

# CHAPTER 4

## Ownership and Use of Subterranean Space

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### § 4.01. Theories of Subsurface Ownership: An Overview.

Most nations of the world presently treat underground minerals as a common resource, owned by the nation as a whole and subject to control and development in the public interest. In those nations, land ownership consists of surface ownership, together with whatever airspace and support rights are necessary to enjoy the surface. There is no private right to extract mineral wealth from beneath the surface.

The United States, in contrast, fully applies the institution of private property to mineral resources, as well as all other components of subsurface geology. The general principle is that surface owners have the full right to develop (or leave in place) all underlying deposits and resources, subject only to legal rules that regulate exploration and development to protect various societal interests.

There are two leading theories in American law concerning the nature of private property in minerals and other underground resources. The fee ownership theory (or estate theory) treats the owner as enjoying a

possessory estate in the minerals, just as the surface owner enjoys a possessory estate in topsoil, grass, trees, and buildings. The servitude theory visualizes the owner of minerals in place as having a nonpossessory (incorporeal) right, something akin to an easement or a profit à prendre.

Subterranean spaces that are vacated in the process of mineral production generally are not "spent" resources or empty containers, devoid of worth, to be thrown away like empty milk jugs. Rather, these spaces -- tunnels, shafts, rooms, and the like -- often become highly valuable. The most important use of the vacant space tends to be for the transportation of minerals. Vacated tunnels and chambers may be valuable for the transportation of minerals from adjoining tracts. Transportation commonly involves improvement of the space with fixed facilities (e.g., rail lines or conveyors) and the fairly continual passage of workers and mobile equipment through the space.

Subterranean spaces are also highly valuable for the storage of the resource or equipment and supplies. Sometimes solid minerals are stored temporarily, as part of the plan for efficient removal processes. Storage is also important in connection with natural gas and petroleum. Depleted oil and gas reservoirs are often valuable containers for storage of reinjected hydrocarbons. Long-term storage, when the severed resource is kept underground as a reserve to handle future needs or until market conditions improve, is often economically valuable. In addition, some underground spaces are valuable as waste disposal sites.

This Chapter analyzes the ownership and use of underground spaces in connection with the production and storage of natural resources. There are two key issues. First, what rights does a mineral fee owner or mineral lessee have to use underground passages, tunnels, and spaces for the removal of minerals and for other purposes, including waste disposal? Second, what rights does an oil and gas owner or lessee have to reinject hydrocarbons into the reservoir for storage?

The fee and servitude theories have a direct impact on the allocation of these rights to underground spaces. A general understanding of the two ownership theories is essential to understand the topic. The remainder of this part therefore provides an overview of these two theories.

## **[1]--Severance Principles.**

### **[a]--Types of Instruments.**

Most disputes concerning the ownership and use of subterranean space arise after a severance of the mineral rights from the surface estate.<sup>(2)</sup> For a severance to occur, a written instrument that satisfies the state's real property statute of frauds is almost always necessary.<sup>(3)</sup> Typically, the instrument will take the form of either a lease or a deed. There are two subtypes of deeds that effect severances. The mineral rights are created by grant if the owner conveys the minerals and retains the surface; the mineral rights are created by reservation if the owner conveys the surface and retains minerals.<sup>(4)</sup>

### **[b]--Further Separation of Subsurface Rights.**

Subsurface rights themselves are divisible into separately owned elements. One person may own coal rights and another own other minerals. One may own oil and gas rights from one sand, with another owning the rights from deeper sands. With the subdivision of the mineral estate into separately held bundles of rights, the potential for disputes to arise concerning the ownership and use of underground spaces becomes greater and greater.

## **[2]--Fee Ownership Theory.**

### **[a]--*Ad Inferos* Doctrine.**