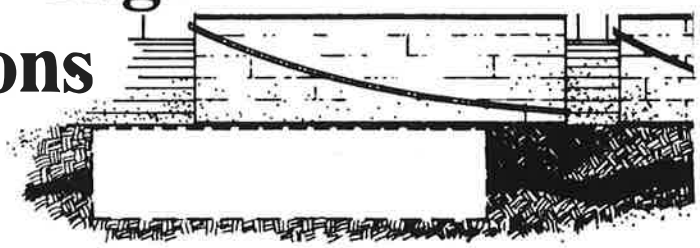
Gas Storage Problems and Solutions



The landman's critical role in acquiring underground gas storage rights

■ GEORGE W. THOMPSON

Summary

The surface areas of the 10 storage fields owned by Texas Gas Transmission Corporation range in size from approximately 1,700 acres to 23,000 acres. Some of these fields are located in areas of active coal mining. Oil is being produced within the field boundaries from multiple pay zones lying above and below the storage reservoirs.

In many instances, the coal, oil, gas, and other minerals are owned separately from the surface. In areas of complex mineral and surface ownership such as these, the success of any storage acquisition effort depends on the individual responsible for the acquisition and that person's ability to resolve the challenges that arise during the process of acquiring the rights necessary to develop and maintain an underground storage reservoir.

Introduction

The acquisition of an underground storage reservoir involves most of the departments that make up a gas transmission company. Each department contributes its own special area of expertise in preparing for the project.

Once all the data are collected and evaluated, the area of interest defined, and the decision to proceed with the acquisition made, someone must determine the ownership of the rights being sought and buy those rights. This is the landman's job.

The initial contact made by the landman with the property owner helps form the opinion the property owner has of the company he or she is dealing with. To many property owners, the landman is the company. Therefore, if the company is to be successful in acquiring the rights sought, then it becomes vitally important that the landman working on the project possess the qualifications to do the job.

Choosing the Right Person for the Job

Ideal landmen should possess certain character traits that are not common to everyone. They should, first of all, be honest and truthful. Their word should be their bond. They should be serious about what they say and concerned with maintaining a reputation for honesty and integrity. They should like people and be able to accept them with all their faults and failings. Landmen need good personalities and should be able to present themselves in a warm and friendly manner so that they will put the people they contact at ease. They should be believable and instill a sense of trust in others. They need a great reserve of patience in order to listen, when necessary, as well as talk. Landmen should possess qualities of diplomacy and tact that reflect a sensitivity to the feelings of others. They should know and understand the project they are involved in and the company they represent. They should be committed to the project at hand and believe that it can be accomplished.

Landmen should represent their companies and corporate goals when dealing with the land and mineral owner, and they should represent land and mineral owners when presenting their requests to corporate management.

Fairness and consistency in landowner relations keep problems to a minimum.

Although it may be difficult to find a person who possesses all these qualities, it would be wise to have someone who has a large percentage of them.

President Lyndon Johnson often said that he "believed in the art of the possible." His success in dealing with Congress proved the effectiveness of this attitude.

Background Knowledge

Because of the nature of its principal product, the natural gas transmission industry has created a demand for the development of underground natural gas storage reservoirs in an effort to better serve its customers. With a background knowledge of the petroleum industry, the landman is ideally suited for the task of acquiring underground gas storage rights.

It is understandable why underground storage reservoirs are essential to the natural gas industry. Having been a gas dispatcher, or as they are presently called, a "gas controller," I certainly can appreciate the flexibility in load stabilization and pipeline operation that an underground storage reservoir can provide.

The most common types of reservoirs for the storage of gas are:

A. depleted gas reservoirs
B. depleted oil reservoirs
C. aquifers, or water bearing reservoirs.

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The landman who contemplates buying storage rights should be thoroughly familiar with the characteristics of each of the above reservoir types.

The evaluation of a storage project and the recommendation to proceed comes from the geological and engineering departments and, ultimately, from management. Once management has made the decision to proceed on a storage project, the need for the landman comes into play.

Identification of the owner of the surface and mineral rights is essential. Hopefully, a good property map will be available for the area of interest. If no published maps are available, then it will be necessary to construct a map from information gleaned from the tax assessor and from property descriptions and information obtained from the County Court Clerk or Recorder's office. Topographic maps published by the U. S. Geological Survey can be helpful as a base map in instances where it is necessary to construct a property map. Once the record owner of the surface property is identified, a title opinion should be obtained setting out the owner of the surface and oil and gas. In addition, if other minerals of commercial value are known to underly the area, then the title opinion should also set out the owner of these mineral interests. The attorney who is secured to render the title opinions should be well versed in oil and gas law and should have some expertise in the legal aspects of underground storage acquisition.

Securing a Firm to Calculate Reserves in Place

If the reservoir to be acquired is a depleted or partially depleted oil or gas reservoir, then it will be necessary for the geological and/or engineering departments to secure a reputable petroleum engineering firm to calculate the amount of recoverable oil or gas left in place under each ownership tract. Care should be taken in selecting an engineering firm that is capable of making a fair and unbiased study of the reserves in place. This study is important for two reasons. It allows the landman to present an equitable offer to the oil and gas owner. It is also required to substantiate the reserve study with testimony that could be proved in a court of law if it becomes necessary for the company to exercise the right of eminent domain and condemn for the interest.

Should the potential storage reservoir be an aquifer or a reservoir that is known to contain no recoverable reserves of oil and gas, then a reserve study will not be necessary.

Identification of the Rights Essential to Acquisition

In order to effect acquisition, development, and operation of an underground storage reservoir, certain rights must be acquired. These rights exist in two areas: (1) on the surface, and (2) underground. The first is referred to as land or surface rights. Those rights lying below the surface (the underground rights) are oil and gas rights, stratagraphic rights, or a combination of both.

The ultimate goal is to control the surface and subsurface areas so to guarantee the integrity of the reservoir.

The ultimate goal of a storage acquisition effort is to adequately control the surface and subsurface area above and below the reservoir in such a way as to guarantee the integrity of the reservoir. To accomplish this, it is usually necessary to acquire surface and mineral rights on acreage lying outside as well as inside the known limits of the storage reservoir. This outside acreage is usually called protective acreage. Geology is, at best, an uncertain science and it is much better to control acreage you don't need than to need acreage you don't control. It is also necessary that the developer have exclusive control of all of the oil and gas and other minerals contained within the reservoir rock, the stratagraphic interval of reservoir rock itself, the overlying section of impervious cap rock, and the underlying section of impervious bedrock forming the reservoir seal. These rights are the minimum that must be acquired in order to control an underground storage reservoir.

Determining Ownership of Storage Rights

At this point, it would seem advisable to discuss some of the problems unique to Kentucky and Indiana that arise in determining ownership of the storage rights. In instances where the landowner owns the entirety or fee title to the surface and all the minerals, including oil and gas, there is no problem.

Unfortunately, this is not always the case. In some areas, severance of one or more of the minerals from the surface ownership has occurred, resulting in multiple ownership of surface and minerals. The questions then arise, who owns the storage rights being sought—the surface or the mineral owner? Which of the mineral owners may or may not own all or part of the storage rights being sought?

These questions have plagued those attempting to acquire storage rights since the commencement of underground storage operations and, as of this date, they have not been completely resolved.

In 1952, the Kentucky Court of Appeals attempted to determine ownership of gas once it was reinjected. The court held that once reinjected, the rights to the gas were the same as that to native gas. The court further held that the mineral owner, and not the surface owner, had the right to grant privileges.

The Kentucky Court of Appeals later reviewed a 1934 case titled *Hammonds v. Central Kentucky Gas Company.* In rendering its opinion, the court again cited the wild animal theory, or the rule of capture regarding reinjected gas. The court suggested that the way to avoid the rule of capture was for the operating party to contract with the mineral owner for the right to recapture.

Although the Kentucky Court of Appeals has considered other cases involving the same problem, it would seem that the doctrine of lost title to stored gas still prevails in Kentucky. In view of this, the only sure method of protection for the storage operator in Kentucky today is to secure storage rights from the surface owner as well as the mineral owner.

The above cases are set out to point up the problem of determining the owner of underground storage rights. It is certainly advisable for the landman to become familiar with state laws regarding the underground storage of natural gas.

Type of Instrument

Once the necessary facts are in hand for determining exactly what rights are essential to the acquisition of an underground storage reservoir, then it is time to decide on the type of instrument to be used in acquiring the storage rights. As in the case of oil and gas lease forms, there are many types of storage agreements; however, there is no standard form storage agreement, even though many of the various agreements will contain certain essential elements that are necessary to an effective storage conveyance.

In instances where a certain amount of exploration is necessary or desirable, it is possible to use a revised version of the "Producers 88" oil and gas lease that contains an option for conversion to gas storage. The amended form should contain language that frees the developer from an implied obligation to continue to explore for and develop production of oil and gas. A simple method for resolving this is to insert language that allows for conveying the zone to be used for storage to the developing company.

In addition, the revised oil and gas lease should contain a provision for a declaration that on a specified date, all or any part of the leased premises may be used for the storage of gas by payment annually of a storage rental. There should also be a provision for calculation of the amount of recoverable oil and gas in place, if any, and a specified price to be paid for such oil and gas reserves. Lack of these two provisions will render a revised oil and gas lease with a storage option ineffective for underground storage development.

Use of an oil and gas lease with provisions for converting to storage can be an effective means of acquiring storage rights in an area where the land and mineral owners may not be familiar with underground storage reservoirs. The language of the oil and gas lease and its implied obligation to explore for and develop production may tend to camouflage some of the disagreeable aspects that are part of the development of an underground storage reservoir. This can be an advantage to the landman acquiring storage rights during the acquisition stage of the project. However, when the problems with disgruntled landowners who did not understand what they were getting into eventually arise, they will have to be resolved in a satisfactory manner. For this reason, the landman should be frank and open when explaining the proposed agreement both from the landowner's standpoint and the company's standpoint.

Use of an oil and gas lease with provisions for converting to storage can be an effective tool in acquisition.

In cases where a reservoir is known to be suitable for underground gas storage, as in the case of a depleted gas reservoir, it is best to use an underground storage agreement that specifically sets out the acquiring party's intentions to develop for underground storage of natural gas. This storage agreement can take many forms and accomplish essentially the same result. The agreement should provide for the right to inject, store, and withdraw gas to and from the reservoir. It should provide for the security of the gas stored, along with access to and from the premises and the right to construct, operate, maintain, alter, and replace all the necessary facilities essential to the operation of a gas storage reservoir. It should also provide for compensation to the landowner or the oil and gas mineral owner for the gas and oil in place, if any, and additional compensation for the additional rights granted. This can be accomplished through a lump sum payment or by means of annual payments for specific rights. It can be in the form of an easement or a mineral deed providing for a one-time payment.

In attempting to decide what form of instrument to use, landmen should consult with the geological and engineering departments of their companies regarding location of proposed wells, compressor facilities, location of field gathering lines and transmission lines, and other above- and below-ground appurtenances.

In the event a large concentration of surface facilities is projected for certain areas of the field, it is advisable to consider purchase of these properties in fee. The

advantage of this approach is obvious if the purchase price is acceptable to management. This will allow for planning without concern for surface damage or other environmental problems that sometimes arise as a result of concentrated development in or near residential areas. It also avoids many nuisances that arise when developing privately owned property.

Regardless of the type of instrument used, the landman should take care to be consistent in treating each individual alike with regard to rights taken and compensation paid for such rights. Most storage reservoirs do not cover a large surface area. Because of this, news of inconsistencies in rights taken or compensation paid travels fast and may very well determine the success or failure of an acquisition effort.

Many states now have laws providing for condemnation of storage rights under certain conditions. When the power of eminent domain is available, and it is necessary to use it to complete acquisition of a reservoir, the procedure is comparable to condemnation for any other purpose. The essential need in such instances is have a reserve study of recoverable reserves, if any, that can be backed up with valid testimony and be able to prove the necessity for the various rights taken. It is much better to acquire by negotiation than by condemnation insofar as long-term landowner relations are concerned. A disgruntled owner can be a thorn in the side of operations once the storage field is operational. Therefore, every effort should be made to work out a satisfactory agreement by negotiation before resorting to condemnation.

Development and Operational Problems

Once the storage reservoir is operational, the need for the landman's talents continues in the areas of coordinating activities of the various ownerships and in resolving the inevitable disputes that arise as a result of such activities.

During the development stage, it is necessary for the landman to keep property owners notified of the company's developmental plans such as moving drilling rigs in to drill new wells or clean out old ones, building access roads, laying gathering lines and transmission lines, installing ground beds for cathodic protection systems, and settling damages on all these activities.

Once the field is developed, many of these activities continue or are repeated, such as annual maintenance on all injection wells and activity created by operations of third parties within the storage field, and oil and gas development or coal company operations.

Conclusion

Regardless of the kind and amount of activity, if a company is fair, equitable, and firm in its landowner relations and consistent in its practices and policies, then its problems with landowners will be minimal. The success of this type of company/landowner relationship will be reflected in lower operating costs and will become a matter of mutual pride between the company and the land and mineral owners.