

Landowners' Guide

to Oil and Gas Development



**4th
Edition**
all new and
revised

October
2025

Updated by Janetta McKenzie

PEMBINA
Institute

Landowners' Guide to Oil and Gas Development

Fourth edition, all new and revised

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October 2025

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The Pembina Institute recognizes that the work we steward and those we serve span the lands of many Indigenous Peoples. We respectfully acknowledge that our organization is headquartered in the traditional territories of Treaty 7, comprising the Blackfoot Confederacy (Siksika, Piikani and Kainai Nations); the Stoney Nakoda Nations (Goodstoney, Chiniki and Bearspaw First Nations); and the Tsuut'ina Nation. These lands are also home to the Otipemisiwak Métis Government (Districts 5 and 6).

These acknowledgements are part of the start of a journey of several generations. We share them in the spirit of truth, justice and reconciliation, and to contribute to a more equitable and inclusive future for all.

We would like to recognize that this fourth edition builds on the work of Duncan Kenyon and Nikki Way, authors of the previous edition, along with the many contributors who supported that earlier work.

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Introduction to the Fourth Edition

Dear Reader,

We are pleased to present the 2025 edition of the *Landowners' Guide to Oil and Gas Development*. This updated version reflects nearly a decade of significant regulatory and policy changes in Alberta's energy landscape, and is designed to equip landowners with the tools and knowledge they need to navigate the evolving relationship between land and resource development.

Since the last major update in 2016, Alberta has undergone a period of transformation in its oil and gas regulatory framework. The Government of Alberta and the Alberta Energy Regulator have pursued an agenda focused on red tape reduction. This has included streamlining application processes, consolidating regulatory directives, and expanding the use of automated approvals through platforms like OneStop. While these changes have improved efficiency for industry, they have also shifted more responsibility onto landowners to understand their rights, monitor development, and advocate for their interests.

At the same time, Alberta's Liability Management Framework has replaced older programs like the Licensee Liability Rating system, introducing new tools to assess a company's financial capacity to meet its closure obligations. These changes are intended to reduce the number of orphaned wells and unreclaimed sites — but they also mean landowners must be vigilant when negotiating access agreements or considering the long-term impacts of infrastructure on their land.

This guide recognizes that landowners today face a more complex set of decisions than ever before. Whether you are negotiating a surface lease, taking a case of unpaid compensation to the Land and Property Rights Tribunal, or inheriting land with legacy infrastructure, you deserve clear, accessible information to help you make informed choices. This 2025 edition includes updated overviews of key Alberta Energy Regulator directives, expanded guidance on compensation and reclamation, and tools to help you track costs, document concerns, and engage with companies. While this guide is a great starting point and reference guide, it does not replace expert advice, and we encourage you to seek out legal representation or guidance from experienced property rights advocates.

We also recognize that land ownership is changing. As land is bought, sold, and passed down between generations, many Albertans are encountering oil and gas infrastructure for the first time. This guide is written not just for seasoned landowners, but for those who are new to the process — whether you're inheriting a family farm, purchasing rural property, or managing land on behalf of a community or organization.

Our goal is to empower you. We believe that responsible energy development is only possible when landowners are informed, respected, and supported. We hope this guide helps you protect your land, your rights, and your future.

Janetta McKenzie
Director of Oil and Gas
Pembina Institute

Section 1

Getting Started



1. Getting Started

1.1 What this guide provides

The intent of this landowners' guide is to give all parties access to a common body of information about citizens' rights in Alberta as they pertain to oil and gas development. This guide is for landowners, those who rent land, people who do business related to land (real estate professionals, etc.), oil and gas companies and their employees, and members of the public who have an interest in the responsible development of oil and gas. It explains what to expect with oil and gas development and outlines how to get involved in planning and decision-making processes to ensure the responsible development of oil and gas. The guide also provides information on legally required minimum standards that companies involved in development activities must follow and suggests ways you can encourage a company to adopt best practices to reduce possible impacts on air, land and water.

This guide can help those unfamiliar with the regulations and activities related to oil and gas development to quickly understand how the system works and what their rights are. It provides accessible answers to these complex questions:

- If a permit agent knocks at your door and says a company wants to conduct seismic exploration on your land, how do you decide whether to grant permission?
- If a land agent tells you a company plans to drill a well or put a pipeline on your land, what do you need to know before you start negotiations? How do you decide whether any special conditions are needed in a surface lease or right-of-entry agreement?
- If there are plans to build a well or pipeline near your home, is the company obliged to tell you or consult with you?

This guide does not act as legal advice, and cannot take the place of legal advice. Although the guide should give you a good sense of where to start and what issues to consider, we would encourage you to seek out help from one of the numerous contacts described in Appendix B or a consultant or lawyer familiar with land and surface rights issues with oil and gas development.

1.2 How to find what you need

The content is organized to help readers quickly find the information they need.

Section 1 focuses on the many elements that you need to know before activities have started, such as when you should be notified about planned activities, how to engage a company about your concerns, and how to engage with others.

Several sections outline the activities and relevant details related to the initial stage of resource development, from exploration for oil or gas to the location and construction of wells, pipelines and facilities. Section 6 addresses emergencies, while section 7 describes issues that may arise during operations and some potential impacts on land, air or water. Section 8 outlines the requirements for abandoning wells and reclaiming land.

While sections 3 to 8 primarily address the physical environment, later sections provide information and advice on dealing with administrative issues, including compensation for surface rights access and right-of-entry orders (section 9). The public hearing process is outlined in section 10.

Appendix A contains a series of questions that you may want to ask before signing a permit, lease or right-of-way agreement. Appendix B provides contact information for lawyers, professional bodies and non-profit organizations. The remaining appendices contain a handy example checklist of costs you should track (Appendix C), a glossary (Appendix D), and a list of abbreviations (Appendix E). Text boxes throughout the document highlight information of special importance or interest.

In this document we use the words “landowners” and “residents” as specific terms, although for brevity we may only refer to landowners in the text. While all major terms are defined in the glossary, it is helpful to clarify three of these here.

A **landowner** is the person or persons whose name(s) appears on the certificate of title to the land issued under the Land Titles Act.¹

A **resident** is a person occupying a residence on a temporary or permanent basis. Although similar and often used interchangeably, an occupant is the person, other than the owner, who has certain rights to the land. The occupant may also be referred to as the tenant. The occupant may be in actual possession of the land or be shown as a person who has an interest in the land (which may be noted by a caveat on a certificate of title under the Land Titles Act). In the case of government-owned land, such as a Crown grazing lease, the occupant is the person shown in the records to have an interest in the land. Sometimes the occupant on a Crown lease is also referred to as the lessee. The Alberta Energy Regulator (AER) distinguishes between landowners, occupants, residents and Crown disposition holders, which is important in terms of who a company must consult or notify before they submit an application (see section 2.1).

An **operator** is the person or company that has the right to conduct surveys or extract the oil, gas or other minerals. In this guide, we use the term “company” as well as operator.

¹ All Alberta government acts and regulations are available through Alberta’s Open Government portal at <https://open.alberta.ca/publications> or directly from the King’s Printer at https://kings-printer.alberta.ca/Laws_Online.cfm

1.3 A note on mineral rights

Most Albertans do not own the minerals that lie under the surface of their land. This guide focuses on the rights of landowners and others who lease or occupy the land but do not own the mineral rights. Those who actually own the mineral rights on their land (as indicated on their legal mineral title) should conduct additional research before starting negotiations or entering into an agreement with any company seeking access to their mineral rights. They may find it helpful to contact the Freehold Owners Association, which has many resources about Freehold mineral rights (Appendix B). While the ownership issues are different, much of the general information in this guide will still be relevant.

Those who own or legally occupy land have specific rights with respect to development on their land. As well, the AER requires a company to consult or notify certain groups adjacent to development who may be directly and adversely affected by oil and gas activity (see, for example, section 2.1). People who can demonstrate that they may be directly and adversely affected are entitled to submit a statement of concern to the AER; this may allow you to be involved in the regulatory process to bring forward changes or issues that could change the project. Regardless of the AER processes and requirements, if you want more information and/or want to see changes to some development near you, you should reach out to the company, as well as the AER.

Consultation and notification requirements for Indigenous peoples are managed differently than requirements for landowners and occupants. The Aboriginal Consultation Office directs project applicants to consult with Indigenous settlements that may be impacted by the proponents' projects.² While the general environmental information presented is relevant irrespective of land ownership, there are other pieces of legislation that govern consultation and development of oil and gas on Indigenous land, and these are outside the scope of this guide.

An individual's rights vary according to the activity in question. For example, an individual's rights with respect to seismic lines or surveying are different from those that pertain to drilling an oil or gas well. For geophysical operations on private land, the landowner or occupant can refuse entry, while in other cases they can negotiate but have no right to refuse entry.³ It is therefore important to be aware of your rights for specific circumstances.

² AER, "Aboriginal Consultation." <https://www.aer.ca/applications-and-notice/participant-involvement/aboriginal-consultations>

³ This does not apply to agricultural leases on Crown land.

1.4 A note on the Alberta Energy Regulator

Prior to 2013, several ministries and bodies were involved in approving energy resource projects. In 2013, the AER was set up under the Responsible Energy Development Act (REDA) as a “one-stop shop” to create a more streamlined process for upstream oil, gas and coal development within Alberta and to remove overlapping jurisdictions. Its responsibilities include applications for exploration and development; inspections, compliance, and environmental protection; and reclamation, remediation and abandonment.

REDA fundamentally changed how the oil and gas industry is regulated in Alberta. The AER was given the responsibility for both environmental management and energy development — mandates that were previously the responsibility of two different government bodies. Project proponents are no longer required to seek approvals from multiple provincial authorities. This has resulted in a streamlined approval process, enabling projects to be approved faster but providing fewer guaranteed opportunities for public involvement in a formal process such as a hearing.

In 2018, the AER further streamlined the regulatory process by introducing the Integrated Decision Approach, which permits companies to submit a single application for all phases of an energy project’s life cycle. To support the Integrated Decision Approach, the AER launched the online system OneStop. It enables the automated approval of low-risk oil and gas well applications and reclamation certificates. Most oil and gas wells are considered low risk and qualify for this automated, fast-tracked approval.

The regulations include very few examples where the regulator must hold a hearing. This may be partly because the AER has been given considerable discretion to determine when a hearing will be held for a project approval, and it is not obliged to hold a hearing under most circumstances. Generally there is a better chance to resolve concerns through negotiation and dispute resolution, as these approaches are usually less costly, time consuming, and frustrating for all parties. But hearings can be a tool for considering larger, more complex concerns in depth and can be useful in situations where parties cannot come to a resolution. However, as a result of the changes to the energy regulator’s requirements to hold hearings and the corresponding reduction in hearings, landowners or others who consider themselves directly and adversely affected have experienced a considerable reduction in their bargaining power and ability to get unwilling companies to reach mutually satisfactory outcomes.

The AER has rolled out efforts to engage stakeholders such as landowners and nearby residents earlier and in less formal ways to avoid a lengthy hearing. There is a greater emphasis by the regulator for companies to build relationships before a project begins and to resolve conflicts through its alternative dispute resolution process (section 2.4). Because of this, as a person who

may be impacted by development nearby, you are more likely to influence a project's outcome by building relationships with the company in the early stages of the project's development, before the company applies to the AER for their approval. If these discussions don't lead to a satisfactory outcome but the company applies to the AER anyway and the AER sees that you have acted in good faith, it is more likely that the project will be recommended for a hearing should that be necessary. If the AER doesn't believe that you have acted in good faith, REDA's regulations give the AER the discretion to dismiss your request for a hearing, and you may be left with fewer opportunities to have your concerns addressed.

1.5 General advice when dealing with oil and gas development

When researching and discussing this guide with Albertans, we heard some advice on how to interact with oil and gas developers. We heard from landowners, industry, regulators, and others and were informed from their experiences and lessons learned from discussions that went well and those that didn't. These nuggets of advice may help ensure you are ready when the land agent comes knocking.

Build relationships

Building and maintaining relationships with company representatives, AER staff, and neighbours who are also affected and interested may help ensure that you are informed about any upcoming activities. After a project is underway, it is helpful to get to know your local AER field inspector to build trust and familiarity, and to help ensure that they can investigate promptly when issues arise.

The relationship with your neighbours can be a great asset. If your neighbours have had oil and gas development on their land, they may be able to help you understand what types of impacts or changes you might expect with similar activities, what additional information you should ask the oil and gas company for, and what to consider when signing your surface lease agreement. Neighbours can act as an early notification network so you are aware of the activity in the area, or they can keep you updated about what a company has proposed to them, so you can compare notes if the company approaches you.

Engage early: as soon as you know

The best time to influence the details of a project is well before the company is ready to submit their application to the AER. It is often difficult to find out about specific projects that may be proposed in your area until the projects are underway and you begin to see stakes in the ground.

However, if you begin seeing development in a nearby section of land, it may indicate that broader development is planned for your area. You should take the time to reach out to company representatives, talk to your neighbours, and contact the AER to find out more details about the project and potential oil and gas activity in your area.⁴ If you believe the project may affect you, make your concerns known to the company as soon as you can, and contact the AER and submit a pre-application concern so that your issues are flagged with the regulator (section 2.1).⁵

If you don't make your concerns known to the company, and the company is not aware of any outstanding concerns, they are permitted to submit an expedited or routine application to the AER. This may result in you losing the opportunity to submit a statement of concern, as the AER is not obliged to set and wait for a filing deadline to lapse before making a decision on an application.

Be diligent

When you go into negotiations or consultations, make sure to “tie up your horse,” even if you feel like negotiations have gone well and you have developed a good deal of trust with the company representatives. Move to get the outcomes from good discussions put down on paper and included in your surface lease. If a company commits to an additional measure, confirm with the company the extent of that commitment and the consequences for lapsing on their commitment, and put that in writing as well. Also consider that, while things may be going well now, it is important that there is an established process for conflict resolution (what will both parties do if negotiations break down). Get this included in the surface lease as well.

Don't feel shy about asking as many questions as you can to better understand the company's position, and make it a habit to follow up and fact check what they tell you. Make sure to ask:

- What are the company's plans for future development?
- How does this project fit in with these plans and other development in the area?

Appendix A contains questions that you should ask, but these are just a handful to get you started. The more questions you ask, the better positioned you are to negotiate. There are other sources of information if you don't understand something that a company has told you and if

⁴ You can reach out to the AER's stakeholder engagement team through the AER's general inquiries line at 1-855-297-8311 or inquiries@aer.ca.

⁵ Alberta Energy Regulator, *Preapplication Concern* (2023). https://static.aer.ca/aer/documents/enerfaqs/PreapplicationConcern_FS.pdf. Note that if the company does submit an application and you feel your concern is unresolved, you must still submit a statement of concern.

this guide or a neighbour doesn't have the answers to your questions. One such source is the Farmers' Advocate Office.⁶

Contact any local groups in the area, such as a nearby synergy group⁷ (Appendix B), and ask if best practices have been developed for the area that you can encourage the company to abide by. Throughout this guide, we have also described additional measures you can discuss with the company that act as best practices. The AER may also be able to walk you through some additional best practices. If a company agrees to follow a best practice, again, put it in writing.

Compensation for your time and energy should be in the agreement from the start. Keep track of the time spent researching, negotiating with company representatives, visiting the site, or fixing damages. We've included examples of cost trackers in Appendix C, which should give you an idea of what records to keep.

Know your future plans

Even if a land agent hasn't yet knocked on your door, you should know your future intentions for your land. For example, if you have plans to subdivide your land for your children when they inherit your land, understanding how a well or pipeline may affect these plans is crucial. Wells and pipelines have setbacks that may limit the locations where you can build a residence (sections 3.1.2 and 5.3), so you may be surprised to find out that when it comes time to build, your ideal location for a new home is not an option. Or, the proposed house location may be outside a setback, but be located downwind of one of the oil or gas facilities on your land.

Taking time to even preliminarily determine what your plans are will allow you to identify and communicate how development may impact your future plans. If you are committed enough to the idea of subdividing, it might be worth approaching your municipality now to get the process started and on paper. In general, the more details you can provide about your situation, the more strongly you can make your case when negotiating with a company or submitting a statement of concern. In a statement of concern, it is crucial to clearly explain how a proposed development directly and adversely affects you, so it is not enough to state that you are concerned because you may one day subdivide your land or build a home. For example, explain that the proposed project location limits where you have already assessed you'll put a future house, and show the potential locations you are left with and why they are not satisfactory. It may seem that you are outlining obvious facts, but as one person put it, when making your case: "If you're talking about a pig, you need to take a picture of your pig."

⁶ The Farmers' Advocate Office merged with the Property Rights Advocate Office in October 2020 to form the Farmers' and Property Rights Advocate Offices. However, the original office name is still used.

⁷ Synergy groups are community-based, multi-stakeholder forums to discuss responsible energy development.

Find the win-win

In negotiating theory, it is important to know your best alternative to a negotiated agreement.⁸ In other words, you need to understand the best you can do if a company isn't cooperative with you, and the best the company can do if you don't cooperate with them. This outlines your bargaining power when negotiating a surface lease or in consultations with a company proposing a project nearby.

The more you prepare for negotiations with this in mind, the better the outcomes you are likely to achieve. If your demands to the company don't compare to a company's alternatives, negotiations are likely to fail. In practice, that may mean the company will seek a right-of-entry order from the Land and Property Rights Tribunal and compensation may be set in a compensation hearing. However, most companies are likely interested in negotiation first — they could be inclined to ensure that the relationship with you is on good terms, and it saves them time and money. Understanding when your demands pass this threshold where it is no longer beneficial to continue negotiating helps ensure they stay at the table.

Clarity on your own alternatives is important. Unless you are a Freehold mineral rights owner, you are negotiating with little control over access to the Crown-owned oil and gas beneath your feet. You need to understand what alternatives you are left with if negotiations break down.

1.6 Finding the right government board, agency or department

You may need to be in contact with several government departments or agencies about development near you. In Table 1 we provide a quick reference list, in alphabetical order, of some of the government bodies you may want to contact and the most important phone numbers.

⁸ A “best alternative to a negotiated agreement” is a concept coined by Roger Fisher and William Ury in *Getting to Yes: Negotiating Without Giving In* (Penguin Books, 1981).

Table 1. Quick reference list for selected government bodies

Alberta Energy Regulator (AER)	Regulates oil and gas wells, provincial pipelines and facilities (does not deal with compensation) Handles conservation, reclamation and contaminant remediation for oil and gas development	
	General inquiries	403-297-8311
	Toll-free	1-855-297-8311
	Energy/Environmental Emergency & Operational Complaint Number (24 hrs)	1-800-222-6514
Alberta Environment and Protected Areas (AEPA)	Conducts environmental monitoring and develops environmental policies (NOT responsible for regulating oil and gas development)	
	Toll-free	310-3773
Farmers' Advocate Office (FAO)	Provides advice on lease agreements and negotiations, and offers a water well restoration or replacement program	
	General inquiries	310-3276
Canada Energy Regulator (CER)	Regulates interprovincial and international pipelines	
	General inquiries	1-800-899-1265 or 403-292-4800
	For a pipeline emergency, Transportation Safety Board's 24-hour hot line	819-997-7887
	All other emergencies related to a CER-regulated company's operations, facility or activity	403-299-2773
Registrar of Land Agents	Handles questions about land agents (housed within the Ministry of Advanced Education)	
	General inquiries	780-415-4600
Land and Property Rights Tribunal (LPRT)	Addresses compensation issues and right-of-entry orders	
	General inquiries	780-427-2444

All Government of Alberta staff and members of the legislative assembly (MLAs) can be reached toll-free from anywhere in the province by first dialling the Alberta Government RITE line at 310-0000, then entering the area code and number you wish to reach. If you do not know who to call, you can dial 310-0000 and then press “0” to get the operator. Tell the operator the subject you are calling about and ask to be connected to the right person. If you do not have a touch-tone telephone, stay on the line. The Government of Alberta publishes a telephone directory of staff and MLAs, as well as department information.⁹

⁹ Alberta, “Government staff directory.” <http://www.alberta.ca/staff-directory.cfm>

Section 2

Before the Project Starts



2. Before the Project Starts

The best opportunity to influence the details of a project is before its application has been submitted to the Alberta Energy Regulator (AER). The pre-application stage is the time when you can try to minimize impacts to you and your family, as the project is more likely to be influenced at this stage. If the project is on your land, you should carefully consider the surface lease agreement to ensure that it reflects your concerns and demands, and captures what you have agreed upon with the company. If a project is not on your land, the company may not be required to directly notify you about its project, but you can still raise any concerns with the company and the AER before they happen.

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2.6	If all dispute resolution fails.....	2-21

Before a company can submit an application to the AER for an oil and gas project, it must notify or consult affected residents and landowners in the region as part of its participant involvement program. When you hear about a proposed project, you can use this guide to find out more about issues that may be important to you, so that you can articulate your concerns during the pre-application stage. The company must wait 14 days for those who were notified to raise concerns before it can submit its application to the regulator.

If you own or live on the land where the development is proposed, the company will approach you about surface rights access, which gives you some ability to negotiate additional measures beyond the requirements that the company must follow.

Depending on the type of project, you may or may not be notified of the project application, even if you believe that you are affected by the decision. If you were not originally included in the participant involvement program and weren't notified personally, make sure that you raise your concerns with both the company and the regulator, and submit a pre-application concern (see Appendix D for definition). The company must show the regulator that it has addressed (or attempted to address) your concerns.

In many cases, landowners/occupants and companies do manage to negotiate an agreement. If the company and those potentially affected by its operations are unable to agree before an application is submitted to the regulator, they can use the AER's alternative dispute resolution program to facilitate discussions. After the company submits its application, you can also raise your concerns formally through a statement of concern and ask the AER to make a decision on the application through a hearing.

The initial steps of the regulatory process are summarized in Figure 1.

At every step of the process, it is important to keep a paper trail of your interactions with the company, including when you found out about the project, when company representatives were on your land, and any complaints or statements of concern you file. Additionally, keep track of any costs you incur, including time spent researching the project application, time inspecting your property after a company has entered, and damages to fences or trees. An example cost chart is provided in Appendix C.

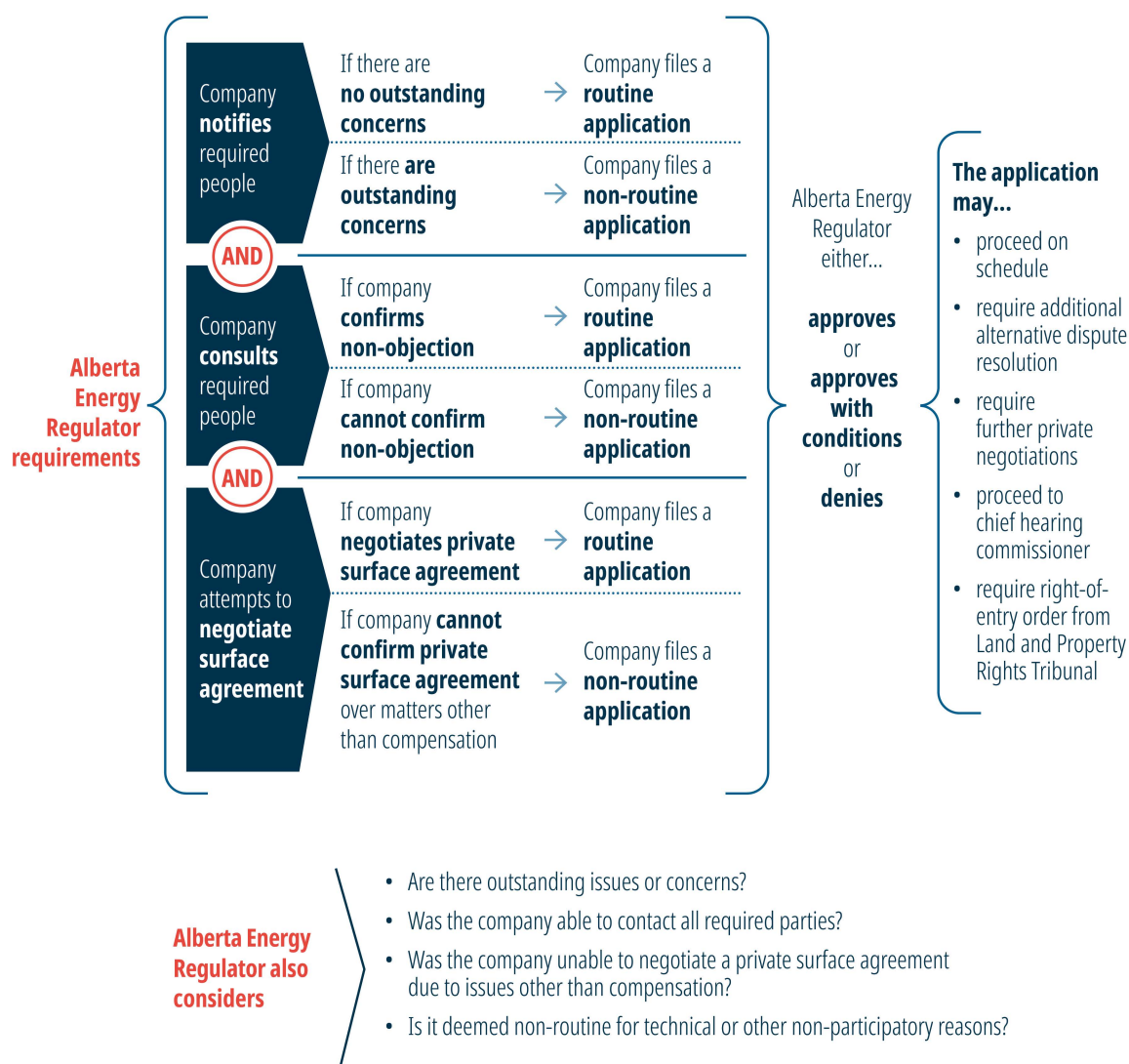


Figure 1. Notification and approval process

2.1 Public consultation, notification and involvement

The AER requires the energy industry to inform and consult all those “whose rights may be directly and adversely affected by the proposed application.”¹ There is no formal definition of who may be directly and adversely affected, but the company will likely interpret this to mean those who are described in the minimum consultation and notification requirements, outlined in the AER’s Directive 056 and summarized in Table 2 below. The AER encourages those who may or may not be directly affected to engage with the company early, ideally while the company

¹ AER, *Directive 056: Energy Development Applications and Schedules* (2025), section 3.1. AER directives are available at <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives>

is in the pre-application phase.² As a landowner, it is important that you maintain a certain degree of participation throughout the life cycle of a project.

Section 3 of Directive 056 sets out how a company is to consult or notify the public about a proposed well, pipeline or other oil and gas facility. There are further special requirements for notifying those living within the emergency planning zone of a sour gas well or pipeline (see section 6.2.1), set out in Directive 071.³

2.1.1 Required consultation and notification

For **consultation**, the applicant company (or the representative land agent) is obliged to conduct a face-to-face meeting or telephone conversation with landowners in the required consultation area. Consultation implies a two-way process: not just informing people, but also listening to their concerns and responding to them. The company must provide an information package about the proposed project and the relevant AER information brochures and packages as specified in Directive 056 (see section 5.2 for details; applicable to all types of development). When consulting, the company must also obtain a confirmation of non-objection, which does not necessarily have to be in writing. A surface rights agreement signed by landowners or occupants is a form of non-objection.

Notification involves, at a minimum, sending people and/or local authorities a written notice about the proposed project and an information letter from the AER. Additionally, the company must offer copies of relevant AER publications and brochures (including some of those supplied to the consulted landowners), and must be available either in person or by telephone to answer any questions. Companies will send the materials to the address on the land title. To ensure that you receive the proper notification, confirm that the address on your land title is up to date.

The company must wait 14 days after completing notifications to allow notified parties to raise concerns about the application before they can apply to the AER.

If the company does not receive the required confirmation of non-objection, or if they are aware of outstanding concerns from those they notified or from other people, they may still submit their application to the AER. However, they must apply through the non-routine application process and send a copy of the public notice of application directly to the concerned party. This provides an opportunity for the concerned party to file a statement of concern, as the AER will not make a decision on the application until the filing deadline in the application notice has passed.

² AER, *Directive 056*, section 3.1.

³ AER, *Directive 071: Emergency Preparedness and Response* (2023).

If there are no outstanding concerns, objections, or other technical reasons designated by the AER that require a company to file through the non-routine route, the company may submit the application as routine.

Table 2. Summary of the minimum consultation and notification requirements under the AER, outlined in Directive 056

Single well, multiwell pad, commercial or source water well (Category B well)⁴	
No hydrogen sulphide (H ₂ S)	
Consult	Landowners and occupants (about well site location and well site access) Residents within 200 m Residents within 300 m if single oil well with continuous flaring
Notify	Landowners within 100 m Freehold coal rights owners or lessees Crown disposition holders
Single well and multiwell pad (Category C well)	
Contains greater than 0.00 mol/kmol H ₂ S, release rate less than 0.3 m ³ /s	
Consult	Landowners and occupants (about well site location and well site access) Landowners within 100 m (about setbacks) Residents within 200 m or within the emergency planning zone radius (whichever is greater)
Notify	Freehold coal rights owners or lessees Crown disposition holders
Single well (Category D well)	
H ₂ S release rate between 0.3 m ³ /s and less than 2.0 m ³ /s	
Consult	Landowners and occupants (about well site location and well site access) Landowners within 500 m (about setbacks) Residents within 200 m or within the emergency planning zone radius (whichever is greater)
Notify	Freehold coal rights owners or lessees Crown disposition holders
Single well (Category E well)	
H ₂ S release rate equal or greater than 2.0 m ³ /s	
Consult	Landowners and occupants (about well site location and well site access) Landowners within 1.5 km (about setbacks) Residents within the emergency planning zone
Notify	Freehold coal rights owners or lessees Crown disposition holders

⁴ The well categories are determined by hydrogen sulphide (H₂S) content, H₂S release rate, and proximity to the public. These are outlined further in *Directive 056*, Table 1.

Proximity critical well (Category E well) H ₂ S release rate between 0.01 m ³ /s and less than 0.1 m ³ /s Within 500 m of an urban centre (project will be filed as a non-routine application)	
Consult	Landowners and occupants (about well site location and well site access) Landowners within 100 m (about consultation on the setback) Residents within 200 m or within the emergency planning zone radius (whichever is greater)
Notify	Freehold coal rights owners or lessees Crown disposition holders
Proximity critical well (Category E well) H ₂ S release rate between 0.1 and less than 0.3 m ³ /s Within 1.5 km of an urban centre (project will be filed as a non-routine application)	
Consult	Landowners and occupants (about well site location and well site access) Landowners within 100 m (about setbacks) Residents within 200 m or within the emergency planning zone radius (whichever is greater)
Notify	Freehold coal rights owners or lessees Crown disposition holders
Proximity critical well (Category E well) H ₂ S release rate between 0.3 and less than 2.0 m ³ /s Within 5 km of an urban centre (project will be filed as a non-routine application)	
Consult	Landowners and occupants (about well site location and well site access) Landowners within 500 m (about setbacks) Residents within 200 m or within the emergency planning zone radius (whichever is greater)
Notify	Freehold coal rights owners or lessees Crown disposition holders
Exempt single-well facility (Category B facility)⁵ If deemed non-routine Less than 0.01 mol/kmol H ₂ S in inlet stream	
Consult	Landowner and occupants Residents within 300 m
Notify	Crown disposition holders

⁵ Exempt single-well facilities are described in *Directive 056*, section 5.4.1.

Gas processing plant, multiwell gas battery, multiwell oil battery, multiwell bitumen battery, compressor station, gas fractionation plant (Category B facility) Less than 0.01 mol/kmol H ₂ S in inlet stream	
Consult	Landowner and occupants Residents within 500 m
Notify	Landowners and occupants within 1.5 km Crown disposition holders
Multiwell oil satellite, multiwell bitumen satellite (Category B facility) Less than 0.01 mol/kmol H ₂ S in inlet stream	
Consult	Landowner and occupants
Notify	Crown disposition holders
Injection/disposal facility (water or enhanced oil recovery), custom treating facility, straddle plant (Category B facility) Less than 0.01 mol/kmol H ₂ S in inlet stream	
Consult	Landowner and occupants Residents within 500 m
Notify	Landowners and occupants within 1.5 km Crown disposition holders
Gas processing plant, gas battery (single or multiwell), oil battery (single or multiwell), bitumen battery (single or multiwell), compressor station (Category C facility) Less than 1 tonne per day of sulphur inlet	
Consult	Landowner and occupants Residents within 1.5 km
Notify	Landowners and occupants within 2.0 km Crown disposition holders Residents within the emergency planning zone (if 0.1 mol/kmol of H ₂ S or higher)
Oil satellite (single or multiwell), bitumen satellite (single or multiwell) (Category C facility) Less than 1 tonne per day of sulphur inlet	
Consult	Landowner and occupants
Notify	Crown disposition holders Residents within the emergency planning zone (if 0.1 mol/kmol of H ₂ S or higher)
Gas processing plant, gas battery (single or multiwell), oil battery (single or multiwell), bitumen battery (single or multiwell), compressor station (Category D facility) More than 1 tonne per day of sulphur inlet	
Consult	Landowner and occupants Residents within 1.5 km
Notify	Landowners and occupants within 3.0 km Crown disposition holders Residents within the emergency planning zone (if 0.1 mol/kmol of H ₂ S or higher)

Oil satellite (single or multiwell), bitumen satellite (single or multiwell) (Category D facility)	
More than 1 tonne per day of sulphur inlet	
Consult	Landowner and occupants
Notify	Crown disposition holders Residents within the emergency planning zone (if 0.1 mol/kmol of H ₂ S or higher)
Gas processing plant (Category E facility)	
Sulphur recovery facilities	
Consult	Landowner and occupants Residents within 1.5 km
Notify	Landowners and occupants within 5.0 km Crown disposition holders Residents within the emergency planning zone (if 0.1 mol/kmol of H ₂ S or higher)
Natural gas or oil effluent pipeline (Category B or C pipeline)	
Non-sour or sour service (up to 10 mol/kmol H ₂ S)	
Consult	Landowners and occupants on the right-of-way
Notify	Residents within 200 m (for larger pipelines) Residents within the emergency planning zone (if more than 0.1 mol/kmol of H ₂ S) Crown disposition holders
Pipeline tank farm, oil loading/unloading terminal, compressor station, pump station (Category B pipeline)	
Pipeline downstream facilities	
Consult	Landowners and occupants on the right-of-way Residents within 500 m
Notify	Landowners and occupants within 1.5 km Crown disposition holders Residents within the emergency planning zone (if 0.1 mol/kmol of H ₂ S or higher)
Natural gas or oil effluent pipeline, high vapour pressure pipelines (Category D pipeline)	
Level 1–4 gas pipelines (more than 10 mol/kmol H ₂ S)	
Consult	Landowners and occupants on the right-of-way (and within 100 m of setback for Level 2, 3, 4 natural gas and oil effluent pipelines)
Notify	Landowners, occupants and residents within 500 m (and within 1.5 km for Level 3 or 4 pipelines, or within 200 m for high vapour pressure pipelines) Crown disposition holders Residents within the emergency planning zone (if 0.1 mol/kmol of H ₂ S or higher)

Note: This is a non-exhaustive summary of requirements relevant for rural residents and landowners. To ensure the accuracy of these requirements and for other consultation and notification requirements, refer to the most recent version of Directive 056.

2.1.2 Involvement by others

The notification radius for a given project is only a minimum; the industry itself is expected to determine if more people in the area have an interest and should be involved.⁶ People living outside the consultation or notification radius, or beyond the proposed emergency planning zone (in the case of a sour gas–related project), may also have concerns. A company must try to deal with all questions, concerns and objections during the public involvement process before they file their application, even if the objections are from people considered outside the minimum radius or likely to not be considered directly and adversely affected.⁷

2.1.3 Addressing your concerns before the application

In order to receive expedited approval for a project, the company must confirm to the AER that all required parties have been consulted and that they have dealt with the concerns raised by those notified or consulted, as well as any others outside these groups whose concerns the company is aware of. If the company is not required to notify you at this stage of the process and isn't engaging with you in consultations, you can still submit a pre-application concern to the AER's alternative dispute resolution specialists.⁸ This notifies the AER that there are outstanding concerns and should ensure that the company engages with you, all in the time period before an application is submitted to the regulator.

If there are any outstanding objections to their plans, or the company was not able to secure a surface lease or a confirmation of non-objection from the required persons, the company must disclose the nature of the objections to the AER, including a summary of the outstanding concerns or issues.⁹ Additionally, the AER may require the application to be filed as non-expedited for technical reasons. If the company enters the non-expedited or non-routine process, the AER will not decide on the application until the statement of concern filing deadline has passed.¹⁰

Even if you have submitted a pre-application concern, you must submit a statement of concern when the company files their application, as the pre-application concern is not considered as part of the decision. The AER will then review the problems and decide whether to issue a licence, encourage a dispute resolution process to find a solution between the two parties, or hold a regulatory hearing. If the application was submitted as a routine application, the notice of

⁶ AER, *Directive 056*, section 3.2.

⁷ AER, *Directive 056*, section 3.

⁸ AER, *Preapplication Concerns*. https://static.aer.ca/aer/documents/enerfaqs/PreapplicationConcern_FS.pdf

⁹ AER, *Directive 056*, section 3.

¹⁰ The statement of concern filing deadline is listed in the notice of application issued by the AER and may be up to 30 days from when the application was submitted.

application may not include a filing deadline for a statement of concern, and you should expect the AER to make a decision on the application quickly. If the AER makes a decision before you can submit your statement of concern, you can ask the regulator to reconsider its decision (section 10.1.10), or request a regulatory appeal (section 10.2).

For more information on submitting a statement of concern, see section 2.5.

2.1.4 Specific concerns to raise

If you think that operations could affect your water supply, you should ask the company to complete a comprehensive water test before development starts, with a test immediately after drilling has finished and six months after. These tests should be followed by documented annual tests and inspections of your water sources (sections 7.4.1 and 7.4.2). Specify what you would like to be tested to ensure that the testing covers the types of contaminants that may affect you. This will likely differ for each region, underlying geology, company and technology. Some basic tests may not be comprehensive enough to identify contaminants of concern, so it is best to do your research and ask for advice. If you are worried about health effects of air emissions from a nearby flare (section 7.2), you may be able to ask the company to install more efficient technology or capture additional gas that the regulator does not require them to conserve. For any concern, you should file a pre-application concern, followed by an official statement of concern once the application has been submitted.

People are sometimes concerned about the proximity of sour gas developments to their homes due to impacts to their health and safety or decreasing property values.¹¹ Companies are required to define an emergency planning zone around a sour gas development. The size of the zone depends on the concentration of H₂S in the gas and the release rate of the gas. Landowners and residents within the zone must be consulted and notified during the development phase, and must be notified if impacted during any sour gas event. Companies must also collect the names of susceptible residents so that they can be given early notification of any emergency and evacuated before a general evacuation is called (section 6.3).¹² See section 6.2 for more information on emergency response plans.

The AER has improved their proliferation requirements to limit excess sour gas developments. Before a company applies to construct a new pipeline or processing facility, it must contact other operators in the area to investigate whether it is feasible to upgrade a facility or form a

¹¹ Peter Boxall, Wing Chan and Melville McMillan, “The Impact of Oil and Gas Facilities on Rural Residential Property Values: A Spatial Hedonic Analysis,” *Resource and Energy Economics* 27, no. 3 (2004).
<https://ssrn.com/abstract=894562>

¹² For information on who is consulted and who is only notified, see AER, *Directive 071*, section 4.3.

partnership with existing operators instead of constructing a new facility.¹³ During the consultation and notification period, you can ask the company how it plans to meet these AER requirements.

2.1.5 Notification after application submission

A public notice of application must be made for all applications submitted to the AER. Depending on the project, this may be advertised in your local newspaper or through some other form. The notice of application includes details and supporting documentation about the project such as the activity applied for, the legal land location, contact details for the company, and the deadline for filing a statement of concern. Most notices will be available to view using the AER's Public Notice of Application tool¹⁴ for 30 days after the date the application was filed, even if a decision was made on the application before 30 days.¹⁵ More complex projects, with applications under the energy resource enactments and specified enactments, are posted manually on the AER's Notices page.¹⁶ A company is also expected to send the notice of application to anyone who has raised concerns about the project. You may also find additional information about a project before or after it is approved on the Integrated Application Registry.¹⁷

The AER publishes various notices and decisions on its website, and there are several places where you may find information about an application.

2.2 Direct negotiations with a company (for issues other than compensation)

As a landowner or member of the affected public, it is advisable that you try and resolve issues with a company in a non-adversarial manner, even if you don't agree with the proposed project. This is the best attitude to have when starting negotiations, and will increase your credibility with the AER should negotiations fail and alternative dispute resolution is pursued. Entering the conversation with a more adversarial approach may make it harder for you to successfully negotiate any terms you wish to include and potentially lead to a less-than-ideal outcome.

Depending on the type of development proposed for your land, you should closely consult the relevant section in this guide to ensure you fully understand the potential implications. (See

¹³ AER, *Directive 056*, section 5.6.3.

¹⁴ AER, "Public Notice of Application." <https://webapps.aer.ca/pnoa>

¹⁵ Expedited applications, also known as routine applications, have a deadline for filing a statement of concern. However, the AER may make a decision before this deadline, including as soon as the application has been processed.

¹⁶ AER, "Notices." <https://www.aer.ca/applications-and-notices/application-status-and-notices/notices>

¹⁷ AER, "Integrated Application Registry." https://dds.aer.ca/iar_query/FindApplications.aspx

section 4.1 for oil and gas wells, section 4.2 for pipelines, or section 4.3 for batteries, gas compressors and other facilities). Appendix A has a series of questions for you to ask the company. You should be careful to consider the potential worst-case impacts, and try to negotiate with companies to ensure that these are minimized or negated.

Many times the company will approach you with a standard lease agreement, but you should take the time to negotiate additional clauses to protect yourself from impacts you identify. For example, if you are concerned about the impacts of increased traffic, you can negotiate to have the company plant trees along the road of concern to act as a windbreak and protect you from dust. If the company plans to flare, you can negotiate to ensure that the company gives you additional advance notice of each flaring event, or notice of flaring in the case where you otherwise may not be notified.

2.3 Signing the lease agreement

If you do not object to the project plan, or all your issues have been resolved and you decide to withdraw any objection, you, as a landowner, will be ready to sign the lease agreement. You would likely benefit by seeking advice from a lawyer or surface rights consultant before signing if one has not already been involved during negotiations. These expenses are usually considered reasonable, and you should ensure the company compensates you for these costs.

Be sure to read the agreement carefully and study the map of the survey that outlines the area where the company wants access. Never sign a lease without first reading the lease agreement, even if you have discussed the details with the land agent. You will be committing your property to a project that may have implications on your land for decades, so it is important to ensure, to the best of your ability, that the lease agreement protects the interests of your family and your neighbours and the health of your land for as long as the project will exist. See Appendix A to help ensure you are asking the right questions to protect your interests.

Before signing a lease, read section 9, “Compensation and Surface Rights Access.”

A land agent is required to leave a copy of the proposed surface lease or right-of-way agreement with the owner for at least 48 hours (excluding holidays) for review before negotiations can resume.¹⁸ An owner is defined as anyone who has the “right to dispose of an interest in land” and includes:

¹⁸ See Alberta, *Land Agents Licensing Act*, RSA 2000, c. L-2, s. 17. <https://open.alberta.ca/publications/lo2>

- the fee simple owner
- a person who has a registered interest in the land (includes a person who has an interest in Crown land)
- anyone who is in possession or occupation of the land¹⁹

However, a company may ask if you wish to sign a waiver, so that you can sign the agreement straight away. It is highly recommended that you take the 48-hour period to review the proposed agreement. If you sign the waiver and the agreement without taking the 48 hours to review it, you should be absolutely sure about all aspects of the lease agreement and should have resolved all issues. If you need more than 48 hours to study the agreement, advise the company and take it.

At least 48 hours after providing the proposed agreement, the company may apply for a licence from the AER and then a right-of-entry order from the Land and Property Rights Tribunal. Before the company applies for a right-of-entry order, the land agent must resume or attempt to resume negotiations after the 48-hour period.²⁰ However, in practice, the company may not attempt to resume negotiations with you. When applying to the tribunal, the company will refer to the last offer (not necessarily the last best offer) and the reasons why it was refused.

If there are outstanding concerns, the AER will encourage companies and landowners to use alternative dispute resolution to try to reach an agreement before filing an application. Even if the company files an application, it will take some time for the company to get a licence or a hearing, during which time negotiations can continue.

Remember that the agreement is written by the company and has their interests in mind, so you should study it carefully to make sure it meets your needs. There are different versions of this lease agreement and, even if it looks similar to one you have signed before, it is important to read it completely. If you do not agree with any clause, get advice (see below), discuss it with the land agent, and decide if you need to amend it or strike it out. A lease agreement should say exactly what the company is required to do, as this will reduce problems later. It would be wise to add an addendum to your agreement with additional clauses to address actions the company will be required to do as per your negotiations.

The lease agreement may include a clause that will allow the company to reduce the annual lease rent once surface structures have been removed from the site and the site reclaimed but before the reclamation certificate has been issued. The Surface Rights Act makes no provision for such a reduction in compensation, so you are not obliged to agree to such a clause.

¹⁹ See *Land Agents Licensing Act*, s. 1(f).

²⁰ Alberta, *Land Agents Licensing Regulation*, 227/2001, s. 9. https://open.alberta.ca/publications/2001_227

Some, if not most, agreements may have an additional “delay” clause that would allow the company to drill any time up to 365 days. This may mean that payment will not be paid until the company actually enters the property to drill.

Registering your agreement (Private Surface Agreements Registry)

Once a lease agreement is signed by both parties, it becomes a binding legal agreement on the current owner and all future owners of the land, if it is assigned to them.²¹ The company will register the lease agreement with the Land Titles Office. You should make sure to register your written contract with the AER as a private surface agreement on the Private Surface Agreements Registry.²² Although this will require you to disclose the amount of compensation you agreed to, the AER does not review the terms or details of the agreement unless there is a request for an order to comply by an owner or occupant of the land (known as a section 64 request). Additionally, if you enter into a new agreement with a company, you may also register it.

Confidentiality

It is recommended that you **not** agree to a confidentiality clause with the company in your surface rights agreement. Although the Responsible Energy Development Act²³ allows agreements to be registered on the Private Surface Agreements Registry even if a confidentiality provision exists,²⁴ such a clause will prevent you from speaking out about any concerns you may have, publicly or even just with your neighbours.

Getting advice

If you, as the landowner or occupant, are uncertain about any of the terms of the lease, it is important to get advice; you can contact your lawyer, the Farmers’ Advocate Office, a landowner or surface rights consultant, Action Surface Rights,²⁵ or other landowner groups or associations in your area.

If you have outstanding concerns about the well site or operation, you should not sign the agreement and should contact the AER (Table 1). The company must have the landowner’s

²¹ Land may sometimes be sold without including the rights associated with the surface lease. In this case, the former landowner, not the new purchaser, receives the surface rights payments from the company.

²² AER, “Private Surface Agreements Registry.” <http://www.aer.ca/applications-and-notice/private-surface-agreements-registry>

²³ Alberta, *Responsible Energy Development Act*, SA 2012, c. R-17.3, s. 64(2).
<https://open.alberta.ca/publications/r17p3>

²⁴ AER, “Private Surface Agreement Registry.” <https://www.aer.ca/applications-and-notice/private-surface-agreements-registry>

²⁵ Action Surface Rights, <https://actionsurfacerights.ca/>

approval of the location before it can obtain a drilling licence from the AER without applying for a right-of-entry order, so the AER needs to know if there are problems. Companies must operate in an environmentally and technically acceptable manner, interfering as little as possible with the use of the land, but AER staff cannot ensure this unless they are alerted to potential problems by the landowner.

2.3.1 Enforcing the lease

If an issue arises from the surface agreement and you believe the company has failed to comply with a term or condition in your agreement, you can file a private surface agreement with the AER (described above), and submit a section 64 request under the Responsible Energy Development Act. After receiving the request, the AER will forward a copy to the company, who will be asked to respond. If the AER determines that the company has not complied with the conditions of the agreement, the regulator can order the company to comply.²⁶ For more information, see the AER's EnerFAQ on how to register a private surface agreement.²⁷

If a company fails to comply with the terms of the lease agreement and you do not have a registered private surface agreement, you should still inform the AER. This includes telling the AER if the company ignores a special condition that was agreed to in writing between you and the company. Even if the complaint falls outside the jurisdiction of the regulator, they will help determine whether the company is in compliance with the regulations and what route is best to pursue your concerns with the company.

2.4 Alternative dispute resolution

2.4.1 Working with the Alberta Energy Regulator

If you need help with negotiations, you can ask the AER to facilitate your meetings with land agents or company representatives. They have trained staff who can act as facilitators at everything from informal “kitchen table” meetings to more formal discussions between you and the company.

If direct negotiations fail, parties can use the alternative dispute resolution (ADR) process.²⁸ The ADR process is an alternative to the hearing process, which can be expensive and require a considerable time and financial commitment from all parties. The process may be used for any

²⁶ Alberta, *Responsible Energy Development Act*.

²⁷ AER, “How to Register a Private Surface Agreement – EnerFAQ.” <https://www.aer.ca/understanding-resource-development/enerfaqs-and-fact-sheets/enerfaqs-private-surface-agreement>

²⁸ ADR Institute of Alberta, <https://adrAlberta.com/directory/>

disputes related to energy development in Alberta (projects under the jurisdiction of the Canada Energy Regulator [CER] use a similar process). The ADR process may involve facilitation, mediation, negotiation, arbitration or a combination of these strategies (see Appendix D for definitions). The ADR process isn't limited to issues within the jurisdiction of the AER. In some cases, it can facilitate discussion and resolution on a broader range of issues than the AER typically regulates, such as compensation. The process can be used at any point in the project life cycle, from the project planning phase until after project completion. Typically, the ADR program is voluntary, unless required by hearing commissioners after an application has been recommended for a hearing.

The AER will attend ADR meetings to facilitate and provide regulatory and other information, or act as mediators or negotiators. Mediation is helpful when situations are too complicated or controversial to be settled through facilitation alone. Mediation is usually provided by trained AER mediators; however, in some cases the AER may recommend, or you can request, a neutral third-party mediator who has experience with the energy industry. Those involved in a dispute can select an external mediator from the ADR Institute of Alberta.²⁹

Before full mediation through the ADR program is pursued, negotiating parties should consider engaging in a preliminary alternative dispute resolution (PADR) meeting. This preliminary meeting will decide who will take part in the discussions, the issues to be discussed, how the mediator will be selected, the role of advisors (such as AER staff, lawyers and technical experts), what options are available to resolve the dispute, and how costs will be allocated. One of the principles of the PADR program is that the industry participants should cover the nominal costs of the preliminary meeting, including direct third-party costs incurred by landowners and public. Anyone considering using PADR or ADR should read the AER's guidelines.³⁰

The AER's alternative dispute resolution process has existed in some form or another since the early 2000s.

If you want to work in good faith to resolve issues with the company, but it seems that negotiations may be lengthy and involve considerable time reviewing and writing documents, it is not unreasonable to ask the company to provide partial or even full compensation. When a company reimburses some or all of the costs, individuals and groups can be more effectively involved in the process, and the company demonstrates that it is willing to cooperate and shoulder the responsibility for inconveniencing landowners.

²⁹ ADR Institute of Alberta, "Directory of Mediators, Arbitrators, Adjudicators." <https://adralberta.com/directory/>

³⁰ AER, *Manual 004: Alternative Dispute Resolution Program and Guidelines* (2020). <https://www.aer.ca/documents/manuals/Manual004.pdf>

Although there are no formal cost recovery guidelines, the AER works with parties to determine cost recovery. You should ensure that you agree in writing with the company what they will cover for costs. If travel is involved, mileage, meals and accommodation costs should be recorded. Where possible, receipts should be obtained for all the expenses, and you should keep track in writing of the time needed for all discussions, meetings or research.

You may want to get a sense of the company's past compliance history, as a good track record may give you more confidence in the outcome of negotiations and the project as a whole. You can view their publicly available compliance record on the AER's Compliance Dashboard.³¹ The compliance dashboard will include more recent incidents under the AER, but you may need to contact the AER inquiries line to get a more complete history. You can also contact Alberta Environment and Protected Areas, which may be able to give you a summary of a company's environmental compliance record before the creation of the AER. Although the AER boasts a high compliance rate,³² much of the enforcement system relies on self-reporting, and it is not unheard-of for companies to breach, unintentionally or otherwise, rules and requirements.

It is important to know that the ADR process is confidential. This allows parties to speak freely and to determine appropriate solutions to the issues at hand without being hampered by concerns about confidential information being shared outside the group. However, this may limit your ability to speak about some of your issues in public, including in subsequent hearings related to the conversation, or to share with your neighbour for their conversations with the same company. All parties to the ADR process must agree to allow any resolutions from the process to be unbound by the ADR confidentiality clause in order for you to speak publicly about it.³³

If the application has been submitted, yet you feel that a company is not seriously trying to minimize potential impacts, you can ask the AER to hold a hearing by submitting a statement of concern after the application has been submitted to the regulator (sections 2.5 and 10.1). If a hearing is recommended, but the hearing commissioners feel that you have been less than cooperative in trying to resolve the issue outside of a hearing, they have the power to deny you cost reimbursement for the hearing process. Therefore, you should make a reasonable effort to address your concerns through negotiation or the ADR process before deciding to pursue a hearing.

³¹ AER, "Compliance Dashboard." <http://www1.aer.ca/ComplianceDashboard/index.html>

³² AER, "Data Hub" <https://www.aer.ca/data-and-performance-reports/data-hub>

³³ Alberta, *Alberta Energy Regulator Rules of Practice*, 99/2013, s. 7.7.
https://open.alberta.ca/publications/2013_099

2.4.2 Working with the Canada Energy Regulator

If there are difficulties concerning an interprovincial pipeline's location, timing and method of construction, or protection of the associated land, you and the company can use the CER's alternative dispute resolution process (which is similar to the AER's ADR process, discussed above).³⁴ You and the company can also use this dispute resolution process, if you wish, to discuss the amount of compensation to be paid for the use of land or damage caused by construction or maintenance of the pipeline. If you do not wish to use the ADR process for a compensation dispute, you can submit a request to the Commission of the CER to adjudicate your dispute, under Part 6 of the Canadian Energy Regulator Act. See the CER's *Land Matters Guide* for further resources on the CER's role in land-related compensation disputes.³⁵

2.5 When the application is filed: submitting a statement of concern

If negotiations have failed and you want the AER to formally address your concerns (other than compensation) after the company has submitted their application, the next step is to submit a statement of concern to the AER. If the AER is aware of any outstanding concerns, the company is required to submit their application through the non-expedited process, and the AER will not make a decision on an application until after the filing deadline outlined in the notice of application has passed.³⁶ The notice of application will also outline other relevant information about the proposed project and what you specifically need to address in your statement of concern. Companies are expected to send the notice of application to anyone who has outstanding concerns from the pre-application process. For example, anyone who submitted a pre-application concern should receive a notice of application. It is important for you to submit a statement of concern at this stage of the process if you want to trigger a formal process and ensure your concerns are still considered by the AER, because the regulator is very unlikely to recommend an application for a hearing if no statements of concern have been submitted.

When submitting a statement of concern, you need to concisely explain why you believe you are both directly and adversely affected by the regulator's decision, the nature of your objection to the application, and the outcome you are looking for.³⁷ To try and ensure that the AER accepts your statement of concern and your request for a hearing, you should clearly establish the

³⁴ CER, "Alternative Dispute Resolution." <https://www.cer-rec.gc.ca/en/consultation-engagement/alternative-dispute-resolution/>

³⁵ CER, "Land Matters Guide." <https://www.cer-rec.gc.ca/en/consultation-engagement/land-matters-guide/index.html>

³⁶ Notice of applications are found on the AER website and may also be issued in newspapers in your area.

³⁷ Alberta, *Alberta Energy Regulator Rules of Practice*, s. 6(1).

connection between the concern you'd like addressed and how it may negatively impact you. It is helpful to be precise and to "spell it out" for the AER. What may seem like an obvious connection between the project and the issue of concern won't necessarily be obvious to those reviewing your statement of concern, and the AER won't consider facts that aren't brought before it. Include all relevant details to establish why the project or a specific element of a project is connected to the concern you are expressing. For example, if you are concerned about flaring, it may help to include a map that outlines where the potential flare stack may be located in relation to your house, where you spend time in your garden, where animals are located, or where your children play outside. If you believe that the close proximity of the project to where you spend your time will exacerbate a health issue, clearly outline this.

In addition to the details about your concern, you need to include other relevant details, such as your contact information and your location relative to the location of the proposed energy activity. It is important to submit your objections within the filing period. The AER will consider your statement of concern when reviewing the application, and if your statement of concern meets the requirements, determine whether to hold a hearing.

You can review recent participatory and procedural decisions from the AER on their website. You will likely only find decisions on statements of concern that have not been recommended for a hearing. However, these decisions may give you a good sense of how the AER decides who is directly and adversely affected as they briefly outline the reasoning for not recommending an application for a hearing.³⁸ Currently, the AER has a fairly narrow interpretation of who is directly and adversely affected — typically people who are not the direct landowners or immediately next to a project have a difficult time establishing that they are directly and adversely affected.

Statements must be submitted in writing; calling the regulator does not count as submitting a statement. Statements of concern must be submitted individually by each concerned party or as a single submission on behalf of a group by a designated representative.

You must submit your statement within 30 days of the notice of the application or by the date specified in the notice. The AER must wait for the period for filing a statement of concern to pass before deciding on a project, unless the project is submitted as a "routine application." Companies are allowed to file a routine application if they do not require regulatory leniency and if there are no outstanding concerns.³⁹ If the regulator does not receive any statements of concern, they likely will not hold a hearing. If the regulator has already made a decision on an

³⁸ AER, "Participatory and Procedural Decisions." <https://www.aer.ca/applications-and-notice/application-status-and-notice/decisions/participatory-and-procedural-decisions>

³⁹ *Alberta Energy Regulator Rules of Practice*, s. 5.2(2), sets out the types of applications for which the AER does not need to wait for the statement of concern filing deadline to pass before rendering a decision.

application, then they may not consider a statement of concern, so it is important to submit your statement as soon as possible.⁴⁰

Any statement of concern you submit will become part of the public record, so you should not include personal, medical, financial, or other information that you wish to remain confidential. If you have information that supports your case of being directly and adversely affected but wish to keep it confidential, it may help for you to indicate that such relevant information exists, note its confidentiality, and state that you would be willing to reveal it to the regulator at a later time. You may wish to contact the AER's stakeholder engagement team to determine the best way to include this information.

Consult the AER's EnerFAQ on expressing your concerns for more information about statements of concern.⁴¹

If the project is already approved and it is too late to submit an official statement of concern, you can submit a request for a regulatory appeal or request a reconsideration of a decision. Figure 2 shows the AER's appeal process. Additional details can be found on the AER's website under "Regulatory Appeal Process."⁴²

Under the Responsible Energy Development Act, the AER has the authority to reconsider its decisions although it is not obliged to do so.

⁴⁰ Alberta, *Alberta Energy Regulator Rules of Practice*, s. 6.2(1)(c).

⁴¹ AER, "Expressing Your Concerns – EnerFAQ." <https://www.aer.ca/understanding-resource-development/enerfaqs-and-fact-sheets/enerfaqs-expressing-your-concerns>

⁴² AER, "Regulatory Appeal Process." <https://www.aer.ca/applications-and-notice/regulatory-appeal-process>

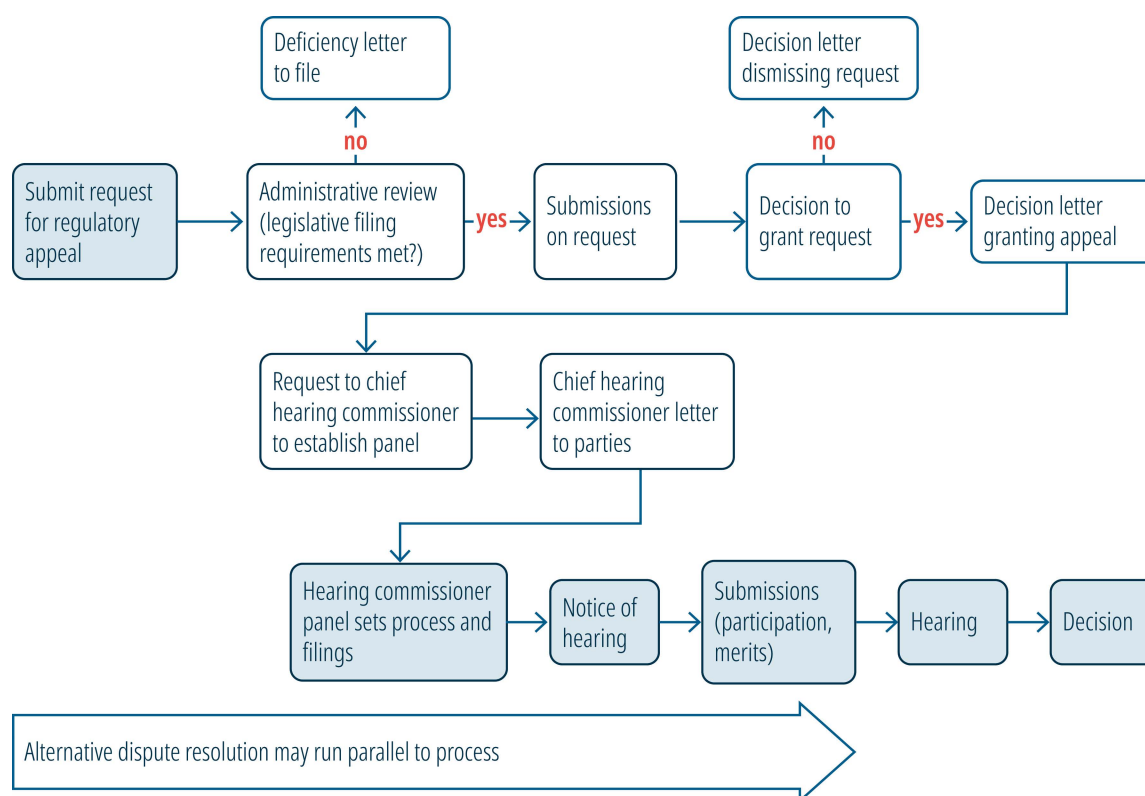


Figure 2. Alberta Energy Regulator's appeal process

2.6 If all dispute resolution fails

Sometimes it is not possible to reach agreement, even through a combination of negotiation, facilitation, or mediation. If this is the case, the company or landowner can ask the AER to consider holding a hearing (section 10) or apply for a right-of-entry order through the Land and Property Rights Tribunal (described in more detail in sections 9 and 10.3.1).

If you are thinking about asking the regulator to hold a hearing, you need to have strong evidence of the damage that an energy development could potentially cause you or your family, or reasons why it is not in the public interest to allow the project to proceed. While the AER has rarely prohibited a development, it may attach conditions to licences that address concerns that the hearing panel had with the application. You will likely get a more satisfactory resolution of problems if you try to negotiate and then, if necessary, ask the AER to facilitate or arrange mediation through the ADR process, rather than do nothing and simply refuse access.

Occasionally a landowner may be so strongly opposed to a proposed development that they are unwilling to attempt negotiation. If that is the case, it is important to consider the implications. If a landowner refuses to negotiate and makes it clear from the start that “no means no,” the company will inform the AER when they submit their application. The AER may suggest that the

landowner should negotiate with their facilitator or with a third-party mediator, but if this is still unsuccessful, the company may ask the AER for a hearing. If a landowner has not tried to resolve the issues through negotiation or explained to the AER why any anticipated adverse effects cannot be handled through negotiation, the AER may dismiss the objection and approve the application without a hearing. If a hearing is triggered, the hearing panel may not grant costs to the landowner if they believe that the issue should have been dealt with through the ADR process. Thus, before taking this stand, it is crucial for a landowner to consider their chances of securing all their demands at a hearing, given the fact that the AER has made very few decisions that actually prohibit development.

If, after weighing the above considerations, you do decide to fight an application, you will need to make a strong case. You may also want to garner the support of as many surrounding neighbours as possible. Each person should write a clear statement of concern to the AER, sending a copy before the deadline to the AER, as outlined in the notice of application. Copies should also be sent to the company proposing the development, the relevant member of the legislative assembly, the energy and environment critics for the opposition party, and relevant media. If the application is non-routine (for example when there are outstanding issues that the operator has identified), you should have 30 days to submit a statement of concern, in which you can suggest that the project be considered by a hearing. The AER has full discretion for when a hearing is triggered, but is most likely to decide to trigger a hearing when one or more parties considered by the regulator to be directly and adversely affected make their case that the issue is best resolved by hearing.

Adequate preparation for a hearing, including obtaining legal counsel and arranging appropriate technical expert witnesses, is essential; section 10 provides more information on hearings.

Section 3

Exploration for Oil and Gas



3. Exploration for Oil and Gas

This section examines your rights when a company wants to conduct a seismic survey on the land you own or occupy. It details the many steps of geophysical exploration and provides guidance on negotiating permits, offering input as a landowner or a lessee, understanding potential risks and implications of seismic operations for your land, and lodging complaints.

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3.1 Overview of geophysical exploration

Geophysical exploration aims to discover whether saleable mineral resources lie beneath the land surface. Companies may conduct seismic surveys and drill test holes, or use other techniques that provide subsurface information.

Geophysical exploration is now regulated by the Alberta Energy Regulator (AER), governed by the Exploration Directive, in addition to the Exploration Regulation.¹

In seismic surveys, vibrations are sent through the ground using either dynamite charges placed below the ground in shot holes or large trucks that vibrate heavy plates on the ground (vibroseis). Data is recorded using geophones, either in 2D along a single line or more commonly in 3D across multiple lines. See Figure 3.

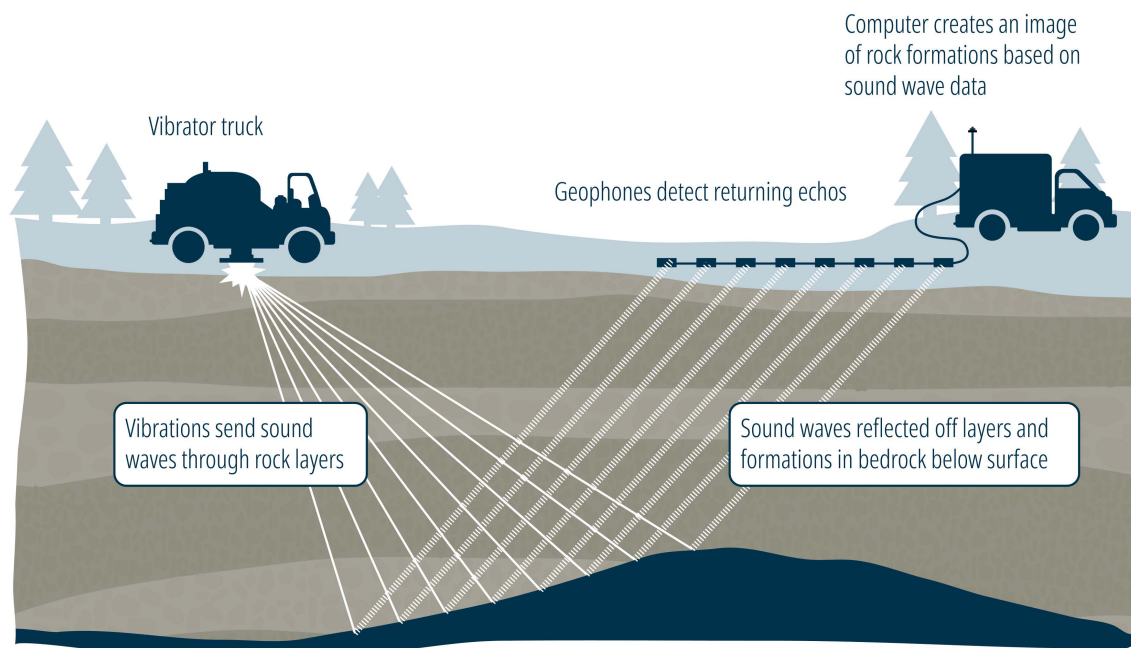


Figure 3. Schematic of exploration activities using vibroseis

3.1.1 Access to land

On private property

Since 1948, land in Alberta has been divided into two zones. The White Area (settled portion) includes lands best suited to agriculture and consists of the populated central, southern and

¹ Alberta, *Exploration Directive* (2025). <https://open.alberta.ca/publications/exploration-directive>
 Alberta, *Exploration Regulation*, 284/2006, s. 11. https://open.alberta.ca/publications/2006_284

Peace River areas of the province. Making up about 42% of land in the province, most of the White Area is owned by individuals. The Green Area (forested portion) makes up the remaining 58% and largely consists of Crown lands.² This section focuses on seismic exploration rules that apply to the White Area, with some guidance on leased land in the Green Area.

A company that wants to conduct seismic activities in the White Area of the province³ will first send a permit agent to negotiate with the landowners and occupants. The permit agent should provide these parties with information that explains what seismic surveys involve and who to contact with a problem, query or complaint. Further information on seismic activity can be found in *Geophysical Exploration and Landowners' Rights*.⁴ A seismic operator is not allowed to enter private property unless the landowner or occupant (or that person's agent) gives permission. The landowner/occupant has the right to refuse access for seismic exploration.⁵ In the case where land is under an agricultural lease agreement, the permit agent must obtain the permission of the landowner, as well as that of the leaseholder, since the seismic activity might cause impacts that last beyond the lease period. It is recommended that the agricultural lease include details on how a negotiation with a seismic company should be handled to make sure lessees' concerns and constraints are heard. In any case, the landowner has exclusive right to refuse the geophysical operations and the seismic operator has no appeal, except in the case of carbon capture and storage.⁶

Notification of activity

Permit agents are required to notify residents and landowners within 400 m of any proposed seismic line at least 48 hours before activity starts in the White Area of the province.⁷ Nearby landowners may want to request a pre-seismic test of the water quality and flow rates in their well.

² Alberta Agriculture and Forestry, *Sustainable Forest Management: 2015 Facts & Statistics* (2017). [https://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/formain15744/\\$FILE/2015-General-Boundary-Information.pdf](https://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/formain15744/$FILE/2015-General-Boundary-Information.pdf)

³ Alberta, *Green Area and White Area with national parks and forest management units* (2022). <https://open.alberta.ca/publications/green-and-white-area-with-national-parks-and-fmus>

⁴ Farmers' Advocate Office, *Geophysical Exploration & Landowners' Rights* (2025). Appendix A includes a sample permit form. <https://open.alberta.ca/publications/geophysical-exploration-landowner-rights>

⁵ The right to refuse access applies only to seismic exploration; it does not apply to land surveys, access to construct a well or pipeline, or geophysical operations associated with carbon capture and storage, including monitoring. Also, it applies only to privately owned land, not to agricultural leases on public lands. In the event access is refused, the company has no appeal. However, it may decide to conduct exploration around the lands by using road allowances.

⁶ Farmers' Advocate Office, *Geophysical Exploration & Landowners' Rights*, 2.

⁷ Farmers' Advocate Office, *Geophysical Exploration & Landowners' Rights*, 2.

The eight steps of seismic exploration

1. The landowner is approached by the seismic company and a permit is negotiated and signed between the two parties.
2. Access routes are established (using existing gates and/or by cutting fences as specified in the permit).
3. Seismic lines are defined and cleared of brush and/or snow using a method authorized by the landowner.
4. Markers are placed along the length of each seismic line. The position of each marker is surveyed using a global positioning system (GPS).
5. If the project uses an explosive energy source, shot holes are drilled and dynamite is loaded down each hole.
6. Recording devices known as geophones are placed on the ground surface according to the markers placed by the survey crew.
7. Vibrations are generated by detonating each shot hole in sequence (dynamite survey) or by positioning surface energy equipment (vibrators) on the seismic line and applying that type of surface energy in sequence. The energy waves, reflected back by the subsurface formations, are picked up by the geophones and relayed to the recording truck.
8. Shot holes are plugged and sealed, compensation to the landowner and/or the leaseholder is paid, and the Geophysical Operations Release form is signed.

3.1.2 Setbacks

A company must follow requirements for setbacks — the minimum distances that seismic shot lines and test hole drilling must be from buildings, water wells, irrigation works, oil or gas pipelines, wells, etc. The actual setback depends on whether explosive or non-explosive operations are being conducted and, in the case of explosives, the size of the charge. The required distances are set out in the Exploration Regulation and the Exploration Directive.⁸ Companies are allowed to conduct seismic exploration within the minimum setback distance if they meet certain conditions: the company must use a reduced charge and must obtain the written consent of the owner for any explosive exploration or test hole that is less than 180 m from a structure or a water well, and for any non-explosive exploration that is less than 100 m from a water well.⁹

⁸ *Geophysical Exploration & Landowners' Rights*; also in Exploration Directive, section 15, "Distance Requirements."

⁹ More information on water wells is provided in section 7.4.1.

Although a setback of 15 m is required for domestic septic tanks and mounds, landowners may ask for a smaller charge size close to any septic systems as these are very sensitive to vibrations caused by seismic testing.

3.1.3 Plugging of seismic holes

This section only applies when the seismic operator uses explosives charges.

As soon as a seismic hole is drilled, it must be marked with an approved permit tag facing the shot hole and displayed less than 10 m from it. The tag shows the permit number of the geophysical contractor and the exploration approval number.¹⁰

After an explosive charge is loaded, the hole must be plugged. For identification purposes, the plug is marked with the licence or permit number of the company conducting the seismic work.¹¹

The explosive charge that was put into the hole must be detonated within 30 days and then the hole must be permanently abandoned. This includes cutting off the wire that was attached to the charge at ground level and ensuring that the hole is properly plugged.¹²

The Exploration Regulation requires the company to abandon each shot hole immediately after the detonation of the charge (no definition or timeframe is given in the regulations guidance for “immediately”) so that water does not flow to the surface or move from one underground aquifer to another.¹³ Landowners can negotiate with the seismic company to put the plastic plug closer to the bottom of each hole (which may be 15–18 m deep) and fill from the plug to the ground surface with bentonite pellets.¹⁴ This would prevent the flow of surface water through the hole and into an underground aquifer, or the movement of water from one formation to another.

If water or gas is released from the ground when a seismic hole is drilled, the drilling must stop, no explosive must be set, and the company must contain the water or gas to the aquifer or stratum of origin using one of the approved methods.¹⁵ The company must immediately submit a flowing hole report to the Alberta Energy Regulator. Additional precautions must also be taken for the next shot hole; it may be drilled only to a maximum depth that is 3 m less than either the

¹⁰ Alberta, *Exploration Regulation*, s. 55.

¹¹ Alberta, *Exploration Directive*, section 18, “Temporary Abandonment of Shot Holes and Test Holes.”

¹² Alberta, *Exploration Directive*, section 19, “Permanent Abandonment of Shot Holes and Test Holes and Alternate Shot Hole Abandonment.”

¹³ Alberta, *Exploration Directive*, section 19.

¹⁴ Alberta Agriculture and Forestry, Alberta Environment and Parks, *Water wells...that last: A guide for private well owners in Alberta* (2019), 50. <https://open.alberta.ca/publications/9781460143414>.

¹⁵ Alberta, *Exploration Directive*, section 16, “Flowing Holes and Encountering Gas.” The directive mentions one exception to this: when a shot hole becomes a flowing hole before a charge is detonated, the charge is to be shot.

drilled depth of the flowing hole or the point of encounter with water or gas in the previous shot hole.¹⁶

3.2 Compensation

There is no legislated requirement for a company to pay compensation for entry and access for seismic activity since the landowner can deny access. You may want to contact a surface rights or landowner consultant before you sign an agreement on compensation.

It is common practice for seismic operators to offer compensation to all parties affected by the exploration program. This compensation is usually based on the length of the line.

Compensation agreements should be defined similar to any other agreement. You have the full authority to set your own price.

Seismic data is property, but it is difficult to place a lien against it if access payments are delayed; as such, it is advisable to obtain payment before granting access.

The company is liable for any damages it causes. Advice on negotiating with a company is provided in section 1.

Table 3. Your rights around oil and gas exploration on your land

I am the landowner	
What your input is	You can have a word on anything and make the final decision.
Decision process and appeal options	You have the final word. If you refuse access to your land for exploration, the company may decide to conduct seismic exploration from an adjacent property or using a road allowance.
How you can negotiate compensation	You are fully entitled to negotiate compensation; however, there is no legislated requirement that details the amount companies need to compensate.
I lease private land that is not under agricultural lease	
What your input is	The landowner has all rights to negotiate with the exploration company.
Decision process and appeal options	You don't have much say other than talking to the landowner, as this specific case is not detailed in regulation.

¹⁶ Alberta, *Exploration Directive*, section 16.

How you can negotiate compensation	You should ask the landowner to negotiate with the company compensation for the inconvenience and potential damage; it is common practice for seismic operators to offer compensation to all parties affected by the exploration program. This compensation is usually based on the length of the line.
I have an agricultural lease	
What your input is	It is recommended that your rights and compensation in the event of seismic exploration be detailed in the lease agreement.
Decision process and appeal options	It is usually recommended that the lease specify that the landowner has exclusive right to allow or refuse entry upon the land, while the lessee should be granted input regarding details such as access, timing and compensation.
How you can negotiate compensation	The landowner typically receives payment for entry, access and recording. As a lessee, you receive compensation for crop damages and disturbance. If you disagree with the amount negotiated with the company, you can apply to the Land and Property Rights Tribunal, which may review the amount and make a compensation order. ¹⁷ If, after the operations, you notice unexpected damage or destruction (to crops, livestock, buildings, etc.), you can apply to the tribunal for a compensation order. ¹⁸
I lease public or Crown land	
What your input is	Companies need to obtain from the minister of Environment and Protected Areas, or the minister responsible for administering the Public Lands Act, an approval to explore. Once granted, they need to obtain your written consent.
Decision process and appeal options	If you refuse to provide the exploration company with your consent, the company can apply to the Land and Property Rights Tribunal for right of entry. If you have an operational or land-use concern, you can request a review by a local settlement officer, who will facilitate a negotiation between parties. If the negotiation fails, the officer makes an adjudicated determination. Under certain conditions, you can appeal the officer's decision by making a request to the Provincial Exploration Review Committee, which may also seek to facilitate an agreement. The committee should render a binding decision within 10 working days. ¹⁹
How you can negotiate compensation	It's common practice for seismic operators to offer compensation to all parties affected by the exploration program. This compensation is usually based on the length of the line.

¹⁷ Alberta, *Exploration Dispute Resolution Regulation*, 227/2003, s. 20.
https://open.alberta.ca/publications/2003_227

¹⁸ Alberta, *Exploration Dispute Resolution Regulation*, s. 22.

¹⁹ Alberta, *Exploration Dispute Resolution Regulation*, Part 1.

3.3 Questions to ask before granting right of entry

Before granting right of entry to your property by signing a permit agreement, you should find out exactly what is involved.²⁰ Here are some issues you may want to address in your written agreement with the company:

Background

Where is the seismic activity planned on the property?

Ask to see the area on a map and on an aerial photo, if one is available. You can also see the area on Google Maps (or equivalent service) if the company provides you with the geographical coordinates of the line(s).

What type of equipment will be used?

Heavy equipment can compact the soil and impact crop growth in future seasons, especially if the ground is not frozen at the time of exploration. For this reason, it is important to minimize the area affected by equipment. Compaction can be reduced if the company uses vehicles that have low ground pressure tires or tracks. Where appropriate, you may wish to negotiate the kind of equipment to be used.

Will helicopters be used to deliver equipment?

Helicopters might be used to reduce the amount of clearing needed for surveying and crew access. If noise from helicopters is likely to disturb livestock, the animals should be moved.

Are the source points placed to respect minimum distances from structures such as buildings, water wells, dams or septic tanks?

You may want to negotiate with a company to keep the source points of seismic waves farther away than the minimum setback distances required by the Exploration Regulation.

When will the seismic work be conducted?

Seismic crews often work day and night, seven days a week.

After an agreement has been signed, how soon will the work start?

Ask when the work will be done and discuss any concerns you have about the timing.

²⁰ In this section, “you” is used to refer to the landowner or occupant.

Land

What will the company do to prevent disturbing the soil with equipment?

If the topsoil is damaged, it may take longer for the site to restore itself.

How many fence lines will be crossed?

It may be preferable to give the company permission to cut and repair fences, rather than have the seismic crews travel across much longer routes to use gates. A shorter route will minimize surface damage and soil compaction that can be caused by heavy equipment.

As a landowner, you may want to negotiate compensation for any fence cuts and repair the fence cuts yourself to ensure that the repairs are completed to your satisfaction.

Can any sensitive land be avoided?

Susceptible land (e.g., a spring-fed dugout, steep slopes subject to erosion) can be placed off-limits; the company can be asked to offset their survey line around the area.

Can the clearing of trees be minimized?

Companies may be able to reduce the width of the survey line to 1.5 m by drilling shot holes from special all-terrain vehicles and hand-clearing receiver lines. Make sure that the width of seismic line is indicated on the contract, as it may be up to 5 m.²¹

In forested areas, clearing and cutting straight lines increases the vulnerability of wildlife to predators and hunters and has a visual impact. The line of sight can be reduced by setting out a meandering line.

Will the route go through any trees?

Find out whether it is possible to realign the seismic line or offset it around the trees if you want to keep them.

Will the company use wooden flags?

Wire pin flags are not allowed for seismic operations on private land in Alberta unless the landowner/occupant gives permission. Their use should be refused since normal farming activities, such as making silage or hay, can shred wire pin flags left in the fields and can result in injury or death to livestock that eat the feed.²²

²¹ Farmers' Advocate Office, *Geophysical Exploration & Landowners' Rights*, 3.

²² Alberta, *Exploration Directive*, section 14, "Use of Products in Exploration," lists all approved seismic survey markers.

Water

Will the company test your water well before and after the seismic activity?

A test before seismic activity will provide a baseline should problems arise later. Ask to obtain a copy of the results.

Will the line be kept away from ditches and low-lying land?

This will prevent surface water and pollution from entering the seismic holes.

How will shot holes be plugged?

You may want to negotiate with the company to put the plug close to the bottom of the hole instead of the standard requirement of 1 m below the surface.

What will be done with the drill cuttings?

Any drill cuttings left over after plugging the hole will usually be spread on the surface, but occasionally landowners want them removed.

Will the company leave the land in the same condition as when they entered it?

It is best if all waste is removed. Burning the waste is often preferred by companies, and low temperature burning affects air quality.

Will the company fill any flowing shot holes?

Though a company is legally required to ensure that all shot holes are properly plugged (including any that may have blown out) to prevent any release of water,²³ it is advisable that this requirement be explicitly stated in the permit agreement. Flowing holes have occasionally caused problems for landowners.

Will the company need to return in spring to clean up after winter operations?

You may prefer to ask if the company will pay you to carry out the cleanup operations. It is important for the landowner to conduct their own check, even when the company does the cleanup, to ensure that fences are intact, holes have been properly filled and no materials remain that could injure livestock.

How much compensation will you be paid?

Compensation should include money for crop loss, fence cuts, destruction of trees, or other adverse effects on the land.

Do you need a special condition to restrict access to certain locations?

Although the working operations are limited to the area specified on the permit form, a company may cross other lands for access.

²³ Alberta, *Exploration Directive*, section 19.

Do you need a penalty clause in the agreement?

If the company has agreed to conditions beyond the legal requirements, you will have to enforce them yourself. It is difficult to enforce special conditions without a penalty clause, although this may not be easy to negotiate.

Have you included all agreed-to items in a written attachment to the permit form?

It is important to have everything in writing. This may include the way in which operations are conducted and their timing.

If you agree to provide access, you will be asked to give written consent. A standard permit form, Permit to Conduct Geophysical Operations, should be used.²⁴ This form was developed by the Canadian Association of Geophysical Contractors, in association with the Farmers' Advocate Office and other government and industry bodies.²⁵ The permit should describe exactly where and when seismic activity will occur and indicate the amount of compensation to be paid by the company.

Include everything you want the company to do, and everything you want to ensure the company does not do, as written conditions in the permit agreement. You may want to execute an addendum to the permit if you need more space to list these. If you do so, it is imperative that the permit refers to the addendum.

When the seismic exploration is finished, be sure to review all seismic lines, checking to ensure that holes are properly plugged and that cleanup is complete (or scheduled to be completed) before signing the Geophysical Operations Release form.

3.4 Refusing permission for access

If, as a private landowner or occupant, you do not wish to have seismic activity take place on your land, you can refuse permission. In such a case, the seismic company is not allowed to enter the land and has no right to appeal. If a company comes onto your land when you have refused permission, it can be fined up to \$25,000²⁶ and you can treat it as an act of trespass. You can ask a geophysical inspector to investigate (section 3.2), and can take the company to court to recover the cost of any damage.

²⁴ The permit form should be provided by the seismic operator. A sample of the form can be found in Farmers' Advocate Office, *Geophysical Exploration & Landowners' Rights*, Appendix A. <https://open.alberta.ca/publications/geophysical-exploration-landowner-rights>

²⁵ For information on the Canadian Association of Geophysical Contractors, see Appendix B.

²⁶ Alberta, *Exploration Regulation*, s. 1(2).

If a company wants to conduct seismic testing on a leased roadway, they must first negotiate with the tenant. However, if negotiations fail, the company is permitted to use a leased road allowance (developed or undeveloped) for seismic testing.²⁷ In this case, the company must give written notice to the tenant 48 hours before entering the road allowance. This notice must state where the points of entry will be and that the company will be liable for any damage resulting from exploration activity.

3.5 Complaints

As a landowner/occupant, it is important for you to inspect for compliance when a seismic line is put across your land. If you have concerns, first try to resolve them with the seismic company. It is advisable to obtain the name and company of the chief surveyor for the project. If there are concerns over the crew, first attempt resolution with the chief surveyor. Surveyors are also a registered profession and have a complaint process; contact the Alberta Land Surveyors' Association for details.

If your attempts with the seismic company are unsuccessful, you can call the AER's Energy and Environmental Emergency 24-hour Response Line at 1-800-222-6514.

Note that if you have negotiated specific requirements with the company (in addition to legal requirements), you will need to enforce these specific requirements yourself. Ideally you should inspect the area with a representative from the seismic company, document the problems, and send your written account (with photographs or videos, if appropriate) to the company.

If you have a problem with a water well that you believe to be caused by the seismic operations, you should first contact the seismic company using the contact information available on the permit form or the 400-metre notification information. You can also contact the Energy and Environmental Emergency Line (1-800-222-6514) and ask for a thorough investigation to determine the cause of the water well problem.²⁸ If this remains unresolved, you may also contact the Farmers' Advocate Office to inquire about having your well inspected, repaired or replaced under the Water Well Restoration or Replacement Program.²⁹

Should you have concerns about the conduct of a permit agent, you can report this to the Canadian Association of Geophysical Contractors, to which many seismic companies belong (Appendix B).

²⁷ Alberta, *Exploration Regulation*, s. 10.

²⁸ Farmers' Advocate Office, *Geophysical Exploration & Landowners' Rights*.

²⁹ Farmers' Advocate Office, *Well Water Replacement or Restoration Program* (2024).
<https://open.alberta.ca/publications/well-water-restoration-or-replacement-program-wwrp>

3.6 Adjacent landowners and occupants

You may be concerned about possible impacts on your land or water supply from seismic activity occurring on adjacent property. Companies are required to notify all residents within 400 m of any planned seismic operations at least 48 hours before the activity starts.³⁰ The notification can be made to each individual residence or using signs or through a public announcement. The notification must contain the name of the seismic operator, a contact name and phone number, as well as a description of the energy source.³¹ If you are concerned that your water supply may be affected, ask the company to test your well, or have it tested by a professional laboratory. This will provide you with baseline information on quality and flow of the water before the seismic testing starts.

If you have concerns or questions about the impacts of local seismic operations on your water well, or any other problems related to the seismic activity, contact the AER and ask for an investigation.

A company must notify a municipality, in writing, of their intention to conduct seismic operations before they apply to the AER for a licence.³² When undertaking exploration on primary or secondary highways, the company is required to notify the operations manager for the minister of Transportation.³³

Even if your land is not within the notification area, you can contact the company and draw its attention to any concerns you have and request that these be addressed before the seismic program starts. If you want information about a specific exploration program, you can make a request in writing to the AER.³⁴

³⁰ In the White Area of the province. Farmers' Advocate Office, *Geophysical Exploration & Landowners' Rights*, 2.

³¹ Alberta Energy Regulator and Alberta Forestry and Parks (2024), Master schedule of standards and conditions, <https://open.alberta.ca/publications/master-schedule-of-standards-and-conditions>

³² Alberta, *Exploration Directive*, section 6, "Application for Exploration Approval."

³³ Alberta, *Exploration Directive*, section 11, "Notice to Relevant Land Authorities and Holders of Forest Management Agreements and Timber Licenses."

³⁴ Alberta, *Exploration Directive*, section 4, "Release of Program Information."

Section 4

Infrastructure



4. Infrastructure

It is important to understand the types of oil and gas infrastructure development in Alberta so that you are prepared to negotiate when a company wishes to build on your land. This section covers these different types of development. If the development will contain sour gas (gas containing hydrogen sulphide), the company must meet additional requirements, which are briefly summarized. This section also examines specific issues with respect to hydraulic fracturing wells, pipelines, oil batteries, and gas compressors.

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4.1 Oil and gas wells

Oil and gas wells are drill holes ranging from a few hundred metres to a few thousand metres deep that tap into underground oil and natural gas reservoirs. In 2024, there were over 54,000 active oil and gas wells in Alberta.¹ Figure 4 shows a cross section of a typical drilling rig used to create a well.

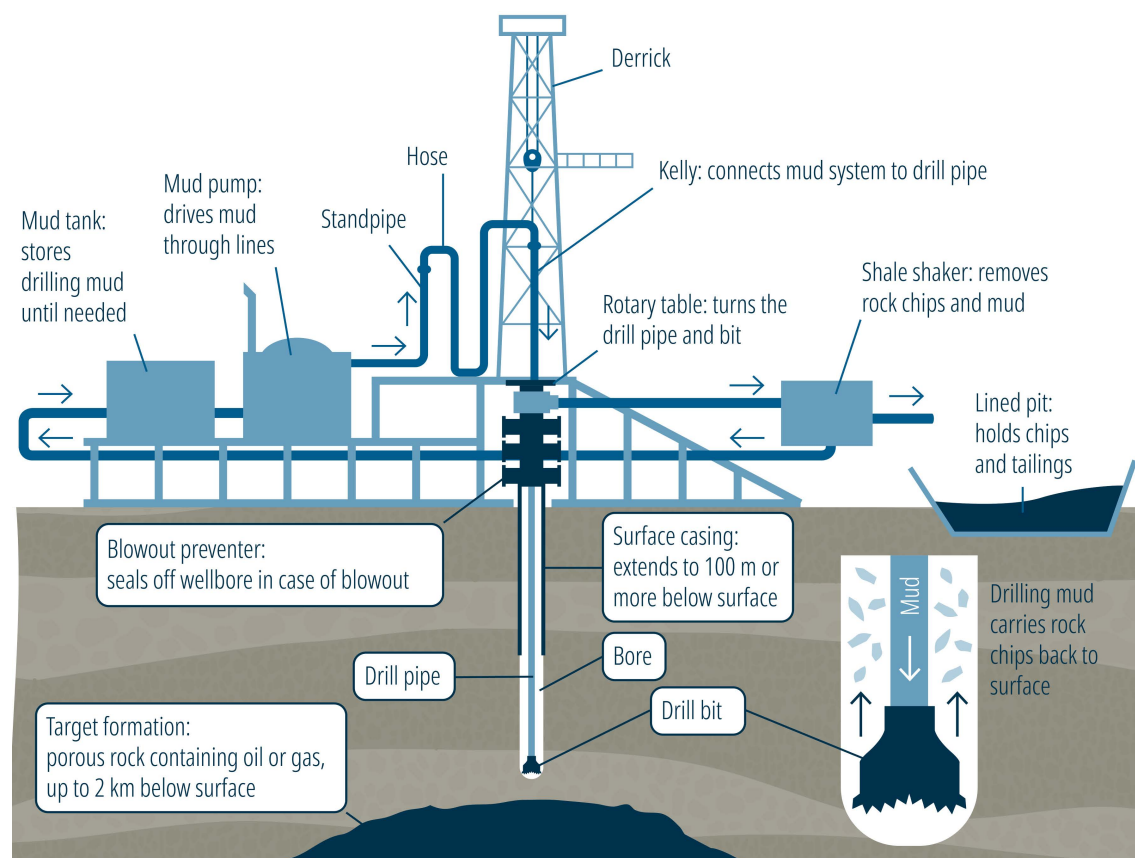


Figure 4. Schematic of typical drilling rig

Wells can be drilled in different configurations depending on the target deposit in order to maximize efficiency. For example, for shallow deposits, a simply vertical well can be drilled. For wider deposits with more oil or gas to extract, horizontal wells are drilled to increase productivity. This section looks at the different types of wells that might be drilled on your land and the implications of each one.

¹ Alberta Energy Regulator, “Well Status.” <https://www.aer.ca/providing-information/data-and-reports/data-hub/well-status>

4.1.1 Sour gas wells

Sour gas is gas that contains measurable amounts of hydrogen sulphide (H_2S). While many wells contain “sweet” gas (gas that does not contain measurable amounts of H_2S), an increasing proportion of wells in Alberta produce sour gas. H_2S is acutely toxic to humans, even at low levels.²

While the acute effects of H_2S are of greatest concern, there are indications that cumulative low-level exposure can also affect health, even though it is not known what levels constitute a health risk to the general public or sensitive individuals.³ A study of medical literature by Alberta’s health ministry found that young, healthy adults can tolerate short-term exposure up to 10 parts per million (ppm) H_2S without significant effects, but that values of 2 ppm induced bronchial obstruction in individuals with mild to moderate asthma.⁴

The Alberta Energy Regulator (AER) requires companies that produce sour gas to have an appropriate emergency response plan to ensure quick action if there is an operational incident, ranging from a minor leak to a blowout. The AER’s minimum requirements for emergency response plans are given in Directive 071: Emergency Preparedness and Response. More information about emergency response plans and how landowners are involved in the planning process can be found in section 6.2.

4.1.2 Hydraulic fracturing wells

Some geological formations contain significant deposits of oil or gas trapped in shale rock and other types of rock formations (e.g., sandstone). These formations cannot be produced with conventional drilling and production technology because the formations are very non-porous so the oil and gas does not flow to the surface like conventional oil and gas. These kinds of geological formations are generally described as “tight” or “shale” formations.

Hydraulic fracturing (or “fracking”) involves cracking the rock formation containing the oil and gas so that it flows more freely. A mixture of water and other substances is injected below the surface into tight, resource-containing rock formations to fracture them and ease the flow of oil or gas for production. Combining this technique with horizontal drilling increases contact with

² T. Guidotti, “Hydrogen Sulphide,” *Occupational Medicine* 46, no. 5 (1996), 368.
<https://doi.org/10.1093/occmed/46.5.367>

³ S. Roth and V. Goodwin, *Health Effects of Hydrogen Sulphide: Knowledge Gaps*, prepared for Alberta Environment (2003).

⁴ Alberta Health and Wellness, *Health Effects Associated with Short-term Exposure to Low Levels of Hydrogen Sulphide — A Technical Review* (2002), v. <https://open.alberta.ca/publications/2654397>

the oil-producing rock layers, enhancing production from tight reserves. See Figure 5 for a view of a hydraulic fracturing site.



Figure 5. Hydraulic fracturing site

FracFocus (fracfocus.ca) is a chemical registry website that provides information on the fluids used for fracturing. The information that companies report to the AER under Directive 059: Well Drilling and Completion Data Filing Requirements is posted to the FracFocus database.

Conventional oil and gas reservoirs have driven Alberta's historic oil and gas production, but new conventional reservoirs are now very rare and existing production is nearly depleted. However, there are still large formations containing shale gas and tight oil that have not yet been put into production. As a result, hydraulic fracturing is expected to dominate future oil and gas production in Alberta.

There are some significant differences between hydraulic fracturing and conventional oil and gas drilling:

- greater number/density of well sites
- greater number of wells per well site
- larger volume of fluids to handle (increased truck traffic, increased risk of spills, etc.)
- more noise from sites (compressor trucks)

- more air pollution (increased flaring, venting, diesel exhaust from compressor trucks and other transportation)
- larger, longer-lasting surface disturbances

The following subsections discuss how the hydraulic fracturing process — particularly the underground structural changes it can affect and the substantial volume of fluid it requires — could impact your land and how these risks can be mitigated.

Well and subsurface integrity

In conventional oil and gas production, the pressure inside the reservoir is controlled to stay lower than the fracture pressure of the surrounding rock. In contrast, hydraulic fracturing intentionally exceeds the reservoir fracture pressure to break the rock layer, enabling oil or gas to flow. Because of this higher operating pressure, more care is needed to prevent damage to the wellbore that could cause fluid leaks at or near the surface or allow fractures to extend beyond the target formation and contaminate other subsurface zones.

The AER stipulates additional requirements for hydraulic fracturing operations in its Directive 083: Hydraulic Fracturing – Subsurface Integrity. To ensure well integrity, the AER requires the use of either a dual- or single-barrier system. These systems are to isolate and contain fracture fluids in the event of a failure while also detecting and responding to failures if they arise. Single-barrier systems present higher risks and must be designed more carefully.

Fluids can also move through other existing wells drilled in the area (typically called “offset wells”) to contaminate other areas or reach the surface if a pathway between wells is created during the fracturing process. To reduce this risk, the AER requires that all existing wells within the area be identified and assessed to determine if any may be at risk of being impacted by the operation. For each well determined to be at risk, well control plans must be created and documented at the fracturing operation to ensure that any movement of fluid is detected and responded to accordingly. However, a significant challenge currently is that there are a large number of very old wells that have never been identified or catalogued, making proper identification and management of well-to-well transmission very difficult.

If you are aware of any existing wells in and around your lands, identify them to the developer to ensure that they take the necessary precautions to maintain well integrity.

Flowback fluid management

Hydraulic fracturing is a cyclical process. After each pressurization and fracture, the pressure is dropped, which allows the injection fluids and some reservoir fluids and gases to flow back up

the wellbore and to the surface. These flowback fluids must be captured, contained, and disposed of to avoid surface contamination.

The cost of the fracturing fluid and the large volumes produced motivates reuse of these injected fluids. The produced fluids are stored on site, where they can be separated and processed for reinjection. Pits can be used to store the flowback fluid; however, due to potential contamination from leaks and spills, above-ground storage tanks should be used to minimize risk. Double-walled storage tanks provide the highest degree of protection. Single-walled storage tanks can also be used but must include a secondary containment system such as a surrounding dike with impervious liner. AER Directive 055: Storage Requirements for the Upstream Petroleum Industry outlines the technical storage requirements.

Environmental concerns

The more intensive nature of hydraulic fracturing introduces raises several environmental concerns that could impact your land, including excessive water use, soil contamination, surface water and groundwater contamination, air pollution, and earthquakes. These concerns are discussed in more detail in section 7.

4.1.3 Disposal wells and CO₂ storage

While this guide is primarily concerned with oil and gas wells, it is appropriate to note here the AER process for regulating disposal wells. AER Directive 065: Resources Applications for Oil and Gas Reservoirs includes notification requirements if a company wants to drill a well to dispose of oilfield or industrial waste. Landowners and occupants within 0.5 km of the proposed disposal well are to be notified, and the company has to check that they do not have any outstanding concerns. If a company is applying for approval for the underground disposal of acid gas or underground gas storage, the public will be notified if it contains any H₂S through the distribution of an emergency response plan (section 6.2).

Directive 065 also regulates the use of carbon dioxide (CO₂) for enhanced oil recovery or underground storage. In the future, there may be an increase in carbon capture and storage operations, where CO₂ is captured and stored underground to reduce greenhouse gas emissions.

4.2 Pipelines

Pipelines are used to transport oil and gas from wells to processing plants (e.g., oil batteries and gas plants) and from processing plants to market. Pipelines are also used to carry water that is produced by oil or gas wells (produced water) to processing plants so that it can be cleaned and

disposed of. In unconventional production, pipelines also transport steam, CO₂ and effluents for injection.

Pipelines come in different sizes and have different pressures, depending on the volume and type of fluid or gas they contain. A pipeline's class, for regulatory purposes, is defined by an index number that is calculated by multiplying the outside diameter of the pipe by the length of the pipeline.⁵

Class is important because it determines how environmental issues are handled (see section 7.1.2) and the regulatory body.⁶ Determining the class of a pipeline under application is one of the first steps a landowner should take.

Class II pipelines are generally small and/or short pipelines with an index under 2690. Class II pipelines also include any pipeline regulated by the Canada Energy Regulator (CER). All other pipelines are defined as Class I and require approval from the AER.

Over half of all pipelines in Alberta are regulated by the AER in accordance with the Pipeline Act, Pipeline Rules and applicable Canada Standards Association (CSA) standards; the remainder are utility pipes and pipelines regulated by the CER.

4.2.1 Pipelines regulated by the Alberta Energy Regulator

In-depth technical requirements for pipelines are detailed in AER Directive 056: Energy Development Applications and Schedules, including setback distances, leak detection, and emergency response plan requirements. The directive also covers discontinuation, abandonment and removal of pipe.⁷

Both Class I and II pipelines must follow the Alberta government's Environmental Protection Guidelines for Pipelines.

Where topography and soil conditions permit, small-diameter plastic pipelines (often less than 10 cm, but up to 15 cm in diameter) can be installed using plough-in methods instead of the traditional trenching. This approach reduces surface disturbance and minimizes environmental impact. In 2001, the Alberta government identified some concerns with ploughed-in pipeline construction and emphasized that the work must be carried out using the right equipment under

⁵ AER, *Specified Enactment Direction 004: Pipeline Conservation and Reclamation Approvals Under the Environmental Protection and Enhancement Act* (2025), 2.
https://static.aer.ca/prd/documents/manuals/Direction_004.pdf

⁶ Alberta Environmental Protection, *Environmental Protection Guidelines for Pipelines*, C&R/IL/94-5 (1994).
<https://open.alberta.ca/publications/environmental-protection-guidelines-for-pipelines>

⁷ AER, *Directive 056: Energy Development Applications and Schedules* (2025). <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-056>

the right environmental conditions.⁸ The most suitable pipeline construction method will depend on timing and soil conditions.

The AER regulates most energy pipelines in Alberta, but Alberta Infrastructure is responsible for low-pressure gas distribution lines. The CER regulates all pipelines that cross provincial or national borders.

4.2.2 Pipelines regulated by the Canada Energy Regulator

The CER is an independent federal regulatory agency that is responsible for approving the construction and operation of interprovincial and international pipelines, among other things. A hearing is required for any applications to construct a pipeline more than 40 km long or for any other applications at the discretion of the CER.⁹ The CER does not get involved with pipelines that lie completely within the borders of a single province. Whereas responsibilities for pipelines under provincial jurisdiction in Alberta are shared among several boards and departments (including the AER and the Land and Property Rights Tribunal), the CER is responsible for almost all aspects of the planning, construction, operation and abandonment of an interprovincial or international pipeline.

The issues involved in reviewing a transboundary pipeline application are similar to those for a provincial pipeline and the same factors should be considered when landowners and occupants negotiate with a pipeline company. The CER requires companies to anticipate the environmental issues and concerns that could arise from the proposed project and to discuss these with all levels of government, public interest groups, and affected landowners. In determining whether a pipeline project should proceed, the CER reviews not only the economic, technical and financial feasibility of the project, but also the environmental and socio-economic impacts.

Unlike the AER, which may hold a hearing if landowners and a company are unable to negotiate an agreement, a hearing is part of the routine CER process if a pipeline is longer than 40 km.¹⁰ CER hearings are dealt with briefly in section 10.4.

⁸ Alberta Environment, *Ploughed-In Pipelines*, C&R/IL/01-4 (2001). <https://open.alberta.ca/publications/ploughed-in-pipelines>

⁹ CER, “Adjudicative Processes for New Pipeline Infrastructure.” <https://www.cer-rec.gc.ca/en/about/who-we-are-what-we-do/governance/canada-energy-regulator-ministerial-briefing/adjudicative-processes-for-new-pipeline-infrastructure.html>

¹⁰ Natural Resources Canada, “Pipelines Across Canada,” January 16, 2025. <https://natural-resources.canada.ca/energy-sources/fossil-fuels/pipelines-across-canada>

A note on rural gas distribution lines

The pipelines described in this section (4.2) are gathering lines and transmission lines that operate at high pressure. Low-pressure gas distribution lines have different issues and requirements. There is no entry fee for gas distribution lines, as defined in the Gas Distribution Act.¹¹ To make rural gas distribution affordable, rural landowners customarily allow gas distribution lines on their property for a nominal one-dollar fee and compensation for crop damages.¹²

4.3 Oil batteries, gas compressors and other facilities

Batteries, compressors and gas plants go hand in hand with oil and gas wells, and sometimes a company may wish to build these facilities on the well pad or nearby as a collection point for other nearby operations. This section briefly describes each of these facilities and their function.

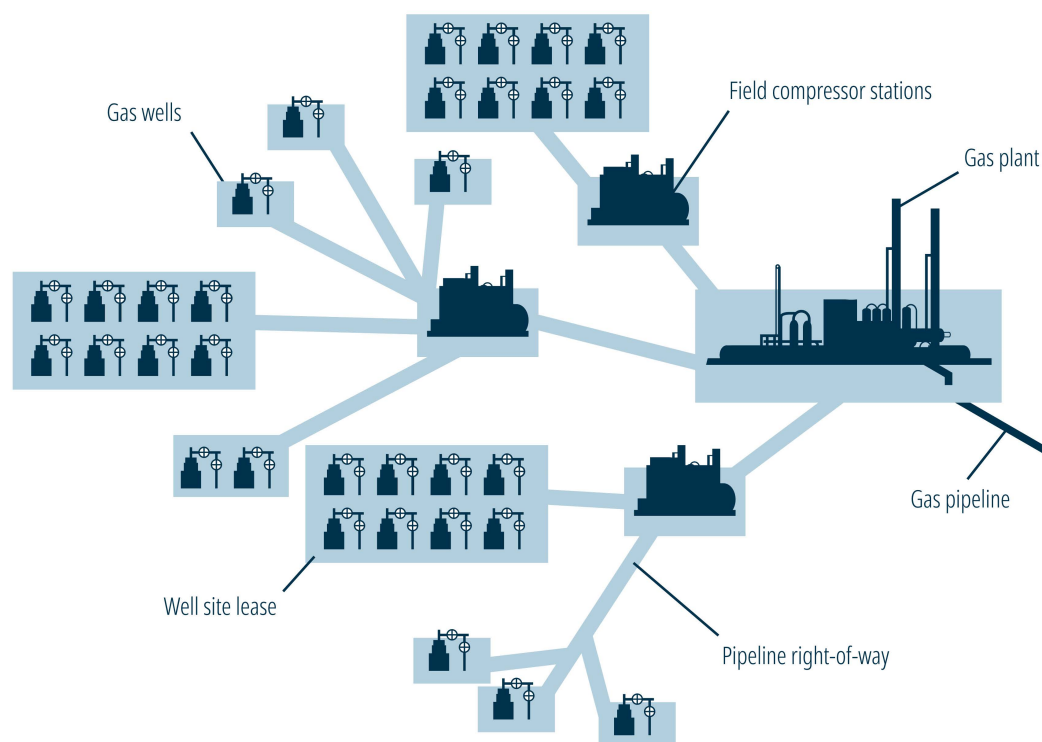


Figure 6. Schematic of wells, compressors and plants

¹¹ The Gas Distribution Act applies to lines with an operating pressure of 700 kilopascals or less, but excludes rural utility lines. Alberta, *Gas Distribution Act*, RSA 2000, c. G-3, s. 1(h). <https://open.alberta.ca/publications/go3>

¹² Alberta, *Pipelines in Alberta: What Landowners Need to Know* (2018). <https://open.alberta.ca/publications/agdex-878-4>

4.3.1 Oil and gas batteries

An oil battery is a facility that collects oil from one or more wells and passes it through equipment to separate out the entrained gas, water and other impurities before piping the oil. There may be flaring from an oil battery and fugitive emissions or odours from the process and tanks. To prevent any oil leaks from spreading, the site will be surrounded by a berm or other containment equipment and surface water will be collected and tested before it is discharged. In some circumstances groundwater may also be monitored.

4.3.2 Compressor stations

In compressor stations, compressors driven by gas or electric engines apply pressure to gas so that it will flow through process units and pipelines. Compressors come in many different sizes and may be located at a wellhead, battery, or gas plant. Long pipelines may also require a series of compressor stations along the line to boost pressure. A compressor may be heated to prevent freezing and condensation.

More compressors may be required for coalbed methane or hydraulically fractured wells than for conventional oil and gas wells. In a coalbed methane development, gas comes to the surface at lower pressure and may require compression close to the wellhead as well as prior to tying into a trunk pipeline. In hydraulic fracturing operations, additional compression is needed to pressurize the fracture fluid to break subsurface rock layers.

4.3.3 Gas processing plants

Gas processing plants remove unwanted substances from the gas before it is transported and sold as marketable natural gas. Some substances are separated out for sale, such as methane, ethane, propane, butane and pentanes. There are also contaminants in the raw gas that must be removed to meet quality specifications, such as water, hydrogen sulphide, carbon dioxide, nitrogen and other trace gases. There are over 400 active gas processing plants in Alberta.¹³

Gas plants come with some risks. Presented below are the different types of risks and what you should know about them.

Air emissions

Occasionally, a problem at a gas plant may require the company to flare some or all of the gas being processed. This is called a “plant upset.” Gas plant upsets can result in flaring the full

¹³ AER, “ST98: Alberta Energy Outlook,” Plants and Facilities, June 2025. <https://www.aer.ca/data-and-performance-reports/statistical-reports/alberta-energy-outlook-st98/pipelines-and-other-infrastructure/plants-and-facilities>

volume of gas entering the plant (the “inlet gas” or “raw gas”), the full volume of gas leaving the plant (the “sales gas”), or the highly concentrated acid gas stream created by the sweetening process in sour gas plants. Upset flaring can produce large volumes of air pollution. Therefore, gas plant operating approvals usually limit the length of time gas can be flared before companies must shut down both the plant and the pipeline that brings gas to the plant. Section 7.2.1 provides more information on flares.

The many valves and pipe connections in oil and gas processing facilities can develop tiny leaks. These leaks can release air pollutants, such as methane and volatile organic compounds (VOCs),¹⁴ into the air. These types of emissions are referred to as fugitive emissions. Another source of fugitive emissions at these facilities is vapours from liquid hydrocarbon storage tanks.

Tank venting and fugitive emissions were found in 2014 to be a likely cause of extreme odour problems in the Peace River area in northeast Alberta that forced residents to leave their homes due to the resulting health impacts.¹⁵

Acid gas injection

Instead of separating the sulphur and flaring other waste gases, the waste acid gas, which contains predominantly H_2S and CO_2 , can be injected deep underground. Acid gas injection facilities normally have very low emissions of sulphur dioxide (SO_2). However, if there is a problem with the acid gas disposal well, pipeline or compressor, the highly concentrated acid gas is flared, resulting in very high levels of SO_2 and some fugitive H_2S emissions that can adversely affect local air quality for a time before the gas plant can be safely shut down. AER approvals typically contain requirements to minimize the duration of these flaring events. If an acid gas injection facility is planned near you, you should inquire about the flaring minimization requirements at the gas plant and whether it would be completely shut down in the event of a problem.

Glycol dehydration

Glycol dehydrators are used at gas processing plants, well sites and compressor stations to remove water from gas before introducing the gas into pipelines. Removing the water prevents freezing and corrosion in the pipeline. To remove the water, the gas is exposed to glycol, which also absorbs benzene, toluene, ethylbenzene, and xylenes (collectively referred to as BTEX) and

¹⁴ Volatile organic compounds are hydrocarbon compounds larger than three carbon molecules in size that turn to vapour under ambient conditions.

¹⁵ AER, *Report of Recommendations on Odours and Emissions in the Peace River Area* (2014).
<http://www.aer.ca/documents/decisions/2014/2014-ABAER-005.pdf>

H₂S (if present). The water is subsequently separated from the glycol by a process called heat regeneration, allowing the glycol to be reused. Emissions from glycol dehydrators include BTEX if the vapours from the regeneration process are vented to the atmosphere.

Benzene is classified as “toxic” as defined under the Canadian Environmental Protection Act, and Canada-wide standards for the chemical were adopted in 2001.¹⁶ The oil and gas industry subsequently committed to voluntarily limit the emissions of benzene from dehydrators.¹⁷ In 2006, these voluntary initiatives were adopted by the Energy Resources Conservation Board (the predecessor to the AER). Since that time, the regulatory requirements have been revised to try to minimize the public’s exposure to benzene by placing stricter emissions limits based on the proximity to a permanent residence or public facility such as a rural hospital or school. The AER’s current requirements set annual benzene emission limits based on whether the source is controlled:

- Uncontrolled sources: An annual limit of 1 tonne.
- Controlled sources (i.e., those with a flare or incinerator): An annual limit of 3 tonnes.¹⁸

If a glycol dehydrator is planned near you, you should inquire about the expected benzene emissions and how they are to be managed. If it is planned to be close to your residence or pasture, you may wish to ask for monitoring of benzene or other BTEX emissions around the site and request that results are reported back to you.

4.3.4 Large petroleum production facilities

A company is required to obtain approval if it is developing a large-scale oil production site for the recovery of heavy oil or oilsands. Environmental impact assessments are also mandatory for oilsands mines, and for oilsands in situ and processing plants that produce more than 2000 cubic metres of bitumen per day.¹⁹

If a company wants to expand or significantly alter its operations, they may need to apply to have their AER approvals amended. If so, there will be an opportunity for public input (and in some cases, such as what is outlined under the Environmental Protection and Enhancement Act, the opportunity to appeal a decision respecting the approval).

¹⁶ Canadian Council of Ministers of the Environment, *Canada-wide Standard for Benzene Phase 2* (2001). https://ccme.ca/en/res/cws_benzene_phase2_e.pdf

¹⁷ Canadian Association of Petroleum Producers, *Benzene: Emission Reductions by the Upstream Petroleum Industry* (2003). https://www.bcogris.ca/files/projects/pre/Status_Report_-_March_2004.pdf

¹⁸ AER, *Directive 039: Revised Program to Reduce Benzene Emissions from Glycol Dehydrators* (2025). <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-039>

¹⁹ Alberta, *Environmental Assessment (Mandatory and Exempted Activities) Regulation*, AR 111/1993. https://open.alberta.ca/publications/1993_111

Section 5

Landowner Engagement Process



5. Landowner Engagement Process

The process oil companies must follow when approaching landowners about oil and gas projects is fairly consistent across the different types of infrastructure. This section goes through the general steps and highlights any differences between the infrastructure types.

What’s in this section

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5.1 Surveying

Before a company decides exactly where to build oil and gas infrastructure on your land, they may send in surveyors to find the best location for both the infrastructure and the access roads.

As a way to ensure that you have the right information and to establish a professional relationship with the surveyors, it is a good approach to get the name of the responsible surveyor — they have ultimate authority for survey activities on your land. If issues arise with the surveying, you should first talk with the responsible surveyor; if the issues are not resolved, you may wish to file a formal complaint against the responsible surveyor with the Alberta Land Surveyors' Association.¹

The Surveys Act² and the Surface Rights Act³ allow a registered land surveyor to enter and conduct surveys on private land without prior consent,⁴ but the surveyor or the company that engages the surveyor is liable for any damage that the survey team may cause. The Alberta Land Surveyors' Association strongly encourages its members to contact landowners prior to coming onto a property, and if a landowner is not home, to leave a card that a survey crew has been on the property. If entry for a surveyor is refused, the company can apply for a court order to gain access.

If you are a landowner or occupant with livestock, you may want to negotiate moving them from the area to be surveyed. It is advisable after the surveying has been completed to check the area for damages and ensure that nothing has been left behind that could harm the animals.

5.2 Land agent visit

Before a company can apply to the AER to drill a well or build a pipeline on private land or leased public land, they must send a land agent⁵ to consult with landowners, occupants and others whose rights may be affected by the company's project to request their consent, as required under the AER's Directive 056: Energy Development Applications and Schedules.⁶

¹ See Appendix B for contact information.

² Alberta, *Surveys Act*, RSA 2000, c. S-26, s 16. <https://open.alberta.ca/publications/s26>

³ Alberta, *Surface Rights Act*, RSA 2000, c. S-24, s 14. <https://open.alberta.ca/publications/s24>

⁴ The *Surface Rights Act* requires surveyors to make a reasonable attempt to give notice, but allows them to enter land if they were not able to contact the landowner.

⁵ Appendix B describes the Alberta Association of Surface Land Agents and the Canadian Association of Land and Energy Professionals.

⁶ AER, *Directive 056: Energy Development Applications and Schedules* (2025). <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-056>

(The consent does not need to be in written form.⁷) For pipelines, the land agent will discuss the proposed route and ask the landowners and occupants for input, such as the terms to access land. If consent is refused after the company has attempted to negotiate, once the company has received a licence from the AER, they can apply for a right-of-entry order from the Alberta Land and Property Rights Tribunal, as explained in section 9.3.1. As indicated in section 9.3.2, the landowner may also find it beneficial to have the company obtain a right-of-entry order even if there is agreement. The company may also have to consult with or notify those living on neighbouring properties, depending on the distance of the property from a proposed well and the type of well being drilled (see section 2.1).

The minimum distances within which people must be consulted or notified for a new project application are set out in AER Directive 056 and are broken down in section 2.1.1. While the directive sets the minimum consultation and notification requirements, the land agent must also assess the area and decide if other people (e.g., those living just outside the minimum distance requirements) could be impacted and thus should be contacted before the company files their application with the AER.

Consultation on oil batteries, gas compressors and other facilities

The AER approval process for batteries, compressors, and other facilities is similar to that for oil and gas wells, which involves consultation with you, as the landowner, as well as potentially other local residents before submitting an application. The procedures a company must follow are set out in AER Directive 056. Specific consultation and notification requirements for facilities are noted in section 2.1.1 of this guide.

If you are involved with a proposal to build a compressor, pumping station or gas processing plant, you may wish to consult the Alberta Government's Code of Practice for Compressors and Pumping Stations and Sweet Gas Processing Plants.⁸ This sets out requirements for air pollution control technology to limit emissions of nitrogen oxides and for the management of wastewater and runoff.⁹

⁷ Alberta, *Surface Rights Act*, section 12(1): "The AER will accept documented verbal non-objection; the Regulator does not necessarily require written consent."

⁸ Alberta, *Code of Practice for Compressors and Pumping Stations and Sweet Gas Processing Plants* (1996).
<https://open.alberta.ca/publications/compress>

⁹ If a facility is not regulated under Alberta's Environmental Protection and Enhancement Act, it must meet other requirements for air emissions set by the AER.

Information you should receive

Where the AER requires consultation, the land agent must deliver both the company's public information package and information from the AER. The company's package should describe not only the type of project (e.g., the specific category of well) and its location, but also whether any gas will contain H₂S. It must include information on setback distances, flaring, potential noise and traffic impacts, as well as the emergency planning zone, where relevant. The company is also required to reveal how the proposed development will fit in with its current and future plans and discuss how setbacks might impact your future land use.

Read the information package very carefully — both the company's information on the project and the AER documents that explain the input you can have in the process.

The AER documents that the company must provide are set out in Directive 056 and include:

- the brochure *Understanding Oil and Gas Development in Alberta*
- the EnerFAQ *Proposed Oil and Gas Wells, Pipelines and Facilities — A Landowner's Guide*
- the EnerFAQ *Expressing Your Concerns – How to File a Statement of Concern About an Energy Resource Project*

The company must also offer any other AER EnerFAQ publications that relate to the type of energy development, which might include:

- *All About Critical Sour Wells*
- *Explaining AER Setbacks*
- *Flaring and Incineration*
- *The AER and You: Agreements, Commitments, and Conditions*

All EnerFAQs can be found on the AER website.

This information will provide the basis for consultation with the landowner/occupant. Although actual developments may depend on the information gained from a new well, it is still a good idea to ask the company about their future plans.

Remember that if a proposed well contains sour gas, the setback distances may be greater than for sweet gas; it will not be possible to use the land within the setback distance for residences and other buildings until after the well is abandoned.

Time to respond

Before companies file their application with the AER, they must send out notification of their proposed development and then allow those covered in the participant involvement program (or others who have expressed concern) at least 14 calendar days to consider and respond to the notice, as laid out in Directive 056. It is a good idea to talk to your neighbours to find out about other companies operating in the local area and to inquire about their plans, thus giving you a fuller scope of expected development, before you respond.

If a company receives confirmation of non-objection from all those who must be notified before the 14-day period has ended, they may file their application earlier. If after 14 days the company has not resolved all the objections, they may file the application with the AER but must indicate that there are outstanding objections.

If all issues are resolved by the company before they file an application, they are entitled to file a routine application, which allows the AER to make a decision before the filing period for a statement of concern is over. If a valid statement of concern is submitted before the filing period is over, the application may be reclassified as non-routine. If there are outstanding concerns, the company must file a non-routine application,¹⁰ and the AER must wait until after the full 30-day period to file a statement of concern before rendering a decision.

5.3 Site selection and setbacks

The land agent will show you on a survey plan where the company wants to construct the site. If you feel that the site is problematic, explain why this is the case and ask that the company evaluate alternative sites. The company may be able to change the surface location of a well without affecting their chances of finding oil or gas.

Ask the company to locate the well as far away as possible from your residence, other buildings, and water wells to minimize the impact on you and your family. Keep in mind the prevailing winds between your house and the proposed well, as there may be flaring during well drilling.

An oil or gas well is not usually permitted within 100 m of a dwelling, permanent farm building, school or surface water body, or within 40 m of a surveyed road.¹¹ The setback depends in part on the nature of the well, with greater distances required for sour gas wells than for oil wells and sweet gas wells. Check that the location of any water wells is shown on the survey plan and that

¹⁰ Applications for new sour gas processing plants must always be submitted as non-routine even if there are no outstanding concerns.

¹¹ Alberta, *Oil and Gas Conservation Rules*, Alta. Reg. 151/1971, s. 2.110(1), https://open.alberta.ca/publications/1971_151; see also AER, *Directive 056*, section 7.7.13.

the setback distances are satisfactory. Information on setbacks is provided in AER EnerFAQ *Explaining AER Setbacks*.

A setback is the minimum distance that must be maintained between an energy facility and various surface developments for land use and public safety purposes. The AER designates a level from 1 to 4 that specifies the different setback distances for wells, facilities and pipelines.

Setback distances depend on the level of hydrogen sulphide (H_2S) in the flowing natural gas or oil effluent. For both natural gas and oil effluent, the regulated threshold to apply the minimum setbacks distance is at least 10 moles of H_2S per 1 kilomole of natural gas. Below this threshold, gas is considered sweet, as opposed to sour. The higher the level of H_2S gas, the greater the minimum distance required.

The minimum setback distances for sour gas wells, as set by the AER, are shown in Table 4. The setbacks for sweet gas wells are the same as for a Level 1 sour gas facility.¹² As a landowner, you may want to negotiate a larger setback in some circumstances.

Table 4. Setback requirements for sour gas wells

Level	H_2S release rate (m^3/s)	Minimum distance
1	<0.3	100 m to a surface improvement (e.g., dwelling, permanent farm building, school or church)
2	0.3 to <2.0	100 m to individual permanent dwellings and unrestricted country development* 500 m to urban centres or public facilities
3	2.0 to <6.0	100 m to individual permanent dwellings up to 8 dwellings per quarter section 500 m to unrestricted country developments 1.5 km to urban centres or public facilities
4	≥ 6.0	As specified by the AER, but not less than Level 3

Data source: AER Directive 056, Table 10.

Note: Any sour well, regardless of level designation, may be classified as a critical sour well if it meets certain conditions, which means it would be subject to more stringent safety requirements, including an emergency response plan. For more information, see the AER EnerFAQ *All About Critical Sour Wells*.

* Unrestricted country developments refer to any collection of permanent dwellings outside an urban centre that number more than eight per quarter section.

¹² AER, *Directive 056*, Table 7.5.

The AER has also established minimum setback distances for sour gas plants and facilities based on the calculated release volume of H₂S. The minimum setback distances are shown in Table 5. As a landowner, you may want to negotiate a larger setback in certain circumstances.

Table 5. Setback requirements for sour gas pipelines (if >10 mol mol/kmol H₂S) and category C, D, or E facilities

Level	H ₂ S release volume (m ³)	Minimum distance
1	<300	Pipeline right-of-way or lease boundary
2	300 to <2,000	100 m to individual permanent dwellings and unrestricted country development 500 m to urban centres or public facilities
3	2,000 to <6,000	100 m to individual permanent dwellings up to 8 dwellings per quarter section 500 m to unrestricted country developments 1.5 km to urban centres or public facilities
4	≥6,000	As specified by the AER, but not less than Level 3

Data source: AER Directive 056, Tables 5 and 6.

Note: Facilities are categorized by the AER as C, D or E based on H₂S and sulphur content of the inlet gas stream. These facilities include gas processing plants, some gas and oil batteries, and straddle plants. Facilities with less than 0.01 mol/kmol H₂S in the inlet stream are in category B and thus exempt from setback requirements. See AER Directive 056, Table 1, for a full description of the categories. The AER provides an H₂S conversion calculator to convert H₂S concentrations from one set of units to another, such as parts per million to moles per kilomole. It can be found on the AER's webpage for Directive 056 under the heading "Supplemental Information."

A note on sour gas plants

To prevent the proliferation of plants, a company must "vigorously explore" the possibility of using existing facilities.¹³ They must also consult and involve local residents in their evaluation of alternatives. If a company wants to construct a sour gas plant within a 15 km radius of an existing plant, they must show that it is justified in terms of social and environmental effects.

Further information on sour gas is provided in section 4.1.1.

¹³ AER, *Interim Directive ID 2001-03 Sulphur Recovery Guidelines for the Province of Alberta* (2001), 15. <https://static.aer.ca/prd/documents/ids/id2001-03.pdf>

5.4 Issues to discuss with land agent

You may want to discuss with the land agent issues such as site selection, setbacks and various environmental considerations. These issues are summarized in a series of questions for each infrastructure type in Appendix A.

Before negotiations, it is important to read available resources about the proposed development type, consider the needs of you and your family, and get as much information as possible about the development from the company. Questions to guide you through this process can be found in Appendix A.1, and worksheets to help you navigate the negotiations themselves are provided in Appendix A.2.

Before signing a lease, read section 9 on compensation. Some landowners prefer to request a right-of-entry order from the Alberta Land and Property Rights Tribunal rather than signing a right-of-way agreement with a company, even though they have reached agreement on all issues and on the amount of compensation. The reasons some landowners prefer this are explained in section 9.3.2.

A note on pipelines

Once the route has been decided, the landowner and occupant are asked to enter into a negotiation for a right-of-way agreement (or pipeline easement). The agreement should list all the things the company must do when constructing, operating and eventually reclaiming the pipeline. Once the agreement is signed, a caveat is created on the landowner's land title, specific to the pipeline. Compensation for pipelines, unlike for wells, is based on one-time payments that may include compensation for hiring legal assistance for the negotiation.¹⁴ The licence to construct a pipeline expires if no work has begun within a year of its issue.¹⁵

5.5 After the application is submitted

Once a company has submitted an application to the AER, the regulator issues a notice of application. If you have concerns about the proposed development, you can file a statement of concern to the AER prior to the deadline on the notice outlining how the project adversely affects you. (See section 2.5 and section 10.1.3 for more information about submitting a

¹⁴ Alberta, *Pipelines in Alberta: What Landowners Need to Know* (2018).
<https://open.alberta.ca/publications/agdex-878-4>

¹⁵ AER, *Directive 056*.

statement of concern).¹⁶ Additionally, you should send your concerns directly to the company, although they will have been notified of a statement of concern. Normally, the company will contact you and seek to resolve your concerns. If the company resolves your concerns by answering your questions or agreeing to a set of actions, then you should contact the AER in writing stating that you no longer have concerns about the project and indicating any commitments made by the company. This may help ensure that the AER is aware of, and takes into account, these commitments before making a decision on the application.

If the AER grants an approval, it will set out requirements with respect to air emissions, waste management, and protection of surface water and groundwater, among other environmental protections. If you disagree with the regulator's decision on an application and it was made without a hearing, you can request a regulatory appeal of the decision. The regulator has discretion on whether to grant the request, and can confirm, vary, suspend, or revoke any of its own decisions.¹⁷

5.6 Resolving issues

If you are unable to resolve issues relating to site selection, the terms of the proposed lease or any other health, safety, environmental, or socio-economic issue (except compensation), the company may propose using the AER's alternative dispute resolution process (section 2.4.1) to facilitate or mediate an agreement. Any issues relating to compensation are dealt with by the Land and Property Rights Tribunal (section 9).

If the AER gives the company a licence and you have not reached agreement with the company, the company will then apply to the tribunal for a right-of-entry order. The Land and Property Rights Tribunal will usually grant the right of entry and determine the amount of compensation that the company must pay you as the landowner or occupant.

If problems are not resolved through the alternative dispute resolution process, call or write the company. Failing this, the AER or the Farmers' Advocate Office may assist when the company is unable or unwilling to resolve the concern. Disputes over damages are best resolved through an arbitration process with the company. When damages do not exceed \$50,000 and are identified within two years of occurrence, they may be considered by the Land and Property Rights Tribunal.

¹⁶ You have the time limit set out in the notice of application to submit your statement of concern, which may be less than 30 days.

¹⁷ Alberta, *Responsible Energy Development Act*, SA 2012 c. R-17.3, div. 3.
<https://open.alberta.ca/publications/r17p3>

A note on pipelines

If there are any outstanding problems once a pipeline has been constructed, such as inadequate cleanup of the right-of-way, drainage problems, or trench sinking, you should first try to resolve the difficulties directly with the company. If this is not successful, you can contact the Farmers' Advocate Office or the regional conservation and reclamation inspectors of the AER. Any leak should be reported to the AER Energy and Environmental Emergency 24-hour Response Line at 1-800-222-6514.

Section 6

Emergencies



6. Emergencies

This section outlines what you should do and know in general emergency situations, what may occur and who may be involved in the event of an emergency. It is important to know what can specifically happen if there is a sour gas blowout and how emergencies are classified. Lastly, the section includes shelter-in-place instructions that may be given to you at the onset of a sour gas blowout.

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If you see, hear, or smell something unusual and suspect it is an emergency related to oil and gas operations, call the Alberta Energy Regulator's **Energy and Environmental Emergency 24-hour Response Line at 1-800-222-6514** and provide the operator with as much detail as possible about the emergency.

6.1 General emergency situations

If there is an emergency — a well blowout, a pipeline leak or an explosion, for example — you should immediately call the company's 24-hour emergency number (if known), local emergency services (such as the fire department) and the Alberta Energy Regulator (AER). While the AER's 24-hour Energy and Environmental Emergency Response Line is centralized, the AER does have 24-hour response capacity at each of its regional centres. If you place a call to the emergency response line, your call will be triaged to the appropriate field centre for prompt response.

If you are certain that the trouble is coming from an interprovincial or international pipeline, call the toll-free Canada Energy Regulator emergency number at 819-997-7887. If you are uncertain who is responsible, it is best to contact the AER's emergency response line as they also respond to emergencies on CER-regulated lines.

Under Alberta's Environmental Protection and Enhancement Act, it is an offence to release a harmful substance, even a small amount. Any person who should have a degree of control or influence and knows of a release must report it.¹ If you notice any other unusual activity, such as water flowing from a seismic hole, structural damage, surface damage, concerns around abandoned wells or issues related to water wells, you should notify the company and the AER. Even if you are unsure if the incident is an emergency, call the AER's emergency response line as it also acts as a complaints line. Where required, the AER will send a staff person to inspect and take control of the situation. An inspector or an agent from the AER can take any emergency measures they consider necessary to protect human life, health or the environment,² and may issue an environmental protection order.³

The company is required to handle an emergency situation by, for example, establishing an on-site command post that may involve the AER, local municipality, Alberta Health Services, the

¹ Alberta, *Environmental Protection and Enhancement Act*, RSA 2000, c. E-12, s. 110.
<https://open.alberta.ca/publications/e12>

² *Environmental Protection and Enhancement Act*, s. 115(1).

³ *Environmental Protection and Enhancement Act*, s. 114(1).

Alberta Emergency Management Agency, and other government agencies if needed.⁴ If the company does not act immediately to stop the escape of oil or gas from a well or to control a flow of water, the AER can take whatever action is necessary to deal with the situation and protect the public.⁵ The AER has far-reaching powers in such circumstances, including shutting down a well. For example, where oil has escaped, the AER can direct the company to contain and clean up the oil, give orders to company employees, or engage outside help and recover the costs from the company later.⁶

Not all operations in the province have a site-specific emergency response plan (ERP), but every company is required to have a corporate-level ERP to handle emergency events. Operations that pose more of a hazard, such as critical sour wells, will have a site-specific ERP in place to notify those living and working in the designated emergency planning zone (see section 6.2). The company is responsible for implementing this plan. See section 6.3 for the actions you should take in such a situation.

At the onset of an incident, if you are within the emergency planning zone, the company should be in contact with you to provide specific instructions, which may include to evacuate or shelter in place. They should also provide you with information on the type and status of the incident, where the incident is occurring, any public protection measures to follow, a description of how the company is responding to the situation, and additional contact information. While the incident is ongoing, the licensee should continue to be in contact with you and give you more information about the products involved and any long-term effects they may have, what you should do if you begin experiencing adverse effects, and regular updates about the areas involved.⁷ If you are evacuated, the company will have a reception centre where they will register you as an evacuee and assist in arranging temporary accommodation.

6.2 Emergency response plans

The AER requires companies that produce sour gas to have an appropriate ERP to ensure quick action if there is an operational incident, ranging from a minor leak to a blowout. The AER's minimum requirements for ERPs are given in Directive 071: Emergency Preparedness and Response.

⁴ AER, *Directive 071: Emergency Preparedness and Response* (2023) and *Manual 026: Emergency Preparedness and Response Guide* (2023). <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-071> and <https://static.aer.ca/prd/documents/manuals/Manual026.pdf>

⁵ Alberta, *Oil and Gas Conservation Act*, RSA 2000, c. O-6, s. 41. <https://open.alberta.ca/publications/006>

⁶ *Oil and Gas Conservation Act*, ss. 104 and 105.

⁷ AER, *Directive 071: Emergency Preparedness and Response*, Appendix 5.

All companies must have a corporate ERP so they can notify the public and respond to any unexpected event. The AER also requires a company to have a specific ERP for a critical sour well, a sour production facility, a sour gas pipeline or a high vapour pressure pipeline. A “critical” sour well is one that has a high H₂S release rate or is close to an urban centre. The release rate is determined by both the percentage of H₂S in the gas and the amount of H₂S that can be delivered to the surface (see the AER’s EnerFAQ on critical sour wells).⁸

Even when a site-specific ERP is not required, it is a good idea for you as a landowner or occupant to discuss safety with the company and examine their corporate ERP so you know what will be done if there is a leak or other emergency. When a company is required to have a specific ERP, they must consult or notify those within the emergency planning zone.

6.2.1 Emergency planning zone

An emergency planning zone (EPZ) is an area surrounding a well where residents or other members of the public may be at highest risk in the event of an uncontrolled release of H₂S. The company must be prepared to respond immediately to any event in the EPZ. The zone should be large enough to inform and evacuate the public in the case of an emergency.

The basic size of the EPZ will be determined by the maximum H₂S release rate, but the actual size of the final zone must take into consideration the nature of the terrain and other site-specific features. The extent of the zone will also reflect information gathered during the public involvement process. Directive 071 sets out in detail how a company must involve local government and the public in preparing a specific ERP. The company must provide the public within the EPZ a detailed information package that includes an explanation of the potential hazards, the H₂S concentration and release rates, the company’s 24-hour emergency contact telephone number, and the potential health effects of exposure to H₂S and to sulphur dioxide (SO₂), which results from the combustion of H₂S. The package will also describe the procedures for responding to an emergency. People who may be absent for extended periods (e.g., trappers or recreational property owners) must be informed by registered mail.

The company must review this information with all members of the public (or with the urban director of emergency management in an urban area) and address their concerns. In addition to obtaining input into the actual ERP, the company must obtain information from all those living and working in the EPZ — including the exact location of their residence or workplace, exit routes, and key contact names and phone numbers — so that they can be alerted if there is an

⁸ AER, “All About Critical Sour Wells – EnerFAQ.” <https://www.aer.ca/understanding-resource-development/enerfaqs-and-fact-sheets/enerfaqs-sour-wells>

emergency.⁹ The company must also attempt to identify those with special needs (for example, people with health or mobility problems) who may need to be notified or evacuated earlier than the general population. The type of information regarding the public that the AER requires for an ERP is given in section 4.5 of Directive 071.

Companies must update ERPs annually, and conduct a public awareness program with residents every second year. The companies are responsible for ensuring that resident contact information is up to date.¹⁰

6.2.2 Corporate emergency response plans

The AER requires all companies drilling for oil and gas to have a corporate ERP, which the regulator can review on request. The ERP describes how a company will manage and communicate during an emergency and is used as a training manual for company employees.

The ERP should set out how the company will coordinate with the local municipal disaster services. As only large cities have safety professionals, if the ERP relies on municipal staff to respond to an emergency then the company will have to ensure that the municipality has enough staff who are adequately trained and equipped to deal with such an event.

There are no regulations regarding compensation in the event of an evacuation. If there is an issue of unpaid costs between a landowner and the company, the issue may be resolved through an alternative dispute resolution (ADR) process in the case of multiple issues between parties, or if compensation is the only concern, the issue may need to be resolved through a small claims court. If individuals need to claim on their personal insurance policies, they should ensure that the company's declaration of an emergency was endorsed by the municipality; if not, some insurance companies may refuse to pay the claim. Regardless of municipal endorsement, since sour gas emergencies can be life threatening, as a landowner you should follow the instructions provided by the company.

6.3 Actions to take during a sour gas emergency

Some substances found in sour gas are poisonous. Hydrogen sulphide (H₂S), for example, is highly toxic and can cause immediate death at concentrations as low as 750 parts per million (ppm).¹¹ The “rotten egg” smell associated with H₂S can be detected when concentrations are as

⁹ The Protection of Privacy Act applies to the information that a company collects about residents and how the company can use that information.

¹⁰ AER, *Directive 071*, section 5.3.

¹¹ Even at low levels, H₂S is acutely toxic to humans; see T. Guidotti, “Hydrogen Sulphide,” *Occupational Medicine* 46, no. 5 (1996). See also Appendix D for a more detailed definition.

low as 0.001 to 0.13 ppm.¹² Concentrations as low as 1–5 ppm may lead to nausea or headaches with prolonged exposure. Concentrations of 20–50 ppm may cause irritation of the nose, throat, and lung, digestive upset, and a loss of appetite. One’s sense of smell may also become fatigued (or desensitized) so odour can’t be relied on as a warning of exposure. Sense of smell temporarily disappears at concentrations of 100–200 ppm and is accompanied by severe nose, throat and lung irritation. At 250–500 ppm, exposure can lead to pulmonary edema, a potentially fatal buildup of fluid in the lungs. Concentrations above 500 ppm can lead to respiratory paralysis, irregular heartbeat, collapse, and death.¹³

If you live within an EPZ, the company is responsible for providing you with specific information during the consultation process. The public information package and its ERP will include information about the type of hazard, H₂S release rates (if applicable), relevant emergency contact information, and procedures in case of an emergency.¹⁴ You should keep this information at hand for you, your family or staff.

If you smell sour gas, first follow shelter-in-place instructions (see below), and then notify the company and the AER through the Energy and Environmental Emergency Line. Before you decide to leave the area, refer to evacuations provided by the company representative, the municipality, or the AER. As per AER regulations, a notice to evacuate or seek shelter will be given for any H₂S levels above 10 ppm. Depending on the circumstances, sheltering in place may be recommended over evacuation.¹⁵ For more information about critical sour wells, see the AER EnerFAQ on critical sour wells.

Susceptible individuals should evacuate if they are concerned about their health and will probably not want to wait until they experience symptoms or are advised to evacuate an area. This includes pregnant women and those with respiratory conditions, as well as those with limited mobility. The company will advise people whom they know to be susceptible as part of the ERP. In some cases, individuals may want to ask the company to install an H₂S monitor in their home.

It is recommended to move animals with pre-existing conditions if they show signs of distress at levels below 10 ppm H₂S when such levels are predicted to continue for six hours or more. Moving livestock to higher elevations may help if they cannot be evacuated, as H₂S is slightly

¹² Canadian Centre for Occupational Health and Safety, “Cheminfo: Hydrogen Sulphide.”
<http://www.ccohs.ca/products/databases/samples/cheminfo.html#TOC3A>

¹³ Alberta Health, *Acute Exposure Health Effects of Hydrogen Sulphide and Sulphur Dioxide*.
<https://www.albertahealthservices.ca/assets/wf/eph/wf-eh-alberta-health-acute-exposure-health-effects-of-hydrogen-sulphide-and-sulphur-dioxide.pdf>

¹⁴ AER, *Directive 071*, section 4.4.

¹⁵ AER, *Directive 071*, section 9.

heavier than air and settles in lower areas. Make sure to check with the company to ensure that it is safe to do so.

Wells are sometimes ignited to prevent the escape of H₂S. However, combustion of H₂S forms sulphur dioxide (SO₂). Because high levels of this gas are also harmful, evacuating the area may still be necessary. Currently, the emergency evacuation levels for SO₂ are 5 ppm (measured average over 15 minutes), 1 ppm (3-hour average) and 0.3 ppm (24-hour average).¹⁶ An acute exposure above 20 ppm requires respiratory protection, and an exposure above 100 ppm poses immediate danger to life.¹⁷

Once you have left an area, you should not return until the company or the AER says that the source of the emission has been addressed.

Four general categories are used for classifying incidents at critical sour wells, as set out in AER Directive 071, Appendix 4:

Alert — The incident can be handled on site by the duty holder (e.g., licensee, operator) through normal response procedures and presents a very low risk to the public.

Level 1 — The incident presents no danger beyond the duty holder's property and no threat to the public and has minimal environmental impact. Duty-holder personnel can manage the incident themselves with immediate control of the hazard.

Level 2 — The incident presents no immediate danger outside the duty holder's property, but it could potentially extend off lease. Outside agencies must be notified. Imminent control of the hazard is probable, but there is a moderate threat to the public or environment.

Level 3 — The incident places the safety of the public in jeopardy from a major uncontrolled hazard. Significant and ongoing environmental impacts are likely. Immediate multi-agency and provincial government involvement is required.

6.4 Shelter in place

Depending on the circumstances of the incident, you may be asked to shelter in place instead of evacuating to minimize your exposure to the hazards. The Alberta government has released a general guide on what to do if you need to shelter in place.¹⁸

¹⁶ AER, *Directive 071*, section 9.

¹⁷ Alberta Health, *Acute Exposure Health Effects of Hydrogen Sulphide and Sulphur Dioxide*.

¹⁸ Alberta, *Shelter-in-place: What you need to know* (2019). <https://open.alberta.ca/dataset/c4a60708-b22c-4bod-9465-aa54eccc8286/resource/8f910e44-cfa2-4470-985f-e87a952a1944/download/05062019-fs-shelter-in-place-final.pdf>

Section 7

Potential Environmental Impacts During Oil and Gas Operations



7. Potential Environmental Impacts During Oil and Gas Operations

This section examines in depth some of the potential impacts of oil and gas operations on air, water and land. Additionally, it outlines the process for conservation and reclamation before and after development occurs (further expanded upon in section 8).

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The regulatory system is fundamentally based on industry self-reporting. As a result, the Alberta Energy Regulator (AER) inspects only a small proportion of all wells, pipelines and other facilities each year, focusing on operations where there is an inherent high risk or with known or emerging issues, as well as randomly inspecting sites to establish a representative sample set.¹ Given the AER's limited resources relative to the size of the industry, as a landowner or occupant you can play a valuable role by looking out for and documenting any problems with operations.

7.1 Oil and gas facilities

If you have a well, pipeline or facility on your land, you should regularly inspect the land around the site, especially if livestock are in the area, to ensure that there are no spills or leaks and that gates are closed and fences are intact.

Upon identifying any issues, unless it is an emergency, you should first discuss them with the company and then register your issues with the AER. In an emergency, contact the company operator through its 24-hour emergency number² and the AER Energy and Environmental Emergency 24-hour Response Line (1-800-222-6514) as soon as you can do so safely.

If the company fails to promptly resolve any issue to your satisfaction, then you should ask for help from the AER. The AER deals with complaints related to a company's operations at the lease site, problems that directly affect the environment, and issues related to seismic activity or activity on public lands. The Farmers' Advocate Office can also provide advice.

7.1.1 Complaints and field inspections

If a problem is reported to the AER, the regulator may require the company to fix it within a specified timeframe. The AER should be informed if the company does not comply within the given time period. The AER may impose a penalty according to an escalating scale of consequences, with higher penalties for serious offences and repeat offenders. Penalties can include temporary or long-term suspension of operations, refusal of applications, closure or abandonment of wells, and prosecution.

The AER maintains a compliance dashboard where you can find summaries of incidents, investigations, and enforcement activities.³

¹ AER, "Inspection and Audits." <https://www.aer.ca/regulations-and-compliance-enforcement/compliance-and-enforcement/inspections-and-audits>

² Companies must provide their 24-hour emergency number in their emergency response plan, as well as on an obvious sign at the entrance to their well or facility site.

³ AER, "Compliance Dashboard." <http://www1.aer.ca/ComplianceDashboard/index.html>

7.1.2 Pipelines

If a company does not clear away debris from a pipeline right-of-way or fails to restore the topsoil, cultivate and seed the land properly, or deal with drainage problems, the landowner or occupant should contact the company. The company should also be contacted if soil sinks in the pipeline trench, the pipeline becomes exposed, or there are any other observable impacts.

You should also register your complaint with the AER. If the company fails to take suitable action, contact the regional inspector at the AER. The Farmers' Advocate Office may also be able to help.

If there is a dispute about damages on the pipeline right-of-way, it is possible to go to arbitration. The arbitration process is governed by the Alberta Arbitration Act. If the damage occurs off the right-of-way line, the problem can be brought before the Land and Property Rights Tribunal. It is advisable to have this process defined in the pipeline agreement to ensure that, if issues arise, both you and the company have a mutually agreed upon process to follow.

If you suspect a pipeline leak, call the company and the AER immediately. The first sign of a leak could be an odour, but a slow leak might be indicated by a change in plant growth close to the leak. A company must report a pipeline leak to the AER. A failure to report or an unsatisfactory response by the company may result in the AER ordering the pipeline to be shut in or replaced.

7.1.3 Oil and gas wells

The AER requires companies to test new oil and gas wells for surface casing vent flows and gas migration and to repair or monitor those with any leaks. A well must also be tested before it is abandoned.⁴ These requirements are important because if wells are not properly cased or abandoned, gas, oil or saline water from deeper formations may escape from the wellbore and contaminate shallow potable-water aquifers. Gas migration — the leakage of gas outside an oil or gas well — can occur if wellbore casings are not properly cemented or if earth tremors from activity in the area have damaged the casing.

7.2 Air emissions

Flaring and venting from wells, gas plants and other facilities and the associated smoke, odour, and potential exposure to hazardous air pollutants have long been a source of concern for those living and working near oil and gas operations. Air emissions are of particular concern for hydraulic fracturing operations, which see well pressures rising and falling in cycles. Gas flows

⁴ AER, *Directive 087: Well Integrity Management* (2025). <https://static.aer.ca/prd/documents/directives/directive-087.pdf>

to the surface when well pressures drop, and emissions management can be difficult without gas capture technology and regulations to prompt operators to reduce venting and flaring.

7.2.1 Flaring and venting

There are several types of flaring and flare systems:

- well test flaring (see section 7.2.3)
- coalbed methane flaring
- hydraulic fracture flaring
- solution gas flaring and venting
- gas processing plant byproduct flaring
- temporary flares
- continuous flares
- emergency flares

For background information on flaring, see *Flaring: Questions + Answers*.⁵

Research done by the former Alberta Research Council showed that a flare can release a large number of air pollutants, including unburned hydrocarbons and other harmful substances that result from incomplete combustion. The products of incomplete combustion depend on the constituents in the gas that is burned but can include the aromatic hydrocarbons benzene, toluene, ethylbenzene and xylene (BTEX),⁶ polycyclic aromatic hydrocarbons and, if the gas is sour, hydrogen sulphide (H₂S). When burned, H₂S produces sulphur dioxide, which is also harmful.

If problems are occurring with flares, you should first contact the company and make them aware of the situation. You can also call the AER's Energy and Environmental Emergency 24-hour Response Line to register your complaint, asking them to investigate or take other action.⁷ Signs of problems with flaring include visible black smoke or plumes, frequent or long-lasting flares, continuous flaring for projects that have not been approved for such, and abnormally intense flames. If you experience health issues that seem to be associated with flaring activity, take detailed notes about flaring activity nearby.

⁵ Robert D. Bott, *Flaring: Questions + Answers* (Canadian Centre for Energy Information, 2007).
https://www.ccacoalition.org/sites/default/files/resources/2007_Flaring-questions-and-answers.pdf

⁶ Mel Stroscher, *Investigations of Flare Gas Emissions in Alberta*, Special Report 005 (1996).
https://static.ags.aer.ca/files/document/SPE/SPE_005.pdf

⁷ Each call is triaged and forwarded to the appropriate field centre for a response.

You should document issues, especially if they are ongoing: take photographs of flares and smoke, and keep records of the date, nature of the occurrence, and duration. Be sure to include something in the photograph to provide scale and to identify the location where it was taken — such as the company sign next to the site. Ideally, you should use a camera that includes a date and time stamp on the image or a smartphone with the date and time recorded in the image properties. This is especially important in cases where the flaring event may conclude before a field inspector can come to the site to investigate.

When documenting any issues you have with an operation, include the time you spent investigating the problem, associated damages, and other relevant details. See Appendix C for ideas of what you should document.

Venting of gases can also pose problems. Venting occurs when solution gases from oil wells, batteries or storage tanks are released unburned to the air. Some venting may also occur from compressor vents, instrument gas stations, pneumatic devices, and dehydrators. This release of unburned hydrocarbons to the atmosphere creates odours and exposure to potentially harmful substances. Vented gas also contributes to global climate change and wastes a non-renewable resource. Current AER regulations set standards for venting and allow venting of small volumes of gas where it is not considered practical to recover or flare it. For example, continuous venting of gas containing H₂S must not exceed the *Alberta Ambient Air Quality Objectives and Guidelines*⁸ for H₂S or result in odours outside the lease boundary. There are also limits on the total amount of benzene that may legally be released.⁹

Flaring and venting can be eliminated in various ways, such as by piping the gases for other processing, using the gas on site to drive equipment or provide heat, or pooling gas from several small sources and sending it via pipeline to processing plants. When deciding about flare reductions, a company must consider economic, social and environmental factors, including the proximity of nearby residents.

While emissions from solution gas flares and gas plant flaring have received most of the attention, there is also concern about flaring and venting from pipeline maintenance. Pipeline maintenance is often preceded by purging the line and flaring or venting the gas directly to the atmosphere. To inspect the condition of pipeline walls, a cylindrical device known as a “smart pig” is sent along the pipe; it detects and sends back data on cracking and corrosion.

⁸ Alberta Environment and Protected Areas, *Alberta Ambient Air Quality Objectives and Guidelines* (2024). <https://open.alberta.ca/publications/alberta-ambient-air-quality-objectives-and-guidelines>

⁹ AER, *Directive 039: Revised Program to Reduce Benzene Emissions from Glycol Dehydrators* (2025). <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-039>

7.2.2 Incinerators

In some circumstances using an incinerator may be preferable to flaring. Some types of incinerators can burn with high efficiency and thus minimize odour and air pollution, including greenhouse gas emissions.¹⁰ Unlike flares, the efficiency of well-designed incinerators is not affected by cross-winds. Additionally, an incinerator produces less noise and eliminates the visible flame associated with a flare.

A company will consider a variety of factors when determining whether to use a flare or incinerator, including cost, volume of gas flow, proximity of houses, and land topography. Although the emissions from an incinerator may be less than a flare, they are released closer to the ground and may not disperse as effectively. Thus, if a well is close to a dwelling located in a hollow, a flare stack may be considered preferable to an incinerator.

7.2.3 Well testing

After a company has drilled a well, it must be tested to determine characteristics about the oil or gas being produced, rate of production, and other factors for production. During this testing, reservoir fluids and gas can be produced and must be managed accordingly. The reservoir fluids can be stored on site before being transported for waste management. The produced gas, after it is separated from the fluids, can be transported in a pipeline for processing or can be flared or vented at a well site. If flaring or venting is used, air quality might be affected.

The recommendation for producers is to first try to avoid any gas emissions at all. If they cannot be avoided, the emissions should be minimized. Gas capture is preferred to flaring, and flaring is preferred to venting.

The AER allows 21 days to complete well testing. Although a company can apply for a longer test period under specific circumstances, any flaring and venting during well testing must not exceed 72 non-consecutive hours.¹¹ Flaring approved by the AER must conform to the *Alberta Ambient Air Quality Objectives and Guidelines*. The challenge is that there are no requirements for ongoing air monitoring at wells that do not contain H₂S, and in some instances it will not be known if these guidelines are exceeded. If you believe that operations are exceeding these standards, it is important to inform the AER immediately so that they may be able to respond to your complaint in time to measure the air quality event. Even in a case where the individual

¹⁰ See, for example, Questor Technology Inc. at <http://www.questortech.com/>. Some so-called incinerators are similar to low-level shielded flares and do not achieve the high combustion efficiency of refractory incinerators. An efficient, well-designed incinerator should not require the addition of propane to the gas to ensure continuous burning.

¹¹ AER, *Directive 060*, section 3.2.

project may still be compliant, it can be helpful to register your complaints with the AER so they can see over time that this may be an area of concern.

Well test flaring may emit pollutants that can damage vegetation and affect human and animal health. As explained in section 5.3, setbacks are intended to protect people from exposure, but people may wish to be alerted during well tests. The AER requires a company to notify its local field centre, the local municipality, and rural residents before testing an oil well or sour gas well using a flare that will last more than four hours in a 24-hour period. The requirements are different for oil wells and gas wells, but the minimum notification radius ranges from 0.5 km to 3 km depending on the composition of the gas being flared, duration of the flare and the gas volume discharged.¹²

Companies are not automatically required to notify adjacent landowners or occupants when they test flare for a shorter duration. However, the AER suggests that companies conduct “good neighbour” operations, where they notify residents who have identified themselves as being sensitive to or interested in emissions from a facility.

You may want to arrange for livestock to be moved upwind or away from the flare. If you or others suffer from a respiratory illness, you can negotiate with the company to ensure that it notifies you when it plans to carry out its well test flaring so you can leave the area at that time. You may want to make arrangements for the company to delay the start of a well test or to stop a test if meteorological conditions are unfavourable and would result in pollutants concentrating at ground level. Although regulations require companies to ensure ground-level concentrations of pollutants do not exceed maximum allowable levels, general ambient monitoring is not always required.

In an established area where pipelines are already nearby, a company may be able to greatly reduce well test flaring by conducting an in-line test through a pipeline to a processing facility. However, a short period of flaring will probably be required to remove any remaining fluids from the well after it is drilled, since the fluids could cause corrosion if released into the pipeline.

If small quantities of solution gas are measured in an oil well, it may not be economic for the company to collect and pipe the gas. Instead, a company may want to install a permanent flare stack or incinerator for production from such a well. Operators with continuous solution gas flares, incinerators or vents are expected to provide public information packages with the following information:¹³

¹² Directive 060, Table 2.

¹³ AER, Directive 060, section 4.7.1.

- the definition of solution gas and information on its conservation and use
- an explanation of solution gas flaring, incineration, and venting management options and the decision process
- a summary of analysis completed to determine that flaring, incineration, or venting is needed
- information on general flare/vent performance requirements and reduction targets
- descriptions of specific actions the licensee or operator will take to eliminate or reduce flaring, incineration, or venting or improve the efficiency of the flare, incinerator, or vent based on the evaluation
- a list of industry, AER, and government contacts that are related to public consultation and relevant to the project

Air emission issues at compressor stations are described in section 4.3.2. Dehydrators, which may be located at well sites, are described in section 4.3.3.

7.2.4 Odour

Odour is a frequent cause of complaints to the AER. Venting of gases (especially from crude oil and bitumen batteries), tank venting, leaking tank seals or ineffective vapour recovery units on storage tanks can cause odours. If there is an odour, it is important to notify the company and the AER at once and ask that action be taken to locate and stop the source. If the odour is caused by H_2S , see section 6.3 for information on evacuation in emergency situations. If you are concerned that you or other individuals in your household might be affected by the emissions, you may wish to leave the area. If you leave because of odours when there is no general emergency, you should notify the AER as to the reason that you left.

If you are troubled by a recurring odour, notify the AER of each event or on a regular basis. Keep a record of when events occur, noting the wind direction, wind strength, ambient temperature, and any other weather conditions during the event. You should also write down a description of the odour during each event, as that may help in finding the cause of the odour.

7.2.5 H₂S exposure

While Alberta Health has reviewed the health effects associated with short-term exposure to low levels of H₂S,¹⁴ there are still many gaps in our knowledge about the long-term effects of exposure. However, there is growing evidence that chronic and low-level exposures to H₂S can be associated with ongoing health impacts.¹⁵ The specific risk of low-level exposure to H₂S for the general population or sensitive people is not known.

If you have a problem, ask the AER to arrange a monitoring unit for your area. Sometimes the AER will require a company to conduct its own air monitoring when they have received a complaint, or the AER may work with Alberta Environment and Protected Areas and partner airshed organizations to conduct further monitoring, as they may have mobile monitoring equipment that can measure more substances at lower concentrations.

It is important that any monitoring equipment is properly located in an area where the air pollution is high and where conditions lead to bad air quality. Thus, the equipment should be downwind, where the emissions seem to be the worst when the wind speed is low, or where air inversion conditions are present. Landowners or occupants can suggest what they consider to be the best monitoring location based on their experiences.

7.3 Drilling wastes

Well drilling generates large volumes of waste in the form of drilling mud, drill cuttings and flowback fluids, which require storage and disposal. Spills and leaks of drilling fluid, hydrocarbons or water produced during drilling operations must be carefully cleaned up, as required by the regulations, to minimize any contamination of soil and water.

Drilling mud is circulated down the drill pipe to cool the drill bit and maintain the desired pressure in the well. The mud is prepared and stored in tanks on or near the well site and circulated into the wellbore as needed. The mud is then returned to the surface, carrying the drill cuttings with it. The mud may be a water-based clay mixture, but if there is a risk of encountering a water-sensitive subsurface rock formation, hydrocarbon-based muds are used. These hydrocarbon-based drilling muds have historically had a diesel fuel base. Mineral oil and canola oil are less toxic alternatives to diesel fuel but are typically more expensive and may have

¹⁴ Alberta Health Services, *Alberta Health: Acute Exposure Health Effects of Hydrogen Sulphide and Sulphur Dioxide*. <https://www.albertahealthservices.ca/assets/wf/eph/wf-eh-alberta-health-acute-exposure-health-effects-of-hydrogen-sulphide-and-sulphur-dioxide.pdf>

¹⁵ Stuart Batterman, Amelia Grant-Alfieri, and Sung-Hee Seo, “Low level exposure to hydrogen sulfide: a review of emissions, community exposure, health effects, and exposure guidelines,” *Critical Reviews in Toxicology* 53, no. 4 (2023), 244–295. <https://pubmed.ncbi.nlm.nih.gov/37431804/>

other operational challenges. Rock cuttings from the active drilling zone are normally separated from the drilling mud and collected in a pit (commonly referred to as a “sump”) or in large tanks. They ultimately form part of the drilling mud waste when the drilling project is complete.

The chemical composition of drilling muds varies depending on the products that must be added to address the challenges at each well. Potentially toxic products include bactericides, emulsifiers, lubricants, shale control inhibitors and surfactants.¹⁶ Drilling muds may also become contaminated with hydrocarbons or salts that are brought to the surface from deep underground formations.

Drilling muds, flowback fluids, and wastewater from hydraulic fracturing activities may also contain higher concentrations of naturally occurring radioactive materials (NORMs). This may include uranium, thorium, radium (and their decay products); potassium-40; and lead-210/polonium-210.¹⁷ Deposits of NORMs occur naturally in different concentrations at different depths, depending on the underlying geology. Specifically, NORMs can accumulate in shale or clay-rich layers and are therefore often associated with unconventional oil and gas activities.¹⁸ These activities and the storage or transportation of NORMs can increase the concentrations of these substances above their natural background levels. When this occurs, they are called technologically enhanced natural occurring radioactive materials.¹⁹

Reserve pits of hydraulic fracturing wastes present a potentially heightened risk of exposure, such as by animals drinking pit water, wind blowing dust particles onto nearby soil and crops, and wastewater breaching the berms.

7.3.1 Drilling waste disposal

Current regulations allow a company to dispose of non-hydrocarbon-based drilling wastes on the lease site or access road, or to seek written permission to use public or private land in the area. As described in more detail below, landowners have the right to withhold their consent for many types of waste disposal methods and can influence the management of waste management on site through their surface agreements and the negotiating process.

¹⁶ For a review of the composition and function of drilling fluid, see Don Williamson, “Drilling Fluid Basics,” *Oilfield Review* 25 (2013). http://www.slb.com/resources/oilfield_review/or_en_intro_article.aspx

¹⁷ U.S. Environmental Protection Agency, “TENORM: Oil and Gas Production Wastes.” <https://www.epa.gov/radiation/tenorm-oil-and-gas-production-wastes>

¹⁸ “TENORM: Oil and Gas Production Wastes.”

¹⁹ Alisa Rich and Ernest Crosby, “Analysis of Reserve Pit Sludge From Unconventional Natural Gas Hydraulic Fracturing and Drilling Operations for the Presence of Technologically Enhanced Naturally Occurring Radioactive Material,” *New Solutions*, 23 (2013).

The AER sets out its requirements for drilling waste disposal in Directive 050: Drilling Waste Management. It specifies that the company must provide landowners with a copy of the *Information for Landowners on Consent for the Disposal, Treatment, or Storage of Drilling Wastes*.²⁰ The directive identifies several methods for managing drilling waste:

- management on a well site or remote site — includes storage, mixed-bury-cover, landspread, disposal onto forested public lands, biodegradation, mobile thermal treatment, landspray, landspray-while-drilling, and pump-off
- management on pipeline right-of-way — includes storage, mixed-bury-cover, landspread, landspray, landspray-while-drilling, and pump-off
- management on fields and vegetated lands — includes landspray, landspray-while-drilling, and pump-off
- use of approved waste management facilities — includes landfill, waste processing biodegradation, waste cavern, and waste disposal well
- subsurface disposal of drilling waste while drilling
- alternative management methods (as approved by the AER)

Drilling waste may contain heavy metals, sodium, chloride, hydrocarbons, nitrogen or technologically enhanced NORMs, which can harm or degrade the quality of the soil. Contaminants may also migrate from disposal locations into ground or surface waters. Directive 050 therefore specifies application rates and maximum loading (including for nitrogen) for drilling waste disposal.

Companies must sample and test the wastes prior to disposal for all options. Drilling wastes are not treated before land application unless these tests indicate the presence of toxicants. If hydrocarbons are the likely source of toxicity, however, disposal may still proceed provided that all criteria for the chosen disposal method are met. Companies are also required to collect samples to assess the pre-soil conditions at the disposal site; in some cases, post-disposal soil sampling is also required.²¹ Landowners should ask to see the lab results and review the disposal method criteria that the company must adhere to. If, during drilling, a company adds new substances to the mud that change its chemistry, they will have to revise their disposal plan. However, the company does not have to take into account any changes that may occur in the level of salts from the rock formations or produced water when disposal is underway.

Landowners have the right to withhold their consent for any disposal that goes beyond the well site or pipeline right-of-way boundaries for any landspray, landspray-while-drilling or pump-off

²⁰ The document on consent is available on the AER's landing page for *Directive 050*: <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-050>

²¹ *Directive 050*, section 4.

methods, or a remote site for storage, mix-bury-cover, landspread or waste biodegradation. The company does not have to secure consent if the drilling waste will be managed on the site where it was created.²² Off-site waste disposal requires the approval of the landowner over and above the approval given for the well site itself, or of a nearby landowner who consents to the disposal process on their land. This approval should be in writing and attached to the surface lease or right-of-entry agreement and should remain a separate agreement.

As a landowner, before giving permission for any drilling mud to be spread on your land, you should ask what type of drilling mud is being used and the level of compensation offered. If you agree to disposal on your land, ask to receive copies of the lab work on the mud sampling and the pre-disposal soil conditions, so you can ensure that the mud meets the criteria and the baseline condition of the disposal site is documented. If you are engaged in organic farming, the wastes will need to be taken off-site in order for you to maintain your organic status. Neighbours of organic farmers should also be aware that organic beekeepers can lose their organic status if sump fluids are spread within range of their hives.

7.3.2 Drilling waste treatment

There are environmentally preferable methods of treating and disposing of some wastes, particularly for invert and hydrocarbon-contaminated muds. These methods include oilfield waste treatment facilities, thermal destruction, or disposal in hazardous waste landfills. Companies should be encouraged to dispose of their waste in the way that minimizes environmental impacts.

7.3.3 Spills, leaks and contamination

You may have concerns that an oil or gas well or pipeline is contaminating soil or water. You may see a leak or spill, or it may be indicated by a change in vegetation growth. Unless it is an emergency situation, you should first ask the company to deal with the problem, although you should report the issue to the AER as well. If you are not satisfied that the problem has been adequately resolved, you will need to contact the AER again. Occasionally a leak or spill will contaminate the property of a neighbour. The owner or leaseholder of the affected land should notify the AER as soon as possible and ensure that they require the company to thoroughly clean up and remediate any affected land. If staff from the AER find evidence of spills or leaks, they can take various enforcement actions.

²² *Directive 050*, section 1.5.

If you find a spill or leak, you should contact the AER on their Energy and Environmental 24-hour Response Line: 1-800-222-6514.

7.3.4 Land sales and contamination

Although a company is liable for any contamination that results from its activities, as the landowner you are required by law to disclose any known contamination or “latent defects” when you sell your property. A landowner can be sued for deceit or fraud if they have intentionally or recklessly misled a buyer and the buyer has been harmed as a result.

Despite this: buyer beware. Court cases have suggested that “the burden of thoroughly investigating a site remains firmly on the purchaser’s shoulders.”²³ Much of the time, land contracts may transfer land “as is” and exclude a warranty outside of the scope of the contract, such as the condition of the soil. Therefore, if an engineering report recommends that further investigation is necessary, or there are other indications that an investigation needs to be done, if you do not do your due diligence, the liability may fall on you as a buyer.²⁴ In some cases, the purchaser’s bank has asked for an environmental assessment if a reclamation certificate has not been issued (section 8), and the bank may want an environmental audit before granting a mortgage. The current landowner would normally have to pay for this audit. Also, some lenders may ask for an environmental assessment of sumps or sites used for drilling waste disposal before allowing a person to use their property as security for borrowing, although this is not universally asked. These sites may or may not be identified specifically on resources like the Environmental Site Assessment Repository,²⁵ so you may have to dig into the approval of past projects to determine if these sites existed in the past. The Farmers’ Advocate Office may be able to give advice in these situations.

²³ See *Motkoski Holdings Ltd. v. Yellowhead (County)*, 2008 ABQB 454 (CanLII). <https://canlii.ca/t/1zxfk>; and *Motkoski Holdings Ltd. v. Yellowhead (County)*, 2010 ABCA 72 (CanLII). <https://canlii.ca/t/28dkm>

²⁴ Rob Omura, “Fraud and Concealment of Contaminated Land: Do Your Due Diligence, Purchaser,” *ABLawg*, June 2, 2010. <http://ablawg.ca/2010/06/02/fraud-and-concealment-of-contaminated-land-do-your-due-diligence-purchaser/>

²⁵ Alberta, “Environmental Site Assessment Repository.” <https://www.alberta.ca/environmental-site-assessment-repository>

7.4 Water

Water is required for all oil and gas operations. Water is used in drilling muds and is also commonly injected into oil or gas wells to enhance production through waterflood or hydraulic fracture operations. Any operation that plans on using water must receive approval from the AER for their proposed source.

7.4.1 Water wells

Two separate issues need to be considered with respect to water wells: the effect that water wells drilled by an oil and gas company can have on groundwater, and the impacts that may be caused by oil and gas wells.

Historically, companies have drilled water wells to get water for drilling muds, but in some areas water is also used for “waterflood” operations, where it is injected into an older reservoir to enhance oil recovery. Hydraulic fracturing water use for extracting oil and gas has also exponentially grown (see section 4.1.2 for more on hydraulic fracturing). While a properly constructed oil and gas water well should not allow pollutants to reach groundwater, these wells may draw from aquifers needed to supply water for domestic and agricultural operations.

Water wells can only be drilled by someone who has a current approval from Alberta Environment and Protected Areas to drill water wells; they must follow the construction standards set out in the Water Wells and Ground Source Heat Exchange Systems Directive.²⁶ A company must apply for and receive a well licence from the AER only if a water well is drilled deeper than 150 m.²⁷ Before a company withdraws water from a water well for drilling operations, they must apply for a temporary diversion licence. Companies must obtain a term licence under the Water Act prior to any large-scale or long-term diversions of non-saline groundwater.

Hydraulic fracturing poses additional risks to groundwater, which can be contaminated in various ways, including by the upward migration of natural gas and saline water along leaky well casings, through natural fractures in the rock, from old abandoned wells, or via permeable faults. The fracturing process itself can also damage existing well casings, increasing the risk of contamination.²⁸ These pathways can allow fluid and gas to move over long periods, potentially causing substantial cumulative impacts on groundwater quality. To reduce this risk, the AER

²⁶ Alberta, *Water Wells and Ground Source Heat Exchange Systems Directive* (2018).

<https://open.alberta.ca/publications/9781460141588>

²⁷ AER, *Directive 056: Energy Development Applications and Schedules* (2024), section 7.

²⁸ Council of Canadian Academies, *Environmental Impacts of Shale Gas Extraction in Canada* (2014), xiii.

<https://cca-reports.ca/reports/environmental-impacts-of-shale-gas-extraction-in-canada/>

requires that for any hydraulic fracturing operations above or within 100 m below the base of groundwater protection (BGWP), a non-saline aquifer risk assessment must be done. If fractures are found to encroach on the BGWP, only fracturing fluids that pose no contamination risk to the aquifer may be used. To minimize the adverse effects on water wells, hydraulic fracturing operations cannot operate within a 200 m radius of the surface of a water well and within 100 m vertically from the final depth of the water well.²⁹

Baseline water well testing

Many landowners ask the company to pay for the testing of their water well when they negotiate a lease agreement. This is to ensure that there is a baseline study against which to compare any future changes in well water quality that might result from oil- and gas-related operations. You should ensure that the lab carrying out the tests is accredited by the Canadian Association of Environmental Analytical Laboratories (see Appendix B for contact information). Be sure to ask for a copy of the test results and keep it for future reference.

The test should be thorough and cover both water volume and water quality. A basic flow test should involve pumping a well at a constant rate for at least 60 minutes, although in some cases, pumping for 120 minutes or for a day or more may be necessary. While the pumping rate is maintained, the water levels should be recorded in the well to measure the draw down. The well should then be allowed to recover for the same length of time that it was pumped, and again the depth should be measured to calculate the recovery rate of the well. In situations where the top of the well is inaccessible, it may not be possible to calculate the draw down and recovery rate, but the well should still be pumped to determine the yield. The Alberta government has a great resource regarding water wells and how to determine yield.³⁰

A routine water quality test measures about ten parameters, including total dissolved solids, total hardness, alkalinity, pH, chlorides, sulphates, nitrates and nitrites, and sodium. You should ask for the test to include total extractable hydrocarbons in order to establish that there are no hydrocarbons in the water before drilling starts. A test for metals, including arsenic, cadmium, copper, lead, manganese and zinc, may also be a good idea. A test for gas content may be advisable if there is a risk of gas migration from an oil and gas operation, such as shallow coalbed methane or hydraulic fracturing operations. You can ask the company to pay for these tests and negotiate for the arrangement to be added as a condition in your surface access lease.

²⁹ AER, *Directive 083: Hydraulic Fracturing – Subsurface Integrity* (2024). <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-083>

³⁰ Alberta Agriculture and Forestry, and Alberta Environment and Parks, *Water Wells...that last: A guide for private well owners in Alberta* (2019). <https://open.alberta.ca/publications/9781460143414>

If a company is unwilling to pay for a routine water quality test by an independent company before it constructs an oil or gas well, you may want to ask the AER to facilitate your negotiations. While the water is being tested, you may also want to get a test done for total fecal coliforms, as these organisms can cause acute illness. However, a company may not want to pay for this part of a test, as it does not relate directly to oil and gas activities. You may want to contact the local health unit regarding bacterial tests as many health units in Alberta will cover all or part of testing costs for routine and bacterial analyses of domestic water wells.

A water quality test that includes parameters set out in the Guidelines for Canadian Drinking Water Quality, as well as other comprehensive parameters frequently required for drinking water approvals, can cost up to \$2000.

Health Canada sets standards for the acceptable level of substances in drinking water.³¹

Water well drillers submit their drilling reports to the Alberta government, which are publicly available through the Alberta Water Well Information Database.³²

Water well quality concerns

The AER handles concerns related to water well contamination suspected to be caused by oil and gas activity (see Figure 7). They will investigate if that might be the case. If you have a complaint about a water well that may be affected by the oil and gas industry, you should call the AER's Energy and Environmental 24-hour Response Line at 1-800-222-6514.

If you suspect that your well has been contaminated by hydrocarbons from oil or that gas may have leaked into the groundwater, you should get your well tested by an independent lab. All tests that were conducted before the oil or gas well was drilled should be repeated and, in addition to the test for total extractable hydrocarbons, you should also request a test for BTEX (benzene, toluene, ethylbenzene and xylenes). If you find gas in your well, a carbon isotope of each gas detected may help identify the source. You may want to negotiate with the company to arrange for them to pay for the costs of testing the well. If you need help, contact the Farmers' Advocate Office and inquire about their Water Well Restoration or Replacement Program.

³¹ Health Canada, *Guidelines for Canadian Drinking Water Quality – Summary Tables* (2025).
<https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/water-quality/guidelines-canadian-drinking-water-quality-summary-table.html>

³² Alberta Environment and Protected Areas, "Alberta Water Well Information Database."
<https://www.alberta.ca/alberta-water-well-information-database>

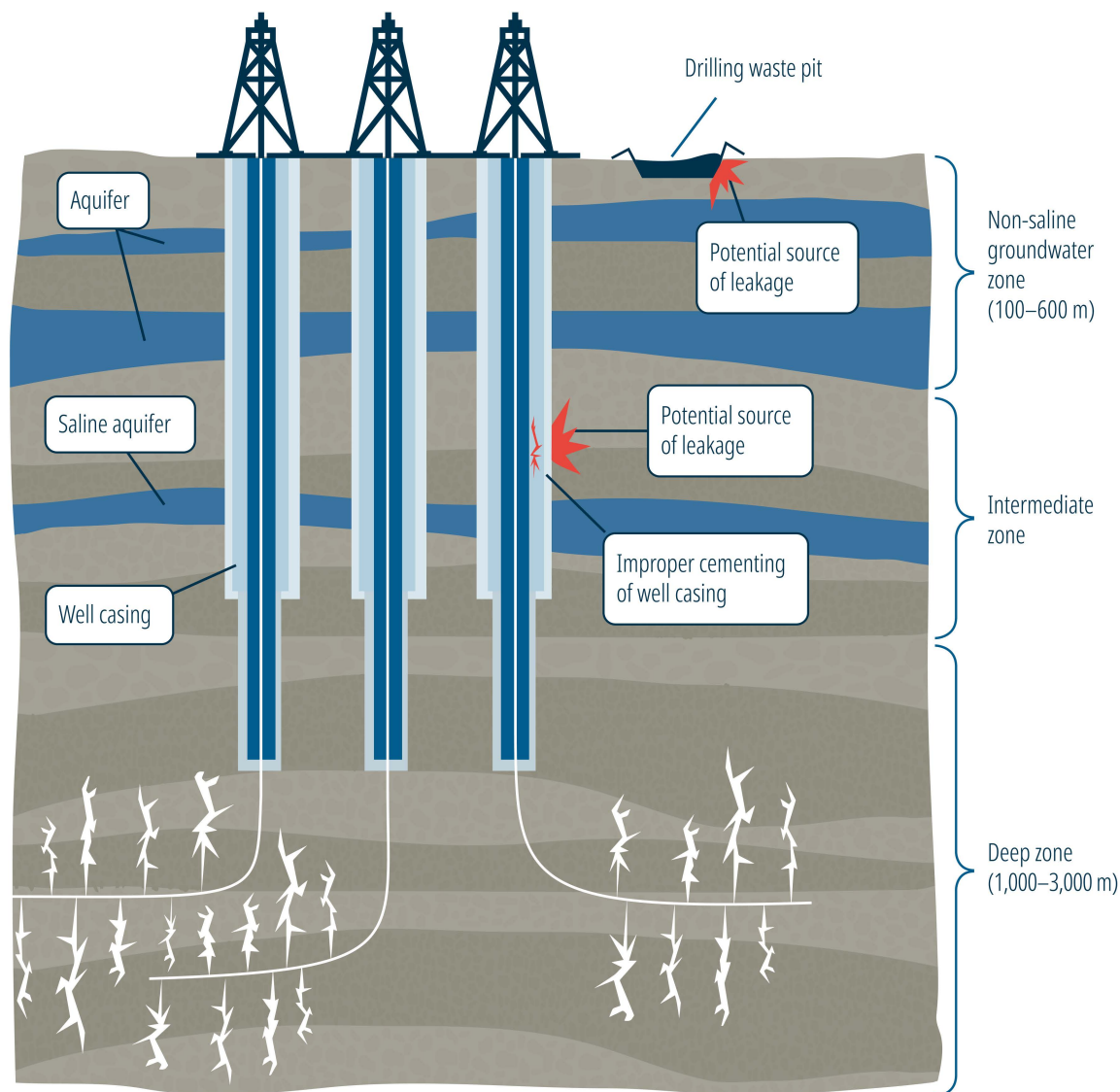


Figure 7. Schematic of well with groundwater layers and potential sources of leakage³³

7.4.2 Surface water

Surface water can also be used to supply the necessary water at an oil and gas operation. Surface water is collected by water trucks and transported to the development site. Due to the intermittent supply, surface water is not suited for continuous operations. Instead, surface water tends to be used for drilling muds, well testing, and hydraulic fracturing, where water is only required for a temporary period.

³³ The illustration depicts an idealized geology. However, geological formations can vary greatly, causing layers that are not straight, predictable and uniform (contrary to what is shown).

If surface water is proposed to be used, the operational requirements to withdraw the water will be stipulated in an operator's water licence. It is standard for these licences to require use of a fish screen in watercourses or water bodies that contain fish populations and to limit withdrawals from watercourses to 10% of the instantaneous flow rate. These requirements ensure that fish populations and the aquatic ecosystem are not significantly affected by the water withdrawal. If a company is observed withdrawing water from a watercourse or water body on your property, they are required to show you their licence upon request. If you believe that water licence requirements are being contravened, you should notify the AER and provide any supporting evidence.

7.4.3 Coalbed methane water issues

Coalbed methane (CBM) is an unconventional natural gas formed in coal seams, also known as natural gas in coal or natural gas from coal. Coal seams can be found across the southern half of Alberta.

If a coal formation contains water, it will be necessary to remove some of the water to reduce the pressure and allow the gas to be released. In some coal seams in central Alberta (for example, those in the Horseshoe Canyon Formation), the coal is “dry” and no dewatering is necessary; however, deep coal formations (such as those in the Mannville Group) usually contain saline groundwater.³⁴ This water will usually be pumped out and piped to a central injection well, where it will be re-injected deep underground, in the same way that saline water from a conventional natural gas well is re-injected. If the saline zone is closely below the non-saline zone, a company should not produce any gas from the non-saline zone since this could result in the mixing of water of different qualities.

An operator of coalbed methane wells must conduct baseline water testing for a new well or for completing or recompleting wells if the wells are shallow and above the BGWP.³⁵ Since these wells are being drilled into shallow non-saline aquifers, which require dewatering to release the gas, their operations have the potential to impact the flow of water to other water wells.

³⁴ Saline groundwater is defined as water with more than 4,000 milligrams per litre of total dissolved solids (Alberta, *Water (Ministerial) Regulation*, 205/98, s. 1(1)(z)). The depth at which water becomes saline varies widely, but the transition may occur between 400–600 m in Alberta.

³⁵ The base of groundwater protection is the term the AER uses for the approximate depth at which non-saline groundwater changes to saline, plus a standard depth buffer. AER, *Frequently Asked Questions: Base of Groundwater Protection* (2016). https://static.aer.ca/prd/documents/dds/BGWP_FAQs.pdf

A conventional oil or gas well will sometimes produce saline water, with the quantity likely to increase as the well ages. This water is pumped out with the oil or gas, separated and injected back deep underground. If a CBM well contains water, it will need dewatering at the start of operations so that the gas can be released.

You should get your water wells tested before any CBM development takes place within a nearby shallow, non-saline aquifer. The AER requires that developers offer to test the nearest water well or observation well within a 600 m radius of the proposed CBM well.³⁶ Companies are required to provide detailed reports before the AER will consider an application for the diversion of groundwater. This is because dewatering of the coal seams could lower the water level in domestic wells if the coal is near the surface or there is hydraulic connectivity with shallow aquifers. This data provides a baseline against which to measure any future changes.

If, after drilling, a company finds they need to divert non-saline water from the coal seam, they must submit a technical report to the AER together with their application. The technical report must include detailed information about the hydrogeology, aquifers and water wells.

The AER administers water standards that require a company to test water wells for gas and, if gas is detected, to test for the carbon isotopes of each gas.³⁷ This will help identify the source of any gas and serve as a baseline in case the CBM development leads to gas migration in the future. The AER also publishes a public notice about the proposed water withdrawal and must respond to any statements of concern from the public. The regulator is required to consider all statements from those who are directly and adversely affected before deciding on whether to authorize the diversion of water from the aquifer.

If a CBM well is drilled into a non-saline aquifer, you should ask about plans to dewater the coal seams, any potential impacts on groundwater, and how the water will be handled.

While saline water must be re-injected deep underground, there are different ways that non-saline water can be handled. If the AER issues a licence or approval for diversion of non-saline water, it will indicate how the water must be handled. Even water that is defined as non-saline must be managed carefully since the level of salts may be sufficient to damage soils and crops. Depending on the salt content, non-saline water that exceeds potable-water standards for dissolved salts could potentially be used for watering livestock. Whether the water is suitable for

³⁶ Under *Directive 035*, if there is no well within 600 m, the operator is required to offer to test the nearest water well or observation well within 800 m.

³⁷ AER, *Gas Sampling Requirements for Baseline Water-Well Testing for Coalbed Methane/Natural Gas in Coal Operations* (2014). https://static.aer.ca/prd/documents/applications/WA_StandardBaselineWater-WellTestingCoal.pdf

irrigation will depend not only on the salt content and the crops grown, but also on the sodium adsorption ratio of the receiving soil. Alternatively, the water may be discharged or re-injected into a compatible aquifer underground. Since the quality of the water may change during the dewatering process, regular testing of the salinity level should be requested.

While requirements are designed to prevent damage to a non-saline aquifer, it is advisable to ensure that the company will provide an alternative water supply should your water well be adversely affected by CBM drilling. You should include a clause to this effect in your surface lease agreement.

Licences issued by the AER for groundwater diversions typically include “investigation and mitigation” requirements that may include alternative water supply arrangements if needed. You typically would need to provide a written complaint to the AER to start an investigation.

7.5 Noise

Compressor stations, processing plants, well batteries, well drilling and servicing operations can all cause noise, which is especially noticeable in quiet rural areas. If you have a complaint, you should first contact the company, but if you have a problem locating the company or if you are not satisfied with their response, contact the AER 24-hour emergency and operational complaint number, 1-800-222-6514, and ask them to help.

Noise is measured in decibels, which is a logarithmic scale; an increase in ten decibels is perceived as a doubling in noise level. Examples of the sound levels of familiar noises are given in Table 6.

The AER policy on noise is summarized in Directive 038: Noise Control. This directive also sets out noise requirements for all facilities approved by the AER, including drilling and service rigs. The directive aims to keep sound levels to an acceptable minimum so that the quality of life for neighbours of a facility is not impaired and their sleep is not affected. The directive regards noise from the “receptor viewpoint” rather than considering sound levels at the property line.

Table 6. Examples of noise levels

Source	Sound level (dBA ³⁸)
Soft whisper at 1.5 m	30
Quiet office or living room AER target nighttime sound level at low-density housing with dwellings more than 500 m from heavily travelled roads ³⁹	40
Inside average urban home, quiet street, refrigerator	50
Noisy office, conversation at 1 m	60
Highway traffic at 15 m	75
Jackhammer	88–98
Loud shout	90
Modified motorcycle	95
Amplified rock music	110

A person can make a complaint about noise in different ways — in person or by phone, fax, email or letter. Once the company has been informed, it must contact the complainant directly to try to understand the concerns and work out reasonable expectations and a time frame for action. Section 2 of Directive 038 sets out what the AER considers permissible sound levels. Section 4 provides more detail about dealing with complaints, and the AER Forms webpage under “Directive 038” contains a noise complaint investigation form that the company and the complainant will need to complete.⁴⁰ If a company conducts a sound survey, it must ensure that it is carried out under representative conditions that would affect the person complaining.

A noise impact assessment is required for a new facility or for modifications to an existing facility in order to identify and deal with aspects that might later cause problems. For these facilities, a company commits to the AER in its application⁴¹ to comply with the noise requirements in Directive 038.

³⁸ As explained in AER *Directive 038*, Appendix 2, sound is measured in decibels. However, to better approximate how people hear, given that sensitivity varies across different frequency ranges, sound measurements are adjusted using the A-weighted decibel scale, and the results are expressed as dBA. The AER uses dBA Leq measurements, which represent energy equivalent sound levels.

³⁹ AER, *Directive 038*, Table 1.

⁴⁰ AER, “Directive Forms,” Directive 038. <https://www.aer.ca/applications-and-notice/application-processes/aer-forms/directive-forms#d38>

⁴¹ AER, *Directive 056*.

Although Directive 038 does not cover construction, the AER expects construction companies to keep noise to acceptable levels and take reasonable mitigating measures, such as only undertaking noisy operations between 7 a.m. and 10 p.m. The AER also asks operators to advise nearby residents of noise-causing activities and to schedule them to cause the least disruption.⁴²

7.6 Conservation and reclamation

A company is required by law to pay attention to conservation and to minimize damage to the environment during the development and operation of an oil or gas well. The Government of Alberta sets criteria for soil conditions for reclamation, but you may want to discuss issues relating to your specific site.⁴³

7.6.1 Pre-development

Landowners should discuss and outline in an agreement with the company how the company will preserve topsoil so that it can be used later to help restore the site. It is important that the topsoil be stripped and stored carefully; it must not be used for the construction of berms or dikes. It may also be advisable to have a layer of subsoil under roads and well sites stripped and stored separately, since years of compaction can cause permanent damage to the soil structure. In some situations, it may be advisable to ask that an elevation survey of the site be completed along with the basic survey to ensure that the surface of the land is later restored to the same elevation and that drainage is not affected.

Paying attention to the way in which a company deals with its drilling wastes may also prevent problems when the site is eventually closed and the leased land reverts back to the landowner. As remote sumps and disposal sites are often difficult to identify, a landowner should require the company to clearly identify their locations in the surface lease agreement. This ensures that when a site is abandoned, the company can reclaim any area where disposal or remote sumps were located prior to applying to the AER for a reclamation certificate.

After the lease is signed, but before the company starts operations, a pre-construction site assessment report should be completed and provided to the landowner. This report provides a

⁴² AER, *Directive 038*.

⁴³ On its webpage “Reclamation Process and Criteria for Oil and Gas Sites,” the AER lists the most pertinent documents that contain reclamation criteria for well sites and associated facilities.” <https://www.aer.ca/regulations-and-compliance-enforcement/site-closure-requirements/reclamation/oil-and-gas-sites/reclamation-process-and-criteria-oil-and-gas-sites>

baseline against which to measure any future changes. The Alberta government provides examples of what should be included in this report.⁴⁴

In areas of native pasture and parkland, a company should avoid or minimize its impacts on native vegetation.⁴⁵

7.6.2 Post-development

Problems can arise during work to abandon and reclaim a well site. The AER is responsible for down-hole well closure, and in 2014 assumed responsibility for regulating reclamation and remediation activities from oil, gas, and coal operations. Complaints about surface reclamation on both public and private lands should be made to the AER 24-hour Energy and Environmental Emergency 24-hour Response Line, 1-800-222-6514.

The process for reclamation is explained in section 8. The fact that a reclamation certificate has been issued does not guarantee that work has been done well, as problems may not become evident until later. At the time of writing, a company is responsible for 25 years for surface reclamation issues such as vegetation, soil texture, and drainage; and it has a lifetime liability for contamination.⁴⁶ If landowners or occupants have problems with the reclaimed land, they should contact the company first and then notify the AER. An AER inspector may inspect the site and may require the company to conduct further work in response to the notification.

7.7 Animal health

Problems can arise if animals eat contaminated vegetation or come into contact with contaminated soil, or spills such as oil, condensate, or hydraulic fracturing fluids. Animals may also be affected by air emissions. If you believe that oil or gas activity may have an impact on your livestock, you can negotiate for precautionary commitments to be added to your surface lease agreement such as fencing to ensure your animals don't come into close contact with the well site. Landowners concerned about the impact that air pollution might have on their animals

⁴⁴ Alberta, *Conservation and Reclamation Information Letter: Pre-construction Assessment Report for Wellsites*, C&R/IL/00-8 (2000). <https://open.alberta.ca/publications/pre-construction-assessment-report-for-wellsites>. This information letter indicates that the assessment should include a description of the land use, the type of surface soil salvage, the average depth of surface soil, the location of salvaged stockpiles, and drainage. It should detail any evidence of erosion or salinity, areas with poor vegetation, and weed patches, and ideally would include photographs. You may want to take your own photographs of the site before work starts to augment the information provided in the pre-construction assessment report in case there is any later damage that is not satisfactorily reclaimed.

⁴⁵ AER, *Manual 007: Principles for Minimizing Surface Disturbance in Native Prairie and Parkland Areas* (2014). <https://static.aer.ca/prd/documents/manuals/Manual007.pdf>

⁴⁶ AER, *Closure – Abandonment, Reclamation, and Remediation Fact Sheet* (2025). https://static.aer.ca/prd/documents/enerfaqs/Closure_FS.pdf

should request assessments of the project's emissions and the location of where they are released in relation to active pasture lands. You can also include clauses in your agreement that cover the costs of a necropsy in cases where you suspect nearby development may have played a role in an animal death. It would be helpful to have an ongoing relationship with a veterinarian to establish a herd health baseline, enabling you to monitor changes in health and behaviour compared to conditions before development.

If you think that oil or gas activity is affecting the health of your livestock, contact your local veterinarian and the AER's 24-hour emergency number at 1-800-222-6514. An independent animal health investigator may be called in. Be sure to keep a record of events and take photographs to aid any investigation.

7.8 Earthquakes

A number of earthquakes (also known as seismic events), including in Alberta, have been linked to wastewater disposal and hydraulic fracturing operations, which increase pressure in the subsurface.

Starting in 2013, the Alberta Geological Survey measured unexpected and persistent patterns of earthquakes west of the community of Fox Creek. By comparing the timing of the events with local operations, the earthquakes were determined to be associated with hydraulic fracturing.⁴⁷ As these operations continued and earthquake activity intensified, the AER issued Subsurface Order No. 2 in 2015 to establish new seismic monitoring and reporting requirements for hydraulic fracturing operations only in the Fox Creek area.⁴⁸ This order requires operators to monitor earthquake activity within 5 km of their wells and to develop response plans to address potential seismic events. If an operator measures an earthquake greater than 2.0 local magnitude (M_L), they must report the event to the AER. If an operator measures an event greater than 4.0 M_L , they are required to immediately cease operations. Operations are not allowed to recommence until AER approval is received.

⁴⁷ Gail M. Atkinson et al., "Hydraulic Fracturing and Seismicity in the Western Canada Sedimentary Basin," *Seismological Research Letters* 87 (2016). <https://doi.org/10.1785/0220150263>

⁴⁸ AER, *Bulletin 2015-07: Subsurface Order No. 2: Monitoring and Reporting of Seismicity in the Vicinity of Hydraulic Fracturing Operations in the Duvernay Zone, Fox Creek, Alberta*, February 2015. <http://www.aer.ca/documents/bulletins/Bulletin-2015-07.pdf>

Section 8

Well and Pipeline Abandonment and Reclamation



8. Well and Pipeline Abandonment and Reclamation

After a project is completed and production has ceased, a company is required to abandon and reclaim the well, pipeline, and all associated lands and facilities. This section explains the obligations a company has to abandon and cap a well, and reclaim all specified land associated with the well or pipeline. It also lays out important questions for you to consider if the company is planning on reclaiming the well site on your land. Lastly, this section introduces the Orphan Fund and the process for wells that are “orphaned” when a project is not properly abandoned and reclaimed because a company has declared bankruptcy.

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8.1 Well abandonment

The process for shutting down dry wells and wells no longer in use is referred to as “well abandonment.” The well abandonment process includes down-hole abandonment, where cement plugs are set into the hole to prevent fluids from travelling through the geologic formations; remedial cementing to secure the sheath of the well, if needed; and finally surface abandonment, where the well is closed at the surface. The Alberta Energy Regulator (AER) does not give a well the status of “abandoned” until surface abandonment is complete. AER Directive 020: Well Abandonment sets out the requirements.¹

Abandonment is the permanent dismantling of a well or facility. Abandoned wells are different from suspended, shut-in, and orphaned wells. See Appendix D for definitions.

There are two main types of abandonment:

- **Open-hole abandonment** refers to the down-hole and surface abandonment of a dry hole (one that was not brought into production). It is carried out after drilling is complete but before the rig is released from the site.
- **Cased-hole abandonment** refers to the down-hole and surface abandonment of a completed or cased well, which occurs when all oil or gas extraction has ceased.

Surface abandonment includes the removal of all wellhead equipment, but not the reclamation of the lease site, which occurs sometime after abandonment is complete. Reclamation is regulated by the AER, which issues reclamation certificates once certain criteria are met.

A company is required to notify all affected landowners/occupants in the area of any planned surface abandonment; however, the AER does not specify how much notice the operator must give.² Non-routine abandonment — which includes abandonment of wells associated with a salt cavern, re-abandonment of a well, and other situations listed in section 1.4 of Directive 020 — requires the company to get approval from the AER before starting work.

In all cases, before abandoning a well, the company must ensure that no oil or gas is flowing through the well casing that could contaminate groundwater or rise to the surface. A company has to set cement plugs — of sufficient length and number — to cover all non-saline groundwater zones to protect the groundwater. After plugging, the wellbore must be filled with non-saline water.

¹ AER, *Directive 020: Well Abandonment* (2024). <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-020>

² AER, *Directive 020*, section 8.

At the surface, the well casing must be cut off at least 1 m below the final surface of the land (or at least 2 m if the well is within 15 km of urban development or where there is a special farming practice, such as deep tillage, drainage works, or peat lands). It is then capped with a steel plate that is designed to prevent buildup of pressure, while still blocking access to the casing at the surface. This surface abandonment must be completed within a year of the down-hole abandonment.³ Directive 020 also sets out specific requirements for different types of wells and different regions of the province.

Oilsands evaluation wells and test hole wells are drilled only for core samples and are not intended to be completed. For these wells, down-hole abandonment must be completed within 30 days after drilling has finished or prior to rig release. Surface abandonment must be completed immediately after down-hole operations.

The AER's Directive 079 requires a permanent 5 m setback on abandoned wells to prevent anyone building on or near an abandoned well.⁴ The directive exempts shallow wells of less than 150 m in depth, and in some circumstances exempts or reduces the setback for other wells such as oilsands evaluation wells.

8.2 Reclamation of well sites

The Government of Alberta has the online, searchable Environmental Site Assessment Repository where you can find documentation on site assessments and reclamation certificates.⁵ It also has an enforcement search tool for enforcement records related to the Alberta Ministry of Environment and Protected Areas' current and past legislation.⁶ Additionally, the Alberta Energy Regulator has a compliance dashboard that includes enforcement actions pertaining to reclamation, which the agency assumed responsibility for in 2014.⁷

³ AER, *Directive 020*, section 8.

⁴ AER, *Directive 079: Surface Development in Proximity to Abandoned Wells* (2022). <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-079>

⁵ Alberta, "Environmental Site Assessment Repository." <https://www.alberta.ca/environmental-site-assessment-repository>

⁶ Alberta, "Historical environmental enforcement search." <https://www.alberta.ca/lookup/environmental-historical-enforcement-search.aspx>

⁷ AER, "Compliance Dashboard." <https://www1.aer.ca/compliancedashboard/enforcement.html>

8.2.1 The reclamation process

The purpose of the reclamation process is to return the land to equivalent land capability, i.e., “the ability of the land to support various land uses after conservation and reclamation is similar to the ability that existed prior to an activity being conducted on the land, but that the individual land uses will not necessarily be identical.”⁸ Once a well has been shut down and surface abandonment has been completed according to the AER requirements, the land can be reclaimed and a reclamation certificate issued.

It is estimated that there were 94,640 abandoned but unreclaimed wells in Alberta at the end of 2024.⁹ A company has to demonstrate that it has met all reclamation criteria and show that the site was assessed to determine if contamination is present. If so, the company must also show that the site was remediated to meet remediation requirements.

The Environmental Protection and Enhancement Act, Part 5, and the Conservation and Reclamation Regulation set the standards for conservation and reclamation. The regulations apply to “specified land,” which includes land that has been used for a well site, pipeline or battery. The AER’s Specified Enactment Direction 002¹⁰ sets out the actual reclamation requirements that operators must meet to obtain a reclamation certificate on cultivated lands, forested lands, and native grasslands. The AER has released the Reclamation and Remediation Fact Sheet¹¹ to provide information and updates on the reclamation and remediation processes.

The company is required to provide you, as the landowner or occupant, with a copy of the reclamation application package on the same day that they submit it to the AER.¹² It is very important for you to be involved and inform the company of any issues relating to the reclamation, especially in light of any responsibilities you have as a landowner with regards to abandoned wells under the Municipal Government Act Subdivision and Development Regulation. You should point out any locations where you think the ground may be contaminated and ensure that any drilling waste disposal areas are properly reclaimed.

⁸ Alberta, *Conservation and Reclamation Regulation*, Alta. Reg. 115/1993, s. 1(e).
https://open.alberta.ca/publications/1993_115

⁹ AER, “Well Status.” <https://www.aer.ca/data-and-performance-reports/data-hub/well-status>

¹⁰ AER, *Specified Enactment Direction 002: Application Submission Requirements and Guidance for Reclamation Certificates for Well Sites and Associated Facilities* (2025). https://static.aer.ca/prd/documents/manuals/Direction_002.pdf

Also see Alberta Environment and Parks, “Wellsite Reclamation Certificate Application Process: 2010 Reclamation Criteria.” <http://aep.alberta.ca/lands-forests/land-industrial/programs-and-services/reclamation-and-remediation/upstream-oil-and-gas-reclamation-and-remediation-program/wellsite-reclamation-certificate-application-process.aspx>

¹¹ Fact sheets are available at <https://www.aer.ca/understanding-resource-development/enerfaqs-and-fact-sheets>

¹² AER, *Specified Enactment Direction 002*, sections 6.2.1 and 6.2.2.

The company is required to have documentation showing that it complied with the AER's Directive 050: Drilling Waste Management, which includes having a written agreement with the landowner. The company must also have provided to the owner of any land on which they planned to drill a copy of a document called *Information for Landowners on Consent for the Disposal, Treatment, or Storage of Drilling Wastes*.¹³ If a company is unable to show that drilling waste was handled in the approved manner, it must carry out a Phase 2 environmental site assessment (discussed below).

To find more information on an application in your area, you can search the Public Notice of Application database on the AER website.¹⁴ To access the documents related to an application, you can search the Integrated Application Registry on the AER website.¹⁵ Information on abandonments and reclamations is only accessible to companies.

You should tell the company if you wish to keep the access road, so that it is not reclaimed, but this detail may have to be worked out as a condition of the surface agreement. In order for a road to remain after reclamation, it must be built to grade, which may not be the case if it was built as a temporary access road.¹⁶ If a site had natural vegetation before the well was drilled, you can request that reseedling or replanting be done with native plants, rather than with cultivated varieties such as crested wheat grass and timothy.

Before a company applies for a reclamation certificate, it must carry out a Phase 1 environmental site assessment (ESA).¹⁷ The Phase 1 ESA is meant to gather enough information to determine the likelihood and probable locations of contamination and whether further assessment is needed. This includes a review of the company's file (historical and regulatory documents maintained by the AER and the company itself that pertain to the specific site), the AER spills database and historical aerial photographs. A company representative must visit the site, take photographs and write a report that describes the site, including any pits or facilities that remain, evidence of surface spills, vegetation and land use. People with knowledge of the site, including the landowner or occupant, must be contacted for an interview. Several attempts at interviews should be made and documented by the company if the first one is not successful.¹⁸

¹³ AER, *Directive 050*, section 1.5.

¹⁴ AER, "Public Notice of Application." <https://webapps.aer.ca/pnoa>

¹⁵ AER, "Integrated Application Registry." https://dds.aer.ca/iar_query/FindApplications.aspx

¹⁶ Alberta Transportation and Economic Corridors is responsible for approving permanent access roads.

¹⁷ Alberta Environment and Sustainable Resource Development, *A Guide to Remediation Certificates for Upstream Oil & Gas Sites* (2012). <https://open.alberta.ca/publications/9781460105955>

¹⁸ AER, *SED 002*, section 10.8.

If the Phase 1 assessment finds that there may be contamination on the site, or that there is insufficient information to determine the likelihood of contamination at a site, the operator typically is required to carry out a Phase 2 ESA.¹⁹ Also, if they do not have information on the contents of the drilling waste or location of the drilling waste disposal area, they are generally required to conduct a Phase 2 ESA (unless the drilling waste qualifies for an exemption).²⁰ A Phase 2 ESA means taking samples of soil and groundwater to determine the extent of any potential contamination. The company is required to carry out remediation and take more samples to show that the remediation objectives have been achieved.

The land has to be returned to equivalent land capability. Since relatively few sites will be audited by the AER, it is important for the landowner to check the following at the site:

- the condition of the landscape (drainage problems; evidence of erosion or unstable slopes, gravel, rocks or debris that needs removing; problems with vegetation or bare areas)
- the condition of the soil (soil depth and quality, any soil compaction)
- the vegetation (species composition and growth performance)
- weeds, invasive species, or diseases (such as clubroot)

Reclamation requirements are based on when the site was constructed. Sites are required to have at least 80% replacement of topsoil, contouring, and seeding or replanting of the surface. Every attempt must be made to use available surface soil in reclaiming a site. When complete, the land's productive capacity should be equivalent to what it was before the well site disturbance.

When the remediation and reclamation work is complete, the company can apply to the AER for a reclamation certificate. The company must supply the landowner with a copy of all their application documents for a reclamation certificate. In addition to the application, the documentation will include the Phase 1 ESA and, when necessary, also the Phase 2 ESA. You should check that the assessment shows:

- when the well was drilled
- what happened to any hydraulic fracturing fluids and drilling waste
- the location of any water well, if present
- the location of any sumps

¹⁹ Alberta, *Environmental Site Assessment Standard* (2024). <https://open.alberta.ca/publications/environmental-site-assessment-standard>

²⁰ AER, *Assessing Drilling Waste Disposal Areas* (2014). <https://static.aer.ca/prd/documents/liability/AssessingDrillingDisposalAreas.pdf>

- whether there was ever a spill of any kind on the surface
- if the land was sprayed to control weeds, and if so, when and with what

The company should have information dating back to the beginning of development, even if the well changed hands several times. If the records for a Phase 1 assessment are incomplete or do not correspond with your recollection of events, you should ask the company to conduct a Phase 2 assessment before they apply for a certificate. A Phase 2 assessment should also be requested if there were any problems or leaks and complete remediation has not already been confirmed.

It is crucial to visit the site. As the landowner, your personal inspection is most important since the regulator no longer conducts a mandatory inspection of a site before granting a reclamation certificate. If you are not completely satisfied with the reclamation work done by the company, you should contact the company and have them revisit the site with you. The company is expected to make every effort to engage with the landowner and resolve any outstanding issues that they may have. However, if you still believe the work is unsatisfactory after the company has submitted their application for a reclamation certificate, submit a statement of concern (see section 10.1.3) immediately or latest by the deadline set out in the notice of application issued by the AER. The sooner you submit, the better since the application may be automatically processed and approved through OneStop.

If a reclamation certificate was issued by the AER and you are still not satisfied with how the AER or the company handled your complaint and feel that the reclamation certificate should be cancelled, contact the AER through their 24-hour response line (1-800-222-6514). Your complaint will be forwarded to the appropriate field centre. All complaints are investigated, and substantiated complaints may lead to the cancellation of the reclamation certificate. It may be prudent to submit a regulatory appeal (section 10.2) at the same time as your complaint if you are uncertain that the issues will be resolved. You can always withdraw the appeal if all your concerns about the reclamation are dealt with before the appeal date.

Until the reclamation certificate is issued, the company must continue paying any annual fees to the landowner or occupant. If the company fails to pay, the Land and Property Rights Tribunal can be asked to pay the compensation. A company may apply to pay less rent once the above-ground structures have been removed (section 9.1).

All materials from the reclamation process should be cleared away before a certificate is granted. If a company wants to leave any materials or debris for collection after the reclamation certificate is given, you should negotiate another temporary lease agreement.

The AER will conduct audits for only a small sample of the surface reclamation and/or remediation on sites issued a reclamation or remediation certificate. These are conducted randomly or targeted based on risk. An audit of a reclaimed site will include a visual inspection

of the site to determine if reclamation criteria have been met. If the site is audited for remediation, the inspector may conduct intrusive soil sampling and lab analysis on top of the visual inspection. If the audit results indicate that the site does not meet the AER's reclamation criteria or remediation requirements, the certificate may be cancelled. Additionally, you can contact the AER if you believe a company's reclamation activities aren't sufficient.

Even when a reclamation certificate has been issued, the company remains responsible for some time. At the time of writing, a company is responsible for 25 years for surface reclamation issues such as vegetation, soil texture, and drainage; and it has a lifetime liability for contamination.²¹ If there is a problem with the regrowth of vegetation or the site of the sump sinks, you should notify the company and ask them to rectify it. The AER should also be notified at this time.

Well suspension: When a company has suspended operations at a well site but has not yet abandoned the site, the company must follow the requirements set out in AER Directive 013: Suspension Requirements for Wells.

8.2.2 Questions to ask about reclamation of wells and facilities

It is important to get answers to the following questions to ensure that there is no contamination left on your land. You could be held liable if you fail to tell a prospective purchaser of any known contamination.²²

Have you been notified by a company about their intent to abandon and reclaim a well?

They should contact you before they start any reclamation work.

Have you told the company of any areas that need special attention during the reclamation process?

You should check that they locate old sumps and other areas that might need special attention.

How much topsoil will be replaced?

The percentage required will depend on when the well was drilled.

How does the company propose to verify that the surface is fully restored to equivalent land capability?

One growing season may not be enough to verify that the site is fully reclaimed.

²¹ AER, *Closure – Abandonment, Reclamation, and Remediation Fact Sheet* (2025).

²² Environmental Law Centre, *Get the Real Dirt: Contaminated Real Estate and Law in Alberta* (2000).

Have you visually checked that the work has been conducted to your satisfaction?

You should ensure that reclamation is complete and there is no contamination on your land.

After discussions, has the company failed to rectify any reclamation issues that you identified?

If so, notify the AER via the Energy and Environmental 24-hour Response Line.

Has the company done gas migration testing?

The AER requires gas migration testing to be done on all wells that do not have a surface casing vent assembly. The AER recommends that all wells be tested for gas migration prior to abandonment.²³

Has the company given you a copy of the documents that they submitted to the AER when applying for a reclamation certificate?

You should check that you agree with the information on the reclamation application and ask for a Phase 2 assessment if there are gaps in the company's documentation or if it does not agree with your recollection of events.

8.3 Reclamation of other sites

While the previous section focused on oil and gas well sites, similar provisions apply to all oil production sites, batteries, and other facilities and pipelines. All these activities take place on specified land, which is covered by the Conservation and Reclamation Regulations.

Other specific requirements for the conservation and reclamation of oil production sites are set out in the Oil and Gas Conservation Rules.²⁴

8.3.1 Pipeline abandonment

When a pipeline is no longer used, it must be abandoned according to the regulations and left in a safe condition²⁵ and it may be abandoned in place or completely removed. The Pipeline Act and Pipeline Rules outline the requirements for the abandonment of pipelines used for gathering and transmission.²⁶ Land use is the most important factor to consider in determining whether a pipeline section should be abandoned in place or removed. The potential for long-

²³ AER, *Directive 020*, section 7.

²⁴ Alberta, *Oil and Gas Conservation Rules*, Alta. Reg. 151/1971. https://open.alberta.ca/publications/1971_151

²⁵ Alberta, *Pipeline Rules*, Alta. Reg. 125/2023, s. 76(i). https://open.alberta.ca/publications/2023_125

²⁶ Alberta, *Pipeline Rules*, Alta. Reg. 125/2023, s. 76(i). https://open.alberta.ca/publications/2023_125

term structural deterioration of a pipeline abandoned in place — leading to ground subsidence — should also be considered. These and many other factors are evaluated in the *Pipeline Abandonment Scoping Study* commissioned by the National Energy Board (predecessor to the Canada Energy Regulator).²⁷

Directive 056 requires a company to notify the AER when it has abandoned a pipeline. The company must first notify the landowners/occupants affected by the proposed removal or abandonment. If you object to removal or abandonment or are concerned about ownership or liability for the pipeline after it has been abandoned in place, you should tell the AER. The company may prefer to abandon the pipeline in place in order to minimize additional land disturbance and reduce the extent of reclamation work required.

The Pipeline Act states that, even though a company is permitted to abandon a pipeline, it remains liable for other operations that may need to be carried out.²⁸ However, you should ensure that the right-of-way will be properly monitored and any problems associated with the abandonment remediated. When carrying out the abandonment activities, the company should give prior written notice to the landowner and must compensate the landowner for direct expenses and any resulting damage to land, crop or livestock.

Once the pipeline itself has been abandoned, the surface right-of-way may need reclamation. The AER is responsible for ensuring the proper reclamation of a right-of-way, including the specified land associated with the pipeline.

In the past, there have been problems with the reclamation of pipelines operated by companies that are no longer in business, but pipelines are now covered by the Orphan Well Association (section 8.4).

8.3.2 Questions to ask about pipeline reclamation

It is advisable to get answers to the following questions regarding any pipeline reclamation taking place on your land.

Have you been notified by a company about their intent to abandon or remove a pipeline?

They should contact you before they start any reclamation work.

²⁷ Det Norske Veritas, *Pipeline Abandonment Scoping Study*, prepared for the National Energy Board (2010). https://docs2.cer-rec.gc.ca/ll-eng/llisapi.dll/fetch/2000/90463/782060/782061/795792/804521/850212/C8-5-13_-_Attachment_11_-_Pipeline_Abandonment_Scoping_Study_-_A2YoS9_.pdf?nodeid=850222&vernum=-2

²⁸ Alberta, *Pipeline Act*, RSA 2000, c. P-15, s. 25. <https://open.alberta.ca/publications/p15>

Will the pipeline be left in the ground or removed?

Abandonment in place will result in less disturbance, but you should inform the company if you have good reasons to request the pipeline be removed. Operators are not typically required to remove the pipeline at reclamation.

Do you have any concerns about the pipeline abandonment?

If so, try to resolve them with the company and, if they cannot be resolved, inform the AER.

Do you have any concerns about the reclamation of the pipeline right-of-way?

If so, inform the AER.

8.4 Inactive wells, orphan wells and pipelines

Every year, some wells are cased-hole abandoned because a company may no longer find it economic to produce oil or gas, but may not wish to abandon and reclaim a well in case economic conditions change or technology improves to the point where productivity can increase.

As of August 2025, there were an estimated 78,446 inactive wells in Alberta,²⁹ and 4,699 sites (including 3,921 wells) in the orphan inventory that have not yet been decommissioned.³⁰

In July 2020, Alberta introduced the Liability Management Framework and amended the Oil and Gas Conservation Rules and the Pipeline Rules accordingly. The framework replaced the AER's Licensee Liability Rating program with the Licensee Capability Assessment to evaluate a company's ability to meet liability obligations before approving an application.³¹ The Licensee Capability Assessment considers financial health, closure activity rates, and other relevant factors and is set out in the AER's Directive o88.³²

The framework also allows the AER to establish annual closure spend quotas, requiring companies to meet a minimum level of spending on closure activities each year. To drive timely decommissioning and abandonment, the AER has been implementing an industry-wide

²⁹ AER, "Well Status." <https://www.aer.ca/data-and-performance-reports/data-hub/well-status>

³⁰ Orphan Well Association, "Current Well Inventory." <https://www.orphanwell.ca/inventory/inventory-across-alberta>

³¹ Alberta, *Liability Management Framework* (2020). https://www.alberta.ca/system/files/custom_downloaded_images/energy-liability-management-framework.pdf

³² AER, *Directive o88: Licensee Life-Cycle Management* (2025). <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-o88>

spending requirement. In 2023, 91% of licensees complied with their mandatory closure spending.³³

In the early 2000s, a fund was created to properly abandon and reclaim orphan wells, pipelines, and certain facilities (including flare pits and drilling sumps), along with their associated sites, when no legally responsible party exists to deal with their closure — such as when a company declares bankruptcy. The Orphan Fund is administered by the Orphan Well Association (OWA) (Appendix B) and is a joint industry–government initiative financed by an AER levy on industry and other AER fees, so there is no cost to the landowner or occupant. The OWA has also been supported by several interest-free government loans.

A company is required to pay you, as the landowner, annual compensation for the surface lease, even if a well is not operating. If you are no longer receiving annual compensation, you should contact the Land and Property Rights Tribunal (section 9.3).

A company may try to sell off wells that are no longer very productive to smaller companies with lower operating costs in a process known as “offloading.” In some cases, the company goes out of business and its wells become “orphaned.” However, the AER will examine how the transfer of a well licence will affect both companies’ liabilities. The AER can also designate a company’s wells, pipelines, and facilities to the OWA if in the AER’s opinion a company is insolvent or not financially viable but is still active on the corporate registry.

³³ AER, “Liability Management Performance Report,” December 2024. <https://www.aer.ca/data-and-performance-reports/industry-performance/liability-management-performance-report>

Section 9

Compensation and Surface Rights Access



9. Compensation and Surface Rights Access

In Alberta, mineral rights for oil, gas, and coal are not included in the surface rights of land. In most cases these subsurface rights are owned and controlled by the province. In these instances, energy companies are entitled to lease surface rights from landowners and lease land holders to extract oil and gas underneath private and public land. This section provides information to empower you, the landowner, in the event that a company or the government requests access to the surface of your land for subsurface operations or pipeline siting. This section primarily focuses on compensation and the matters that determine compensation. Additionally, this section explains the role of the Land and Property Rights Tribunal in granting right-of-entry orders and recovery of rental orders, as well as the process of registering your private surface agreement with the Alberta Energy Regulator. This section is complementary to much of the commentary about surface leases in section 1, which deals with negotiation on matters other than compensation.

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According to a guide published by the Alberta Land Institute, there is often confusion among landowners surrounding property rights and the complex relationship between surface and mineral rights.¹ Canadian common law acknowledges that “all Albertans, as subjects of the Crown, have broad rights to own, use, and enjoy property”; however, there are limits to these provisions.² The provincial government currently holds 81% of Alberta’s mineral rights, with private entities and the federal government splitting the remaining amount.³ As a result, energy companies are entitled to lease surface rights from landowners to extract “minerals” — in this case, oil and gas. This section provides information to empower you, the landowner, in the event that a company or the government requests access to your land for subsurface operations or pipeline siting.

9.1 Compensation for wells and facilities

As a landowner, you will negotiate with a company or representative land agent to determine the amount of compensation you will receive for leasing land to a company to site wells or facilities. With regard to grazing leases on public land, the government determines access for oil and gas activities,⁴ but a company pays compensation to the occupant (lessee).

Compensation issues are clearly outlined in the government publication *Negotiating Surface Rights*.⁵ A publication from the Alberta Energy Regulator (AER), *Proposed Oil and Gas Wells, Pipelines, and Facilities – EnerFAQ*,⁶ also provides a summary of the compensation process and other topics outlined in this section. For a look at the life cycle of a typical well, watch the AER instructional video “What’s in a Well’s Life.”⁷

In the first year of a new lease, a company has to pay the landowner for the right of entry onto the leased land (except when the land is owned by the Crown).⁸ This fee is set at \$500 per acre, up to a maximum of \$5,000 for the entire site. If the area required is less than an acre, the entry

¹ Alberta Land Institute, *A Guide to Property Rights in Alberta* (2014). <http://www.albertalandinstitute.ca/public/download/documents/10432>

² *A Guide to Property Rights in Alberta*, 10.

³ *A Guide to Property Rights in Alberta*, 11.

⁴ The Public Lands Act allows the minister to make more than one disposition for the same land. Alberta, *Public Lands Act*, RSA 2000, c. P-40, s. 25(b). <https://open.alberta.ca/publications/p40>

⁵ Alberta Agriculture and Forestry, *Negotiating Surface Rights* (2009). <https://open.alberta.ca/publications/4390211>

⁶ AER, *Proposed Oil and Gas Wells, Pipelines, and Facilities – EnerFAQ*. <https://www.aer.ca/understanding-resource-development/enerfaqs-and-fact-sheets/enerfaqs-landowner>

⁷ AER, “What’s in a Well’s Life,” YouTube, February 21, 2019. <https://www.youtube.com/watch?v=eLM2gv4kSXE&t=15s>

⁸ Alberta, *Surface Rights Act*, RSA 2000, c. S-24, s. 19. <https://open.alberta.ca/publications/s24>

fee is proportionate to the area, but not less than \$250.⁹ This is a fixed payment, but other payments (such as compensation) can be negotiated. Some companies may consider this fee as payment for your time to negotiate the process, but you can cost this out separately in your negotiations.

In addition to the one-time right-of-entry fee, a company must also pay annual compensation. Regardless of whether right of entry is acquired by a private agreement or a right-of-entry order (discussed below), compensation for accessing and using the land should be determined in the same fashion, having regard to the compensation factors listed in section 25(1) of the Surface Rights Act and related judicial guidance.

In the first year, this compensation must take into account the following:

- the value of the land (this is the value if sold on the open market or the per-acre value of the land),¹⁰ based on the highest approved use of the land (such as agricultural, industrial, or residential). This is typically only considered in the initial payment, not in subsequent rent reviews.¹¹
- the loss of use by the owner or occupant (such as the gross value of the crop per acre at the time of the rental review)
- the adverse effect of operations
- the nuisance and inconvenience that might be caused by the operations¹²
- other relevant factors that may be specific to your situation, such as material and assets left at the end of construction or other non-cash transactions

You can determine the value of the land through a local real estate agent. If the land is irrigated, compensation should reflect the value of crops that can be grown on that land.

After the first year, annual compensation will be based on the loss of use and adverse effects.

Adverse effects refers to effects on the remaining land held. This might cover, but is certainly not limited to, the difficulties of farming close to a well site or access road; the cost of weed control; any additional checks required to ensure that livestock have not gone through open gates or

⁹ The initial entry fee is “per titled unit,” so a separate fee can be charged for each separately titled unit. A fee can also be charged for each occurrence, so if a company wants to put a second well on the same titled property a year later, they have to pay another fee.

¹⁰ You can find more information on land values at Alberta Agriculture and Irrigation, *Agricultural Real Estate Transfers, Provincial Average: 2004–2023*. <https://open.alberta.ca/publications/agricultural-real-estate-transfers-2004-2023>

¹¹ This means that if the parcel is zoned agricultural, you have a significant barrier to argue urban/subdivision values of the land if you intend to develop it. Land values will have within themselves a premium or discount depending on their location.

¹² *Surface Rights Act*, ss. 20 and 25.

fences onto the well site; and excessive noise, dust, or odour caused by the operations.¹³ Adverse effects can be generalized as the costs associated with managing your field differently, the time taken away from your work, and the future loss of use of your field.

Having an oil or gas well on the land will impose some limitations on future use of the surrounding land, as a company will put a caveat on the land they lease, including the access road, to protect their right of access to the well. The access route or pipeline right-of-way may, for example, restrict the options for subdivision, especially due to setback requirements. However, in many instances, one can still farm a portion of the lease and land next to an access road.

If you are unable to agree on the amount of compensation, you can temporarily refuse entry to your land. The company will then apply to the Land and Property Rights Tribunal for a right-of-entry order and the tribunal will determine the amount of compensation you are to receive (section 9.3). Even if you mostly agree on compensation, you may prefer to have the agreement formalized through the tribunal by requesting that the company obtain a right-of-entry order, instead of signing a surface lease privately with the company.

Since the annual compensation agreement is reviewed only every five years,¹⁴ you will want to consider possible long-term impacts when negotiating the annual fee. However, a company may be willing to renegotiate compensation within the five-year period if circumstances change. It is important to note that companies are required to give you notice of the fourth anniversary of your agreement no more than 30 days after the fact; be aware of this date as you must be proactive in the event that a company fails to do so.¹⁵ You can take action by contacting the company directly or by requesting a review from the Land and Property Rights Tribunal, who will then have the responsibility of making the company aware that the agreement is up for renegotiation. While the Land and Property Rights Tribunal does not harshly punish company non-compliance with the renegotiation procedure, it does allow landowners to circumvent company inaction by directly requesting a compensation review from the tribunal.¹⁶

¹³ The decision *Canadian Natural Resources Ltd. v. Bennett & Bennett Holdings Ltd.*, 2008 ABQB 19, goes to great lengths to define adverse effect and may be useful to understand what the Land and Property Rights Tribunal may consider to be an adverse effect.

¹⁴ *Surface Rights Act*, s. 27.

¹⁵ *Surface Rights Act*, s. 27(4).

¹⁶ Fenner Stewart, "Section 27 of the Surface Rights Act and the Potential Fallout of Non-Compliance," *ABLawg.ca*, May 22, 2015. <http://ablawg.ca/2015/05/22/section-27-of-the-surface-rights-act-and-the-potential-fallout-of-non-compliance/>

It may be helpful to discuss compensation issues with someone who already has a well on their land or to contact a local surface rights or synergy group (Appendix B).

The company must make annual payments until a reclamation certificate has been issued and they can terminate their lease.¹⁷ Sometimes a lease agreement includes a clause that will allow the company to reduce the annual lease rent once surface structures have been removed from the site, but before reclamation has been carried out. While this could enable you as the landowner/occupant to use or cultivate the land (if included in your agreement), a company may have less incentive to complete reclamation as it costs less for the company to keep the lease for potential future production than to pay for reclamation in the meantime. The Surface Rights Act makes no provision for such a reduction in compensation, and you are legally entitled to the full annual lease rent until the reclamation certificate has been issued.¹⁸ A company is required to pay compensation even if it takes over wells from another company and the wells are no longer operating.

If a company breaks the terms of a surface lease, as the landowner, you can try to end the lease. For instance, if a company fails to pay compensation, you can request the Land and Property Rights Tribunal to terminate the company's right of access, which allows the tribunal to divert funds to cover rental costs until the well is reclaimed or the company resumes payments (see section 9.3.3).

However, the landowner doesn't always have to wait for the tribunal to act. Most leases say the company isn't "in default" right away if they miss a payment. The landowner first has to send them a written notice. After getting the notice, the company has 30 days to fix the problem. If they don't, the landowner can move to end the lease. For missed payments, it's important to send a written demand that gives the company a clear deadline (for example, 30 days) and warns that they'll lose their right of entry if they don't pay.

Landowners also have the right to file an application with the tribunal seeking compensation from the company for specific losses set out in section 30(1) of the Surface Rights Act, including damage to your land outside the area granted to the operator, loss or damage to livestock or personal property, or time or expenses spent recovering livestock that have strayed due to mistakes by the company.

The tribunal is entitled to adjudicate such matters and award up to a maximum of \$50,000.00 if the application is filed within two years of the date the damages allegedly occurred. Seeking an

¹⁷ Alberta, *Environmental Protection and Enhancement Act*, RSA 2000, c. E-12, s. 144.

¹⁸ *Negotiating Surface Rights*.

award from the tribunal does not preclude a landowner from seeking an additional amount through the courts.

Compensation cannot be recovered, however, if there is evidence that the person receiving the money is refusing access for operations, abandonment or reclamation.¹⁹ If a company is still operating but the tribunal has terminated or suspended their right of access, the company is still obligated to abandon the well and reclaim the site (section 8.2).

Watch out: Double compensation and overlapping rights of entry

There is a principle against double compensation which holds that a landowner is not entitled to be compensated twice for the same land area. While this is true, it doesn't mean that companies can skip getting proper overlapping rights of entry. If they fail to secure these rights, their new activity may constitute trespassing on your land.

Common examples:

- using the same road or lease area for a new well without new rights
- adding a second well on top of the first lease area without overlapping rights

Don't assume that land agents, licence issuers, or even the Land and Property Rights Tribunal always get this right. You can recover reasonable costs for hiring a lawyer or surface rights advocate — and it's usually a good idea to get help.

In the case of orphan wells, where the owner has gone out of business, the industry-funded Orphan Well Association (OWA) steps in to deal with the abandonment and reclamation process (section 8.4). This non-profit association receives its funds primarily through a levy that all oil and gas companies must pay, and in part from provincial government loans.²⁰

Despite obligations for a company to reclaim a site, insolvencies continue to add wells and facilities to the orphan well inventory.

9.2 Compensation for pipelines

Unlike compensation for wells, there is no recurring payment of rentals for pipelines in most instances. Instead, compensation is generally a one-time entry fee before the company installs the pipeline. Compensation is considered the value of land, plus a premium.

¹⁹ *Surface Rights Act*, s. 36(8).

²⁰ Orphan Well Association, *Orphan Well Association 2024/25 Annual Report* (2025), 11. https://cdn.prod.website-files.com/66a3c445f4f5971ff979146e/68768ee501afb09ac3465afc_OWA%20Annual_2024-25_Web.pdf

Adverse effect, nuisance and inconvenience are considered damages, and may be settled after the pipeline is constructed. Compensation for adverse effects includes loss of crops, and loss of use of land during operations and while vegetation is re-established. Compensation is not calculated until a crop has been grown on the land so that the full extent of any damage can be assessed. The compensation does not include use of additional land for temporary workspace (typically called a staging area); the company should pay extra for this.

Where you and the company are unable to agree on the amount of compensation, the company may ask the Land and Property Rights Tribunal to resolve the issue (see below). Even if you and the company can generally agree on compensation, you may prefer to have a board order, and request that the company requests one from the tribunal (section 9.3.2). This has generally fallen out of practice, but it is still an option.

Any outstanding claims related to damages caused during pipeline construction should be dealt with through arbitration; there should be an arbitration clause in the right-of-way agreement. This will allow any disputes (over damage, cleanup, or other issues) to be settled without going to court. However, it is also possible to bring disputes relating to damage of the right-of-way to the Land and Property Rights Tribunal, provided that the damages are recognized within two years and amount to less than \$50,000 (section 9.3.4).

9.3 The role of the Land and Property Rights Tribunal

The Land and Property Rights Tribunal can be involved in determining the compensation for a well, pipeline or facility through a right-of-entry order and the subsequent compensation hearing (section 10.3.3). Cost awards for time and incurred expenses are also granted by the tribunal, with an example cost tracking sheet provided in Appendix C.

An operator and a landowner can also enter into a voluntary agreement for land access without involving the Land and Property Rights Tribunal. These agreements typically fall into two categories:

- **Surface lease agreements** — used for well sites, facility sites, pipeline riser sites, and other upstream oil and gas operations. These agreements grant the operator surface access to a defined area of land. Depending on the terms, landowners' or occupants' access to the leased area may be restricted for safety or operational reasons.
- **Right-of-way agreements** — apply to buried pipelines or overhead power transmission lines, granting the operator the right to install and maintain linear infrastructure across the land.

9.3.1 Right-of-entry orders when landowner and company cannot agree

If you, as the landowner, and the company cannot agree on compensation for right of entry, the company can take their case to the Land and Property Rights Tribunal after they've received project approval from the AER. Additionally, in some cases an operator and a landowner may agree, but an occupant does not give consent to the operator. In these instances, the tribunal must grant the company a right-of-entry order if the AER has approved the project.

If you do need to go before the tribunal because you are unable to reach agreement, be sure to keep both a log of the time spent in negotiations and a journal of events. You may be compensated for reasonable expenses related to negotiations with the proponent company.

When the company receives a right-of-entry order from the Land and Property Rights Tribunal, the operator must first pay the entry fee and 80% of the last written offer (which may not be the last best offer). The tribunal will then facilitate a dispute resolution conference or determine the amount of compensation payable through a compensation hearing (section 9.3.4).

The Land and Property Rights Tribunal also deals with issues relating to right of entry onto agricultural leases on public land for seismic operations (section 3.1).

9.3.2 Right-of-entry orders when landowner and company agree

Sometimes you will be close to reaching an agreement with a company over their access to your land and the appropriate compensation, but still want to involve the Land and Property Rights Tribunal by requesting that the company obtain a right-of-entry order.

Some people choose this option as they consider that a right-of-entry order by the tribunal protects their rights better than signing a private surface lease agreement or easement form prepared by the company.²¹ This option has mostly fallen out of practice, as there may be additional protection from registering your private surface agreement with the AER.

There are many reasons for this preference, including the fact that a right-of-entry order can be reviewed at any time and updated if conditions change. If the tribunal has placed conditions in the order to protect you as the landowner (e.g., with respect to soil conservation or other environmental protections) and the company fails to comply, you can take the issue to the tribunal, instead of having to go to court. In the case of pipelines, a right-of-entry order enables a landowner to go to the tribunal with a claim for compensation for any damage that occurs

²¹ Stringam LLP, "16 Reasons Why a Right-of-Entry Order is Better than a Surface Lease or Easement," 2017. <https://stringam.ca/2017/09/22/16-reasons-right-entry-order-better-surface-lease-easement/>

during construction. (Note: This is different from the compensation agreed to in advance for right of entry.)

If you request that a company takes out a right-of-entry order and are then able to subsequently agree with the company on compensation without the tribunal having to set the rate, you can choose to have the agreement formalized through a compensation order (section 10.3.3).²² These compensation orders can only be applied for once a right-of-entry order is in place, and thus, are not applicable to private surface leases.

In the event that a right-of entry order has been issued, but you and the company wish to enter a private surface lease agreement instead, the company can rescind the right-of-entry order by making a request to the tribunal.

9.3.3 Recovery of rentals when company fails to pay

If a company fails to pay the money required by a right-of-entry order or compensation order, you should contact the company to request payment. If the company has not paid within 30 days after the due date, you should apply to the Land and Property Rights Tribunal. The tribunal will ask you to provide the name of the company, proof of the lease, and the date that rent was last paid. The tribunal will prepare and require you to complete a statutory declaration stating, among other things, the name of the company, the amount of rent due, and the due date. The tribunal will verify the information and, if correct, notify the company that it must pay (when the company can be traced). If the company fails to pay, the tribunal may suspend or terminate the company's right of access under the surface lease or right-of-entry order.²³ After the right of access is terminated, the tribunal can then make arrangements for you to receive payment for the lease from the Ministry of Environment and Protected Areas via the General Revenue Fund (as provided for in the Surface Rights Act, section 36(6)). The Land and Property Rights Tribunal will also contact the AER and ask them to deal with the well under their enforcement program (if the company is active) or the Orphan Well Association (for wells where no owner can be traced). You should continue to receive payment for the lease from the ministry until the well and its site have been reclaimed, but you must continue to apply each year that a company fails to pay.

9.3.4 Compensation hearing for damages

The Land and Property Rights Tribunal can also hold a hearing in some cases where you and a company are unable to settle disputes about compensation for damage caused by the company's

²² Alberta, "Right of entry order – Compensation." <https://www.alberta.ca/surface-right-of-entry-compensation>

²³ *Surface Rights Act*, s. 36(5).

operations to land outside of the lease agreement (section 10.3.3). Additionally, a claim may be made for damage to livestock or other personal property that occurs on your land, whether or not there is a right-of-entry order or surface lease agreement in place for the particular area. The claim can include the time spent in recovering livestock that have strayed as a result of the company's activities.²⁴ Claims must be brought to the Land and Property Rights Tribunal within two years and the total amount of the claim must be for less than \$50,000.

9.3.5 Rental review process

The Land and Property Rights Tribunal has the power to increase, decrease or keep annual rent the same. Surface lease agreements can be negotiated every five years, and both the company and the landowner are able to file a compensation review (also known as a rental review) with the tribunal. The operator is responsible for giving notice for the review to the landowner within 30 days after the anniversary of the fourth year of the right-of-entry order or the surface lease. If an agreement can't be reached, the party that wishes to have the rental amount changed can apply to the tribunal for a compensation review. The request should include

- name and address of the operator and lessor/respondent
- current rate and proposed new rate of compensation
- copy of the surface lease and any other relevant documents
- the effective date of the review of compensation²⁵

A compensation review focuses on a change in loss of use or a change in adverse effect. As a landowner or lessor requesting a compensation review, you should show evidence that there is a change in the loss of use or adverse effect from the last agreement. The tribunal will look at the pattern of surface lease dealings of all the wells in the general area that were drilled the same year as the well in question. If the tribunal does not see a pattern, it will look at the farm evidence to examine a change.

If the operator did not give notice to the landowner for a right of review, the tribunal may award interest. Additionally, it may award reasonable costs that a landowner incurs by participating in the tribunal proceedings.²⁶

²⁴ *Surface Rights Act*, s. 30(1).

²⁵ Alberta, "Surface rights – Review the rate of compensation." <https://www.alberta.ca/surface-rights-board-compensation-review>

²⁶ Surface Rights Board, *Information Sheet: Guide to Review of Annual or Other Periodic Compensation* (2012). <https://open.alberta.ca/publications/information-sheet-guide-to-review-of-annual-or-other-periodic-compensation>

9.4 Private Surface Agreements Registry

If you are able to reach a private surface agreement with a company without obtaining any orders from the tribunal (right-of-entry order or tribunal compensation order), you are eligible to use the Private Surface Agreements Registry (PSAR) (see section 2.3 for registering your private surface agreement).

The AER-monitored PSAR gives landowners another recourse if a company fails to comply with parts of an agreement. If the operator fails to meet certain terms and conditions of a registered agreement, you can submit a section 64 request under the Responsible Energy Development Act.²⁷ If the regulator determines that the company has not complied with the conditions of the agreement, the regulator can order the company to comply. If the allegations have merit, the AER can issue a compliance order to the company. While the AER itself does not have the jurisdiction to physically enforce this order, it does have the ability to follow up with a fine or have the order enforced by a court judgement should non-compliance continue.²⁸ The PSAR can lend further legitimacy to your agreement and give you stronger legal position if you must go to court to address contract breaches.

More information about the PSAR and how to register is available on the AER's website.²⁹

²⁷ AER, "Private Surface Agreements Registry." <http://www.aer.ca/applications-and-notice/private-surface-agreements-registry>

²⁸ Giorilyn Bruno, "Phase 2 of the Implementation of the Alberta Energy Regulator: The Private Surface Agreement Registry," *ABlawg.ca*, January 20, 2014. <http://ablawg.ca/2014/01/20/phase-2-of-the-implementation-of-the-alberta-energy-regulator-the-private-surface-agreement-registry/>

²⁹ AER, "How to Register a Private Surface Agreement – EnerFAQ." <https://www.aer.ca/understanding-resource-development/enerfaqs-and-fact-sheets/enerfaqs-private-surface-agreement>

Section 10

Public Hearings and Regulatory Board Processes



10. Public Hearings and Regulatory Board Processes

If there are concerns about a project that cannot be addressed through negotiation or the alternative dispute resolution process, the AER may hold a public hearing to explore the concerns and make a decision to approve, to approve with conditions, or to deny a project. If the issue is around compensation, a hearing may be held by the Land and Property Rights Tribunal. If the approval is related to pipelines that cross provincial or national borders, the Canada Energy Regulator may hold a hearing. As each regulatory body has different mandates and considerations for participation, this section outlines the general hearing process for each and who may participate in these hearings.

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It is important to distinguish between the roles of the Alberta Energy Regulator (AER), the Alberta Land and Property Rights Tribunal, and the Canada Energy Regulator.

The AER provides all permits, approvals or licences for energy resource activities in Alberta such as a licence for an operator to drill a well, construct and operate a pipeline, or carry out other energy projects. Any concerns or objections to a project may be brought to the attention of the AER through a pre-application concern or a statement of concern.

Formerly, appeals on environmental, water and public land approvals related to energy resources were heard by the Environmental Appeals Board. Since the creation of the AER, all decisions related to energy resource activities, including appeals on reclamation certificates, environmental protection orders and enforcement orders, are appealed to the AER. The AER has discretion to decide if it will reconsider any of its decisions, and if it will do so with or without a hearing.

The Land and Property Rights Tribunal has the power to grant a right-of-entry order after a company has received a licence or permit from the AER, even if the owner or occupant refuses access to the property. The Land and Property Rights Tribunal will then decide on the appropriate compensation and to whom it should be paid. All concerns about compensation must be brought to the Land and Property Rights Tribunal, as the AER does not have jurisdiction over compensation.

The Canada Energy Regulator has jurisdiction over decisions about interprovincial or international pipelines.

The Alberta Utilities Commission regulates applications for electricity generation and transmission, which is a separate process and is not discussed in this guide.

10.1 Alberta Energy Regulator hearings

A hearing is a quasi-judicial and formal public process where the company, landowners and others affected by a proposed development, and/or their legal representatives can present their views. The panel consists of one or more AER hearing commissioners and can be completed electronically or in person. The AER then makes a decision on the specific issues at hand based on the evidence.

If there are outstanding concerns about a proposed development that cannot be addressed through negotiations or the AER's alternative dispute resolution (ADR) process (section 2.4), a person who feels that they may be directly and adversely affected can submit a statement of concern to the regulator when a company has submitted their application. If the statement of concern is received before the AER makes a decision and before the filing deadline, the regulator

may recommend the file to the chief hearing commissioner for a hearing. Additionally, the AER can hold a hearing even if no one has been found to be directly and adversely affected.

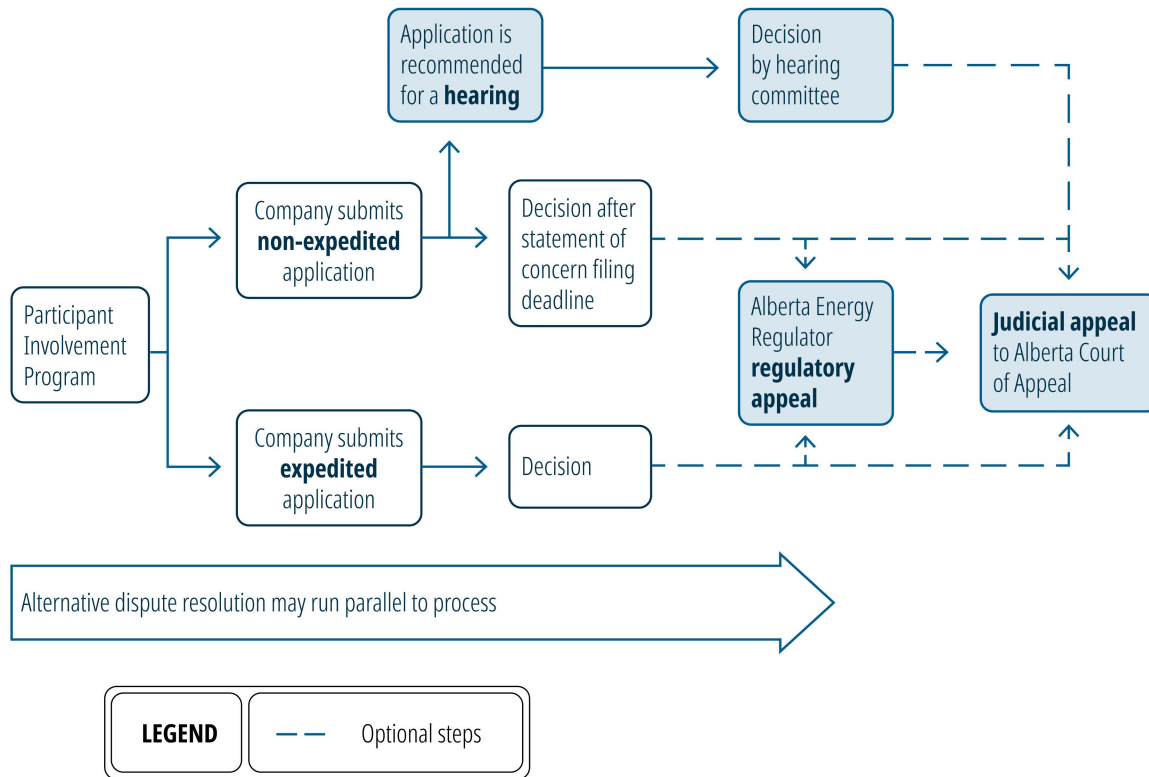


Figure 8. Regulatory process for energy development

If a hearing has been requested, the AER will encourage the parties to continue to reach a negotiated or mediated settlement, either privately or through the ADR process. Since hearings are very expensive and can delay projects, the company may be motivated to resolve concerns or decrease the number of issues that will be discussed in a hearing.

The AER has several documents outlining its hearing process. The public hearing process is set out in the AER's Rules of Practice¹ but *Manual 003: The Hearing Process for the Alberta Energy Regulator* describes the process in plainer terms.² Additionally, you can contact the AER's Hearing Services office,³ who can provide you with more information about the hearing process and may offer hearing information sessions near the area of the proposed project.

¹ Alberta, *Alberta Energy Regulator Rules of Practice*, 99/2013. https://open.alberta.ca/publications/2013_099

² Alberta Energy Regulator, *Manual 003: The Hearing Process for the Alberta Energy Regulator* (2020). <https://static.aer.ca/prd/documents/manuals/Manual003.pdf>

³ AER hearing office: hearing.services@aer.ca, or General Inquiries toll-free: 1-855-297-8311.

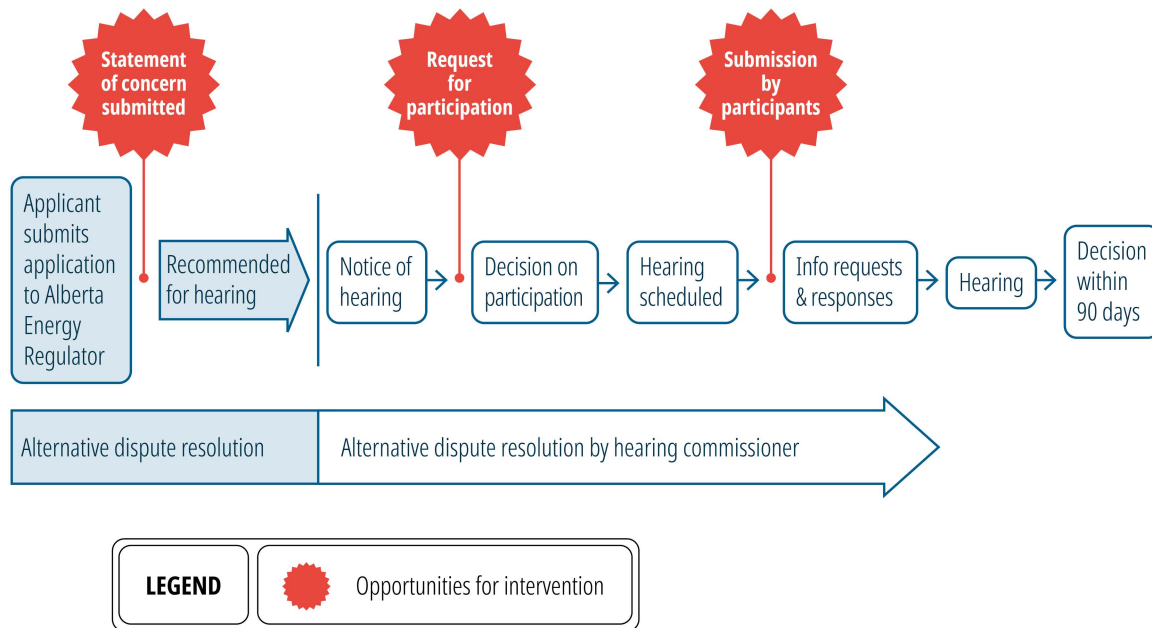


Figure 9. Typical AER public hearing process

10.1.1 When does the AER decide to hold a hearing?

The AER has considerable discretion to determine when to hold a hearing, and more discretion than its predecessor, the Energy Resources Conservation Board. The regulator is required to hold a hearing in very few circumstances. Most hearings are held when the AER receives and accepts a statement of concern about an application, or a regulatory appeal on an AER decision is requested.

Any person who feels that they may be directly and adversely affected by a decision of the AER can attempt to request a hearing by filing a statement of concern. When a project is submitted to the regulator with no outstanding concerns, it may be expedited, which allows the regulator to make a decision immediately. However, if a company is aware of outstanding concerns, they must inform the AER of those concerns and provide those who raised them with a copy of the notice of application. With outstanding concerns, the company is required to file its application as a non-expedited application, and the regulator must wait until the filing deadline described in the notice of application has passed before rendering a decision. It is important to submit your statement of concern within the timelines stated in the public notice of application or the regulator may dismiss your statement of concern. In extenuating circumstances, you may be able to request to file a late statement of concern.

As a landowner or occupant of the specific land in question, you can request a hearing by submitting a statement of concern if negotiations have failed and you are unable to reach agreement with a company about a proposed development. Anyone else who is directly and

adversely affected, such as neighbours objecting to a well, pipeline or other energy project, can also request a hearing, although they may have a harder time being considered directly and adversely affected. When the AER is reviewing the application, it will consider all the registered statements of concern before making a decision on whether to hold a hearing. However, even if a statement of concern has been submitted, the regulator can decide not to hold a hearing. Typically, the regulator will not hold a hearing if it doesn't find anyone to be directly and adversely affected or if it considers that concerns have been adequately addressed.

As the AER will only make its decision on the evidence that it has before it, it is important to explain your concerns fully and to clearly outline how you are directly and adversely affected. The AER will ask the company to respond to your statement of concern, and the company will likely try to refute your statement of concern. You may wish to provide more information to the AER about your statement of concern or to refute information provided by company. The AER may accept additional information about registered statements of concern until it makes a decision. Every person who filed a statement of concern will be provided a copy of the AER's decision.

Once the AER decides to hold a hearing and a hearing panel is assigned, a notice of a hearing will be issued. The notice will provide details on how to request to participate in the hearing. The AER's Rules of Practice allows those who think they are directly and adversely affected to request to participate. Additionally, those who think they have a tangible interest in the matter and can materially assist the AER in its decision are allowed to request to participate in a hearing, even if they are not considered directly and adversely affected.⁴

The hearing panel will decide who can participate and determine the scope of participation for those it allows to participate. Certain parties may be automatically granted participation, such as the applicant or a regulatory appeal requestor. However, automatic participation is not given to those who submitted a statement of concern. Therefore, if you want to participate in the hearing, you must submit a request to participate within the timeline given in the notice, even if you have already filed a statement of concern.

10.1.2 What to consider before a hearing

A hearing takes a lot of time and is costly to all parties involved. A hearing can last from one day to several weeks, depending on the complexity of the problems to be resolved and the number of participants. If negotiation or mediation has failed, asking for a hearing is another opportunity to have your views heard; however, you can continue negotiations right up until the start of a

⁴ Alberta, *Alberta Energy Regulator Rules of Practice*, s. 9(2)(c).

hearing. Before you decide to ask for a hearing, you may want to talk with other people in your area so you can all work together.

An AER hearing is a quasi-judicial process; while it is not essential to have a lawyer represent you, it is strongly advisable. Certainly, the company seeking approval for a project will employ a lawyer who will build the company's case and try to challenge the legitimacy of yours. The company lawyer may question your eligibility to participate, such as suggesting you may not be directly and adversely affected.⁵

If you wish to provide additional information about your request or to refute the company's information, generally an AER hearing panel will admit additional information, unless accepting that additional information is unfair to other parties or unnecessarily delays the process. In practice, hearing panels have discretion in how rules and procedures are applied. They may try to accommodate participants who are not represented by a lawyer, while ensuring that the process is fair to everyone.

Preparation for a hearing often involves a lot of technical work. Depending on the issues, you may want to draw on a range of experts. These experts might include a geologist to review drilling plans, someone to critique the gas emission modelling work conducted by the company, an engineer to examine the specifications for the design and materials to be used in constructing a pipe or casing, and a medical person to review the potential impacts of a sour gas release.

Most experienced lawyers will know qualified experts, and some will provide up-front coverage of costs for you. However, you may also want to look at previous AER hearing decisions to get an idea of the type of evidence presented at a hearing.⁶

You should contact knowledgeable lawyers and experts in the field before you apply for a hearing, so you know the costs involved and whether the experts you wish to hire will be available if the AER decides to hold a hearing. When discussing your case with these individuals, be clear that you are only inquiring, and that you are not engaging their services until it is certain that the AER will hold a hearing. Also, reach an understanding up front about the rates and terms of payment.

Where possible, engage these professionals on a contingency basis, where you agree to apply for participant funding and will pay reasonable fees if costs are awarded to you by the AER. Many professionals will agree to this if it is clear that you are a "directly and adversely affected" party and have a valid case. Some people may also agree to work for lower rates that reflect a

⁵ Although the example is from 1999, see *EUB Decision 99-16* on Canadian 88 Energy Corp.'s application for a critical sour gas well in Lochend Field. The company challenged the rights of interveners living in the emergency response zone. <https://www.aer.ca/documents/decisions/1999/d99-16.pdf>

⁶ AER, "Decisions." <https://www.aer.ca/applications-and-notice/application-status-and-notice/decisions>

contribution to the “public interest,” or ask only that you reimburse out-of-pocket expenses if participant funding is not granted. You can also negotiate directly with the company to ask them to pay reasonable costs or ask the AER for an advance costs award. Without establishing this understanding from the start, you may be exposed to costly professional fees.⁷ See section 10.1.8 for more details around hearing and participant costs.

10.1.3 Filing a statement of concern

If negotiations have failed and you want the AER to formally address your concerns after the company has submitted their application, the next step is to submit a statement of concern to the AER about an application or project.⁸ It is important for you to submit a statement of concern at this stage of the process or your concerns will not be considered when the AER makes a decision on the application.

When submitting a statement of concern, you need to concisely explain why you believe you are both directly and adversely affected by the regulator’s decision, the nature of your objection to the application, and the outcome you advocate for.⁹ You need to include other relevant details, such as your contact info and your location relative to the proposed project.

It is important to submit your statement of concern within the filing period and carefully make your case as to why you are both directly and adversely affected. The AER must consider all statements of concern that it accepts when making a decision on an application and determine if a hearing is necessary. You should review recent participatory and procedural decisions that are listed on the AER website, as they will give you a good sense of how the AER decides who is directly and adversely affected, what concerns they will address, and what information is useful to the AER when deciding to hold a hearing.¹⁰ Currently, the AER has a fairly narrow interpretation of who is directly and adversely affected, and typically does not include people who don’t live or own the land where the project will be located, or who cannot establish that they are negatively impacted.

The types of concerns that might be raised include potential impacts on air quality and groundwater and surface water quality, noise, waste, risk of emergency blowouts, and concerns

⁷ One hearing into a proposed well near Calgary resulted in more than \$54,000 in legal fees and \$61,500 in expert fees, although most hearings are not so costly. See Energy Resources Conservation Board, *Energy Cost Order 2013-002: Bernum Petroleum Ltd., Applications for One Facility Licence and Two Well Licences*. <http://www.aer.ca/documents/orders/cost-orders/ECO2013-002.pdf>

⁸ Notice of applications are found on the AER website at <https://www.aer.ca/applications-and-notice/application-status-and-notice/notice>.

⁹ Alberta, *Alberta Energy Regulator Rules of Practice*, s. 6(1).

¹⁰ AER, “Participatory and Procedural Decisions.” <https://www.aer.ca/applications-and-notice/application-status-and-notice/decisions/participatory-and-procedural-decisions>

about conservation and reclamation issues. However, it's not enough to simply raise a concern; you must explain how you will be directly and adversely impacted based on your concern. For example, it may not be enough to say you are concerned about an emergency blowout. But if you are required to evacuate through an unsafe zone in the event of an emergency, your statement of concern is more likely to be considered. You shouldn't assume that the AER will have this information unless you provide it in your statement of concern. The AER considers each case on its own merits when it decides whether a hearing is required and does not work on precedent. Be sure to provide all the legitimate arguments you can and give as much detail as possible. Make it as easy as possible for the AER to follow your arguments by putting each specific concern about an application in a separate, numbered paragraph.

Calling the regulator does not count as submitting a statement, as it must be in writing. You must submit your statement before the date specified in the notice (the time for comment can be as short as 10 days or as long as 30 days). In some cases there is no time set, such as when the project is filed as an expedited application (also known as a routine application). In these cases, the AER may make a decision on the application immediately. When the project is filed as a non-expedited (or non-routine) application, the AER must wait for the period for filing a statement of concern to pass before they will approve a project. Companies are allowed to file an expedited application if they do not require regulatory leniency and if there are no outstanding concerns at the time of application.¹¹ If the regulator does not receive any statements of concern, they are very unlikely to hold a hearing. If the regulator has already decided on an application, then they can't consider a statement of concern, so it is important to submit your statement as soon as possible.¹²

The regulator has considerable discretion to hold a hearing, and there are very few instances where the regulator is required to hold a hearing. Additionally, under the AER's enabling legislation, those who are directly and adversely affected do not have a formal right to a hearing. Therefore, you need to make your case for a hearing as strong as possible by being as specific as possible and presenting all the main arguments in your statement of concern. However, if the regulator decides to hold a hearing, according to the Responsible Energy Development Act, you may be entitled as a directly and adversely affected person to be heard at the hearing.¹³

¹¹ Exceptions, including routine applications, are described in the *Alberta Energy Regulator Rules of Practice*, s. 5.2(2).

¹² Alberta, *Alberta Energy Regulator Rules of Practice*, s. 6.2(1)(c).

¹³ In accordance with section 9.1(3) of the *AER Rules of Practice*, the regulator may refuse to allow you to participate if they find your request to participate frivolous, vexatious, an abuse of process, or without merit; or if you haven't demonstrated that you will materially assist the process, have a tangible interest in the manner, not unnecessarily delay the hearing, or not repeat and duplicate evidence. The regulator may also refuse for any other reason.

Any statement of concern you submit will be publicly posted on the AER website, so you should not include personal, medical, financial, or otherwise confidential information in your statement. If it is important that the AER consider your personal private information, you can request that information be held confidential. However, it may be enough for you to describe the information and offer further details if necessary. You don't have to prove you are directly and adversely affected for the AER to consider your statement of concern, just that you may be directly and adversely affected.

10.1.3.1 Notice of a hearing and requesting to participate

If the AER decides to hold a hearing, the branch of the AER that would approve the application forwards the file to the chief hearing commissioner. The chief hearing commissioner will send a letter to people who have filed statements of concern, advising them that the file has been sent to the hearing commissioner's office.¹⁴ A hearing panel will be assigned to the file, and if considered beneficial, a second panel will be assigned to conduct an ADR process.¹⁵ The hearing panel and the ADR panel work separately, to avoid unduly influencing the hearing process if it proceeds.

Once the hearing panel believes the matter is ready to proceed to a hearing, it will issue a notice of a hearing. The notice will be sent to all those who submitted a statement of concern and to all those listed in the application, and will be posted on the AER's web site.¹⁶ Additional information and documentation will be posted on the AER's public record system for hearings.¹⁷ The notice will outline pertinent details about the hearing, such as the subject of the hearing, where to see copies of the relevant application documents, and how to request to participate.

Even if you have submitted a statement of concern for the original application, you must submit a request to participate, also known as a written submission, within the time laid out in the hearing notice. You should submit:

- a copy of your statement of concern (or an explanation as to why you didn't file a statement of concern)
- an explanation of how you are directly and adversely affected by the decision of the AER

¹⁴ This is not a notice of a hearing, which will be announced at a later time.

¹⁵ This ADR differs from earlier stages of ADR, in that it is conducted by hearing commissioners. If ADR had been conducted before the file was sent to the chief hearing commissioner, then some AER staff from the previous ADR process may be included.

¹⁶ AER, "Notices."

¹⁷ Almost all hearing materials will be posted on this system. Sometimes you may see materials for a potential hearing that has not had a notice of hearing issued. AER, "Hearings – Public Record System."
<https://apps.public.aer.ca/hearing/>

- the outcome of the application that you advocate for
- how you intend to participate in the hearing
- evidence of your efforts to resolve the issues that you are bringing up in the hearing

If you are representing a group or association, you should explain the nature of your membership with that group. See the AER's Rules of Practice for everything you are expected to include to ensure that your concern is accepted by the regulator.¹⁸

If you are not considered directly and adversely affected, you can still apply to participate in a hearing. For example, landowner groups or residents who live outside of a notification zone may be granted participation status. When applying, you need to carefully explain the nature of your interest and why you should be allowed to participate. Additionally, you need to elaborate on how your participation will materially assist the hearing panel to make its decision, what tangible interest you have in the subject matter, and how your participation won't delay the hearing or duplicate evidence of the other parties.¹⁹ The panel has the ability to grant partial participation and may limit your participation to an electronic submission or determine the issues you are allowed to speak to.

Even if you did not submit a statement of concern, you may still be allowed to participate. It is best to respond to the notice of hearing and make a written submission. If you did not submit a request to participate, you can still attend the hearing; however, you will not be permitted to submit any evidence or make a submission.

Before preparing and submitting your request, it is useful to review the Alberta Energy Regulator Rules of Practice and *Manual 003: Participant Guide to the Hearing Process*. The rules set out the key steps that you must follow in preparing and submitting a request and what the regulator will consider in deciding on a hearing. The manual was written to assist participants in AER hearings. Additionally, you can contact the Hearing Services office or attend an information session if you are unclear about the process.

10.1.4 The pre-hearing

Once the AER decides to hold a hearing, it may schedule a pre-hearing. A pre-hearing sorts out details such as the date, time and place of the hearing, submission deadlines, and whether an information request is necessary, and will determine the time available for each party to present evidence and cross-examine at the hearing. It will also determine the procedures to be used, and make arrangements for the exchange of exhibits or submissions before the hearing itself begins.

¹⁸ AER Rules of Practice, s. 9.

¹⁹ AER Rules of Practice, s. 9.

The AER tries to avoid postponing hearings to avoid undue delays for all parties, but if you are concerned about the timing or any other process, you can make a written request to the hearing panel outlining your concerns and your proposed alternatives. If, for example, you do not think there is enough time to get expert witnesses by the date scheduled for the hearing, you could ask for the hearing to be set for a later date.

At a pre-hearing, the AER may encourage participants to join with other local interveners to prepare a joint submission. They will also discuss costs and how to submit a request for advance costs. The AER can choose to hold a hearing electronically (submitting files online), or orally (in person). If the hearing is done in person, the AER will usually plan to hold it as close to the project and participants as possible. Following the pre-hearing, the AER will send all those who attended a written memorandum of decision about the issues dealt with at the pre-hearing.

10.1.5 Submissions and preliminary steps in the AER hearing process

Usually the AER hosts a hearing information session, which explains the process and allows participants to ask questions. Additionally, the AER may schedule a pre-hearing to discuss details of the process and address scheduling and logistical items. The AER will send a letter to all hearing participants with a schedule for making submissions to the hearing panel.

Before you prepare your submission, you should review the hearing materials, which are the documents the hearing panel uses to make its decisions. These include all the application materials, relevant hearing correspondence, and submissions. Once the notice of hearing is issued, the applicant is required to provide a copy of the hearing materials to anyone who requests it. You can also contact Hearing Services who can assist you to get a copy of the hearing materials.²⁰

For examples of a submission, statement of concern, and request to participate, see Appendix 2 of *Manual 003: The Hearing Process of the Alberta Energy Regulator*.

As soon as you know there will be a hearing, you should start preparing your written submission. A written submission is the detailed description of the argument you will be presenting to the AER during the hearing and is different than the request to participate and a statement of concern. This document should contain the following elements:

²⁰ AER Hearing Services, hearing.services@aer.ca

- The outcome of the application that you advocate for. At this point, you should indicate whether you are averse to (you oppose any approval), non-averse to (you are not necessarily opposed to an approval but you have issues that you think the AER should consider in making its decision), or in support of the project.
- Reasons why the AER should choose the outcome you are advocating for.
- The facts you plan to prove or rely on in presenting your argument to the AER panel.
- Details about the extent of testimony and any expert reports or evidence you will be including.
- A list of witnesses that you intend to provide evidence at the hearing.²¹

It is very important in your submission to carefully outline all the evidence or information you want to include in the hearing, as hearing commissioners will only consider information in the hearing itself. If you plan to engage a lawyer or other experts, you should contact them immediately to tell them when the hearing will be and arrange to hire them. If you think the hearing date does not provide enough time for you and your experts to prepare your case, you can ask the hearing panel to postpone the hearing date. The AER decides each case on its merit, weighing the arguments for postponement against the wish of parties that want to proceed as soon as possible.

You may also want to submit a request for advance payment of participant funding (section 10.1.8).

10.1.6 Evidence to submit at a hearing

The evidence that you, your lawyer or your experts submit will depend on the nature of your objections. It is advisable to get as much relevant evidence as possible and to provide detailed information to back up your argument. You may want to ask your experts to re-evaluate information submitted by the company.

Remember that the hearing panel can only make its decision based on the information on the record. This includes the hearing record (application materials and submissions of all parties) and the transcript of the oral hearing. The hearing panel must make its decision based on the current regulatory framework such as the legislation, regulatory requirements, and government policy. You or your lawyer should understand the framework so you can understand what the panel needs to consider and provide evidence and argument to persuade the panel that your desired outcome is consistent with the regulatory framework and the best outcome. Past AER

²¹ Alberta, *Alberta Energy Regulator Rules of Practice*, s. 9.2.

decisions are available on the AER website and show what evidence previous hearing panels have found valuable, or not.

The types of issues that the AER deals with during a hearing and that may be relevant for your case include those listed below:

- the need for a well, pipeline or other facility
- the specific location of a well
- flaring and air quality
- potential hydrogen sulphide release rate, in the case of a sour gas well or pipeline
- drilling, completion and production considerations for a well
- public safety risk assessment
- emergency response plans
- inadequate notification or public consultation
- access roads
- adverse land-use impacts
- corrosion of pipelines
- the future integrity of a pipeline system that has already shown corrosion and leaks
- reclamation and remediation certificates
- water licences
- potential for cumulative health and environmental impacts from multiple sources on a region or localized area (however the scope of hearings is usually narrower)

Be sure to outline your specific concerns (e.g., risks to your family, livestock, water or soil quality). Pictures showing the proximity of your home, livestock or outbuildings to the proposed facility will help the AER visualize your situation and understand why you are concerned. If appropriate, support your claims by providing health records of individuals who are asthmatic or suffer any ailment that might be aggravated by the proposed operations. If you are submitting personal and private information that you do not wish to be made public, you can make a confidentiality request.

You may want to include evidence about a company's past record and can ask them for their compliance record.

Information about AER closure or abandonment orders, environmental protection orders, or other enforcement decisions are available on the AER website,²² and by contacting the AER inquiries line. If you are looking for information on reclamation certificates, environmental protection orders, or anything issued under the specified enactments (see glossary in Appendix D), you may also contact Alberta Environment and Protected Areas for any decisions prior to the creation of the AER in 2013. The ministry also has an enforcement search tool for enforcement records prior to the transfer of jurisdiction to the AER.²³

If you cannot obtain information about a company from the company itself or by asking the appropriate person at the AER or Alberta Environment and Protected Areas, you may want to try getting it through an Access to Information request.²⁴

If you are concerned about air quality, you might want to hire an expert to critique the company's emissions modelling data for gases and other contaminants that can be emitted from flares. It is important to look at both the maximum and average values of gas emissions and to compare the predicted values with the *Alberta Ambient Air Quality Objectives and Guidelines*.²⁵

Dispersion modelling is especially important for sour gas wells and is one of the main assessment tools used to design an emergency response plan for a well or other sour facility. Modelling requires information on the hydrogen sulphide (H₂S) content of the gas and the release rate expected from the well. The modelling should consider the frequency and strength of prevailing winds (based on information from the nearest meteorological station) and the local topography because pure H₂S is slightly heavier than air and the sour gas may concentrate in hollows. The output is a prediction of the concentration of H₂S at various distances from the source, normally under worst-case conditions. If your independent expert finds that the modelling is unsatisfactory, you can request the company to modify its modelling or, if funds are available, get your expert to create their own model.

If you are concerned about the possible impact on your water supply, you should get your well tested and submit that information at the hearing to provide baseline evidence (section 7.4.1). If the safety hazard created by truck traffic is a concern, you may want to include details on the number and times that school buses, pedestrians or cyclists use the same road.

²² The Compliance Dashboard is updated daily and can be searched by company name. AER, "Compliance Dashboard." <http://www1.aer.ca/ComplianceDashboard/index.html>

²³ Alberta, "Historical environmental enforcement search." <https://www.alberta.ca/lookup/environmental-historical-enforcement-search.aspx>

²⁴ Alberta, "Access to Information Act (ATIA)." <https://www.alberta.ca/access-to-information-act>

²⁵ Alberta Environment and Protected Areas, *Alberta Ambient Air Quality Objectives and Guidelines* (2024). <https://open.alberta.ca/publications/alberta-ambient-air-quality-objectives-and-guidelines>

Remember that the AER cannot deal with issues of compensation; they must be brought before the Land and Property Rights Tribunal (section 9.3).

It helps to offer the AER ideas as to how a particular issue could be resolved or mitigated to an acceptable level. Remember that, while the AER has the responsibility to impartially weigh the various points of view in rendering its decision, the AER's mandate is to allow for hydrocarbon development. The regulator will seek to permit the development to proceed while lowering the risk to public health and the environment as much as “practically” possible, especially when these activities meet existing AER regulatory requirements and are consistent with government policy. If you believe that a project should not proceed under any circumstances, then you should tell the AER this, and you will need to present your best arguments as to why the benefits do not outweigh the risks for this result. However, if you are seeking higher safeguards for health and environmental safety, then describing possible means to do this gives the AER ways to resolve the dispute that meet the needs of all parties.

10.1.7 The hearing

Once the formal hearing begins, a panel of one or more AER hearing commissioners listens to the views and arguments of all parties. The process begins with opening remarks and dealing with any preliminary matters. After opening remarks, they will hear first from the company (always referred to as “the applicant”). The applicant will usually have a witness panel that will speak to and be able to answer questions about their evidence. Then other participants can question the applicant or witness panel, as can AER staff and hearing panel members. Following this, the other participants will have the opportunity to present their own cases and witnesses in turn. After each participant has presented their arguments, the applicant is given an opportunity to cross-examine. After each party has presented their position and been cross-examined by the other parties, the AER may ask additional questions of the other parties. Once all participants have presented their evidence and the cross-examination is completed, the parties present their final arguments. The AER will then adjourn the hearing to deliberate on its ruling. The AER requires that all evidence presented in the hearing process must have been provided according to the schedule of submissions to the hearing; new evidence introduced late in the hearing process may not be permitted. For more details about each step in the hearing, see *Manual 003*.

The AER may take several weeks and up to 90 days to reach a decision. This will then be published as a decision report. Within 90 days of the hearing, a copy of the decision document will be sent to those who participated in the hearing, or to their lawyer, and be published on the AER website. If a hearing has been completed, the AER's decision is final and the opportunity to appeal is very limited.

AER hearings are transcribed by a court reporter and official transcripts of current hearings are available through the AER website.²⁶ Reviewing transcripts of previous hearings may be helpful for a party or a lawyer preparing to cross-examine a company. If you have to purchase a transcript, you can include this in your cost claim.

10.1.8 Funding and participant costs

Hearing participants can apply for costs to compensate them for the expenses they incur when preparing for, and participating in, a hearing before the AER. The AER may award costs to anyone who it allows to participate in a hearing. The Rules of Practice outlines a number of factors that it may consider when deciding whether to grant costs, and it would be beneficial for you to know what the AER may decide to cover.

Many of the considerations are different from the cost considerations of the Energy Resources Conservation Board (the AER's predecessor), which focused on the type of contributions participants made, the usefulness of their evidence and participation, and their willingness to cooperate with other participants. The AER has many new considerations available, such as whether the participant was willing to attend an alternative dispute resolution meeting or the extent of their efforts to resolve issues with the applicant beforehand. Notably, there is an emphasis that the regulator consider if there is a compelling reason for the participant to bear their own costs, as well as whether the participant has made an adequate attempt to use other funding sources.²⁷

Full details about applying for costs are set out in AER Directive 031: REDA Energy Cost Claims, including the different cost claim forms that are necessary to complete.²⁸ As Directive 031 explains, the costs have to be:

- reasonable and directly related to the hearing
- actual expenditures incurred and paid out of pocket by the participants or, in some cases, other costs for which there was no actual out of pocket expense (such as an honorarium for participation in a hearing)
- properly documented, with receipts for all costs incurred

The AER may award costs incurred when the hearing participants engage a lawyer or a consultant who helps provide evidence for the hearing. Additionally, it may consider other

²⁶ AER, "Current Hearings and Transcripts." <https://www.aer.ca/applications-and-notice/hearings/current-hearings-and-transcripts>

²⁷ Alberta, *Alberta Energy Regulator Rules of Practice*, s. 58.1.

²⁸ AER, *Directive 031: REDA Energy Cost Claims* (2016). <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-031>

associated costs of a hearing such as accommodations, transportation and meals, meeting room rentals, and long-distance phone calls.²⁹ The AER may award basic participant costs based on an honorarium of \$100 per half day of a hearing. Merely attending the hearing does not qualify for costs, but a participant who takes an active part in a hearing, e.g., by giving evidence and being cross-examined, may claim for time spent at the hearing, as outlined in Manual 003 and Directive 031. This may also include public interest groups or associations if the hearing panel has granted them participation in the hearing.

The AER will usually only cover costs incurred after a notice of hearing is given, but there may be a situation where the AER considers it reasonable for some costs to accrue before a hearing notice is given.³⁰ Additionally, the AER may also grant advance funding to enable you to engage the experts you need for a hearing. If you submit such a request, you will need to provide a detailed estimate of the costs you expect to incur and, if appropriate, why this information is needed for the hearing. You will still have to prove afterwards, with receipts, that those costs were actually incurred. Section 4 of Directive 031 outlines interim costs in more detail.

The applicant is responsible for covering the costs of the participants. The AER does not review every cost claim submitted to them after a hearing. When a cost is in dispute between the participant and the applicant, then the AER will review that aspect in dispute. Otherwise, the AER will expect the parties to act in good faith, but can audit a cost claim at any time at its discretion.³¹ After the AER has awarded costs, the applicant must pay the participant within 30 days, or they will be subject to enforcement measures by the AER.³²

For more details on claimant costs, please refer to Directive 031 to help you interpret the section of the AER Rules of Practice that deals with costs. It is also useful to review previous cost order decisions made by the AER to better understand the criteria used to determine what is acceptable.³³

10.1.9 Post-decision follow-up

Following a hearing or other decision, the AER requires the company to comply with the decision. Conditions set in the hearing decision are also incorporated into the company's licence or permit. In some cases, a company may make commitments to interveners that are not specifically spelled out in the licence or permit.

²⁹ AER, *Manual 003*.

³⁰ AER, *Manual 003*, 12.

³¹ AER, *AER Bulletin 2014-07* (March 6, 2014). <http://www.aer.ca/documents/bulletins/AER-Bulletin-2014-07.pdf>

³² AER, *Directive 031*, section 9.

³³ AER, "Costs Orders." <https://www.aer.ca/regulations-and-compliance-enforcement/orders/costs-orders>

If you have any evidence that a company is not complying with these conditions, you should bring this to the attention of the AER. The AER will then decide on the appropriate action, which will be determined by the severity of the infringement.

It is also a good idea to keep an ongoing record of any problems you experience as a result of a company's activities, even if the company is acting in accordance with its licence or permit. You then have evidence that you can submit to the AER at a later date should the company want to extend, amend or renew its activities on your land or in the area.

10.1.10 Reconsideration or legal challenge to a hearing decision

The AER's decision after a hearing is final.³⁴ You cannot appeal the actual decision to the AER if you do not agree with it. An appeal on the AER decision made by the hearing panel can only be made to the Alberta Court of Appeal on matters of law and jurisdiction.^{35,36} Any appeal must be made within one month of the date on which the decision was issued by the AER.³⁷ Sometimes several days elapse between the AER signing the decision and the actual announcement, so check the deadline carefully. Section 45 of REDA sets out exactly what is required in the appeal process. When preparing for an appeal, it can be helpful to review the transcripts of other cases that have gone to appeal.

The AER has the power to confirm, vary, suspend, or revoke any decision that it has made, which is considered a reconsideration. Should you discover new evidence not available at the time of the initial hearing, you could ask the AER to reconsider its decision, citing section 42 of REDA.³⁸ This situation, in which a hearing is held after the AER has approved a project, might arise where a company did not fully inform the public about a proposed development before applying to the AER for approval. The AER might then issue a licence or permit without realizing that there were serious public concerns. Other grounds for reconsideration include if substantial new information has come to light that is pertinent to health and safety or to environmental aspects of the approved project.

³⁴ AER, *Manual 003*, section 8.

³⁵ Alberta, *Responsible Energy Development Act*, SA 2012 c. R-17.3, s. 45.

³⁶ Decisions made without a hearing may be appealable by an eligible person, under section 36 of the Responsible Energy Development Act.

³⁷ *Manual 003*, section 8.

³⁸ Alberta, *Responsible Energy Development Act*, s. 42.

You can request a reconsideration on any AER decision made with or without a hearing. The AER rarely reconsiders its decisions, so it is important to carefully construct your case to make the best argument as to why new facts or information could have had an impact on the original decision. If the regulator decides to reconsider its decision, it can do so with or without a hearing.

10.2 Regulatory appeals for AER decisions made without a hearing

Depending on the type of approval, AER decisions that were made without a hearing can be challenged by requesting the AER to conduct a regulatory appeal of the decision. Any decision made by a hearing panel cannot be appealed to the AER, but you may submit a request for reconsideration to the AER, which could lead to a hearing (see section 10.1.10).

In addition to requesting a reconsideration, you may be able to request an appeal on a decision defined as an “appealable decision” under REDA, section 36. Your eligibility to appeal depends on the type of decision.³⁹ Examples of decisions that may be appealed if they were made without a hearing include:

- an approval or an amendment, addition or deletion of an application under the Environmental Protection and Enhancement Act
- the issuance of an environmental protection order
- the issuance of a reclamation or remediation certificate
- an amendment or issuance of an approval or a renewal of a licence that formerly was a public review under the Water Act
- any decision of the regulator under an energy resource enactment (see glossary in Appendix D)

The length of time that you have to appeal varies with each type of decision.⁴⁰ In the case of a decision by the regulator to issue an approval under the Environmental Protection and Enhancement Act (EPEA), you must appeal within 30 days of an approval being given (EPEA, section 91(4)(c)), though there are different time limits for other appeals. In the case of a

³⁹ An “eligible person” is someone who is directly and adversely affected by an appealable decision, or eligible to appeal under specific clauses of EPEA, the Water Act, or the Public Lands Act if made without a hearing. For a description of an eligible person, see REDA, s. 36.

⁴⁰ The regulatory appeal process is summarized at AER, “Regulatory Appeal Process.”

<https://www.aer.ca/applications-and-notice/regulatory-appeal-process>

Submission deadlines are provided at AER, “Request for Regulatory Appeal.” <https://www.aer.ca/applications-and-notice/regulatory-appeal-process/request-regulatory-appeal>

reclamation certificate, the company, or any person who has received a copy of the reclamation certificate, has up to a year to file a notice of appeal (EPEA, section 91). In a case where the regulator refused to issue a reclamation certificate, the company also has 30 days to appeal. The AER also deals with appeals against other AER decisions, including enforcement orders, environmental protection orders, and the designation of a contaminated site. A company is usually more likely to bring an appeal against such decisions, but a landowner may want to take part in the appeal process, to tell the AER why it should not revoke a decision or order, for example.

An appeal to the AER does not usually prevent a company from proceeding with any action allowed by the approval that is being appealed. The person appealing the decision must request a “stay” if they want a project put on hold. While the AER will consider an application for a stay, it is not automatically granted. The AER can only consider granting a stay where it is requested.⁴¹

If the regulator decides to proceed with an appeal, it will be given to the chief hearing commissioner, who will establish a panel. Alternatively, the regulator may encourage the issue to be dealt with through its alternative dispute resolution process (section 2.4.1).

10.3 Land and Property Rights Tribunal procedures and hearings

The powers of the Land and Property Rights Tribunal are set out in the Surface Rights Act and the Exploration Dispute Resolution Regulation. The process often starts when a company applies to the tribunal for a right-of-entry order because they have failed to reach agreement with a landowner before receiving an approval from the AER (section 9.3.1).

Or, once a right-of-entry order has been issued, the tribunal may hold a compensation hearing for both right-of-entry compensation and damages or an objection hearing. Both types of hearings are described in section 10.3.3. Additionally, a landowner or occupant can reopen negotiations with the company and negotiate a private surface agreement. Additionally, they can request a dispute resolution conference to resolve additional considerations, facilitated by a Land and Property Rights Tribunal member. A dispute resolution conference is similar to the AER’s ADR process and may be initiated before a hearing is scheduled.

⁴¹ Alberta, *Responsible Energy Development Act*, s. 39(2).

10.3.1 Right-of-entry orders by the Land and Property Rights Tribunal

If negotiations between a landowner/occupant and a company fail, yet the AER has decided to issue the company a licence (with or without a hearing), the company can apply to the Land and Property Rights Tribunal for a right-of-entry order after they have received an approval from the AER. As long as the AER has provided a licence, an application for a right-of-entry order is a formality, as the Land and Property Rights Tribunal will not refuse entry.

After the tribunal receives a right-of-entry application, the company must serve a copy of the application to the landowner. However, if the landowner or occupant believes they have valid objections, they can appeal to the Land and Property Rights Tribunal for a hearing. Any initial objection must be related to something other than compensation, as monetary concerns are dealt with in the next stage of the process. If no issues are raised, the Land and Property Rights Tribunal will issue a right-of-entry order no earlier than 14 days after the application has been provided to the landowner or occupant. After the Land and Property Rights Tribunal has issued the order, and if the issues haven't been settled through private negotiations, the tribunal will set a date for the compensation hearing.

When you receive a company's application for right of entry and you still have outstanding objections, you should immediately (within the 14 day window) file an objection with the Land and Property Rights Tribunal to the right-of-entry order, and ask the Land and Property Rights Tribunal to hold an objection hearing. Previous decisions from the Surface Rights Board (the tribunal's predecessor) have held that you cannot challenge the AER's decision on its technical legitimacy, but objecting to a right-of-entry order may allow you an opportunity to capture in writing additional requirements that the tribunal can include in its decisions; however, this is certainly not guaranteed.

As explained in section 9.3 of this guide, even if a landowner and company are close to reaching an agreement on entry and the amount of compensation, a landowner may request that a company obtain a right-of-entry order from the Land and Property Rights Tribunal. The tribunal will issue a right-of-entry order as requested, then issue a tribunal compensation order to formalize the amount of compensation the company and landowner have agreed to. This has mainly fallen out of practice, but remains a way for landowners to have the agreement additionally legitimized through the tribunal.

10.3.2 Types of Land and Property Rights Tribunal hearings

The main type of hearing held by the Land and Property Rights Tribunal is a compensation hearing. Compensation hearings are typically scheduled by the tribunal after a right-of-entry order has been issued if compensation is not agreed upon by the landowner and company. In the meantime, the company can start building the access road, well or pipeline. However, the company is required to pay the landowner the full entry fee and 80% of the compensation offered in the last written offer — not necessarily the last best offer — before they start operations (Surface Rights Act, section 20).

Objection hearings are rare, but if the Land and Property Rights Tribunal holds an objection hearing for a right-of-entry order,⁴² the company cannot enter the land prior to the hearing. As noted previously, the reasons for objection must not be related to compensation and should instead focus on any technical failings in a company's proposed development. Although the tribunal will not dismiss an approval, an objection hearing is an opportunity for you to seek additional conditions on the agreement.

The Land and Property Rights Tribunal may also hold proceedings to resolve a dispute between a company and a landowner/occupant about any damages done by a company, where damage has been done outside the area covered by the lease or right-of-way agreement (Surface Rights Act, section 30(1)(a)). As indicated in section 9.3.4, claims must be brought to the Land and Property Rights Tribunal within two years and the total amount of the claim must not exceed \$50,000.⁴³

Prior to any hearing by the Land and Property Rights Tribunal, there may be a dispute resolution conference facilitated by a Land and Property Rights Tribunal member, which may allow you to come to agreement on terms that are outside the jurisdiction of the Land and Property Rights Tribunal. If the parties come to an agreement through a dispute resolution conference, this agreement may be formalized by the Land and Property Rights Tribunal in a written decision.

10.3.3 The compensation hearing process

This section focuses on the compensation hearings that are held when a landowner and a company are unable to agree on compensation and the Land and Property Rights Tribunal has issued a right-of-entry order.

⁴² Alberta, *Surface Rights Act*, s. 15(5).

⁴³ If an unresolved claim for damages exceeds \$50,000, you may need to sue the company to obtain compensation. Companies may try to settle out of court. Out-of-court settlements often have a condition that the parties cannot publicly reveal the terms of the settlement.

While a hearing before the AER is a rather formal process, the Land and Property Rights Tribunal tries to make it as easy as possible for individuals to present their own case. The tribunal meets in different locations across the province,, so it will usually not be necessary to travel to the main office in Edmonton for a hearing. It is also possible to have your lawyer or a personal associate represent you at the hearing; if the representative is personal, you must fill out an Appointment of Personal Representative form and submit it to the tribunal.⁴⁴

Before the compensation hearing begins, the tribunal will hold a dispute resolution conference by telephone to see if the parties can agree on compensation before proceeding to the main hearing. If agreement occurs, the hearing process ends immediately and a tribunal compensation order can be obtained. If not, a mutually convenient date will be determined for the hearing.

At the hearing, you must tell the tribunal members why you object to the last offer from the company and why you think the compensation being offered by the company is insufficient. It is helpful to have your ideas on paper, and the tribunal does prefer a written statement. Provide the tribunal with any evidence you have, such as the value of recent land sales and copies of access agreements for similar projects with other landowners that provide greater compensation. When calculating the value for loss of use, it helps to have receipts for the costs of inputs and to document revenue from sales and your estimated net return. If the tribunal has held previous hearings in your area, it could be useful to read the tribunal decisions and perhaps use them as evidence.⁴⁵ Provide all the evidence you have, as the tribunal has to base its decision on evidence. The tribunal will request five copies of all documents — one for each of the three tribunal members, one for the file, and one for the company.

If you are unable to attend the hearing and you have no one else to represent you, you must send the tribunal your written statement 14 days in advance of the hearing or request an adjournment.⁴⁶

If construction of the well, access road or pipeline is completed before the hearing,⁴⁷ you may wish to take photographs showing the extent of any damage, although members of the Land and Property Rights Tribunal may inspect the site. The company will also provide exhibits at the hearing.

⁴⁴ Available at Land and Property Rights Tribunal, “LPRT – Forms and Resources.” <https://www.alberta.ca/lprt-forms-and-resources#jumplinks-o>

⁴⁵ Land and Property Rights Tribunal, “LPRT – Find a decision.” <https://www.alberta.ca/lprt-find-a-decision>

⁴⁶ Surface Rights Board, *Surface Rights Board Rules* (2020). <https://open.alberta.ca/publications/surface-rights-board-rules>

⁴⁷ Construction could have been started as a result of the right-of-entry order issued by the tribunal while waiting for the compensation issue to be addressed.

When the hearing is over, the tribunal will make a decision and issue the compensation order. The amount of compensation ordered by the tribunal may be more or less than the amount offered by the company. If it is less than the preliminary amount already paid by the company, the landowner will have to give back the difference.

A separate hearing is usually held for each person who refuses right of entry to a company. In the case of pipelines, however, when several people raise objections, the tribunal may request the landowners to join in one hearing as this will lead to a more efficient discussion. As an individual landowner, you may still ask for your own case to be heard separately.

For more information about the hearing process, visit the Alberta Land and Property Rights Tribunal website, or contact them via email or telephone (Appendix B). You may also wish to consult the Surface Rights Act or the Surface Rights Board Rules (which remain in effect despite the Land and Property Rights Tribunal succeeding the Surface Rights Board).

10.3.4 Cost of a Land and Property Rights Tribunal hearing

The tribunal may award costs for a compensation hearing to a specific party, not necessarily just the landowner. This depends on a number of factors, including complexity of the hearing, whether a party delayed the process, the use of lawyers, and source of costs.⁴⁸ The Land and Property Rights Tribunal may deal with the cost award at the hearing. It is thus advisable to bring any receipts and other evidence of costs and the time involved in preparing for the case to the actual hearing. Unlike the AER, the Land and Property Rights Tribunal has not published special instructions about how to apply for compensation of costs incurred.

Additionally, the Land and Property Rights Tribunal may issue a cost award for preliminary costs that occur before and outside of the hearing, even if compensation is settled between parties privately. This occurred in the case where both the company and the lessor settled on the amount of compensation for the project, but did not agree on the cost award for a landowner hiring a representative.⁴⁹ Although the Land and Property Rights Tribunal was not involved in determining the rate of compensation, it found that awarding reasonable costs associated with negotiating a private surface access agreement was consistent with the principles of the Land and Property Rights Tribunal. Particularly, awarding reasonable private costs encouraged parties to privately resolve their disputes, allowed landowners the benefit of representation, and made landowners “whole” when negotiating an agreement primarily for the benefit of companies seeking surface access.⁵⁰

⁴⁸ *Surface Rights Board Rules*, s. 31.

⁴⁹ Surface Rights Board, *Apache Canada Ltd. v Collier Enterprises Ltd.*, 2016 ABSRB 573. <https://www.canlii.org/en/ab/absrb/doc/2016/2016absrb573/2016absrb573.html>

⁵⁰ *Apache Canada Ltd. v Collier Enterprises Ltd.*, para. 32.

10.3.5 Rehearing

A landowner may ask the Land and Property Rights Tribunal for a rehearing if the damage done by the company is greater than originally expected or if they believe they have a legitimate complaint with the hearing process. For example, a rehearing might be possible in the case of a pipeline where construction was still underway at the time of the hearing and unexpected damage occurred after the tribunal's decision.

10.3.6 Appealing a Land and Property Rights Tribunal decision

Either the company or landowner/occupant may appeal a decision made by the Land and Property Rights Tribunal to the Court of King's Bench. The appeal can relate to the amount of the compensation order or to the person to whom the compensation is payable, or both (Surface Rights Act, section 26). The appeal must be made within 30 days of the date on which the compensation order was received. Section 26 of the Surface Rights Act sets out exactly what is required with respect to an appeal. It is also possible to appeal a decision made by the Court of King's Bench up to the Court of Appeal.

10.4 Canada Energy Regulator hearings

The Canada Energy Regulator (CER) regulates pipelines that cross provincial or international borders. The CER is required to hold a hearing for applications for the construction of a major interprovincial or international pipeline (known as a facilities hearing), the abandoning of a pipeline, and when there is opposition from landowners on the detailed route of an approved pipeline.

The CER may hold two hearings on a project. The first hearing is to determine whether the construction of a pipeline over 40 kilometres in length is in the public interest and to review the general route or corridor for the pipeline. The CER decides whether to provide the company with a certificate of public convenience and necessity, so this hearing is called a certificate hearing.

Once a company holds a certificate, it will plan the detailed route of the pipeline. As with provincial energy development, the company and landowner should first try to resolve all issues through direct discussions or use of alternative dispute resolution (see section 2.4.1 for the similar provincial process). If problems remain concerning the location of the pipeline or other matters (except for compensation), the CER may hold a detailed route hearing.

The CER is a quasi-judicial body and operates somewhat like a court. Its powers include the swearing in and examination of witnesses and the taking of evidence. The CER accepts written evidence prior to a hearing and allows oral cross-examination at the hearing.⁵¹

Anyone who has a legitimate interest and wants to participate in a CER hearing can apply by filing out an application to participate as either an intervenor or a commenter with the CER.⁵² The public notice for the hearing will explain how to register.

There are two ways to participate in a certificate hearing. You may be asked to submit a letter of comment, which is written testimony that contains comments on how you will be impacted, suggestions or comments on conditions of approval, and any other information that supports your comments. Otherwise, you can participate as an intervenor, which allows you to attend the oral hearing to present evidence, cross-examine other witnesses, and give a final argument. Intervenor must show that they have an interest in the results of a certificate hearing.⁵³

In a detailed route hearing, the Canadian Energy Regulator Act clearly distinguishes between people who own land that the company requires for pipeline development and people who believe that pipeline development may negatively affect their land.⁵⁴ Both groups have the right to submit a written statement of objection that describes their interest in the land and their objections to the pipeline. The purpose of the hearing is not to oppose the principle of the project, but to discuss the details and logistics of the route. The company is obligated to notify anyone who was found to have legitimate concerns of the hearing order for the detailed route hearing.⁵⁵ The CER may also allow other people who are not intervenors to present their comments.

Intervenor at a CER certificate hearing can apply for the Participant Funding Program to help cover expenses. Participants in detailed route hearings are not eligible for cost coverage under the CER's Participant Funding Program; however, the CER may direct the company to reimburse hearing costs to landowners who are directly or indirectly affected by the project.

⁵¹ Canada, *National Energy Board Rules of Practice and Procedure*, SOR/95-208, s. 36. <http://laws-lois.justice.gc.ca/eng/regulations/SOR-95-208/>

⁵² Canada Energy Regulator, "Hearing Process." <https://www.cer-rec.gc.ca/en/applications-hearings/participate-hearing/hearing-process/>

⁵³ *National Energy Board Rules of Practice and Procedure*, s. 28.

⁵⁴ Canada, *Canadian Energy Regulator Act*, S.C. 2019, c. 28, s. 201(3) and (4). <https://laws-lois.justice.gc.ca/eng/acts/C-15.1/>

⁵⁵ NEB, *Pipeline Regulation in Canada: A Guide for Landowners and the Public* (2010). https://publications.gc.ca/collections/collection_2010/one-neb/NE23-104-2010-eng.pdf

Where a right-of-way agreement has not been signed between the company and landowner, the CER can grant a right-of-entry order allowing the company immediate access to the land, although the landowner or occupant does have the opportunity to submit a written objection.⁵⁶

If the project application is approved, the CER sets and enforces conditions to ensure that the company protects the environment and ensures public health and safety. The CER audits and inspects the company's construction activities, the operation of its system, and the company's routine maintenance and monitoring procedures.

A CER decision can be appealed to the Federal Court of Canada, but the appeal is limited to a point of law or jurisdiction. An appeal must be made to the court within 30 days of the CER's decision.

Proposed pipeline projects submitted to the CER are also subject to review under the Impact Assessment Act.

⁵⁶ For information about expropriation law in Canada, see "Expropriation Law Centre."
<http://www.expropriationlaw.ca>.

Appendices

A: Negotiation Checklists

B: Contacts

C: Documenting Costs

D: Glossary

E: Abbreviations

Appendix A. Negotiation Checklists

A.1 Before you negotiate

Read the resources below before starting negotiations with the company to know what to expect from the process.

All developments		
☐	The AER information package provided by the land agent	This package includes a letter from the CEO of the Alberta Energy Regulator (AER) and the AER publications <i>Understanding Oil and Gas Development in Alberta</i> and <i>Proposed Oil and Gas Wells, Pipelines, and Facilities – EnerFAQ</i> .
☐	<i>Negotiating Surface Rights</i>	This publication is available online. ¹
☐	Section 9 of this guide	This section covers compensation negotiations and surface rights access.
Specialty wells		
☐	For sour gas wells, read section 4.1.1	
☐	For a hydraulic fracturing well, read section 4.1.2	
Pipelines		
☐	<i>Pipelines in Alberta — What Landowners Need to Know</i>	This publication from the Farmers’ Advocate Office is available online ² or by calling their office.
☐	<i>Environmental Protection Guidelines for Pipelines</i>	This publication is available online through the Alberta Open Government portal. ³

¹ Alberta Agriculture and Rural Development, *Negotiating Surface Rights* (2009).
<https://open.alberta.ca/publications/4390211>

² Farmers’ Advocate Office, *What Landowners Need to Know* (2018).
<https://open.alberta.ca/publications/agdex-878-4>

³ Alberta, *Environmental protection guidelines for pipelines* (1994).
<https://open.alberta.ca/publications/environmental-protection-guidelines-for-pipelines>

It is also important to reflect on your specific concerns relating to your family, land, and livelihood so you can make informed requests during negotiations.

General	
Do you want to request a right-of-entry order from the Land and Property Rights Tribunal rather than signing a lease?	Some landowners prefer to request a right-of-entry order rather than sign a lease agreement, even if they have reached agreement with the company on all issues, including compensation. See section 9.3.
Are you satisfied with the location of the well and access road?	Are the well and access road located to minimize inconvenience to you or your neighbours while still ensuring the company's ability to protect the environment? Is the well at least the minimum distance from buildings, water wells, bodies of water, etc.?
Is the proposed compensation adequate to cover the loss of land and inconvenience the well and access road will cause?	Make sure you have considered crop loss, adverse effects, inconvenience and nuisance when estimating the appropriate level of compensation. This might include the time you have spent working on the lease agreement.
Do you need to check with a lawyer/consultant before signing the lease agreement to ensure that it meets your needs?	A lawyer or consultant who is knowledgeable about surface rights issues may help in negotiations. It can also be useful to discuss issues with an experienced neighbour or landowner group.
Sour wells	
Do you or any of your family members have health concerns that warrant early warning of potential releases?	If so, identify these individuals as being in the "special need" category when the company is compiling an emergency response plan.
Pipelines	
Does the pipeline location account for surface water drainage, water wells, high wildlife value, and other environmental considerations?	You also need to consider whether the location of the line will affect future plans for farm expansion or the creation of a subdivision. The setback for new development might be wider than the right-of-way, which could constrain your future options. Even if the proposed pipeline carries sweet gas, it may be later approved to carry sour gas, which could result in greater setback distances for buildings.

The following tables contain questions to ask the company to ensure you have the necessary information before negotiations begin. Table 7 is relevant to all types of development. Table 8 contains questions about all types of well developments, and Table 9 looks at specific well types. Table 10 contains questions regarding pipelines, and Table 11 contains other development types like gas batteries and compressors.

Table 7. Pre-negotiation questions for all development types

All development	
How will surface water be managed on the lease site?	The company should ensure that off-site surface waters will not enter the drilling area. On-site waters should be captured in a containment pond and disposed of with the drilling muds or tested prior to release off-site. You may want to include a clause in the lease agreement that notes the direction of drainage and requires the company to maintain natural drainage and install culverts or other works to ensure this.
How will topsoil be protected?	Find out how the topsoil will be conserved and where it will be stored so that it can be used for reclaiming the site when the well is shut down. Ask if the subsoil will also be stripped and stored for use in reclamation (called two-lift salvage). Make sure that the company is not allowed to use coarse gravel or rock on the leased land unless this can be removed when the land is reclaimed.
How will weeds be controlled?	Decide if you want equipment to be steam-cleaned to remove weed seeds before entering your property, and if you want weeds on the site to be controlled by mowing rather than with herbicides. You may want to ask the company to obtain consent before using any soil sterilants, pesticides, herbicides, or other chemicals on your land.
How will leaks and spills be cleaned up?	Under AER regulations, the agreement must require the company to immediately notify you of leaks and spills. The company should also tell you how potential leaks and spills will be contained and cleaned up.

Table 8. Pre-negotiation questions for all well developments

All wells	
Does the company plan to drill a water well to supply operations?	A water well must be drilled according to AER requirements and be properly abandoned when no longer required.
How will drilling wastes be managed?	Drilling can produce different types of wastes with varying risks. Clarify whether the company will remove wastes from your land or manage them in a specific way.
How long will the well be tested?	Understand the duration of testing to assess potential impacts on land, air quality, and noise.

Does the company intend to apply for a higher well density beyond the standard drilling spacing unit?	Standard spacing: 1 gas well per section (256 hectares) or 4 oil wells per section. ⁴ If special spacing is proposed, you can submit a statement of concern (section 2.5). Objections may need to be addressed through negotiation, alternative dispute resolution (section 2.4.1), or a public hearing (section 10).
Will the company flare the gas or can they test inline?	Ask the company to evaluate the alternatives to test flaring, as it may be possible for them to test a well without flaring (section 7.2.1). Determine if a high-efficiency incinerator would be preferable to a flare in your location. If flare testing is necessary, find out how long the test will last and negotiate under what conditions it will be carried out. This might include air quality monitoring during the flare test or a collection system to capture any excess gas.
Will there be any long-term effects on air quality?	You should try to ensure that there will be no routine flaring. Ask whether solution gas from oil wells will be released to the air, flared or piped away. Find out if the company can pipe gas to an existing gas plant or install a microturbine instead of flaring to the air. If you and your family are sensitive to emissions, ask to be notified before the company undertakes routine flaring.
How much noise will be created by the wellhead equipment and by company staff visiting the site to service it?	Ask if there will be a compressor at the well site and how noise will be minimized (sections 4.3.2 and 7.5). Find out if oil will be trucked or piped out. You may want to ask the company to avoid trucking at night.
Where will the pipeline be located?	If the well is successful, a pipeline will be needed. Its location can affect how you use the land (section 5.3), so should be negotiated when discussing the well lease. You may want to arrange the right-of-way easement for the pipeline and compression facilities at the same time as the lease agreement.
Will the company conduct a pre-construction assessment report?	This report provides a baseline against which to measure future reclamation work. It is not mandatory, but it is encouraged by the AER and the industry. ⁵
Is the company planning on drilling any additional wells or placing other facilities such as a compressor or dehydrator on your land or nearby?	If the company plans to put a battery, compressor, or other facility on your land or nearby, see section 4.3.

⁴ AER, *Directive 056: Energy Development Applications and Schedules* (2025), 141. <https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-056/>

⁵ Alberta Environment, *Pre-construction Assessment Report for Wellsites*, C&R/IL/00-8 (2000). <https://open.alberta.ca/publications/pre-construction-assessment-report-for-wellsites>

Table 9. Pre-negotiation questions for specific well types

Sour wells	
Does the company have a site-specific emergency response plan (ERP), and if so, how large is the evacuation zone?	An ERP is required for sour gas facilities (section 6.2). Make sure you are familiar with the ERP. Even with a sweet gas well or an oil well it is important to know what plans are in place to deal with an emergency.
How high will the hydrogen sulphide content be?	
Coalbed methane wells	
For coalbed methane wells that need dewatering, how long will flaring last?	Ask about the following: • If the company can install a pilot light on the flare stack, which will allow the gas to be collected in small amounts and burned intermittently instead of being vented. • If a high-efficiency incinerator would result in lower air pollution at your residence than a flare. • How soon the well might be tied into a pipeline. AER Directive 060 includes requirements to eliminate or reduce the potential and observed impacts of flaring, incinerating, or venting and to ensure that public safety concerns and environmental impacts are addressed before beginning.⁶
Hydraulic fracturing	
What equipment will the company use to store and manage flowback fluids?	There are a few different ways of storing fluids on site. Double-walled tanks provide the best containment, while single-walled tanks with a berm or simple lined pits provide less protection. Storage also must be the proper size to contain all fluids produced.
What is the expected level of vehicle traffic to and from the fracturing site?	Moving additional equipment and materials to the production site compared to conventional development results in more truck traffic. This can be a nuisance and can cause safety concerns and damage to roads not designed for heavy truck traffic.
Is seismic activity possible due to the company's operations?	Fracturing has resulted in seismic activity in Alberta, and there are operational methods to avoid or reduce the frequency and severity of these events.
How will the company's flaring or incineration affect air quality in combination with other fracturing operations in the area?	Fracturing operations tend to produce larger volumes of air pollution than conventional operations. When fracturing operations are concentrated together, the cumulative air pollution can reach levels that cause odours, are a nuisance, or have potential health impacts.

⁶ AER, *Directive 060: Upstream Petroleum Industry Flaring, Incinerating, and Venting* (2025).
<https://www.aer.ca/regulations-and-compliance-enforcement/rules-and-regulations/directives/directive-060>

What is the water source for the fracturing operations?	If water is to be sourced from a groundwater aquifer that serves your domestic or agricultural needs, request that the company demonstrate that the aquifer will not be depleted from the additional use.
Does the company plan to bring water to the well site using a pipeline?	A water pipeline can reduce tanker truck traffic on your land.
What chemical additives will be used in the fracturing fluid?	A wide variety of different additives are used in fracturing, all with different toxicity. You should review these chemicals to determine what you might be exposed to. (See fracfocus.ca).

Table 10. Pre-negotiation questions for pipeline development

Pipelines	
What is the size of the proposed pipeline, and at what pressure will it operate?	The company must tell you the type and size of the pipeline and its operating pressure.
Where will the shut-off valves, tie-ins, compressor stations and/or pumping stations be located?	It is a good idea to ask about the proximity and spacing of shut-off valves, and the location of tie-ins, compressor stations or pumping stations. ⁷
What is the plan for the pipeline if more oil or gas is developed upstream?	Ask whether the company might increase the pressure in the line by putting in more compressors, or lay a new pipeline parallel to the initial line.
How will the company monitor for corrosion?	Corrosion can cause leaks or other pipeline failures. Find out whether the pipeline route will be inspected by land or air, and how often the pipeline will be inspected internally. You should ask if the pipeline will be cathodically protected (which means that a low-voltage current is passed through it) to reduce the risk of corrosion. If the substance being transported in the pipeline changes, corrosion control needs to be re-evaluated by the company.
Will the pipeline be left in the ground after abandonment? How will the company reclaim the land when the pipeline is no longer in use?	If you want the pipeline removed, you should inquire if this can be included in the initial agreement. (The AER does not recommend line removal where it causes significant additional disturbances.) You should also ensure that all liens that the company may have registered are removed when the pipeline is abandoned.
What will be transported through the pipeline (oil, diluted bitumen, natural gas, condensate, other)?	Depending on the material to be transported, there may be particular construction materials or operational requirements that reduce the risk of leaks or other accidents.

⁷ Valve spacing is in accordance with CSA standards and takes into account pipeline profile and water crossings, among other factors. If the valve is some distance away, it will take longer to stop the flow. Additional guidance on spacing and pipeline safety is available in the *Landowner's Guide to Pipelines* (Pipeline Safety Trust, 2016). <https://pstrust.org/landowners-guide-to-pipelines/>

Will the temperature of the material in the pipeline affect the temperature of the surface soil?	Warmer soil above the pipeline can cause crops to ripen at different times than the rest of the field, which makes harvesting difficult.
If the pipeline will contain sour gas, has the company worked with other companies in the area to minimize the amount of sour gas infrastructure in your area?	The AER takes proliferation concerns into account, and encourages operators to limit additional sour gas pipelines in areas where development is already concentrated, although there are no requirements regarding the proliferation of pipelines. ⁸
Is any above-ground installation required on the right-of-way?	If yes, you should ensure that it will be in an area that causes the minimum inconvenience and will be clearly marked and that a surface lease is negotiated.
How will the company manage soil during the construction process?	The company are required to follow environmental guidelines for clearing the pipeline right-of-way and salvaging topsoil, which is to be replaced when backfilling the pipeline with minimal loss. This backfill must be adequately compacted to avoid slumping and erosion. When grading, the results must not cause increased erosion, slope instability and sedimentation. ⁹

Table 11. Pre-negotiation questions for oil batteries and compressor facilities

Oil batteries	
Will there be any flares and, if so, how will flaring be minimized?	While this applies to other types of development as well, it is especially important for oil battery sites.
What type of fugitive emission detection/control system will the company use?	Tank vapours and small leaks at pipe connections and valves can be sources of fugitive emissions. These types of releases can start and worsen gradually — requiring companies to do regular preventive maintenance or periodic checks.
How will groundwater and surface water be monitored and protected?	Groundwater monitoring is sometimes required. This may depend on whether there are storage tanks on the site, and how they are constructed and contained. For protection, there may be dikes around storage tanks or berms around the entire site to control surface water runoff.
Compressors	
What noise mitigation measures will be used?	This is relevant to other facilities, but it is especially important for compressor stations. It is advisable to obtain a copy of the noise impact assessment, which the company should have prepared for their application to the AER.

⁸ AER, *Directive 056*, section 6.2.⁹ AER, *Specified Enactment Direction 004*, section 3.3.2.

Gas plants	
What would occur in the event of a problem at the gas plant?	Ask what flaring minimization requirements would be in effect at the gas plant and whether it would be completely shut down in the event of a problem.
If a glycol dehydrator is planned near your residence or pasture, what are the expected benzene emissions and how will they be managed?	You may wish to ask for monitoring of benzene emissions around the site (as well as other volatile organic compounds such as toluene, ethylbenzene, and xylene) and request the results.

A.2 Negotiation topics

The following tables highlight additional issues related to development type, especially with respect to environmental impacts, that you may want to discuss with the land agent before signing a lease agreement. If you negotiate any special conditions that the company must meet, ensure that they are added in writing to the lease agreement before signing the agreement.

Table 12. Negotiation topics for all types of development

All development	
Agree on how any future issues will be settled.	Decide if you want to stipulate that the alternative dispute resolution process should be used as a first step. Ensure the agreement contains an arbitration clause that enables unresolved disputes to be settled under the Alberta Arbitration Act without going to court.
Negotiate compensation for damage to special livestock.	If you have valuable purebred animals or breeding stock, you may want to negotiate a replacement value that is greater than the commercial value of ordinary livestock.
Discuss tree protection.	Tell the company what they should do with any trees that are cut down and if you want the merchantable timber, logs and firewood. If there are any trees you want protected, identify them. You may want to include a penalty for trees that are cut or damaged without your permission.
Ensure the lease's fencing clause is satisfactory.	You may want to add an addendum to the lease agreement to ensure that the fences and gates are complete before construction starts on the infrastructure. You may also want to make the company responsible for locking gates. If you want to use the company access road to reach your own land, you need to ensure the responsibilities are clear. You may also ask to be compensated for managing fences yourself, and for moving and feeding livestock at a separate location.

Discuss water supply testing measures.	Ask the company to test all water wells near the lease for depth, volume, and water quality both before and after drilling. Ensure the water samples are analyzed by a laboratory accredited for those specific tests by the Canadian Association of Environmental Analytical Laboratories and that you receive a copy of the results.
Discuss reclamation requirements.	You may want to specify how the land is reclaimed and the specific seed type to use for reseeding. You may want to indicate the date by which this is to be completed. Depending on how the land has been disturbed, the company could be required to redistribute and level the topsoil, cultivate (to remediate compaction), prepare an adequate seedbed, and reseed the land. ¹⁰ Specify if you want the site to be planted with native species or a certified seed to prevent erosion during use of the site or upon reclamation. For wells, discuss how soon reclamation will be carried out if no oil or gas is found at the site. Any special requests cannot breach regulations. See also section 7.6.

Table 13. Negotiation questions for well development

All wells	
Decide on compensation in the event of damage to your water well.	This should be covered in the lease agreement.
Decide in a separate agreement how drilling wastes will be managed.	It is advisable to have a separate agreement that covers drilling waste, specifying access to the land and payment for access, and establishing clauses on damages and methods to solve disagreements. Request that the company use tanks instead of a sump to store drilling waste. If the company will store the waste on your property, negotiate the location so that any potential spills are less likely to affect you or your water sources. (See section 7.3 for more information on environmental issues with drilling waste.)
Discuss notification and compensation requirements in case of a leak, spill, or accidental release from the well.	The AER sets standards for dealing with leaks and spills; however, you may wish to negotiate additional provisions. Compensation terms for evacuation should also be included in the lease agreement. If you are in an emergency planning zone but are not a party to an agreement, evacuation costs, including hotel costs and loss of business, may be your responsibility.
If you or someone in your family is sensitive to air pollution, discuss how to mitigate the impacts.	If you or your family are very sensitive, you may want to move out or ask for flaring to be done only when the wind is from a direction that will blow any gases away from your residence. You can also request additional notification for any planned flaring or venting, so that you can arrange to avoid the area when you may be most affected. Clarify whether the company will compensate you for the expenses incurred during this time.

¹⁰ Alberta, *Specified Enactment Direction 002*, section 7.4.

Discuss the company's future expansion plans and decide how those should be handled.	Unless it is already specified in the lease agreement, you may want to ask the company to obtain separate permission to: • drill more than one well or expand operations beyond the initial well • drill a water well on the lease • construct a pipeline or above-ground powerline • dispose of any sump fluids, toxic chemicals or other hazardous substances on the lease site • cross your land or store any materials on land that is not included in the lease agreement
Review the agreement's arbitration clause.	You may want to negotiate that the company pay the costs of any arbitration.
Hydraulic fracturing	
Negotiate how frequently wells and associated infrastructure will be inspected for leaks.	Methane leaks from fracturing can negatively impact local air quality. Leaks can also contain other hazardous air pollutants. It may be worth negotiating in your lease agreement that the operator will follow the best practices on leak detection and repair from the EO100 Standard for Responsible Energy Development: "Operator ensures that all equipment on the well pad is equipped for minimizing methane and other air emissions, and conducts quarterly checks of this equipment to ensure it is working properly as part of a systematic Leak Detection and Repair Program."¹¹
Negotiate water testing procedures.	The company must take all measures to protect groundwater resources, especially when those resources are currently being used. You should require in the lease that the company provide: 1. Baseline monitoring for your water well to ensure that any changes in water quality from the operations are recorded. 2. Annual measurement of your well's water level. Dramatic changes in your water well level can indicate issues due to fracturing. It may be worth negotiating in your lease agreement that the operator will follow the best practices on water testing from the EO100 Standard: "Operator conducts baseline and post-completion sampling of individual wells and surface water within a minimum radius of 2,500 feet, or regulator limit, whichever is greater, prior to drilling of wells and installs monitoring wells to monitor the quality of water in aquifers in productive use that are being drilled through. Testing includes levels of hydrocarbons, arsenic, mercury and total dissolved solids in aquifers and surface streams."¹²

¹¹ Equitable Origin, *EO100™ Standard Technical Addendum: EO100.1: Shale Oil & Gas Operations*, 13.

¹² *EO100™ Standard Technical Addendum: EO100.1: Shale Oil & Gas Operations*, 14.

Table 14. Negotiation questions for pipeline development

Pipelines	
Define a working area surrounding the pipeline that the company can access.	The company will always need access to its pipeline when flowing. This working area must be defined through negotiations with the company. You may want to include specific requirements in the pipeline agreement or create a separate agreement.
Agree on the location of any above-ground structures associated with the pipeline.	These should be within the working area defined above.
Discuss the possibility of additional pipelines in the future.	If you wish to prevent additional pipelines along the right-of-way in the future, you should ask for a clause limiting the right-of-way agreement to one pipeline.
Agree on how to resolve future issues such as poor vegetation establishment and reduced crop yield due to soil compaction, a sinking trench, or damage to surface drainage.	You may want to stipulate that the alternative dispute resolution process be used as the first step, before escalating the matter through the legal process. The agreement should contain an arbitration clause that enables disputes to be settled under the Alberta Arbitration Act without going to court.
Decide on a minimum depth for the pipeline to be buried.	Determine the minimum depth for the pipeline to prevent interference with farm operations such as deep ploughing.
Determine if the company needs any temporary workspace outside the right-of-way while the pipeline is being constructed.	If so, include this in the agreement, or sign a separate agreement for workspace use. Compensation for workspace should be valued similarly to the right-of-way. You might want to include a penalty if the company's activities extend outside the right-of-way without your prior approval.
Agree on how the land will be reseeded after construction.	Proper reseeding is needed to ensure weed management.
Determine adequate compensation for crop loss, adverse effect, nuisance and inconvenience that will occur while the pipeline is being constructed.	If there is any above-ground installation on the pipeline, you should arrange for annual compensation for loss of use and adverse effect, with the rental being reviewed every five years.
Ensure that the company agrees to cover the costs of accidental damage.	Accidental damage may arise due to the location of the pipeline or above-ground installations. You do not want to be liable for this.
Specify cleanup expectations.	The right-of-way agreement should require the company to quickly clean up the right-of-way, including removing all stumps, rocks, roots and other debris. Also, clarify with the company how it will dispose of waste (e.g., hauling or burning).

Appendix B. Contacts

This appendix provides contact information for lawyers, laboratories, industrial associations and community groups. Within each main section, the individual organizations are listed in alphabetical order. While engaging effectively with industry and the regulators can appear to be a daunting challenge, accessing the experience and expertise of others who have professional training or have dealt with similar issues can be an invaluable source of advice and support.

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B.1 Lawyers, expert witnesses and technical assistance

B.1.1 Lawyers or landowner representatives

In many cases a landowner negotiates directly with a company, but sometimes it can be helpful to engage a lawyer or landowner representative who is familiar with surface rights issues.

Landowner representatives may be certified land agents, or other professionals with experience negotiating on these issues. Several years ago, the provincial government changed land agent legislation to allow farmers and ranchers to hire professionals who were not land agents.

If a situation is complex or if negotiations break down and you plan to present at a hearing, you may wish to engage a lawyer and/or expert witnesses. This is especially common for cases brought before the AER, and some interveners also like to have a lawyer represent them at a Land and Property Rights Tribunal hearing.

It is best to find a lawyer and/or expert witnesses who are experienced in energy issues and in the hearing process. Unfortunately, there is no central resource to find experts and lawyers, so you may have to ask your personal networks, contact a local surface rights group or synergy group, and search online. There are several law firms in Alberta that practice environmental or surface rights law.

You could also read some of the AER hearing decision documents and see which lawyers and expert witnesses were involved. These are listed in Appendix 1 of each decision. All recent decisions are published on the AER's website.¹

While the highest priority in selecting professional assistance is to choose someone with experience in energy hearings, hiring professionals who are located near you can help to reduce costs and facilitate communication.

¹ AER, "Hearing Decisions." <https://www.aer.ca/applications-and-notice/application-status-and-notice/decisions/hearing-decisions>

B.1.2 Mediation and arbitration

If companies or individuals would like a third-party mediator instead of the AER staff mediator, you may wish to contact the ADR Institute of Alberta, which maintains a searchable directory of ADR specialists in Alberta. Their website also provides information on the basics of mediation.

ADR Institute of Alberta

Toll-free: 1-800-232-7214

Edmonton: 780-433-4881

Fax: 780-433-9024

info@adrAlberta.com

www.adrAlberta.com

B.1.3 Laboratories

If you want to have your air or water tested, be sure to engage an accredited laboratory. The Canadian Association for Laboratory Accreditation delivers laboratory accreditation for environmental and petroleum testing, along with other testing services. Each laboratory is separately evaluated and accredited for specific tests. Thus, the tests that a laboratory is accredited to perform will vary from one lab to another, even within the same company. The website includes a list of accredited laboratories.

The Canadian Association for Laboratory Accreditation

Phone: 613-233-5300

Fax: 613-233-5501

www.cala.ca

Accredited laboratories are also listed at:

The Standards Council of Canada

www.scc.ca/en/search/palcan

B.1.4 Technical consultants

You may also need other environmental consulting services or technical expertise. The Environmental Services Association of Alberta is an industrial association of the major companies that provide environmental services in Alberta. The list and profiles of association members on the website may help identify companies that can provide consultants or expert advice.

Environmental Services Association of Alberta

#102, 2528 Ellwood Drive SW

Edmonton, AB - T6X 0A9

Phone: 780-429-6363

info@esaa.org

www.esaa.org

B.2 Professional organizations representing the energy sector

B.2.1 Alberta Association of Surface Land Agents

Land agents in Alberta are licensed under the Land Agents Licensing Act. It is important to distinguish between licensed land agents and other professionals, such as permit agents, emergency response planning personnel and pipeline inspectors, who are trained to perform other tasks, but are not in fact licensed land agents.

The Alberta Association of Surface Land Agents is a professional association of people involved in all aspects of surface land acquisition in various industries, including the oil and gas sector.

Alberta Association of Surface Land Agents

www.aasla.com

B.2.2 Alberta Land Surveyors' Association

This professional association regulates the practice of land surveying. A section on their website explains their work to the public. They also publish free helpful brochures, such as *Understanding Easements and Rights-of-Way*.²

Alberta Land Surveyors' Association

Phone: 780-429-8805, 800-665-2572

info@alsa.ab.ca

www.alsa.ab.ca

B.2.3 Canadian Association of Geophysical Contractors

One of the functions of the association is to act as the communication link to promote understanding between government, industry, other groups and the geophysical industry.

Canadian Association of Geophysical Contractors

Phone: 403-265-0045

info@cagc.ca

www.cagc.ca

B.2.4 Canadian Association of Energy Contractors

This is a trade association that develops standard procedures for its member companies and represents this branch of the industry in dealing with different levels of government and others.

² Available at <https://www.alsa.ab.ca/Surveys-in-Alberta/Easements-and-Rights-of-Way>.

Canadian Association of Energy Contractors

Phone: 403-264-4311

info@caoec.cawww.caoec.ca

B.2.5 Canadian Association of Land and Energy Professionals

Oil and gas companies hire professional land agents, or landmen, to deal with surface landowners and land administration. Landmen are involved in negotiations with landowners from the initial request to explore land to the time when a well or pipeline is abandoned and reclaimed. The Canadian Association of Land and Energy Professionals is a non-profit voluntary professional association for landmen, as well as energy professionals, in Canada. It provides education and training in land management, engages with the public and government sectors, and promotes professional and ethical standards among its members.

Canadian Association of Land and Energy Professionals

Phone: 403-237-6635

reception@calep.cawww.calep.ca

B.2.6 Canadian Association of Petroleum Producers

The Canadian Association of Petroleum Producers (CAPP) is an industry group representing companies involved in the exploration, development and production of crude oil and natural gas in Canada. CAPP member companies account for 85% of the nation's total production of petroleum.

CAPP often represents the industry in discussions with government, the AER and environmental groups. Over the years, CAPP has worked with members and stakeholders to develop industry best practices and comprehensive operating guidelines on topics such as emergency response planning and flaring. The AER has used these evolving guidelines as minimum standards.

CAPP's website contains many resources primarily written for their members but covering a variety of topics such as health and safety, emergency response, sour gas, flaring and venting. Additionally, CAPP produces their *Crude Oil Forecast, Markets and Transportation* report annually.

Canadian Association of Petroleum Producers

Phone: 403-267-1100

communication@capp.cawww.capp.ca

B.2.7 Orphan Well Association

The Orphan Well Association is a non-profit organization tasked with managing the abandonment of upstream oil and gas orphan wells, pipelines and facilities, and the remediation and reclamation of their associated sites. The organization works under the delegated authority of the AER. Funds for the program are collected by the AER through the Orphan Fund levy on the upstream oil and gas industry. This levy is based on the abandonment and reclamation liabilities held by each company, and it is collected annually by the AER and remitted to the OWA. The association's activities are described in their annual report, available on their website. The organization also publishes a list of wells, sites, and pipelines that are to be abandoned or undergo reclamation.

Orphan Well Association

Phone: 403-297-6416, or toll-free 310-0000, ask for AER switchboard 403-297-8311, then ask for the OWA
www.orphanwell.ca

B.2.8 Explorers and Producers Association of Canada

The Explorers and Producers Association of Canada (EPAC) represents independent oil and gas companies, including start-ups, junior, and mid-sized producers operating in Canada and abroad. EPAC has close to 200 member companies, and represents their interests to government and regulatory bodies and to other sectors of the oil and gas industry.

Explorers and Producers Association of Canada

Phone: 403-269-3454
 Fax: 403-269-3636
info@explorersandproducers.ca
explorersandproducers.ca

B.2.9 Strathcona Industrial Association

Several oil and gas companies operating in the eastern part of Edmonton and the adjacent portion of the County of Strathcona are members of the Strathcona Industrial Association (SIA). Other companies involved are mostly in the petrochemical industry. SIA has seven continuous air quality monitoring stations and 21 static monitoring stations in the region.

The association also supports health promotion and safety initiatives in the community. It operates the Strathcona District Mutual Assistance Program to plan and test emergency response readiness.

Strathcona Industrial Association

Phone: 780-990-4742
info@sia.ab.ca
www.sia.ab.ca

B.3 Province-wide non-profit organizations

B.3.1 Alberta Environmental Network

The Alberta Environmental Network (AEN) is an affiliation of environmental non-profit, non-governmental organizations and individuals working toward a healthier environment in Alberta. The AEN aims to build the capacity of its members by providing resources, information and networking opportunities, and maintains a directory of members on its website.

One of the main activities of the AEN is to facilitate the participation of environmental non-governmental organizations in environmental engagements, such as on committees or in discussions with the AER or the Clean Air Strategic Alliance (section B.3.5).

Alberta Environmental Network

Phone: 780-439-1916

admin@aenweb.ca

www.aenweb.ca

B.3.2 Environmental Law Centre

The Environmental Law Centre (ELC) is a leading environmental public policy and law reform charity that provides objective information and advice on environmental legislation and regulations. The centre carries out its work through public programs and contract services.

The Environmental Law Centre

Phone: 780-424-5099, 800-661-4238

Fax: 780-424-5133

www.elc.ab.ca

Publications

The ELC has published many useful books and reports relating to environmental issues in Alberta, which are available on its website. Some examples are:

Buyer Beware: Where and how to find environmental information about a property in Alberta (2015). This short helpful resource outlines where you can look for environmental information when you are buying property in Alberta.

What Lies Beneath? Access to Environmental Information in Alberta (2014). This comprehensive guidebook is intended to help anyone obtain environmental information about a specific property or location. This location-based approach is focused on the real estate buyer but can also be helpful for community groups, environmental organizations and the general public.

B.3.3 Alberta Native Plant Council

The Alberta Native Plant Council promotes knowledge and conservation of the native plants and vegetation in Alberta. The council can provide information to those wanting land to be reclaimed using native plants.

Alberta Native Plant Council

info@anpc.ab.ca

www.anpc.ab.ca/

B.3.4 Action Surface Rights

Action Surface Rights is an Alberta-based group that is dedicated to helping fellow landowners understand and navigate the maze of government and industry processes when dealing with the energy sectors, whether it be oil/ gas, transmission lines, or wind power. They provide resources, support and information for landowners to help them make an informed decision when dealing with energy development.

Action Surface Rights

contact@actionsurfacerights.ca

actionsurfacerights.ca/

B.3.5 Clean Air Strategic Alliance

The Clean Air Strategic Alliance (CASA) is a multi-stakeholder partnership of industry, government and non-governmental organizations that assists the Government of Alberta in developing strategic policy on many air quality issues. CASA deals with environmental, economic and health issues. While there are representatives from various government departments on the CASA board and on various CASA teams, CASA reaches decisions through a consensus process.

One of its key roles is to prioritize air quality problems and, through its project teamwork, develop effective action plans to resolve these concerns.

Recognizing that air quality issues are often best dealt with on a regional basis, several regional airshed monitoring bodies have been endorsed under the CASA umbrella, using approved airshed zone guidelines. As with CASA, these multi-stakeholder bodies make decisions by consensus and consist of representatives from government, industry and non-governmental organizations (see below). They do not provide comprehensive coverage of the province, but are active in many areas with more intensive oil and gas activity.

Clean Air Strategic Alliance

Phone: 780-427-9793

casa@casahome.org

www.casahome.org

B.3.6 Alberta Airsheds Council and airshed groups

In 2006, the Alberta Airsheds Council (AAC) was formed to coordinate the efforts and operations of Alberta's airsheds. It is a council of the 10 airsheds currently in Alberta and is a place where airshed zones can discuss common issues.

Alberta Airsheds Council

administrator@albertaairshedsCouncil.ca

www.albertaairshedsCouncil.ca/

You can get more information about Alberta's airsheds from the Clean Air Strategic Alliance,³ or you can contact the groups directly using the information below.

Heartland Air Monitoring Partnership <i>Fort Saskatchewan and region</i> Phone: 1-800-718-0471 info@heartlandair.org www.heartlandairmonitoring.org/	Parkland Airshed Management Zone <i>Red Deer, Rocky Mountain House, Sundre, Banff and surrounding region</i> Phone: 403-862-7046 info@pamz.org www.pamz.org
Palliser Airshed Society <i>Medicine Hat and Redcliffe</i> Phone: 403-512-0085 admin@palliserairshed.com palliserairshed.com/	Peace Airshed Zone Association <i>Grande Prairie and region</i> Phone: 780-882-4589 www.paza.ca/
West Central Airshed Society <i>Jasper, Hinton, Edson, Lake Wabamun, Drayton Valley, Pigeon Lake and surrounding regions</i> Phone: 587-499-4900 info@wcas.ca www.wcas.ca	Wood Buffalo Environmental Association <i>Fort McMurray and the Wood Buffalo region</i> Phone: 780-799-4420 info@wbea.org www.wbea.org/
Alberta Capital Airshed (ACA) <i>Edmonton region</i> Phone: 587-520-7935 info@capitalairshed.ca capitalairshed.ca	Calgary Region Airshed Zone (CRAZ) <i>Calgary region</i> Phone: 403-968-5522 craz.ca/

³ CASA, "Alberta Airshed Zones." <https://www.casahome.org/partners-links/alberta-airshed-zones/>

Lakeland Industry and Community Association Environmental Stewards <i>Bonnyville, Cold Lake, St. Paul and region</i> Phone: 780-812-2182 lica2@lica.ca lica.ca/	Peace River Air Monitoring Program <i>Peace River area</i> Phone: 780-625-2900 prampairshed.ca/
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B.3.7 Freehold Owners Association

The Freehold Owners Association is an organization for those who own subsurface rights. It was set up to level the playing field between Freeholders and the oil and gas companies that lease their oil and gas interests.

Freehold Owners Association

Phone: 587-407-1381

fhoa.ca/

B.3.8 Alberta Trappers' Compensation Program

The Alberta Trappers' Compensation Program is administered by the Alberta Trappers' Association to help trappers when they are negatively affected by the activities of other resource users on Crown lands. The Trapper Compensation Board has been appointed to review claims that cannot be resolved through direct negotiations. This may be useful for those who have trapping leases near oil and gas development in the area.

Alberta Trappers' Association

Phone: 780-349-6626

info@albertatrappers.com

www.albertatrappers.com

B.3.9 Alberta Land Institute

The Alberta Land Institute (ALI) is an independent, non-partisan research institute based at the University of Alberta that connects research and policy for better land management. ALI conducts and funds interdisciplinary academic research on land-use challenges in Alberta and Canada to develop and evaluate alternative policy options that consider social, economic and environmental perspectives.

ALI has also published a guide and accompanying website to property rights in Alberta, outlining the basics of property and subsurface rights, which may be useful to read.⁴

Alberta Land Institute

Phone: 780-492-3469

albertalandinstitute@ualberta.ca

www.albertalandinstitute.ca

B.3.10 Grassroots Alberta Landowners Association

Grassroots Alberta Landowners Association was established to advance the interests of landowners by working to ensure that legislators, members of the media, and the general public come to a better understanding of the impact that industrial development has upon the lives and operations of farmers and ranchers. Grassroots Alberta is available to work with groups of landowners when their property is affected by pipeline and powerline projects.

Grassroots Alberta Landowners Association

Phone: 403-823-0429

grassrootsalbertaci@outlook.com

grassrootsalberta.org/landowners-association

B.4 Synergy, mutual aid and surface rights groups

There are a number of groups dealing with oil and gas issues at the local level. Some are multi-stakeholder groups; others may be formed by one particular group, such as members of the public, who work together to bring their common interests to the attention of industry. Sometimes they are “one-issue” groups set up to deal with a particular application or problem. Such groups may later become inactive once the issue has been addressed. Other groups act on a more regional basis to deal with a variety of issues.

Some multi-stakeholder groups include industry, community and government representatives working together to try to resolve issues. Such groups may be referred to as “synergy” groups since the groups aim to achieve greater effectiveness through cooperation or combined action. They may focus on a variety of issues, including health, safety and emergency response; environmental issues; and community relations and communications. Such synergy groups are encouraged by the AER, and the AER is often an active participant in these groups.

⁴ Alberta Land Institute, *A Guide to Property Rights in Alberta* (2014). <https://www.ualberta.ca/en/alberta-land-institute/media-library/documents/research/a-guide-to-property-rights-in-alberta1.pdf>

B.4.1 Alberta Surface Rights Federation

The Alberta Surface Rights Federation works to improve the operation of all aspects of the energy industry as it affects landowners. The federation can provide names of local surface rights organizations and of experienced individuals who may be able to provide advice. They lobby government and the AER, and engage in multi-stakeholder processes.

B.4.2 Alberta Water Council

Established in 2004, the Alberta Water Council is a multi-stakeholder partnership, with representatives from governments, industry, and non-government organizations. Its primary task is to monitor and steward implementation of Alberta's Water for Life strategy and to champion achievement of the strategy's three goals.⁵

Alberta Water Council

Phone: 780-644-7380

info@awc-casa.ca

www.awchome.ca/

B.4.3 Watershed planning and advisory councils

Under Alberta's Water for Life strategy, watershed planning and advisory councils (WPACs) are multi-stakeholder, non-profit organizations that assess the conditions of specific watersheds and develop plans and activities to address watershed issues. There are 11 WPACs in Alberta.

Athabasca Watershed Council Phone: 780-213-4389 athabascawatershed.ca/	Battle River Watershed Alliance Phone: 780-672-0276 www.battleriverwatershed.ca
Lakeland Industry & Community Association Phone: 780-812-2182 / 1-877-737-2182 lica.ca/	Bow River Basin Council www.brbc.ab.ca
Lesser Slave Watershed Council Phone: 780-523-9800 www.lswc.ca	Mighty Peace Watershed Alliance www.mightypeacewatershedalliance.org

⁵ Alberta, *Water for Life: Alberta's Strategy for sustainability* (2003).
<https://open.alberta.ca/publications/0778530582>

Milk River Watershed Council Canada Phone: 403-647-3808 mrwcc.ca/	North Saskatchewan Watershed Alliance Phone: 825-901-7676 www.nswa.ab.ca
Oldman Watershed Council Phone: 403-330-1346 oldmanwatershed.ca/	Red Deer River Watershed Alliance Phone: 403-340-RDRW (340-7379) www.rdrwa.ca
South East Alberta Watershed Alliance Phone: 403-580-8980 www.seawa.ca	

B.5 Other relevant local groups and committees

The following is a non-exhaustive list of other multi-stakeholder groups in Alberta.

B.5.1 Turner Valley Oil and Gas Group

The Turner Valley Oil and Gas Group (TVOGG) is a committee of representatives from the oil and gas industries, municipal and provincial governments, regulatory agencies, and emergency/disaster services that have interests within the towns of Diamond Valley and Longview and the MD of Foothills.

TVOGG aims to promote cooperation and communication between industry, government, regulatory agencies and developers with respect to development near oil and gas facilities; coordinated responses to public concerns about energy and oil and gas activities; and education and awareness of oil and gas industry safety concerns such as underground facilities.

B.5.2 Lakeland Industry Community Association

Lakeland Industry Community Association (LICA) was formed in 2000 to focus on issues in the Bonnyville, Cold Lake and St. Paul region. The association focuses on air, soil, and water monitoring, and operates the LICA airshed zone and the Beaver River Watershed Alliance as independent standing committees.

It has members from industry and the community, including the Indigenous community. Representatives from the AER also attend meetings. Although it functions as a synergy group, it also serves other functions.

Lakeland Industry Community Association

Phone: 780-812-2182

lica2@lica.calica.ca/

B.5.3 Sundre Petroleum Operators Group

Sundre Petroleum Operators Group (SPOG) was set up in 1992 to facilitate understanding between the community and the oil and gas companies in the Sundre/Caroline area. Its mission is to facilitate communication and cooperation among primarily petroleum industry partners, regulatory agencies and the community. While it is an industry-funded group, it includes representatives from 25 community groups in the Sundre/Caroline area and from the AER, in addition to 20 oil and gas and service companies. SPOG has working groups and committees that deal with a variety of issues, outlined on their website. Although it functions as a synergy group, it also serves other roles in the community.

Sundre Petroleum Operators Group

Phone: 403-638-5117

admin@spog.ab.cawww.spogab.com/

B.5.4 Southwest Alberta Sustainable Community Initiative

SASCI aims to provide information and education and to facilitate public cooperation through a multi-stakeholder group for a sustainable economic, environmental and social future of southwestern Alberta. The group's goal is to facilitate mutual understanding rather than to advocate for or against development.

Southwest Alberta Sustainable Community Initiativesasci@telus.netwww.sasci.ca

B.5.5 Life in the Heartland

Life in the Heartland is a collaborative initiative that began in 2009 by five different groups operating in Alberta's industrial heartland, including Lamont County, Sturgeon County, Strathcona County, City of Fort Saskatchewan and City of Edmonton (specifically Horsehill Industrial area). It primarily provides information, contacts and resources to residents in and around the heartland. Based on resident feedback, it focuses on cumulative effects, risk management, air quality, traffic, noise, water quality and education.

The website lists the contact information for each of the partners of the organization and phone numbers for specific inquiries.

Life in the Heartland

info@lifeintheheartland.com

lifeintheheartland.com

Appendix C. Documenting Costs

C.1 Determining compensation

As a landowner who may sign or has signed a surface lease agreement, you should track any time or expense that occurs as a result of having a well, pipeline or facility on your land. You should start logging this as soon as the seismic equipment shows up, and finish when you have a reclamation certificate in hand that you are happy with.

A landowner's compensation offer for a surface lease considers five main criteria:

- the entry fee (fixed to \$500 per acre)
- land value
- general disturbance such as initial nuisance, inconvenience, and noise (for the first year of the lease)
- loss of use of the land
- adverse effect

Although there may be other considerations specific to your situation, these are the criteria outlined in the Surface Rights Act.¹ For more information about compensation, refer to section 9.

C.1.1 Negotiation expenses

Compensation should be negotiated early in your discussions in order to ensure that you and the company can agree on the reasonable reimbursement for your time. Keep track of all your time and expenses while negotiating with the company, including activities like phone calls, researching, dealing with the company's representatives and surveyors, negotiations, preparing documentation, and reaching out to third parties, lawyers, and government representatives.

If you begin as early as the project conception, you can include your records as evidence toward the reimbursement of your costs. If you provide a reasonable and detailed outline of time and expenses, the company may be persuaded to reimburse you; if they do not, the Land and Property Rights Tribunal might award your costs. The Surface Rights Board (predecessor to the tribunal) has determined in the past that even if compensation was negotiated outside their process, lessors should be granted reasonable costs incurred while negotiating.

¹ Alberta, *Surface Rights Act*, RSA 2000, c. S-24, s. 25.

Table 15 provides an example of cost tracking for activities during negotiations that you can adapt for your own use. You should number each item for ease of reference.

Table 15. Example cost tracker for negotiations

Ref. #	Date	Description	Expense	Time
1	05-02-2025	Meeting with land agent about seismic testing		1 hr
2	06-27-2025	Land agent kitchen table talks, discuss surface lease access		1.5 hr
3	06-28-2025	Research on company, phone call with AER		1 hr
4	06-29-2025	Research on company history, reclamation, enforcement orders	\$75	4 hr
5	06-30-2025	Cost of landowner consultant (preliminary investigation) (\$250/hr)	\$250	1 hr
6	07-05-2025	Land agent kitchen table talks, cont. discussing concerns on well placement		1 hr
7	07-05-2025	Cost of landowner consultant (additional investigation) (\$250/hr)	\$500	2 hr
8	07-02-2025	Printing costs of application and relevant documentation	\$25	
9	07-15-2025	Land agent kitchen table talks, cont. discussing concerns on flaring		1 hr
10	07-15-2025	Cost of landowner consultant (kitchen table talks, preparation) (\$250/hr)	\$500	2 hr
11	07-17-2025	Cost of landowner consultant (follow-up to discussions) (\$250/hr)	\$375	1.5 hr
12	08-07-2025	Travel to and from ADR process (\$0.505/km)	\$25.25 (50 km)	1 hr
13	08-08-2025	ADR process negotiations		2.5 hr
14	08-09-2025	Surface lease agreement signed		1 hr

C.1.2 Adverse effect costs

Adverse effects are calculated at the time of signing for a surface agreement and should consider probable effects in a future five-year period. You may want to look at past Land and Property Rights Tribunal decisions to get an idea about likely effects and compensation.²

Adverse effect could include:

- Extra time to farm around the operation
- Production losses (outside the lease) due to compaction, or extra turning of the combine to navigate around the lease site
- Impact and change for on-farm management decisions
 - Impact to GPS operations
- Added strain on machinery
- Effort and cost for effective weed control
- Inconvenience to normal field operations
 - Extra care when in the vicinity of the obstruction, extra time
 - Time to supervise and inspect lands
 - Added stress on operator to not hit any structures
- Impact of exposure to non-lethal hydrogen sulphide for landowner, livestock
- General payment for a forced business relationship
- Other items unique to this lease

As these are probable future effects, anticipated costs and expenses may be hard to justify if they are speculative. However, every surface lease can be renegotiated every five years. In order to demonstrate additional adverse effects not covered in your initial lease agreement, diligent documentation can help ensure you are compensated in the next surface lease agreement for all costs and time spent dealing with the lease on your land. The Land and Property Rights Tribunal may consider a reasonable hourly rate for your time.

Table 16 provides an example of cost tracking for adverse effects that you can adapt for your own use. You should number each item for ease of reference.

² Alberta, “LPRT – Find a decision.” <https://www.alberta.ca/lprt-find-a-decision>

Table 16. Example cost tracker for adverse effects

Ref. #	Date	Description	Expense	Time
36	09-04-2024	Fence damaged by truck crews; repaired fence (include photos)	\$50 (barbed wire)	0.5 hr
37	09-10-2024	Cattle gate left open; rounded up escaped cattle (include photos)		1 hr
38	09 -17-2024	Weekly rounds to check fencing, gate closing		0.25 hr
39	09 -24-2024	Weekly rounds to check fencing, gate closing		0.25 hr
40	09 -30-2024	Weekly rounds to check fencing, gate closing		0.25 hr
41	10-07-2024	Weekly rounds to check fencing, gate closing		0.25 hr
42	10-14-2024	Weekly rounds to check fencing, gate closing		0.25 hr
43	10-20-2024	Pump-valve failure – uncontrolled release; moved cattle upwind, closed gates, contacted company and AER		2.5 hr
44	10-21-2024	Company trucks responding to release caused ruts in field; repaired ruts		4 hr
45	10-28-2024	Weekly rounds to check fencing, gate closing		0.25 hr
65	06 -01-2025	Controlled weeds on lands adjacent to lease road – scentless chamomile removal and disposal (include photos)		1.5
66	06-10-2025	Cattle gate left open; rounded up escaped cattle (include photos)		1 hr
67	06-11-2025	Phone call with AER and company staff re: fencing		0.5 hr

Appendix D. Glossary

abandonment (abandoned well or facility)

The permanent deactivation of a well, pipeline or seismic hole. In an abandoned well (cased or uncased), porous and permeable hydrocarbon and/or water-bearing formations are effectively isolated through the placement of cement caps. Well abandonment also includes removing the wellhead, cutting the casing off at a depth of one metre below ground surface and welding a steel plate across the opening. Abandonment should ensure that there is no potential for damage to the oil and gas remaining in the ground or for the oil or gas to contaminate groundwater. See also *orphan well* and *suspended well*.

In the case of a pipeline, abandonment means the permanent deactivation of a pipeline or part of a pipeline, whether or not it has been removed. For seismic holes, abandonment involves ensuring that the hole is capped in such a way that there is no chance of damage to groundwater.

acid gas

A gas that results from treating or “sweetening” sour gas; it contains predominantly hydrogen sulphide and carbon dioxide.

adverse effect

One condition considered by the Land and Property Rights Tribunal to determine compensation for a surface lease. The definition typically includes probable impacts within the next five years and includes extra inconvenience, nuisance and extra costs on the rest of the quarter section where the well site is located. In addition to the fixed entry fee, compensation is also determined by land value, general disturbance in the first year of the lease, loss of use of that land, and other relevant factors.

adversely affected

One of the conditions (besides being directly affected) that you must prove is probable in a statement of concern in order to have your concerns about an energy application considered by the AER when it reviews the application. (In a regulatory appeal, you must prove this as a fact, not a probability.) Adverse effects are generally understood to be more than moderate adverse consequences. Not to be confused with *adverse effect*, which is one condition used by the Land and Property Rights Tribunal to determine compensation for a surface lease.

Alberta Ambient Air Quality Objectives and Guidelines

A set of objectives and guidelines for air quality in Alberta; they are intended to provide protection of the environment and human health to an extent scientifically, technically, economically, and socially feasible. Air quality objectives are generally averaged over one-hour, 24-hour, and annual periods. They are used to assess compliance of major industrial emission sources, determine the adequacy of facility designs, and track and present information on air quality throughout the province. Guidelines and objectives are reviewed as needed; currently the province has air quality objectives for over 50 substances that could be released to the atmosphere.

alternative dispute resolution (ADR)

The AER offers an alternative dispute resolution process for disputes related to energy development in Alberta, as an alternative to the hearing process. The ADR process may involve facilitation, mediation, negotiation, arbitration or a combination of these strategies. The ADR process isn't limited to issues within the jurisdiction of the AER, so in some cases this process may enable a broader range of issues and resolution than what the AER can typically regulate, such as compensation. The process can be used at any point in the project life cycle, from the project planning phase until after the project is complete. Typically, the ADR program is voluntary, unless required by hearing commissioners after an application has been recommended for a hearing. The Canada Energy Regulator also has an ADR process for projects under its jurisdiction.

arbitration

In arbitration, a neutral third party assesses evidence in a dispute around an agreement; the decision they make is legally binding on both sides. The process is governed by the Alberta Arbitration Act.

backfill

To refill a hole, often with material that was originally excavated.

base of groundwater protection (BGWP)

As used by the AER, the approximate depth where non-saline groundwater changes to saline groundwater.

battery

A system or arrangement of tanks or other surface equipment receiving the production from one or more wells prior to delivery to market or other disposition, and may include equipment or devices for separating the product into oil, gas or water.

blowout

The uncontrolled release of crude oil or natural gas from a well during drilling or operations.

BTEX

A group of volatile aromatic hydrocarbons — benzene, toluene, ethylbenzene, and xylenes — often found together.

carbon capture and storage

The process of collecting carbon dioxide from an industrial application and storing it underground in order to reduce emissions.

cased-hole abandonment

The abandonment of a completed well when it is no longer required for production. A bridge plug is put into the well, inside the casing, to prevent upward movement of hydrocarbons.

casing

The lining put into a well. Usually several casings are installed as a well is drilled and put into production. The production casing is a tubular steel pipe threaded on each end and connected with couplings. It extends the total length of the wellbore to ensure safe control of production, prevent water from entering the wellbore and keep rock formations from slumping into the wellbore.

Class I pipeline

A pipeline's class, for regulatory purposes, is defined by an index that is based on a product of its size and length. A Class I pipeline has an index of 2690 or greater and must be approved by the AER.

Class II pipeline

A pipeline's class, for regulatory purposes, is defined by an index that is based on a product of its size and length. Class II pipelines have an index less than 2690 and are generally small and/or short pipelines; they are not approved by the AER, but they follow the same environmental protection guidelines as Class I pipelines. Class II pipelines also include any pipeline regulated by the Canada Energy Regulator.

coalbed methane (CBM)

Methane that is trapped in a coalbed. The methane gas comes to the surface at lower pressure and may need to be compressed before it is transported. If coalbed methane contains water, the gas must be dewatered and the wastewater disposed of.

completion

A well is completed when drilling is finished and the resources can begin to be extracted: the casing is complete, the well site is finished and the production infrastructure has been installed.

compressor

A device, driven by large gas or electric engines, used to create and maintain pressure in a gas pipeline so that the gas will flow through process units and pipelines. Compressors may be located at a wellhead, battery, gas plant or along a pipeline. Long pipelines may require a series of compressor stations along the pipeline to boost pressure.

conservation

In the context of energy resources, the planning, management and implementation of an activity to prevent the waste of energy resources. An example is the conservation of natural gas as a byproduct of oil production.

critical sour well

A well that could release sour gas, potentially affecting nearby residents. The designation reflects the well's proximity to an urban centre and its maximum potential release rate of hydrogen sulphide during the drilling stage. The operator must prepare a detailed drilling plan that addresses all aspects of a proposed operation. A critical well is classified according to the Alberta Energy Regulator's Directive 056: Energy Development Applications and Schedules.

Crown land

Lands owned by either provincial or federal governments. The provincial government uses the term public land to refer to land administered under the Public Lands Act to avoid confusion with other provincial and federal land.

dewatering

The separation of water from hydrocarbons, especially in coalbed methane operations.

directly affected

One of the conditions (besides being adversely affected) that you must prove is probable in a statement of concern in order to have your concerns about an energy application considered by the AER when it reviews the application. (In a regulatory appeal, you must prove this as a fact, not a probability.) In general, to be directly affected a person must prove that the effects on them are greater than the average Albertan. Whether or not a person is directly affected will vary from case to case.

down-hole abandonment

A stage in well abandonment that includes installing cement caps in the wellbore and cutting off the casing. It does not include the surface abandonment or reclamation of the lease site.

drilling

The first stage in well construction, when the initial hole is bored into the surface of the earth. Seismic holes may also be drilled for seismic testing in the exploratory stages of development.

drilling mud

Fluid circulated down the drill pipe during drilling to remove cuttings, cool and lubricate the drill bit, and maintain the desired pressure in the well.

dehydrator

A facility that removes the water present in some natural gas to prevent the corrosion and freezing of gas pipelines.

easement

The right to use a specific portion of another's land for a specific purpose. Easements are very similar to rights-of-way and are usually registered on the title of the property.

effluent

Liquid waste from an oil operation, usually containing oil products, chemicals used in production and wastewater.

emergency planning zone (EPZ)

An area surrounding a well where *residents* or other members of the public may be at risk in the event of an uncontrolled release of hydrogen sulphide. The company must be prepared to respond immediately to any event in the EPZ and to inform the public and assist them to evacuate in case of an emergency in the zone.

energy resource enactments

Laws governing the extraction and management of energy resources, including oil, natural gas and coal. This includes the Coal Conservation Act, Gas Resources Preservation Act, Oil and Gas Conservation Act, Oil Sands Conservation Act, Pipeline Act, the Turner Valley Unit Operations Act, and all associated rules and regulations.

enhanced oil recovery

Using water or carbon dioxide to maintain the pressure in an almost-depleted oil reservoir in order to extract more oil.

equivalent land capability

The ability of land that has been conserved or reclaimed to support various land uses that are similar, but not necessarily identical, to those that existed prior to an activity being conducted on the land.

expedited application

A project application may be expedited (a routine application) when an application is submitted to the AER with no outstanding concerns or objections, a landowner agrees to a surface lease or to proceed to the Land and Property Rights Tribunal, the company is compliant with all technical and participant involvement requirements, and the company is not requesting exceptions. An expedited application allows the regulator to make a decision immediately without waiting for a statement of concern filing deadline to pass.

facilitation

An informal process for resolving problems that involves a third party who helps to guide discussions between the other parties in a dispute about an issue. Such a facilitator encourages all those involved to participate actively in the discussion and work together to find an effective solution. The primary responsibility for resolving the issue rests with the two parties in dispute.

flaring

The burning of unwanted gases from a well or processing facility. It may be routine or occur due to an upset. The two common types of flaring are well test flaring and solution gas flaring. Well test flaring is carried out when a new well is drilled to burn off gases while the chemical content of the gases is being tested. Solution gas flaring occurs at batteries or wells where oil from one or more wells is processed and stored. Flaring is sometimes necessary at temporary stacks, as part of pipeline maintenance operations. Gas processing plants also use flares to burn off by-products for which there is no market and to burn off gas during emergency conditions.

flowback fluids

A mixture of injection fluids, reservoir fluids and gases that flows back up the wellbore and to the surface after each pressurization cycle in hydraulic fracturing. Flowback fluids must be captured, contained, and disposed of to avoid surface contamination. Pits can be used to

store the flowback fluid; however, above-ground storage tanks should be used to minimize risk of contamination from leaks and spills.

fracturing, fracking

See *hydraulic fracturing*.

Freehold mineral rights

The ownership of and legal right to recover specific minerals from a specified piece of land is known as mineral rights ownership. The Alberta government holds mineral rights for the majority (81%) of land in Alberta, the federal government approximately 9%, while companies and a few individuals have Freehold mineral rights over the remaining 10% of the land. An owner of surface land does not typically own the mineral rights beneath the land.

gas processing plant

Gas processing plants remove unwanted substances from the gas before it is transported and sold as marketable natural gas. Some substances are separated out for sale, such as methane, ethane, propane, butane and pentanes. There are also contaminants in the raw gas that must be removed to meet quality specifications, such as water, hydrogen sulphide (H₂S), carbon dioxide, nitrogen and other trace gases. There are almost 800 gas processing plants in Alberta.

Sulphur may be recovered for sale, but any excess H₂S is flared or incinerated, with combustion converting most of the H₂S to sulphur dioxide. The sulphur dioxide is released to the atmosphere.

groundwater

Water that collects or flows under the surface of the ground. Groundwater can either be saline (total dissolved solids in excess of 4,000 mg/L) or non-saline. Non-saline groundwater is not necessarily potable, but may be used for other purposes. See also *surface water*.

hearing

A process used by the Alberta Energy Regulator, the Land and Property Right Tribunal, and other similar regulatory bodies to listen to arguments and evidence before deciding on an issue. The AER can decide to hold a hearing on an energy application if concerns about the application have not been dealt with and the landowner and company have not come to an agreement. The AER will consider all accepted statements of concern before deciding on whether to hold a hearing.

horizontal drilling (directional drilling)

Traditionally, most wells were drilled vertically, but with new technology wells are more commonly drilled horizontally along underground formations to access resources that would otherwise be unreachable or unprofitable to develop. Typically horizontal drilling can reduce costs by using one well pad for multiple horizontal wells, which may result in less surface disturbance. Horizontal drilling is often also combined with hydraulic fracturing.

hydraulic fracturing (fracturing, fracking, multi-stage hydraulic fracturing)

Hydraulic fracturing or fracking involves pumping special fluids (fracturing fluids) into a well at high pressure to crack or fracture the formation, accessing oil or gas contained in small pores in the rock, and enabling the oil or gas to more easily flow into the wellbore. Hydraulic fracturing is typically combined with horizontal drilling.

hydrogen sulphide (H₂S)

A poisonous gas that occurs naturally and comes to the surface in sour gas wells. It also occurs in sewer gas. The rotten egg smell associated with H₂S can be detected when concentrations are as low as 0.001 to 0.13 ppm. Concentrations as low as 1–5 ppm may lead to nausea or headaches with prolonged exposure. Concentrations of 20–50 ppm may cause irritation of the nose, throat, and lung, digestive upset and a loss of appetite; as well, one's sense of smell may become fatigued so odour can't be relied on as a warning of exposure. Sense of smell temporarily disappears at concentrations of 100–200 ppm and is accompanied by severe nose, throat and lung irritation. At 250–500 ppm, exposure can lead to pulmonary edema, a potentially fatal buildup of fluid in the lungs. Concentrations above 500 ppm could lead to respiratory paralysis, irregular heartbeat, collapse, and death. While these acute effects of H₂S are of greatest concern, there are indications that cumulative low-level exposure can also affect health, even though it is not known what levels constitute a health risk to the general public or sensitive individuals. Pure H₂S is slightly heavier than air, so it does not disperse rapidly in enclosed spaces and may collect in low-lying areas such as valleys. The average H₂S content of sour gas produced in Alberta is 10%, although the concentration can range from trace amounts to more than 80%.

incineration

Combustion of waste gases at a well site. Unlike flaring, where gas is simply ignited at the stack, in incineration gases are combusted under controlled conditions in a closed chamber. When properly done, incineration provides a more complete combustion of the produced gases and generally minimizes the air pollutants released.

land agent (landman)

A person whom the energy company employs to negotiate with landowners and occupants, and secure and administer oil and gas leases and other agreements. Land agents are also referred to as landmen. In Alberta, landmen are licensed and regulated under the Land Agents Licensing Act.

landowner

The person whose name is on the certificate of title to the land issued under the Land Titles Act. This term is used generally to describe the person who owns the land.

lessee

The person or company that leases land from the lessor. (A person who has agricultural rights on public lands is referred to as an agricultural disposition holder or an agricultural leaseholder.)

lessor

The person who leases lands to the lessee.

mediation

A situation that is too difficult or controversial to be resolved by facilitation may move to mediation. A neutral and impartial third party, the mediator, works with those involved in a dispute to minimize conflict and help the parties make their own mutually acceptable decisions. A mediator may clarify the issues, identify the specific concerns and needs of each party and suggest different ways the issues could be resolved. For mediation to be successful, the parties must agree to seek a common solution.

negotiation

Negotiation is the process of reaching an agreement in a dispute as each party works for their preferred outcome. It can occur directly by principals or indirectly through agents such as lawyers.

non-expedited application

See *non-routine application*.

non-objection

If landowners, occupants or residents have no outstanding concerns about an application for a project, they may confirm this in a statement of non-objection to the company. Depending on the type of application, this is necessary for a company to confirm from landowner, occupants, and/or residents in order to submit an expedited or routine application.

non-routine application

If there are any outstanding objections to an application or the company was not able to secure a confirmation of non-objection (or there are other technical or administrative circumstances), a company must file a non-routine application and include a summary of outstanding concerns or issues. Concerned parties have until the statement of concern filing deadline (listed in a notice of application) to submit a statement of concern about the application with the regulator. The AER will only make a decision on this application after the filing deadline has passed; these applications are thus also called non-expedited.

non-saline groundwater, non-saline aquifer

Groundwater with low levels of salts, usually defined as less than 4,000 mg per litre total dissolved solids. Extractive wells may be drilled into shallow, non-saline aquifers can potentially contaminate nearby shallow, potable-water aquifers. Non-saline water may be extracted along with natural gas or coalbed methane. It is removed from these resources and managed differently than saline groundwater.

occupant

The person, other than the owner, who has certain rights to the land and is in actual possession of the land. The occupant may also be referred to as the tenant. In the case of government-owned land, such as a grazing lease on public land, the occupant is the person shown in the records to have an interest in the land. In the Surface Rights Act, section 1(g), an occupant may also be a company that has been granted a right-of-entry to land under a right-of-entry order.

Note that the definition of an occupant used in this guide is more general than the definition used by the AER. In Directive 056, Appendix 1, the AER distinguishes between landowners, occupants, residents and Crown land disposition holders.

oilsands

A deposit of sand saturated with bitumen. The bitumen may be extracted by surface mining or by injecting steam through a well.

operator

Usually the company that is carrying out some activity. It includes the holder of a licence, approval or permit issued by the AER. In the Environmental Protection and Enhancement Act, it means an approval or registration holder who carries on or has carried on an activity on or in respect to specified land pursuant to an approval or registration. In the Surface Rights Act, it means the company that has the right to conduct surveys or extract the oil, gas or other mineral.

orphan well

If the company holding the licence to operate a well becomes defunct or insolvent before it can abandon or reclaim the operation, the well is an orphan and no owner or party can be held responsible for the cleanup. The proper abandonment and reclamation of orphan wells (and pipelines) is paid for through the Orphan Fund, which is financed by an AER-issued levy on oil and gas licences and managed by the Orphan Well Association.

owner

The person in whose name a certificate of title has been issued under to the Land Titles Act.

permit agent

A person whom the energy company employs to negotiate with landowners and occupants, and secure permission and access to undertake geophysical exploration. The permit agent may be certified. This is different than a land agent, who negotiates leases.

ppm (parts per million)

The ratio by mass of a pollutant per one million parts of the total solution that it is in. Often measured as milligrams of pollutant per litre of water.

pit

A temporary storage area for liquid or semi-liquid waste produced during drilling or operations; also known as a sump.

pre-application concern

A notification filed with the AER before an application is submitted to the regulator. This notifies the AER and the company that you have concerns, and can be submitted by anyone. A pre-application concern does not act as a statement of concern and you cannot request a hearing through a pre-application concern, so unless your concerns have been satisfactorily dealt with, it should be followed by an official statement of concern once the application has been submitted.

private surface agreement

A written agreement between a landowner and an energy company that contains terms and conditions of operations, and can be registered with the AER on the Private Surface Agreements Registry. The landowner can use the registry to ask the AER to intervene if the company is not complying with the terms of the agreement.

public land

Lands administered under the Public Lands Act, such as grazing lease dispositions, are referred to as public lands, to avoid confusion with other Crown lands.

reclamation

As defined in the Environmental Protection and Enhancement Act, reclamation means any or all of the following:

- the removal of equipment or buildings or other structures
- the decontamination of buildings or other structures or land or water
- the stabilization, contouring, maintenance, conditioning or reconstruction of the surface of the land to a state of equivalent land capability
- any other procedure, operation or requirement specified in the regulations under the Environmental Protection and Enhancement Act

reclamation certificate

The certificate issued by the AER to indicate that any land disturbed by an energy activity has been reclaimed and all AER requirements have been met. When applying to the AER, the operator must include an analysis of contamination and a report detailing how contaminants were cleaned and how surface issues such as soil replacement and revegetation were addressed. The AER conducts both random and targeted audits on certified sites. Certificates can be cancelled if the company fails an audit or a landowner complains and the site is found to be noncompliant with reclamation criteria. A company remains liable if conservation and reclamation problems arise within 25 years after issuance of the certificate.

remediation

The removal or neutralization of chemical substances from a site to mitigate or prevent any adverse effects. Also known as decommissioning or decontamination.

remediation certificate

The certificate issued by the AER to indicate that remediation has been conducted according to the AER's requirements.

request to participate

Once the AER decides to hold a hearing, it will issue a notice that includes details on how to request to participate in the hearing. Those who think they are directly and adversely affected can request to participate, as can anyone who thinks they have a tangible interest in

the matter and can materially assist the AER with its decision even if they are not considered directly and adversely affected.

resident

A resident is defined by the AER as a person occupying a residence on a temporary or permanent basis. See also *occupant*.

reservoir fluids

A mixture of fluids found in a petroleum reservoir, which usually includes oil and water. These can flow to the surface during drilling and well testing, and during hydraulic fracturing.

right-of-entry order

An order of the Land and Property Rights Tribunal granting an operator access to and use of a certain area of the land surface for operations such as drilling and roadway construction.

right-of-way

A legal right to pass through land owned by another. Also, a term used for land set aside for a road, pipeline or other infrastructure; see also *easement*.

routine application

A company may submit a routine application for a project if there are no outstanding concerns, objections, or other technical reasons designated by the AER. The AER may proceed to make a decision on the application immediately, without waiting for a filing deadline to pass (an expedited application).

saline groundwater, saline water

Groundwater with high levels of salts, usually defined as more than 4,000 mg per litre total dissolved solids. It is usually found at a lower depth than non-saline groundwater (see also *base of groundwater protection*) and often is extracted along with natural gas or coalbed methane. It is removed from these resources and usually re-injected deep underground. Saline water must be carefully managed during production to avoid contaminating non-saline aquifers.

seismic survey

A survey of the geological layers under the ground, conducted by sending out vibrations and measuring the way they are reflected back from the different layers. The vibrations may be created by dynamite charges in holes (usually 12 to 18 metres deep) or by mechanical vibrations at the surface (vibroseis). Data is recorded on receiving devices — either in two

dimensions using one line of receiver “geophones” along a shot line, or more often now with a three-dimensional technique using simultaneous recording along multiple receiver lines. This enables geophysicists and geologists to identify the geological structure and formations where oil or gas may be found.

setback

The distance required to separate a project, such as a well or pipeline, from another activity, such as a residence, water well or watercourse.

shale gas

Methane gas found in shale formations; it is extracted using hydraulic fracturing rather than standard gas extraction wells.

shot hole

In a seismic survey, dynamite charges are detonated in shallow shot holes. (Also referred to as a seismic hole.) Shot holes should be plugged and sealed when testing is complete.

shut-in well

See *suspended well*.

solution gas

Natural gas that comes to the surface with crude oil. The gas may be sweet or sour (containing hydrogen sulphide). The gas is dissolved in oil at high pressures under the ground, but released at surface pressure. If the quantities are too small to pipe or conserve economically, the gas may be flared; see also *flaring*.

sour gas

Natural gas, including solution gas, containing hydrogen sulphide.

specified land

Land that is being or has been used for, or is being held for or in connection with, the construction, operation, or reclamation of a well, oil production site, battery or pipeline. This term is used in the Conservation and Reclamation Regulation, under the Environmental Protection and Enhancement Act.

specified enactments

Regulatory documents and laws that govern the protection of the environment around energy activities. These include the Environmental Protection and Enhancement Act, Part 8 of the Mines and Minerals Act, the Public Lands Act, and the Water Act.

stakeholder

A person with an interest in an issue. In the case of oil and gas resource development, this may include nearby residents, recreational users of land, local business, environmental groups and various government agencies, as well as the company, its staff and contractors.

statement of concern

A written submission to the AER that outlines specific concerns about an energy application. A statement of concern may be filed by anyone who believes they may be directly and adversely affected by an application.

straddle plant

A gas processing plant close to a gas transmission pipeline that extracts natural gas liquids from the gas and then returns the gas to the pipeline.

subsoil

The layer of soil directly below the topsoil that generally has much less organic matter than topsoil. It can also be defined as the zone below the ploughed soil in which roots normally grow.

surface abandonment

A stage in well abandonment that includes removal of all the wellhead equipment, but not the down-hole abandonment or the reclamation of the lease site.

surface water

Water in a water body such as a lake, river, stream or wetland. In some cases, surface water is considered to include groundwater at a depth of not more than 15 metres beneath the surface of the ground.

suspended well

A well site where operations have been temporarily halted for economic, environmental or other reasons. The well may or may not have produced in the past. Wellhead equipment will still be present, but the operator must ensure that the well or facility is left in a safe and secure condition. A well must be suspended within 12 months after the last production or injection, unless it is an observation well or intended to produce for seasonal markets.

sweet gas

Gas that does not contain hydrogen sulphide (H₂S). If even a trace of H₂S is present, a well is classed as a sour gas well.

synergy group

A group comprising local landowners and residents, and representatives of the government and companies working together to exchange information and resolve issues related to oil and gas development. Other members may include the local chamber of commerce and industry people from other sectors.

tight reserves

Oil and gas found in shale rock and other types of non-porous geological formations. This includes shale gas. Tight reserves are produced using hydraulic fracturing.

topsoil

The surface layer of mineral soil, often containing organic matter. It provides structure and nutrients needed for plant germination and growth. It normally contains most of the plant roots.

unrestricted country development

Any collection of permanent dwellings outside an urban centre with a density of more than eight dwellings per quarter section.

urban centre

A city, town village or hamlet with not fewer than 50 separate occupied dwellings.

venting

Venting occurs when solution gases from oil wells, batteries or tanks are released unburned to the air. Some venting may also occur from compressor vents, instrument gas stations, pneumatic devices, dehydrators and storage tanks. This release of unburned hydrocarbons to the atmosphere creates odours and exposure to potentially harmful substances. Vented gas also contributes to global climate change and wastes a non-renewable resource. Current AER regulations set standards for venting and allow venting of small volumes of gas where it is not considered practical to conserve or flare it.

Appendix E. Abbreviations

ADR	alternative dispute resolution
AER	Alberta Energy Regulator
BGWP	base of groundwater protection
BTEX	benzene, toluene, ethylbenzene and xylenes
CBM	coalbed methane
CER	Canada Energy Regulator
CO ₂	carbon dioxide
CSA	Canada Standards Association
EPEA	Environmental Protection and Enhancement Act
EPZ	emergency planning zone
ERP	emergency response plan
ESA	environmental site assessment
H ₂ S	hydrogen sulphide
M _L	local magnitude
NORM	naturally occurring radioactive material
OWA	Orphan Well Association
PADR	preliminary alternative dispute resolution
PSAR	Private Surface Agreements Registry
REDA	Responsible Energy Development Act
SO ₂	sulphur dioxide



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