



**Reclaimed wheat field in Southern Illinois**

# **Citizen's Guide to Farmland Reclamation**

*A publication of the Illinois Department of Natural Resources,  
Office of Mines and Minerals  
Land Reclamation Division  
One Natural Resources Way  
Springfield, Illinois 62702-1271*

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## **I. Preface/Summary/ Introduction**

The development and advancement of steam powered machinery in the 1940's, transformed Illinois coal production from predominately underground to surface mining extraction. The positive results of surface mining include greater mining safety for both man and machine as well as virtually 100% recovery of the mineral. The production rate in underground mines can be limited to as little as 50% as coal is left behind for roof support and other reasons. Surface mining peaked in the mid 80's with as many as over 5000 acres per year affected. Recent trends have reversed this with 85% of the state's production produced by underground methods. Current annual affected acreage is under 1000.

The transformation from underground to surface mining also created many new reclamation challenges. Technology out paced science and society's understanding of the environmental impacts as fast moving machines became capable of moving enormous quantities of materials affecting thousands of acres each year. Even as production continued to rise, irreplaceable soils were lost and grading was minimal leaving the land useless for crop production. Clearly surface mining was having significant impacts upon the land and required attention.

Illinois passed its first reclamation law in 1962 when State policy makers had the foresight to adopt mining and reclamation laws. Major revisions occurred in 1968 and 1971. A major change was implemented in 1976 with the requirement to reestablish farmland capability with stringent topsoil and rooting medium replacement requirements. This standard, known as Rule 1104 became part of the basis for the prime farmland standards created in 1977 when Congress adopted the first national coal mining and reclamation program; the Surface Mining Control and Reclamation Act (SMCRA). This law has several fundamental concepts, including:

1. mining can and will be conducted as a temporary disturbance of the land leaving no long term negative impacts;
2. the goal of any responsible and successful mining operation is the full and complete restoration of the land to levels as productive or even more productive than before mining began; and,
3. the greater the participation of the landowner before, during and after the mining and reclamation process, the greater will be the success of reclamation.

The purpose of this *Citizen's Guide to Farmland Reclamation* is to introduce landowners to their rights and opportunities by exploring legal mandates of Illinois coal mining and reclamation laws; public participation opportunities and limitations; technical aspects of soil properties; soil handling, storage and replacement methodologies; post-mining land use options; and, the various requirements/opportunities guiding landowner decisions. As you read, look for answers to some of these frequently asked questions:

- How do I know which operator I should allow to mine my land?
- How do I know that my land will be restored properly?
- Can I have my land put back differently than it is now?
- Who will reclaim my land if the operator does not finish the job?
- How long will it be before I get my land back for my own use?

These and many more issues are explored in this brief overview.

## **II. Rights and Responsibilities**

### **Citizen's Rights and Landowner Responsibilities**

SMCRA, the federal mine reclamation law, assures that appropriate procedures are provided for public participation in the development, revision, and enforcement of regulations, standards, reclamation plans, or programs established by the Secretary of the Interior or any state approved program, including the State of Illinois. Citizens have a right to participate at every phase of the permit application and mining process.

Citizen participation in all phases of the regulatory scheme is sought and strongly encouraged. Such participation will help ensure that the decisions and actions of the regulatory authority are grounded upon complete and full information.

The Illinois Surface Coal Mining Land Conservation and Reclamation Act (SMLCRA) is the state counterpart to the federal SMCRA. The Illinois Department of Natural Resources, Land Reclamation Division (LRD), is the regulatory authority which administers the State mining and reclamation laws.

SMLCRA provides citizens access to all information and records relating to permits, inspections, bonds and other information on which the LRD bases its decisions. However, information submitted by a coal operator which, if released, might jeopardize a coal operator's competitive position with regard to other operators is protected from public availability. This might include commercial characteristics of coal seams to be mined, trade secrets or proprietary commercial information.

Many landowners with coal reserves have questions when initially approached with an offer to mine on their property. A wide array of

information is available from a number of local, State and federal agencies, as well as some public and private resources. Any or all of these may assist the property owners in making well informed decisions regarding the course to take in recovering this important resource.

The federal Office of Surface Mining (OSM) and Natural Resources Conservation Service (NRCS), the Illinois Department of Natural Resources - Land Reclamation Division (LRD), the state Geologic Survey, the Soil and Water Conservation Districts (SWCD's), farm organizations such as Farm Bureau and others may offer valuable information.

The responsibility of the landowner is a very important one and cannot be overemphasized. Illinois and federal mine reclamation agencies will ensure that the mining laws are enforced and reclamation conditions of the permit achieved. The landowner is strongly encouraged to make himself/herself aware of how the coal business operates: how coal is mined, processed and sold; and the various provisions of mining and reclamation law and how they apply to the specific situation. He/she needs to talk to people with knowledge of the coal business. Additionally, some mining companies allow the landowner to return to farming the land prior to final bond release. In such cases, it is important that the landowner farm the reclaimed land responsibly so as not to cause erosion or other problems for the mining company which may threaten or delay the bond release process.

The LRD is one of your primary sources of information. The landowner needs knowledge to ensure that mining is a temporary disruption of existing land use that does not produce permanent, negative impacts.

Often, when considering a proposal to allow coal mining on their property, landowners will contact the LRD and ask for a reference or recommendation regarding the trustworthiness and competency of the operator. For a wide variety of reasons, primarily differing site conditions,

individual landowner desires and legal constraints, neither the LRD, OSM or any other office will be able to recommend one operator over another. These agencies can, however, answer many other questions and provide significant information allowing a landowner to make an informed decision. Listed below are some guidelines one may wish to consider.

- Get knowledgeable and competent legal assistance before engaging in any negotiations. A coal lease and “right of first refusal” are legal documents prepared by attorneys for the coal companies. To protect themselves and their property, landowners are strongly encouraged to seek legal assistance. Attorneys who understand both the coal business and the landowners’ point of view, are a valuable resource. ***The Land Reclamation Division has no authority to enforce or settle disputes concerning lease agreements. These are binding legal documents which are the jurisdiction of civil courts.***
- ask the operator for a tour of land viously mined and reclaimed by that company.
- Ask the operator for a list of landowners who have allowed their land to be mined by this same company.
- Visit the LRD Springfield central or Benton field office and review any previous and/or existing permits of the operator. These documents will demonstrate the compliance and reclamation history of an operator. LRD staff are available to review and explain the documents with any interested party.

Several Illinois operators have received awards for doing some of the best reclamation in the nation. Good reclamation is the result of research, fore-thought and planning by the landowner and good mining operation by the coal operator. In other words, a good mining operation should produce good reclamation. Good mining



**The landowner needs to make sure they are familiar with the regulations and the operator to avoid misunderstandings after mining.**

and reclamation operations look beyond the immediate process to the future sustainability, productivity and profitability of the land.

Although money is important and is often emphasized in negotiations for a coal contract, it is by no means the only consideration. The future well-being of the land is no less important. In fact, no amount of money received can overcome a poor job of mining and reclamation. Therefore, it is important for landowners to specify in the lease any particular reclamation the landowner might desire such as soil thickness, amount of cropland restoration, erosion control structures, ponds, etc.

However, the landowner should be aware that the LRD ***does not*** have the authority to enforce lease agreements that are more stringent than Illinois mining law. Lease disagreements must be resolved in civil court. Landowners who approach this endeavor in a careful and deliberate manner will find themselves amply rewarded for all the time, effort and expense involved.

### **The Role of the Land Reclamation Division**

The Illinois Department of Natural Resources - Office of Mines and Minerals- Land Reclamation Division is responsible for regulating the mining of coal and the restoration of lands

disturbed by coal extraction. This program oversees permitting, mining operations and reclamation for all operating coal mines in Illinois.

Further information may be obtained at each of the following addresses and telephone numbers:

IDNR-OMM  
Land Reclamation Division  
503 East Main Street  
Benton, IL 62812  
Phone (618) 439-9111  
Fax (618) 435-6801

IDNR-OMM  
Land Reclamation Division  
524 South Second  
Springfield, IL 62901-1787  
Phone (217) 782-4970  
Fax (217) 524-4819

### **The Role of the Office of Surface Mining (OSM)**

OSM monitors implementation of the Illinois program to assure adequate permitting, inspection, and enforcement operations. This monitoring is conducted on a continuous basis through sample reviews of state actions on permits, inspections, citizen complaints, etc. OSM will also respond to written complaints from individuals after reviewing state actions. At the end of each year, OSM issues an annual report for the results of their oversight of the Illinois LRD's implementation of the approved program.

Further information on OSM activities in Illinois may be obtained at the following address and phone number:

Office of Surface Mining  
575 North Pennsylvania Street  
Minton-Capehart Federal Bldg., Room 301  
Indianapolis, IN 46204  
Phone (317) 226-6700  
Fax (317) 226-6182

### **The Role of the Natural Resource Conservation Service (NRCS)**

The NRCS is the federal agency responsible for the development, distribution and maintenance of soil surveys. The NRCS, in cooperation with other federal and state agencies, publishes soil surveys which provide descriptions of soils and mapping units. The NRCS also provides a list of prime farmland soils, their location, physical and chemical characteristics, crop yields, and associated data necessary to support adequate prime farmland descriptions. The NRCS reviews and comments on the proposed methods of soil reconstruction on prime farmland areas. The NRCS also is responsible for the development of specifications which will act as guidelines for prime farmland soil removal, storage, replacement, and reconstruction during each phase of coal mining.

### **The Role of the Illinois Department of Agriculture**

The Illinois Department of Agriculture (IDOA) is responsible for reviewing mine permit applications on soil and agricultural issues and providing comments to LRD during the review period. Yield testing of cropland and hayland is typically done by IDOA representatives or persons under contract to them. The IDOA is also responsible for the gathering of annual county wide yield statistics which are used to adjust target yields to measure crop restoration success.

### **What is Prime Farmland?**

Prime farmlands are those lands, as determined by the NRCS, having the best combination of physical and chemical characteristics for producing food, feed and forage. Additionally for SMCRA purposes, these soils must have been historically used for crop production to be considered as prime farmland. State and federal law requires a minimum of 48 inches of soil (topsoil and subsoil) be removed, stored and replaced on all prime farmland areas.

The operator must restore prime farmland to 100% of its pre-mining level of productivity for a minimum three (3) years of the responsibility period.

### **What is High Capability Land?**

High Capability Lands are those lands which do not meet the requirements of prime farmland, yet are capable and suitable for crop production. These include land classified by the NRCS as being in capability class I, II, III, and IV (less than 5% slope) and also includes those prime farmland soils exempted from the prime farmland standards. The law requires that for these lands the land must be reconstructed by replacing sufficient soil to restore the land to its premining capability. Presently, in Illinois a minimum of 8 inches of topsoil and a total of 48 inches of topsoil and rooting medium must be replaced. Be aware that the term “rooting medium” may include a mixture of subsoils. High capability cropland must be restored to 90% of original productivity for a minimum of two years. Not all high capability land is reclaimed to cropland use even though the soil replacement requirements are unchanged. Land uses may include pasture, forest, and wildlife habitat.

### **What is Limited Capability Land?**

Limited capability land, also known as non-cropland capability or low capability land are those lands other than prime or high capability. They are typically the steeper or significantly eroded soils pre-mining. These lands are typically reclaimed as water, forest, or wildlife habitat, even if they have been cropped pre-mining. The topsoil or a topsoil substitute of equal quality is replaced over a mixture of rock and soil capable of supporting the post mining vegetation. They are not reclaimed capable of growing row crops due to the slope and soil quality.

### **Prime Farmland Exemptions**

When the NRCS determines that lands within the permit area are designated as prime farmland (PFL), the coal operator may get an exemption from prime farmland standards in one of two ways. First, the operator may request a “*negative determination*” requiring a demonstration that the land has not been historically used for cropland. This means that the lands have been used for cropland less than five years out of the ten years prior to acquisition for surface coal mining and reclamation operations. Other negative determination options are to demonstrate that the slope of the land is 10% or greater, the surface is very rocky, or the land is flooded during a growing season more than once in two years.

Secondly, the operator may demonstrate that the prime farmland areas are eligible for “*grandfathering*”. This applies to an operation which was operating on August 3, 1977 and has held continuous permits since that date.

Once the land is exempted from meeting PFL standards it becomes subject to the standards of High Capability Land.

### **Bond Release**

Prior to mining, the operator is required to provide a performance bond for the area within the permit upon which the operator will conduct mining and reclamation operations. The bond will range from a minimum of \$10,000 to several millions per permit. The final amount is calculated by the Division based upon the difficulty of reclamation should the operator fail to fully or properly restore the land and the State must complete reclamation. This bond shall be for the duration of the surface mining and reclamation operation plus an extended period of liability.

The period of extended liability starts after the last year of seeding, fertilizing, irrigation, or other work and continues for not less than 5 years.

The LRD may release bond in whole or in part (called phases), when the operator demonstrates the reclamation covered by the bond has been accomplished as required and public notice requirements have been met.

When an operator completes the backfilling, regrading, topsoiling, and drainage control of a bonded area according to the reclamation plan, as much as 60% of the bond may be released (Phase I). After revegetation has been established on the regraded mined lands, as much as 25% of the bond may be released (Phase II). For PFL, all productivity requirements must be met before Phase II can be released. Release of the remaining portion of the bond occurs when an operator has successfully completed all remaining surface mining and reclamation requirements (Phase III).

Landowners and adjacent landowners will be notified and may provide input at each stage of bond release. The LRD must conduct, in a timely manner, an inspection and evaluation of the reclamation work involved. The LRD will notify the surface owner, agent or lessee prior to the inspection.

The LRD will evaluate compliance with the approved plan including:

- restoration of the approximate original contour
- soil replacement thickness
- crop productivity records
- number of living trees or shrubs present per acre (if applicable)
- erosion control
- water quality (ground and surface water)
- plant coverage and type
- impoundment designs

Any landowner, coal operator or other potentially adversely affected party may request a review and hearing on the LRD's bond release decision before a Hearing Officer. If a party

continues to disagree, judicial review may be sought.

**The landowner needs to be aware that achieving productivity may take a number of years after mining. Typically the soil is replaced the year after mining, then it is seeded to wheat or pasture grass. It may undergo one or two years of land leveling. Most areas are then deep tilled before productivity testing starts. The operator must make three successful yields, (two for high capability land) within a ten year window. One of the successful yields on cropland must be corn.**

**The landowner also needs to be aware that current regulations do not require an operator to request bond release even though the land may be eligible. This may affect landowner access to the land, depending on the terms of the lease. In addition, the operator may wish to retain the area under permit to facilitate access to additional mining areas.**

**The landowner also needs to be aware that the regulations place the responsibility of achieving the required productivity on the permittee. The Department cannot require that the permittee use the landowner to do the actual farming.**

**The landowner also needs to be aware that crop share agreements with the permittee are part of the coal lease and not part of the permit or subject to the jurisdiction of the LRD.**

### **III. Mining Operations and Reclamation**

#### **Mine Operations Plan**

The mine operation plan details the operator's proposal for mining coal. A description of the mining operation to be conducted, proposed life of the mine, and the information to demonstrate that the reclamation can be



accomplished must be included in the mining operation plan.

The LRD reviews a mining application for an operator's technical, legal and financial ability to complete mining and reclamation as described. No mining may begin, however, until an operator has received all applicable approvals, including the landowner's consent. This consent is part of a coal lease.

The actual mining process and techniques used to extract coal are proposed by the mine operator and must be approved by the Department prior to implementation.

### Soil Removal and Storage

Before mining begins, operators must plan for the replacement of topsoil and subsoil after the coal has been removed; details involving the removal, storage, replacement, and protection of the topsoil and subsoil from wind and water erosion are listed in the mine operation plan. Topsoil, which is removed in a separate layer from areas to be disturbed, is immediately re-distributed or stored on approved locations

Operations usually occur in the following manner. Scrapers remove the topsoil. Scrapers or a combination of hydraulic excavators and trucks remove the subsoil and directly redistribute it on graded overburden or stockpile it for replacement after mining. Seeding and mulching protect the



...moved to a separate location within the permit area...

topsoil from wind and water erosion. Stockpiles are marked as being topsoil or subsoil and protected with a cover of vegetation.

Careful handling of the topsoil and subsoil is crucial for reclamation because this is the medium in which the success or failure of plant growth on the reclaimed site is determined. The replaced soil profile on areas designated as prime farmland and high capability land must be a minimum of 48 inches including topsoil and subsoil.

### Overburden Removal and Placement

... or replaced immediately. Replacing and grading the soil as quickly as possible enhances post-mining productivity.



After the loose soil materials and rocky overburden are removed, the coal seam is finally exposed and ready for extraction.

After the coal is removed, the coal operator places the rocky material in the bottom of the pit. Overburden can contain layers with pyrite, which when exposed to air and water, can produce acid. Mixing these layers and burying them with neutral aterials in the pit, prevents acid production by blocking exposure to oxygen.

To assure that a suitable root medium is available for cropland capability, during

reclamation the subsoil layers are placed on top of the graded overburden.

## **Mine Reclamation Plan**

A mine reclamation plan will show how overburden will be graded, subsoil and topsoil replaced and revegetated and the post mining land uses accomplished. Carefully shaping the material assures proper grade, slope, and contour design. Throughout the reclamation process, coal operators must meet detailed requirements including a timetable for the completion of each step.

## **Grading and Soil Replacement**

Operators must plan to provide rough grading of mined overburden within 180 days of coal removal and have no more than four ungraded spoil ridges behind the active pit, unless additional time is justified and granted by the state regulatory authority, LRD. The replaced overburden must be shaped to the approximate original contour of the land so that it drains properly and the natural pre-existing drainage patterns are reestablished. Operators must grade materials from the initial pit or box cut to blend with unmined land. The landowner should be aware there is typically a raise in elevation of the mined ground due to the "swell factor" caused when the rock overlaying the coal is broken up during mining.

Operators must complete the final grading in a timely manner; usually by the fall of the year following mining. This includes any subsoil or topsoil replacement and installation of erosion control measures such as terraces, diversions, grass waterways, and drains.

After the subsoil is replaced on prime or high capability land, Land Reclamation Division specialists check for proper quality and thickness. Operators must attempt to grade replaced soil in a manner which limits compaction. The type of equipment, as well as the soil moisture content

during removal and replacement, many times will determine the productivity of the reclaimed land as they determine the physical properties of the reclaimed soil. Many operators are now using small excavating shovels in combination with end-dump trucks. This method of reclamation has resulted in less compaction of the soil materials. Compaction at any depth in the rooting media will reduce the crop yields. Loosening the deep subsoil by ripping it to depths as much as 48 inches alleviates compaction of the replaced subsoil. Planting grasses and deep rooted legumes also helps alleviate compaction through the action of root penetration.

## **Post-Mining Land Use**

The operator must describe all land uses planned after mining, taking care to balance restoration of the land affected to a condition capable of supporting the uses which it was capable of supporting prior to any mining. Where feasible and desirable, a higher and better use than previously existed may be provided. All restored prime farmland must have a post mining land use of cropland. Not all high capability land is reclaimed to cropland use even though the soil replacement requirements are unchanged. Land uses may include pasture, forest, and wildlife habitat.

Any changes from the pre-mining land use must be approved by the LRD. To change how the land will be used following mining, the operator must file an alternative land use proposal in the reclamation plan portion of the permit application. Landowners are notified of the proposed change(s) and are permitted to comment on any such proposals. The post mining land use and changes to the post mining land use are generally determined by pre-mined soil capability, pre-mine land use, landowner's preference, and local citizen and government priorities, policies, and mining technique used. The operator's reclamation plan includes comments from landowners and State and local government agencies responsible for approving or authorizing the resulting land use. Also submitted is a

discussion of the reclaimed land's capability to support a variety of alternative uses.

Coal operators may construct permanent water impoundments within the mined area, if the alternative land use proposal has been approved or if a water land use existed prior to mining, however all acreage of prime farmland must be replaced. An operator proposing to relocate prime farmland due to a water impoundment must have landowner consent. This is the only situation under the regulations where the landowner has the final say in post mining land use of their property.

**Landowners should be aware that the shape of farm fields and other land uses will not be the same shape as existed pre mining. In most cases the shapes of the different land uses will be more uniform. Also even though an individual pre mining farm field is composed of prime and high capability land, it will be tested separately for reclamation success according to the productivity of the prime and high capability soils in the mining pit.**

## Productivity

Reclamation plans must give details on any chemical analysis of topsoil to be performed to aid vegetation establishment. Coal operators apply fertilizer or soil amendments as needed.

Most plans provide for a temporary cover crop of wheat, oats or sudangrass followed by a grass-legume mix for several years on reclaimed land to prevent soil erosion and begin to build the soil structure. In addition, many operators initiate a deep tillage operation to remove soil compaction. After this period, and before the company's reclamation responsibility starts, vegetation is established that is consistent with the post mining land use plan. In addition, for prime farmland, operators must establish row crop production.

A whole field harvest or a random harvest of the field are the most common methods used to

verify the success or failure of the vegetative growth. Yield testing is typically done by representatives of the Illinois Department of Agriculture or persons under contract to them. In addition to proof of productivity, ground cover surveys of the vegetation are used on land uses other than row cropland.

A five year vegetation liability period begins when all grading is completed and the land is planted to a crop capable of supporting the post mining land use. For prime farmland, the operator must show full restoration of 100% of the original unmined land productivity using typical crops (e.g. corn, soybeans, wheat) for a minimum three crop years of the responsibility period, which is a minimum of five (5) years. A minimum of one of the successful crops must be corn. A maximum of one year of hay and wheat each is also allowed.

High Capability Land with a post mining land use of cropland must be restored to 90% of



**Deep tillage, sometimes to 48 inches, has been shown as a long lasting way to remove compaction**

the original productivity for two (2) years of the responsibility period. One of these successful crops must be corn. Post mining land uses of forest and wildlife must show growth of 450 trees or 250 trees and shrubs per acre, respectively at the end of the responsibility period.

## IV. Use and Management of Reclaimed Soils

Soil profiles developed under natural soil forming conditions have fairly predictable layers. Natural soil forming processes cause structure, pores and rooting zones to develop.

There are two main groups of soils mined in the state. Soils formed under forest vegetation occur in both the western and southern mining regions. These soils have light brown topsoil and subsoils with less than ideal physical and chemical characteristics. Soils formed under prairie vegetation have much thicker and much darker brown to black topsoil. The subsoils are more favorable both physically and chemically for root growth than those of forest soils. These soils are much more productive than the forest soils.

Mining and reclamation activities disrupt the soil structure or physical condition of the subsoil. After subsoil replacement the soil forming processes, pores and channels due to plant root and animal action begin to redevelop. This is a slow process. Reclaimed soils have a weak or nonexistent soil structure and more variable texture. Many of these problems are related to compaction in the reclaimed soil. Reclamation practices and moisture content at the time of soil placement greatly influences the degree of compaction.

Compacted layers limit rooting depth, reduce permeability and increase soil moisture problems. Soil moisture is most likely to be a problem in flatter landscapes and swales where compacted layers underlie a layer of more permeable soil material. Thickness of the compacted layers range from a few inches to a few feet and the compacted layer occurs anywhere from the surface down. The degree of compaction may range from slight to totally root restrictive. Compaction may occur in all soil textures, even those thought to be most desirable for plant growth such as loam and silt loam.



The success of erosion control measures will vary with different sites and must be carefully planned during reclamation.

One of the most beneficial practices to alleviate compaction is deep tillage. The depth of deep tillage may be up to 48 inches. Tillage devices include chisels and deep rippers. This equipment is most effective in breaking up compacted layers when the soil is dry. Another practice to alleviate compaction is the planting deep rooting legumes such as sweet clover and alfalfa. These practices accelerate the rate of subsoil structure development.

### Erosion and Sedimentation

Planning for erosion control on reclaimed land may be more difficult than for areas on natural landscape because specifications and standards for erosion control practices are based on natural landscapes and soils. Reclaimed soils are typically more erosive. Factors which contribute to this problem are:

- Slowly permeable, compacted layers cause the upper soil layers to be saturated and more susceptible to detachment by moving water.
- Slopes are often longer and more uniform than non-mined areas. Slightly and moderately developed drainage patterns common to unmined areas are not common to reclaimed soils. Also reclaimed soils do not have the benches and flats typical of many natural landscapes. Gully erosion may be less on reclaimed areas but sheet and rill

erosion may increase in reclaimed areas.

- Structure is less developed in the reclaimed soils.

Sediment deposition patterns are often different in reclaimed areas than in natural landscapes. The LRD does require the operator to address erosion control practices. The LRD allows the operator to design and install erosion control systems in consultation with the NRCS in lieu of submitting plans to the LRD. Most operators use this procedure to meet their requirements. The use of standard erosion control practices such as cover crops and crop residue management after topsoil replacement are initially more critical on reclaimed land until soil tilth and soil/water infiltration relationships can be established.

### **Assessment of Reclaimed Land**

Farmland is assessed in Illinois based on the soil map unit assigned to it by the NRCS. The higher the productivity of the map unit, the higher the assessed valuation. All of the minesoil map units in use today were developed over twenty years ago, prior to the current reclamation practices, particularly, deep tillage. The development of new updated soil series is a lengthy process which has not occurred to date. As a result, cropland reclaimed in recent years are classified using the older less productive minesoil map units, thus the assessed valuation is not representative of the restored productivity. For more information contact the NRCS or the LRD.

**The landowner should be aware that the party that pays the property taxes while the area is under permit is dealt with in the coal lease, not the permit, and is outside the jurisdiction of the Department.**

## V. Frequently Asked Questions and Their Answers

**1) If I was growing corn on my property before the land was mined, will I be able to grow corn on it afterwards?**

**Yes**, if the land is classified as prime farmland. In most cases, high capability will also be returned to cropland if it was cropped before mining.

**2) Can I see the coal operator's plan?**

**Yes**. Once the complete permit application has been submitted it is public information. Copies can be reviewed at the county clerk's office in the county where the operation is located or the Land Reclamation Division of Reclamation office in Benton or Springfield.

**3) How much am I allowed to participate in the permit review process?**

Public participation is encouraged throughout the permit review process. In fact, public participation is encouraged from the permit process through the actual mining of the coal and reclaiming of the land. Comments are solicited from the landowner during the application process if an alternative land use is proposed. If you have any concerns or questions at any point, you are asked to contact the Land Reclamation Division.

**4) Where can I get more information?**

As previously indicated, all phases of the mining operation are monitored by the Illinois Department of Natural Resources, Office of Mines and Minerals, Land Reclamation Division. Professional staff in the Springfield Central Office or Benton Field Office are always available to answer general mining questions or specific questions about a mine in your area. Call (217) 782-4970 or (618) 439-9111, write or visit the office.

**5) Can the LRD or OSM force a coal operator to comply with a lease agreement?**

**No**. Individual citizens and lessors of land to be mined should be aware that the LRD has no jurisdiction over terms of a coal mine lease that are not specifically addressed by Illinois mining and reclamation law, regulations or in the approved permit.

**6) If a coal operator mines on my property, do I have to approve the reclamation of my land before bond is released on my land?**

**No**. Bond release is not dependent upon the approval of the individual landowner or concerned citizen; however, the landowner will be contacted and asked if he or she wishes to accompany the inspector during the bond release inspection. Their comments are taken into account when determining whether the land meets the success requirements of law. If an operator wishes to request bond release in phases, this may occur as many as three times for the same property.

## VI. Glossary/Keywords

**acid-forming materials:** earthen materials that contain sulfide minerals or other minerals which, if exposed to air, water, or weather processes, form acids that may create acid mine drainage.

**affected area:** any land or water upon or in which mining activities are conducted or located.

**A horizon:** the topsoil, the uppermost mineral layer and the part of the soil in which the organic matter is most abundant and where the leaching of soluble or suspended particles is typically the greatest.

**applicant:** any person seeking a permit or exploration approval from the Division to conduct mining and reclamation operations.

**approximate original contour (AOC):** the surface configuration achieved by backfilling and grading of the mined areas so that the reclaimed area closely resembles the general surface configuration of the land prior to mining.

**B horizon:** the mineral layer that is typically immediately beneath the A horizon. The B horizon commonly contains more clay, iron, or aluminum than the A horizon or C horizon.

**C horizon:** the deepest layer of the soil profile and consists of loose material or weathered rock that is relatively unaffected by biologic activity.

**coal seam:** a bed or stratum of coal usually about 2-6 feet thick in Illinois.

**compaction:** process by which soil grains are rearranged to reduce void space and bring them into closer contact with one another, thereby increasing the bulk density.

**compliance:** conducting extraction and restoration activities in accordance with terms and conditions established by law.

**DNR:** Illinois Department of Natural Resources.

**diverse vegetation:** two or more plant species that provide effective and permanent vegetative cover, compatible with the post mining land use, soils and climate.

**gob:** rock or other coarse materials sorted out of the coal either during mining or processing.

**graded overburden:** all of the leveled soil and rock that lies above the coal seam.

**grandfathering:** a demonstration by the coal operator that an area of prime farmland should be exempt from prime farmland restoration standards because the areas were in operation prior to the Surface Mining Control and Reclamation Act of 1977 and have had continuous permits since that date.

**ground cover:** the area of the ground which is covered by the combined aerial parts of the vegetation and the litter that is produced naturally onsite, expressed as percentage of the total area of measurement.

**historically used for cropland:** lands that have been used for cropland for any five years or more out of the ten years immediately preceding the acquisition, including purchase, lease, or option, of the land for the purpose of conducting or allowing through resale, lease, or option the conduct of surface coal mining and reclamation operations.

**LRD:** Land Reclamation Division; one of the divisions of the Office of Mines and Minerals of the DNR. Regulates the mining and reclamation activities for the extraction of coal and oversees the restoration of land mined for coal, but abandoned prior to full and complete restoration.

**land use:** specific use or management-related activity, rather than the vegetation or cover of the land. The categories of land use are cropland, developed water resource, fish and wildlife habitat, forestry, industrial/commercial,



pastureland (or land occasionally cut for hay), recreation, residential, and undeveloped land.

**limited capability land:** land other than prime farmland or high capability land, also known as non-cropland or low capability land. Typically the steeper more eroded soils pre mining.

**litter:** the detached recognizable portions of the plants under evaluation that cover the ground surface.

**mulch:** vegetation residues or other suitable materials that aid in soil stabilization and soil moisture conservation, thus providing conditions suitable for seed germination and growth.

**Natural Resources Conservation Service:** U.S. Department of Agriculture's Natural Resources Conservation Service. Federal agency that reviews all plans of restoration of prime farmland. This agency conducts all soil survey activities. Formerly known as the Soil Conservation Service.

**negative determination:** a demonstration by the coal operator that an area of prime farmland should be exempt from prime farmland restoration standards because of one of the following reasons: 1) the land has not been historically used for cropland (less than five years out of the ten years prior to acquisition for surface coal mining and reclamation operations, 2) the slope of the land is 10% or greater, 3) the surface is very rocky or 4) the land is flooded during a growing season more than once in two years.

**Office of Mines and Minerals:** one of the offices of the DNR. Regulates reclamation of mined ground, mine safety, blasting, oil and gas production, and the reclamation of lands mined before the advent of reclamation laws.

**Office of Surface Mining, Reclamation and Enforcement (OSM):** U.S. Department of the Interior's Office of Surface Mining Reclamation and Enforcement. Federal agency that oversees the work of the state permitting and enforcement agency.

**operator:** any person, partnership, or corporation engaged in coal mining who removes or intends to remove more than 250 tons of coal from the earth or from refuse piles within 12 consecutive calendar months in any one location.

**overburden:** all of the soil and rock that lie above the coal seam.

**pH:** a symbol for the degree of acidity or alkalinity of a solution. pH values from 0 to 6.5 indicate acidity and from 7.4 to 14 indicate alkalinity. A solution with a pH of 6.6 to 7.3 is considered neutral.

**performance bond:** surety bond, certificate of deposit, letter of credit, cash, or a combination thereof, by which a permittee assures performance of all the requirements of the permit and reclamation plan.

**permit:** authorization to conduct surface coal mining and reclamation operations issued by the Division under the State program.

**permit area:** the area of land and water within the boundaries of the permit which are designated on the permit application maps, as approved by the Division. This area shall include all areas which are or will be affected by the surface coal mining and reclamation operations during the term of the permit.

**post mining land use:** use of the land after mining. The mined land must be reclaimed to the use approved by the LRD in the permit application and agreed upon by the landowner in the lease agreement with the operator.

**primacy:** Term for the State's authority to regulate coal mining and under SMCRA. Illinois' Land reclamation Division gained authority to administer federal mining and reclamation law on June 1, 1982.

**prime farmland:** lands as determined by the U.S. Secretary of Agriculture (NRCS) and which have historically been used for cropland.



**reclamation:** actions taken to restore mined land as required by regulations to a post mining land use approved by the LRD.

**reclamation specialists:** staff members of the LRD that review permit applications, conduct inspections for bond release, and ensure enforcement of detailed performance standards of all phases of mining and reclamation.

**regulatory program:** any approved state or federal program.

**revegetate:** the act of planting reclaimed land with grasses, trees, crops, etc.

**rooting medium:** the subsoil or mixture of subsoil and substratum that meet the quality requirements of prime or high capability reclamation standards.

**soil amendments:** additives to the soil to enhance plant growth, such as fertilizer or agricultural lime.

**soil horizon:** each contrasting layer of soil parallel or nearly parallel to the land surface. Each soil horizon is differentiated on the basis of field characteristics and laboratory data. The three major soil horizons are the A horizon, the B horizon and the C horizon.

**soil productivity:** the capability of a soil for producing a specific plant or sequence of plants under a physically defined set of management practices.

**soil survey:** a field and other investigation resulting in a map showing the geographic distribution of different kinds of soils and an accompanying report that describes, classifies and interprets such soils for use. A soil survey must meet the standards of the National Cooperative Soil Survey.

**Soil and Water Conservation District (SWCD):** a governmental subdivision of the state, organized for the purposes of carrying out erosion and sediment control activities within the county. To carry out these activities, the SWCD works in

cooperation with state and federal agencies with the consent of the land occupier.

**spoil:** overburden material removed from above the coal seam during surface mining.

**spoil ridge:** also known as “spoil bank.” Designates the accumulation of overburden. The place on the surface where spoil is deposited.

**subsoil:** layer of soil beneath the topsoil. B horizon.

**substitute soil materials:** select overburden materials substituted for, or used as a supplement to, topsoil. The permittee must demonstrate that the resulting soil medium is equal to or more suitable for sustaining vegetation than the existing topsoil.

**Surface Mining Control and Reclamation Act of 1977 (SMCRA):** Passed by Congress to establish minimum national standards for mining and reclamation.

**swale:** a slight, open depression which lacks a defined channel that can funnel overland or subsurface flow into a drainage way.

**topsoil:** upper layer of soil, usually darker and richer than the subsoil; surface soil. A horizon.