UNIVERSITY OF CALGARY

THE SCHOOL OF PUBLIC POLICY PUBLICATIONS

SPP Research Paper

Volume 14:16 May 2021

THE SURFACE OWNER'S BURDEN: LANDOWNER RIGHTS AND ALBERTA'S OIL AND GAS WELL LIABILITIES CRISIS

Victoria Goodday and Braeden Larson

SUMMARY

Inactive and unreclaimed oil and gas wells pose financial, environmental and health risks to Alberta landowners. The province needs to develop stronger policies that will ensure landowners are fairly compensated and well sites cleaned up.

The law requires Alberta landowners to lease the surface of their land for oil and gas development in exchange for financial compensation and land reclamation at the end of the lease. However, there are approximately 97,000 inactive wells in Alberta that haven't been properly closed and 71,000 abandoned wells requiring clean-up. Low oil prices have resulted in insolvency for the operators of these wells and the Alberta Energy Regulator predicts 2021 will see another 6,014 wells become inactive. As of March 25, 2021, 54.8 per cent of all currently inactive oil and gas wells on the province's list have been inactive for more than five years while 29.2 per cent have been so for more than a decade.

When well operators default on their obligation to maintain the wells, landowners cannot collect timely compensation, and are required to apply to the Surface Rights Board to receive fair compensation from the provincial government. Landowners must shoulder the burden of the risks to their properties and livelihoods during this period. The problems are then compounded by increased potential for contamination, unequal treatment as an unintended consequence of site clean-up programs and difficulties seeking a remedy.

Policy responses the province can take fall into two main categories: addressing the root problem of long-term inactive and unreclaimed wells and

http://dx.doi.org/10.11575/sppp.v14i.70846 www.policyschool.ca

improving the protections of surface owner rights. To address long-term inactive and unreclaimed wells, the province could impose more severe financial penalties on the owners of incompliant wells, in addition to the interest that has accumulated during the period in which they failed to properly compensate the landowner. Furthermore, new policies on surface rights and liability management, drafted through engagement and consultation with landowners, must provide incentives or disincentives for operators to stop abandoning wells indefinitely, including regulations that should specify a time limit by which an inactive well must be cleaned up, and the land properly reclaimed.

To improve the protections of surface owner rights, landowners need improved access to information on the recourse open to them, including compensation rates and decision-making by the Surface Rights Board, which mediates between well owners and landowners. Landowners also need to have relevant information available to them on the risk status of the well on their land and be provided with a risk assessment framework relevant to their site-specific concerns. Reclamation activities also require greater oversight, to ensure the land is returned to the capabilities it possessed prior to the well site being established. The Alberta Energy Regulator, which oversees surface leases, has reportedly conducted field audits for only three per cent of sites that were certified as reclaimed between 2014 and 2018.

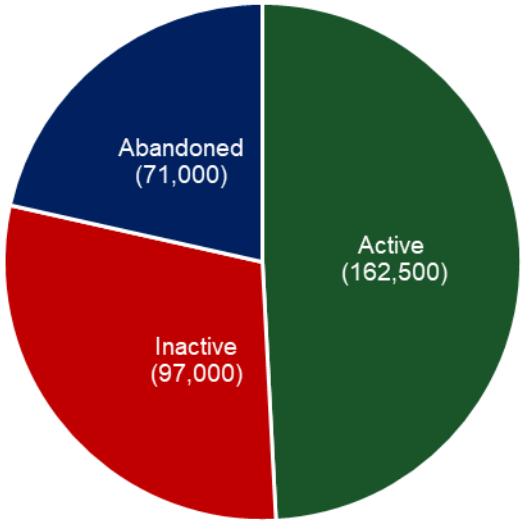
Property development and value, risks to crop farming and an inability to remedy their concerns about orphan wells have forced landowners for too long to live with an untenable situation. With the expected increase in inactive and unreclaimed wells, it is vital that the governance of surface rights and well liabilities be strengthened. The province owes landowners respect for their property rights and timely, fair access to recourse and compensation. Otherwise, Alberta landowners will continue to be unfairly burdened with financial and other costs that affect not only their ability to earn a living from their land, but also damage their trust in industry and government.

INTRODUCTION

In Alberta, more than half of all oil and gas wells are a liability: a well that is no longer producing but not yet cleaned up. As of March 2021, this includes approximately 97,000 inactive wells[1] that haven't been properly closed ("abandoned") (AER 2021) and 71,000 abandoned wells that have yet to be cleaned up ("reclaimed") (Alberta Government 2021) (Figure 1). Driven by low resource prices and subsequent operator insolvencies, the problem is growing, mounting to a crisis for both the oil and gas industry and the Albertan and Canadian publics at large: the number of inactive wells increased by more than 50 per cent between 2015 and 2020, and the Alberta Energy Regulator (AER) forecasts another 6,014 inactive wells in 2021 alone (AER 2021).

Inactive and unreclaimed oil and gas wells represent a significant financial and environmental liability. They pose risks to human and environmental health, with risk increasing the longer they sit (Kang et al. 2014; Ho et al. 2016), and a 2017 estimate by Dachis et al. puts the total financial liability of non-oil sands oil and gas wells at around $338 million. Currently in Alberta, however, there is no regulated time limit after which an inactive, suspended well must be cleaned up and the site reclaimed. A well can sit on the land indefinitely, even though modelling suggests that most will never be brought back into production (Muehlenbachs 2015).[2]

Figure 1. Operating Status of Oil and Gas Wells in Alberta



Sources: Alberta Energy Regulator 2021, "Inactive Well License List." Accessed March 25, 2021. http://www.aer.ca/data/codes/Inactive_Well_Licence_List.xlsx ; Alberta Government 2021, "Upstream Oil and Gas Liability and Orphan Well Inventory." Accessed March 25, 2021. https://www.alberta.ca/upstream-oil-and-gas-liability-and-orphan-well-inventory.aspx.

1 For this paper, we use the Alberta Energy Regulator's definition of an inactive well, which is a well that has not produced for 12 months or more, or six months or more if the well is a critical sour gas well (AER 2020a).

2 Muehlenbachs (2015) uses data on management decisions made for 84,000 conventional oil and gas wells in Alberta until 2007 to show that increased oil and gas prices and recovery rates might increase per well annual production, but will not substantially increase the number of active wells under the rules and regulations in place at that time.

Indeed, Alberta's inactive wells are a complex problem for operators, regulators and policy-makers. Since the late 1980s, the Alberta government and provincial energy regulator have implemented a variety of policy and regulatory responses aimed at spurring industry into addressing well liabilities while limiting financial impact to operators and maintaining a healthy industry with a diversity of firms. At least six overhauls of the liability management regime have taken place in the past 20 years (Robinson 2014), suggesting the challenging nature of regulating in this space. Most directly impacted, however, are the landowners with inactive and unreclaimed wells left sitting on their property.

In Alberta, landowners — "surface owners" — are required to lease the surface of their land to operators for oil and gas development. This obligation comes with the promise, however, that they will be made whole through financial compensation (Province of Alberta 2000b, section 1) and the land will be returned to its equivalent land capability once the lease ends (Province of Alberta 2000a, section 144). When oil and gas wells are left inactive yet unreclaimed for sustained periods of time, this social contract is strained and landowners bear real costs. In her dissenting opinion on the 2017 Alberta Court of Appeal case, *Orphan Well Association v. Grant Thornton Limited,* Madam Justice Sheilah Martin articulated this reality:

> While safety concerns drive the need for abandonment and reclamation, the underlying equities and practical consequences of what happens when wells are not abandoned as promised and as required are also important. The failure to fulfill these public duties creates disproportionate burdens on the third-party landowners forced to live with the physical evidence of unfulfilled obligations. (ABCA 124 2017)

The burden on landowners caused by Alberta's oil and gas well liabilities crisis threatens the integrity of the province's property rights framework and the implicit compact between the surface rights holder, the mineral rights holder and the regulator. It also has real impacts on landowners' livelihoods and daily lives. The cost of Alberta's mounting well liabilities can be thought of in two parts: (1) the cost of cleaning them up and (2) the cost of letting them sit on the land. Arguably, landowners bear the brunt of part two. Little work has been done, however, to examine what these costs might be. Non-peer reviewed work applicable to Alberta includes Pembina Institute (2019[3]), an Alberta-specific landowners' guide that outlines the processes and potential issues associated with unreclaimed oil and gas wells on private land; Oil & Gas Accountability Project (2005), a broad guide to the oil and gas development process targeted to landowners across the U.S. and Canada; and Williams (2002), which discusses reforms to the Alberta mineral rights regime to reduce conflict between oil and gas and agricultural land uses. Harleman et al. (2020) looks at the cost to landowners resulting from improperly closed oil and gas wells in western Pennsylvania and could inform a framework for assessing costs to Alberta landowners.

The purpose of this paper is to identify the costs or burdens imposed on Alberta surface owners as a result of non-producing wells on their land and how the current

[3] https://www.pembina.org/pub/landowners-primer-what-you-need-know-about-unreclaimed-oil-and-gas-wells

governance framework addresses or exacerbates these impacts.[4] Alberta landowners play a critical role in Canada's oil and gas industry; it is their property which must be accessed in order to exploit the minerals below, and their rights must be respected in this interaction. This includes their right to property, but also their civil and political rights including the right to effective remedy where rights have been violated.

In human rights jurisprudence, the positive obligation of states in respecting the right to property is largely understood to be limited to adopting the appropriate legal framework and protecting against the transgressions of third parties (McHangama 2011). The legal framework should also support good governance, including transparency, openness and accountability, and provide opportunities for rights-holders to meaningfully participate in decisions that affect them (Johnston 2006). In this paper we seek to assess the appropriateness of Alberta's legal framework from a rights-based perspective, in light of the current context: how does it support or hinder fulfillment of landowner rights related to oil and gas development?[5] Alberta's well liability crisis will not be solved in the near-term and projections suggest that the problem will become worse before it gets better (AER 2021). It is important that any gaps or regressive aspects of the framework be identified, including where landowner rights are not sufficiently protected, in order to inform governance solutions to address these issues and better protect the rights of surface owners moving forward.

To achieve our aim, we conduct a review and analysis of legislation and case law including judicial and quasi-judicial decisions in Alberta and review academic and grey literature to identify the burdens Alberta landowners face as a result of oil and gas wells on their property. We define burdens as any costs or adverse effects imposed on the surface owner above and beyond those accounted for in their surface lease compensation.[6] We look at how landowners are impacted differently depending on the ownership and closure status of the well; for example, whether the well is managed by a solvent private operator or the government-run Orphan Well Association (OWA), or whether the well is inactive or abandoned. We delineate by well ownership and closure status as both criteria have been found to influence the degree of environmental and human health risk posed by a well (Ho et al. 2016), and the Alberta regulatory framework treats wells differently based on these criteria. We do not seek to quantify the costs to landowners, but instead take stock of what these cost categories may be. Further research is needed to quantify these costs and their distribution.

This paper proceeds as follows. First, we provide an overview of the current governance framework in Alberta related to oil and gas development on private

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4 Information is limited on impacts to Alberta landowners resulting from surface leasing for oil and gas development. There is no complete, searchable database of Surface Rights Board decisions, for example, and most private surface agreements are not available to the public (Alberta Agriculture and Forestry 2016).

5 Of course, the holders of mineral tenure also have rights that must be respected and considered in a broader rights-based approach to resource development. For the purposes of this paper, we focus on private surface rights and therefore the rights-holder group of landowners.

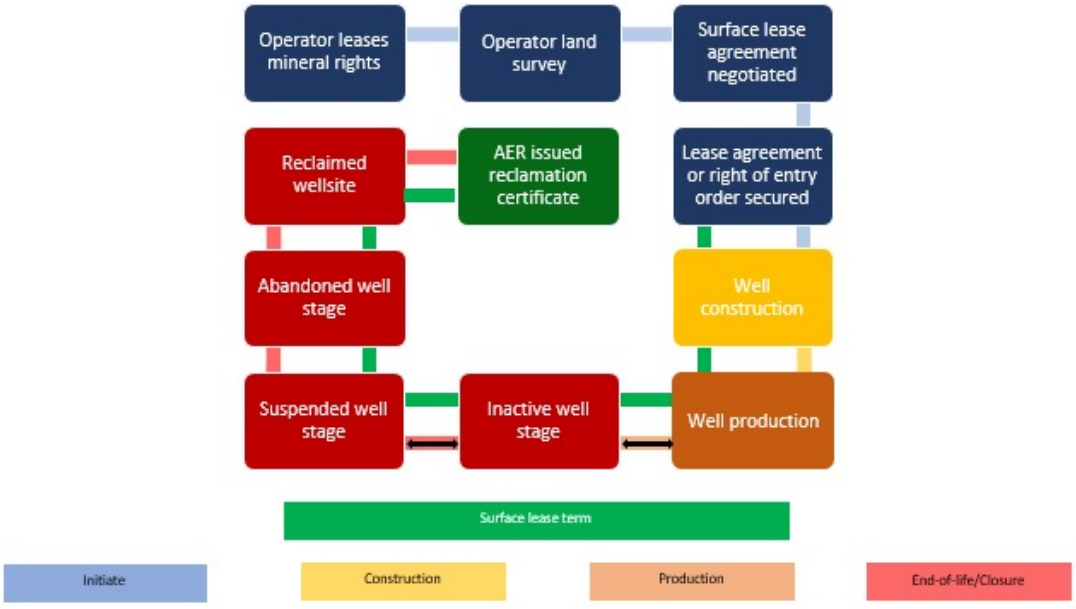
6 This differs from the formal use of "burden" in property title, where a burden is an obligation included in the title that affects the land and normally requires the owner to do something or to refrain from doing something for the benefit of another property.

property with a focus on how well liabilities are treated under the framework. We then look at the different burdens on landowners and identify rules that particularly impact the distribution of burdens across this group. We close with policy options to address gaps and strengthen the governance framework from a landowner-rights perspective.

THE GOVERNANCE FRAMEWORK

The social contract governing oil and gas development on private land in Alberta is made up of two parts: (1) a landowner will be adequately compensated for their impacted rights and (2) the operator will clean up their mess before they leave (ABCA 124 2017). The legal framework governing surface rights leasing determines how part one of this contract is acted out in practice, and the well liability management regime, part two. In this section, we review these areas of Alberta law relevant to oil and gas production on private property (Figure 2).

Figure 2. The Lifecycle of Oil and Gas Production on Private Property in Alberta



SURFACE RIGHTS

The property rights framework in Alberta allows for splitting of land title into surface title and mineral title, with different holders of each (see the *Lands Title Act*, 2000, and the *Law of Property Act*, 2000). Surface title provides for ownership of the land's surface and the right to work it, whereas a mineral title provides for ownership of the minerals under that land including the right to explore for oil and gas. A title-holder may temporarily lease their rights to another party; the Alberta Crown, for example, owns mineral rights for approximately 81 per cent of Alberta's land and leases these mineral rights to operators for the exploration and development of oil and gas (Alberta Government 2020c). Private individuals, in contrast, hold only about 0.55 per cent of

mineral title in Alberta but 30 per cent of surface title (Alberta Government 2007). As such, most landowners do not own the rights to the minerals under their land, and a legal framework is required to ensure the two sets of rights-holders — the landowner and operator, in our case — interact in a way that respects each other's rights.[7]

Alberta courts have established that the owner of the mineral rights can compel the surface owner to allow access onto the land for the purposes of mineral recovery (ABQB 1284 1985); in other words, a landowner cannot refuse the operator's right to occupy the surface. Instead, legal debate has focused on which legislative method best respects the mineral owner's right to recover minerals and protects or compensates the surface owner for the impact on their rights to use and enjoy the land's surface. The *Right of Entry Arbitration Act*, 1947, was the first Alberta statute that sought to outline the terms for negotiating loss or damage compensation, enacted in response to the province's major oil discovery in the 1940s.

Today, the *Surface Rights Act*, 2000, provides the framework for leasing surface rights in Alberta. The act provides for the terms and conditions for the temporary expropriation of the land to be set out in either a private surface agreement, negotiated between the landowner and operator, or, where the landowner and operator do not come to a private arrangement, in orders granted by the Surface Rights Board, a quasi-judicial tribunal established by the act. Among the issues addressed in the terms of the agreement or order are the location of the well, site maintenance and compensation (Government of Alberta 2009).

Compensation

Oil and gas development on private land results in a variety of impacts to the surface owner and their property. These include impacts associated with the loss of use of the leased section of land, effects to the surrounding land, disturbances such as noise and inconvenience and potential damage to the leased land. To account for these impacts, a surface owner is meant to be financially compensated in the form of annual surface lease payments (Province of Alberta 2000b, section 25), also known as rentals. Compensation is required for as long as the surface lease agreement is in place (Province of Alberta 2000b, section 1), which is until the site is reclaimed in line with applicable regulations (Province of Alberta 2000a, section 144).

As the landowner's surface rights are being exchanged and not the land itself, the rate of compensation should aim to capture the value lost to the owner, opposed to the value of the land lost (Carter 1985). In Alberta, this is represented by four types of impacts: land value, loss of use, adverse effect and initial disturbance. All parties — the Surface Rights Board, operators (or a land agent operating on their behalf) and surface owners — commonly use these four heads of compensation to come up with a specific rate to be paid to the surface owner. It is not mandatory to consider all of these

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7 Mineral resource development also occurs on provincial Crown land, impacting different groups of surface rights-holders such as Indigenous rights-holders, trappers and recreationalists, forestry concession holders and grazing lessees. Though outside the scope of this paper, further study of the impacts of inactive and unreclaimed oil and gas wells on these surface rights-holders is warranted.

factors, however, and parties may take into account any other factors they consider proper under the circumstances (Province of Alberta 2000b, section 25). As prescribed under section 25 of the *Surface Rights Act*, 2000, land value, initial disturbance (this is meant to capture the nuisance, noise and inconvenience during negotiations, surveys and establishment of the site) and a one-time entry fee[8] are included only for the first year of compensation. "Other relevant factors" include case-specific situations such as construction debris the landowner was responsible for handling or other non-cash transactions between the operator and landowner (Pembina Institute 2019). Loss of use and adverse effect are included in the annual rate for every year the lease is active, and these two heads form the basis after the first year. Loss of use should capture the lost value to the landowner resulting from their inability to use the piece of land,[9] while adverse effect includes case-specific hindrances to the landowner (for example, if the landowner has to turn corners to work around the site and time will be added to their farming operations) as well as general ongoing disturbance such as nuisance (e.g., dust, odours), noise and inconvenience. The rate of compensation may be reviewed every five years after the commencement of the lease or right-of-entry order and renegotiated if either party feels it's no longer adequate.[10]

Financial compensation is meant to keep landowners whole in lieu of full use of and enjoyment of their land, and in light of the impacts caused by the operator's activity on their land. There is no mathematical formula for determining surface rights compensation, however, and it instead "must be largely a matter of conjecture" (Supreme Court of Canada in *Lacoste et al. Cedars Rapids Mfg. & Power Co.* 1928 as cited in Carter 1985). In each case, an understanding of the specific context is critical to understanding the impacts faced by that landowner and therefore what compensation is adequate. As a starting point, the specific rate of compensation for each factor depends primarily on the type of land leased; for example, whether it is pasture land, cultivated land, irrigated or not. Secondarily, the type of well site determines adverse effect and the type of crop grown on the leased land determines loss of use. Amounts range from $167 to $1,000 per acre for loss of use, $117 to $2,500 per acre for general disturbance (Alberta Agriculture and Rural Development 2010, as cited in Muehlenbachs 2015; CNRL 2013), and approximately $1,800 to $3,400 per lease[11] for adverse effect (CNRL 2013). A landowner may rely on this payment as a significant form of annual income (see Bakx 2019).

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8 The entry fee is the lesser of $5,000 or $500 per acre granted to the operator or a proportionate amount, not to be less than $250, where the land granted to the operator is less than one acre, for each titled unit that contains land granted to the operator (Province of Alberta 2000b, section 19(2)).

9 The amount paid for loss of use aims to approximate the gross annual production reasonably expected from the leased section and is calculated based on the greater of (1) yield and price averages from the past five years, or (2) today's street price (Government of Alberta 2009).

10 Section 27 of the *Surface Rights Act* requires the operator to notify the landowner of the option to review the rate of compensation. There is no penalty for operator non-compliance with this requirement, however, and operators may ignore it based on financial incentives: lease renegotiation is likely more costly than avoiding review, for which there is no penalty (Stewart 2015). Operator non-compliance with this rule further erodes the landowner-operator relationship in Alberta.

11 Adverse effect compensation data are for 2013-2015, pulled from the latest publicly available compensation schedule of Alberta's largest well operator, Canadian Natural Resources Ltd., for compensation of surface owners in the Municipal District of Taber (CNRL 2013).

Though there is no market for each individual head, the total annual compensation paid to other surface owners for comparable leases in the region creates a market of sorts for the bundle of heads (Carter 1985). As such, in addition to the four heads of compensation, parties may consider the rates paid to other landowners — the "pattern of dealings" — when determining compensation, as a measure of fairness. The onus is on each party to establish, with evidence, the range of rates paid to landowners for comparable leases in the area. Compensation is a highly confidential and sensitive issue, however, and publicly available data on compensation rates are limited: private surface agreements may be protected by a confidentiality clause and few landowners are willing or able to disclose this information (Alberta Agriculture and Forestry 2016).[12] Surface owners face an information deficit in this sense: compared to operators, who may have extensive compensation rate data as a result of their numerous agreements in place, and the Surface Rights Board, which has 19 years of experience setting compensation rates.

WELL CLOSURE

There are two types of non-producing wells, each at a different stage of closure: inactive wells that have not produced oil and gas for an extended amount of time (12 months or more, or six months or more if the well is a sour gas well under current AER rules (AER 2020a)) and abandoned wells, which are rendered permanently incapable of flow and capped. Evidence suggests that inactive wells that are not properly abandoned pose an increased risk of contamination which increases with time (King and King 2013; Kang et al. 2014; Kang 2015). The main environmental concerns associated with inactive wells, and abandoned wells to a lesser extent, are the contamination of surface water and groundwater, and the release of methane, a powerful greenhouse gas (Dusseault et al. 2000; Kang et al. 2014). An inactive well may be suspended, which involves temporary closure. Under current rules, the risk classification of any low-risk inactive well increases to medium after 10 years of inactivity, triggering more comprehensive suspension requirements (AER 2016a). Though less risky than an inactive well that has not been suspended, a suspended inactive well poses a greater risk of leakage than if it were abandoned (Ho et al. 2016) but, unlike an abandoned well, is able to be reactivated. Historically, only a small minority of suspended wells in Alberta have been reactivated. Using data collected for 84,000 conventional Alberta oil and gas wells over about 40 years until 2007, Muehlenbachs (2015) shows that only around six per cent of older wells aged 10 to 20 years were reactivated (5.6 per cent of oil wells and 6.6 per cent of gas wells). Newer wells aged one to 10 years were more than twice as likely to be reactivated (11 per cent of oil wells and 19.4 per cent of gas wells).

The rules that aim to prevent long-term well inactivity are found in sections 3.020 and 3.021 of the Oil and Gas Conservation Rules, 2000. When read with AER Directive 013 — Suspension Requirements for Wells (2020), these rules require that no well be

12 In 2015, the Farmers' Advocate Office within the Alberta Ministry of Agriculture and Forestry launched an initiative to map surface lease compensation rates across the province, in response to ongoing requests from landowners across Alberta for these data. The office discontinued the project within six months due to a lack of landowners willing to come forward to participate, stating that "there were many people seeking the compensation data, but few were willing or able to provide it." (Alberta Agriculture and Forestry 2016).

left inactive for longer than 24 consecutive months without being suspended and monitored according to Directive 013 technical specifications. As of August 2019, however, there were almost 7,000 inactive wells belonging to 404 different operators that were not suspended, despite being inactive for more than 24 consecutive months (AER 2020b). Well closure can be expensive, with abandonment costs alone ranging from $13,000 to $134,000 per well depending on type and location (AER 2015), and forced closure can tip an operator into bankruptcy.[13] As such, the AER has applied a light-touch enforcement approach to Directive 013 non-compliance, launching the Inactive Well Compliance Program in 2014 to help companies bring all wells into compliance (i.e., suspend, reactivate or abandon the well) by April 1, 2020 (AER 2020b). Though steady gains were made in that five-year period, the goal was far from reached. The program started with 30,581 non-compliant inactive wells (AER 2016b), and the latest program report (August 2019) shows 6,844 remaining and many more expected to become inactive during the year.

Though the AER has time limits for mandatory suspension of wells, it does not have time limits for mandatory abandonment and a well is allowed to sit suspended indefinitely. As of March 25, 2021, 27,532 wells — 29 per cent of all inactive wells in the province — have been suspended for more than 10 years without being properly abandoned or reactivated (AER 2021). A licensee is required to abandon a well only upon termination of the mineral lease, surface lease or right of entry (which, as per the *Environmental Protection and Enhancement Act*, 2000, is not until the site is reclaimed, unless otherwise ordered by the Surface Rights Board); if they no longer have the required approvals or licences; or if they are otherwise directed to by the regulator under an abandonment order (Province of Alberta 2020, section 3.012). Because of this lack of regulatory or financial incentive to clean up oil and gas wells, a well may sit indefinitely on a landowner's property, with some remaining abandoned but unreclaimed for decades (see, for example, ABSRB 316 2013).

Orphan Wells

Orphan wells are a subset of oil and gas wells held in the public domain. When an operating company becomes defunct or insolvent and there is no longer a legally responsible or financially able private party available to manage and clean up the well site, ownership is transferred to the OWA, the government agency tasked with orphan well management and clean-up, and the well is declared an orphan well (Province of Alberta 2001).[14]

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13 Abandonment costs include costs associated with the proper plugging of a well downhole and the surface abandonment process of removing the wellhead. For more complex wells (for example, a horizontal well crossing multiple formations), additional abandonment actions must be taken, which increases the cost of abandonment. Likewise, the costs associated with site reclamation vary. The OWA (2017) considers reclamation in two categories, minor and major reclamation. A minor site reclamation can include paratilling, rock picking, debris removal, repairing minor settling and adding topsoil. A major reclamation will include additional costs due to substantially more work required, including access road striping, major soil redistribution and site re-contouring and significant topsoil replacement.

14 Though no private owner-operator for an orphan well remains, there may still be one or more companies with a beneficial or legally undivided share in the well licence, referred to as working interest participants. Working interest participants are responsible for their proportionate share of the costs associated with management and clean-up, and the OWA covers the remaining costs (Province of Alberta 2001).

An increasing number of wells are being orphaned and therefore, an increasing number of landowners have orphan well sites on their land.[15] From 2015-2021, the number of orphan well sites grew more than five times, from 1,245 to 6,863 (OWA 2016; 2021a, b), and wells are being orphaned at a much faster rate than the OWA can address the existing inventory despite continuous increase in the number of wells abandoned each year (OWA 2019). Additional recent pressures on the sector, including historically low resource prices and, to a lesser extent, the January 2019 *Orphan Well Association v. Grant Thornton Limited*[16] Supreme Court of Canada decision mean that more bankruptcies are expected (Haynes and Boone 2020) and an increasing number of well liabilities will become the OWA's responsibility.

Orphan wells are an important category of wells in Alberta, particularly from a landowner perspective. Landowners with orphan wells on their land have to undergo different processes for obtaining compensation, for example, and face different timelines for clean-up. We discuss these impacts and more in the following section.

BURDENS ON LANDOWNERS

Oil and gas wells in Alberta are likely to sit inactive for upwards of 10 years without being safely closed (Muehlenbachs 2015),[17] and sometimes for decades before being properly reclaimed (see, for example, ABSRB 486 2014). Figure 3 provides a snapshot for the number of wells are in the inactive and how long they have been in inactive status as of March 25, 2021. The AER's "Inactive Well License List" shows that 54.8 per cent of all currently inactive oil and gas wells on Alberta's "Inactive Well License List" have been inactive for more than five years and 29.2 per cent have been inactive for more than 10 years (AER 2021). Though the annual surface lease payment is meant to compensate the landowner for the costs they bear as a direct result of an oil or gas well on their land, a well that has been left inactive for a substantial amount of time may cause impacts to the landowner that were not considered in the terms of the agreement or the rate of compensation.

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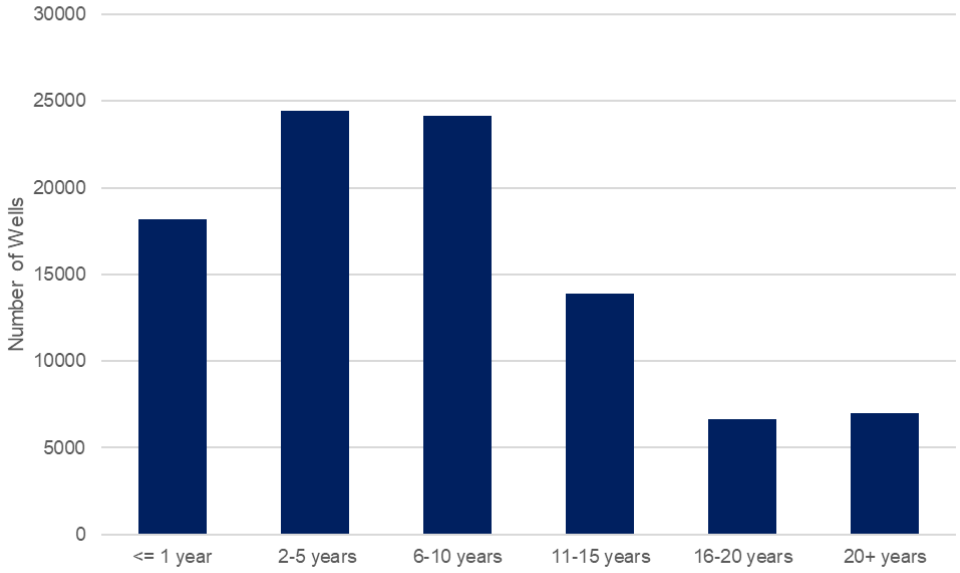
15 Orphan well sites include both wells that need to be properly decommissioned and abandoned and well sites that have not yet been reclaimed.

16 In this decision, the Supreme Court of Canada ruled that an insolvent company must address its end-of-life well obligations in advance of payment of creditors. The decision overturned a previous Alberta Court of Appeal decision, *Orphan Well Association v. Grant Thornton Limited, 2017,* which determined that a bankrupt company's creditors were not liable for abandonment and reclamation obligations (ABCA 124 2017). The Alberta Court of Appeal decision, held as law from April 24, 2017 until January 31, 2019, eroded landowner trust in the regime: companies now wouldn't have to clean up their wells, and more wells would be orphaned (see Weber 2018; CBC Radio 2018). The Supreme Court confirmed that well clean-up is a public duty and not a claim provable in bankruptcy, putting these costs back on the books.

17 Muehlenbachs (2015), using historical data from 84,000 oil and gas wells until 2007, shows that the average oil well in Alberta stayed inactive for just over eight years and the average gas well, almost 10 years.

Figure 3. Length of Time in Inactive Well Status



Source: Alberta Energy Regulator, 2021, "Inactive Well License List." Accessed March 25, 2021. http://www.aer.ca/data/codes/Inactive_Well_Licence_List.xlsx.

In order to understand how inactive wells burden landowners, it is important to first understand who these surface owners are and the barriers they face to meaningful participation in oil and gas decisions more generally. Specifically, surface owners tend to be more rural, older and less able to access information than other Albertans. Oil and gas development occurs almost exclusively in rural Alberta. In 2014, for example, only 0.68 per cent of all oil and gas wells in Alberta were located within two kilometres of an urban centre, with only 0.31 per cent actually located within the centre's boundary (Peterson 2017). Alberta is one of Canada's most urbanized provinces and a relatively small proportion of Albertans — 13.1 per cent in 2016 (Alberta Government 2017a) — live in rural areas, where resource development is occurring. This minority group is generally older than those living in urban centres: almost 30 per cent of people living in rural areas in Alberta are 55 or older, compared to 23 per cent in cities and 24 per cent for the province overall (Statistics Canada 2016).

With this context in mind, in the following sections we discuss the different burdens landowners face as a result of inactive and unreclaimed wells. We look at the adverse effects and costs to landowners, above and beyond those accounted for in a landowner's lease compensation, and how landowners may be differently burdened depending on the status of the well on their land.

COLLECTING FAIR COMPENSATION

Unpaid Rentals

Some landowners with non-producing wells on their land stop receiving annual surface lease payments ("rentals") altogether. This goes against Alberta law, which requires that a surface owner be compensated until the site is reclaimed to AER standards and a reclamation certificate is obtained (Province of Alberta 2000b, section 1; 2000a – EPEA, section 144).

An operator might stop paying rentals because it has claimed bankruptcy and is in insolvency proceedings (see, for example, ABSRB 708 2015), or if the operator is fully defunct and the well has been transferred to the OWA as an orphan well. In the more extreme case, the operator may remain solvent and responsible for the lease but fail to pay compensation entirely, especially if the well is not producing. An example of this is the 2016 Surface Rights Board case *Duel Energy Inc. v. Gallagher*, where the CEO of Duel Energy Inc. explained that the company "only pays leases with active wells on them" (ABSRB 688 2016). Rentals may also cease after a transfer of the well to another operator; for example, where the new operator is unaware that they are responsible for surface lease compensation (e.g., ABSRB 106 2001). Unpaid rentals can cause impacts to landowners beyond the mere loss of compensation; potential buyers, for example, may be deterred from purchasing the land if the lease rental is not being paid regularly (e.g., ABSRB 832 2019).

If a landowner has not been paid the rentals owed to them, they may apply to the Surface Rights Board for payment instead under section 36 of the *Surface Rights Act*. This includes any landowner with an orphan well on their property. Some may not be aware that this form of recourse is available to them, however, and may go without fair compensation (see Bakx 2019).[18] Those who do not know of the section 36 rental recovery option or otherwise choose not to undergo this process may consider selling the surface lease to a third party in the hopes of reducing the risk of unpaid rentals (Alberta Government 2020d). This can present additional problems, as it separates annual compensation from operating activities and can prevent a landowner from receiving full value in return for the impacts they experience during the lifetime of the development.

Where a landowner does apply to the Surface Rights Board for rental recovery and the board finds that the operator has defaulted on its payment obligations, the board may direct that the minister of Environment and Parks pay the rental fee out of the province's general revenue fund (Province of Alberta 2000b, section 36).[19] Almost all (96 per cent) of rental recovery applications resolved between 2015 and 2019 were resolved in this manner (Surface Rights Board personal communication to Goodday 2019) (Figure 4). Public funds spent to pay the surface lease rentals of defaulting operators is a significant and growing cost: Surface Rights Board-directed general revenue fund payments to landowners from 2014-2018 totalled $16.8 million, with total annual payments increasing almost 12-fold in this four-year period (Goodday and Larson 2020).

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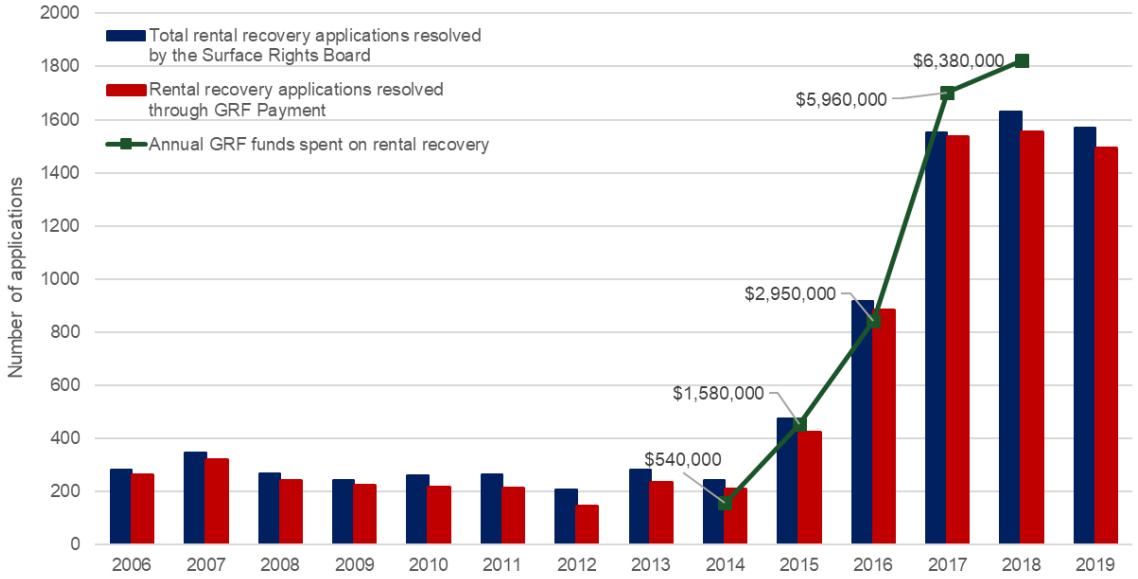
18 A lack of detailed and complete reporting by the Surface Rights Board prevents us from knowing how many orphan-well landowners access compensation through Surface Rights Board rental recovery processes.

19 The Surface Rights Board will also suspend the operator's right-of-entry and eventually terminate the operator's rights under the order or lease, without affecting the operator's obligations including well clean-up obligations (SRA section 36.5(b))

Figure 4. General Revenue Fund (GRF) Payments for Landowner Rental Recovery



Sources: Alberta Government, "General Revenue Fund: Details of Supplies, Services, Tangible Capital Assets and Other Payments (Data Files)." Accessed August 28, 2019, https://open.alberta.ca/opendata/general-revenue-fund-details-of-supplies-services-tangible-capital-assets-and-other-payments.

Surface Rights Board, "Annual Reports: 2006-2017." Accessed July 23, 2020, https://surfacerights.alberta.ca/AboutUs/AnnualReports.html.

Reduced Rentals

Alternatively, an operator may continue paying rentals but unilaterally (and illegally) reduce the rental amount. In May of 2019, the Farmers' Advocate Office issued an advisory in response to a number of landowner claims that operators had unilaterally reduced rental amounts upon starting the reclamation phase of site clean-up (Alberta Government 2019b). In letters to landowners, operators cited "severe financial strains" as the basis for the rental reductions, including the low price of natural gas, high rural municipal taxes, the high cost of operations and the costs of surface lease rentals. Any unilateral rental reduction is out of compliance with section 27 of the *Surface Rights Act*, however, which requires that compensation be negotiated and entitles landowners to a review every five years. In May of 2020, the Farmers' Advocate Office issued yet another advisory, again warning of letters being sent to landowners by operators attempting to unilaterally reduce rentals (Alberta Government 2020b) and stating that "the information sent to landowners by the various Operators does not meet the statutory requirement of good faith negotiations" (Alberta Government 2020b).

Though this section 27 option is open to landowners who wish to have their rental rate adjusted, it requires a substantial amount of effort and resources to undergo and comes with costs to landowners. This is true of section 36 applications for rental recovery, as well.

Specific to section 36 applications, the board determines if payment of the full rental amount by the minister is "unjustified, patently unreasonable, or constitutes unjust enrichment" (ASRB 85 2020). Growing public expenditure for this purpose may put

pressure on the board to be additionally stringent in their assessment. The rationale for their decisions is not made public, however, and so there is a lack of transparency in how the board weighs these factors. In a January 2019 advisory, the Farmers' Advocate Office warned landowners of the board's new focus on identifying where landowners may be receiving unjust enrichment, reminded landowners of their rights to full and fair compensation, and raised concerns over a lack of publicly available information on how the board was applying the legal test in these decisions (Alberta Government 2019a).

Under both section 27 and section 36 applications to the Surface Rights Board, the onus is on the landowner to prove what compensation they are entitled to (ABCA 108 1988); specifically, they must show evidence establishing a pattern of dealings in the applicable area or evidence of comparable awards in the area (ABSRB 363 2019). This is made particularly challenging by the lack of private surface agreements and compensation data available to the public. The landowner applicant must gather sufficient evidence, attend a hearing and present a sufficient case. Any landowner must undergo this process if they want to change their rate of compensation but are not able to negotiate a new rate with the operator for some reason; for example, if the operator is defunct or otherwise unresponsive and the landowner has no one to negotiate with, or if the well is an orphan well managed by the OWA.

Administrative Burden

In order to collect the compensation owed to them, landowners who no longer receive rental payments from the well operator must go through the Surface Rights Board rental recovery process every year until the site has been abandoned and reclaimed (Province of Alberta 2020, section 3.012; 2000a, section 144). This includes all landowners with orphan wells on their land, re-applying to the board each year until the well is abandoned and reclaimed by the OWA — an average of three to four years based on current closure rates (AER 2020d).[20] The rental recovery process can constitute a significant burden and may deter a landowner from applying in the first place (see Bakx 2019), signalling a failure of the surface rights compensation regime.

The Surface Rights Board has recognized the administrative burden on landowners seeking rental recovery and made attempts to improve the process. The board first saw a boom in rental recovery applications in 2015, receiving 765 in that year compared to an average of 365 each year for the 10 years prior (SRB 2015). Most of these applications were submitted by returning applicants, i.e., those who had previously received payment under a section 36 rental recovery claim. In response, the board implemented a change to streamline the process: whereas prior to 2015 any rental recovery applicant had to complete a statutory declaration sworn before a commissioner of oaths, as of 2015, returning applicants can confirm the information required in the presence of a witness and can avoid the statutory declaration process. The purpose of this reform was to reduce the cost and inconvenience to returning applicants and allow administrative staff to process returning applications in a timelier

[20] Calculated using data on OWA-managed well suspension timelines from the AER's Inactive Well Compliance Program Report (2019) and publicly available OWA-managed well reclamation certificates.

manner (SRB 2015). An applicant is considered "returning," however, only if the application relates to the same site, licensed to the same operator under the same surface lease or compensation order (SRB 2020b). Well liabilities are often packaged up with assets and transferred to a new owner, meaning landowners in those cases are ineligible for the streamlined process.

The Surface Rights Board does not publish data on the number of repeat versus new rental recovery applications, but starting in 2016 shows this breakdown from an application resolution perspective. In 2016, 43 per cent of rental recovery applications resolved through payment from the general revenue fund were returning directions to pay, compared to 59 per cent in 2017 (SRB 2016; 2017). This upwards trend combined with the increasing number of wells expected to be orphaned each year (OWA 2020) suggests that the proportion of returning applicants each year will continue to increase.

There are further opportunities to reduce the burden on landowners seeking to collect their rightful compensation. The board's justification for requiring annual re-application is that it has "no way of knowing if you have received payment unless you tell them. The site could have been assigned to another operator, or reclaimed" (SRB 2020). Presumably, this issue could at least be avoided with regard to orphan wells; for example, Surface Rights Board and OWA records could be linked and pre-approved ministerial payment provided to returning applicants with orphan wells on their land. Further, the *Liabilities Management Statutes Amendment Act* (Bill 12), passed in April 2020, has enabled the OWA to enter into private surface lease agreements (Province of Alberta 2001, section 4(2)(d)) and provide annual compensation directly to the surface owner using money from the orphan fund (Province of Alberta 2001, section 5.1(c)).[21] If these opportunities are acted on, orphan-well landowners could avoid the section 36 rental recovery process entirely.

Delayed Rentals

Landowners who need to go through the Surface Rights Board to receive their annual surface lease compensation face delays in receiving it. Delays are caused both by factors specific to each application and by procedures prescribed under section 36 of the *Surface Rights Act*, including the board's capacity to process the increasing number of applications.

The main factors determining application-specific processing time are whether the lessee is undergoing insolvency proceedings and whether the application is a repeat or new one. Delays also may be caused if other operators show interest in the well site, in which case the board gives the interested parties an opportunity to respond before directing payment of the rental from general public funds (SRB 2020d).

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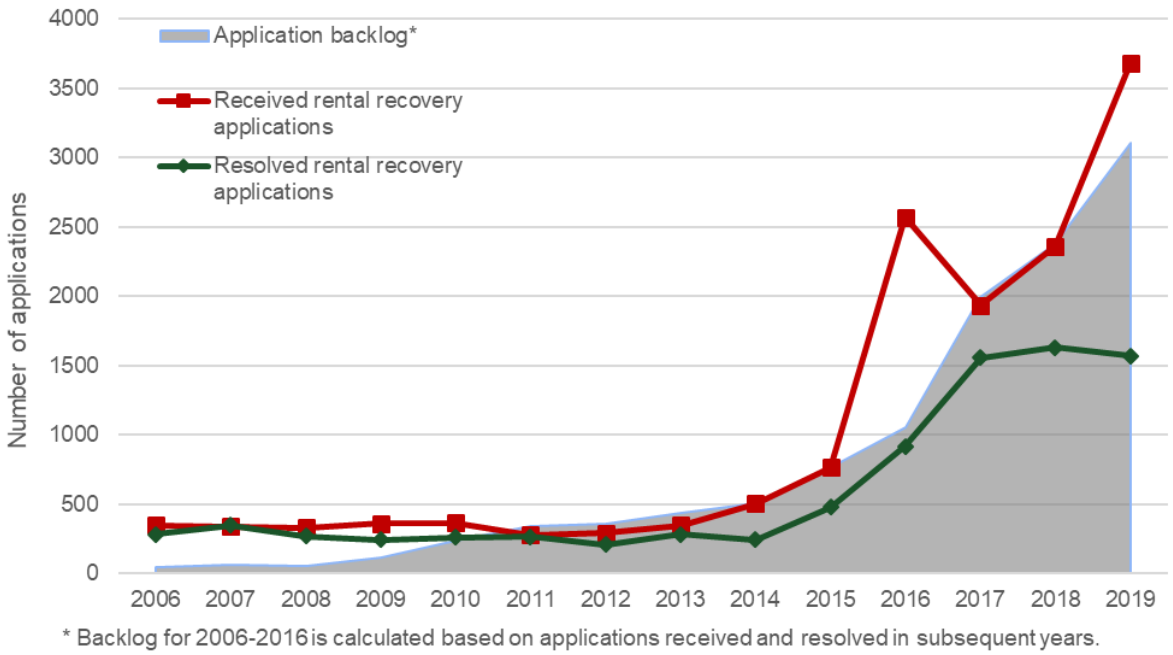
[21] Specifically, Bill 12 in part amended the *Oil and Gas Conservation Act* to expand eligible uses of the Orphan Fund. As outlined in subsequent amendments to the Orphan Fund Delegated Administration Regulation, published June 15, 2020, the fund can now be used to pay for a "third party account", defined as any amount of money payable but not yet paid by a person other than the OWA related to a well, facility, well site or facility site, where the AER has determined that payment of the third-party account is in the public interest (Province of Alberta 2001, section 5.1(c)).

If the operator is in the midst of insolvency proceedings, the board's authority to direct payment is limited: only lease payments that were owing after the company declared bankruptcy are allowable for payment by the minister. Otherwise, lease payments owed prior to the company's declaration of bankruptcy are considered claims provable in bankruptcy and payment of these costs must wait until after the insolvency proceedings conclude, as they are subject to the stay in legal proceedings imposed on all provable claims (SRB 2015). A legal stay during insolvency proceedings lasts at least 30 days and usually under one year, but there is no limit on the length of any extension or on the number of extensions that a debtor may seek from the court (Cohen et al. 2019). Like other types of creditors, a landowner owed rentals before an operator declared bankruptcy will be at a disadvantage compared to one owed rentals only after the operator declared bankruptcy.

As of July 2020, the Surface Rights Board quotes a minimum of 60 days to process a new claim, though it states that "due to the current backlog of applications, processing time may be significantly longer" (SRB 2020c). With the increasing number of bankruptcies in the sector, the number of rental recovery applications to the Surface Rights Board each year has continued to grow, with 3,678 received in 2019 — over 10 times more than the average number of applications received from 2004-2014 (Figure 4). In its most recent annual report (2017), the board acknowledged the need to address processing times and stated that "section 36 matters will likely continue to be a challenge, particularly if additional large operators fail" (SRB 2017). A growing application backlog further compromises the Surface Rights Board's ability to improve processing timelines. There were 3,101 applications left unresolved at the end of 2018 (Goodday and Larson 2020), which, at the board's highest application-resolution rate to date (1,630 in 2018), would take almost two years to resolve this carry-over alone, assuming no applications are on hold pending legal stay.

Figure 5. Landowner Rental Recovery Applications to Surface Rights Board



Source: Surface Rights Board Annual Reports 2006-2017. Accessed July 23, 2020, https://surfacerights.alberta.ca/AboutUs/AnnualReports.html.

In June 2020, the Alberta government proposed amendments to section 36 of the *Surface Rights Act* under omnibus Bill 22, the *Red Tape Reduction Implementation Act*. The changes would authorize the Surface Rights Board to direct payment to a first-time applicant without having first ordered suspension or termination of the operator's right to access the site. If enacted, this change would shorten the time to receive compensation by at least 30 days, which is the current time allowed for right-of-entry suspension notice (15 days) followed by termination notice (15 days).

Unlike new rental recovery applications, repeat applications are not subject to delay caused by the right-of-entry termination or the statute of declaration requirement, and usually not to a stay on legal proceedings. In these cases, the time it takes for a landowner to receive compensation will be determined more by application processing times. In its most recent annual report (2017), the Surface Rights Board stated that the time to process repeat section 36 rental recovery applications had decreased to approximately 45 days in 2017, with an ultimate goal of 30 days.

The opportunity to be paid interest on late compensation is another area where some landowners are disproportionately burdened than others. The *Surface Rights Act* explicitly states when the board may direct that interest be paid on late compensation and, in both cases, it is the private operator who must pay interest. Specifically, the board may order that the private operator pay interest in two cases: (1) if the operator has failed to give notice to the landowner of the option to review the rate of compensation (section 27(15)) and (2) on any money owing under a compensation order (section 25(9)). In contrast, the board is not authorized to direct that the minister pay interest on late compensation paid out of public funds. As such, if the landowner applies to the board for rental recovery, they forgo the opportunity to be paid interest.

Assuming the rate of compensation is sufficient, without payment of interest, the landowner is arguably no longer kept whole.

SITE MAINTENANCE

The terms of a surface agreement should consider site maintenance, including weed control, access road maintenance and topsoil conservation and protection (Government of Alberta 2009). A landowner and operator may agree to split these duties, in which case the landowner's associated costs are incorporated into the rate of annual compensation under the adverse effect head. Otherwise, site maintenance is the operator's responsibility.[22]

An operator may fail to meet its site maintenance obligations, especially where the operator is in poor financial standing and the well is no longer producing. Other jurisdictions have created special programs to address this issue. In Saskatchewan, for example, the Ministry of Energy and Resources has a Care and Custody Program to address the gap between compliant well operators and orphan sites. The program's intent is to take over the maintenance of pre-orphaned sites that, at the time the work was required, were not officially deemed as orphaned but the responsible company refused or was unable to meet its obligations (Saskatchewan Government 2018). In Alberta, there is no program in place to close the gap in site care between healthy, compliant operators and OWA-designated orphan sites. Where an operator defaults on site maintenance duties, costs accrue to the landowner and options for effective remedy are limited. We discuss examples in this section.

Weed Control

The growth of noxious weeds on and around well sites and associated access roads poses serious risks to a landowner's property. Weeds compete with desirable plant species and can spread to adjacent farmland, causing reduced yield and impacting the overall health and biodiversity of the land (Alberta Government 2012). A surface lease agreement will usually include the requirement for an operator to implement a weed control program, with specific obligations and expectations outlined at the negotiating stage (Government of Alberta 2009). The operator must be in compliance with the terms of the surface lease as well as the *Weed Control Act*, 2018, which prohibits the growth and spread of noxious weeds. Despite these requirements, weed control is one of the most common concerns reported by landowners to both the Farmers' Advocate Office (Alberta Agriculture and Forestry 2017) and Alberta Environment and Parks (Alberta Government 2019d).

From an operator perspective, weed control is a significant cost (Foss 2000) and the oil and gas industry spends millions of dollars annually on weed control on industrial

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[22] As of April 2, 2020, an entity with a working interest in the well is now obligated to conduct "reasonable care and measures to prevent impairment or damage" of the well and well site where the operator has failed or is unable to do so (Province of Alberta 2000c). This addition to the *Oil and Gas Conservation Act*, brought about by the passing of Bill 12, the *Liabilities Management Statutes Act* (2020), clarifies that working interest participants are responsible for site maintenance, and may help to address or prevent related issues for landowners.

sites (Alberta Government 2019d).[23] The government of Alberta cites economics as one of the top challenges to controlling weeds on and around industrial sites (Alberta Government 2012), and an ailing operator may cut down on weed control activities to save costs (see, for example, ABSRB 832 2019). In such a case, the landowner may take it upon themselves to care for the site to prevent the spread of weeds and subsequent impacts to the surrounding land. As is the case with any unauthorized actions taken on or around a site, the landowner may be liable for any resulting damage to the site and the Farmers' Advocate Office recommends that landowners do not intervene to control weeds on a neglected site for this reason (Alberta Agriculture and Forestry 2017). Indeed, the Surface Rights Board has acknowledged that weed control can be "difficult and costly" for landowners where operators default on their duties (ABSRB 316 2013) — this is largely because a landowner's options for effective remedy are limited, and they will bear costs regardless of the action they take.

Two main problems associated with weed control and the current management of well liabilities are: (1) legal and financial implications for a landowner where the operator has defaulted on weed control obligations and is no longer solvent, and (2) inadequate recourse for compensating a landowner for weed risks and weed control costs.

First, landowners can be held accountable for the costs associated with a delinquent operator's failure to meet its weed control obligations. The *Weed Control Act* is enforced at the municipal level and a municipality can take action against an operator (the occupant) for improper weed control on a surface lease and invoice them for the costs (Province of Alberta 2008, section 29). If the municipality cannot recoup costs due to operator insolvency, however, they may instead pursue the surface owner for the costs (Alberta Agriculture and Forestry 2017). A landowner with a neglected well site on their land must choose between entering the site to control weeds, which goes against Farmers' Advocate Office guidance and possibly the terms of the surface agreement, or risk being held accountable for these costs by the municipality.

Second, if a landowner does intervene to control weeds, they have no recourse for recouping costs. The only option available to them is to wait until the next compensation review period (up to five years) for the opportunity to be compensated for future weed control efforts, accepting the weed risk and impacts of weed spread during this time. This is because the costs of controlling weeds on the leased land are meant to be included in the annual compensation, and are therefore not eligible as damages (ABSRB 614 2018). Any adverse effect of a "recurring or continuing nature" relates to annual compensation under section 25 of the *Surface Rights Act* and cannot be considered as damages under section 30 (ABSRB 614 2018). The Surface Rights Board's position is that this is especially true of weed control where the operator ceases operations, as "the Lessors' mitigation efforts and expenses regarding weed control will recur annually; the weeds are certain to reappear" (ABSRB 837 2019). Including weed control in annual compensation also allows the landowner to be compensated without

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23 Specific figures on operator weed control costs are not available, but recent OWA data on orphan well monitoring costs provide some insight: the average cost per site for monitoring activities, including weed control but also vegetation monitoring, site inspections and groundwater monitoring was $2,000 for the 2016/17 operating year (OWA 2017).

the need to reappear before the board every growing season, which they would need to do if the claim were for damages. The board has explained that "while this approach may not precisely capture the time and amount spent, it can provide fair compensation to a lessor in an efficient and cost-effective manner at the compensation reviews every five years as opposed to a damage claim every year" (ABSRB 837 2019). Weed control costs can be highly variable from year to year, however, and some landowners feel that their surface lease compensation is not a fair reflection of this burden on an annual basis (e.g., ABSRB 837 2019). The board's interpretation of its mandate under sections 25 and 30 with regard to weeds translates to a trade-off approach in practice, whereby landowners are not made whole in favour of a simpler compensation process.

Access Road Maintenance

In most cases, a road must be built in order to access the well site. It may be either a temporary, seasonal road or a permanent, all-weather road (Alberta Government 2017b) and the operator has to lease the land on which it is built (Government of Alberta 2009). In some cases, the surface agreement may allow for the landowner to share use of the road and they may rely on it for their own work and livelihood. To protect the landowner's property and reduce adverse effects, cattle guards and gates may be included as road infrastructure requirements. The operator is responsible for access road maintenance, including general road maintenance, snow removal and weed control (Foss 2000), or may split these obligations with another operator if they share use of the road.

When an operator is in poor financial standing, they may look to cut costs including access road maintenance costs, which are often significant (Foss 2000).[24] Annual grading, upkeep and repairs are the bulk of road maintenance costs. Suspension of access road maintenance may cause the road to fall into disrepair, and landowners will experience additional burdens as a result. These include risk to livestock (e.g., ABSRB 941 2017), increased risk of crime and theft (e.g., ABSRB 363 2019), increased risk of weed growth and spread and loss of use of the road and associated costs.

When operators are no longer properly maintaining the road, deterrents such as cattle guards and gates can fall into disrepair and the landowner is at risk of taking on more burdens. While it is possible for the landowner to fix the deterrents and apply to the Surface Rights Board to receive damages compensation from the operator afterwards, it may still be years before their claim is resolved due to the application backlog and the board's inability to decide on cases while an operator is undergoing insolvency proceedings. Further, a landowner who suffers property theft as a result of operator negligence will be stuck with the additional cost of replacing the property. The Surface Rights Board only has the power to reimburse expenses used to reduce the future risk of damage to personal property, such as installing a gate and lock, but cannot reimburse the landowner for lost property (ABSRB 363 2019).

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24 The cost of access road upkeep depends on the class of road and levels of traffic. Classes are outlined by the Public Lands Administration Regulation, 2017.

RISK OF CONTAMINATION

The main immediate environmental and human health concern associated with unreclaimed oil and gas wells is the contamination of soil, surface water and groundwater caused by the leakage of produced water and other chemicals from the well (Dusseault et al. 2000; Kang et al. 2014). The magnitude of well-leakage risk is determined by a number of factors, including the quality of well construction and the plugging and abandonment measures that have been taken, as well as the ownership status of a well (Ho et al. 2016). In general, wells that have been abandoned are less likely to leak than are wells that have been only suspended, or inactive and not properly suspended (Ho et al. 2016). Research conducted under the AER's Abandoned Well Integrity Assessment Project found that inactive wells are the type most prone to leakage, followed by abandoned wells, with leakage seen in 10.3 per cent and 7.0 per cent of wells studied, respectively (Boyer 2016). Other studies of abandoned wells in Alberta suggest that the risk of contamination differs based on the type of well, with abandoned gas-injection wells posing greater environmental risk than dry and abandoned oil wells (Thiessen and Achari 2015; 2016).

The risk of contamination from an unreclaimed well site, real or perceived, has real costs for landowners. It can impact their ability to grow specialty crops, sell produce or access financing, and limits their ability to use, develop and sell their land.

If a landowner is concerned that a well on their property may be leaking or otherwise have the potential to contaminate the surrounding land, they may avoid growing potentially lucrative specialty crops, which is an opportunity cost not factored into their annual compensation. A farmer may avoid growing specialty crops due to health and safety concerns related to fear of contamination (see, for example, ABSRB 316 2013) or for economic reasons. Alberta specialty crops, such as sugar beets, require specialized irrigation practices that require pivot corners (see ABSRB 9 2006). If a well site blocks a natural pivot corner on the land, the landowner will need to reduce crop yield to take a new parcel of land that avoids the well site to build a new pivot corner. If the landowner was growing a general crop, such as wheat, this parcel of land would still produce crops. The presence of an inactive well may also impact a farmer's ability to attract and maintain distributors and customers; for example, the increased risk of contamination may impact a farmer's ability to secure accreditation such as the Alberta Environmental Farm Plan certification or Hazard Analysis and Critical Control Points certification, limiting market competitiveness, or an unkept well site may impact a farmer's reputation for healthy produce and deter customers.

A landowner's ability to develop their land is also partly dependent on the status of the well, and landowners with inactive wells face greater restrictions on development. The *Municipal Government Act* Subdivision and Development Regulation, 2002, imposes minimum setback requirements for development or subdivision near an abandoned oil and gas well, with more stringent setback requirements where the well is not properly abandoned (Province of Alberta 2002, section 11.2). Setbacks are required for contamination mitigation, but also to ensure access for repair, emergency response and reclamation activities, which may require a service rig or a drilling rig and therefore a larger work area, depending on the nature of the site (AER Directive 079). There

is a minimum setback requirement of five metres from any abandoned well, but the municipality may require a larger setback than the minimum requirement, and no structure is allowed to be built on top of an abandoned well (AER 2014).

The landowner's ability to access development financing may also be restricted. A potential creditor may require completion of an environmental site assessment as a condition of financing for subdivision and development of the land, and if the operator is defunct or otherwise unresponsive, the landowner may choose to bear the costs of the assessment to avoid losing the financing opportunity (see, for example, ABSRB 239 2019). In such a case, the landowner may then apply to the Surface Rights Board for damages compensation but will not be paid interest on these expenses.

The presence of an unreclaimed well site may also affect the value of the property and the owner's ability to sell it. Boxall et al. (2005) looked at the impact of oil and gas facilities on rural property values in central Alberta and found that property values are negatively correlated with the number of sour gas wells and flaring oil batteries within four kilometres of the property, and that the presence of sour gas wells in particular significantly affect property sale price. Baen (1996) found that oil and gas development has significant value implications for surface owners of agricultural land in the U.S. context; specifically, agricultural land value may be impacted through reduced income for agricultural lands, reduction in the potential of highest and best use, increased exposure to environmental contamination and consideration of health, welfare, stigmas and other marketability factors affecting the property. There is a lack of data on the impact of well-closure status on property value in Alberta, however, and in Surface Rights Board hearings, operators have challenged landowner claims that inactive wells reduce the marketability of the property (see, for example, ABSRB 486 2014).

The current framework for surface owner compensation does not adequately consider a loss in land value. Property value is factored into the surface lease compensation only for the first year of the lease. Specifically, when determining initial compensation, the Surface Rights Board must consider:

> "(a) the amount the land granted to the operator might be expected to realize if sold in the open market by a willing seller to a willing buyer on the date the right of entry order was made, and (b) the per acre value, on the date the right of entry order was made, of the titled unit in which the land granted to the operator is located, based on the highest approved use of the land," (Province of Alberta 2000b, section 25)

These factors account for the value of the leased land and the value of the surrounding property when the mineral holder first gains access to the site; any loss of value to the surrounding property caused by the proposed oil and gas development is not considered. This is particularly an issue in the current context of widespread well liabilities: because of the erosion of trust between landowners and operators, the mere presence of an oil and gas well may affect the landowner's ability to sell the land. This was the perspective of the landowner claimant in *Waldron Energy Corporation v. Campbell* (ABSRB 486 2014), where they claimed that "oil and gas developments are now considered a liability and may actually reduce the land value", and suggested that

finding a buyer willing to assume those liabilities may be difficult and that banks may be unwilling to finance such purchases in light of environmental risks. More empirical research is needed to understand how the broader well liabilities crisis affects the property market in Alberta.

UNEQUAL TREATMENT IN CLEAN-UP

Because unreclaimed wells pose real costs to a landowner, from a landowner's perspective a fair system for the abandonment and reclamation of wells is arguably one where wells that have sat inactive for the longest time are cleaned up first. In such a system, some landowners may have to wait a significant amount of time for the inactive well site on their land to be reclaimed, but they know that their spot in the queue is moving forward with each well abandonment completed. Another system for treating landowners equitably may be to prioritize high-risk wells to be abandoned first, reducing the likelihood for a catastrophic event occurring that endangers property or human health. A well-abandonment system based on risk profile, however, would be expensive for industry and the OWA, as they cannot realize economies of scale by abandoning and reclaiming several well sites in a single area at a time. Instead, current programs in Alberta aim to increase the efficiency of well clean-up by prioritizing sites based on (1) the location of the well and (2) abandonment costs.

"Area-based closure" is the AER's current approach to cleaning up wells, in which multiple sites are targeted in a single geographic area (AER 2018). By allowing for significant economies of scale, the AER claims that the program can reduce well abandonment costs by up to 40 per cent (AER 2018). The program is voluntary, and operators can participate by (1) committing to an inactive liability reduction target to access program incentives which include new suspension options for certain medium-risk wells and the option for a three-year deferral on abandonment orders for Crown land, or (2) collaborate with other industry partners to achieve further cost-efficiencies but not receive program incentives.

The Area-Based Closure Program is designed from a government and industry cost-efficiency perspective and not from a landowner-rights perspective. On a macro-level, area-based closure will reduce the number of well liabilities at a significantly faster rate compared to individual operators cleaning up wells independently of each other. The program, however, fails to address the surface rights of landowners with high-risk or high-cost inactive wells on their land first, and instead treats landowners based on their location. Landowners outside of designated closure zones will fall in the abandonment and reclamation queue as solvent operators refocus on these zones, including any with high-risk, longstanding inactive wells.

The other well clean-up program currently in place in Alberta is the Site Rehabilitation Program, which the government of Alberta launched in April 2020 under a $1.7 billion federal government funding package for oil and gas well clean-up in Alberta, British

Columbia and Saskatchewan.[25] The Site Rehabilitation Program prioritizes clean-up support to operators in poor financial standing, e.g., those with higher liability to asset ratios (Alberta Government 2020e). Throughout the paper, we discuss how operators in poor financial health try to cut corners and landowners bear costs as a result. The Site Rehabilitation Program will prioritize these sites and relieve these landowners of associated burdens sooner. Orphan well clean-up is not eligible under the program, however,[26] and so those with orphan wells on their land will not benefit.

Funding for clean-up under the Site Rehabilitation Program is currently available for three of a total 10 planned periods. Period 1 prioritizes cleaning up as many wells as possible, with the cost per contract having to be less than $30,000 per well site closure activities, including abandonment and reclamation (Alberta Government 2020e). Like area-based closure, this period favours economic efficiency over equitable treatment of landowners: high-risk wells are more costly to abandon, and thus Period 1 prioritizes low-risk wells due to their lower clean-up costs. This element of the program is therefore regressive from a landowner's surface rights perspective.

Period 2 of the Site Rehabilitation Program takes a landowner-centred approach. In Period 2, only well sites located on private land where the landowners are compensated through section 36 of the *Surface Rights Act* are eligible for clean-up funding. As explained above, section 36 remedy is available to landowners who have not received rentals from the well operator, and thus wells owned by operators who have defaulted on lease payments take precedence in this period.[27] Landowners, First Nations and Métis settlements are also allowed to propose well sites for clean-up in Period 2. This is important, as it is the first time we have seen the direct inclusion and meaningful consideration of landowner voices in Alberta well-liabilities policy. The additional positive for landowners in Period 2 is that there are no limits set on the costs for clean-up contracts, allowing landowners with higher risk wells the opportunity to have the well on their land cleaned up.

Finally, Period 3, announced in July 2020, provides general funding for all active oil and gas licensees with funding available up to $139,000 (Alberta Government 2020e). Period 3 does not expressly focus on reducing private surface well liabilities, but will reduce burdens on landowners generally through scaled up clean-up.

In pursuit of efficiency, some landowners will benefit from the Area-Based Closure Program and the Site Rehabilitation Program. But for those landowners to benefit, others must be stuck with the additional burden of having inactive, sometimes high-risk, wells sitting for longer on their land due to changes in the well abandonment and reclamation queue.

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25 Federal funding for each province is as follows: $1.2 billion to Alberta for the Site Rehabilitation Program and the OWA, $400 million to Saskatchewan for the Accelerated Site Closure Program and $120 million to B.C. for the Dormant Sites Rehabilitation Program (Government of Canada 2020).

26 Orphan well abandonment and reclamation are expected to be funded through the Orphan Fund Levy.

27 The Alberta Site Rehabilitation Program differs from Saskatchewan's program in Period 2. While Alberta is focusing on well sites that are non-compliant, Saskatchewan is focusing funding towards rewarding and assisting compliant companies (Saskatchewan Government 2020).

ACCESS TO REDRESS AND REMEDY

Landowner rights related to oil and gas development on private land are not restricted to surface rights. Also important are the civil and political rights of surface owners, including the right to effective remedy where rights have been violated. Landowners do not all have the same access to the same pathways for recourse, posing issues of equitable treatment.

Where an operator fails to meet the terms or conditions of its surface lease, a landowner has two possible routes for enforcement: request the AER to issue an order to comply, or apply to the Surface Rights Board for mediation services or for ex-post remedy through damages compensation or compensation review. The AER option, however, is only available to landowners who have (1) entered into the surface lease agreement on or after November 30, 2013 (i.e., after the coming into force of the AER's Enforcement of Private Surface Agreement Rules); (2) formally registered the agreement with the AER (which they may not be able to do because of confidentiality provisions),[28] and (3) known or "ought to have known" about operator non-compliance for no more than a year before submitting the request (Province of Alberta 2013). These restrictions limit landowner access to the AER as a mediator and enforcer of surface lease conditions, and contribute to the backlog of Surface Rights Board claims.

The well's ownership status also determines a landowner's options for recourse, as touched on in the sections above. Most obviously, landowners with orphan wells or wells owned by companies undergoing insolvency proceedings face more burdensome processes to remedy concerns compared with a landowner with a solvent, operator-owned well. The OWA is responsible for the maintenance and clean-up of orphan wells, but to date has not entered into leases and paid rentals directly to landowners (and until the passing of Bill 12 in April 2020 was unable to), requiring that landowners with an orphan well on their land go through the Surface Rights Board to collect compensation. Where an operator is undergoing insolvency proceedings, is fully defunct or otherwise unresponsive, the burden on the landowner is also relatively high: they lack a responsive, financially sound lessee (and therefore a lessee likely to take effective early action); must do additional sleuthing to identify the responsible party (the owner of the site may have changed in a transfer or responsible working interest participants may still exist); lack a negotiating partner (and therefore have only ex-post remedy available to them through the Surface Rights Board); and may have to wait longer than other landowners to receive rentals due because of a stay in legal proceedings. The number of oil and gas company insolvencies in Alberta is expected to continue to increase (Haynes and Boone 2020), lumping more landowners into these categories.

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28 Though the presence of a confidentiality clause in a private surface agreement does not automatically prevent the AER from accepting the agreement into the registry (AER 2020c), the agreement terms may prevent it.

POLICY RESPONSES AND FUTURE RESEARCH

Policy responses fall into two categories: (1) address the root problem of long-term inactive and unreclaimed wells and (2) protect surface owner rights.

Though in-depth discussion of the first category is largely outside the scope of this paper, it must be mentioned that changes to Alberta's end-of-life well management regime are critical to protecting surface owners in the long term. The purpose of policy changes at this level should be to incentivize operators to close and reclaim inactive well sites, disincentivize them from keeping well sites inactive and unreclaimed indefinitely, and ensure adequate funds for clean-up (that are ideally provided by industry, in line with the polluter-pays principle). The AER has implemented timelines to encourage closure and reduce risk at other stages of the well's life cycle — operators must declare wells inactive after six to 12 months and suspend wells within 24 months of inactivity (AER Directive 013 and OGCR) — but not for abandonment and reclamation. Putting a time limit on well suspension is one policy mechanism to incent clean-up, used in several U.S. jurisdictions (Ho et al. 2016). Other policy options to address the root causes of the crisis, as explored by authors such as Ho et al. (2016) and Dachis et al. (2017), include strengthening the licensee liability rating system, requiring insurance or bonding prior to land disturbance, putting restrictions on well transfers to ensure owner ability to fund clean-up, idle well fees to incent closure, strengthen regulatory measures to require an operator demonstrate rationale for leaving a well suspended and increase regulator powers to direct abandonment.

Along with changes to address the systemic failures of Alberta's well liabilities management regime, policy and legislative changes are urgently needed to address aspects of the current governance framework, discussed above, that unnecessarily and unfairly burden landowners.

Since landowners must allow operators right-of-entry based on the premise that they will be compensated adequately for the duration of the lease and the well will be cleaned up in a timely manner, the landowner should remain a respected stakeholder throughout the well's life and especially during end-of-life operations and activities. Any creation of policies to protect, respect and fulfil landowner rights should involve direct engagement and consultation with landowners to ensure that their concerns are accounted for. Assuming meaningful consultation, we outline specific policy options for the Alberta government and the AER to consider, below.

Landowner access to information:

- Scale up efforts to inform landowners of their rights and options for recourse, either through existing communications processes such as the Farmers' Advocate Office or new processes.
- Ensure public access to all Surface Rights Board decisions and increase transparency of Surface Rights Board decisions, to enable accountability and help landowners understand how their rights are addressed.
- Increase public access to comprehensive and representative surface lease compensation data, to assist landowners in identifying patterns of dealings and better empower them to negotiate fair compensation.

- Require that landowners be notified of transfer of the well to a new owner immediately and automatically.

Compensation:

- Penalize operators for non-payment of compensation, for failure to notify the landowner of the option to review compensation under section 27 of the *Surface Rights Act* (beyond the payment of interest) and for unilateral reduction of the rate of compensation.
- Pay interest to landowners on any late compensation.
- Consider reforms to the section 36 compensation process to reduce the use of general public funds to pay for operator-owed surface lease compensation. This could include drawing from the industry-funded Orphan Fund, for example, or funds raised from new licensee insurance or bonding requirements.
- Reform the orphan well compensation process, as enabled by Bill 12, to allow direct payment of compensation to orphan-well landowners.
- Expand eligibility for the streamlined repeat rental recovery application process; for example, exempt landowners from the statute of declaration requirement for applications relating to the same site, even if the well has been transferred to a new owner.
- Increase Surface Rights Board capacity to process rental recovery applications in a timely manner.

Site maintenance:

- Implement a gap-filling program similar to Saskatchewan's Care and Custody Program to provide stewardship of well sites where there is no operator or working interest participant capable of providing reasonable care, but the well is not yet orphaned.
- Provide recourse for landowners where the operator has defaulted on weed control obligations and protect landowners from penalties associated with *Weed Control Act* non-compliance.
- Allow for damages compensation for weed control-related costs borne by the landowner.

Risk of contamination:

- Provide landowners with real-time, relevant information on the risk status of the well on their land; create a risk assessment framework that is directly relevant to landowner concerns and information requirements.
- Improve the availability and public communication of information on how oil and gas development on private land can impact property value and how a landowner can be compensated for any loss of value.

Co-ordination of clean-up:

- Take a landowner-centred approach in the design and implementation of well site clean-up programs, including in the remaining Site Rehabilitation Program implementation periods; consider fairness to and equitable treatment of landowners in which well sites are addressed first and how closure activities are implemented.
- Involve landowners in the design and implementation of site clean-up programs. The landowner nomination process under Period 2 of the Site Rehabilitation Program provides an early example of this.

Process for addressing landowner concerns:

- Amend Alberta Regulation 204/2013 "Enforcement of Private Surface Agreement Rules" to expand eligibility for AER oversight of private surface lease agreements.
- Modernize the Surface Rights Board mediation and claim resolution process to improve the speed and transparency with which decisions are made.

To adequately inform the design of these policy responses and to improve the appropriateness of Alberta's governance framework from a landowner-rights standpoint, the following areas of research need to be better explored:

- Quantification of the costs and benefits to landowners resulting from the current culture of long-term well inactivity in Alberta is needed to understand what costs landowners are taking on, uncompensated, and how these costs are distributed across landowners.
- Compare Alberta's legal framework for the protection of landowner rights in the context of oil and gas well burdens to best emerging practices seen in other jurisdictions.
- A comprehensive review of Surface Rights Board decisions is needed to better understand how this quasi-judicial agency is applying legal tests and interpreting its mandate.
- Research on the impact of long-term well inactivity on property values and marketability is needed to ensure these impacts are adequately considered in the surface lease compensation regime and to empower landowners with evidence for arguing compensation rates.
- Inquiry into the reclamation process from a landowner-rights perspective. Though not explored in this paper, there is evidence that landowners are not made whole through the reclamation process. In a 2018 report, the Alberta government found that reclamation activities were not returning the land to its capabilities prior to the well site (FIERA Biological Consulting 2018) and media reports suggest that the AER conducted field audits for only three per cent of sites for which reclamation certificates were granted between 2014 and 2018 (Riley 2019). There is the need to confirm the extent to which reclamation of well sites meets the objectives of the *Environmental Protection and Enhancement Act*, 2000, and fulfils the promise of returning the site to equivalent land capability.

CONCLUSION

In *Orphan Well Association v. Grant Thornton Limited*, the Supreme Court found that Alberta's current well-licensing regime aligns with the polluter-pays principle (SCC 2019 at par. 29), which assigns polluters the responsibility for remedying any environmental damage they cause. Alberta's surface rights framework was not designed with large-scale, long-term well inactivity in mind, however, and strain on the system is revealing gaps and inefficiencies in how surface owners are treated. These rights-holders, obligated to lease their land, bear real costs of industry, government and regulator failure to ensure timely closure and reclamation of well sites. Costs are distributed unevenly across surface owners, determined largely by the well's ownership status. From our inquiry, it is apparent that Alberta's regime is instead (and increasingly) a "third party pays" regime where costs are paid by landowners, public taxpayers through ministerial rental payments and industry bailouts, and only partly the oil and gas industry.

In this paper, we describe some of the costs or burdens imposed on Alberta landowners as a result of non-producing wells on their land. We also assess Alberta's legal framework from a landowner rights-based perspective, including how the current governance framework addresses or exacerbates impacts on this group in light of the province's mounting well liabilities. Landowners with inactive and unreclaimed wells on their land face costs associated with collecting fair compensation, livelihood impacts including risks to farming operations and property development, and remedying concerns.

We found that the framework especially burdens landowners with orphan wells or wells owned by insolvent or otherwise defaulting operators on their land. These subsets of surface owners must undergo more burdensome processes to collect compensation, face delays in receiving compensation, are at greater risk of having compensation reduced, face greater risks associated with site maintenance and subsequent damages and are treated differently in site clean-up programs. Further, as evidenced by our discussion, if a landowner has a problem with a well on their land, the nature of the problem and the well's status determine the recourse available to them. All pathways come with their own unique limitations; some pathways are less burdensome than others, and some result in more effective remedy than others.

As more wells are projected to become inactive and orphaned, it is critical that the governance framework for surface rights and well liabilities management be strengthened to ensure all landowners receive timely, fair access to recourse and are truly being kept whole for their obligation to lease the surface of their land to mineral rights holders. A wide variety of policy actions can be taken immediately to make progress in this direction. Under the status quo, Alberta's governance framework will continue to disproportionately burden landowners, contributing to further regress of property rights and breakdown of trust between this group, industry and government.

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About the Authors

Victoria Goodday is a specialist in natural resources law and policy with a focus on legal frameworks for integrated water resources management. She holds a Master of Laws in Water Law from the Centre for Energy, Petroleum and Mineral Law and Policy at the University of Dundee. Prior to joining The School of Public Policy, Victoria spent 10 years working in the non-profit sector in Canada and the Middle East, focusing on cross-border cooperation on environmental issues and fulfilment of the human rights to water and sanitation.

Braeden Larson is a Research Coordinator with the Extractive Resource Governance Program (ERGP) and the Urban Policy Program at the School of Public Policy. Braeden holds a Master's of Public Policy from the University of Calgary. He authored a Capstone comparing BC's natural gas and natural gas liquids royalty regimes to the Alberta Modern Royalty Framework to determine how competitive BC's royalty regimes are at attracting investment in different market conditions. From Acadia University, Braeden holds a Bachelor of Arts with Honours in Politics. Within the ERGP, Braeden's research focuses on the "Where in the World are Canadian Oil & Gas Companies?" project. Currently he is working on data collection for the 2015 fiscal year, which will be imported into the project's interactive map and be used for the corresponding research paper. Within the Urban Policy Program, his research is centred on evaluating the economic impact of implementing a land transfer tax in Alberta by measuring the effects of the tax on the provincial real estate market as well as on government revenues.

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ISSN
ISSN 2560-8312 The School of Public Policy Publications (Print)
ISSN 2560-8320 The School of Public Policy Publications (Online)

DATE OF ISSUE
May 2021

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