

**Coalbed Methane
Extraction:
Landowner Rights**

Q. # 1

Why doesn't a landowner necessarily own the rights to gas, oil and minerals located on and beneath the landowner's property?

A. # 1

Because of the property law concept of “split estates.”

- Under the concept of split estates, a landowner controls what is on the surface while another owner, such as an energy or mining company, own or lease the right to gas, oil, and minerals.

- The purpose of split estates is to promote the production of natural resources.
- At common law, the mineral estate has been deemed the dominant estate.
- Split Estates are commonly limited to two estates: the surface estate and the mineral estate. However, in Pennsylvania there are three separate estates: the surface estate, the mineral estate and the support estate. See Pennsylvania Coal Co. v. Mahon, 260 U.S. 393 (1922).

- In Pennsylvania, if the surface owner also owns the support estate, the mineral owner may mine for minerals underneath the surface (e.g. coal) but must leave enough of it there to support the surface estate.
- However, if the mineral estate owner also owns the support estate, the surface owner has no legal right to have his or property supported by anything. (But see 52 P.S.

1406.5d, re: dwellings used for human habitation

- **Waiver of the support estate can occur if a Grantor (the Seller) transfers to a Grantee (the Buyer) the mineral rights by a deed which states that, “the undersigned Grantors hereby waive for themselves, their successor, heirs and assigns all damages in any manner arising from the exercise of the rights hereinbefore Granted.”** Culp v. Consol Pa. Coal Co., 1989 U.S. Dist. LEXIS 8193 (W.D. Pa. 1989).

The key phrase above is “all damages in any manner”; although other language could also cause a waiver of the support estate.

**Ownership rights are determined by
the deed to the property.**

A deed should address methods of
extraction, liability for harm, and the
right to support.

- Throughout Appalachia, including Pennsylvania, “broad form deeds” were used to sever coal or all mineral rights from the surface estate.
- Typical language in a broad form deed would reserve “all of the coal, oil and other valuable minerals in the Land” from the surface estate.
- The courts have had to interpret the language of broad form deeds to determine whether the language of the deed encompasses the right to engage in certain types of mineral extraction such as strip mining, longwall coal mining, and mining of coalbed methane (CBM).

- **Waiver of the support estate can occur if a Grantor (the Seller) transfers to a Grantee (the Buyer) the mineral rights by a deed including language such as, “the undersigned Grantors hereby waive for themselves, their successor, heirs and assigns all damages in any manner arising from the exercise of the rights hereinbefore Granted.” See Culp v. Consol Pa. Coal Co., 1989 U.S. Dist. LEXIS 8193 (W.D. Pa. 1989).**

The key phrase above is “all damages in any manner”; although other language could also cause a waiver of the support estate.

- The Pennsylvania Supreme Court has ruled that an operator is not permitted to engage in strip mining under the language of a broad form deed. Stewart v. Chernicky, 266 A.2d 259 (1970).
- However, a Western District of Pennsylvania court has held that longwall coal mining is a permissible extraction method under the language of a broad form deed. Culp v. Consol Pa. Coal Co., 1989 U.S. Dist. LEXIS 8193 (W.D. Pa. 1989).

- The Culp court distinguished longwall mining from strip mining, stating that longwall mining is only a “difference in degree” from conventional room-and-pillar coal mining, whereas strip mining is a “difference in kind” from conventional mining.

- In 1983, the Pennsylvania Supreme Court ruled that CBM ownership rights are granted exclusively to the coal rights owner. U.S. Steel Corp. v. Hoge, 468 A.2d 1380 (1983).
- In other words, if a mining company owns the coal rights under your property, they also own the CBM.

- In 1999, however, the U.S. Supreme Court ruled that coal, as defined in the 1909 and 1910 Coal Lands Act, does not include the methane gas found within the formation, and therefore, a coal owner has no right to extract CBM for profit. Amoco Prod. Co. v. S. Utah Indian Tribe, 526 U.S. 865 (1999).

- **The U.S. Supreme Court noted in Amoco that a problem arises if the owner of the coal rights does not also own the CBM because the question is raised of whether the coal owner has a duty to preserve the CBM for the CBM owner.**
- **The Court also noted that an issue arises if the owner of the coal rights does own the CBM because methane that escapes the coal bed on its own might be extracted by the coal owner even though it belongs to the owner of the oil/gas estate.**

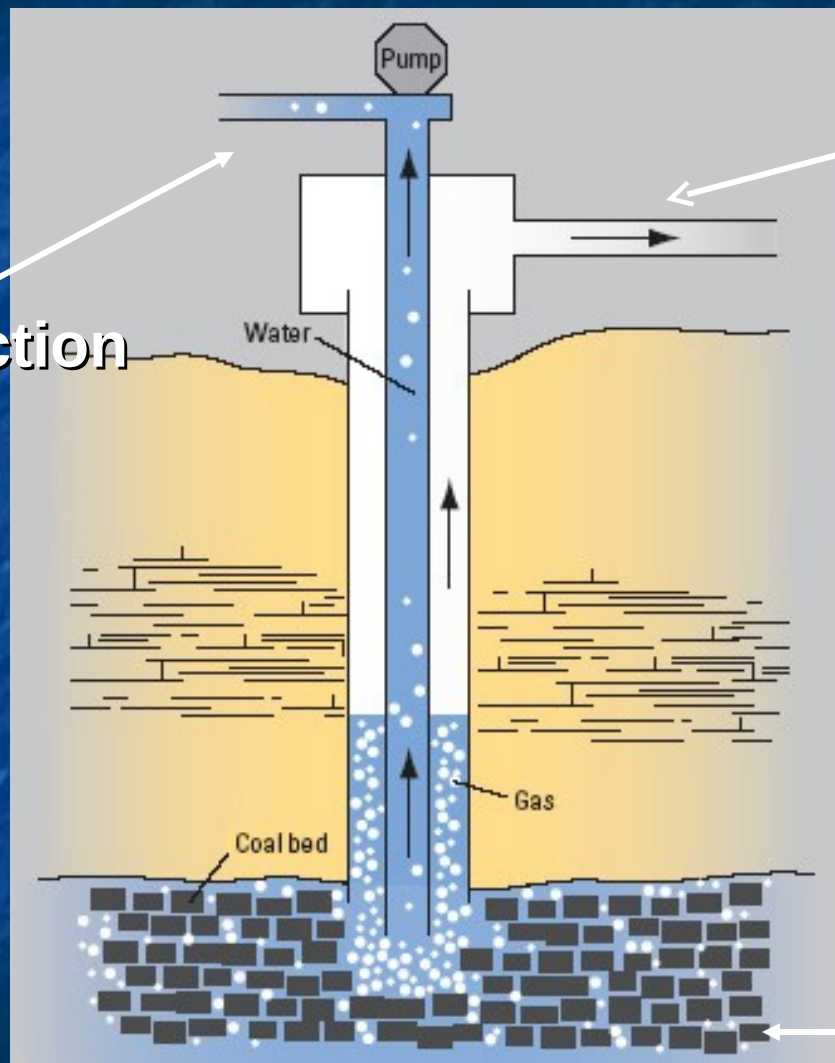
Q. # 2

How is coalbed methane removed?

A. # 2

CBM is removed by removing water pressure which holds CBM in place. Methane that was held in place by water pressure tends to follow the water as it is pumped to the surface, where it is captured and transported through pipelines. Fracking fluids are often first injected into the coal bed to break up the coal, making it easier for the water and gas to flow to the surface.

**Water
(production
fluid)**



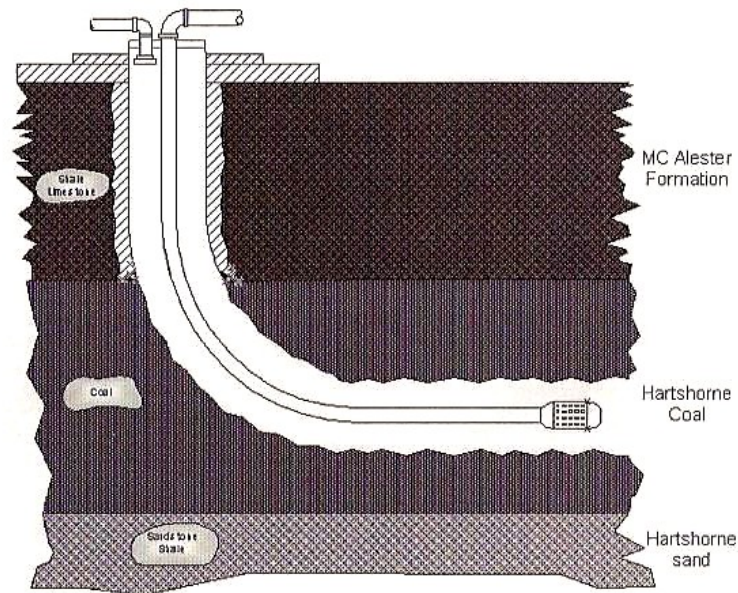
Gas

Coal Bed

Operators in Alabama, Arkansas, Oklahoma, and Virginia have made use of horizontal laterals to enhance CBM production in a manner similar to that shown in Figure 2-10.

Figure 2-10
CBM Drilling Example

Horizontal wellbore example from Arkoma Basin.



Note: Data used for this exhibit was derived from several CBM developers.

The production of CBM from eastern coals is similar to the western coals except for the use of horizontal wellbores and extensive use of fracturing to enhance production. With the coals being of higher rank, the methane content per ton of coal is typically higher, but requires additional enhancement to the natural fractures in many areas to maximize production. Production rates of CBM depend upon local gas content of the coal, local permeability of the coals, hydrostatic pressure in the coal seam aquifer, completion techniques, and production techniques.







Q. # 3

What PA laws regulate extraction of CBM?

A. # 3

CBM wells are subject to the same laws and regulation as are imposed on conventional gas wells. These include the Oil and Gas Act (Act 223, Chapter 78 (regulations promulgated under Act 223) and the Coal & Gas Coordination Act (Act 214).

Q # 4

What restrictions do PA laws and regulations place on CBM operators?

A # 4

The restrictions in the following slides apply:

1. CBM wells are required to be spaced at least 1000 feet apart.

- A waiver may permit reduction of this spacing to 900 feet.
- The Department of Environmental Protection (DEP) may allow for a denser spacing in order to maximize removal of CBM prior to other underground mining to reduce the hazard of methane causing mining explosions.
- The terms of the deed or lease can require less dense spacing.

2. CBM wells cannot be drilled within 200 feet of a residence unless a waiver is granted by the DEP.

- A landowner may be able to negotiate with the developer regarding the location of the well(s) and the DEP may assist property owners upon request in facilitating these discussions (and see proposed PA legislation).**
- Again, the terms of the deed or lease can require a greater distance.**

3. In order to drill a CBM well, the operator needs to obtain a drilling permit from the Bureau of Oil & Gas Management.

- The operator also needs to prepare an Erosion and Sedimentation Control Plan.**
- Depending on the site conditions and activities, the operator may need various other permits and/or approvals.**

- 4. Before a permit is issued, the well operator must send notice to the surface landowner and must notify the surface owner of their right to have their water supplies protected.**

- 5. If the well is drilled, the site must be restored within nine months after completion of the drilling, unless the operator obtains an extension from the DEP.**

- 6. Operators must implement, update as necessary, and keep in compliance their E & S plans, maintain and keep functional controls in place and permanently restore the site after the well is completed.**

7. Access roads may be left in place if the surface owner wishes or if the road was in existence before the well was developed. Otherwise, access roads should be a part of the restoration process.



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Q. # 5

What rights to CBM operators have in Pennsylvania regarding access to the surface owner's property?

A. # 5

The following applies:

#1. Operators who own or lease the rights to CBM underneath a surface owner's property have the right to enter the property to extract the CBM.

Operators are not required to compensate the surface owner for access.

Persons associated with the well are not obligated to obtain permission prior to entry, nor are they obligated to wear uniforms or drive vehicles with identification or logos.

#2 . CBM wells operate 24-hours a day and therefore operators may show up on the landowner's property at anytime during the day or night. The pumpjack produces a constant mechanical noise during operation.

#3. CBM wells may cause access roads and pipelines to be constructed. The terms of the deed or lease can give surface owners rights regarding placement of roads.

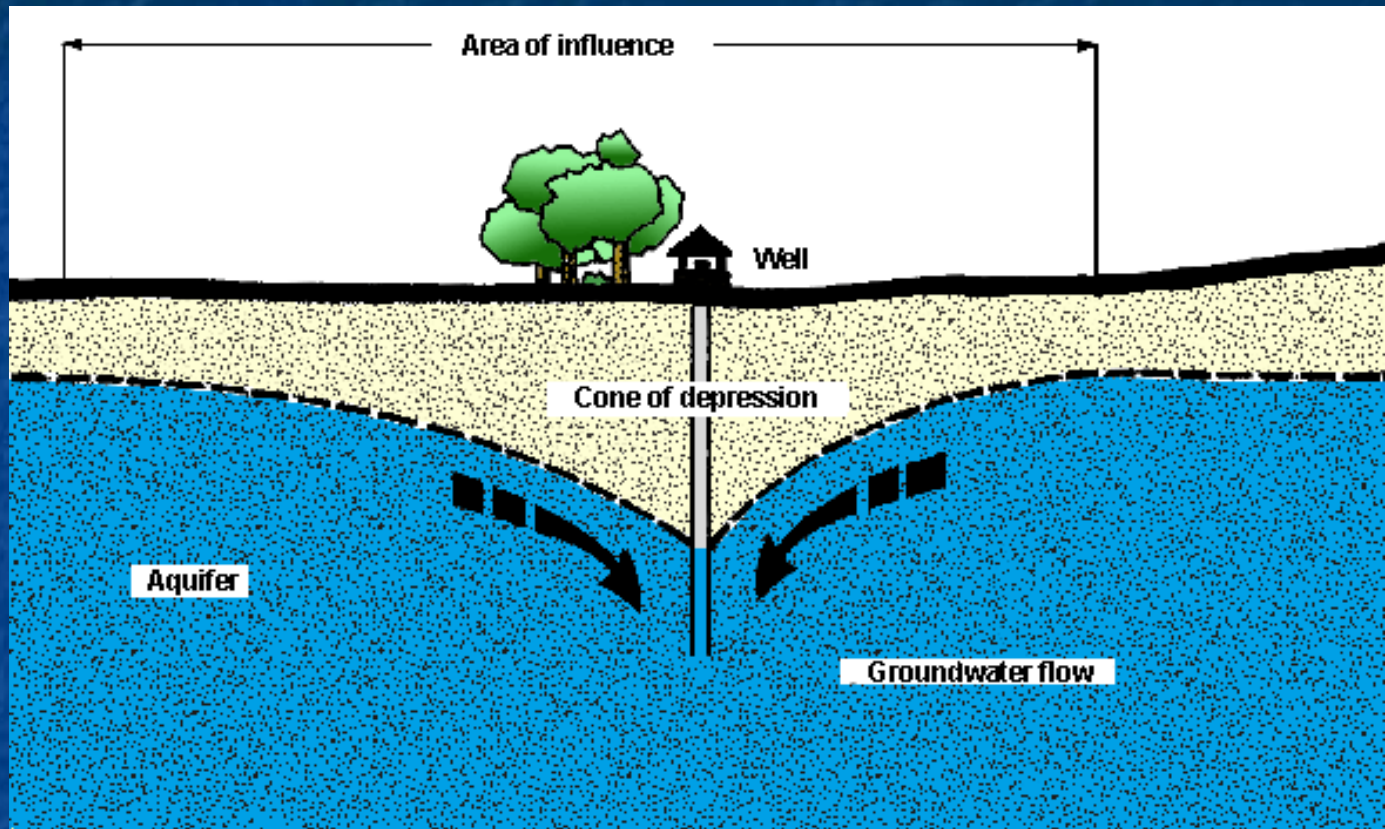
Q # 6

How does CBM extraction affect nearby water resources?

A # 6

CBM extraction can affect nearby water sources. The Oil and Gas Act requires any operator who affects a water supply by reduction or pollution to restore or replace that water supply.

- **There is a presumption of responsibility which assumes that an operator is responsible for any pollution of any water supply within 1000 feet of the gas well that occurs within six months of completion of drilling, unless the operator can prove CBM activities were not responsible.**
- **The 1000 feet distance is based on what is called the “cone of depression.”
(see next slide)**



Pumping from wells lowers the water table. This area is known as the cone of depression. Groundwater flow is diverted towards the well as it flows into the cone of depression.

A CBM developer must give notice to any person whose water wells are within 1000 feet of the proposed well. A CBM developer may ask homeowners to sign a waiver of their water supply. Landowners are not required to sign the waiver.

Landowners should have their water tested before a company begins CBM drilling!

Q. # 7

**What is done with the water
(production fluid) pumped from CBM
wells?**

A. # 7

**The groundwater is typically collected in
tanks or lined pits and then hauled to a
permitted treatment facility or carried
through a pipeline to a permitted
treatment facility. (see 25 Pa. Code 78.57)**

- According to the DEP, the production fluid is subjected to pH adjustments and aeration if necessary and settling. Once the water has been treated, it can then be discharged into the waters of the Commonwealth.
- A CBM water treatment facility can only discharge treated water after applying for and receiving a NPDES and Water Quality Management Part II Permits issued by the PADEP. These permits set requirements for the levels of pollutants that the discharge water may include.

Q. # 8

Is there proposed legislation pending in Pennsylvania regarding CBM?

A. # 8

**Yes. HB No. 132, HB No. 414
and HB No. 297**

All three bills were referred to the Committee on Environmental Resource and Energy at the beginning of this year.

HB No. 132 would require the mineral operator to attempt to enter into a surface-use agreement with the surface owner prior to obtaining a permit for a well from the DEP. If no agreement is reached, the operator may use the surface in a manner which is reasonably necessary to extract the CBM.

HB No. 414 is a slightly less industry friendly version of HB 132.

HB No. 414 would require that if a surface use agreement is not reached, a court order be issued before a permit for a well is granted.

House Bill 297 would require that a mineral estate owner grant a right of first refusal to the owner of the above surface estate, prior to transferring or conveying the mineral estate to another party.

Upon notice of the proposed transfer, the surface owner would have 60 days to complete the purchase of the mineral estate.