



KENTUCKY DIVISION OF OIL & GAS

Landowner Information for Leasing, Drilling and Operating Oil and Gas Wells in Kentucky

Oil and Gas Lease

When a company drills wells to develop crude oil and natural gas resources in an area, the company will need to secure an oil and gas lease agreement from the mineral owner(s). The lease is a legal binding contract between the mineral owner (Lessor) and the individual or company (Lessee), which allows for the exploration and extraction of oil and gas covered under the lease. The lease document is typically a standard form presented to the landowner by a company representative referred to as a “landman”.

Some of the more important features and terms of a lease a landowner needs to be aware of include:

Mineral Owner - Reserves the right to extract “mineral rights” (natural resources such as coal, crude oil and natural gas) below the surface or receive payment in the form of a royalty for the extraction of that resource. Mineral ownership may be **severed** or separated from the surface by mineral deed or by mineral reservation. Severance by mineral deed occurs when a party owning both surface rights and mineral rights sells or grants by deed all or a portion of the mineral rights underlying his/ her property. This deed, known as a mineral deed, is registered within the county register of deeds (typically county clerk’s office) and will become a part of the abstract of title to the land involved. Entitled to royalty override, see **Royalty** below.

Surface Owner - Right to ownership of property’s surface, surface owner may be compensated for timber loss and any right-of-way access required by the lessee (pipeline\flowlines, access road, wellpad, etc.). Surface owner is required to sign and approve a “*Plan to Prevent Erosion of and Sedimentation from a Well Site*” (Form OG-10) on severed mineral tracts. This occurs only when there has been 100% severance of the oil and gas from the surface (KRS 353.5901). Surface owners may refuse to sign and request mediation from the Division. Mediation cannot make determination of damages or “gas tap”.

Term - The duration of the lease usually ranges from 1 to 5 years. Terms may also include a drilling commitment to ensure lease development. When a well is drilled and placed in production, the lease is “held by production” for the productive life of well(s). If a well is not drilled within the term of the lease, the lease generally expires depending upon the language of the lease.

Royalty - Royalty mineral interest is included on the lease and is typically 1/8th (12.5%) of the revenue generated by oil and gas production from the lease.

Gas production from well or gathering line - In some cases, leases may include a clause for a “gas or farm tap” for a dwelling on the property. This is a negotiated item between the lessee and lessor and is incorporated into the lease.

Damages - When a well is drilled, an access road is constructed to the well site. This results in surface damage, and the surface owner is compensated for the loss of property. Timber may also be cut down during construction; the company may cut and stack the timber at a location convenient for the surface owner to sell or a value may be assessed on the timber and the surface owner compensated.

Pooling - Under Kentucky law, the state Division of Oil and Gas can force a "pooling" of the oil and gas interests of a landowner with the interests of other landowners where the size or condition of lands does not allow the neighbor to find a drill site while respecting distance limits from property lines.

A mineral owner has five options in the context of forced pooling. They can:

1. Lease their mineral interest.
2. Sell their mineral interest.
3. Participate materially in the development of the gas field.
4. Be a non-consenting owner.
5. Protest forced pooling.

Lease Assignment or “Farm-out” - Lease may contain a clause that allows lessee to assign or “farm-out” the lease, or a portion of the lease to another company for development.

Drilling of Well

Access Road Construction & Well Site Preparation - Depending on the length of the road, an access road usually requires several days to a week to construct with heavy equipment. A drilling pad (well site) is constructed and is usually 100’ by 200’ for the proposed well location and usually requires several days to construct. A drilling pit is also dug to contain drill cuttings and completion fluids.

Drilling - A typical well in Eastern Kentucky is drilled using an air rotary drilling rig. A well can be drilled through the primary gas producing zone (Devonian Shale) in less than a week. In Western Kentucky, mud rotary drilling rigs are typically used and may take 2 or 3 weeks to drill to total depth. Drilling operations are conducted 24 hours/day, 7 days a week. During this time large trucks as well as smaller vehicles will frequent the drilling site. As the well is drilled, various strings of casing are ran beginning with surface casing (9 5/8”) set to isolate freshwater zones and coal seams. Intermediate casing will typically be set through deeper water zones followed by 4 ½” production casing set through the producing formation.

Horizontal-Directional Drilling - Recent drilling technology advances now permit drilling high-angle wellbores to extract more crude oil and natural gas reserves by drilling lateral wellbores through oil and gas reservoirs. In some cases, directional wells may be drilled on the same location, or “twinning”, beside a conventional vertical well. Regulations require all wells to be drilled and completed in such a manner as to protect domestic

groundwater and ensure communication between reservoirs is prevented by the installation of casing strings.

Completion - After the well is drilled, the well will usually require a stimulation treatment commonly called a “frac job”. This involves pumping materials such as water, acid, gel, and nitrogen and/or sand (proppant) into the producing formation to increase permeability and establish a flow path for oil and gas production to the wellbore. The frac job typically takes several hours followed by a clean-up period to allow the material to flow back. After the well is completed, the well is placed in production.

Production/Operation

Access to Well - A producing well requires maintenance by a company representative sometimes referred to as a “well tender” or “pumper” to insure the well(s) produce at their capacity and to monitor production. As terms of the lease, a gate may be installed by the well operator to prohibit access to the property by unauthorized personnel. The gate is typically locked, and a key may be provided to the landowner. The well may require periodic maintenance by a service rig during the life of the well. Surface equipment includes a wellhead, gas meter, storage tank (for oil wells), separator and pipeline. Lease is held-by-production during the life of the well(s).

Plugging and Abandonment

When the well is no longer considered productive, the company plugs the well under the direction of a Division of Oil and Gas inspector. This involves placing cement plugs at various depths to isolate producing intervals, protect freshwater aquifers and coal seams. The site is reclaimed and vegetation is established to prevent erosion from the well site. After all wells on a lease are plugged, the lease is terminated and returned to the mineral owner.

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