PATENT LITIGATION IN THE ENERGY SECTOR: INSIGHTS AND STRATEGIES FROM THE LAST DECADE

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The innovative oil, gas, and mining sectors consistently generate valuable intellectual property, especially in the form of patents. The value and prevalence of patents in the energy sector create the conditions for high-stakes patent infringement litigation, which is often a powerful tool for patentees and a precipitous risk for businesses. This article analyzes lessons from the past ten years of energy-related patent litigation, examining the volume of cases filed, the subject matter of the patents involved, how the cases were resolved, and the procedures followed to resolve each case. Through this analysis, key trends emerge. Considering these emerging trends, this article highlights how energy companies can develop practical and proactive strategies to protect their intellectual property, mitigate litigation risks, and navigate the complexities of patent litigation in critical energy sectors.

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I. INTRODUCTION

Canada is a resource rich country with a long history of exploration and development. The oil and gas and mining sectors are among the most innovative industries in Canada, generating significant economic and social benefits. With those innovations come patents, and with those patents come lawsuits.

Patent infringement lawsuits can have enormous stakes. As recently as 2022, the Supreme Court of Canada affirmed a decision requiring Nova Chemicals Corporation to pay its competitor Dow Chemical Company almost CDN$650 million for infringing Dow Chemical Company's patent covering lightweight plastics.[1] In addition to significant financial remedies, successful litigants typically obtain injunctive relief to prevent further infringing acts for the life of the patent. Those further infringing acts may lie at the core of a company's business activities. Since patents have a 20-year lifespan,[2] an injunction can be an existential risk that devastates a business' operations.

The energy sector is not immune from patent infringement lawsuits. The Canadian Intellectual Property Office (CIPO) has handled nearly two million patents and patent applications.[3] Some of those patents protect critical innovations in the energy sector, such as bitumen recovery,[4] drilling machinery,[5] and transportation mechanisms.[6]

CIPO releases yearly statistics on patents. In its 2022–2023 update, CIPO listed the top ten Canadian patentees, which included Schlumberger Canada Limited (53 patents issued), Suncor Energy Inc. (28 patents issued), Nova Chemicals Corporation (26 patents issued) and CNH Industrial Canada, Ltd. (24 patents issued).[7] Schlumberger Canada Limited also ranked as one of the top ten Canadian applicants, filing the fourth most patent applications in Canada in 2022 to 2023 (67 patent applications).[8]

Innovations do not need to cover groundbreaking discoveries like the cure for cancer in order to qualify for patent protection. Patents may be granted in respect of new, useful,

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1 *Nova Chemicals Corp v Dow Chemical Co*, 2022 SCC 43.
2 *Patent Act*, RSC 1985, c P-4, s 44 (legislation governing the patents granted in Canada. The 20-year lifespan is assessed from the Canadian filing date).
3 Canadian Intellectual Property Office, "Help: General Information," online: [perma.cc/7V8T-D2BS].
4 See e.g. "An Interactive Media Guidance System Having Multiple Devices," Can Patent No 3042900 (6 December 2006).
5 See e.g. "Core Sample Orientation System, Device and Method," Can Patent No 2806885, PCT Patent No PCT/AU2011/000954 (29 July 2011).
6 "Mobile Storage Tank with Fluid Containment," Can Patent No 2762244" (15 December 2011).
7 Canadian Intellectual Property Office, "Patent Statistics: 2022 to 2023," online: [perma.cc/MLN2-R9YV].
8 *Ibid*.

and non-obvious advances on almost any subject matter.[9] For example, patents have been issued for new frisbees,[10] paperclips,[11] and dog toys.[12] In the energy sector, innovations tend to be far more technical and often benefit from patent protection.

All of this creates both opportunities (for patentees) and risks (for businesses). Because patent infringement cases are typically brought in the Federal Courts, which have national reach, any case may implicate business activities from coast-to-coast.

Given the opportunities and risks posed by patents, it is important for companies in the energy sector to have a working understanding of how patents may impact their business, and to understand the lessons from recent cases to best position companies in the energy sector to capitalize on these opportunities or defend against these risks.

This article reviews the last decade of patent cases in the energy sector to understand these key lessons to help energy companies when managing or capitalizing on such risks from patents. This article is divided into three sections: (1) what is a patent, and why we should we care; (2) lessons from the past ten years in patent litigation in the energy sector; and (3) key strategies for energy companies based on recent history.

II. WHAT IS A PATENT AND WHY SHOULD WE CARE?

A patent is a time-limited right to exclude others from doing what the patent claims. Patents have inventors, who developed the invention, and an owner — often the company that employed the inventors. Patents are obtained by first filing a patent application with CIPO. Each patent application will be assessed by an examiner to determine if it should be issued as a patent. Once issued, the patent will expire 20 years after the patent application that gave rise to the patent was filed.[13] Every patent is presumed to be valid in the absence of any evidence to the contrary.[14]

Though patents can yield significant financial remedies from infringers, their greatest value lies in their ability to prevent competition from entering the market or removing competition already on the market. Accordingly, every business should care about patents for the strategic potential they offer to patentees and the risk they pose to infringers.

III. LESSONS FROM THE PAST TEN YEARS IN PATENT LITIGATION IN THE ENERGY SECTOR

In this section, we review the last ten years of energy-related patent litigation. Our assessment focuses on Federal Court patent filings and analyzes:

- the volume of cases filed in the Federal Court;

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9 *Patent Act*, *supra* note 2, ss 2, 28.2–28.3.
10 "Throw Toy," Can Patent No 3042201, PCT Patent No PCT/US2017/022891 (17 March 2017).
11 "Device for Holding Together a Stack of Sheets," Can Patent No 2826509, PCT Patent No PCT/EP2012/051854 (03 February 2012).
12 "Chew Toy for Dogs," Can Patent No 2991640 (11 January 2018).
13 *Patent Act*, *supra* note 2, ss 44–45.
14 *Ibid*, s 43(2).

- the subject matter claimed in the patents at issue in those cases;
- the resolution of those cases, including possible settlements; and
- dispute resolution procedures, including summary trials.

The data for this review was drawn from the Federal Court's dockets, published decisions, and the authors' insights from their patent litigation experience. The dockets were reviewed to identify every court case involving an energy company. The patents asserted in each of those cases were identified and divided into types of technology, and the detailed entries were reviewed to identify important or unusual procedural steps raised in the proceedings. The underlying data is collected in Appendix A.

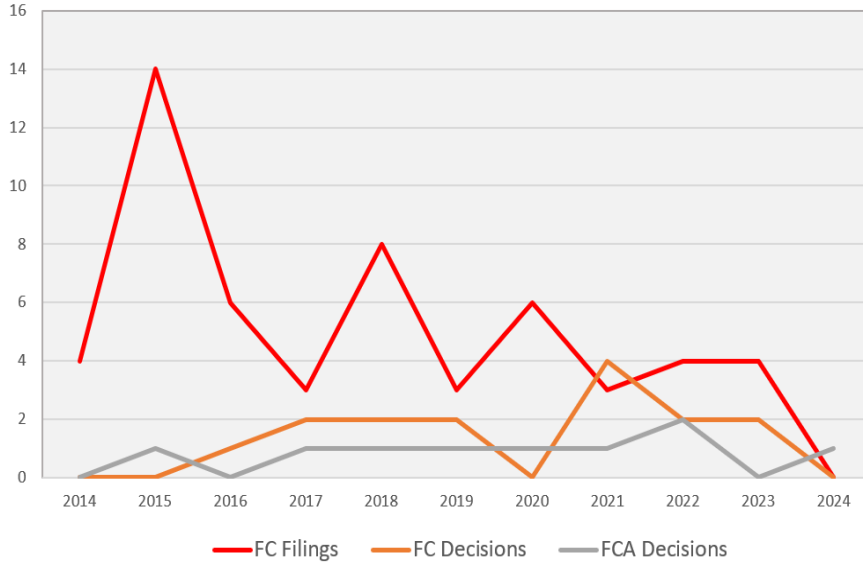
This data analysis revealed trends which are outlined in the sections that follow.

A. THE VOLUME OF CASES FILED IN THE FEDERAL COURT

Approximately 439 patent cases have been filed in the Federal Court in the past decade. The vast majority of those cases are in the pharmaceutical industry. However, the energy sector is the next most common industry, with approximately 55 patent cases filed in the same time period. There is a notable absence of cases in the past decade between the largest players in the oil and gas industry, and an almost complete absence of companies in the mining sector. This trend of fewer small or mid-size patent holders filing more cases suggests that they are trying to leverage their patents, including (in some cases) to eliminate their rivals, rather than following a broader or market-driven trend to focus on patent litigation in certain low (or high) market years.

While the Federal Court had a spike in filings in 2015, more recently, there have been three to eight filings per year, as illustrated in Figure 1.

FIGURE 1:
OIL AND GAS PATENT FEDERAL COURT FILINGS AND DECISIONS (2014–2024)[15]



This review shows a spike in filings in 2015, which is likely a chance event that results from a limited number of plaintiffs bringing multiple actions at the same time:

- Specialized Desanders Inc. filed three patent infringement lawsuits asserting its patent covering a method and apparatus for desanding wellhead production;[16]
- Packers Plus Energy Services asserted its patent covering a method and apparatus for wellbore fluid treatment in three separate Federal Court files; [17] and
- NCS Multistage Inc. filed the first of its many Federal Court proceedings about fracking tools involving Kobold Services.[18]

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15 This graph illustrates the oil and gas patent cases filed in the Federal Court between 2014 and 2024, and oil and gas patent infringement or impeachment decisions released by the Federal Court and the Federal Court of Appeal between 2014 and 2024. It does not include interlocutory decisions.

16 *Specialized Desanders Inc v Westfab Industries Inc* (8 April 2015), Toronto T-547-15 (FCTD); *Specialized Desanders Inc v Venturion Oil Ltd* (4 May 2015), Toronto T-722-15 (FCTD) [*Specialized Desanders v Venturion*]; *Specialized Desanders Inc v Enercorp Sand Solutions Inc* (15 April 2015), Toronto T-598-15 (FCTD).

17 *Rapid Completions LLC v Baker Hughes Canada Company* (16 September 2015), Ottawa T-1569-15 (FCTD) [*Rapid Completions*]; *Packers Plus Energy Services Inc v Weatherford International PLC* (13 October 2015), Toronto T-1728-15 (FCTD) [*Packers Plus v Weatherford*]; *Packers Plus Energy Services Inc v Resource Well Completion Technologies Inc* (10 December 2015), Toronto T-2088-15 (FCTD) [*Packers Plus v Resource Well*].

18 *NCS Multistage Inc v Kobold Services Inc* (17 November 2015), Toronto T-1942-15 (FCTD).

An increase in filings was also seen in 2018 and again characterized by repeat litigants. Secure Energy Services is party to two proceedings filed that year,[19] and Maoz Betser-Zilevitch filed cases against Canadian Natural Resources Limited (CNRL) and PetroChina Canada Ltd., and an appeal of a 2018 decision upholding a settlement agreement with Nexen Inc. and China National Offshore Oil Corporation's Long Lake Oil Sands project partnership.[20]

The volume of decisions has stayed relatively consistent over the past decade with the Federal Court releasing one to four rulings per year. This suggests that, despite fewer filings in recent years, these cases tend to be more contentious and less likely to settle.

Patentees can also enforce their patents in Superior Courts. Those courts are typically used where the infringing activities are concentrated in a province or where there are other contentious issues between the parties within the jurisdiction of Superior Courts. For example, in *JL Energy Transportation Inc. v. Alliance Pipeline Limited Partnership*,[21] the Court of King's Bench of Alberta granted a summary judgment motion, dismissing the plaintiffs' related claims of breach of a licencing agreement as well as patent infringement. That decision followed an earlier decision of the Federal Court which invalidated one of two claim sets in JL Energy Transportation Inc.'s patent.[22] Both cases dealt generally with the transportation of natural gas via pipeline. However, Superior Courts have not issued many significant decisions in the energy patent space in the past ten years, and their decisions tend to involve the same parties as the Federal Court files.[23]

B. PATENT LITIGATION INVOLVED TECHNOLOGY IN DIFFERENT SECTORS

The subject matter of the patents at issue over the past decade was also assessed. As shown in Figure 2, the technologies at issue covered a broad spectrum of sectors in the energy industry.

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19 *Mud Engineering Inc v Secure Energy Services Inc* (15 January 2018), Toronto T-89-18 (FCTD); *Canadian Energy Services LP v Secure Energy Services Inc* (04 February 2018), Toronto T-209-18 (FCTD).

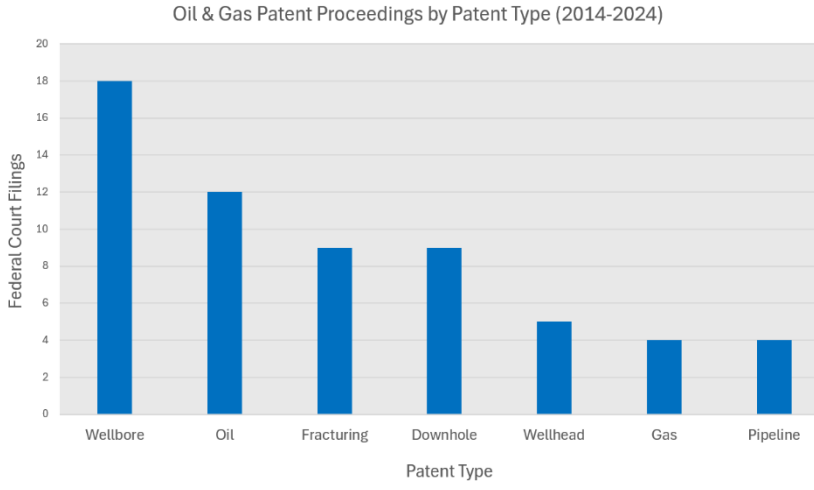
20 *Maoz Betser-Zilevitch v Canadian Natural Resources Ltd* (2 April 2018), Ottawa T-630-18 (FCTD) [*Betser-Zilevitch v Canadian 2018*]; *Maoz Betser-Zilevitch v Petrochina Canada Ltd* (13 June 2018), Ottawa T-1158-18 (FCTD) [*Betser-Zilevitch v Petrochina* 2018]; *Maoz Betser-Zilevitch v Nexen Inc*, 2019 FCA 230 [*Betser-Zilevitch v Nexen* FCA], aff'g 2018 FC 735 [*Betser-Zilevitch v Nexen* FC]. The *Betser-Zilevitch v Nexen* FCA appeal filing is not included in Figure 1, which only tracks Federal Court (not Federal Court of Appeal) filings. The *Betser-Zilevitch v Nexen* FC decision is not included in Figure 1 because it did not decide issues of infringement or validity.

21 2024 ABKB 72 [*JL Energy*], leave to appeal to ABCA requested (Appeal No 2401-0050AC).

22 *Aux Sable Liquid Products LP v JL Energy Transportation Inc*, 2019 FC 581 [*Aux Sable*].

23 See e.g. *Canadian Energy Services Inc v Secure Energy Services Inc*, 2020 ABQB 473, rev'd 2022 ABCA 200 [*Secure Energy v Canadian Energy*]; *JL Energy*, *supra* note 21; *NCS Multistage Inc v Kobold Corporation*, 2018 ABQB 485.

FIGURE 2:
OIL AND GAS PATENT PROCEEDINGS BY TYPE
(2014–2024)[24]



The data shows a particular emphasis on wellbore technology, closely trailed by patents in the wider fields of oil extraction, fracking, and downhole drilling. The patents were categorized as follows:

- Wellbore: drilling and maintaining wellbores;
- Oil: producing oil, such as by using steam-assisted gravity drainage technology and modifications thereto;
- Fracturing: all aspects of the fracturing process, including tools and methods;
- Downhole: downhole drilling equipment and telemetry systems;
- Wellhead: technology for sealing wellheads and methods for desanding wellhead equipment;
- Gas: natural gas, its storage, and its transportation; and
- Pipeline: transportation of oil and gas through pipelines, including the cleaning of pipelines and separating products in pipelines and flowlines.

Patents need not be groundbreaking to be valid. For example, on 26 March 2024, the CIPO issued a patent for a "Dual-Ended Stick Mechanism," which is effectively packaging

[24] This graph shows the types of patents asserted in the oil and gas patent proceedings filed in the Federal Court between 2014 and 2024. Some patents are asserted in more than one filing.

for cosmetic products such as lipstick.[25] In general, a patent may be obtained for any "invention" which is defined by the *Patent Act* as "any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter."[26]

Some examples of the patents at issue in energy-related patent litigation include:

- "Intelligent Efficient Servo-Actuator with Sensor for a Downhole Pulser": a telemetry and measurement while drilling system which communicates information from the downhole to the surface with improved energy efficiency.[27]

- "Flowline Restraint Method": a method for securing flowline segments so that in the event of a failure of a flowline joint, the failed joint is held in place reducing the risk of high-pressure energy release.[28]

- "Using Synthetic Acid Compositions as Alternatives to Conventional Acids in the Oil and Gas Industry": compositions of acids used to stimulate production of an oil well.[29]

Inventors are potentially able to patent any technology in the energy sector provided that it yields a non-obvious improvement over what was already known to the public.[30] Whether or not an improvement is "obvious" is assessed from the perspective of a person of ordinary skill in the art to which the patent pertains. That fictional person is deemed to have not a scintilla of inventiveness but is good at their job and keeps up to date with the literature.[31]

C. SETTLEMENTS

Given the volume of cases that are resolved prior to the release of a final decision, it appears that most cases filed in the Federal Court result in a settlement. Of 55 filings, about half (28 filings) were discontinued or otherwise disposed of in a manner that suggests the parties settled their dispute. Filing a claim often conveys the seriousness of the allegations and the plaintiff's intention to pursue them, but does not always translate into a willingness to test those allegations before the court in high-stakes patent litigation. Figure 3, illustrating how filings over the last decade were ultimately resolved, shows that this trend holds true in energy-related patent litigation.

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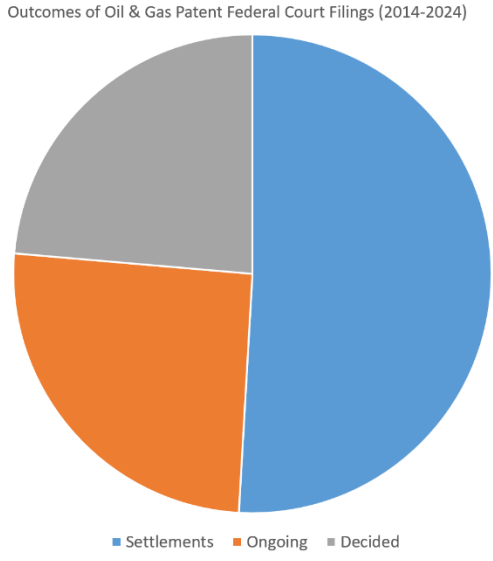
25 Can Patent No 3196242, PCT Patent No PCT/US2021/056520 (25 October 2021).
26 *Supra* note 2, s 2.
27 Can Patent No 2463354 (6 April 2004).
28 Can Patent No 2957167 (7 February 2017).
29 Can Patent No 2892876 (28 May 2015).
30 *Amazon.com, Inc v Canada (Attorney General)*, 2011 FCA 328 at para 38.
31 *Beloit Canada Ltée/Ltd v Valmet Oy* (1986), 64 NR 287 (FCA); *Whirlpool Corp v Camco Inc*, 2000 SCC 67 at para 74; *Free World Trust v Électro Santé Inc*, 2000 SCC 66 at para 44.

FIGURE 3:
OUTCOMES OF OIL AND GAS PATENT FEDERAL COURT FILINGS (2014–2024)[32]



In addition to providing greater certainty about outcomes, settlements can significantly reduce the time spent waiting for a decision. Typically, patent-related proceedings are resolved by the Federal Court within two to four years.[33] Settlements are achieved more quickly than final decisions on the merits, often within one to two years of the filing and sometimes within months.[34] Absent settlement, proceedings can be prolonged — the longest-lasting patent litigation in the energy space that is currently active in the Federal Court was filed by Alberta Innovates-Technology Futures in 2015 and remains ongoing.[35]

D. SUMMARY PROCEEDINGS ARE INCREASINGLY COMMON

In recent years, the use of summary trials and summary judgment motions to adjudicate patent disputes in the energy space has increased. This increase in the use of summary proceedings is correlated with the Supreme Court of Canada's call in *Hryniak v. Mauldin*[36] for a "culture shift" in favour of summary proceedings.[37] The summary trial, in particular,

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32 This graph shows the presumed outcomes of oil and gas patent cases filed in the Federal Court, including settlements (or other forms of discontinuances), infringement and invalidity decisions, and ongoing cases.

33 Based on the authors' review of Federal Court dockets from 2014 to 2024.

34 See e.g. *Specialized Desanders v Venturion*, *supra* note 16; *Fluid Energy Group Ltd v Mud Master Drilling Fluid Services Ltd* (2 June 2016), Calgary T-885-16 (FCTD).

35 *Alberta Innovates-Technology Futures v Connacher Oil and Gas Limited* (5 February 2015), Calgary T-182-15 (FTCD) (Alberta Innovates-Technology Futures asserts Connacher Oil and Gas Ltd. infringes its "Steam-Assisted Gravity Drainage" (SAGD) process patent).

36 2014 SCC 7 [*Hryniak*].

37 *Ibid* at para 2.

became an option as of December 2009 when the *Federal Courts Rules* were amended to add this procedural mechanism.[38] Litigators have increasingly sought to use it. The Federal Court had historically been wary of relying on summary proceedings in patent litigation given the inherent factual complexity and strong emphasis on expert testimony in these types of cases. Nevertheless, following *Hryniak*, the Federal Court, Federal Court of Appeal, and Provincial Superior Courts have endorsed summary proceedings even at very early, pre-discovery stages of litigation.[39]

Two types of summary proceedings are available in the Federal Court. The first, summary judgment motions, are a procedural tool that allows a court to dispose of a case without the need for a full trial. The evidence is developed out of court and the Federal Court will only receive affidavit and transcript evidence, not live witness testimony. Such motions are typically used when there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law. The second, summary trial motions, are a streamlined trial process that is used when the issues in dispute can be resolved on the basis of affidavit evidence, cross-examination, and limited oral testimony.

The main advantage of pursuing summary trial or summary judgment motions is to minimize the time and expense associated with full trials. These procedures can provide a faster and more cost-effective way to resolve disputes, particularly in cases where the issues and any evidentiary disputes are relatively straightforward. Even where the summary proceeding does not bring an end to the action, it may nonetheless simplify what remains of the underlying action.[40]

Parties have taken advantage of this culture shift by pursuing summary proceedings. Of the 55 filings referred to above that were resolved by the courts, two were resolved by either summary trial or summary judgment motion. For example, in the 2022 Federal Court case *Mud Engineering Inc. v. Secure Energy (Drilling Services) Inc.*,[41] Mud Engineering Inc. sought to dismiss Secure Energy's claim that it owned the patents Mud Engineering Inc. was asserting against it. Although the Federal Court agreed that a summary trial was appropriate, it ultimately held that neither party had met its burden to establish ownership of the disputed patents. In another Federal Court case involving Secure Energy in 2023, the Court again found the issue of ownership could be determined by way of summary trial motion.[42] These decisions open an avenue for defendants to obtain early dismissals of the claims against them by demonstrating that the party asserting the patent does not, in fact, own that patent in the first place and thus cannot assert it.

Although it's more complex, and therefore more unusual, a patent infringement claim can also be determined at a summary trial. For example, in *Steelhead LNG (ASLNG) Ltd. v. ARC Resources Ltd.*, the Federal Court found that ARC Resources did not infringe

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38 SOR/98-106 as amended by SOR/2009-331, ss 213, 216.

39 See e.g. *CanMar Foods Ltd v TA Foods Ltd*, 2021 FCA 7. See also *Secure Energy v Canadian Energy*, *supra* note 23; *JL Energy*, *supra* note 21.

40 *Kobold v NCS Multistage Inc*, 2021 FC 1437 at para 55 [*Kobold* 2021] (the Federal Court noted NCS' argument that summary proceedings would "simplify the underlying action" and potentially resolve the matter; the Court later endorsed summary judgment for certain aspects of the case).

41 2022 FC 943 [*Secure Energy* 2022].

42 *Secure Energy (Drilling Services) Inc v Canadian Energy Services LP*, 2023 FC 906 [*Secure Energy* 2023].

Steelhead's patent.[43] Summary trial was found to be appropriate in that case for a few reasons: discovery (documentary and oral) was complete,[44] and witnesses gave oral evidence at the hearing which gave the motion judge a fulsome record to consider the infringement claim.[45] Perhaps most importantly, the asserted infringement was related to drawn-up plans for building a liquid natural gas facility. Steelhead argued that those plans infringed the claims of its asserted patent related to liquifying natural gas.[46] Steelhead asserted ARC Resources presented a study to third parties that included a design which would be infringing if it were built.[47] Steelhead brought the action on the basis of the study, and before the liquefied natural gas (LNG) plant that it described was built. Steelhead was unsuccessful on the basis that its action was premature, since the paper plans were not themselves acts of infringement.[48]

The use of summary trial and summary judgment motions in patent litigation has not been without challenges. These procedures require the parties to carefully assess the strength of their case, the evidence available to support their position, and whether the cost-benefit analysis is worthwhile if their motion is ultimately unsuccessful. Additionally, the use of summary trial and summary judgment can limit the ability of the parties to fully present their case, as the procedures are typically more streamlined than a full trial.

One recent example of these challenges is *Kobold v. NCS Multistage Inc.*, where a summary judgment motion was brought by the defendant NCS in a patent infringement and invalidity action.[49] NCS brought a motion for summary judgment to address its defence of prior use. In NCS' submission, they argued that the fracking tools that Kobold alleged infringed its patents were already being used by NCS prior to the claim date of Kobold's patents, granting NCS immunity under section 56(1) of the *Patent Act*.[50] The Federal Court interpreted the statutory provision that grounds this defence, explained the test for whether the defence applies, and construed the patent claims at issue, but declined to make an infringement finding.[51] Instead, the Court held there was "insufficient evidence before the Court to make a determination on infringement."[52] Despite requiring expert evidence and oral argument, the summary judgment motion did not ultimately resolve either infringement or whether NCS could rely on the prior use defence that it put forward for determination on the motion.

Despite these challenges, the use of summary trial and summary judgment in patent litigation is likely to continue to increase as parties seek faster and more cost-effective ways to resolve disputes. From a systemic perspective, the use of summary trial and summary judgment can help to reduce the backlog of cases in the Federal Court, allowing the Federal Court to more efficiently manage its docket.

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43 2022 FC 998 [*Steelhead* FC], aff'd 2024 FCA 67 [*Steelhead* FCA].
44 *Steelhead* FC, *ibid* at para 31.
45 *Ibid* at para 30.
46 *Ibid* at para 84.
47 *Ibid* at para 11.
48 *Ibid* at para 87.
49 *Kobold* 2021, *supra* note 40.
50 *Ibid* at para 83; *Patent Act*, *supra* note 2, s 56(1).
51 *Kobold* 2021, *supra* note 40 at paras 111–15.
52 *Ibid* at para 130.

IV. KEY STRATEGIES FOR ENERGY COMPANIES BASED ON RECENT HISTORY

Part III of this article reviewed energy-related patent infringement cases over the last decade to understand: (1) the volume of cases filed in the Federal Court; (2) the subject matter of those energy patents; (3) how those cases were resolved (for instance, by settlement); and (4) what procedures were followed to resolve the case (namely, summary trial, summary judgment motion, or full trial). Part IV reviews the decisions rendered by the Federal Courts in these cases to understand what lessons can be learned. The decisions offer insight into the Federal Courts' reasoning and into what evidence may prove critical in a case. Our analysis results in the following five recommendations:

1. *Ownership agreements*: Protecting against patent litigation filed by employees or contractors begins when they are hired or retained. Employment and contractor agreements with clear clauses that assign ownership of any inventions created on company time or with company resources from the outset of the relationship are essential. In addition to the defensive value of ensuring that employees and contractors do not own patents funded by the company, ownership clauses ensure that the company will properly have title to its patents if it chooses to assert them against others.

2. *Detailed record-keeping*: The relevant time period for a patent case is potentially very wide. Patents expire 20 years after the application for that patent is filed in Canada. That entire period of time may contain documents critical for the action. For that reason, employees and contractors should be required to keep detailed records on matters that may relate to a patent proceeding. Notebooks and other records can be key evidence in a patent trial, particularly as it relates to determining the ownership of a patent, the efforts required to develop the invention (which can suggest non-obviousness), and prior art relating to the invention. Financial documents may be relevant through to patent expiry. Ensuring that potential inventors are keeping detailed records is an insurance policy that has proven crucial in recent Federal Court decisions.

3. *Intellectual property (IP) due diligence*: When you purchase a company, you purchase its patents (if any) and the risk that a patentee may sue. Due diligence can help determine the value of any patent portfolio and the risk that patents may be asserted by others against any newly acquired company.

4. *No easy settlements*: Sending signals that your company will not be shaken down for royalty payments on dubious patents may serve as insurance against future claims.

5. *Combine forces*: Joint defence agreements or less formal co-operation allows alleged infringers to leverage combined resources against patentees that pose a general risk.

Each of these five recommendations is expanded upon below.

A. OWNERSHIP AGREEMENTS WITH EMPLOYEES AND CONTRACTORS

The first important strategy for managing the risk of patent litigation is to ensure that patents developed because of the business are owned by the business. In many cases, a proper assignment is assumed and not contested. However, recent Federal Court decisions highlight that employment and contractor agreements are key,[53] and including protections in the agreement is the most important part of keeping rights intact.[54]

One recent decision in particular highlights how crucial these clauses can be.[55] In *Secure Energy* 2022, the purported inventor was employed by Secure Energy's predecessor company under an employment contract, as well as a non-solicitation and confidentiality agreement which included a clause that dealt with the ownership of patents (and other IP).[56] His duties included work that led to the patent at issue, and he assigned the patent to the predecessor company.[57] However, he moved to a new company and refused to sign documents necessary to obtain related patent applications.[58] Instead, he filed new patent applications, parts of which were seemingly written to avoid Secure Energy's patent.[59]

Secure Energy argued the alleged inventor's employment agreement required him to assign inventions and that his interest in the patent at issue had been explicitly assigned.[60] The Federal Court did not agree. The decision quotes the clause that Secure Energy relied on: "[A]ny intellectual property developed by the Employee *in the course of the discharge of the Employee's employment duties* is the property of the Corporation."[61] The Federal Court held: "There is no dispute that [the alleged inventor] had contractual obligations to assign his invention, *assuming*, as the contract confirms, that *it was developed in the course of the discharge of his employment duties*."[62] The decision parses this wording and determines Secure Energy did not "explain, nor establish that *working on the subject-matter of the Disputed Patents … equates to 'the developing of an invention in the course of the discharge of his employment duties'*."[63] Although other factors were considered by the Federal Court when making its decision, the specific wording of the employment agreement was important to the Federal Court.

Based on the cases reviewed and the authors' professional experience, there are some important aspects of employment and contractor agreements to highlight. As the first — and most important — step when drafting employment or contractor agreements, the right and title of any and all discoveries, inventions, patent applications, and patents that are developed, whether entirely or partially, during the period of employment or contractual engagement with the company should ideally be broadly assigned to the company. This ensures that patents generated by employees or contractors are unequivocally owned by

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53 See e.g. *Betser-Zilevitch v Petrochina Canada Ltd*, 2021 FC 85 [*Betser-Zilevitch v Petrochina* 2021], aff'd 2022 FCA 162 [*Petrochina v Betser-Zilevitch* FCA].
54 See e.g. *Secure Energy* 2022, *supra* note 41 at paras 142–43.
55 *Secure Energy* 2022, *supra* note 41.
56 *Ibid* at paras 45, 142.
57 *Ibid* at paras 44–46.
58 *Ibid* at para 57.
59 *Ibid* at para 59.
60 *Ibid* at para 114.
61 *Ibid* at para 143 [emphasis in original].
62 *Ibid* [emphasis added].
63 *Ibid* at para 144 [emphasis added].

the company, preventing future disputes over ownership and ex-employees or ex-contractors from seeking to monetize patents that rightfully belonged to the business in the first place. The assignment should ideally be comprehensive, encompassing all forms of intellectual property the employee or contractor may create (including patents), and should remain in effect for the full duration of the employee's or contractor's tenure and beyond, where legally permissible,[64] to safeguard the company's interests in innovations that may have long-lasting implications and value.

Second, the agreement may ideally include a "back-up" clause ensuring that the IP rights assignment remains valid even if another provision of the contract is found to be void or unenforceable. This "fail-safe" clause is designed to act as a buffer, preserving the company's ownership of IP and preventing the entire assignment from being invalidated due to potential legal flaws in other unrelated contractual terms. The inclusion of such a clause provides a layer of protection for companies, maintaining the continuity of IP rights assignments despite potential legal challenges to other aspects of the agreement.

Third, employees may be required to explicitly reaffirm their common law duties to the employer, one of which is the duty of loyalty.[65] This duty obliges employees to act in the best interests of their employer during their period of employment.[66] Such a provision reinforces employers' expectations that employees will not engage in activities that could harm the company's interests, including those related to the creation and handling of IP, and provides a clear contractual basis for recourse (and leverage) should those duties be breached.

In drafting these clauses for employment agreements, it is essential to ensure that any patent assignments do not inadvertently redefine the term "cause" in a manner that increases the risk of contravening minimum employment standards legislation. The definition of "cause" is a critical component in employment law, as it can determine the validity of a termination and any corresponding entitlement.[67] Overreaching patent assignments might unintentionally alter this definition, potentially leading to legal consequences and undermining the enforceability of the assignments. Therefore, careful legal drafting is required to avoid this pitfall and to maintain compliance with employment standards while securing the company's patent rights.

A few key clauses included in employment and contractor agreements and releases, some more common than others, can help ensure that is the case:

- Include a proper present assignment covering all work product created by the employee as well as a waiver of moral rights.

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64 Such provisions may be subject to provincial employment standards or common law obligations.

65 See e.g. *Enbridge Gas Distribution Inc v Marinaccio*, 2012 ONCA 650 at para 13.

66 *RBC Dominion Securities Inc v Merrill Lynch Canada Inc*, 2008 SCC 54 at para 36; *PR Construction Ltd v Colony Management Inc*, 2023 ABKB 25 at para 74.

67 *Nemeth v Hatch Ltd*, 2018 ONCA 7 at para 12.

- Include an obligation on the employee to disclose any patents that they have already invented (whether owned by themselves or by their prior employers) or that they invent while employed, even if separate from the business.

- Include a covenant not to incorporate inventions created separately from work or owned by any third parties (including prior employers) with any inventions developed with company resources or developed using confidential or proprietary information of the company without prior approval by the company.

- Include general further assurance obligations, including an obligation to assist the employer with any documentation needed to confirm assignment of patents to the employer and waiver of moral rights.

- Consider whether a standalone non-disclosure agreement is appropriate at the time the employment contract is signed.

- While not common, consider a "future litigation" clause to ensure the co-operation of key witnesses post-employment.

As with the clauses discussed above, any provision limiting liability of the employer with respect to any patent-related claims should be drafted to ensure that such a limitation does not prevent an employee from pursuing their statutory entitlements. This is to ensure compliance with minimum employment standards in provincial legislation and help ensure that the agreements withstand scrutiny if challenged.

Finally, employees and contractors will ideally have ongoing obligations to assist the company in support of their inventions even if they depart the company. This can ensure that the company is able to prove ownership, if challenged, and can provide continued access to a key inventor who can support the patent regardless of their future employment or contractor status.

Patent litigation between companies and their ex-employees and ex-contractors has occurred on a number of occasions in the last decade. Ensuring that employment and contractor agreements are properly drafted is a useful first step in preventing patent litigation and may also assist in enforcing patent rights should those employees or contractors develop inventions for the company.

B. DETAILED RECORD-KEEPING

Another best practice in avoiding patent infringement litigation brought by ex-employees and ex-contractors is ensuring current employees and contractors maintain detailed records of work that may create patent rights. Detailed record-keeping is paramount to meet the increasingly common challenges to inventorship and ownership of a patent. Procedures to ensure proper documentation, disclosure, and licencing of inventions and innovations are crucial.

If it exists, detailed documentation of the development process, including timelines, conception, experimentation, and time and expense spent on the invention can serve as

important evidence in legal proceedings concerning patent ownership and, eventually, validity.[68] Documentation can include notebooks, sketches, prototypes, test results, and correspondence. The company should train and monitor its employees and ensure contractor agreements oblige contractors to maintain proper records of their work and store them for 20 years (if possible).[69]

For example, in the recent *Secure Energy* 2022 case reviewed above, the Federal Court's decision regarding inventorship and patent ownership was based on the evidence about the work done to develop the invention claimed in the disputed patents. In this case, the Federal Court relied on weaknesses in the alleged inventor's testimony, including that he was absent from key experiments and, crucially, that his evidence was unsupported by any documentation to hold that he was not, in fact, the inventor.[70] The alleged inventor's ex-employer failed in its responding ownership claim for similar reasons. Not only could the alleged inventor not prove that he came up with the invention after he left their employ due to his lack of documentation, but his ex-employer could not establish the opposite — that he had come up with the invention while in their employ — because they also lacked evidence (that documentation could have filled in).[71] Neither party was able to meet their burden to establish ownership of the patent.

Similar record-keeping issues arose in the second Secure Energy case.[72] Secure Energy applied to "correct" the ownership and inventorship of a granted patent assigned to Canada Energy Services by the listed inventor: John Ewanek.[73] Per Secure Energy, their employee Simon Levey was the true inventor and, this time, they had Levey's laboratory notebooks to rely on.[74] The Court ultimately accepted Levey's evidence and determined that he was the sole inventor for two reasons: (1) his clear recollection of the invention process (no doubt aided by reviewing records from the time); and (2) his supporting documentation.[75]

Both of these cases speak to the importance of employees maintaining real-time, accurate, and complete records of their inventive and innovative activities and achievements. By ensuring employees adhere to meticulous record-keeping practices, employers can effectively establish and defend their rights to inventions and the resulting patents, thereby avoiding protracted legal disputes over inventorship claims and bolstering the company's patent portfolio.

C. PATENT DUE DILIGENCE

Another strategy for managing the risk of patent litigation is due diligence. Separate from due diligence at the acquisition stage, due diligence focused on managing the risks of patent litigation involves monitoring the patent landscape and the activities of competitors and potential infringers to anticipate and prevent patent disputes. Keeping abreast of the

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68 See e.g. *Secure Energy* 2022, *supra* note 41; *Secure Energy* 2023, *supra* note 42.

69 *Patent Act*, *supra* note 2, s 44. This date is selected because Canadian patents expire 20 years after the corresponding patent application was filed in Canada.

70 *Secure Energy* 2022, *supra* note 41 at paras 103–105.

71 *Ibid* at para 118.

72 *Secure Energy* 2023, *supra* note 42.

73 *Ibid* at para 4.

74 *Ibid* at para 10.

75 *Ibid* at paras 48–55.

latest developments and trends in the relevant fields of technology and innovation allows for early identification and assessment of any opportunities or threats posed by existing or emerging competitors or potential infringers. Gathered information can be used offensively or defensively.

1. MONITORING THE PATENT LANDSCAPE

Competitors may monitor patents and applications so that they can design, or redesign, their products and methods to avoid liability for patent infringement.[76] Liability may be avoided, or minimized, by ensuring that a product or method does not fall within the claims of a concerning patent. Because of this ability to design around patents, and thus insulate entire products from the scope of a patent infringement action, one option is to monitor for potentially problematic patents and proactively design around them. Since patent applications typically become public 18 months after filing, ongoing monitoring can identify potentially problematic patents long before they are granted and become a concern — patent applications do not provide the same benefits as a patent.[77] Most importantly, a patent application does not grant its owner (or anyone else) the right to sue for patent infringement. Specific businesses, inventors, or technology can be targeted by patent applications given the large volume of applications filed each year (about 40,000 per year).[78]

Due diligence can include:

- determining the ownership, inventorship, and licencing status of your patent assets and obligations;
- identifying and mitigating any validity or unenforceability risks in your patents; and
- assessing the strength, scope, and validity of third party patents and applications.

Awareness of existing patents and pending applications can help companies navigate around potential infringement allegations, thereby reducing the risk of costly legal disputes. It can also guide the modification of products or processes to avoid even the appearance of infringing on others' patent property rights, uncover opportunities for licencing agreements or collaborations with other patent holders, and identify potential conflicts early. If litigation is unavoidable, understanding the landscape can aid in preparing a more robust defence or prosecution strategy.

As well as being useful in avoiding prospective litigation, keeping an eye on patent filings has the added advantages of providing insight as to where research and development and marketing efforts are being focused within the industry, and as to shifts in competitors' strategic directions based on what technologies they are prioritizing for patent protection. Businesses can make more informed decisions regarding their own research and

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[76] *Steelhead* FCA, *supra* note 43 at para 83.
[77] *Patent Act*, *supra* note 2, s 54.
[78] Canadian Intellectual Property Office, "Patent Statistics: 2022 to 2023," online: [perma.cc/LG67-22YH].

development investments, marketing strategies, and product development. Monitoring allows them to identify gaps in the market or areas where they can differentiate their products or services and reveals emerging technologies and areas of rapid innovation. These types of strategies are widespread in the pharmaceutical industry and may be a promising opportunity for companies in the energy space.

2. DUE DILIGENCE AT THE ACQUISITION STAGE

When conducting patent due diligence in an acquisition, different levels of diligence may be employed depending on the importance of the patent assets and the potential risk of third party infringement.

A base-level diligence will involve chain of title diligence to verify ownership (that is, whether the company obtained assignments from inventors or applicable third parties), confirmation of the status of the patent applications and patents, and an investigation as to whether the patent assets are encumbered by security interests. Part of the diligence process will also include investigation of whether the seller has been involved in any patent litigation.

Where patent assets have greater importance, the next level of diligence would involve identification of any deficiencies in the patent assets by a more detailed analysis of each of the patent applications or patents to identify missed maintenance fees, missed priority dates, and so on.

In situations where the patent assets constitute the majority of the value of a transaction, deeper analysis including full file wrapper reviews and independent review of prior art may be required. In certain circumstances, independent patentability or "freedom-to-operate" assessments may be conducted to assess the value of the patent assets or the risk of infringement of third party patent rights.

Separate and apart from the patent due diligence, the transaction documents need to have appropriate representations, warranties, and indemnification provisions to adequately protect the acquirer (and to allow the acquirer to obtain correct information about the patent assets).

3. SHAPING THE PATENT LANDSCAPE: OFFENSIVE POSITIONING

Companies can strategically utilize their patents to fully benefit from the monopoly granted under the *Patent Act* by strategically filing patents to ensure they protect their technology and can assert their patent rights against competitors where necessary. There are two main offensive options open to companies that are assigned patents that cover their innovations:[79]

- seek a competitive advantage (injunctive relief); and

[79] *Nova Chemicals Corp v Dow Chemical Co*, 2022 SCC 43 at para 100 (dissent).

- seek a commercial advantage (damages or accounting of profits).

Offensive positioning is particularly important in rapidly developing areas where many competitors are competing based on incremental innovations. Businesses that pre-emptively file patents to create strong portfolios can leverage those protections if they detect actual or potential infringement.

4. LEVERAGING THE PATENT LANDSCAPE: DEFENSIVE POSITIONING

Conversely, defensive positioning is when a company employs strategies to prevent the enforcement of a competitor's patent rights against them, to limit a competitor's opportunities to obtain patents, or to cross-licence patents to both benefit from shared technology and deter patent infringement actions. Defensive use of patent rights is also useful in at least three ways:

- to deter patent infringement actions;
- as leverage in business arrangements; and
- to create "prior art." That is, public disclosures of the technology to demonstrate that an invention was not new at the relevant time, and potentially to be used to invalidate other patents.[80]

Defensive positioning is particularly important in areas where non-practicing entities ("patent trolls") are known to be active. Demand letters, preliminary injunctions, or ultimately, initiating litigation are all available options but only if the patents are filed before the competitors or trolls occupy the same space.

Having patents clearly defining what technology your company owns can also be useful in deterring claims, whether or not you intend to ever assert those patents against an infringer. For example, in the MEG Energy case,[81] MEG Energy filed patents covering their proprietary "enhanced modified steam and gas push" (eMSAGP) and "enhanced modified vapour extraction" (eMVAPEX) methods before the plaintiff approached MEG Energy.[82] MEG Energy was able to rely on its patents to argue that it was practicing its own patented method described in patent applications filed before its opponent's patent.[83] Filing patent applications before a demand letter is received may be powerful evidence in countering an allegation that business activities have copied a patent.

The *Patent Act* was recently amended in a way that facilitates a similar result. This recent amendment created a "prior use" defence to infringement: if someone committed or planned to commit what would be infringing acts prior to the patent's claim date, they cannot be found to infringe the patent. Specifically, section 56 provides that it is not an infringement to carry out "the same act" after the claim date of the patent that was being

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80 *Patent Act*, *supra* note 2, s 34.1(1); *Mylan Pharmaceuticals ULC v Eli Lilly Canada Inc*, 2016 FCA 119 at para 23.

81 *Swist v MEG Energy Corp*, 2021 FC 10 [*MEG Energy* FC], aff'd 2022 FCA 118 [*MEG Energy* FCA].

82 *MEG Energy* FC, *ibid* at para 22.

83 *Ibid* at paras 8–10, 115–17, 127, 137.

carried out prior to the claim date of the patent.[84] It reduces the incentive to pursue patents to create "prior art" because another defence to infringement claims exists. However, the courts have not yet defined what it means to perform the "same act." Patent applications may still serve as evidence about what a company is doing and when it was doing it.

D. SEND SIGNALS THAT AN EASY SETTLEMENT IS NOT FORTHCOMING

When companies pay patentees to avoid litigation, they create the potential incentive for others to target that company for quick payoffs. Confidentiality agreements provide some protection, but not complete protection, against the chatter that a company would rather pay a patentee significant money than fight a lawsuit. Refusing to settle and taking plaintiffs to trial can send the signal to others that an easy settlement is not forthcoming. This can help the company to deter or discourage frivolous or opportunistic patent lawsuits, especially from patent trolls or non-practicing entities who may seek to extract quick and easy settlements from the company by threatening or filing claims.

As the Betser-Zilevitch trilogy of patent actions shows, a patentee may simultaneously file actions against multiple businesses it believes may infringe.[85] Within one year, Betser-Zilevitch filed cases asserting the same patent against CNRL and PetroChina, as well as an appeal from a 2018 Nexen Inc. settlement decision about that patent.[86]

Sending signals that an easy settlement is not forthcoming can include:

- publicly announcing the company's commitment to defend its patents and to challenge any unfounded or invalid claims;
- demonstrating the company's financial and legal resources and readiness to engage in prolonged and costly litigation, including by retaining external legal counsel to manage the response to a demand letter and signal the early involvement of experienced IP counsel before the claim is filed;
- avoiding making any concessions or settling with other players in the industry;
- seeking sanctions, costs, or damages from the patent troll or non-practicing entity for their vexatious or frivolous litigation conduct;
- counter-suing the patent troll or non-practicing entity for patent invalidity or abuse of process; and
- where settlements are advisable, ensuring broad confidentiality provisions and considering a public statement denying liability.

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84 *Patent Act*, *supra* note 2.

85 *Betser-Zilevitch v Canadian* 2018, *supra* note 20; *Betser-Zilevitch v Petrochina* 2018, *supra* note 20; *Maoz Betser-Zilevitch v Canadian Natural Resources Ltd* (8 June 2021), Toronto T-919-21 (FCTD) [*Maoz Betser-Zilevitch v CNRL* 2021]; *Betser-Zilevitch v Nexen* FCA, *supra* note 20.

86 *Betser-Zilevitch v Nexen* FC, *supra* note 20.

Sending these signals against even one would-be patent assertion entity can pay dividends down the road. Patentee assertion entities can be more selective in who they sue particularly where they are relying on more recent patents. They can be incentivized to pursue the company whose defence they perceive to be the weakest first, to establish their patent is valid and how it can be infringed, then leverage that decision into settlements with other companies.[87]

E. COMBINING FORCES ACROSS COMPANIES

The final strategy to manage the risk of patent litigation is entering into joint defence agreements or common interest agreements with other similarly situated companies. This strategy builds on the need to respond to patent trolls in a coordinated manner and avoids allowing them to tactically divide companies which actually share interests in invalidating the asserted patents or at least in dismissing the infringement claims.

This best practice arises from studying the cases brought by Betser-Zilevitch against CNRL, PetroChina, and Nexen Inc. and CNOOC's Long Lake partnership. Although the decisions do not discuss co-operation between the parties, PetroChina was the only company that took the case to trial and it relied on CNRL operations and related witnesses in doing so.[88] The other parties appeared to resolve their disputes earlier in their life cycle.

As the above Betser-Zilevitch cases illustrate, patent trolls often target multiple companies in the same industry alleging that their products or services infringe their patents. In some cases, the defendant companies may have a common interest or a shared defence against the patent trolls, such as by challenging the validity of the patents or asserting prior use or licence rights. By entering into a joint defence agreement or a common interest agreement, these companies can agree to co-operate and share information, resources and strategies to defend against the patent trolls, while preserving the confidentiality and privilege of their communications. Key benefits include:

- allowing co-defendants to benefit from shared information and costs; and
- potentially preserving privilege over communications between co-defendants during discovery.

Joint defence agreements help but are not strictly necessary to benefit from other parties' insights about a patent being asserted against both companies. Public pleadings can reveal which arguments each defendant is making about the patent's validity and, most importantly, are required to list every document that is alleged to publicly disclose the invention before the patent application was ever filed.[89] Pleadings can be obtained from the court usually very quickly and counsel can assist with monitoring court dockets for any other useful documents which may be filed in the proceeding. Similarly, one party may wish to rely on its competitor's operations as having publicly disclosed the invention before the patent was even filed. PetroChina, for example, relied on Cenovus and CNRL well pads in attempting to invalidate Betser-Zilevitch's patent and hired a CNRL ex-employee to

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87 See e.g. *ibid*.
88 *Betser-Zilevitch v Petrochina* 2021, *supra* note 53.
89 *Throttle Control Tech Inc v Precision Drilling Corp*, 2010 FC 1085 at para 13.

describe it.[90] Almost inevitably, co-operating in a more formal way with other companies facing the same allegations will be the more efficient approach.

Joint defence agreements can help participants reduce the costs and burdens of litigation, avoid duplication or inconsistency of arguments or evidence between the participants, increase participants' bargaining power and leverage, and present a united and consistent front against patent trolls. At the end of the day, these scenarios bear out that often the enemy of your enemy can be your most useful friend.

V. CONCLUSION

This analysis of the last ten years of patent infringement actions identifies the risks (and rewards) in patent litigation and identifies strategies that may assist in responding to these risks (and rewards). Practical strategies that your company can implement today to minimize the risk of litigation include establishing clear ownership and assignment agreements with employees and contractors, maintaining detailed records, conducting thorough due diligence, and reinforcing the company's position should disputes arise. This analysis also considered strategic implications of signalling a firm stance against easy settlements to deter frivolous or opportunistic litigation, and, lastly, the potential benefits of joint defence agreements, which can offer a collaborative and cost-effective approach to defending against patent infringement claims. Each of these strategies, whether employed individually or in concert, can mitigate the risks associated with patent litigation, safeguard a company's innovations, and ensure its continued success in the competitive market.

As the landscape of patent litigation continues to evolve, it is clear that companies operating in Canada must remain vigilant, adaptable, and informed. By understanding historical trends and proactively employing comprehensive risk management strategies, businesses can not only navigate the complexities of patent litigation but also harness their patents to fuel growth and innovation. Thus, as we look toward the future, it is the companies that adeptly manage their patent litigation risks that will likely emerge as leaders in their respective industries, setting the standard for others to follow.

[90] *Ibid* at paras 27, 40.

APPENDIX A:
ENERGY SECTOR PATENTS FEDERAL COURT PROCEEDINGS SUMMARY (1 JANUARY 2014 – 21 MAY 2024)

Style of Cause	Patent Type and Parties Involved	Outcome and Proceeding Length
2014		
Newsco Directional Support Services Inc. v. QCD Technology Inc.[91]	**Patent Category: Downhole** Intelligent Efficient Servo-Actuator with Sensor for a Downhole Pulser[92] Intelligent Efficient Servo-Actuator with Dynamic Seal for a Downhole Pulser[93] Intelligent Efficient Servo-Actuator for a Downhole Pulser with Novel Brake and Lock[94]	**Outcome:** Discontinued patent infringement action
	Parties: Drilling and measurement while drilling (MWD) service company MWD technology development company	**Length of Proceeding**: Statement of claim filed: 28 April 2014 Discontinuance filed: 25 February 2015
Swist v. Meg Energy Corp.[95]	**Patent Category: Oil** Modified Steam and Gas Push with Additional Horizontal Production Wells to Enhance Heavy Oil/Bitumen Recovery Process[96] Pressure Assisted Oil Recovery[97]	**Outcome:** Patent infringement action — patent declared invalid and no finding of infringement **Decisions and appeals:** Motion to submit expert reports in reply[98] Infringement action[99]

91 (27 April 2014), Calgary T-1036-14 (FCTD).
92 *Supra* note 27.
93 Can Patent No 2603117 (6 April 2004).
94 Can Patent No 2603138 (6 April 2004).
95 (28 April 2014), Ottawa T-1069-14 (FCTD).
96 Can Patent No 2776704 (14 May 2012).
97 Can Patent No 2800746, PCT Patent No 2800746 (15 May 2012).
98 *Swist v MEG Energy Corp*, 2020 FC 759.
99 *MEG Energy* FC, *supra* note 81.

		Additional reasons to the infringement action on costs[100] Affirming the infringement action decision[101]
	Parties: Holding company for oil sands patents Oil producer in Alberta	**Length of Proceeding**: Statement of claim filed: 29 April 2014 Reasons confidential judgment and reasons filed: 4 January 2021 Dismissal of application for leave to file appeal to the Supreme Court of Canada: 16 March 2023
Bonavista Energy Corporation v. Specialized Desanders Inc.[102]	**Patent Category: Wellhead** Method and Apparatus for Desanding Wellhead Production[103] System, Method and Apparatus for Desanding Wellhead Production[104] Desanding Apparatus and System[105]	**Outcome:** Patent infringement action — patent declared valid on consent
	Parties: Oil producer Desander company	**Length of Proceeding**: Statement of claim filed: 14 August 2014 Consent judgment: 18 August 2016
Frac Shack Inc. v. AFD Petroleum Ltd.[106]	**Patent Category: Fracturing** Fuel Delivery System and Method[107]	**Outcome:** Patent infringement action **Decisions and appeals:**

100 *Swist v MEG Energy Corp*, 2021 FC 198.
101 *MEG Energy* FCA, *supra* note 81.
102 (13 August 2014), Calgary T-1758-14 (FCTD).
103 Can Patent No 2407554 (10 October 2002).
104 Can Patent No 2535215 (10 October 2002).
105 Can Patent No 2433741 (27 June 2003).
106 (19 October 2014), Edmonton T-2149-14 (FCTD).
107 Can Patent No 2693567 (16 February 2010).

		Decision on validity and infringement[108] Additional reasons to above decision on validity and infringement, specifically regarding remedies[109] Reversing both decisions above in part[110] Redetermination on a number of issues returned to the FC ordered by FCA (appeal of this decision discontinued)[111]
	Parties: Fuel delivery system company Fuel, lubricant, and bulk tank supplier	**Length of Proceeding**: Statement of claim filed: 20 October 2014 Appeal decision: 20 July 2018
2015		
Resource Completion Systems Inc. v. Canuck Completions Ltd.[112]	**Patent Category: Fracturing** Multi-Stage Well Isolation[113]	**Outcome:** Discontinued patent infringement action
	Parties: Completion, well construction, multi-stage stimulation, and well servicing products and systems company Oil and gas field equipment manufacturing company	**Length of Proceeding**: Statement of claim filed: 14 January 2015 Discontinuance filed: 3 June 2016 Notice of discontinuance of counterclaim: 7 June 2016

[108] *Frac Shack Inc v AFD Petroleum Ltd*, 2017 FC 104.
[109] *Frac Shack Inc v AFD Petroleum Ltd*, 2017 FC 274.
[110] *AFD Petroleum Ltd v Frac Shack Inc*, 2018 FCA 140.
[111] *Frac Shack Inc v AFD Petroleum Ltd*, 2018 FC 1047.
[112] (13 January 2015), Calgary T-52-15 (FCTD).
[113] Can Patent No 2837997 (20 December 2013).

Alberta Innovates-Technology Futures v. Connacher Oil and Gas Limited[114]	**Patent Category: Fracturing** Hydrocarbon Production Process with Decreasing Steam and/or Water/Solvent Ratio[115] Process for Enhancing Hydrocarbon Mobility Using a Steam Additive[116]	**Outcome:** Patent infringement action — stayed
	Parties: Company that provides non-commercial research offering industry funding, capacity building initiatives, clinexus, and academic programs Exploration, development, and production company	**Length of Proceeding**: Ongoing Statement of claim filed: 16 February 2015
Zero Spill Systems (Int'l) Inc. v. Swift Environmental Ltd.[117]	**Patent Category: Oil** Method and Apparatus for Enclosing an Oil Drilling Rig[118]	**Outcome:** Dismissed patent infringement action
	Parties: Oil drain plug manufacturer Pumping equipment and services company	**Length of Proceeding**: Statement of claim filed: 1 April 2015 Final decision: 7 July 2015
Specialized Desanders Inc. v. Westfab Industries Inc.[119]	**Patent Category: Wellhead** Method and Apparatus for Desanding Wellhead Production[120]	**Outcome:** Discontinued patent infringement action
	Parties: De-sander company Steel fabricator company	**Length of Proceeding**: Statement of claim filed: 9 April 2015 Discontinuance: 2 September 2016

[114] *Supra* note 35.
[115] Can Patent No 2391721 (26 June 2002).
[116] Can Patent No 2323029 (10 October 2000).
[117] (31 March 2015), Toronto T-489-15 (FCTD).
[118] Can Patent No 2360234 (26 October 2001).
[119] *Supra* note 16.
[120] *Supra* note 103.

Mixer Technologies Inc. v. Seller's Oil Field Service Ltd.[121]	**Patent Category: Oil** Tank Cleaning Apparatus[122]	**Outcome:** Patent infringement action and counterclaim dismissed on consent
	Parties: Inline jet mixer manufacturer Waste management services company	**Length of Proceeding**: Statement of claim filed: 13 April 2015 Dismissal: 18 May 2017
Specialized Desanders Inc. v. Enercorp Sand Solutions Inc.[123]	**Patent Category: Wellhead** Method and Apparatus for Desanding Wellhead Production[124]	**Outcome:** Ongoing patent infringement action **Decisions and appeals:** Appeal of pleadings amendment motions[125] Appeal of the Federal Court decision on the pleadings amendment motions[126]
	Parties: Desander company Provider of specialized equipment for the oil and natural gas sector	**Length of Proceeding**: Statement of Claim: 16 April 2015

121 (12 April 2015), Toronto T-568-15 (FCTD).
122 Can Patent No 2298920 (17 February 2000).
123 *Supra* note 16.
124 *Supra* note 103.
125 *Specialized Desanders Inc v Enercorp Sand Solutions Inc*, 2018 FC 689.
126 *Enercorp Sand Solutions Inc v Specialized Desanders Inc*, 2018 FCA 215.

Specialized Desanders Inc. v. Venturion Oil Ltd.[127]	**Patent Category: Wellhead** Method and Apparatus for Desanding Wellhead Production[128]	**Outcome:** Discontinued patent infringement action
	Parties: Desander company Oil and gas company	**Length of Proceeding**: Statement of claim filed: 5 May 2015 Discontinuance: 23 July 2015
Imperial Oil Resources Ltd. v. AGC[129]	**Patent Category: Oil** Integrated Processes for Recovery of Hydrocarbon from Oil Sands[130]	**Outcome:** *Patent Act*, section 52 application **Decision:** Decision on uncontested application to vary inventorship and ownership[131]
	Parties: Oil and gas company Attorney General of Canada	**Length of Proceeding**: Notice of application: 21 April 2015 Decision: 28 October 2015
Western Oilfield Equipment Rentals Ltd. v. M-I LLC[132]	**Patent Category: Oil** Shaker and Degasser Combination[133] Optimization of Vacuum Systems and Methods for Drying Drill Cuttings[134] System and Method for Drying Drill Cuttings[135]	**Outcome:** Patent infringement action **Decisions and appeals:** Decision on infringement[136] Motion for an interim stay[137]

127 *Supra* note 16.
128 *Supra* note 103.
129 (20 April 2015), Ottawa T-623-15 (FCTD).
130 Can Patent No 2740481 (17 May 2011).
131 *Imperial Oil Resources Ltd v Canada (AG)*, 2015 FC 1218.
132 (23 June 2015), Calgary T-1056-15 (FCTD).
133 Can Patent No 2664173, PCT Patent No PCT/US2007/080105 (1 October 2007).
134 Can Patent No 2712774, PCT Patent No 2712774 (31 March 2010).
135 Can Patent No 2741955, PCT Patent No 2741955 (29 October 2009).
136 *Western Oilfield Equipment Rentals Ltd v M-I LLC*, 2019 FC 1606.
137 *Western Oilfield Equipment Rentals Ltd v M-I LLC*, 2020 FCA 3.

		Appeal of finding of infringement[138]
	Parties: Oilfield machinery company Drilling fluid solutions company	**Length of Proceeding**: Statement of claim filed: 24 June 2015 Final appeal judgment: 17 November 2021
Rapid Completions LLC v. Baker Hughes Canada Company[139]	**Patent Category: Wellbore** Method and Apparatus for Wellbore Fluid Treatment[140]	**Outcome:** Patent infringement action **Decisions and appeals:** Decision on infringement[141] Appeal of infringement decision[142] Costs[143] Challenge to elevated costs award[144]
	Parties: Equipment supplier Energy company	**Length of Proceeding**: Statement of claim filed: 17 September 2015 Final decision: 23 September 2021

138 *Western Oilfield Equipment Rentals Ltd v M-I LLC*, 2021 FCA 24.

139 *Supra* note 17.

140 Can Patent No 2412072 (19 November 2002).

141 *Packers Plus Energy Services Inc v Essential Energy Services Ltd*, 2017 FC 1111 [*Packers Plus* FC 2017]. This case was a consolidation of various proceedings involving the plaintiffs and defendants and their various companies. In addition to the *Rapid Completions* action, the following proceedings subsequently referenced in this table were consolidated into this action: *Packers Plus v Weatherford*, *supra* note 17; *Packers Plus v Resource Well*, *supra* note 17.

142 *Packers Plus Energy Services Inc v Essential Energy Services Ltd*, 2019 FCA 96 [*Packers Plus* FCA 2019], leave to appeal to SCC refused, 38694 (19 December 2019).

143 *Packers Plus Energy Services Inc v Essential Energy Services Ltd*, 2020 FC 68 [*Packers Plus* FC 2020].

144 *Packers Plus Energy Services Inc v Essential Energy Services Ltd*, 2021 FC 986 [*Packers Plus* FC 2021].

Packers Plus Energy Services Inc. v. Weatherford International PLC[145]	**Patent Category: Wellbore** Method and Apparatus for Wellbore Fluid Treatment[146]	**Outcome:** Patent infringement action **Decisions and appeals:** Decision on infringement[147] Appeal of infringement decision[148] Costs[149] Challenge to elevated costs award[150]
	Parties: Oil and gas service company Oilfield services company	**Length of Proceeding**: Statement of claim filed: 14 October 2015 Final decision: 23 September 2021
Packers Plus Energy Services Inc. v. Resource Well Completion Technologies Inc.[151]	**Patent Category: Wellbore** Method and Apparatus for Wellbore Fluid Treatment[152]	**Outcome:** Patent infringement action **Decisions and appeals:** Decision on infringement[153] Appeal of infringement decision[154] Costs[155]

145 *Supra* note 17.
146 *Supra* note 140.
147 *Packers Plus* FC 2017, *supra* note 141 and accompanying text.
148 *Packers Plus* FCA 2019, *supra* note 142.
149 *Packers Plus* FC 2020, *supra* note 143.
150 *Packers Plus* FC 2021, *supra* note 144.
151 *Supra* note 17.
152 *Supra* note 140.
153 *Packers Plus* FC 2017, *supra* note 141 and accompanying text.
154 *Packers Plus* FCA 2019, *supra* note 142.
155 *Packers Plus* FC 2020, *supra* note 143.

	Parties: Oil and gas service company Well products and systems company.	**Length of Proceeding**: Statement of claim filed: 11 December 2015 Final decision: 17 January 2020
Douglas W Schepp v. GE Oil and Gas Pressure Control Canada Inc.[156]	**Patent Category: Wellhead** Split Casing Wellhead Seal[157]	**Outcome:** Discontinued patent infringement action
	Parties: Founder of energy company Gas pressure regulator company	**Length of Proceeding**: Statement of claim filed: 14 October 2015 Discontinuance: 18 January 2017
NCS Multistage Inc. v. Kobold Services Inc.[158]	**Patent Category: Wellbore** Tools and Methods for Use in Completion of a Wellbore[159] Downhole Tool Assembly with Debris Relief, and Method for Using Same[160]	**Outcome:** Dismissed patent infringement action
	Parties: Downhole tool systems technology companies	**Length of Proceeding**: Statement of claim filed: 18 November 2015 Dismissal: 14 January 2016

156 (13 October 2015), Edmonton T-1729-15 (FCTD).
157 Can Patent No 2645515 (1 December 2008).
158 *Supra* note 18.
159 Can Patent No 2738907 (4 May 2011) [Can Patent No 2738907].
160 Can Patent No 2693676 (18 February 2010) [Can Patent No 2693676].

2016		
Fluid Energy Group Ltd. v. Mud Master Drilling Fluid Services Ltd.[161]	**Patent Category: Wellbore** Using Synthetic Acid Compositions as Alternatives to Conventional Acids in the Oil and Gas Industry[162]	**Outcome:** Discontinued patent infringement action
	Parties: Developer and manufacturer of chemical systems Drilling fluids company	**Length of Proceeding**: Statement of claim filed: 3 June 2016 Discontinuance: 30 August 2016
Delphi Energy Corp. v. 0645148 B.C. Ltd.[163]	**Patent Category: Fracturing** Screw Press[164] Transportable Pumping Unit and Method of Fracturing Formations[165] Multistage Separator Vessel for Capturing Propane[166] Mobile Storage Tank with Fluid Containment[167] Method and Apparatus for Disposing of Water at Gas Wells[168] Oil-Fired Frac Water Heater[169] Mobile, Modular, Electrically Powered System for Use in Fracturing Underground Formations[170] Method and Apparatus for Stimulating a Subterranean Formation Using Liquefied Natural Gas[171]	**Outcome:** Discontinued patent infringement action

161 (2 June 2016), Calgary T-885-16 (FCTD).
162 *Supra* note 29.
163 (22 August 2016), Ottawa T-1411-16 (FCTD).
164 Can Patent No 263332.
165 Can Patent No 2546315 (11 May 2006).
166 Can Patent No 2762994 (20 December 2011).
167 Can Patent No 2762244 (15 December 2011).
168 Can Patent No 2079536 (30 September 1992).
169 Can Patent No 2671043 (2 July 2009).
170 Can Patent No 2773843 (10 April 2012).
171 Can Patent No 2499699 (7 March 2005).

	Water Heating Apparatus for Continuous Heated Water Flow and Method for Use in Hydraulic Fracturing[172] Method and Apparatus to Treat a Well with High Energy Density Fluid[173] Gas Box Heater[174] Multi-Stage Separator for Propane Recapture Generator Waste[175] Apparatus, System, and Method for In-Situ Extraction of Oil from Oil Shale[176] Steam Generation Apparatus and Method[177] Wellsite Surface Equipment Systems[178] Mobile Gas Separation Unit[179] Heated Separation System for Well Fluids[180]	
	Parties: Liquids-rich natural gas producer Fuel solutions company	**Length of Proceeding**: Statement of claim filed: 23 August 2016 Discontinuance: 22 February 2017

172 Can Patent No 2754347, PCT Patent No PCT/US2010/045791 (17 August 2010).
173 Can Patent No 2721488, PCT Patent No PCT/US2009/040683 (15 April 2009).
174 Can Patent No 2723639 (23 November 2010).
175 Can Patent No 2728035 (20 December 2010).
176 Can Patent No 2622539, PCT Patent No PCT/US2006/036026 (14 September 2006).
177 Can Patent No 2468012 (21 May 2004).
178 Can Patent No 2679812 (22 September 2009).
179 Can Patent No 2528304 (28 November 2005).
180 Can Patent No 2570719 (8 December 2006).

AFD Petroleum Ltd. v. Frac Shack Inc.[181]	**Patent Category: Fracturing** Fuel Delivery System and Method[182]	**Outcome:** Discontinued patent infringement action
	Parties: Fuel, lubricant, and bulk tank supplier Fuel delivery system company	**Length of Proceeding**: Statement of claim filed: 21 September 2016 Discontinuance: 16 October 2020
Aux Sable Liquid Products LP v. JL Energy Transportation Inc.[183]	**Patent Category: Pipeline** Pipeline Transmission Method[184] Mixtures for Pipeline Transport of Gases[185]	**Outcome:** Patent infringement action **Decisions:** Decision on infringement[186] Decision on costs[187]
	Parties: Oil and natural gas company Technology company	**Length of Proceeding**: Statement of claim filed: 27 September 2016 Final decision: 6 June 2019

181 (20 September 2016), Toronto T-1580-16 (FCTD).
182 *Supra* note 107.
183 (26 September 2016), Calgary T-1612-16 (FCTD).
184 Can Patent No 2205670 (16 May 1997).
185 Can Patent No 2235140, PCT Patent No 2235140 (18 November 1996).
186 *Aux Sable*, *supra* note 22.
187 *Aux Sable Liquid Products LP v JL Energy Transportation Inc*, 2019 FC 788.

Fluid Energy Group Ltd. v. Mud Master Drilling Fluid Services Ltd.[188]	**Patent Category: Wellbore** Using Synthetic Acid Compositions as Alternatives to Conventional Acids in the Oil and Gas Industry[189]	**Outcome:** Patent infringement action **Decisions:** Appeal of confidentiality designation[190] Appeal of above[191]
	Parties: Developer and manufacturer of chemical systems Drilling fluids company	**Length of Proceeding**: Statement of claim filed: 29 September 2016 Discontinuance: 18 May 2022
Mostar Directional Technologies Inc. v. Dril-Tek Corp.[192]	**Patent Category: Downhole** System and Method for Downhole Telemetry[193] System and Method for Downhole Telemetry[194] System and Method for Downhole Telemetry[195] Gap-Sub Assembly for a Downhole Telemetry System[196]	**Outcome:** Dismissed patent infringement action **Decisions:** Motion to strike and dismiss action granted[197]
	Parties: Well drilling contractor and upstream oil and gas operations company	**Length of Proceeding**: Statement of Claim: 1 December 2016 Dismissal: 12 June 2017

188 *Supra* note 34.
189 *Supra* note 29.
190 *Fluid Energy Group Ltd v Mud Master Drilling Fluid Services Ltd*, 2020 FC 229.
191 *Fluid Energy Group Ltd v Mud Master Drilling Fluid Services Ltd*, 2020 FC 480.
192 (30 November 2016), Toronto T-2060-16 (FCTD).
193 Can Patent No 2544457 (21 April 2006) [Can Patent No 2544457].
194 Can Patent No 2666695 (13 April 2007) [Can Patent No 2666695].
195 Can Patent No 2584671 (13 April 2007) [Can Patent No 2584671].
196 Can Patent No 2634236 (13 April 2007).
197 *Mostar Directional Technologies Inc v Drill-Tek Corporation*, 2017 FC 575.

2017		
Preferred Sands of Canada, ULC v. Trican Well Service Ltd.[198]	**Patent Category: Wellbore** Generation of User Equipment Identification Specific Scrambling Code for the High Speed Shared Control Channel[199] Glucans and Glucansucrases Derived from Lactic Acid Bacteria[200] Control of Particulate Entrainment by Fluids[201] Silane Coated Silicate Minerals and Method for Preparing Same[202] Oil Well Consolidation Treating Process and Additive[203] Lightweight Particulate Materials and Uses Therefor[204] Asbestos Composition Having Organo-Silane Coating[205]	**Outcome:** Dismissed patent conflict
	Parties: Sand producer Technology company Oilfield services company	**Length of Proceeding**: Statement of claim filed: 4 May 2017 Dismissal: 5 January 2018

198 (3 May 2017), Calgary T-668-17 (FCTD).
199 Can Patent No 2484264, PCT Patent No PCT/US2003/014205 (5 May 2003).
200 Can Patent No 2454563, PCT Patent No PCT/NL2002/000495 (22 July 2002).
201 Can Patent No 2684966, PCT Patent No 2684966 (25 April 2008).
202 Can Patent No 1071076.
203 Can Patent No 1087833 (16 May 1977).
204 Can Patent No 2423031 (21 March 2003).
205 Can Patent No 1104804 (28 December 1978).

Sand Separators LLC v. Rheaume Engineering Inc.[206]	**Patent Category: Gas** Spherical Sand Separators[207]	**Outcome:** Discontinued patent infringement action
	Parties: Sand management technology company Engineering firm	**Length of Proceeding**: Statement of claim filed: 5 May 2017 Discontinuance: 13 April 2018
Mostar Directional Technologies Inc. v. Drill-Tek Corporation[208]	**Patent Category: Downhole** System and Method for Downhole Telemetry[209] System and Method for Downhole Telemetry[210] System and Method for Downhole Telemetry[211]	**Outcome:** Ongoing patent infringement action; stayed until 31 July 2024
	Parties: Well drilling contractor Upstream oil and gas operations company	**Length of Proceeding**: Statement of claim filed: 13 July 2017 Stay Order Extension: 6 May 2024

206 (4 May 2017), Ottawa T-673-17 (FCTD).
207 Can Patent No 2706359 (3 June 2010).
208 (12 July 2017), Toronto T-1031-17 (FCTD).
209 Can Patent No 2544457, *supra* note 193.
210 Can Patent No 2666695, *supra* note 194.
211 Can Patent No 2584671, *supra* note 195.

2018		
Mud Engineering Inc. v. Secure Energy Services Inc.[212]	**Patent Category: Wellbore and Oil** Drilling Fluid and Methods of Use Thereof[213] Bitumen Anti-Accretion Additive[214] Process for Disruption of Filter Cakes[215] Methods Of Consolidating Formations or Forming Chemical Casing or Both While Drilling[216] A System and Method for Creating, Executing and Maintaining Cross-Enterprise Processes[217] Mixed Surfactant and Hydrophobically-Modified Polymer Compositions[218] Silicate-Containing Additives for Well Bore Treatments and Associated Methods[219] Drilling Fluid Composition Comprising Hydrophobically Associating Polymers and Methods of Use Thereof[220] Surfactant-Polymer Composition for Substantially Solid-Free Water Based Drilling, Drill-In, and Completion Fluids[221] Emulsified Polymer Drilling Fluid and Methods of Preparation and Use Thereof[222] Quaternary Nitrogen Containing Amphoteric Water Soluble Polymers and Their Use in Drilling Fluids[223]	**Outcome:** Patent infringement action **Decisions and appeals:** Motion to determine jurisdiction to decide ownership of patents[233] Motion for summary trial to decide ownership of patents[234] Decision on costs[235]

212 *Supra* note 19.
213 Can Patent No 2508339, PCT Patent No 2508339 (2 December 2003).
214 Can Patent No 2704101 (13 May 2010).
215 Can Patent No 2560939, PCT Patent No PCT/GB2005/001193 (24 March 2005).
216 Can Patent No 2487953, PCT Patent No PCT/GB2003/002286 (27 May 2003).
217 Can Patent No 2275190, PCT Patent No PCT/US1998/001403 (23 January 1998).
218 Can Patent No 2235888 (24 April 1998).
219 Can Patent No 2594208, PCT Patent No PCT/GB2005/004730 (12 December 2005).
220 Can Patent No 2635300 (18 June 2008).
221 Can Patent No 2470241, PCT Patent No PCT/US2002/039639 (12 December 2002).
222 Can Patent No 2451585 (1 December 2003).
223 Can Patent No 2268734 (7 April 1999).
233 *Mud Engineering Inc v Secure Energy Services Inc*, 2020 FC 1049.
234 *Secure Energy* 2022, *supra* note 41, aff'd 2024 FCA 131.
235 *Mud Engineering Inc v Secure Energy (Drilling Services) Inc*, 2023 FC 770.

	Well Bore Servicing Fluids Comprising Thermally Activated Viscosification Compounds and Methods of Using the Same[224] Silicate Drilling Fluid Composition Containing Lubricating Agents and Uses Thereof[225] Water Based Wellbore Fluids[226] Wellbore Fluid[227] Water-Based Polymer Drilling Fluid and Method of Use[228] Oil and Gas Production Optimization Using Dynamic Surface Tension Reducers[229] Compositions and Methods to Control Fluid Loss in Surfactant-Based Wellbore Service Fluids[230] Drilling Fluid Containing Microspheres and Use Thereof[231] Thickener for Aqueous Systems[232]	
	Parties: Drilling fluid company Environmental and energy infrastructure company	**Length of Proceeding**: Statement of claim filed: 16 January 2018 Appeal heard: 20 June 2023

[224] Can Patent No 2556367, PCT Patent No PCT/GB2004/005336 (17 December 2004).
[225] Can Patent No 2645943 (8 December 2008).
[226] Can Patent No 2377504, PCT Patent No PCT/EP2000/005513 (13 June 2000).
[227] Can Patent No 2656294, PCT Patent No PCT/GB2007/002323 (21 June 2007).
[228] Can Patent No 2624834, PCT Patent No 2624834 (11 October 2006).
[229] Can Patent No 2397040 (7 August 2002).
[230] Can Patent No 2439364, PCT Patent No PCT/EP2002/002103 (27 February 2002).
[231] Can Patent No 2495841, PCT Patent No PCT/US2003/017370 (3 June 2003).
[232] Can Patent No 2330971 (15 January 2001).

Canadian Energy Services L.P. v. Secure Energy Services Inc.[236]	**Patent Category: Oil** Water-Based Polymer Drilling Fluid and Method of Use[237]	**Outcome:** Ongoing patent infringement action
	Parties: Drilling fluid service company Environmental and energy infrastructure company	**Length of Proceeding**: Statement of claim filed: 5 February 2018
Maoz Betser-Zilevitch v. Canadian Natural Resources Ltd.[238]	**Patent Category: Oil** System and Method for Steam-Assisted Gravity Drainage (SAGD)-Based Heavy Oil Well Production[239]	**Outcome:** Discontinued patent infringement action
	Parties: Individual non-practicing entity Oil and natural gas company	**Length of Proceeding**: Statement of claim filed: 3 April 2018 Discontinuance: 21 February 2020
Renown Down Hole Solutions Inc. v. Wellfirst LP[240]	**Patent Category: Wellbore** Method and Apparatus for Installing a Liner and Bridge Plug[241]	**Outcome:** Discontinued patent infringement action
	Parties: Down hole tools manufacturer Technical oilfield service company	**Length of Proceeding**: Statement of claim filed: 7 June 2018 Discontinuance: 12 July 2019

236 *Supra* note 19.
237 *Supra* note 228.
238 *Supra* note 20.
239 Can Patent No 2584627 (4 April 2007).
240 (6 June 2018), Edmonton T-1091-18 (FCTD).
241 Can Patent No 2886440 (25 March 2015).

Maoz Betser-Zilevitch v. Petrochina Canada Ltd.[242]	**Patent Category: Oil** System and Method for Steam-Assisted Gravity Drainage (SAGD)-Based Heavy Oil Well Production[243]	**Outcome:** Patent infringement action **Decisions and appeals:** Decision on infringement[244] Decision on costs[245] Security for costs[246] Appeal of both Federal Court decisions[247]
	Parties: Individual non-practicing entity Oil and gas company	**Length of Proceeding**: Statement of claim filed: 14 June 2018 Appeal Judgment: 28 September 2022
PCS Ferguson Canada Inc. v. T-Ram Canada Inc.[248]	**Patent Category: Gas** Liquid Aeration Plunger[249]	**Outcome:** Discontinued patent infringement action
	Parties: Plunger lift company Well master company	**Length of Proceedings**: Statement of claim filed: 15 June 2018 Notice of discontinuance: 21 November 2019

242 *Supra* note 20.
243 *Supra* note 239.
244 *Betser-Zilevitch v Petrochina* 2021, *supra* note 53.
245 *Betser-Zilevitch v Petrochina Canada Ltd*, 2021 FC 151.
246 *Betser-Zilevitch v Petrochina Canada Ltd*, 2021 FCA 76.
247 *Petrochina v Betser-Zilevitch* FCA, *supra* note 53.
248 (14 June 2018), Edmonton T-1164-18 (FCTD).
249 Can Patent No 2546104 (5 May 2006).

NCS Multistage Inc. v. Kobold Corporation[250]	**Patent Category: Downhole, Fracturing, Wellbore** Downhole Tool Assembly with Debris Relief, and Method for Using Same[251] Fracturing valve[252] Downhole Tool Assembly with Debris Relief, and Method for Using Same[253] Downhole Tool Assembly with Debris Relief, and Method for Using Same[254] Tools and Methods for Use in Completion of a Wellbore[255] Tools and Methods for Use in Completion of a Wellbore[256] Downhole Tool Assembly with Debris Relief, and Method for Using Same[257]	**Outcome:** Ongoing patent infringement action **Decisions and appeals:** Appeal of motion to amend pleadings and a motion to amend documents[258] Decision on infringement, appeal pending[259] Heard with *NCS Multistage Inc. v. Promac Industries Ltd.*[260]
	Parties: Downhole tool systems technology companies	**Length of Proceeding**: Statement of claim filed: 24 July 2018

250 (23 July 2018), Toronto T-1420-18 (FCTD).
251 Can Patent No 2693676, *supra* note 160.
252 Can Patent No 2820704 (10 July 2013).
253 Can Patent No 2749636 (18 February 2010) [Can Patent No 2749636].
254 Can Patent No 2843619 (18 February 2010) [Can Patent No 2843619].
255 Can Patent No 2766026 (4 May 2011) [Can Patent No 2766026].
256 Can Patent No 2738907, *supra* note 159.
257 Can Patent No 2820652 (18 February 2010) [Can Patent No 2820652].
258 *NCS Multistage Inc v Kobold Corporation*, 2021 FC 1395 [*NCS Multistage* 2021]. The appeal of this decision was discontinued: *NCS Multistage Inc v Kobold Corporation* (21 November 2023), Ottawa A-353-21 (FCAD) (Notice of Discontinuance, NCS Multistage).
259 *NCS Multistage Inc v Kobold Corporation*, 2023 FC 1486 [*NCS Multistage* 2023], appeal as of right to the FCA.
260 (21 May 2020), Calgary T-567-20 (FCTD).

NuWave Industries Inc. v. Trennen Industries Ltd.[261]	**Patent Category: Wellbore** Ultra High Pressure Hydraulic Sublevel Pipe Cutter[262]	**Outcome:** Patent infringement action **Decisions and appeals:** Motion for default judgment dismissed[263] Motion for default judgment granted[264]
	Parties: Industrial hydro-cutting and cold-cutting companies	**Length of Proceeding**: Statement of claim filed: 25 April 2018
2019		
Renown Down Hole Solutions Inc. v. Tier 1 Energy Solutions, Inc.[265]	**Patent Category: Wellbore** Method and Apparatus for Installing a Liner and Bridge Plug[266]	**Outcome:** Discontinued patent infringement action
	Parties: Down hole tools manufacturer Oil and gas service, technology, equipment, and personnel provider for the oil and gas industry	**Length of Proceeding**: Statement of claim filed: 30 August 2019 Discontinuance: 8 April 2021

261 (24 April 2018), Edmonton T-767-18 (FCTD).
262 Can Patent No 2757675 (9 November 2011).
263 *NuWave Industries Inc v Trennen Industries Ltd*, 2020 FC 867.
264 *NuWave Industries Inc v Trennen Industries Ltd*, 2021 FC 250.
265 (30 August 2019), Edmonton T-1439-19 (FCTD).
266 Can Patent No 2847780 (1 April 2014).

Fluid Energy Group Ltd. v. Exaltexx Inc.[267]	**Patent Category: Wellbore** Synthetic Acid Compositions Alternatives to Conventional Acids for Use in the Oil and Gas Industry[268] Synthetic Acid Compositions and Uses Thereof[269] Synthetic Acid Compositions Alternatives to Conventional Acids in the Oil and Gas Industry[270] Using Synthetic Acid Compositions as Alternatives to Conventional Acids in the Oil and Gas Industry[271] Synthetic Acid Compositions Alternatives to Conventional Acids in the Oil and Gas Industry[272] Novel Modified Acid Compositions as Alternatives to Conventional Acids in the Oil and Gas Industry[273] Using Synthetic Acid Compositions as Alternatives to Conventional Acids in the Oil and Gas Industry[274] Synthetic Acid Compositions Alternatives to Conventional Acids in the Oil and Gas Industry[275] Synthetic Acid Compositions Alternatives to Conventional Acids in the Oil and Gas Industry[276]	**Outcome:** Dismissed patent infringement action **Decisions:** Motion for interlocutory injunction preventing the plaintiff from sending further cease and desist letters[277] Decision on costs for motion[278]
	Parties: Developer and manufacturer of chemical systems Oilfield chemicals supplier and manufacturer	**Length of Proceeding**: Statement of claim filed: 8 October 2019 Dismissal: 15 June 2021

267 (7 October 2019), Calgary T-1645-19 (FCTD).
268 Can Patent No 2961783, PCT Patent No 2961783 (29 September 2015).
269 Can Patent No 2892875 (28 May 2015).
270 Can Patent No 2961792, PCT Patent No 2961792 (29 September 2015).
271 *Supra* note 29.
272 Can Patent No 2961794, PCT Patent No 2961794 (29 September 2015).
273 Can Patent No 3006476 (29 May 2018).
274 Can Patent No 2974757 (28 July 2017).
275 Can Patent 2961777, PCT Patent No 2961777 (29 September 2015) [Can Patent 2961777].
276 Can Patent No 2961787, PCT Patent No 2961787 (29 September 2015) [Can Patent No 2961787].
277 *Fluid Energy Group Ltd v Exaltexx Inc*, 2020 FC 81.
278 *Fluid Energy Group Ltd v Exaltexx Inc*, 2020 FC 299.

Fluid Energy Group Ltd. v. Iron Horse Chemicals Ltd.[279]	**Patent Category: Wellbore** Synthetic Acid Compositions Alternatives to Conventional Acids in the Oil and Gas Industry[280] Using Synthetic Acid Compositions as Alternatives to Conventional Acids in the Oil and Gas Industry[281] Synthetic Acid Compositions Alternatives to Conventional Acids in the Oil and Gas Industry[282]	**Outcome:** Dismissed patent infringement action
	Parties: Developer and manufacturer of chemical systems Chemical company for oil and gas production	**Length of Proceeding**: Statement of claim filed: 17 October 2019 Discontinuance: 30 November 2020
2020		
Frac Shack Inc. v. Kva Fuel Services Ltd.[283]	**Patent Category: Fracturing** Fuel Delivery System and Method[284]	**Outcome:** Discontinued patent infringement action
	Parties: Fuel delivery system company Fuel distribution system company	**Length of Proceeding**: Statement of claim filed: 24 March 2020 Discontinuance: 8 November 2022

279 (16 October 2019), Calgary T-1702-19 (FCTD).
280 Can Patent No 2961787, *supra* note 276.
281 *Supra* note 29.
282 Can Patent 2961777, *supra* note 275.
283 (24 March 2020), Toronto T-415-20 (FCTD).
284 *Supra* note 107.

Kobold Corporation v. NCS Multistage Inc.[285]	**Patent Category: Wellbore** Tension Release Packer for a Bottomhole Assembly[286]	**Outcome:** Ongoing patent infringement action **Decisions and appeals:** Motion to file reply evidence[287] Costs on above motion[288] Motion for summary judgment (granted in part)[289] Appeal of pleadings amendment motion[290] Appeal of motion to compel[291]
	Parties: Downhole tool systems technology company Oilfield services company	**Length of Proceeding**: Statement of claim filed: 6 April 2020
NCS Multistage Inc. v. Promac Industries Ltd.[292]	**Patent Category: Fracturing, Downhole, Wellbore** Downhole Tool Assembly with Debris Relief, and Method for Using Same[293] Fracturing Valve[294] Downhole Tool Assembly with Debris Relief, and Method for Using Same[295]	**Outcome:** Ongoing patent infringement action **Decisions and appeals:** Appeal of motion to amend pleadings and a motion to amend documents[300]

285 (6 April 2020), Toronto T-451-20 (FCTD).
286 Can Patent No 2919561 (2 February 2016).
287 *Kobold Corporation v NCS Multistage Inc*, 2021 FC 742.
288 *Kobold Corporation v NCS Multistage Inc*, 2021 FC 1247.
289 *Kobold* 2021, *supra* note 40.
290 *Kobold Corporation v NCS Multistage Inc*, 2023 FC 11.
291 *Kobold Corporation v NCS Multistage Inc*, 2024 FC 286.
292 *Supra* note 260.
293 Can Patent No 2749636, *supra* note 253.
294 *Supra* note 252.
295 Can Patent No 2843619, *supra* note 254.
300 *NCS Multistage* 2021, *supra* note 258 and accompanying text.

	Downhole Tool Assembly with Debris Relief, and Method for Using Same[296] Tools and Methods for Use in Completion of a Wellbore[297] Tools and Methods for Use in Completion of a Wellbore[298] Downhole Tool Assembly with Debris Relief, and Method for Using Same[299]	Decision on infringement[301] Heard with *NCS Multistage Inc. v. Kobold Corporation*[302]
	Parties: Oilfield services company Tool manufacturer	**Length of Proceeding**: Statement of claim filed: 21 May 2020
Frac Shack Inc. v. Fas Fuel Automation Station Canada Limited[303]	**Patent Category: Fracturing** Fuel Delivery System and Method[304]	**Outcome:** Discontinued patent infringement action
	Parties: Fuel delivery system company Fluid automation company	**Length of Proceeding**: Statement of claim filed: 9 September 2020 Discontinuance: 5 October 2020

296 Can Patent No 2820652, *supra* note 257.
297 Can Patent No 2766026, *supra* note 255.
298 Can Patent No 2738907, *supra* note 159.
299 Can Patent No 2693676, *supra* note 160.
301 *NCS Multistage* 2023, *supra* note 259 and accompanying text.
302 *Supra* note 250.
303 (9 September 2020), Toronto T-1053-20 (FCTD).
304 *Supra* note 107.

Steelhead LNG (ASLNG) Ltd. v. Seven Gens Energy Ltd, Rockies LNG[305]	**Patent Category: Gas** Liquefaction Apparatus, Methods, and Systems[306]	**Outcome:** Patent infringement action **Decisions and appeals:** Motion to add defendant, file an amended statement of claim, and to compel production of a further and better affidavit of documents[307] Motion for summary trial (granted)[308] Counterclaim challenging the validity of the "Liquefaction Apparatus, Methods, and Systems" patent[309] Appeal affirming the granted motion for summary trial[310]
	Parties: Liquified natural gas companies Low supply-cost energy producer	**Length of Proceeding**: Statement of claim filed: 9 December 2020
Secure Energy (Drilling Services) Inc. v. Canadian Energy Services L.P.[311]	**Patent Category: Wellbore** Drilling Fluid and Methods of Use Thereof[312] Water-Based Polymer Drilling Fluid and Method of Use[313]	**Outcome:** Section 52 application **Decisions:** Application for declaration of inventorship[314] Application to correct inventorship and ownership[315]

[305] (8 December 2020), Ottawa T-1488-20 (FCTD).
[306] Can Patent No 3027085 (10 December 2018).
[307] *Steelhead LNG (ASLNG) Ltd v Arc Resources Ltd*, 2022 FC 756.
[308] *Steelhead* FC, *supra* note 43.
[309] *Steelhead LNG (ASLNG) Ltd v Arc Resources Ltd*, 2023 FC 1684, appeal as of right to the FCA.
[310] *Steelhead* FCA, *supra* note 43.
[311] (17 December 2020), Calgary T-1534-20 (FCTD).
[312] *Supra* note 213.
[313] *Supra* note 228.
[314] *Secure Energy (Drilling Services) Inc v Canadian Energy Services LP*, 2021 FC 1169.
[315] *Secure Energy* 2023, *supra* note 42.

	Parties: Drilling fluid service company Environmental and energy infrastructure company	**Length of Proceeding**: Notice of application: 18 December 2020
2021		
FlowChem LLC v. Liquidpower Specialty Products Inc.[316]	**Patent Category: Oil** Drag Reduction of Asphaltenic Crude Oils[317]	**Outcome:** Ongoing patent impeachment action
	Parties: Suppliers of drag reducing agents	**Length of Proceeding**: Statement of claim filed: 12 May 2021
Maoz Betser-Zilevitch v. Canadian Natural Resources Ltd.[318]	**Patent Category: Oil** System and Method for Steam-Assisted Gravity Drainage (SAGD)-Based Heavy Oil Well Production[319]	**Outcome:** Discontinued patent infringement action
	Parties: Individual non-practicing entity Oil and natural gas company	**Length of Proceeding**: Statement of claim filed: 9 June 2021 Discontinuance: 24 October 2023
Liquidpower Specialty Products Inc. v. Baker Hughes Canada Company[320]	**Patent Category: Oil** Drag Reduction of Asphaltenic Crude Oils[321]	**Outcome:** Ongoing patent infringement action
	Parties: Pipeline drag reduction company Energy technology company	**Length of Proceeding**: Statement of claim filed: 20 September 2021

316 (11 May 2021), Ottawa T-786-21 (FCTD).
317 Can Patent No 2657755, PCT Patent No PCT/US2007/086923 (10 December 2007).
318 *Maoz Betser-Zilevitch v CNRL* 2021, *supra* note 104.
319 *Supra* note 239.
320 (20 September 2021), Toronto T-1429-21 (FCTD).
321 *Supra* note 317.

2022		
T-Rock CT Services Ltd. v. Xtreme Oilfield Technology Ltd.[322]	**Patent Category: Downhole** Mobile Cement Mixing and Delivery System for Downhole Wells[323]	**Outcome:** Ongoing patent infringement action
	Parties: Delivery of oil and gas services company Company that provides multiple trailer vac services to oilfields and sites	**Length of Proceeding**: Statement of claim filed: 22 March 2022
Dean Schlosser v. Enbridge Inc.[324]	**Patent Category: Pipeline** Method and Apparatus for Pushing a Dual Diameter Pig into a Pipeline[325]	**Outcome:** Discontinued patent infringement action
	Parties: President of welding company Pipeline and energy company	**Length of Proceeding**: Statement of claim filed: 27 April 2022 Discontinuance: 20 June 2022
Dean Schlosser v. Enbridge Pipelines Inc.[326]	**Patent Category: Pipeline** Method and Apparatus for Pushing a Dual Diameter Pig into a Pipeline[327]	**Outcome:** Discontinued patent infringement action
	Parties: President of welding company Pipeline and energy company	**Length of Proceedings**: Statement of claim filed: 15 June 2022 Discontinuance: 28 November 2023

322 (21 March 2022), Toronto T-629-22 (FCTD).
323 Can Patent No 3077905 (6 April 2020).
324 (27 April 2022), Vancouver T-907-22 (FCTD).
325 Can Patent No 2516575 (22 August 2005)
326 (15 June 2022), Vancouver T-1268-22 (FCTD).
327 *Supra* note 325.

Canyon Rigging Inc. v. Northern Metalic Sales Ltd.[328]	**Patent Category: Pipeline** Flowline Restraint Method[329] System for Treating Uniform Objects and a Differential Gear for Such System[330]	**Outcome:** Discontinued patent infringement action
	Parties: Rigging equipment manufacturer Industrial supply company	**Length of Proceeding**: Statement of claim filed: 27 September 2022 Discontinuance: 8 January 2024
2023		
Reflex Instrument North America Limited v. Globaltech Corporation Pty Ltd.[331]	**Patent Category: Downhole** Core Sample Orientation System, Device and Method[332] Lockable Core Barrel Head for Drilling System and Survey Instrument Assembly Provided with a Connection Link for Arrangement in a Drilling System[333]	**Outcome:** Discontinued patent infringement action
	Parties: Sub-surface intelligence solutions company Manufacturer of tools and technologies for exploration drilling	**Length of Proceeding**: Statement of claim filed: 8 March 2023 Discontinuance: 20 February 2024
Steelhead LNG (ASLNG) Ltd. v. Cedar LNG Partnership LP[334]	**Patent Category: Gas** Liquefaction Apparatus, Methods, and Systems[335]	**Outcome:** Ongoing patent infringement action
	Parties: Liquified natural gas project development companies	**Length of Proceeding**: Statement of claim filed: 10 July 2023

328 (27 September 2022), Calgary T-1973-22 (FCTD).
329 *Supra* note 28.
330 Can Patent No 866606.
331 (1 March 2023), Toronto T-410-23 (FCTD).
332 Can Patent No 2806885, PCT Patent No PCT/AU2011/000954 (29 July 2011).
333 Can Patent No 2779932, PCT Patent No PCT/NO2010/000402 (4 November 2010).
334 (10 July 2023), Toronto T-1420-23 (FCTD).
335 *Supra* note 306.

Globaltech Corporation Pty Ltd. v. Reflex Instrument North America Ltd.[336]	**Patent Category: Downhole** Optical Device for Use with Downhole Equipment[337]	**Outcome:** Ongoing patent infringement action
	Parties: Manufacturer of tools and technologies for exploration drilling Sub-surface intelligence solutions company	**Length of Proceeding**: Statement of claim filed: 28 April 2023
Impulse Downhole Solutions Ltd. v. Challenger Downhole Tools Inc.[338]	**Patent Category: Downhole and Wellbore** Flow Controlling Downhole Tool[339] Lateral Drilling Method[340]	**Outcome:** Ongoing patent infringement action
	Parties: Well solutions company Downhill drilling supplier company	**Length of Proceeding**: Ongoing. Statement of claim filed: 28 November 2023

336 (27 April 2023), Toronto T-903-23 (FCTD).
337 Can Patent No 2843191, PCT Patent No PCT/AU2012/000958 (15 August 2012).
338 (28 November 2023), Edmonton T-2606-23 (FCTD).
339 Can Patent No 2872736 (2 December 2014).
340 Can Patent No 2994473, PCT Patent No 2994473 (7 July 2016).

APPENDIX B:
FEDERAL COURT PATENT INFRINGEMENT AND VALIDITY DECISIONS (1 JANUARY 2014 – 21 MAY 2024)

1. *Excalibre Oil Tools Ltd. v. Advantage Products Inc.*, 2016 FC 1279.
2. *Frac Shack Inc. v. AFD Petroleum Ltd.*, 2017 FC 104.
3. *Packers Plus Energy Services Inc. v. Essential Energy Services Ltd.*, 2017 FC 1111.
4. *Frac Shack Inc. v. AFD Petroleum Ltd.*, 2018 FC 1047.
5. *Grenke v. DNOW Canada ULC*, 2018 FC 564.
6. *Aux Sable Liquid Products LP v. JL Energy Transportation Inc.*, 2019 FC 581.
7. *Western Oilfield Equipment Rentals Ltd. v. M-I LLC*, 2019 FC 1606.
8. *NuWave Industries Inc. v. Trennen Industries Ltd.*, 2021 FC 250.
9. *Swist v. MEG Energy Corp.*, 2021 FC 10.
10. *Maoz Betser-Zilevitch v. Petrochina Canada Ltd.*, 2021 FC 85.
11. *Kobold v. NCS Multistage Inc.*, 2021 FC 1437.
12. *Mud Engineering Inc. v. Secure Energy (Drilling Services) Inc.*, 2022 FC 943.
13. *Steelhead LNG (ASLNG) Ltd. v. ARC Resources Ltd.*, 2022 FC 998.
14. *Steelhead LNG (ASLNG) Ltd. v. ARC Resources Ltd.*, 2023 FC 1684.
15. *NCS Multistage Inc. v. Kobold Corporation*, 2023 FC 1486.

APPENDIX C:
FEDERAL COURT OF APPEAL PATENT INFRINGEMENT AND VALIDITY DECISIONS (1 JANUARY 2014 – 21 MAY 2024)

1. *Zero Spill Systems (Int'l) Inc. v. Heide*, 2015 FCA 115.

2. *Ciba Specialty Chemicals Water Treatments Limited v. SNF Inc.*, 2017 FCA 225.

3. *AFD Petroleum Ltd. v. Frac Shack Inc.*, 2018 FCA 140.

4. *Packers Plus Energy Services Inc. v. Essential Energy Services Ltd.*, 2019 FCA 96.

5. *DNOW Canada ULC v. Estate Grenke*, 2020 FCA 61.

6. *Western Oilfield Equipment Rentals Ltd. v. M-I L.L.C.*, 2021 FCA 24.

7. *Swist v. MEG Energy Corp.*, 2022 FCA 118.

8. *Maoz Betser-Zilevitch v. Petrochina Canada Ltd.*, 2022 FCA 162.

9. *Steelhead LNG (ASLNG) Ltd. v. Arc Resources Ltd.*, 2024 FCA 67.