 10yr 4/2	sil	2fgr	fr	5.5	As
137	HOSMER	0	NA	Bt1	007-16	conc. 10yr5/4 cfd5/2, 4/6 c5/2	sicl	2fsbk	fr	5	Cs
137	HOSMER	0	NA	Btg1	16-30	conc. 10yr 5/2 cfd 5/8,4/6	sicl	2fsbk	firm	5	Cs
137	HOSMER	0	NA	Btg2	30-42	5/1 cfd 5/8,4/6 c 5/1	sicl	2fsbk	firm	6.5	Cs
137	HOSMER	0	NA	Btg3	42-60	5/1 cfd 5/8, 5/4,6/2 c 5/1	sicl	2fsbk	firm	6.5	
138	WAKELAND	0	NA	A	0-7	10yr 4/3 10yr4/2 cmfaint	sil	1msbk	fr	6	Cs
138	WAKELAND	0	NA	Bw1	007-16	10yr5/3 cmf 5/2, 5/9	sil	1msbk	fr	6	Cs
138	WAKELAND	0	NA	Bw2	16-40	10yr5/2 mmf 5/3 ffd 5/8	sil	1msbk	fr	6	Cs
138	WAKELAND	0	NA	Bw3	40-60	10yr5/2 cfd 5/3, 5/8	sil	1msbk	fr	6	Cs
139	LENZBURG	12	N	only	0-60	mix 5yr 5/1 10yr5/6	hvy cl	cp	v firm	7.5,FC	NA
139	LENZBURG	12	N	NA	NA	5-10% gravel coal& shale frig.	NA	NA	NA	NA	NA
140	SCHULINE-NON CALCAREOUS	5	NW	AP	0-3	conc. 10yr 4/2	Sil	1fsbk	fr	6	AS
140	SCHULINE-NON CALCAREOUS	5	NW	B/C1	003-10	mix 10yr 5/4,5/2 cf 10yr 5/8	Sicl, sil	cp & sbk	fr	6.5	AS
140	SCHULINE-NON CALCAREOUS	5	NW	B/C2	010-24	mix 10yr 5/1, 5/4 cf 10yr 5/8	Sicl	cp & sbk	fr	6.5	AS
140	SCHULINE-NON CALCAREOUS	5	NW	B/C3	24-60	mix 10yr 6/2, 5/6, 4/1	cl. Till 5-10%	CP	v firm	7	NA

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
141	SCHULINE-NON CALCAREOUS	6	NW	AP	0-3	conc. 10yr 4/2	sil	1fsbk	fr	6	AS
141	SCHULINE-NON CALCAREOUS	6	NW	B/C1	003-10	mix 10yr 5/4, 5/2 cf 10yr 5/8	sicl, sil	cp & sbk	fr	6.5	AS
141	SCHULINE-NON CALCAREOUS	6	NW	B/C2	010-24	mix 10yr 5/1,5/4/cf 10yr 5/8	sil, sicl	cp, sbk	fr	6.5	AS
141	SCHULINE-NON CALCAREOUS	6	NW	B/C3	24-60	mix 10yr6/2, 5/6, 4/1	cl.Till 5-10%	CP	v firm	7	NA
142	SCHULINE	1	E	A	0-4	mx 10yr 5/1,4/2 cfd 5/8	sil	1fsbk	fr	6	As
142	SCHULINE	1	E	B/C1	004-18	mx10yr5/1,5/6 cfd 5/8	cl.till 5%	cp	v firm	7.5,FC	As
142	SCHULINE	1	E	B/C2	18-30	mx 10yr5/6,5/2,5/1,cd 5/8	hvy cl 5%	cp	v firm	7.5,FC	As
142	SCHULINE	1	E	B/C3	30-60	mx10yr5/1,6/8,5/6	cl 5% coal	cp	v firm	7.5,FC	As
143	LENZBURG	3	NNW	AP	0-7	mixed 10yr 5/2 & 5/6 com 5/8	SIL	1fsbk	fr	5.5	As
143	LENZBURG	3	NNW	CB1	007-17	mixed 10yr 5/1 & 2.5 & 6/2	cl10% coal	CP	vfirm	6.5	As
143	LENZBURG	3	NNW	B/C2	17-26	mixed 10yr 5/4, 5/2 & 5/8	cl5-10% co	CP & Tills	vfirm	7	As
143	LENZBURG	3	NNW	C/B2	26-60	mixed 10yr 5/2, 6/1 & 5/6	cl5-10%co	CP	vfirm	9.5,FC	NA
144	SCHULINE	6	E	AP	0-4	Mixed10yr 4/3 & 4/2	SIL	1far	fr	6	As
144	SCHULINE	6	E	B/C1	004-12	mixed10yr 5/2, 4/2, 4/3	SIL	cp	fr	5.5	As
144	SCHULINE	6	E	B/C2	012-27	mixed10yr4/3,6/2,5/1 cf 5/8	sil,sicl, cl	cp	vfirm	7.5,FC	As
144	SCHULINE	6	E	B/C3	27-60	mixed10yr 4/3,5/1 cf 10yr 5/8	hvycl5-10%	CP	vfirm	7.5,FC	NA
146	LENZBURG	3	W	A	0-5	mixed 10yr 5/4, 5/8, 5/2	cl 5%	1msbk	firm	6	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
146	LENZBURG	3	W	B/C1	005-10	mixed 10yr 4/1, 10yr 5/4	cl & sicl 5%	mass cp	vfirm	7.5,FC	As
146	LENZBURG	3	W	B/C2	010-22	mixed 10yr 4/1, 10yr 5/4	hvy cl	mass cp	vfirm	7.5,FC	As
146	LENZBURG	3	W	B/C3	22-60	mixed 5yr 5/1, 10yr 4/1	clay shale	mass cp	vfirm	7.5,FC	NA
148	SCHULINE	4	N	A	0-4	mixed 10yr 4/1, 5/2, 4/3	SIL	1fsbk	fr	6	As
148	SCHULINE	4	N	B/C1	004-16	mixed 10yr 5/1, 4/2, 4/3	SIL	cp	fr	7.5,FC	As
148	SCHULINE	4	N	B/C2	16-38	mixed 2.5 yr 6/2 10yr 5/2 cfd10yr5/8	SIL (E)	cp, block	fr	7.5,FC	As
148	SCHULINE	4	N	B/C3	38-60	mixed 10yr 5/1, 4/2, 4/3	SIL	cp, block	fr	7.5,FC	NA
149	LENZBURG	0	NA	AP	0-2	mixed 10yr 5/1, 4/3	SIL	1fsbk	fr	5.5	AS
149	LENZBURG	0	NA	B/C1	002-7	10yr 5/2 cfd 10yr 5/1, 5/8	SIL	cp	fr	6.5	AS
149	LENZBURG	0	NA	B/C2	007-22	mixed 10yr5/2,5/6 cfd 5/8	sil & sicl	cp	fr	7	AS
149	LENZBURG	0	NA	B/C3	22-30	mixed 10yr4/3,5/6,5/1	cl till	cp	vfirm	7.5,FC	NA
150	RIPRAP	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
151	LENZBURG,NC	8	NE	AP	0-8	mixed 10yr 4/2 & 5/6	sil & sicl	1fsbk	fr	7	As
151	LENZBURG,NC	8	NE	B/C1	008-28	mixed 10yr 45/6, 4/2, 5/1	sicl, sil	cp	fr	6.5	As
151	LENZBURG,NC	8	NE	B/C2	28-37	mixed 10yr 5/4, 5/6, 5/2	sil	cp	firm	7	As
151	LENZBURG,NC	8	NE	B/C3	37-60	mixed 10yr 4/1, 5/1, 5/6	cl 5% coal	Cp	vfirm	7	NA
152	SCHULINE	1	NE	AP	0-7	mixed 10yr 4/3, 4/2, ffd 10yr 5/6	SIL	1fsbk	fr	6	AS
152	SCHULINE	1	NE	B/C1	007-15	mixed 10yr 5/1,10yr5/6 fff10yr5/8	SIL & SICL	CP	fr	7	AS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
152	SCHULINE	1	NE	B/C2	15-60	mixed 5yr5/1, 10yr 4/6, 5/8	CL10%coal	CP	vfirm	7.5,FC	NA
153	LENZBURG	0	NA	AP	0-13	mixed 10yr4/2,5/1 cfd 10yr 5/1	sil	1fsbk	f	6	AS
153	LENZBURG	0	NA	B/C1	13-34	mixed10yr5/2, 4/2, 5/6cfd10yr5/8	sil & sicl	cp	fr	6	AS
153	LENZBURG	0	NA	B/C2	34-40	mixed10yr5/1, 5/6, 5/8	cl 5% gr	cp	vfirm	7.5,FC	AS
153	LENZBURG	0	NA	B/C3	40-60	5yr 5/1	shale resid		vfirm	7.5,FC	NA
154	LENZBURG	30	N	AP	0-12	mixed10yr4/2, 5/4 CFD 5/8	sil & sicl	1fgr	fr	6.5	As
154	LENZBURG	30	N	C1	012-35	mixed10yr5/1, 4/2,2.5y 6/2,CFD 5/8	sil	cp	fr	6	As
154	LENZBURG	30	N	C2	35-45	mixed10yr 4/1, 4/3 ;CFD 5/8,4/3	cl till	cp	vfirm	7.5,FC	As
154	LENZBURG	30	N	C3	45-60	mixed 10yr 5/6, 5/1 cmd 5/8, 4/3	cl till shale	cp	vfirm	7.5,FC	NA
155	LENZBURG	25	W	B/C1	0-10	10yr 5/4	CL 5%	cp	vfirm	7.5,FC	As
155	LENZBURG	25	W	B/C2	010-30	mixed 10yr 5/4, 5/2, 5/8	CL 5%	cp	vfirm	7.5,FC	Cs
155	LENZBURG	25	W	C/B	30-60	mixed 10yr 5/6, 5/2, 5/8	cl 5% coal	cp	vfirm	7	NA
156	LENZBURG	10	W	A	0-7	mixed 10yr 4/2, 5/6 few 6/2	sil & sicl	2msbk	fr	7.5,FC	As
156	LENZBURG	10	W	C1	007-18	5yr 3/1 cfd 10yr 5/8	hvy cl 5%	CP	vfirm	7.5,FC	As
156	LENZBURG	10	W	C2	18-60	mixed 5 yr 3/1, 10yr 5/6	cl 5%	cp	vfirm	7.5	NA
157	HAUL ROAD	NA	NA	NA	NA	COARSE GRAVEL	NA	NA	NA	NA	NA
158	HAUL ROAD	NA	NA	NA	NA	COARSE GRAVEL	NA	NA	NA	NA	NA
159	LENZBURG,NC	4	N	AP	0-5	mixed 10yr 4/2, 5/1, 4/6	cl 10% gr.	1fsbk	fr	6.5	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
159	LENZBURG,NC	4	N	C1	005-11	mixed 5yr 5/1, 10yr 5/6, 5/2	cl 5% gr	1fsbk	fr	5.5	As
159	LENZBURG,NC	4	N	C2	011-27	mixed 5yr 6/2, 10yr 5/2, 5/8	cl shale res	massive	firm	4.5	As
159	LENZBURG,NC	4	N	C3	27-60	mixed 2.5yr4/1, 10yr 5/4, 5/8	10% shale	massive	vfirm	5	As
160	SCHULINE	40	N	AP	0-3	10yr 5/2	SIL	1fsbk	fr	6	As
160	SCHULINE	40	N	C2	003-13	mixed 10yr 5/6, 5/2, 5/1	SICL	2msbk, cp	firm	5.5	As
160	SCHULINE	40	N	C2	13-23	mixed 10yr4/2, 5/6, 5/1	sil, cl 5%	cp	vfirm	5.5	As
160	SCHULINE	40	N	C3	23-41	mixed 10yr 4/1, 5/6	cl 5% grale	cp	vfirm	6.5	As
160	SCHULINE	40	N	C4	41-60	mixed 5yr 4/1, 10yr 5/2 ;CFD 5/8	cl till	cp	vfirm	7.5,FC	NA
161	SCHULINE	1	NA	A	0-5	10yr 4/3	sil	1fgr	fr	5.5	As
161	SCHULINE	1	NA	BA	005-24	10yr 4/3, 10yr 5/2, 10yr 4/6	sicl	1tkpl	fi	6	As
161	SCHULINE	1	NA	C	24-60	10yr 4/6, 5yr 5/1, N 2/0	cl	M	efi	8,FC	NA
162	LENZBURG	7	NA	BC	0-5	10yr 5/6	sicl	cp	vfi	6	As
162	LENZBURG	7	NA	C	005-60	5 Yr 6/1, N 2/0, 2.5Yr 4/2	cl	m	efi	8,FC	NA
163	SCHULINE	36	NA	A	0-4	10yr 4/3	sil	1fgr	fr	6	AS
163	SCHULINE	36	NA	BC	004-20	10 yr 4/3, 10yr 4/6	sil	1fsbk	fi	5.5	AS
163	SCHULINE	36	NA	C	20-60	10 yr 4/6, N 2/0, 5yr 5/1	cl	m	efi	8,FC	NA
164	SCHULINE	4	NA	A	0-5	10yr 4/3	sil	1fgr	fr	5.5	As
164	SCHULINE	4	NA	A/B	005-20	10yr5/2, 10yr 4/3, 10 yr 4/6 mix	sil	1fsbk	fi	5.5	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
164	SCHULINE	4	NA	B/C	20-40	2.5 yr 5/1, 10yr 4/6	sicl	cp	fi	7.5,FC	Cs
164	SCHULINE	4	NA	C	40-60	5YR 6/1 (Gray shale)	l	m	efi	8,FC	NA
165	LENZBURG,NC	3	SE	AP	0-4	mix 10yr 4/2, 5/6	sil, cl	1fsbk	firm	6	As
165	LENZBURG,NC	3	SE	B/C1	004-17	mix 10yr5/2, 5/6 wc 5/8,5/1	loam	cp	firm	5.5	Cs
165	LENZBURG,NC	3	SE	B/C2	17-30	mix 10yr5/6, 5/2 C 5/8	cl	cp	firm	5.5	As
165	LENZBURG,NC	3	SE	B/C3	30-60	mix 10yr 5/2, 5/6, 4/6	cl & sil	cp	firm	6	NA
166	BIRDS	0	NA	A	0-4	10 YR 4/2	sil	2fgr	fr	6	As
166	BIRDS	0	NA	Bwg1	004-11	10 yr 4/2, cf 10yr 5/8	sil	1fsbk	fr	6.5	Cs
166	BIRDS	0	NA	Bwg2	011-20	10yr 5/2 cf 10yr 5/8	sil	1fsbk	fr	6.5	Cs
166	BIRDS	0	NA	Cg1	20-40	2.5 yr 6/2cf&m 5/8, 4/0 10yr	sil	massive	fr	6.5	Cs
166	BIRDS	0	NA	Cg2	40-60	2.5 yr 6/2 m 10yr 5/8, 4/6	sil	massive	fr	6.5	Cs
167	BIRDS	0	NA	A	0-3	10yr 4/2	sil	2fgr	fr	6.5	AS
167	BIRDS	0	NA	Bwg1	003-8	10yr 5/2 ff 10yr 5/8	sil	1fsbk	fr	6.5	CS
167	BIRDS	0	NA	Bwg2	008-16	10yr 5/2 cfd 10yr 5/8	sil	1fsbk	fr	6.5	CS
167	BIRDS	0	NA	Bwg3	16-30	2.5 yr 6/2 cfd 10yr 4/6, 5/8	sil	1fsbk	fr	6.5	CS
167	BIRDS	0	NA	Cg	30-60	2.5 yr 6/2 m 10yr 4/6, 5/8	sil	massive	fr	6.5	NA
168	BIRDS	0	NA	A	0-6	10yr 4/2 fom 5/2& 10yr 5/5	sil	2fgr	fr	6.2	Cs
168	BIRDS	0	NA	Bw1	006-20	10yr 6/1 cfd 10yr 4/6, 5/8	sil	1msbk	fr	6	Cs

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
168	BIRDS	0	NA	Bw2	20-36	2.5 yr 6/2 m 10yr 5/8, 5/2	sil	1msbk	fr	6	Cs
168	BIRDS	0	NA	C	36-80	2.5 yr 6/2 md 5/8, 4/6	sil	massive	fr	6.5	Cs
169	HAUL ROAD	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
170	SCHULINE	0	NA	A	0-5	10 yr 4/3	sil	1fgl	fr	5.5	As
170	SCHULINE	0	NA	B/C1	005-20	10 yr 4/2, 2.5 yr 5/1 10yr 4/6	sicl	cp	vfi	7.5,FC	Cs
170	SCHULINE	0	NA	B/C2	20-38	2.5 yr 5/1, 10yr 4/6	sicl	cp	vfi	8,FC	Cs
170	SCHULINE	0	NA	C	38-60	5 yr 5/1 shale	cl	m	efi	8,FC	NA
171	WAKELAND	0	NA	A	0-5	10 yr 4/5	sil	1fgr	fr	6	As
171	WAKELAND	0	NA	Bg1	005-12	10yr 5/6 cp 10yr 5/2	sil	1fsbk	fr	5.8	Cs
171	WAKELAND	0	NA	Bg2	012-20	10yr 4/6 CP 10yr 5/1	sil	1fsbk	fr	5.8	Cs
171	WAKELAND	0	NA	Bw1	20-28	10 yr 5/2 cr cd 10yr 4/3	sil	1msbk	fr	6	Cs
171	WAKELAND	0	NA	Bw2	28-42	10yr 5/2 cf 10yr 5/3	sil	1msbk	fr	6.2	Cs
171	WAKELAND	0	NA	Bg1	42-60	10yr 5/6 cp 10yr 5/1	sil	1msbk	fr	6.2	NA
172	SCHULINE	1	NA	A	0-5	10yr 4/3	sil	1fgr	fr	6	As
172	SCHULINE	1	NA	B/C1	005-15	10yr 4/3, 10yr 4/6	sicl	cp	fi	6.5	Cs
172	SCHULINE	1	NA	B/C2	15-44	10yr 5/6, 10yr 4/2, 2.5 yr 5/1	sicl	cp	vfi	8,FC	Cs
172	SCHULINE	1	NA	B/C3	44-60	2.5 yr 5/1, N 2/0	L	M	efi	8,FC	NA
173	SCHULINE	1	NA	A	0-8	10yr 4/3	sil	1mgr	fr	6.8	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
173	SCHULINE	1	NA	B/C1	008-27	10yr 5/4, 10yr 5/6	sicl	fvcp	fi	8,FC	Cs
173	SCHULINE	1	NA	B/C2	27-43	2.5 yr 5/1 10yr 5/8	sicl	fvcp	vfi	8,FC	Cs
173	SCHULINE	1	NA	B/C3	43-60	10yr 5/8, 10yr 5/1	cl	m	efi	8,FC	NA
174	LENZBURG	1	NA	A		10 yr 4/4	sil	1fgr	fr	6	As
174	LENZBURG	1	NA	C1	004-20	10yr 4/6 5 yr 5/1, N 2/0 coal mix	cl	m	efi	5	Cs
174	LENZBURG	1	NA	C2	20-60	N 2/0, 10yr 4/6, 5 yr 5/1	cl	m	efi	8,FC	NA
175	SCHULINE	4	NA	A	0-5	10 yr 4/3	sil	1fgr	fr	5.5	As
175	SCHULINE	4	NA	B/C1	005-11	10yr 4/3 10yr 4/6	sil	1fsbk	fi	6	As
175	SCHULINE	4	NA	B/C2	011-45	7.5 yr 4/6, 5yr 2/1, 10yr 4/4	sicl	cp	vfi	8,FC	Cs
175	SCHULINE	4	NA	B/C3	45-60	7.5 yr 4/8, N 2/0 10yr 4/4	cl	m	efi	8,FC	NA
176	SCHULINE	2	NA	A	0-5	10yr 4/3	sil	1fgr	fr	6	As
176	SCHULINE	2	NA	AB	005-12	10yr 4/6, 10yr 4/3	sil	1fsbk	fr	6	As
176	SCHULINE	2	NA	C1	012-30	N 2/0, 10yr 4/2, 10yr 4/6 mix coal	sicl	m	efi	8,FC	Cs
176	SCHULINE	2	NA	C2	30-60	N 2/0, 10yr 4/2, 10yr 4/6,2.5y5/1	cl	m	efi	8,FC	NA
177	LENZBURG	19	NA	A	0-5	10yr 4/3	sil	1fgr	fr	6	As
177	LENZBURG	19	NA	A/B	005-13	10yr 4/3, 10yr 4/6	sil	1fsbk	fi	6	As
177	LENZBURG	19	NA	C	13-20	gray shale 5 yr 6/1	shale silty	2tkpl	efi	7.5,FC	NA
178	SCHULINE,NC	0	NA	AP	0-7	mixed 10yr 5/4, 5/6	sil & cl	1fsbk	fr	6.5	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
178	SCHULINE,NC	0	NA	B/C1	007-16	mixed 10yr 5/4, 5/2	cl	cp	firm	6.5	As
178	SCHULINE,NC	0	NA	B/C2	16-30	mixed 10yr 5/1, 5/6, 5/8	sil loess	cp	firm	6	As
178	SCHULINE,NC	0	NA	B/C3	30-60	mixed 10yr 5/6, 5/2, 5/1, 5/8 not cf	sil, sicl, cl	cp	firm	6	
179	SCHULINE,NC	2	N	AP	0-6	mix 10yr 4/2, 5/1 cf 10yr 5/8	sil	1fsbk	fr	6.5	As
179	SCHULINE,NC	2	N	C1	006-22	mix 2.5yr6/2, 10yr 4/2, 5/1;CMD 5/8	sil	mass cp	fr	6.5	As
179	SCHULINE,NC	2	N	C2	22-31	10yr 5/1 many 10yr 5/8	sil	mass cp	fr	6	As
179	SCHULINE,NC	2	N	C3	31-60	mix 10yr 5/8, 5/1, 2.5 yr 6/2	sil/sicl	mass cp	fr	5.5	NA
180	LENZBURG	3	NW	AP	0-2	10yr 4/2	sil	1fgr	fr	7	as
180	LENZBURG	3	NW	B/C1	002-13	mix 10yr 5/4, 5/8, 5/1	sil, sicl	cp, 2fsbk	fr	7	as
180	LENZBURG	3	NW	B/C2	13-30	mix 2.5yr 6/2, 10yr 5/4, 5/8	sicl	cp	firm	5.5	as
180	LENZBURG	3	NW	B/C3	30-43	mix 10yr 5/1, 5/8, 5/4, 5/8	cl, sicl	cp, 2fsbk	2%grav. Vfirm	7.5,FC	as
180	LENZBURG	3	NW	B/C4	43-62	mix 10yr 5/1, 5/8	cl, till cp	cp	5% grav. Vfirm	8,FC	NA
181	SCHULINE,NC	1	N	AP	0-7	mix 10yr 4/2, 5/1 cd 10yr 5/8	sil	1fsbk	fr	6.5	As
181	SCHULINE,NC	1	N	B/C1	007-28	mix 10yr 5/4, 75 yr 4/6, 5/1	cl 5%ag till	cp	firm	5.5	As
181	SCHULINE,NC	1	N	B/C2	28-46	mix 2.5Yr 6/2, 10yr 5/4, 5/8	sil, sicl	cp,	firm	5.5	As
181	SCHULINE,NC	1	N	B/C3	46-60	mix 10yr 5/6, 2.5yr 6/2, 5/8	cl, sicl	cp 5% gr.	firm	7	NA
183	SCHULINE	2	NA	A	0-6	NA	sil	1fgr	fr	7.5,FC	As
183	SCHULINE	2	NA	A/B	006-12	10yr 4/3 10yr 4/6	sil	1fsbk	fi	7.5,FC	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
183	SCHULINE	2	NA	B/C1	012-48	10yr 4/4 10yr4/2 10yr 4/6	sicl	cp	vfi	8,FC	Cs
183	SCHULINE	2	NA	B/C2	48-60	N 2/0 5 yr 5/1 mix coal	cl	m		8,FC	NA
184	SCHULINE	1	NA	A	0-8	10yr 4/3	sil	1mgn	fr	5.5	As
184	SCHULINE	1	NA	B/C1	008-20	10yr 4/3 cp 10yr 4/6	sicl	1tkpl	vfi	8,FC	Cs
184	SCHULINE	1	NA	B/C2	20-46	10 yr 4/1 cp 10yr 4/6	sicl	fvcp	efi	8,FC	Cs
184	SCHULINE	1	NA	B/C3	46-60	10yr 5/6 cp 2.5yr 5/1	cl	m	efi	8,FC	NA
185	SCHULINE	0	NA	A	0-7	10yr 3/3 (med dark)	sil	2mgr	fr	6.6	As
185	SCHULINE	0	NA	B/C1	007-24	10yr5/3cp 10yr 5/6	sicl	1tkpl	fi	8,FC	Cs
185	SCHULINE	0	NA	B/C2	24-46	10yr 5/6 2.5Yr 3/1	sicl	fvcp	vfi	8,FC	Cs
185	SCHULINE	0	NA	B/C3	46-60	10yr 5/1 2.5 yr 5/1	l	mass	efi	8,FC	NA
186	SCHULINE	1	NA	A	0-8	10yr 4/3	sil	1mgr	fr	7.6,FC	As
186	SCHULINE	1	NA	B/C1	008-22	10yr 5/1 cp 10yr 4/6	sil	2tkpl	fi	8,FC	Cs
186	SCHULINE	1	NA	B/C2	22-44	10yr 5/8, 10yr 5/1	sicl	fvcp	nfi	8,FC	Cs
186	SCHULINE	1	NA	B/C3	44-60	10yr 5/8 10yr 5/1	cl	mass	efi	8,FC	NA
187	SCHULINE	1	NA	A	0-12	10 yr 5/3	sil	1mgr	efi	5.5	As
187	SCHULINE	1	NA	B/C1	012-20	10yr 5/6 CP 2.5 yr 6/2	sicl	2tkpl	epi	8,FC	Cs
187	SCHULINE	1	NA	B/C2	20-48	10yr 5/8 2.5 5/1	sicl	fvcp	efi	8,FC	Cs
187	SCHULINE	1	NA	B/C3	48-60	7.5 yr 4/4 2.5 yr 5/1 w/coal	chcl	m	efi	8,FC	NA

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
188	LENZBURG	0	NA	A	0-12	10yr 5/6	sicl	fvcp	vfi	8,FC	Cs
188	LENZBURG	0	NA	B/C1	012-36	10yr 5/4 10yr 5/1 10yr 5/6	sicl	fvcp	vfi	8,FC	Cs
188	LENZBURG	0	NA	B/C2	36-60	10yr 5/1, 10yr 5/6 some coal	chch	m	vfi	8,FC	NA
189	SCHULINE	2	NA	Ap	0-9	10Yr 5/4	sil	2mgr	fr	5.5	As
189	SCHULINE	2	NA	B/C1	009-16	10yr 5/6 10yr4/3	sicl	1VCP	vfi	8,FC	As
189	SCHULINE	2	NA	B/C2	16-46	10yr 5/6 10yr 4/3	sicl	1vcp	efi	8,FC	Cs
189	SCHULINE	2	NA	B/C3	46-60	10 yr 5/1	ch cl	m	efi	8,FC	NA
190	LENZBURG	16	NA	Ap	0-8	10yr 5/3	sil	2mgr	fr	8,FC	As
190	LENZBURG	16	NA	B/C1	008-36	10yr 5/6	sicl	fvcp	efi	8,FC	Cs
190	LENZBURG	16	NA	B/C2	36-60	2.5 yr 5/1 10yr 5/4 mix coal	ch l	m	efi	8,FC	NA
191	SCHULINE	2	N	AP	0-6	mix 10yr4/2, 5/6 (10%)	sil, sicl	1fgr	fr	7	As
191	SCHULINE	2	N	B/C1	006-18	mix 10yr5/4, 5/8,5/2	cl 5%	cp	vfirm	7	As
191	SCHULINE	2	N	B/C2	18-34	mix 10yr5/1, 5/8	cl 5%	cp	vfirm	7.5,FC	As
191	SCHULINE	2	N	B/C3	34-55	mix 10yr 6/2, 10yr 5/8, 4/2	cl 5%	cp	vfirm	7.5,FC	As
191	SCHULINE	2	N	B/C4	55-60	mix 10yr 6/2, 10yr 5/8, 4/2	cl 5%	cp	vfirm	7.5,FC	As
192	HOSMER	4	N	A	0-6	10yr 4/2	sil	2fgr	fr	6	As
192	HOSMER	4	N	E	006-11	10yr 5/4	sil	2fsbk	fr	5.5	Cs
192	HOSMER	4	N	Bt1	011-20	10yr5/6, 4/4 cfompf	sil	2msbk	fr	5.5	Cs

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
192	HOSMER	4	N	Bt2/E	20-30	B-10yr5/6 w 5/2, 5/8M 4/8; E,7/2	sicl	2msbk	firm	5.5	Cs
192	HOSMER	4	N	Bt1	30-50	10yr 5/4, few 5/2, 5/8;E,7/2	sicl	2msbk	firm	5.5	Cs
192	HOSMER	4	N	Bt2	50-60	10yr 5/6 cfom 5/2, 5/8, 10yr7/2cf	sil	1msk	fri	6	NA
195	SCHULINE	3	NA	AP	0-4	10yr 4/2	sil	1fgr	fr	6.5	As
195	SCHULINE	3	NA	B/C1	004-7	mix 2.5 YR 6/2, 5/8	CL 5%	cp	firm	5.5	As
195	SCHULINE	3	NA	B/C2	007-30	mix 7.5 yr 4/6, 10yr 5/4	CL 5%	cp	firm	7.5,FC	As
195	SCHULINE	3	NA	B/C3	30-80	7.5 yr. 5/8 till	5% cl	cp compl	firm	7.5,FC	NA
196	SWANWICK	2	NA	A	0-5	10yr 5/3	sil	2mgr	fr	7.6,FC	As
196	SWANWICK	2	NA	B/C1	005-12	10yr 5/2 cd 10yr 5/6	sil	2msbk	fr	7.8,FC	Cs
196	SWANWICK	2	NA	B/C2	012-24	10yr 5/2 10yr 5/4	sicl	2mabk	fi	8,FC	Cs
196	SWANWICK	2	NA	B/C3	24-44	10yr 5/6, 10yr 4/2	sicl	3mabk	vfi	8,FC	Cs
196	SWANWICK	2	NA	B/C4	44-60	10yr 4/2 10yr5/6 mix with coal	sicl	2mabk	efi	7.8FC	NA
198	SCHULINE	1	NA	A	0-11	10yr 4/4, 10yr 5/1	sil	1fgr	fr	8,FC	As
198	SCHULINE	1	NA	B/C1	011-20	10yr 4/2, 10yr 5/4	sil	few vcp	vfi	8,FC	As
198	SCHULINE	1	NA	B/C2	20-36	10yr 4/2, 10yr 5/6	sicl	few vcp	efi	8,FC	As
198	SCHULINE	1	NA	B/C3	36-56	10yr 5/6, 10yr 5/1, 10yr 5/4	sicl	few vcp	efi	8,FC	As
198	SCHULINE	1	NA	B/C4	56-60	10yr 5/6, 2.5 yr/ some coal	ch cl	massive	efi	8,FC	NA
199	SCHULINE	4	NA	Ap	0-9	10yr 4/6	sil	1mgr	vfi	8,FC	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
199	SCHULINE	4	NA	B/C1	009-17	10yr 5/8, 10yr 5/6	sicl	fvcp	efi	8.,FC2	As
199	SCHULINE	4	NA	B/C2	17-32	10yr 5/4, 10yr 5/2	sicl	fvcp	efi	8,FC	Cs
199	SCHULINE	4	NA	B/C3	32-47	10yr5/4, 10yr5/1 some coal	sicl	fvcp	efi	8,FC	Cs
199	SCHULINE	4	NA	B/C4	47-60	10yr5/4, 7.5yr 5/6 coal	ch cl	massive	efi	8,FC	NA
200	SWANWICK	1	NA	Ap	0-8	10yr 5/4	Sil	1mgr	Fr	5.5	As
200	SWANWICK	1	NA	B/C1	008-17	10yr 5/6	Sicl	fvcp	Vfi	5.6	Cs
200	SWANWICK	1	NA	B/C2	17-30	10yr 5/6, 10yr 5/4	Sicl	fvcp	Efi	5.8	Cs
200	SWANWICK	1	NA	B/C3	30-42	10yr 5/8, 10yr 5/6	Sicl	fvcp	Efi	6.4	Cs
200	SWANWICK	1	NA	B/C4	42-60	10yr 5/8, 2.5yr 6/1 coal mix	Cl, L	m	Efi	7.8,FC	NA
201	SCHULINE	2	NA	Ap	0-7	10yr 5/4	Sil	2mgr	Fr	5	As
201	SCHULINE	2	NA	B/C1	007-15	10yr 5/6	Sicl	2tkpl	Vfi	6.6	Cs
201	SCHULINE	2	NA	B/C2	15-24	10yr 5/3, 10yr 5/4	Sicl	2tkpl	Vfi	7.6,FC	Cs
201	SCHULINE	2	NA	B/C3	24-42	10yr 5/6, 2.5yr 4/4	Sicl	fvcp	Efi	7.4	Cs
201	SCHULINE	2	NA	B/C3	42-60	10yr 6/2, 7.5yr 4/4	Cl, L	m	Efi	7.6,FC	NA
202	SCHULINE	1	NA	Ap	0-9	10yr 5/3	Sil	2mgr	Fr	5.5	As
202	SCHULINE	1	NA	B/C1	009-16	cf 10yr 5/2, 10yr 5/1	Sicl	fvcp	Vfi	8,FC	Cs
202	SCHULINE	1	NA	B/C2	16-48	cf 10yr 5/3, 10yr 5/4	Sicl	fvcp	Efi	8,FC	Cs
202	SCHULINE	1	NA	B/C3	48-60	10yr 5/3 cf 10yr 5/6 some coal/sh	Ch, L	m	Efi	8,FC	NA

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
203	SCHULINE	18	NA	Ap	0-10	10yr 5/4	Sil	2mgr	Fr	6.8	As
203	SCHULINE	18	NA	B/C1	010-22	cd 10yr 3/3, 10yr 5/6	Sicl	fvcp	Vfi	8,FC	Cs
203	SCHULINE	18	NA	B/C2	22-48	cd 10yr 5/3, 7.5yr 5/8	Sicl	vcp	Efi	8,FC	Cs
203	SCHULINE	18	NA	B/C3	48-60	2.5yr 5/1, 10yr 5/4	Ch, L	m	Efi	8,FC	Cs
205	SCHULINE,NC	2	W	AP	0-5	10yr 5/2, ff10yr 5/8	Sil	1fgr	Fr	6	As
205	SCHULINE,NC	2	W	B/C1	005-13	10yr 5/2, 5/6, 5/8	Sil, Sicl	cp	Fr	6.5	As
205	SCHULINE,NC	2	W	B/C2	13-27	mix 10yr 5/3, 5/8, 5/1	Cl, till	cp	Vfirm	5.5	As
205	SCHULINE,NC	2	W	B/C3	27-60	mix 10yr 5/6, 5/2, 5yr 6/2	Sicl, Sil	cp	firm	5.5	NA
206	SCHULINE,NC	2	W	AP	0-5	10yr 4/2 ff 2/1 conc.	Sil	2fgr	Fr	6	As
206	SCHULINE,NC	2	W	C1	005-9	mix 10yr 4/2, 5/4 few con. Cff5/8,4/6	Sil, Cl	cp mass	Firm	6	As
206	SCHULINE,NC	2	W	C2	009-30	mix 10yr 5/4, 5/3, 5/2. 2.5yr 6/2	Cl	cp mass	Firm	6.5	As
206	SCHULINE,NC	2	W	C3	30-60	mix 10yr 5/4, 5/8, 5yr 5/1	Cl	cp mass	Firm	6.5	Cs
207	SCHULINE,NC	1	N	AP	0-3	10yr 4/2	Sil	1fgr	Fr	6	As
207	SCHULINE,NC	1	N	C1	003-10	mix 10yr 4/2, 5/4	Sil	cp	Fr	6.5	As
207	SCHULINE,NC	1	N	C2	010-23	10yr 5/4, flf 10yr 5/8, 5/2	Cl	2msbk	Firm	6.5	As
207	SCHULINE,NC	1	N	C3	23-66	mix 5yr 5/1, 10yr 5/4 fld 5/8, 5/2	Cl	cp	Firm	7.2	NA
208	SCHULINE,NC	0	NA	AP	0-5	10yr 5/2	Sil	2fgr	Fr	6.5	As
208	SCHULINE,NC	0	NA	C1	005-12	10yr 4/2, 5/2, 5/1	Sil	1fsbk	Fr	7	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
208	SCHULINE,NC	0	NA	C2	012-23	10yr 5/2, CMD 10yr 5/8, 2.5y 6/2	Cl Till	1msbk	Firm	7	As
208	SCHULINE,NC	0	NA	C3	23-38	2.5 yr 6/2, 10yr 5/4, 4/1	Sil loess	cp mass	Firm	5.5	As
208	SCHULINE,NC	0	NA	C4	38-60	mix 10yr 5/4, 5/8, 2.5yr 6/2	Cl Till	cp mass	Firm	7	NA
209	SCHULINE	12	SW	A	0-7	mix 10yr 4/2, 5/6	Sil	1fgr	Fr	6	As
209	SCHULINE	12	SW	C1	007-16	mix 10yr 5/6, 4/2	Sil, Sicl	cp, 1fsbk	Fr	5.5	As
209	SCHULINE	12	SW	C2	16-25	mix 10yr 5/6, 5/2 , 4/4, 4/6	Sicl	cp, 2msbk	Fr	7.5,FC	As
209	SCHULINE	12	SW	C3	25-42	mix 7.5yr 4/4, 10yr 5/6	Sil	1msbk	Fr	7.5,FC	As
209	SCHULINE	12	SW	C4	42-62	mix 10yr 5/6, 5/1, fow 4/6	Cl	cp till struc	Firm	7.5,FC	NA
207	SCHULINE	1	NA	A	0-5	10yr 4/3	Sil	1fgr	Fr	7	As
207	SCHULINE	1	NA	B/C1	005-19	10yr 4/4, 10yr 4/6	Sicl	1fsbk	Fi	8,FC	Cs
207	SCHULINE	1	NA	B/C2	19-50	10yr 5/1, 10yr 4/3, 10yr 4/6	Sicl	cp	Vfi	8,FC	Cs
207	SCHULINE	1	NA	B/C3	50-60	10yr 5/6 10yr 5/1	Cl	m	Efi	8,FC	NA
210	SCHULINE	1	NA	A	0-5	10yr 4/3	Sil	1fgr	Fr	7	As
210	SCHULINE	1	NA	BC	005-19	10yr 4/4 10yr 4/6	Sicl	1fsbk	Fi	8	Cs
210	SCHULINE	1	NA	BC2	19-50	10yr 5/1 10yr 4/3 10yr 4/6	Sicl	Cp	Vfi	8	Cs
210	SCHULINE	1	NA	NA	50-60	10yr 5/6 10yr 5/1	Cl	M	Efi	8	NA
211	LENZBURG	11	NA	A	0-12	10yr 5/3, 10yr 5/2	Sil	1fgr	Fr	6	As
211	LENZBURG	11	NA	B/C1	012-20	10yr 4/1, 10yr 5/2, 10yr 5/4	Sicl	cp	Fi	7.5,FC	Cs

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
211	LENZBURG	11	NA	C	20-60	10yr 4/4 coal, 10yr 4/2	Cl	m	Efi	8,FC	NA
212	SCHULINE	2	NA	Ap	0-8	10yr 4/3	Sil	2mgr	Fr	8,FC	As
212	SCHULINE	2	NA	B/C1	008-13	10yr 5/6, 10yr 5/2	Sil	2mabk	Fr	8,FC	As
212	SCHULINE	2	NA	B/C2	13-27	10yr 5/2 cd 10yr 5/4	Sicl	2mabk	Fi	8,FC	Cs
212	SCHULINE	2	NA	B/C3	27-40	10yr 5/6, 10yr 5/2	Sicl	2mabk	Vfi	8,FC	AS
212	SCHULINE	2	NA	B/C4	40-60	10yr 5/6, 10yr 5/1 mix coal	Sicl	2mabk	Efi	8FC	NA
213	SCHULINE	2	NA	A	0-3	10yr 4/3	Sil	1fgr	Fr	7.5,FC	As
213	SCHULINE	2	NA	A/E	003-9	10yr 4/6, 10yr 4/3	Sil	1fgr	Fr	7.8,FC	As
213	SCHULINE	2	NA	B/C1	009-24	10yr 5/4, 10yr 4/6	Sicl	cp	Vfi	8,FC	Cs
213	SCHULINE	2	NA	B/C2	24-44	5% 10yr5/1, 10yr4/6, 10yr 5/4	Sicl	cp	Vfi	8,FC	AS
213	SCHULINE	2	NA	B/C3	44-60	coal mix 10yr 4/2	Cl	m	Efi	8,FC	NA
214	SCHULINE	1	NA	Ap	0-4	10yr 4/5	Sil	1fgr	Fr	7	As
214	SCHULINE	1	NA	B/C1	004-9	10yr 4/4	Sil	1fgr	Fr	7.5,FC	As
214	SCHULINE	1	NA	B/C2	009-16	10yr 5/3, 10yr 4/6	Sicl	cp	Fi	7.5,FC	As
214	SCHULINE	1	NA	B/C3	16-60	2.5yr 5/1, 10yr 4/6 N2/0 mix coal	Cl	m	Fi	4.5	NA
216	LENZBURG	28	NA	A	0-5	NA	Sil	1fgr	Fr	6	As
216	LENZBURG	28	NA	B/C	005-60	2.5yr 2/1, 10yr 5/6 N 2/0	Cl	m	Efi	8,FC	NA
217	SCHULINE	3	NA	Ap	0-4	10yr 4/3	Sil	1fgr	Fr	8,FC	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
217	SCHULINE	3	NA	B/C1	004-12	10yr 4/4, 10yr 4/6	Sil	1fsbk	Fi	8,FC	As
217	SCHULINE	3	NA	B/C2	012-22	10yr 5/3, 10yr 4/6	Sicl	cp	Vfi	8,FC	Cs
217	SCHULINE	3	NA	B/C3	22-60	2.5yr 5/1, 5GY 5/1, N2/0, 10yr5/6	Cl	m	Efi	8FC	NA
218	SCHULINE	2	NA	Ap	0-8	10yr 4/3	Sil	1fgr	Fr	6	As
218	SCHULINE	2	NA	B/C1	008-16	2.5y 5/1, 10yr 4/4, 10yr 4/6	Sicl	cp	Fi	5.5	As
218	SCHULINE	2	NA	B/C2	16-40	2.5y 5/1, 10yr 5/4, 10yr 5/6	Sicl	cp	Vfi	7.,FC5	Cs
218	SCHULINE	2	NA	B/C3	40-60	5yr5/1, N2/0 coal 2.5yr 4/2	Cl	m	Efi	7.,FC5	NA
219	SCHULINE	8	NA	AP	0-9	mix 10yr 4/2 90%, 5/6 10%	Sil 5%	1fgr	Fr	6.5	As
219	SCHULINE	8	NA	B/C1	009-19	mix 10yr 5/4, 5/8, 5/1	Cl	cp	Firm	7.,FC5	As
219	SCHULINE	8	NA	B/C2	19-38	mix 10yr 5/6, 5/1 ff 10yr 5/8	Cl	cp	Vfirm	7.,FC5	As
219	SCHULINE	8	NA	B/C3	38-60	mix 10yr 5/4, 5yr 5/8, 10yr 5/8	Cl	cp	Vfirm	7.,FC5	NA
220	SCHULINE	1	NA	AP	0-6	10yr 4/2	Sil	2fsbk	Fr	6.5	As
220	SCHULINE	1	NA	C1	006-11	10yr 4/2, 5/6	Sil, Cl	1msbk cp	Fr	7	As
220	SCHULINE	1	NA	C2	011-18	10yr 5/6, w 10yr 4/4 cf	Sil	1msbk cp	Firm	7	As
220	SCHULINE	1	NA	C3	18-39	10yr 4/4, 10yr 6/2, 5/8	Cl	2msbk, cp	Firm	7	As
220	SCHULINE	1	NA	C4	39-60	10yr 5/6, 5/1, 4/4	Cl	mass cp	Firm	7.5,FC	NA
221	SCHULINE	0	NA	AP	0-5	10yr 5/2	Sil	2fsbk	Fr	6.5	As
221	SCHULINE	0	NA	C1	005-12	mix 10yr 5/6, 5/2	Cl, till	2msbk	Firm	7	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
221	SCHULINE	0	NA	C2	012-40	7.5 yr 4/4, cfd 5/8, 5/2	Cl	1msbk	Firm	7.5,FC	As
221	SCHULINE	0	NA	C3	40-60	mix 7.5 yr 4/4, 5/6, 5/2	Cl, till	mass cp	Firm	7.5,FC	NA
222	SCHULINE	2	W	AP	0-4	10yr 4/2	sil	2fgr	fr	6.5	as
222	SCHULINE	2	W	C1	004-12	mix 10yr 4/2, 5/4	cl	m	vfi	7	as
222	SCHULINE	2	W	C2	012-22	mix 10yr5/4, 10yr 5/2, 5/2	cl	m	vfi	7.5,fc	as
222	SCHULINE	2	W	C3	22-50	mix 5yr 5/2, 10yr5/4, 10yr5/8	cl	m	vfi	7	as
222	SCHULINE	2	W	C4	50-60	mix 10yr5/4, 5/8, 5/2 coal	cl	m	vfi	7	NA
223	LENZBURG	0	NA	A	0-3	10yr 4/2	Cl 10%	1fgr	Fr	7.5,FC	As
223	LENZBURG	0	NA	B/C1	003-10	coal piec. 10yr 4/2,5/2, 5/8	Cl 15%	cp	Firm	7.6,FC	As
223	LENZBURG	0	NA	B/C2	010-30	2.5yr3/1 10yr / 2.5yr 5/2	Cl 15%	cp	Firm	7.4,FC	As
223	LENZBURG	0	NA	B/C3	30-45	10yr 5/6, 1oyr 5/4, cf till	Cl 15%	cp	Firm	7.2	As
223	LENZBURG	0	NA	B/C3	45-62	10yr 4/2 cd 10yr 5/6	Sil	cp	Friable	7.5,FC	As
223	LENZBURG	0	NA	B/C3	62 +	10yr 5/6, 2.5yr 5/2 till	Cl 15%	cp	Firm	7.5,FC	As
224	SCHULINE	3	NA	A	0-4	10yr 5/3	Sil	1fgr	Fr	8,FC	As
224	SCHULINE	3	NA	B/C1	004-20	7.5 yr 4/6, 10yr 5/2, 10yr 5/4	Sicl	cp	Fi	8,FC	Cs
224	SCHULINE	3	NA	B/C2	20-50	7.5yr 5/6, 10yr 5/4, 2.5yr 5/1	Sicl	cp	Vfi	8,FC	Cs
225	SCHULINE	2	NA	A	0-7	10yr 4/3	Sil	1fgr	Fr	7.3	Cs
225	SCHULINE	2	NA	A/C	007-13	10yr4/6, 10yr4/3	Sil	1fgr	Fr	6	Cs

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
225	SCHULINE	2	NA	B/C1	13-30	10yr4/4, 10yr 4/6	Sicl	cp	Vfi	5.5	Cs
225	SCHULINE	2	NA	B/C2	30-44	10yr5/2, 10yr4/6, 60yr 4/4	Sicl	cp	Vfi	5.5	Cs
225	SCHULINE	2	NA	B/C3	44-60	10yr5/6, coal mix 2.5yr5/1	L	m	Efi	6	Cs
226	LENZBURG	28	NA	A	0-4	10yr 4/3	Sil	1fgr	Fr	7	As
226	LENZBURG	28	NA	B/C1	004-19	10yr 5/2m 10yr 4/3, 10yr 5/6	Sicl	cp	Fi	7.8,FC	Cs
226	LENZBURG	28	NA	B/C2	19-36	10yr5/6, 10yr4/4, 2.5yr5/2	Sicl	cp	Vfi	8,FC	Cs
226	LENZBURG	28	NA	B/C3	36-60	2.5yr5/1 mix coal 10yr 5/6	L	m	Efi	8,FC	NA
229	SCHULINE	1	NA	A	0-4	10yr 4/3	Sil	1fgr	Fr	6	As
229	SCHULINE	1	NA	A/B	004-8	10yr 4/3, 10yr 4/6	Sil	1fsbk	Fr	6.5	As
229	SCHULINE	1	NA	B/C1	008-30	10yr5/3, 5yr5/2, 10yr4/4	Sicl	cp	Fi	8,FC	Cs
229	SCHULINE	1	NA	B/C2	30-46	10yr4/4 10yr 4/2	Sicl	cp	Vfi	8,FC	Cs
229	SCHULINE	1	NA	B/C3	46-60	N 2/0 10yr 4/4	Cl	m	Efi	8,FC	NA
230	SCHULINE	1	NA	A	0-9	10yr 4/3	Sil	1fgr	Fr	6	As
230	SCHULINE	1	NA	B/C1	009-36	10yr4/3, 2.5yr 5/1, 10yr4/6	Sicl	cp	Vfi	8,FC	As
230	SCHULINE	1	NA	B/C2	36-60	10yr 5/6, N2/0, 5G 5/4	cl	cp	Efi	5	NA
231	SCHULINE	0	NA	Ap	0-4	10yr 2/2, 10yr 4/3	Sil	1fgr	Fr	6	As
231	SCHULINE	0	NA	B/C1	004-9	7.5yr 5/6, 10yr 5/2, 10yr 4/6	Sil	1fgr	Fr	6	As
231	SCHULINE	0	NA	B/C2	009-60	7.5yr5/6, 10yr4/4, N 2/0 5yr6/1	L/CL	m	Efi	8,FC	NA

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
232	SCHULINE	0	NA	A	0-5	10yr 4/3	Sil	1fgr	Fr	6	As
232	SCHULINE	0	NA	C	005-60	7.5yr5/8, N1/0, 5yr6/1	L/CL	m	Efi	7,FC.5	NA
233	LENZBURG	3	N	AP	0-5	10yr 5/2	Sil	1fgr	Fr	6.5	As
233	LENZBURG	3	N	B/C1	005-19	10yr 5/4, 5/1, 2.5yr 6/2	Cl, Sicl	cp	Firm	6.5	As
233	LENZBURG	3	N	B/C2	19-40	mix 10yr5/6,5/2,5/8	Cl, till	cp mass	Firm	7.,FC5	As
235	SCHULINE,NC	3	W	AP	0-5	10yr 4/2 F2/conc	Sil	1fgr	Fr	6	As
235	SCHULINE,NC	3	W	C1	005-12	10yr 5/2, cfd 10yr5/8, 4/0	Sil	mass cp	Firm	5.5	As
235	SCHULINE,NC	3	W	C2	012-32	10yr5/4, 4/14 cf, few 5/2 mott.	Sicl	cp, 2msbk	Firm	5.5	As
235	SCHULINE,NC	3	W	C3	32-60	mix 10yr5/4, sil, 10yr4/4 sicl	Sicl, Sil	mass cp	Firm	5.5	As
237	SCHULINE,NC	0	NA	A	0-6	mix 10yr 4/2, 4/4	Sil	1fgr	Fr	6.4	Cs
237	SCHULINE,NC	0	NA	B/C1	006-14	10yr 5/1,10yr6/8	Sil	cp	Fr	6.8	Cs
237	SCHULINE,NC	0	NA	B/C2	14-22	mix 10yr 4/2,4/4,5/8	Cl	cp	Firm	6.8	Cs
237	SCHULINE,NC	0	NA	B/C3	22-38	mix 10yr5/1 cfd 10yr5/4, 5/8	Sicl	cp	Firm	6.8	Cs
237	SCHULINE,NC	0	NA	B/C4	38-70	mix 10yr 5/4, 5/1, 5/8	Cl	cp	Firm	7	Cs
238	SCHULINE	2	NA	Ap	0-7	10yr 4/3	Sil	1mgr	Fr	6.8	As
238	SCHULINE	2	NA	B/C1	007-15	10yr 4/3, 10yr 4/6	Sil	1mgr	Fr	7.5,FC	As
238	SCHULINE	2	NA	B/C2	15-44	10yr 4/1, 10yr 5/8	Sicl	1vcp	Vfi	8,FC	Cs
238	SCHULINE	2	NA	B/C3	44-60	2.5yr 5/1, 10yr 4/4	Cl	m	Efi	8,FC	NA

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
239	SCHULINE	3	NA	A	0-4	10yr 5/2	Sil	1fgr	Fr	7.5,FC	As
239	SCHULINE	3	NA	B/C1	004-9	10yr 5/6, 10yr 5/1	Sil	1fgr	Fr	7.,FC5	As
239	SCHULINE	3	NA	B/C2	009-20	10yr5/6, 10yr5/1	Sicl	cp	Vfi	8,FC	Cs
239	SCHULINE	3	NA	B/C3	20-30	10yr5/6, 2.5yr5/1 90%	Sicl	cp	Vfi	8,FC	Cs
239	SCHULINE	3	NA	B/C4	30-48	2.5yr 5/1, 10yr 4/4, 10yr 5/6	Sic	cp	Vfi	8,FC	NA
240	SCHULINE	3	NA	A	0-3	10yr 4/3	Sil	1fgr	Fr	7	As
240	SCHULINE	3	NA	B/C1	003-23	10yr 4/4, 10yr 5/8, 2.5yr 5/1	Sicl	cp	Fi	7.8,FC	Cs
240	SCHULINE	3	NA	B/C2	23-48	10yr 5/6, 2.5yr 5/1, 10yr 4/4	Sicl	cp	Vfi	8,FC	NA
241	LENZBURG	0	NA	BC	0-30	2.5yr 5/1, 10yr 4/4, 10yr 5/6 60%	Sicl	Cp	Vfi	7.5,FC	As
241	LENZBURG	0	NA	C	30-60	10yr5/4 coal 10yr 4/2	Cl	m	Efi	8,FC	NA
242	SCHULINE	0	NA	Ap	0-4	10 yr 4/3	Sil	1fgr	Fr	6	As
242	SCHULINE	0	NA	B/C1	004-18	10yr 4/6, 10yr 4/4	Sicl	cp	Vfi	7.5,FC	As
242	SCHULINE	0	NA	B/C2	18-60	coal, 10yr 4/2, 2.5yr4/4	Cl	m	Efi	8,FC	NA
243	SCHULINE	0	NA	A	0-4	10yr 4/3	Sil	1fgr	Fr	7.5,FC	As
243	SCHULINE	0	NA	B/C1	004-12	10yr 4/2, 10yr4/6	Sicl	cp	Vfi	8,FC	As
243	SCHULINE	0	NA	B/C2	012-60	coal, 10yr 4/2, 2.5yr 4/4	Cl	m	Efi	8,FC	NA
246	SCHULINE,NC	3	N	AP	0-4	10yr4/2, cf 10yr 5/6	Sil	1fgr	Fr	6	As
246	SCHULINE,NC	3	N	B/C1	004-9	mix 10yr 5/4, 5/2,5/8	Cl till	cp	Firm	7	As

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
246	SCHULINE,NC	3	N	B/C2	009-24	mix 10yr 5/1,5/2, 4/6	Cl till	cp	Firm	7.5,FC	As
246	SCHULINE,NC	3	N	B/C3	24-36	mix 10yr 5/6, 5/2, 4/6	Cl till	cp	Firm	5.5	As
246	SCHULINE,NC	3	N	B/C4	36-60	mix 10yr 5/1, 5/6, 5/2	l&cl	cp	Vfirm	5.5	NA
247	SCHULINE	2	N	AP	0-6	10yr 5/4, cfd, 10yr 5/2	Cl till	cp	Firm	5.5	As
247	SCHULINE	2	N	B/C1	006-10	mix 5yr 5/1, 10yr 5/6	Cl till	cp	Firm	6.5	As
247	SCHULINE	2	N	B/C2	010-22	mix 10yr 5/6, 5/2	sicl	1msbk, cp	Firm	7.5,FC	As
247	SCHULINE	2	N	B/C3	22-60	mix 10yr 5/6, 5/1, 5/8	Cl till	cp	Firm	7.5,FC	NA
248	SCHULINE,NC	1	E	A	0-6	10yr 5/4, 10yr 4/2	Sil	1msbk	Fr	5.5	As
248	SCHULINE,NC	1	E	C1	006-19	10yr5/4 mif 10yr 5/6, 5/2,	Sicl	2msbk, cp	Fr	5.5	As
248	SCHULINE,NC	1	E	C2	19-32	10yr 5/2 mid 10yr 4/6,5/8	Sil	2msbk, cp	Fr	6	As
248	SCHULINE,NC	1	E	C3	32-55	10yr5/2, 10yr 4/6,5/8	Sil	1msbk, cp	Fr	6	As
248	SCHULINE,NC	1	E	C4	55-62	5yr5/1 cfd 10yr 4/6, 5/8	Loam	massive	Fr	6.2	NA
249	SCHULINE	6	N	AP	0-4	10yr 4/2	Sil	1fgr	Fr	6	As
249	SCHULINE	6	N	C1	004-8	10yr 5/4, 10yr 5/8, 10yr 4/4 cf	Cl till	mass cp	Firm	6.2	As
249	SCHULINE	6	N	C2	008-30	10yr 5/4, 2.5yr 5/2	Cl till	mass cp	Firm	6.5	As
249	SCHULINE	6	N	C3	30-60	N2/0 coal, 10yr5/4,5/8 till	cl 15-20%	mass cp	Firm	7.5,FC	NA
250	NON-CAL SCHULINE	1	E	AP	0-7	10yr 4/2	Sil	2fsbk	Fr	6	AS
250	NON-CAL SCHULINE	1	E	C1	007-16	10yr 5/4, cmd 10yr 5/2,5/8	Sil	cp, 2msbk	Fr	6	AS

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
250	NON-CAL SCHULINE	1	E	C2	16-30	2.5yr5/2, 10yr 5/8, 5/4	Sil	2msbk, cp	Firm	6	AS
250	NON-CAL SCHULINE	1	E	C3	30-50	2.5yr6/2, 10yr 5/8,5/4	Sil	1msbk, cp	Firm	6	AS
250	NON-CAL SCHULINE	1	E	C4	50-70	10yr5/4, cmd 10yr5/4,5/2	Cl	2msbk, cp	Firm	6	As
251	SCHULINE	0	NA	A	0-8	mix 10yr5/2, 4/2	Sil	1fgr	Fr	6.2	As
251	SCHULINE	0	NA	B/C1	008-18	mix 10yr 5/3 cf 5/2, 5/6	Hvy Sicl	cp	Firm	7.5 FC	As
251	SCHULINE	0	NA	B/C2	18-26	2.5yr 6/2 cf 10yr 5/4,5/8	Sic	cp	Firm	7.5 FC	As
251	SCHULINE	0	NA	B/C3	26-53	mix 2.5yr 6/2, 10yr 5/8	sil, sicl	cp	Firm	7.5 FC	As
251	SCHULINE	0	NA	B/C4	53-80	mix 10yr 5/1, 5/6	Cl	cp	Firm	7.5 FC	As
252	SCHULINE	0	NA	AP	0-8	10yr 4/3	Sil	1mgr	Fr	7.8 FC	As
252	SCHULINE	0	NA	B/C1	008-19	10yr 5/3, 10yr 4/6	Sicl	fvcp	Fi	8fc	Cs
252	SCHULINE	0	NA	B/C2	19-45	2.5yr 5/1, 10yr 5/6	Sicl	fvcp	Vfi	8fc	CS
252	SCHULINE	0	NA	B/C3	45-60	2.5yr 5/6, 10yr 4/4, 2.5yr5/1	Ch Cl	m	efi	8 fc	NA
253	SCHULINE	0	NA	A	0-6	10yr 5/4, 10yr 5/2	Sil	1fgr	Fr	7	as
253	SCHULINE	0	NA	B/C1	006-18	10yr 5/1, 10yr 5/6	Sicl	cp	Fi	8 fc	Cs
253	SCHULINE	0	NA	B/C2	18-46	7.5yr 5/6, 2.5yr 5/1, 10yr 5/6	Sicl	cp	Efi	8 fc	Cs
253	SCHULINE	0	NA	B/C3	46-60	2.5yr 5/1, 10yr5/6, mix coal	L	m	Efi	8 fc	Cs
254	LENZBURG	4	NA	B/C1	0-14	10yr 5/1, 10yr 5/6 80%	Sicl	cp	Vfi	7 fc5	NA
254	LENZBURG	4	NA	B/C2	14-30	10yr4/4, 10yr5/6, 2.5yr 5/1	Sicl	cp	Vfi	8 fc	Cs

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
254	LENZBURG	4	NA	B/C3	30-50	2.5yr 5/1, 10yr 5/6	Sicl	cp	Vfi	8 fc	Cs
255	SCHULINE	0	NA	A	0-16	10yr 5/4 , 10yr 5/2	Sil	1fgr	Fr	7fc5	As
255	SCHULINE	0	NA	B/C1	016-26	10yr 4/3, 10yr 5/6	Sicl	cp	Fi	8 fc	Cs
255	SCHULINE	0	NA	B/C2	26-34	10yr 4/3, 5yr 5/1, 10yr 5/4	Sicl	cp	Vfi	8fc	Cs
255	SCHULINE	0	NA	B/C3	34-60	10yr 5/2, 10yr 5/6 mix coal	L	m	Efi	8 fc	NA
256	SCHULINE	1	NA	A	0-9	10yr 5/2, 10yr 4/3	Sil	1fgr	Fr	8 fc	as
256	SCHULINE	1	NA	A/C	009-16	10yr 5/6, 10yr 4/3	Sil	1fgr	Fr	8 fc	cs
256	SCHULINE	1	NA	B/C1	16-45	2.5yr 5/1, 10yr 5/3, 10yr 5/6	Sicl	cp	Vfi	8fc	cs
256	SCHULINE	1	NA	B/C2	45-60	10yr 4/4, 10yr 4/2	Cl	m	Efi	8fc	NA
257	SCHULINE	0	NA	A	0-11	10yr 4/3, 10yr 5/2	Sil	1fgr	Fr	6.5	as
257	SCHULINE	0	NA	B/C1	011-26	10yr 5/2, 10yr 4/4, 10yr 5/6	Sicl	cp	Fi	6	cs
257	SCHULINE	0	NA	B/C2	26-42	10yr 4/4, 7.5yr 5/6, 2.5yr 5/1	Sicl	cp	Vfi	6	cs
257	SCHULINE	0	NA	B/C3	42-60	coal 10yr 4/6, 10yr 5/1	Cl		Efi	7.5 fc	NA
258	SCHULINE	0	NA	A	0-4	10yr 4/4	Sil	1fgr	Fr	6	as
258	SCHULINE	0	NA	B/C1	004-24	10yr 4/4, 10yr 4/6	Sicl	cp	Fi	5.5	as
258	SCHULINE	0	NA	B/C2	24-40	2.5yr, 10yr 4/6, 10yr 4/4	Sicl	cp	Vfi	5.5	cs
258	SCHULINE	0	NA	B/C3	40-60	10yr 4/4 coal, 10yr 4/2	Cl	m	Efi	8fc	NA
259	SCHULINE	3	W	AP	0-9	mix 10yr 4/2 70%, 5/2 25%, 5/6	Sil	1fsbk	Fr	6.5	as

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
259	SCHULINE	3	W	B/C1	009-18	mix 10yr 5/2, 5/6, 6/4	Sicl	cp, sbk	Firm	5.5	as
259	SCHULINE	3	W	B/C2	018-23	mix 5yr 5/1, 2.5yr 6/2, 10yr5/6	Cl	cp, sbk	Vfirm	7.5 fc	as
259	SCHULINE	3	W	B/C3	23-60	mix 2.5yr6/2, 10yr 5/6, 5/4	Cl &L	cp, sbk	Vfirm	7 fc5	NA
260	SCHULINE	0	NA	AP	0-7	10yr4/2, 10yr 5/8	Sil	1mgr	Fr	7.5	as
260	SCHULINE	0	NA	C1	007-18	10yr5/3, 10yr5/3, 5/8 10yr4/2 mix	Sil, Cl	cp	Fr	7	as
260	SCHULINE	0	NA	C2	18-32	10yr5/2, cf 2.5yr6/2, 10yr5/8	Sicl	cp	Firm	5.5	As
260	SCHULINE	0	NA	C3	32-41	10yr6/2, mmd 10yr5/8, 5/2	Sicl	cp	Firm	5.5	as
260	SCHULINE	0	NA	C4	41-58	10yr5/4, mmd 10yr5/1,5/8	Cl	cp	Firm	5.5	as
260	SCHULINE	0	NA	C5	58-75	10yr4/3, cf10yr5/6, 5/2	Cl	cp	Firm	7	NA
261	HICKORY	0	NA	AP	0-6	10yr4/2, 10yr3/2, 10yr5/4, subsoil	Sil	2fgr	Fr	5.5	As
261	HICKORY	0	NA	Bt1	006-12	10yr5/4, 4/4 cf cont.	Sicl	2msbk	Fr	6	Cs
261	HICKORY	0	NA	Bt2	012-18	7.5yr 5/4, 10yr4/4 cf	Sicl	2msbk	Fr	6	cs
261	HICKORY	0	NA	Bt3	18-30	10yr5/4, w 10yr5/4 cf	Cl	2msbk	Firm	6.2	cs
261	HICKORY	0	NA	Bt4	30-50	10yr 4/4 cf 10yr 5/1	Cl	2msbk	Firm	6.5	cs
261	HICKORY	0	NA	C	50-70	10yr4/2, wmm 5yr 5/1, 10yr5/8	Cl	massive	Firm	7.5	NA
262	SCHULINE	3	NE	AP	0-8	10yr 5/3, cfd10yr 5/6, mix w/10yr	Sil	1fsbk	Fr	7	as
262	SCHULINE	3	NE	C1	008-17	10yr 5/4, cmd 10yr5/1, 10yr 5/8	Cl	cp	Firm	7	as
262	SCHULINE	3	NE	C2	17-32	10yr 5/1 cmd 10yr 5/4	Cl	cp	Firm	7.5 fc	as

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
262	SCHULINE	3	NE	C3	32-52	10yr 5/4, 5/1	Cl	cp	Firm	7.5 f.c	as
262	SCHULINE	3	NE	C4	52-80	mix 10yr 5/4, 5/2 10yr 5/8	Cl	cp	Firm	7.5 fc	NA
263	SWANWICK	1	N	AP	0-9	10yr 4/2, 5/6	Sil	2fgr	Fr	6	cs
263	SWANWICK	1	N	B/C1	007-15	10yr 5/2, 6/2, 5/8	Sil	1fsbk	Fr	6	cs
263	SWANWICK	1	N	B/C2	015-30	10yr 5/1, 6/8, 4/6	Sil	1msbk	Fr	6	cs
263	SWANWICK	1	N	B/C3	30-60	10yr 6/1, 6/8, 4/6	Sil	1msbk	Fr	6	cs
264	SCHULINE	1	N	AP	0-8	10yr 4/2, 10yr 5/4 subsoil	Sil	1mgr	Fr	7	as
264	SCHULINE	1	N	B/C1	008-14	10yr 5/1, 10yr5/8, 5/3	Sil	cp	Fr	7	as
264	SCHULINE	1	N	B/C2	14-29	10yr 5/4, cf 10yr5/8, 5/1	Cl	cp	Firm	7	as
264	SCHULINE	1	N	B/C3	29-43	10yr 6/3, 10yr 5/1, 10yr 5/8	Cl	cp	Firm	7	as
264	SCHULINE	1	N	B/C4	43-70	10yr 5/4, cp 5/8, 5/1	Cl	cp	Firm	7	NA
265	na	1	NA	AP	0-4	10yr 4/3	Sil	1fgr	Fr	6	as
265	na	1	NA	B/C1	004-9	10yr 4/6, 10yr 4/3	Sil	1fgr	Fr	6.5	as
265	na	1	NA	B/C2	009-44	2.5yr 5/1, 10yr 4/3, 10yr 4/6	Sicl	ep	Vfi	8 fc	cs
265	na	1	NA	B/C3	NA	10yr 4/2, N 2/0, 10yr 4/6	Cl	m	Efi	8 fc	NA
266	SCHULINE	0	NA	A	0-5	10yr 4/4, 10yr 3/2	Sil	1fgr	Fr	7.5 fc	as
266	SCHULINE	0	NA	A/C	005-14	10yr 4/4, 10yr3/2, 10yr 5/6	Sil	1msbk	Fr	8 fc	as
266	SCHULINE	0	NA	B/C1	14-40	10yr 3/2, 2.5yr 5/1, 10yr 4/6	Sicl	cp	Fi	8 fc	cs

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
266	SCHULINE	0	NA	B/C2	40-60	coal 2.5yr 5/1	L	m	Efi	8 fc	NA
267	HICKORY	4	W	AP	0-3	10yr 5/3	Cl	1fsbk	Firm	7	as
267	HICKORY	4	W	Cg1	003-9	2.5 yr 5/2, ffd 10yr 5/8	Cl	1msbk	Firm	7	cs
267	HICKORY	4	W	Cg2	009-14	2.5yr 5/2, mmd 10yr 5/8	Cl	1msbk	Firm	7.5 fc	cs
267	HICKORY	4	W	Cg2	14-50	2.5yr 5/2 ffd 10yr 5/8	L	massive	Firm	8 fc	cs
267	HICKORY	4	W	Cg3	50-60	2.5yr 6/2, mmd 10yr 5/8	Cl	massive	Firm	8fc	NA
268	HICKORY	1	NA	AP	0-4	10yr 4/2 few 10yr 5/8	Sil	1fgr	Fr	7.5 fc	as
268	HICKORY	1	NA	C1	004-14	mix 10yr 4/2, 5/2, 5/6	Sil, Sicl	cp	Fr	7.5 fc	as
268	HICKORY	1	NA	C2	14-25	10yr 4/1 cf 10yr 5/6, 6/1	Cl	cp	Firm	7.5 fc	as
268	HICKORY	1	NA	C3	25-48	10yr 5/4, few 6/1 cm 5/8	Cl	cp	Firm	7.5 fc	as
268	HICKORY	1	NA	C4	48-75	10yr 6/4, cm 10yr 5/8, 5/2	Cl	cp	Firm	7.5 fc	NA
269	NON-CAL SCHULINE	0	NA	AP	0-4	10yr 4/2	Sil	1mgr	Fr	6	as
269	NON-CAL SCHULINE	0	NA	A1	004-12	mix 10yr 4/2, 5/4	Sil	1mgr	Fr	6	as
269	NON-CAL SCHULINE	0	NA	B/C1	012-20	10yr 5/2 mix 4/6, 4/2	Sil	cp	Fr	6	as
269	NON-CAL SCHULINE	0	NA	B/C2	20-30	10yr 4/4 cm 10yr 4/3	Cl	cp	Fr	6.5	as
269	NON-CAL SCHULINE	0	NA	B/C3	30-70	10yr 5/4, 10yr 5/8, 10yr 5/2	Cl	cp	Firm	6.5	as
270	NON-CAL LENZBURG	40	E	AO	0-9	10yr 4/2 (90%) 5/6 (10%) mix	Sil	1fgr	Fr	6	as
270	NON-CAL LENZBURG	40	E	B/C1	009-20	10yr 5/1, 4/2, 5/6	Sicl, Sil	cp	Firm	6.2	as

Site	Series	Slope	Aspect	Horizon	Depth	Moist Color	Texture	Structure	Consistency	Ph	Boundary
270	NON-CAL LENZBURG	40	E	B/C2	20-32	2.5 yr 6/2, 5/6	Hvy Cly	cp	Firm	6.7	as
270	NON-CAL LENZBURG	40	E	B/C3	32-50	5yr 5/1, cfd 10yr 5/8, 2.5yr 6/2	Cl	cp	Firm	6.5	as
270	NON-CAL LENZBURG	40	E	B/C4	50-66	10yr 5/8, 2.5yr 6/1	Cl	cp	Firm	6.5	as
271	NON-CAL SCHULINE	5	NA	AP	0-9	10yr 4/2 fld 10yr 4/6 cmf 10yr 5/2	Sil	2mgr	Fr	6	as
271	NON-CAL SCHULINE	5	NA	B/C1	009-14	10yr 4/2, 10yr 4/6, 5/2 10yr5/4	Sil	2mgr	Fr	6	as
271	NON-CAL SCHULINE	5	NA	B/C2	14-28	10yr 5/4 cf 10yr 5/2,5/8 10yr4/2	Sicl, Sil	cp, sbk	Fr	6	as
271	NON-CAL SCHULINE	5	NA	B/C3	28-38	10yr 5/6, 2.5yr 6/2, cf10yr5/2,5/4	Sicl	cp, sbk	Firm	6.2	as
271	NON-CAL SCHULINE	5	NA	B/C4	38-70	10yr 5/4, 5/8, 5/2	Sicl	cp, sbk	Firm	6	as

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14. ABSTRACT

The Illinois National Guard (ILNG) is acquiring a new 2800-acre training area near Sparta, Illinois. This acquisition is important in that it allows the National Guard units in southern Illinois a readily available place to train, which will increase training effectiveness and save time and money through decreased travel costs associated with using the existing training area in the northern part of the state.

The recent acquisition of the Sparta training area represents a unique opportunity to gather baseline data before any training takes place. This data will be valuable in that it gives the Army the unique opportunity to learn about the conditions before and after training as well as strengthening any future empirically collected research data. This represents a fundamental knowledge gap in much of the current research on Army lands and represents a high priority, high payoff area of research.

The initial plant and soil data were collected using a grid-based sampling protocol to allow uniform and unbiased cover. The specific sampling protocols for each type of data follows in the vegetation and soils sections and the data are included in the appendices.

15. SUBJECT TERMS
environmental management; land management; Illinois National Guard; soils; vegetation; Sparta, IL

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