



Fact Sheet

Commonwealth of Pennsylvania • Department of Environmental Protection

Methane Gas and Your Water Well

Residents of the coal producing regions of Pennsylvania need to be aware of the potential dangers from the accumulation of coal bed methane, or natural gas, in their water wells.

High concentrations of methane in water wells, well enclosures and other confined spaces can cause an explosion.

What Is Methane?

Methane is a naturally occurring gas found underground. It is present in both shallow and deep rocks, and is frequently associated with coal beds. Underground coal mining can release methane to nearby areas.

Because most mining takes place at relatively shallow depths, the methane may migrate into groundwater. This gas may eventually find its way into wells that use the groundwater.

Many mines have systems to divert or remove methane from the underground workings. Methane vented to the atmosphere is harmless. However, these systems do not collect all the methane released by mining, and it may still escape to water wells. In addition, methane may continue to escape after the mine is closed. It can also be released from old, abandoned deep mines.

Because methane is colorless and odorless, it may accumulate undetected in well bores and well enclosures that are not properly vented. Methane may also move into basements of homes and other structures through plumbing and electrical connections. These conditions can lead to an explosion.

What Can You Do?

Fortunately, methane will not accumulate in the well bore if the well is properly vented to the air. Venting is an inexpensive and effective way to prevent methane accumulation in wells, well enclosures and other confined spaces, such as basements. Proper venting eliminates the potential for methane to seep into homes from water wells.

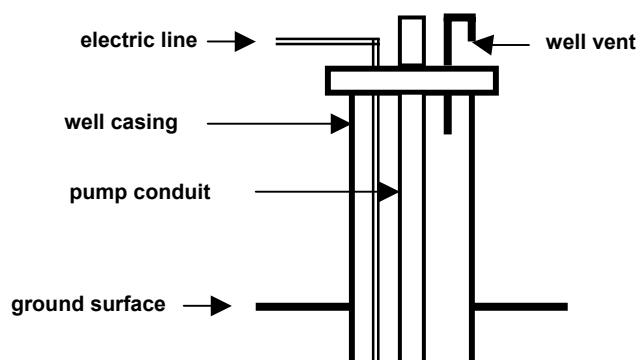
Recommended Venting Procedures

Well vents provide an exit for methane trapped in well bores or well enclosures. Proper design is extremely important.

The vent should extend above any possible flood level or potential ignition sources and should have watertight connections to prevent surface water from entering. The end of the vent pipe should have a down-turned

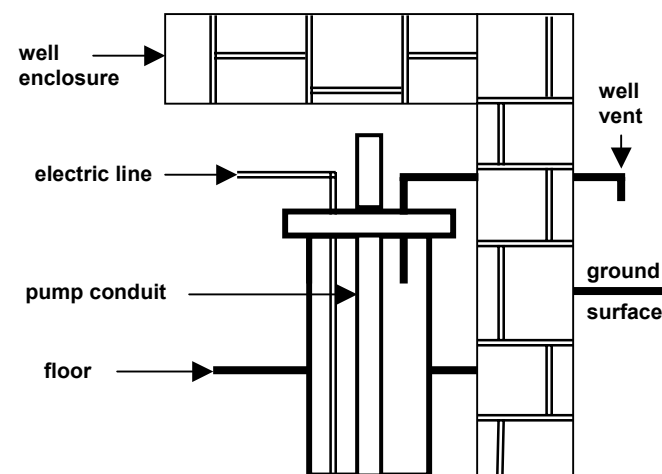
“gooseneck” and be capped with corrosion-resistant screening. If the vent is not turned down and screened, it can become a potential entry point for rainwater and small animals.

The diagram below is a simplified example of a vent pipe on a water well that contains a submersible pump.



Enclosed Wells

When the top of the well is buried in a covered pit or enclosed in a basement, the vent pipe must vent gas to the outside air, as shown in the diagram below. The vent pipe should be turned down and screened, and terminate at least 18 inches above ground level.



In cases where the well is located in an enclosure, it should have a tight-fitting well cap, and all openings through the cap should be properly sealed to prevent methane from escaping into the well enclosure.

Play It Safe

When a well is no longer in service, the plumbing connections should be disconnected to prevent methane from entering the home or building.

NOTE: Your well may differ considerably from the wells depicted in the diagrams. Also, well venting requirements may vary from place to place due to differences in local plumbing codes. Therefore, well owners are encouraged to contact a professional water well specialist or a local building code enforcement officer to determine the proper venting procedures required under the local plumbing code.

For more information on methane and water wells, please contact the DEP Mining Office in your area.

Pottsville District Mining Office

5 West Laurel Blvd.
Pottsville, PA 17901-2454
Telephone: 570-621-3118

Counties Served: Adams, Berks, Bucks, Carbon, Chester, Columbia, Cumberland, Dauphin, Delaware, Franklin, Juniata, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, Mifflin, Monroe, Montgomery, Montour, Northampton, Northumberland, Perry, Pike, Philadelphia, Schuylkill, Snyder, Susquehanna, Union, Wayne, Wyoming and York

Moshannon District Mining Office

186 Enterprise Drive
Philipsburg, PA 16866
Telephone: 814-342-8200
Counties Served: Bradford, Cameron, Centre, Clearfield, Clinton, Lycoming, Potter, Sullivan and Tioga

Knox District Mining Office

White Memorial Building
P.O. Box 669
Knox, PA 16232-0669
Telephone: 814-797-1191
Counties Served: Butler, Clarion, Crawford, Elk, Erie, Forest, Jefferson, Lawrence, McKean, Mercer, Venango and Warren

Cambria District Mining Office

286 Industrial Park Road
Ebensburg, PA 15931-4119
Telephone: 814-472-1900
Counties Served: Bedford, Blair, Cambria, Fulton, Huntingdon, Indiana and Somerset

Greensburg District Mining Office

Armbrust Building
RR 2, Box 603C
Greensburg, PA 15601-0982
Telephone: 724-925-5500
Counties Served: Allegheny, Armstrong, Beaver, Fayette, Greene, Washington and Westmoreland

California District Mining Office

25 Technology Drive
California Technology Park
Coal Center, PA 15423
Telephone: 724-769-1100
Counties Served: All counties with underground bituminous mining and subsidence

For more information, please visit the PA PowerPort at www.state.pa.us, Keyword: "DEP Mining Offices."