

WHO IS THE ERCB AND WHAT IS ITS ROLE?



THE ENERGY RESOURCES CONSERVATION BOARD (ERCB) IS ALBERTA'S ENERGY REGULATOR. FOR MORE THAN 70 YEARS, WE HAVE BEEN COMMITTED TO OUR MISSION: TO ENSURE THAT THE DISCOVERY, DEVELOPMENT, AND DELIVERY OF ALBERTA'S ENERGY RESOURCES TAKE PLACE IN A MANNER THAT IS FAIR, RESPONSIBLE, AND IN THE PUBLIC INTEREST. IN ASSESSING THE PUBLIC INTEREST, THE ERCB HAS REGARD FOR PUBLIC SAFETY, ENVIRONMENTAL STEWARDSHIP, AND SOCIAL AND ECONOMIC IMPACTS.

The ERCB is recognized as a world-class organization. Regulators from around the globe visit to learn how we effectively regulate our complex energy industry. They discover what many Albertans already know: that the ERCB's business approach, strong technical expertise, and innovation are setting global regulatory standards. Our employees represent the best in technical expertise, responsibility, and innovation.

We also pay careful attention to stakeholder concerns and are transparent and accountable to the public, industry, and the Government of Alberta. As technology continues to evolve and new issues arise, revisions and improvements are required so that regulations remain effective, especially as industry seeks to develop unconventional resources. Stakeholder input helps guide this regulatory change. Industry, environmental groups, government departments and agencies, Alberta communities, and individual Albertans all have a stake in the responsible development of our energy resources, each with a distinct perspective and emphasis. For the ERCB to develop sound regulations, it is vital that we understand and balance these perspectives. This is why stakeholder engagement is so important.

The ERCB was created more than seven decades ago to ensure that the development of our resources occurs in a safe and responsible manner that serves the public interest. Today, these principles continue to guide the ERCB in its quest to become the best non-conventional regulator in the world by 2013.



BACK ROW (PICTURED LEFT TO RIGHT):
 THERESA WATSON, ALEX BOLTON,
 DAN McFADYEN, GEORGE EYNON,
 BONNIE McGINNIS (BOARD SECRETARY)
FRONT ROW: ROB McMANUS, TERRY ENGEN,
 JIM DILAY, BRAD McMANUS

ERCB BOARD MEMBERS

ERCB Board Members are selected through a competitive process based on their competencies and are appointed through an Order in Council by the Government of Alberta. Coming from diverse backgrounds, their primary role is to ensure that the provisions of the various Acts and Regulations that govern the ERCB are carried out. Board Members also ensure that decision-making occurs in a timely and effective manner and that required regulatory policy is developed and communicated on a regular basis.

Chairman		Dan McFadyen
Vice-Chairman		Brad McManus
Board Members	Alex Bolton	Jim Dilay
	Terry Engen	George Eynon
	Rob McManus	Theresa Watson



THE ERCB – ACROSS ALBERTA

The ERCB truly is a province-wide regulator. Our nearly 900 employees work from Alberta’s rural communities, mid-sized cities, and major urban centres.

The ERCB has nine Field Centres stretching from High Level in the north to Medicine Hat in the south. ERCB field inspectors monitor industry activity while Community and Aboriginal Relations staff meet with Albertans and provide information on the ERCB’s regulatory role. Meanwhile, our Oil Sands Office in Fort McMurray oversees all oil sands operations.

The Alberta Geological Survey is part of the ERCB and is based in Edmonton. This group provides geological information and expertise to government, industry, and the public about Alberta’s resources and geology. This information and expertise is fundamental in managing and developing our resources.

Our Head Office in Calgary is home to technical operations and regulatory staff who review and process applications, ensure that rules and regulations are updated, and support the ERCB hearing process.

The Core Research Centre is located near the University of Calgary and contains comprehensive data. This includes rock selectively taken from a geological zone when a well is drilled, drill cutting samples, as well as drilling reports for wells drilled in Alberta.

HOW DOES THE ERCB REGULATE THE OIL AND GAS INDUSTRY?

The ERCB expects companies to comply with all regulations that uphold public safety, environmental stewardship, and resource conservation. Our inspectors regularly and systematically inspect energy facilities across the province to ensure companies adhere to all applicable regulations.

Inspections are determined based on a system called 'OSI.'

Operator: A company's history of ERCB compliance. A poor track record leads to more frequent inspections.

Sensitivity: Location of the facility (near a populated area or wetland) raises the inspection priority.

Inherent Risk: The type of resource being extracted may increase the number of inspections. For example, sour gas or oil or high-pressure pipelines near populated areas.

2009 Compliance Statistics

Inspections and audits:	17 006
Compliance rate:	99%
	(a record high number)
Number of operations shut down:	62

THE GOVERNMENT OF ALBERTA OWNS ABOUT 80 PER CENT OF THE PROVINCE'S PETROLEUM AND NATURAL GAS MINERAL RIGHTS, WHICH INCLUDE CRUDE OIL, NATURAL GAS, COAL, AND THE OIL SANDS. IN OTHER WORDS, MOST RESOURCES ARE OWNED BY THE PEOPLE OF ALBERTA THROUGH THEIR GOVERNMENT.

While private companies can develop Alberta's resources by purchasing rights to develop these resources, the ERCB is authorized by the Government of Alberta to protect the public's interest as it relates to the discovery, development, and delivery of these resources. Regulation is needed so that non-renewable resources are produced in a safe, responsible, and efficient manner, without waste.

WHAT DOES THE ERCB DO?

The ERCB regulates the safe, responsible, and efficient development of oil, natural gas, oil sands, and coal, as well as the delivery pipelines within Alberta's borders. Regulation is done through two core functions: adjudication and regulation, and information and knowledge. ERCB approval must be given at almost every step of an energy project's life.

The ERCB works to ensure that those affected by development have a fair chance to be heard. When conflicts regarding development remain unresolved among industry competitors or between companies and landowners, the ERCB works to help settle the issues in a balanced and fair manner. This may occur through Appropriate Dispute Resolution or, if required, the ERCB Hearing Process.

Finally, the ERCB plays an important role in collecting and distributing energy information—including estimates of Alberta's energy reserves.

ERCB HEARING

An ERCB hearing is a court-like proceeding where those who may be directly affected by an application for an energy project may participate. An ERCB hearing is a formal and quasi-judicial proceeding. It provides a level playing field for all participants, giving each the opportunity to present their position and question the positions of others. This allows the Board to make a fully informed decision.

Industry
Compliance



Normally, a panel of three ERCB decision-makers hears evidence from the applicant and participants who may or may not wish to be represented by a lawyer. The panel considers the evidence and arguments presented and issues a written report giving the decision and the reasons for it, usually within 90 days after the close of a hearing. The report is then made public and given to all participants.

The panel will decide to approve the project unconditionally, approve the project subject to certain conditions, or deny approval of the project.

For more information on the ERCB Hearing process, see *EnerFAQs 2: Having Your Say at an ERCB Hearing* at www.ercb.ca.

COMPLIANCE ASSURANCE

In Alberta, industry compliance with ERCB regulations averages over 98 per cent.

In the event that a company is found operating outside ERCB regulations, the ERCB will take enforcement action against the company. If the infraction is minor, the company is required to correct the issue and the operator receives a notice of enforcement on the spot. A copy is also sent to the company's head office and ERCB Field Surveillance and Operations Branch. Information from the field is used to track a company's record of compliance.

If a company is found to be operating outside of prescribed regulatory rules and regulations, the ERCB field inspectors may, among other options, shut down the operation immediately. If the company is unable or unwilling to comply with ERCB regulations, the facility may be issued a closure order until they can operate the facility in a safe and responsible manner.

WHAT IS UNCONVENTIONAL OIL AND GAS?



MOST OF US ARE FAMILIAR WITH OIL AND NATURAL GAS “POOLS” THAT ARE FOUND UNDERGROUND. POOLS ARE LOCATED IN ROCK WITH TINY CONNECTED PORE SPACES THAT CONTAIN OIL OR NATURAL GAS. ONE COMMON EXAMPLE IS SANDSTONE.

Pools in which wells can be drilled, so that oil and natural gas flows naturally or can be pumped to the surface, are commonly referred to as “conventional” oil and natural gas. (Alberta’s natural gas, composed principally of methane, is the fuel used to heat many of our homes).

Decades of oil and natural gas production in North America, and around the world, have resulted in a decline of these conventional resources. Basically, most of the oil and natural gas that can be produced using traditional methods is already being accessed. As new technologies are introduced, oil and natural gas producers are able to produce “unconventional” oil and natural gas resources that were previously impossible to obtain.

Unlike the conventional pools of oil and natural gas, unconventional oil and natural gas are much more difficult to produce because it is harder to get the oil and natural gas to move through the rock. Think of the difference between a sponge and a piece of clay. When saturated with water, it’s easy to squeeze the water out of the sponge—that’s conventional oil and natural gas. The clay represents unconventional oil and natural gas, and brings new challenges in finding ways to release the oil and gas.

Unconventional often refers to low permeability rock where the pores are poorly connected making it difficult for oil and natural gas to move through the rock to the well.

Unconventional oil and natural gas, shale gas in particular, has been called the future of gas supply in North America. While its development is in the very early stages in Alberta, it has tremendous economic potential and we know the interest in these considerable resources will increase. That’s why the ERCB is working now to meet that demand with effective regulations.

Oil and gas producers use terms like “porous” and “permeable” to describe the properties of the rock in which oil and natural gas is found. Porous refers to pores or holes in the rock that can contain gas or oil. Porous rock can be sponge-like. Permeable rock means the holes or pores are *connected*, making it easy to extract the oil and natural gas.



Porous

Spaces between sand grains contain gas/oil.



Permeable

Fractures allow gas to move through the rock.

SO ARE UNCONVENTIONAL AND CONVENTIONAL OIL AND NATURAL GAS THE SAME?

Regardless of how they are produced or the rock they come from, unconventional oil and natural gas are essentially the same as their conventional counterparts. The term “unconventional” simply refers to the methods that are used, as well as the types of rock from which the oil and natural gas are produced.

The ERCB refers to unconventional oil as

- **tight oil:** oil found in low-permeability rock, including sandstone, siltstone, shale, and carbonates

Alberta’s oil sands resources are also considered unconventional and are subject to stringent ERCB regulations. Information on how the ERCB regulates oil sands development is available at www.ercb.ca.

The ERCB refers to unconventional natural gas as

- **tight gas:** natural gas found in low-permeability rock, including sandstone, siltstones, and carbonates
- **shale gas:** natural gas locked in fine-grained, organic-rich rock
- **coalbed methane (CBM):** natural gas contained in coal

COALBED METHANE DEVELOPMENT

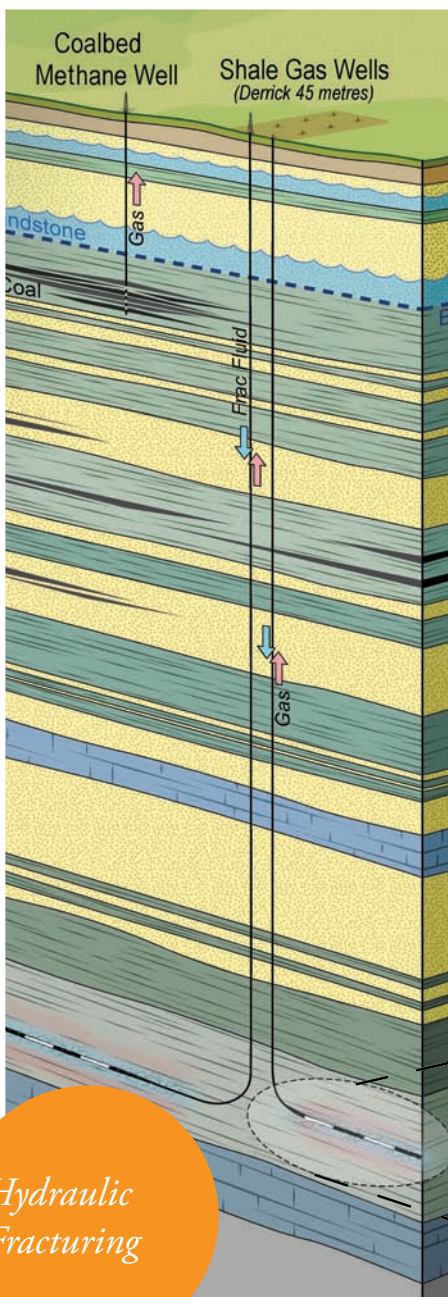
The first commercial CBM project was announced in Alberta in 2002. By the end of 2010, there were more than 15 300 CBM wells, which produced 24.4 thousand cubic metres in 2010—that’s enough to heat all of the homes in Alberta for two years.

When CBM development began, some Albertans expressed concerns that we would experience similar impacts to those occurring in some U.S. jurisdictions.

We soon learned that our geology and world-class regulations helped us avoid these problems.

Rock Properties

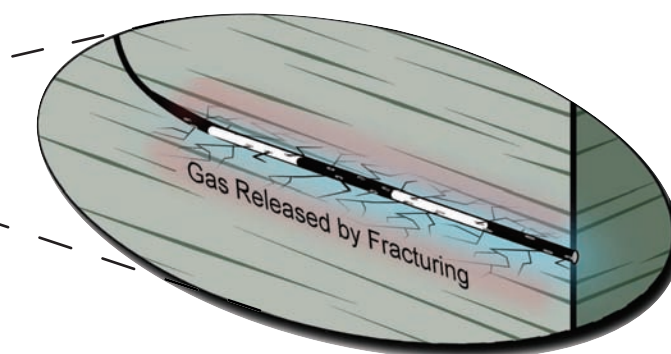
WHAT IS HYDRAULIC FRACTURING?



BECAUSE UNCONVENTIONAL OIL AND NATURAL GAS IS TRAPPED IN LOW-PERMEABILITY ROCK, PATHWAYS NEED TO BE CREATED TO ALLOW OIL AND NATURAL GAS TO MOVE THROUGH THE ROCK TO THE WELL AND ENABLE IT TO BE PUMPED TO THE SURFACE. A COMMON METHOD OF DOING THIS IS TO USE HYDRAULIC FRACTURING TO “FRACTURE” OR CRACK THE ROCK AND CREATE THE PATHS REQUIRED.

Hydraulic well fracturing “fracking” is the process of pumping fluid into a wellbore to create enough pressure to crack, or fracture, the rock layer. The fluid usually contains a “proppant,” like sand, that helps keep the fractures open to allow oil and gas to be produced to the well.

To produce unconventional oil and natural gas, horizontal wells and multistage fracturing are used. These wells start by drilling vertically (straight down) and then turning the drill bit so that it drills horizontally through the formation. Typically, the formations being targeted are 800-3000 metres below the surface. While horizontal well drilling has been around for decades, improvements in the technology have made it possible to combine horizontal drilling with hydraulic fracturing to help coax oil and natural gas out of tight rock.



Hydraulic fracturing is not new in Alberta. In fact, more than 167 000 wells have been fractured since the 1950s.

Hydraulic
Fracturing



WHAT ARE IN THE FLUIDS USED FOR HYDRAULIC FRACTURING?

In some areas, concerns have been raised about the chemicals that may be used in hydraulic fracture fluids, leading to requests that this information be made publicly available. The ERCB supports disclosure of hydraulic fracture fluids and is reviewing options to make this happen. The ERCB requires that any hydraulic fracture fluids used above the base of groundwater protection (BGWP)* be nontoxic and that the operator reveal the contents of the fluids to the ERCB upon request. The ERCB also requires that the type and volume of all additives used in fracture fluids be recorded in the daily record of drilling operations for any well. This information must be submitted to the ERCB.

The ERCB has regulatory requirements in place that are designed to prevent any hydraulic fracturing fluid from mixing or entering groundwater or surface water regardless of whether or not it contains toxic chemicals. These requirements include ensuring the use of steel casing and full cementing of the wellbore so that any fluid inside the casing cannot mix with water in the formations the well passes through. Any produced fluids that are returned to surface, such as hydraulic fracture fluid and salt water from the producing geologic formation, must be handled, stored, and disposed of under the strict regulations of the ERCB. No fluids, including those that have been treated, are ever allowed to be released into a natural water body.

* The base of groundwater protection is the depth at which groundwater exceeds 4000 milligrams per litre total dissolved solids (TDS). Water at this level is very salty and would not be useable for domestic or agricultural purposes. Groundwater deeper than this will have progressively higher TDS. Health Canada uses an aesthetic objective of 500 mg/l. Taste is affected at concentrations above this level, with water above 1200 mg/l TDS considered unpalatable by most consumers.

WHAT ARE THE IMPACTS ON WATER ?



SOME PEOPLE HAVE EXPRESSED CONCERN THAT SHALE GAS DEVELOPMENT USES TOO MUCH WATER AND MAY AFFECT THE QUALITY OF WATER.

Water is a precious resource for all Albertans. The ERCB works to ensure that all oil and gas development takes place in a manner that protects groundwater resources.

WATER QUALITY

If addressed properly, there is very little risk to water quality. Some concerns raised include

Issue: Contamination of groundwater from hydraulic fracturing, which causes fractures or cracks large enough to allow fluid or gas to migrate into shallow groundwater.

ERCB Response: **For shallow hydraulic fracturing operations, the ERCB has regulations that strictly limit the depth of shallow fracturing, distances to water wells, limit the fracture pressures that can be used and specify the use of nontoxic fracture fluids to ensure groundwater protection. However, most shale gas formations are hundreds or thousands of metres below usable groundwater aquifers. Any vertical fractures that occur as a result of hydraulic fracturing are generally in the range of 10s of metres and rarely up to 200 metres, making it extremely unlikely for fractures to impact groundwater.**

Issue: There has not been a documented case of direct contamination due to hydraulic fracturing in Alberta. However, there have been cases in other areas where there have been reports of water contamination due to inadequate well construction.

ERCB Response: **The ERCB has very strict regulations for cemented casing (wellbore construction includes the use of steel casing that is cemented into the wellbore) in ALL wells to protect groundwater by providing a barrier between the wellbore and any nearby water sources (*Directive 008: Surface Casing Depth Requirements, Directive 009: Casing Cementing Minimum Requirements*).**

WELL FRACTURING

Fracturing has been around for decades. In fact, more than 167 000 wells have been fractured in Alberta to date.

WHAT IS FRAC FLUID?

Fracture fluid can be a liquid, such as water (which may contain small volumes of additives to reduce friction, prevent scaling, and control growth of bacteria), light oil, or gas such as carbon dioxide, nitrogen and, in some cases, propane. The fluid generally has a proppant—sand or other materials—that literally “props” the fracture open allowing the gas to flow into the wellbore.

Issue: Hydraulic fracturing operations use water but also produce it; either water is produced from the fracturing process itself or reservoir water is produced along with the gas. In other jurisdictions, these fluids have been stored in open unlined pits or treated and reintroduced into waterways leading to contamination of water sources.

ERCB Response: **The ERCB strictly forbids the use of unlined storage pits as well as the reintroduction of treated water into Alberta’s waterways. The ERCB requirements for waste fluid handling and disposal are very comprehensive (See *Directives 050, 051, 055, and 058*). Fluids that cannot be recycled or reused must be reinjected and stored in rock formations deep underground, far below groundwater sources.**

WATER QUANTITY – WATER VOLUMES USED IN HYDRAULIC FRACTURING

Issue: Although not all unconventional development uses a high volume of water, shale gas development can use significant volumes for the hydraulic fracturing process. Water that is used can be fresh water, recycled water, or nonpotable (salty) water from deeper geological formations. Concerns have been raised on how to ensure the responsible use of our water resources.

ERCB Response: **Alberta Environment is responsible for the allocation of fresh water in Alberta and has comprehensive requirements governing the use of fresh water. While shale gas development using high water volumes has not yet occurred in Alberta, the ERCB is working with Alberta Environment on good water management practices. These practices will be designed to maximize water reuse (or recycling) and the use of saline or wastewater for operations. Fresh water use will be minimized to the greatest extent possible.**

*Well
Fracturing*

HOW WILL THE ERCB ENSURE THIS ACTIVITY WILL BE SAFE?



IT IS IMPORTANT TO KNOW THAT ERCB REGULATIONS AND STANDARDS APPLY TO THE CONSTRUCTION, MAINTENANCE, OPERATION, AND MONITORING OF ALL OIL AND NATURAL GAS DEVELOPMENT. ALL PRODUCERS ARE REQUIRED TO OPERATE IN A SAFE AND RESPONSIBLE MANNER. THE ERCB HAS COMPREHENSIVE SURVEILLANCE AND ENFORCEMENT PROCESSES IN PLACE TO ENSURE THAT ITS REQUIREMENTS ARE MET.

To address unconventional oil and gas development, the ERCB employs a wide range of technical experts—geologists, engineers, environmental scientists, and other specialized technical staff to review this development, not just in Alberta but across North America. We are working to better understand the issues associated with unconventional oil and natural gas development, particularly shale gas, and how we can address new technologies with existing or new regulations.

We continue to review our current regulations to determine if they must be strengthened or if new regulations are required. It's about clearly understanding the specific challenges and opportunities that unconventional oil and natural gas development in Alberta present and then ensuring that regulations are effective.

Since 1938, the ERCB has drawn upon our technical expertise to focus on public safety, environmental protection, oil and gas conservation, and fairness to regulate the development of Alberta's energy resources.

Alberta is facing a new era in oil and gas development and the ERCB is ready to respond to changes in technology with regulations and standards that ensure that this development is safe and responsible, the environment is protected, and cumulative impacts are minimized.

REGULATING UNCONVENTIONAL NATURAL GAS AND OIL DEVELOPMENT

The ERCB will continue its tradition of strong regulatory requirements as companies increase their activities in unconventional natural gas and oil development. Whether it is protecting groundwater, ensuring that drilling waste is handled responsibly, or restricting shallow fracturing operations, the ERCB currently has a number of directives that ensure the safe, responsible development of ALL energy resources.



For example:

Directive 008: Surface Casing Depth Requirements

Directive 009: Casing Cementing Minimum Requirements

Directive 020: Well Abandonment

Directive 027: Shallow Fracturing Operations-Restricted Operations

Directive 029: Energy and Utility Development Applications and the Hearing Process

Directive 031: Guidelines for Energy Proceeding Cost Claims (formerly Directive 31A: Guidelines for Energy Cost Claims)

Directive 035: Baseline Water Well Testing Requirements for Coalbed Methane Wells Completed above the Base of Groundwater Protection

Directive 038: Noise Control

Directive 044: Requirements for Surveillance Samples, and Analysis of Water Production in Hydrocarbon Wells Completed above the Base of Groundwater Protection

Directive 050: Drilling Waste Management

Directive 051: Injection and Disposal Wells-Well Classifications, Completions, Logging, and Testing Requirements

Directive 055: Storage Requirements for the Upstream Petroleum Industry

Directive 056: Energy Development Applications and Schedules

Directive 058: Oilfield Waste Management Requirements for the Upstream Petroleum Industry

Directive 059: Well Drilling and Completion Data Filing Requirements

AR 252/2007: ERCB Rules of Practice

All companies—regardless of whether they are developing conventional or unconventional resources—are subject to all ERCB directives and regulations. As unconventional development increases, the ERCB is reviewing current regulations to see if they are appropriate or if changes are required.

CONNECTING WITH ALBERTANS

With nine Field Centres across Alberta, ERCB employees live and work in the communities where oil and gas development occurs. This means we know our neighbours, we understand local issues, and we can be counted on to respond to concerns 24 hours a day, seven days a week.

ERCB staff regularly engage our stakeholders on all sorts of issues in large community gatherings, open houses, meetings, and kitchen-table chats. This accessibility gives Albertans a forum to voice concerns and participate in our regulatory processes, which helps create a regulatory system that is fair, responsible, and in the public interest.

ARE THERE OTHER IMPACTS ?



AS MORE CONVENTIONAL OIL AND NATURAL GAS IS DEVELOPED, MORE WELLS ARE REQUIRED TO IMPROVE RECOVERY. THIS HAS BEEN THE TREND IN ALBERTA AND ACROSS NORTH AMERICA, AND IT CONTINUES WITH UNCONVENTIONAL OIL AND NATURAL GAS.

In established areas, new unconventional oil and natural gas development may be able to use existing infrastructure to reduce surface impacts. Good land-use practices, such as drilling multiple wells from a single surface location, or “pad,” means fewer pads containing more wells (see diagram on reverse for more information.)

The alignment of roads or pipelines along corridors can also reduce surface disturbance.

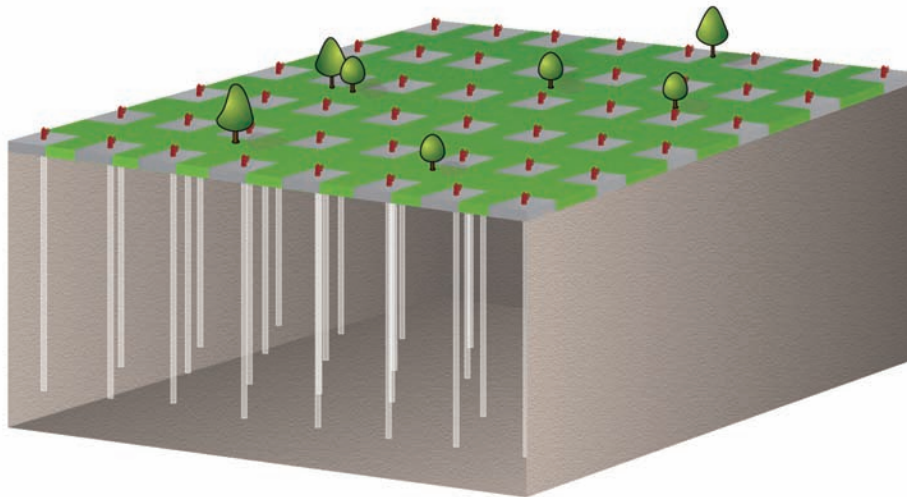
The ERCB is reviewing ways to encourage companies to work together on certain aspects of projects to avoid unnecessary duplication of surface infrastructure.

DOES THIS DEVELOPMENT MEAN INCREASED ACTIVITY LEVELS?

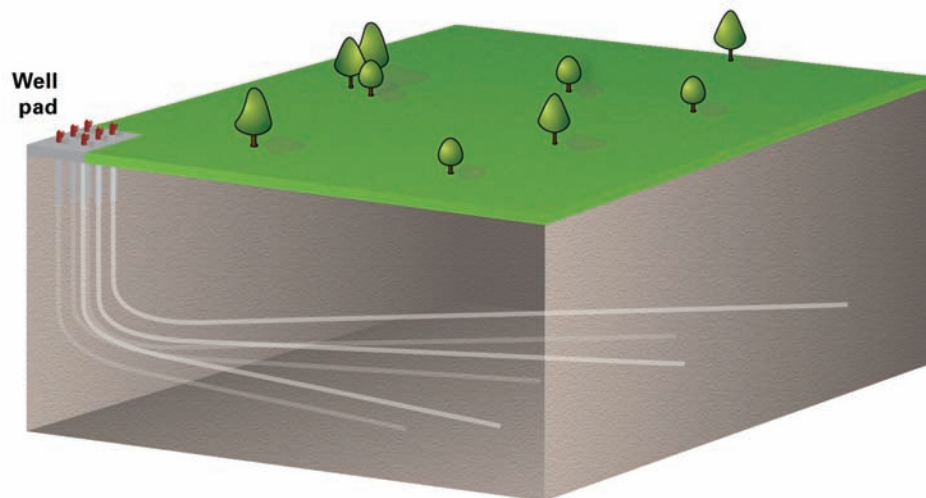
Unconventional oil and natural gas development can include round-the-clock operations for long periods of time. This can result in increased truck traffic, dust, noise, and industrial lighting. Some aspects of this activity can be managed to reduce the impact on the local area. The ERCB has comprehensive requirements related to noise. For concerns, such as increased truck traffic, the ERCB will assist counties and municipalities by providing information about potential developments to support their preparation for increasing activity.

Well spacing

As seen in the diagrams below, conventional drilling methods require many wells to obtain the same amount of oil or natural gas as multistage horizontal wells, which reduce the surface impact and improve efficiency.



Conventional well spacing



Multistage horizontal wells

WHERE CAN I FIND MORE INFORMATION?



FOR LANDOWNERS:

Under ERCB regulations, any company applying to develop an oil or gas project must provide information to all parties whose rights may be directly affected to help them fully understand what is being proposed and what the potential impacts may be. The company must give you details about how and why it chose proposed locations for any well, pipeline, facility, or access road. The company must also tell you what to expect in terms of equipment use and operations during the production phase.

In many communities, neighbours meet with ERCB representatives and oil and gas companies in the area to resolve local issues together. These are known as synergy groups. The public is strongly encouraged to participate in these local groups.

Remember, you have the right to ask questions at any point in the development process about drilling, pipeline construction, and production operations that affect you and your neighbours.

For more information, see *EnerFAQs 7: Proposed Oil and Gas Development: A Landowner's Guide* at www.ercb.ca. Other EnerFAQs documents can provide you with more information on our processes, how we regulate industry, topics on public health and safety, and important oil and gas issues. Visit www.ercb.ca to learn more.

ERCB DIRECTIVES

Oil and natural gas development in Alberta is subject to all ERCB requirements, regardless of whether it is conventional or unconventional. Many of these requirements are written in directives, formal written direction to industry operators regarding how to ensure compliance with ERCB regulation. Those related to unconventional natural gas and oil development include:

Directive 008: Surface Casing Depth Requirements

Directive 009: Casing Cementing Minimum Requirements

Directive 020: Well Abandonment

Directive 027: Shallow Fracturing Operations—Restricted Operations

Directive 029: Energy and Utility Development Applications and the Hearing Process

Directive 031: Guidelines for Energy Proceeding Cost Claims (formerly Directive 31A: Guidelines for Energy Cost Claims)
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 AR 252/2007: ERCB Rules of Practice

ERCB CUSTOMER CONTACT CENTRE (TOLL FREE) 1-855-297-8311

The CCC ensures that ERCB customers receive clear, informative responses to general inquiries about the Energy Resources Conservation Board. The CCC can be reached at 1-855-297-8311 from 8:00 a.m. - 4:30 p.m. or by e-mail at Inquiries@ercb.ca.

ERCB FIELD CENTRES

Bonnyville	780-826-5352	Drayton Valley	780-542-5182	Grande Prairie	780-538-5138
High Level	780-926-5399	Medicine Hat	403-527-3385	Midnapore (Calgary S.)	403-297-8303
Red Deer	403-340-5454	St. Albert	780-460-3800	Wainwright	780-842-7570

OTHER SOURCES

Alberta Environment (AENV) – water and air	www.environment.alberta.ca
Alberta Geological Survey (AGS)	www.ags.gov.ab.ca
Canadian Association of Petroleum Producers (CAPP)	www.capp.ca
Canadian Natural Gas	www.canadiannaturalgas.ca/natural-gas-supply/shale-gas www.canadiannaturalgas.ca/media-library/factsheets/unconventional-gas www.canadiannaturalgas.ca/issues-policy/fracking
Canadian Society for Unconventional Gas (CSUG)	www.csug.ca
Centre for Energy	www.centreforenergy.com/AboutEnergy/ONG/ShaleGas/Overview.asp?page=1
Frac Focus – Chemical Disclosure Registry	www.fracfocus.org
Government of Alberta Department of Energy	www.energy.gov.ab.ca
National Energy Board (NEB)	www.neb-one.gc.ca/clf-nsi/rnrgynfmtn/nrgyrprt/ntrlgs/prmrndrstndngshlgs2009/prmrndrstndngshlgs2009nrgbrf-eng.pdf