Frequently Asked Questions
About Methane in Domestic Well Water

What is Methane and where does it come from?
Methane is an odorless, colorless, tasteless, flammable gas made up of carbon and hydrogen (CH_4). It is the main component of natural gas - the same gas used to heat homes and cook with.

Methane, like coal and oil, is a product of decaying organic matter, and occurs abundantly in nature. Methane can be found trapped underground in the same kinds of rock that coal, oil, and natural gas fields are found, but it can also be produced by landfills, swamps, and is a component of "sewer gas".

How can I tell if there is Methane or other dissolved gases in my well water?
Dissolved gases, including methane, in well water are a common occurrence in Alberta. Other gases that may be found in well water include carbon dioxide, nitrogen and hydrogen sulfide. The ability of water to hold dissolved gases varies with temperature and pressure (similar to carbonated beverages – opening the container decreases pressure and gas escapes as fizz).

One simple method for determining if there is dissolved gas in your well water is to fill a clear glass with water from that supply. If the water first appears to be milky-looking, with fine bubbles emanating from the bottom to the top of the glass, and then the water clears up from the bottom to the top as these bubbles rise, dissolved gases are present.

To determine if the dissolved gas is methane, it is recommended that you contact a private laboratory to perform testing (look through the Yellow Pages under "Laboratories") - it is the homeowner's responsibility to pay for such testing.

How does Methane get into my well water?
Methane may be found in well water for a number of reasons. Sometimes, a water well is drilled through, or completed in, a rock formation that contains water and trapped methane. Methane escaping from landfills, coal mines, and improperly completed natural gas wells may also enter an aquifer (water-bearing layer) which supplies a water well. If any of these conditions exist, methane may be present in the well water.

What are the health risks associated with Methane in well water?
In general, methane escaping from water faucets does not present a significant health risk. Methane is a gas that does not have any known toxic, poisonous, or cancer-causing properties, and there are no known or demonstrated human health effects associated with drinking or bathing with well water that contains methane.

There is a safety concern when methane is allowed to accumulate in confined spaces with little or no ventilation, such as well pits, cellars, basements or well houses. Methane accumulating in these spaces may create a risk of explosion and of asphyxiation (choking due to lack of oxygen in the air).

What can I do if I have Methane or other dissolved gases in my well water?

If you have methane or other dissolved gases in your well water, the best course of action is to vent the gas to open air. There are a variety of mechanisms to vent gases from water wells, pressure tanks, hot water tanks and cisterns. Contact a water well professional or water treatment specialist to determine the most appropriate method to remove gases from your well water.

Where else can I get information about methane in well water and the health effects of methane?

If you have further questions about this topic you can call your local public health inspector at one of the locations listed at the bottom of this page.

You may also follow the links listed below to online sources of information on methane in domestic well water and related topics.

Parts of this FAQ were excerpted from the following references:

"Dissolved Gases in Well Water", from Alberta Agriculture, Food and Rural Development http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex637?opendocument

"Coal Bed Methane Wells and Water Well Protection", from AAFRD http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/eng9758

Pennsylvania State University. 2006. Water Facts #24 Methane Gas and Its Removal from wells in Pennsylvania. http://pubs.cas.psu.edu/FreePubs/pdfs/XH0010.pdf

U.S. Geological Survey. 2006. Methane in West Virginia Ground Water. USGS Fact Sheet 2006-3011, 6 pp. http://pubs.water.usgs.gov/fs20063011

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Claresholm Claresholm Public Health 5221 2nd Street W PO Box 1391 Claresholm, AB T0L 0T0 Phone: 403-625-4061 Fax: 403-625-4062	**Didsbury** Didsbury Health Unit PO Bag 130 1210 -20th Avenue Didsbury, AB T0M 0W0 Phone: 403-335-7292 Fax: 403-335-7610	**Okotoks** Okotoks Public Health Centre 11 Cimarron Commons Okotoks, AB T1S 2E9 Phone: 403-995-2600 Fax: 403-995-2639	**Strathmore** Public Health Building 650 Westchester Road Strathmore, AB T1P 1H8 Phone: 403-361-7200 Fax: 403-361-7244