

Federal Court



Cour fédérale

Date: 20220630

Docket: T-89-18

Citation: 2022 FC 943

Ottawa, Ontario, June 30, 2022

PRESENT: Madam Justice St-Louis

BETWEEN:

MUD ENGINEERING INC.

Plaintiff

and

**SECURE ENERGY (DRILLING SERVICES)
INC. AND SECURE ENERGY SERVICES
INC.**

Defendants

AND BETWEEN

**SECURE ENERGY (DRILLING SERVICES)
INC.**

Plaintiff by Counterclaim

and

MUD ENGINEERING INC. AND AN-MING (VICTOR) WU

Defendants by Counterclaim

JUDGMENT AND REASONS

I. Introduction

[1] The Plaintiff Mud Engineering Inc. and Defendants by Counterclaim Mud Engineering Inc. and Mr. An-Ming (Victor) Wu (hereinafter collectively referred to as Mud) in the underlying action have brought a motion for summary trial under Rules 213 and 216 of the *Federal Courts Rules*, SOR/98-106 [the Rules] in respect of a matter at issue in the underlying action [the Motion].

[2] In their Notice of Motion, Mud seek the adjudication of the title of Canadian Patent Nos. 2,635,300 [the 300 Patent] and 2,725,190 [the 190 Patent] (hereinafter collectively referred to as the Disputed Patents) by way of summary trial. Mud also seek summary dismissal of the Defendants Secure Energy (Drilling Services) Inc. and Secure Energy Services Inc. (hereinafter collectively referred to as Secure)'s and Plaintiff by Counterclaim Secure Energy (Drilling Services) Inc.'s assertion that Secure Energy (Drilling Services) Inc. is the rightful owner of the Disputed Patents.

[3] In their Motion for summary trial, Mud raise a number of factual allegations and seek an order, essentially:

- a) Declaring that the Disputed Patents are owned by Mud Engineering Inc.; and
- b) Dismissing Secure Energy (Drilling Services) Inc.'s counterclaim of ownership in the subject matter of the Disputed Patents and all related relief, as specified at subparagraphs 62(c)–(f), (j)(ii), and (k) of it's Statement of Defence and Counterclaim, as freshly amended on November 12, 2018.

[4] In response to Mud's Motion for summary trial, and to the extend summary trial is found to be appropriate, Secure essentially request an order:

- Dismissing Mud's Motion in its entirety;
- Declaring that Secure Energy (Drilling Services) Inc. is the owner, or in the alternative a co-owner, of the Disputed Patents; and
- Dismissing Mud's action in its entirety.

[5] On this Motion, in light of the parties' submissions, the Court must decide (1) where the burden of proof lies on a motion for summary trial; (2) if it is appropriate to determine this ownership issue by way of summary trial; (3) in regards to the Disputed Patents' ownership, if Mud are entitled to the ownership declaration they seek; and (4) in the negative, if Secure is entitled to the ownership or co-ownership declaration they seek.

[6] For the reasons that follow, I find that (1) Mud, as the moving party, bear the burden to prove it is appropriate to proceed by way of a summary trial. If Mud succeed on this first test, the burden of proof that follows pertains to what is raised in the motion for summary trial, not to what is raised in the underlying action (*ViiV Healthcare Company v Gilead Sciences Canada, Inc*, 2021 FCA 122 at para 44 [*ViiV FCA*], citing *ViiV Healthcare Company v Gilead Sciences Canada, Inc*, 2020 FC 486 [*ViiV FC*] at paras 19-22); (2) Mud have met their burden to establish it is appropriate to proceed by summary trial; (3) in regards to the Disputed Patents' ownership, Mud have not established, on balance of probabilities, the allegations they have raised in their Motion for summary trial, hence that Mud Engineering Inc. owns the Disputed Patents. They are consequently not entitled to the ownership declaration they seek, and their action must be

dismissed; and (4) Secure have not established, on balance of probabilities, the allegations they have raised in this motion, hence that Secure Energy (Drilling Services) Inc. is entitled to the ownership or co-ownership declaration it seeks.

II. Procedural Context

[7] Mud's Motion for summary trial occurs in the context of the underlying action initiated by Mud on January 16, 2018. The underlying action concerns Mud's claim of infringement of the Disputed Patents, concerning drilling fluid compositions allegedly sold by Secure for drilling wells in the oils sands of Western Canada.

[8] In their Twice Amended Statement of Claim, Mud claim a declaration that, *inter alia*, the Disputed Patents are valid and subsisting and have been owned by the Mud Engineering Inc. at all material times. The ownership issue is the subject of the Motion for summary trial filed by Mud.

[9] Secure defend the underlying action on the basis of non-infringement, invalidity and ownership, alleging, *inter alia*, that Mud Engineering Inc. does not own the Disputed Patents and that Secure Energy (Drilling Services) Inc. is their rightful owner. Secure Energy (Drilling Services) Inc. also counterclaim, and seek, among other remedies, a declaration that the subject matter of the Disputed Patents is rightfully owned by Secure Energy (Drilling Services) Inc.

[10] Because of the uncertainty surrounding the jurisdiction of this Court to entertain and decide the ownership issue, Mud commenced an action against Secure in the Alberta Court of

Queen's Bench. On November 12, 2020, Federal Court Case Management Judge Kevin R. Aalto outlined that the ownership of the patent is a threshold issue, and provided an answer to a question of law under Rule 220. Relying on the *Salt Canada Inc v Baker*, 2020 FCA 127 decision, Case Management Judge Aalto confirmed that the Federal Court has jurisdiction to adjudicate Secure Energy (Drilling Services) Inc.'s claim to the title of the Disputed Patents in the context of each of (i) a defence to alleged infringement of those patents; and (ii) a counterclaim for a declaration of ownership and an order pursuant to section 52 of the *Patent Act*, RSC 1985, c P-4 [the *Patent Act*] directing that the records of the Patent Office be amended to reflect Secure (Drilling Services) Inc. as the owner of those patents, as pleaded in the underlying action (*Mud Engineering Inc v Secure Energy Services Inc*, 2020 FC 1049).

[11] In support of their Motion for summary trial, Mud filed an affidavit sworn by a law clerk introducing four (4) exhibits related to the parties' proceeding in the Court of Queens' Bench of Alberta. They also filed an affidavit sworn by Mr. Wu, director, president and a minority shareholder of Mud Engineering Inc., as a fact witness, which introduces 37 exhibits. Mud did not file any expert evidence. I have stricken portions of Mr. Wu's affidavit as well as exhibits, as outlined in the Order deciding on Secure's motion to strike.

[12] Secure tendered the affidavit sworn by Mr. Anderson, senior vice-president for Drilling Production Services of Secure Energy (Drilling Services) Inc. which introduces 37 exhibits, and the expert report of Professor Eric Rivard, PhD, who is an expert in polymer chemistry at the University of Alberta as well as 29 exhibits.

[13] Mud are the party having filed the Motion for summary trial raising the ownership of their own patents as the sole issue, and seeking an ownership declaration.

[14] The Court heard the case, where Mr. Wu and Mr. Anderson, as fact witnesses, and Professor Rivard, as an expert witness, testified and were cross-examined. The parties each filed written closing submissions and, at the request of the Court, were kind enough to present additional oral representations and submit additional written representations on particular issues. I take the opportunity to thank the parties for their patience.

III. The issues before the Court

[15] As mentioned earlier, in light of the parties' submissions, the Court must decide (A) where the burden of proof lies on a motion for summary trial; (B) if it is appropriate to determine this ownership issue by way of summary trial; (C) in regards to the Disputed Patents' ownership, if Mud are entitled to the ownership declaration they seek; and (D) in the negative, if Secure are entitled to the ownership or co-ownership declaration they seek.

[16] As Mud stated, the issue of the Disputed Patents' validity is not before the Court.

A. *The burden of proof on a motion for summary trial*

[17] First, as they have confirmed, both parties are required, on a motion for summary trial, to put their best foot forward (*United Yacht Transport LLC v Blue Horizon Corporation*, 2020 FC 1067 at para 20).

[18] The determination as to where the burden of proof lies in a motion for summary trial has been the subject of debates between the parties. The parties agree that the moving party bears the burden of proving that summary trial is appropriate, but they take opposite positions as to what happens next.

[19] Under Mud's proposition, the burden pertains to what is raised in the underlying action. Hence, in this summary trial proceeding, Mud assert that the burden falls solely on Secure to prove, on balance of probabilities, that Secure Energy (Drilling Services) Inc. is the rightful owner or co-owner of the Disputed Patents, as Secure have raised the ownership issue in their Defence and Counterclaim.

[20] In their further representations, Mud assert that the facts referenced in their Notice of Motion were made *in response* to the three (3) bases of ownership that were alleged by Secure in their Defence and Counterclaim. Mud argue that in the jurisprudence on summary trial, the onus for the second stage of the inquiry is never described as simply being on the moving party. Rather, they argue that the onus on the substantive issue on summary trial lies with whichever party bears the onus on that issue in the underlying action and the usual burden in a civil trial applies, where the party making an assertion must prove it by relevant evidence and the application of appropriate law (*ViiV FC* at paras 19-20; *Teva Canada Limited v Wyeth and Pfizer Canada Inc*, 2011 FC 1169 at paras 35-36 [*Teva Canada*]; *Louis Vuitton Malletier SA v Singga Enterprises (Canada) Inc*, 2011 FC 776 at para 95; *Miura v Miura*, [1992] BCJ No 819 at para 14; *Premium Sports Broadcasting Inc v 9005-5906 Québec Inc (Resto-bar Mirabel)*, 2017 FC 590 at para 60 [*Premium Sports*]). Mud suggest that the Federal Court of Appeal in *ViiV FCA*, as

it did not provide detailed analysis on the issue of where the burden of proof lies on a summary trial, did not consider it.

[21] Under Secure's proposition, if the summary trial proceeds, then the party asserting an issue in the summary trial has the legal burden of proving that issue. They thus assert that the burden of proof on the summary trial pertains to what is raised in the motion, not to what is raised in the underlying action. According to Secure, Mud must prove, on balance of probabilities, that Mud Engineering Inc. is the rightful owner of the Disputed Patents to be entitled to the ownership declaration they seek.

[22] In light of the Federal Court of Appeal's decision in *ViiV FCA*, and the principles of *stare decisis*, I agree with Secure.

[23] In *ViiV FC*, Justice Manson confirmed that the underlying action was brought by the plaintiffs, *ViiV Healthcare Company, Shionogi & Co Ltd*, and *ViiV Healthcare ULC* (hereinafter collectively referred to as *ViiV*), alleging that *Gilead Sciences Canada Inc* [Gilead] had infringed Canadian Patent No. 2,606,282 [the 282 Patent] by making, using, selling, or offering to sell bictegravir as a component in its BIKTARVY product. The defendant Gilead denied all allegations of infringement, and counterclaimed alleging that the 282 Patent was invalid. Gilead brought the motion for summary trial, raising two issues: (1) the proper construction of Ring A as defined in claims 1, 11, and 16 of the 282 Patent; and (2) whether, based on that construction, bictegravir fell within the scope of claims 1, 11, and 16 of the 282 Patent.

[24] As Secure outline, in a normal patent trial, the plaintiff and patentee, ViiV, would have had the burden of proving infringement on a balance of probabilities. Yet, in the motion for summary trial, Gilead were asserting that their product did not infringe and consequently, the onus was reversed from what would normally occur in the underlying patent trial.

[25] In *ViiV FC*, Justice Manson confirmed that, “[o]n the merits of the summary trial issue, the usual burden in a civil trial applies, that is, the ‘party making an assertion must prove it by relevant evidence and the application of appropriate law’ (*Teva Canada* at para 36)” (*ViiV FC* at para 20). He also confirmed that, on the motion for summary trial, Gilead bore the burden of proving non-infringement, which it did not bore in the underlying action. He thus confirmed that on a motion for summary trial, the burden of proof pertains to what is raised in the motion, not to what is raised in the underlying action (*ViiV FC* at paras 19-20; see also at para 14).

[26] In *ViiV FCA*, the Federal Court of Appeal affirmed *ViiV FC*, and at paragraph 44 of its decision, disagreed with ViiV’s contention that the Federal Court had ignored the issue of onus of proof. The Federal Court of Appeal did not comment further the Federal Court’s conclusion nor did it provide a detailed analysis in regards to the particular issue of where the burden lies on a motion for summary trial. However, it did refer to paragraphs 19 to 44 of *ViiV FC*, where Justice Manson confirmed that Gilead bore the burden of proving non-infringement. Contrary to Mud’s argument, I find that the Federal Court of Appeal did consider the matter. It is safe to assume that the Federal Court of Appeal would not have specifically cited those particular paragraphs of the *ViiV FC* decision had it thought that the Federal Court erred. I consequently consider the Federal Court’s position on where the burden of proof lies on a motion for summary

trial as expressed in *ViiV FC* to have been confirmed by the Federal Court of Appeal in *ViiV FCA*.

[27] The parties pointed out a recent decision where Justice Manson examined again the issue of the burden of proof on a motion for summary trial. He acknowledged having found, in *ViiV FC*, that the defendant, Gilead, bore the burden of proving non-infringement as asserted in their motion for summary trial (*Janssen Inc v Pharmascience Inc*, 2022 FC 62 at para 55 [*Janssen Inc*] citing *ViiV FC* at para 20). However, based on the arguments and evidence presented to him, and after having considered the jurisprudence, Justice Manson set out what he considered the correct approach. He stated that “[w]hen Rules 213 and 216 are read in light of the intent of the regulatory amendments and jurisprudence, the burden for the determination of the merits of a summary trial reflects that of the underlying trial [*Premium Sports Broadcasting Inc v 9005-5906 Quebec Inc (Resto-bar Mirabel)*, 2017 FC 590; *0871768 BC Ltd v Aestival (The)*, 2014 FC 1047 [*Aestival*]; *Collins v Canada*, 2014 FC 307]” (*Janssen Inc* at para 56).

[28] However, under the principle of *stare decisis*, I cannot follow my colleague. I am bound to follow the Federal Court of Appeal’s decision in *ViiV FCA*. Hence, as things stand, on a motion for summary trial, the burden of proof pertains to what is raised in the motion.

[29] As Secure noted, the *ViiV FC* and *ViiV FCA* decisions confirmed where the burden lies on a motion for summary trial, and that the relative burden can be shifted in a motion for summary trial scenario because it is the party who is asserting a particular fact or legal conclusion in the motion for summary trial that bears the burden to prove it on a balance of

probabilities. Secure stress that they do not bear the burden of proving the facts alleged by Mud on their Motion simply because Secure have put them into play in the underlying action: it would be a circumvention of the trial process to impose this, where Secure have not yet had the benefit of discovery.

[30] Here, Mud are the moving party and seek a declaration that Mud Engineering Inc. owns the Disputed Patents, based on a particular set of allegations.

[31] Mud submit that, in the present Motion, they only put into issue the facts pertaining to Secure's assertion that Secure is the "true owner" of the Disputed Patents. As I mentioned earlier, they add that all the facts referenced in their Notice of Motion are in response to the three (3) bases of ownership that were alleged by Secure in their Defence and Counterclaim. However, Mud is the moving party and based on *ViiV FCA*, Mud bear the burden to prove the allegations they raised in their Motion for summary trial by relevant evidence and the application of appropriate law.

[32] In the underlying action, Mud did claim a declaration that the Disputed Patents have been owned by Mud Engineering Inc. at all material times. It seems the issue of ownership in the underlying action was thus not solely raised by Secure, although only Secure then outlined the factual allegations in support of their counterclaim.

[33] In this Motion, Mud bear the burden to prove, on balance of probabilities, the facts they raised to assert ownership of the Disputed Patents and obtain the declaration of ownership they seek.

[34] On the other hand, Secure assert that Mud cannot own the Disputed Patents and that Secure Energy (Drilling Services) Inc. owns the Disputed Patents. Secure thus raise their own set of allegations to support their ownership claim. Secure bear that burden. In each instance, the burden is the usual burden in civil cases – a balance of probabilities.

[35] As we will see below, the determination of where the burden lies on a motion for summary trial is dispositive in these proceedings.

B. *It is appropriate to determine this ownership issue by way of summary trial*

[36] Mud contend that the summary trial proceeding is appropriate and that there is no need, in order to determine the ownership issue, to undertake a claim construction analysis of the Disputed Patents. Mud would concede that summary proceeding is not appropriate if it was found necessary to undertake the assessments suggested by Secure in terms of construction and validity assessment. As stated below, I agree with Mud that it is neither necessary nor appropriate to assess the Disputed Patents' validity as part of the present Motion as the sole issue is the ownership issue.

[37] A party may bring a motion for summary trial at any time after the defendant has filed a defence, but before a time and place for trial are fixed. Notably, a summary trial is not reserved

for cases which will result in a determination of every issue in the case. Rather, in appropriate cases, the Court may deal with one or more discrete issues by way of summary trial (Rule 213(1); see also *ViiV FC*).

[38] The moving party, here Mud, bears the burden of demonstrating that summary trial is appropriate: (i) the issue(s) raised are suitable for summary trial; and (ii) the summary trial would assist in the efficient resolution of the action. Otherwise, the motion should be dismissed. The Court may grant judgment on an issue if it is satisfied that there is sufficient evidence for adjudication, regardless of the amounts involved, the complexities of the issues and the existence of conflicting evidence, unless it would be unjust to do so. In dealing with the Rules, including the ones at issue here, Rule 3 establishes the guiding principles. Moreover, “[t]he Rules must be interpreted so as to secure the just, most expeditious and least expensive determination of every proceeding on the merits” (*Teva Canada* at para 30).

[39] Notably, summary trial has been found to be an appropriate vehicle for determining a narrow and well-defined issue, the resolution of which would advance the action more quickly, and where the facts necessary to resolve the issue were clearly set out in the evidence. At paragraph 11 of *ViiV FC*, the Court notes a number of factors to consider.

[40] If the Court is satisfied that there is sufficient evidence for adjudication, regardless of the amounts involved, the complexities of the issues and the existence of conflicting evidence, the Court may grant judgment, either generally or on an issue, unless it would be unjust to do so (*Rule* 216(6)). In the present case, I find that a summary trial is an appropriate way to proceed so

as to secure a just, and least expensive determination of the issue before the Court. The issue of the Disputed Patents' ownership is central to the parties' dispute and, if the Court finds that Mud did not meet their burden to obtain a declaration of ownership from the Court, both their Motion and their action will be dismissed. The deponents have been cross-examined in person before the Court and any issues of credibility can thus be resolved. I agree with Mud's submissions that the ownership issue is well-defined and narrow, and summary trial will assist in the resolution of the action.

[41] As detailed below, neither party has met their burden to obtain the declaration of ownership they seek, each because of insufficient evidence although not in the same degree and not for the same reasons, Mud's strategy heavily depended on their assessment as to the burden they bore on the Motion. It would be tempting to conclude that proceeding by way of the Motion for summary trial is not appropriate precisely because insufficient evidence has been adduced, and allow the parties a second kick at the can, so to speak, by going to trial. However, concluding as such would offend the earlier confirmation that the parties must put their best foot forward on the Motion for summary trial.

[42] In conclusion, I find that Mud have met their burden to demonstrate that the Motion for summary trial is appropriate to address the ownership issue they raised.

C. *In regards to the Disputed Patents' ownership*

(1) Context

[43] These proceedings refer to the following patents:

- **The 300 Patent (one of the two Disputed Patents)** is titled: “Drilling fluid composition comprising hydrophobically associating polymers and methods of use thereof”. The disclosure relates to drilling fluid compositions for use in bitumen recovery from oil sands, and particularly, to a drilling fluid composition comprising hydrophobically associating polymers, and a method and use of said fluids to encapsulate bitumen. The 300 Patent was filed on June 18, 2008, and issued April 12, 2011. It claims priority to US application 60/947,969 [the 969 Provisional]. The inventor is Mr. Wu and the owner is Mud Engineering Inc.
- **The 969 Provisional (Mud)** is titled: “Drilling fluid composition comprising hydrophobically associating polymers and methods of use thereof”. The disclosure relates to drilling fluids for use in bitumen recovery from oils sands and particularly to a drilling fluid comprising hydrophobically associating polymers and the use of said fluids to prevent bitumen cuttings from sticking to the drilling components while drilling through oil sands deposits. It was filed July 4, 2007, the applicant and the inventor is Mr. Wu.
- **The 190 Patent (one of the two Disputed Patents)** is titled: “Drilling fluid comprising surfactants”. The disclosure relates to drilling fluids compositions comprising surfactants having hydrophile-lipophile balance [HLB] values of less than about seven (7) for use in bitumen recovery from oil sands, and a method and use of said compositions to encapsulate bitumen. The 190 Patent was filed on December 13, 2010, and issued on December 9, 2014. The co-inventors are Mr. Wu and Mr. Xiao Wu, and the owner is Mud Engineering Inc.

- **The Canadian Patent No. 2,451,585 [the 585 Patent]** (Marquis Fluids Inc. [Marquis] - now Secure) is titled: “Emulsified polymer drilling fluid and methods of preparation and use thereof”. It relates to a water-based polymer drilling fluid, containing effective quantities of surfactants having HLB numbers equal to or greater than approximately 7 emulsifies oil and bitumen contained in oil sands cuttings, resulting in the oil and bitumen being dispersed into the mud as emulsion. The 585 Patent was filed on December 1, 2003, and issued on July 25, 2006. The co-inventors are Mr. Wu and Mr. Jay Brockhoff, and the owner is Marquis, later acquired by Secure.
- **The Canadian Patent No. 2,508,339 [the 339 Patent]** (New West Drilling Fluids Inc. [New West] - now Secure) is titled: “Drilling fluid and methods of use thereof”. It relates to an aqueous drilling fluid used for drilling bitumen or heavy oil rich formations. The aqueous drilling fluid comprising: a water soluble cationic polymer capable of encapsulating the bitumen or heavy oil. The encapsulation of bitumen prevents the accretion of bitumen to drill components. The 339 Patent was filed on December 2, 2003, and issued on October 24, 2006. The co-inventors are Mr. John Ewanek and Mr. Simon J.M. Levey, and the owner is New West later acquired by Secure.

[44] The evidence reveals, and it is not disputed, that from December 1, 2001 to September 18, 2006, Secure’s predecessor, Marquis, employed Mr. Wu under an employment contract initially valid for a 6-month period, copy of which Mr. Wu attached to the affidavit he swore on November 10, 2020 as exhibit 10. Per the terms of this employment contract, Mr. Wu’s duties

with Marquis were to discover solutions for silicare cleaner, lubricant, hi-temp formulation and equivalent to Aphron bubbles, and to assist in field operations and troubleshooting from time to time. Mr. Wu's employment was extended, and in 2002, Mr. Wu started researching and developing a drilling fluid system, the product of which was eventually the subject of Patent 585 and marketed by Marquis as its Bitumen Activated Stable Emulsion [BASE]. Mr. Brockhoff was Mr. Wu's supervisor during that time.

[45] On October 8, 2003, Mr. Wu also signed a non-solicitation and confidentiality agreement, copy of which is attached to the affidavit Mr. Anderson swore on March 12, 2021 as exhibit L. Among other things, said agreement provides that any intellectual property developed by the employee, i.e., Mr. Wu, in the course of the discharge of his employment duties, is the property of the corporation and that at the request of the corporation, the employee shall execute any documents necessary to reasonably evidence such ownership, and shall give reasonable assistance to the corporation to pursue any rights it may have in this regard.

[46] While working at Marquis, Mr. Wu and Mr. Brockhoff developed an invention that became the subject of the 585 Patent, cited above. Mr. Wu assigned the invention to Marquis. The parties disagree as to what the 595 Patent relates to: Mud take the position that the 585 Patent relates only to "emulsifying bitumen" while Secure, through their expert witness Professor Rivard, take the position that it also covers "encapsulation of bitumen particles".

[47] On December 2, 2003, hence at about the same time that the application for the 585 Patent was filed by Marquis, another company called New West filed the application that resulted in the 339 Patent. The 339 Patent, as cited above, refers to encapsulation.

[48] On July 10, 2006, Mr. Wu gave notice of his intended resignation from Marquis. Mr. Wu and Marquis discussed options for Mr. Wu to remain with the company.

[49] On July 25, 2006, the 585 Patent issued, naming Mr. Wu and Mr. Brockhoff as co-inventors.

[50] On August 8, 2006, Mr. Dave Rawlyk, co-founder and vice-president of Marquis, wrote to Mr. Wu and expressed a desire to look into the possibility of an encapsulation system. Per exhibit 12 of Mr. Wu's affidavit, Mr. Rawlyk's message read "[i]n the meantime, I think we need to look into the possibility of an encapsulation system for SAGD to compete with the other mud companies where our system does not work as well". Two days later, Mr. Wu responded that he did not think he had enough time to finish the projects. On August 16, 2006, and September 1, 2006, Mr. Wu wrote again to Mr. Rawlyk stating first that he thought he will be able to develop the encapsulation mud system, but needed more time to read the literature, and stating subsequently that he would do some work on the encapsulation mud system the next week.

[51] Negotiations in regards to options for Mr. Wu to remain with Marquis did not conclude, and on September 18, 2006, Mr. Wu left his position. Mr. Wu then started working for Saudi

Aramco. On October 23, 2006, Marquis sent a letter to Mr. Wu, informing him of certain breaches to his non-solicitation and confidentiality agreement, and on January 8, 2007, Mr. Wu responded, denying he committed any breaches.

[52] Per Mr. Wu's testimony, he was first introduced to the subject of hydrophobically associating polymers on April 12, 2007, during an informal discussion with Mr. Ming Han, discussion that took place at a private social gathering in Saudi Arabia. Per Mr. Wu's testimony, this discussion led Mr. Wu to his research into the subject matter that, he says, would become the 300 Patent. Mr. Wu provided no evidence relating to actual work that he did to develop his invention, first disclosed in the US 969 Provisional. He testified having searched on google.com for technical papers relating to hydrophobically associating polymers and having found a Society of Petroleum Engineers paper (see Mr. Wu's affidavit, exhibit 3) by Mr. Han, who started working at Saudi Aramco in February 2007, Mr. Wu testified having then been aware of the 339 Patent, i.e., the New West patent that refers to encapsulating drilling fluids and cationic polyacrylamide polymers. Hence, in his affidavit, Mr. Wu confirms that he was aware that New West had used cationic (i.e., positively charged) polymers including cationic polyacrylamides to encapsulate bitumen. However, he indicated that Mr. Han's paper related to different types of polyacrylamides, i.e., hydrophobically associative polymers.

[53] Mr. Wu affirms that on April 14, 2007, he searched the United States Patent Office and obtained a list of 21 patents, while a further search identified two (2) patents, among which is the US Patent No. 4,734, 205, and another further search identified Canadian Patent Application No. 2,623, 834. In this regard, Mr. Wu did not provide any evidence relating to actual work he did to

develop the invention disclosed in the 969 Provisional application and admitted that he did not do any experiments between September 2006 and July 4, 2007.

[54] Mr. Wu, however, affirms in his affidavit having worked on preparing a provisional application and having it filed in the United States by his patent counsel, i.e., the 969 Provisional.

[55] In May and June 2007, Mr. Rawlyk and Mr. Brockhoff, both of Marquis, got in touch with Mr. Wu, asking him to sign a declaration for US patent applications related to the aforementioned 585 Patent, which Mr. Wu had assigned to Marquis. They provided Mr. Wu with voluminous documentation, per Mr. Wu's request.

[56] On July 4, 2007, Mr. Wu filed the 969 Provisional in the United States, to which the 300 Patent claims priority.

[57] On July 11, 2007, Mr. Wu expressed his final refusal to sign the afore-mentioned declaration for the US continuation patent application related to Marquis' 585 Patent, and on July 25, 2007, Mr. Wu incorporated Mud.

[58] On October 11, 2007, Mr. Wu signed a Cooperation Agreement with a company based in China, which is said to have synthesized certain polymers. There is no evidence that Mr. Wu was present in China for the synthesis of the chemicals by the company in China, Mr. Wu is not

aware of the starting material, and there is no evidence in the record as to the actual composition of these polymers.

[59] On June 18, 2008, Mr. Wu filed the application for the 300 Patent in Canada and the equivalent in the United States. In the case of this US equivalent, Claim 1 had to be restricted as it would otherwise have been unpatentable for obviousness due to the US equivalent of the Canadian 339 Patent (New West) and 585 Patent (Marquis).

[60] On December 13, 2010, Mr. Wu filed the application for the 190 Patent. Again, no evidence was adduced supporting the experiments in the 190 Patent and, per professor Rivard's opinion, the experiments disclosed in the 190 Patent showed no difference in the test results whether or not a surfactant with an HLB of less than seven (7) is used in the drilling fluid composition.

[61] In 2011, Secure acquired Marquis, and in 2012, the wholly owned subsidiary of Secure named Marquis Alliance Energy Group Inc. [Marquis Alliance] acquired the assets of New West, including their intellectual property and confidential information. Ultimately, Secure became the owner of the 585 and 339 Patents. While Mr. Wu worked for Marquis (2001 to 2006) and at the time Mr. Wu filed each of the Disputed Patents' application (2008 and 2010), Marquis or Secure did not own the 339 Patent, nor any related intellectual property or confidential information.

[62] From September 2006 to October 31, 2012, Mr. Wu was employed by Saudi Aramco as a Senior Lab Scientist. After that last employment, and until August 2014, he worked exclusively for Mud, and from August 2014 to May 2017, he worked for Secure.

[63] Prior to filing their Defence and Counterclaim in these proceedings on March 26, 2018, Secure never challenged Mud's title in the Disputed Patents.

(2) Are Mud entitled to the ownership declaration they seek for Mud Engineering Inc. on this Motion for summary trial?

(a) *Mud's position and evidence*

[64] Mud submit that a *prima facie* presumption of both "ownership" and "inventorship" attaches to a granted patent in the absence of evidence to the contrary, pursuant to subsection 43(2) of the *Patent Act*. They cite *Clarizio, Dino P et al., Hughes and Woodley on Patents*, 2nd ed (Toronto: LexisNexis Canada, 2005) (loose leaf updated May 2021, Issue 81) for the proposition that this statutory presumption is not an unsurmountable one; it is a "weak" presumption, but it imposes an onus on the party attacking the patent to prove ownership by another. If evidence has been led, then the presumption is displaced and the issue is to be decided on the usual civil burden of proof.

[65] Mud confirm that the title or ownership of a patent originally flows from who the inventor or inventors of a given patent are, pursuant to section 27(1) of the *Patent Act*. Mud explain that since ownership of a patent originally flows from the inventor, the presumption of ownership must necessarily extend to inventorship as well. After a patent grants, relief may be

sought under section 52 of the *Patent Act* to obtain an order from the Court to add or remove an inventor from a patent, but this again requires proof, on a balance of probabilities, that the alleged persons were or were not co-inventors.

[66] Mud assert that it is not necessary to prove that an invention was made (or that an invention exists) to prove ownership as this is a question of validity. They add that it is necessary to identify the inventor of the Disputed Patents to prove ownership, and in this case, whether Mr. Brockhoff was the sole inventor or a co-inventor of the Disputed Patents. In that regard, Mud assert that a detailed understanding of the Disputed Patents is not necessary to dispose of this allegation.

[67] Mud submit that the issue of when Mr. Wu developed the inventions of the Disputed Patents, and whether he was under any obligation to assign the invention to Secure, relate to facts.

[68] This is presented as a critical aspect of the case, Mud submit that no expert evidence is thus necessary and they have adduced none.

[69] Mud assert that the Disputed Patents pertain to *encapsulating* drilling fluids, while the 585 Patent pertains to *emulsifying* drilling fluids. They insist that (1) emulsifying bitumen and inhibiting dispersion of bitumen (i.e., encapsulating) are diametrically different solutions; (2) Marquis and Mr. Wu did no work on *encapsulation* fluids pre-September 2006 and Secure did

not challenge the evidence adduced by Mr. Wu in that regard; and (3) Secure even sought to acquire rights to the Disputed Patents.

[70] Mud submit that there is no evidence on the record that (i) would displace the presumption of their ownership of the Disputed Patents; or (ii) would otherwise support the allegations that Secure have a right of title to those patents.

[71] As mentioned earlier, Mud allege that the party asserting the claim or defence at issue on summary trial bears the burden of proof. As Secure raised the ownership issue in their Defence and Counterclaim, Mud assert that they, Secure alone, bear the burden. Mud have consequently adduced no evidence, other than Mr. Wu's testimony, to support the ownership claim they raised in their Motion for summary trial.

[72] Mr. Wu testified as a fact witness. He is director and president of Mud Engineering Inc. since its incorporation on July 25, 2007. Mr. Wu is the named inventor on the 300 Patent and a named co-inventor on the 190 Patent. He testified in support of the Motion for a summary trial for determination on the issue of the title of the Disputed Patents and affirmed having personal knowledge of all facts mentioned in his affidavit.

[73] Mr. Wu testified on a number of issues, some of which have been struck. Hence, the technical primer and the construction of the Disputed Patents, among other things, have been struck.

[74] Mr. Wu's testimony thus provides details on his background, academic qualifications and experience, employment history at Marquis from 2001 to 2006, his employment at Saudi Aramco, his knowledge of hydrophobically associating polymers, his parallel work leading to the establishment of Mud Engineering Inc. and the Disputed Patents, and his employment at Secure from 2014 to 2017.

[75] As detailed earlier, Mr. Wu affirmed that he was asked, in August 2006, to look into an encapsulated system, and testified that, although he indicated in writing that he would look into this, he did not do so while employed by Marquis.

(b) *Secure's position and evidence*

[76] Secure assert essentially, that Mud bore the burden to prove the ownership allegation that they raised on their Motion for summary trial. As discussed earlier, and for the reasons I mentioned, I agree with Secure on the burden on a motion for summary trial.

[77] Secure assert that there are two perspectives from which to view this issue, namely (1) the presumption of the "inventive employee" in the employment context (*Comstock Canada v Electec Ltd*, [1991] FCJ No 987 [*Comstock*]) and that Mud bore the burden of proving that Mr. Wu is the sole inventor, that the invention was made after he left Marquis and that the invention was not made using Marquis' confidential information, which requires the determination of what the invention actually is; and (2) the presumption of validity in the *Patent Act*, where the issue becomes: to what extent can the information about ownership and

inventorship appearing on the face of a patent be taken at face value and how much evidence is required for any such presumption to be displaced?

[78] Secure plead that Mud have failed to meet their burden as they have proven neither that Mr. Wu made the invention after he left Marquis, nor the drilling fluids on which Mr. Wu worked on while at Marquis were of a completely different type of the drilling fluids covered by the Disputed Patents.

[79] Secure submit that Mud have failed to meet their burden as (1) the evidence of Mr. Wu does not support Mud's position; (2) claim construction is required to define what the invention is, which is necessary to determine who the inventor is and who the owner is; and (3) Mr. Wu does not know what his invention is. Secure also add that Mud Engineering Inc. is not the owner of the invention of the Disputed Patents as (i) the subject matter of the 300 and 190 Patents was previously disclosed in the 339 Patent and the 585 Patent (there is an overlap with the 585 and the 339 Patents, Mr. Wu's position shifted as to what was core to the 300 invention); (ii) Mr. Wu worked on the subject matter of the Disputed Patents while he was still at Marquis; and (iii) Mr. Wu is not the inventor of the Disputed Patents.

[80] Secure submit that the Court is able to dismiss the Motion in its entirety. However, Secure add that the evidence before the Court allows for a determination that Mr. Wu is not the inventor, and Mud Engineering Inc. is not the owner of the Disputed Patents.

[81] Secure agree with Mud that there exists a presumption of inventorship and ownership, and that the presumption is weak (*Seedlings Life Science Ventures, LLC v Pfizer Canada ULC*, 2020 FC 1; *Diversified Products Corp v Tye-Sil Corp (FCA)*, 35 CPR (3d) 350); *Abbott Laboratories v Canada (Health)*, 2007 FCA 153; *Apotex v Wellcome Foundation Ltd*, 2002 SCC 77 [*Apotex*]). They argue that they have lead the evidence to displace the presumption so that it fell back on Mud to prove, on balance of probabilities, Mud Engineering Inc.'s ownership of the Disputed Patents. They assert that Mud have not met their burden.

[82] Mr. Anderson testified as a fact witness in support of Secure. He was asked to describe the series of transactions and events that resulted in Secure Energy (Drilling Services) Inc. coming to own the 339 and the 585 Patents. Mr. Anderson reviewed and attached relevant correspondences involving Mr. Wu and showing examples of the subject matter on which Mr. Wu worked on during his 2001-2006 employment period at Marquis, and on Mr. Wu's departure from Marquis.

[83] Mr. Anderson attached 37 exhibits to his affidavit, notably one where Mr. Wu confirmed in August 2006, and while employed at Marquis, that he would be looking into the encapsulating system. Again, Mr. Wu testified that he did not look into this. It appears clear, however, that "encapsulating" was a term known to all involved, it needed no explanation, and none was apparently provided.

[84] Professor Rivard testified as an expert witness for Secure. He is a professor of Chemistry at the University of Alberta. He completed his BSC (Hon) in Chemistry at the University of New

Brunswick in 1999 and his Ph.D on the topic of Inorganic Polymers at the University of Toronto in 2004.

[85] Professor Rivard was asked to provide his opinion on a series of issues related to the 300 Patent, the 969 Provisional, the 190 Patent, the 585 Patent and the 339 Patent, essentially to identify the invention of each patent, compare them to one another and examine if each of their invention overlap with one another.

[86] Professor Rivard was asked to describe the subject matter of the work of Mr. Wu at Marquis from 2001-2006 and how it relates to the invention of the Disputed Patents and he was also asked to provide his opinion on when the invention of the 300 Patent and the 190 Patent crystallized, namely whether it was during Mr. Wu's employment with Marquis.

[87] In his affidavit, Professor Rivard provided his opinion on what the term "hydrophobically associating polymer" could encompass, and that their properties were known before the publication of the 300 Patent.

[88] The summary of Professor Rivard's opinion is outlined at page 10 of his expert affidavit through five (5) conclusions. Ultimately, Professor Rivard opined, *inter alia*, that Mr. Wu worked on, worked with, or was at least aware of all the material elements of the Disputed Patents while he was employed at Marquis between 2001 and 2006 and that many of these elements are found in the 585 and 339 Patents. Ultimately, Professor Rivard opined that Mr. Wu did not invent the broad scope of subject matter claimed in the Disputed Patents.

(c) *Discussion and decision*

[89] The parties confirmed that there exists an ownership and inventorship presumption, and that it is a weak presumption, certainly rebuttable. In this regard, I am satisfied that Secure presented some evidence, through Professor Rivard and Mr. Anderson, to displace the presumption that the named inventor, Mr. Wu, is the true inventor, and that Mud is therefore the owner of the Disputed Patents. Pursuant to subsection 43(2) of the *Patent Act*, that is all that is required to displace the presumption of inventorship or ownership that appears of the face of the Disputed Patents.

[90] Since the presumption is rebutted, the party making an allegation holds the burden to prove it on balance of probabilities. As Mud made an allegation of ownership of the Disputed Patents on this Motion for summary trial, seeking a declaration from the Court in that regard, they must prove their allegations. The parties agreed that, to establish that Mud is the proper owner of the Disputed Patents, they had to establish that Mr. Wu, name as the inventor, invented what he claims.

[91] In their Motion, Mud asserted certain facts in support of the declaration of ownership they seek, notably:

- The inventions in the Disputed Patents have nothing to do with any activities Mr. Wu undertook, or confidential information that he was exposed to, while at Marquis;
- Despite their common objective, the drilling fluids that Mr. Wu worked with while at Marquis are of a different type from the drilling fluids covered by the Disputed

Patents. The Disputed Patents are directed to a type of drilling fluid referred to as an *encapsulating* fluid. In contrast, much of Mr. Wu's work at Marquis was directed towards developing drilling fluids known as *emulsion* fluids;

- Prior to Mr. Wu's resignation in September 2006, Marquis did not own an encapsulating fluid system, nor had it started any Research and Development programs related to encapsulating fluids;
- The inventive spark for the Disputed Patents came from a chance encounter that Mr. Wu had in April 2007 while working in Saudi Arabia, when another chemist spoke of having worked with a group of compounds known as "hydrophobically associating polymers". Intrigued, Mr. Wu began researching the compounds and their uses during his evenings and days off. From this work, Mr. Wu developed the encapsulating fluid formulations underpinning the 300 Patent;
- On July 4, 2007, Mr. Wu filed an application for a US provisional application to protect his invention;
- Mud retained a chemical company in China to synthesize samples of hydrophobically associating polymers, conducted tests in December 2007 and Mud applied for the 300 Patent on June 2008; and
- The subject matter of the 190 Patent was developed in August 2010 as part of Mud's ongoing attempts to improve their product.

[92] Mud relied on Mr. Wu and on a plain reading of the Disputed Patents which disclosed on their face that they pertain to the encapsulating drilling fluids.

[93] Given my earlier conclusion on the burden of proof on a motion for summary trial, the declaration of ownership and order sought by Mud and their allegations in support of the remedies they seek, I find that it was indeed necessary for Mud to establish, on balance of probabilities, the facts they raised hence, notably, that the various drilling fluids that Mr. Wu worked on while at Marquis were of a completely different type than the Disputed Patents and that Mr. Wu researched and developed the fluid formulation underpinning the 300 Patent. Mud have not succeeded.

[94] As Mud announced, they relied entirely on the evidence of Mr. Wu. However, Mr. Wu's testimony should be considered with caution. He did not come across as a direct, sincere and candid fact witness, impression that cannot be explained in relation with any challenges that may be associated with the translation or to language generally. As Secure noted, Mr. Wu was unprepared, acknowledged that he had not reviewed the patents at issue in ten (10) years, had not carefully read the 969 Provisional or the Disputed Patents even when they were filed, did not understand portions of his own patents and likewise, did not understand portions of his own affidavit. Had I not struck the portions of Mr. Wu's affidavit pertaining to the Disputed Patents and to the technical primer as they constitute impermissible expert opinion, I would have granted these portions, no weight, given these circumstances.

[95] To quote Justice Muldoon in *Comstock*, Mr. Wu did not exhibit the facility of understanding of an inventor.

[96] As Secure raised, Mr. Wu could not articulate his own invention and, needless to say, could not establish that the drilling fluids he worked on while at Marquis, hence the ones covered by the 585 Patent, were completely different than the ones covered by the Disputed Patents.

[97] While under cross-examination, Mr. Wu often evaded questions or provided answers unrelated to the questions, he presented serious credibility issues (*White v The King*, [1947] SCR 286), and his testimony is granted very little weight.

[98] I agree with Secure that there is a dearth of evidence from Mud to establish that Mr. Wu invented what he disclosed in the Disputed Patents.

[99] Mud's dearth of evidence is further compounded by Professor Rivard's expert opinion. Professor Rivard was straightforward, frank, clear and engaging. He came across as knowledgeable, independent, credible and thorough, and was solid and frank as well under cross-examination. I give his opinion much weight.

[100] Professor Rivard describes each of the Patents' invention at pages 43 and following and at pages 57 and following of his expert report. He opines that Mr. Wu worked on, worked with or was at least aware of all the material elements of the Disputed Patents while he was employed at Marquis between 2001 and 2006. Finally, he also opines that the similarities between the Marquis 585 Patent, of which Mr. Wu is a co-inventor, and the Disputed Patents are striking.

[101] Mud's evidence, entirely relying on Mr. Wu's problematic testimony, does not establish that the Disputed Patents' drilling fluids are completely different from the ones Mr. Wu worked on while at Marquis.

[102] I am cognizant of the fact that in August 2006, Mr. Rawlyk asked Mr. Wu to work on an encapsulating system, as Secure had no such system. However, this evidence by itself is insufficient to tilt the scale in favor of Mud.

[103] Likewise, Mud have adduced almost no evidence on the work done by Mr. Wu to develop the drilling fluid formulations underpinning the 300 Patent. Per the evidence, Mr. Wu made but a few patent searches on the internet between April and June 2007, when the Provisional 969 was filed. As Secure point out, Mr. Wu could not explain the work that lead him to the filing of the Disputed Patents, was not present for the synthesis of the polymer tested in China, was not present for the experiments of the 190 Patent, was not able to provide lab book or documentation supporting the experiments of the 190 Patent, while the notebook in Mandarin was struck.

[104] Mud have therefore not convinced me that it is more probable than not that Mr. Wu researched the compounds and their uses and that from this work developed the formulations underpinnig the 300 Patent, which is another essential element of their claim to inventorship and ownership. Mr. Wu provided no evidence relating to actual work he did to develop the invention disclosed in the 969 Provisional application, save for the patent internet searches, and he admitted having done no experiments from September 2006, when he left Marquis until July 4, 2007, when the 969 Provisional application was filed. The evidence provided in these

proceedings by Mud to show the work Mr. Wu did on the 300 Patent consists of a photograph of Mr. Wu with another scientist, a photograph of an unidentified drilling fluid mixture and notebooks written in mandarin, that I have struck from the record. In regards to the 190 Patent, Mr. Wu failed to provide any documentation.

[105] Given my conclusion on the burden of proof on a motion for summary trial, the fact that Mud had to put their best foot forward to prove their allegations, and the extremely limited evidence that Mud adduced to establish their allegations that Mr. Wu is the inventor of the invention disclosed in the Disputed Patents. I find that Mud have not established, on balance of probabilities, that Mr. Wu is the inventor and that Mud Engineering Inc. therefore owns the Disputed Patents.

[106] On this basis, Mud's Motion must be dismissed and, since they have not established that Mud Engineering Inc. owns the Disputed Patents, the underlying action must be dismissed as well.

(3) Are Secure entitled to the declaration of ownership, or co-ownership, of the Disputed Patents they seek for Secure Energy (Drilling Services) Inc.?

(a) *Secure's position and evidence*

[107] As a matter of context, in its Defence and Counterclaim, Secure Energy (Drilling Services) Inc. claims against Mud, *inter alia* a declaration that the subject matter of the Disputed Patents is rightfully owned by Secure Energy (Drilling Services) Inc. It makes three (3) propositions in order to establish that it owns the Disputed Patents: (1) Mr. Wu worked on the

subject matter of the Disputed Patents during his time at Marquis; (2) the 585 Patent overlaps with the Disputed Patent and Mr. Brockhoff is a co-inventor; and (3) the 339 patent overlaps with the Disputed Patents and Mr. Wu used that information pertaining to Marquis/Secure in order to claim inventorship on the Disputed Patents.

[108] As part of this Motion for summary trial, Secure's arguments are framed differently, those are the ones I must address.

[109] In the Motion, Secure assert that the Court has the discretion to declare that Secure Energy (Drilling Services) Inc. is the owner or at least co-owner of the Disputed Patents per section 52 of the *Patent Act*. In the alternative, Secure argue, consistent with the remedy in *Comstock*, that the Court can give Secure the choice about whether they want title to the Disputed Patents or that the Disputed Patents be declared invalid. As mentioned before, validity is not in issue in this Motion for summary trial, and I will therefore not examine it or entertain the remedy in this regard.

[110] As for Secure's allegations of ownership or co-ownership, they are scarce on this Motion. In their opening statement, Secure mainly outlined how Mud had not met their burden to demonstrate ownership, and as mentioned earlier, I agree.

[111] In regards to their own claim to the Disputed Patents' ownership, Secure alluded briefly that (1) some of the work covered by the scope of the Disputed Patents' claims was done during the period of time that Mr. Wu was employed by Marquis, hence that Mr. Wu worked on the

subject matter of the Disputed Patents; (2) the relative timing of Mr. Wu's filing of the provisional application on July 4, 2007, compared to the documents that he insisted on being provided before he would agree to sign a confirmatory assignment in relation to the 585 Patent continuation; (3) Mr. Wu did not get back to Secure after having been given the 500 pages of technical information, and he filed his own patent application before getting back to Secure; (4) there is an overlap between the 300, the 190, the 339 and the 585 Patents as well as the work that Mr. Wu did at Marquis; (5) in 2012, Secure acquired New West's 339 Patent as well as its intellectual property and confidential information; and (6) Mr. Wu was aware of the 339 Patent.

[112] Secure raised the same allegations in their initial written closing submissions. Secure added that (1) the thought exercise of the Disputed Patents is no more than an attempt to claim a new nomenclature for an invention that was already known, and that the Court should, on that basis, declare Secure the owner or co-owner of the Disputed Patents; (2) while employed at Marquis, Messrs. Wu and Brockhoff developed an invention that became the subject of the 585 Patent, which names Messrs. Wu and Brockhoff as co-inventors and claims, *inter alia*, certain drilling fluids, and that per Professor Rivard's expert opinion, the 585 Patent also covers encapsulation, and per Mr. Wu's admission that if there was work done on the 585 Patent relating to encapsulation, it must have been Mr. Brockhoff's work, which was assigned to Marquis; (3) Mr. Wu did not show any work he did leading to the Disputed patents; and (4) in 2012, Marquis acquired all the assets of New West, which included all the intellectual property and confidential information.

[113] In the additional submissions they filed at the Court's request, Secure raised the presumption of the inventive employee, based on *Comstock*. At paragraph 59 of their additional written submissions, Secure assert that Mud had admitted that "[...] unless Wu made the invention after he left Marquis, the invention is owned by Secure Drilling". Such an admission could have an impact, however, I have not found this precise admission in the recording of the December 17 hearing. I did find Mud mentioning at 1:25:46 that "[i]f Mr. Wu invented the invention, while at Marquis, if he did it in that two-week period right before he left, if they [Secure] can establish that, then yes, he would have had an obligation under his employment agreement to assign that invention. That's how you challenge title", which is self evidently quite different. I will thus not examine the argument raised by Secure in this regard.

[114] Again in their additional submissions, Secure argue that in the employment context, the evidence is clear that Mr. Wu was hired as a research chemist to invent, had an agreement with Marquis requiring him to assign inventions and explicitly assigned his interest in the 585 Patent to Marquis. Secure thus assert that if Mr. Wu worked on the subject matter of the Disputed Patents while he was at Marquis, then Secure Energy (Drilling Services) Inc. is the rightful owner of the subject matter of those patents.

[115] Secure stress that Mr. Wu worked on improving lubricity with oleic acid and canola oil while at Marquis, as described in Claims 27-32 of the 190 Patent (Secure closing submissions at para 102; see also *Wu Cross Day 1* at 89). Secure allege *inter alia* that (1) Mr. Wu's lab notebooks showed he conducted lubricity tests on pork oil and canola oil at Marquis on the subject matter of claims 27 to 32 of the 190 Patent; (2) Professor Rivard explained that pork oil

is another name for oleic acid; (3) a combination of oleic acid and canola oil falls within the scope of the claims of the 190 Patent; (4) oleic acid was added to the composition of the 190 Patent to improve the lubricity of the drilling fluid; (5) the experiments in the 190 Patent used oleic acid; and (6) Mr. Wu was well-aware that an oleic acid formulation was proprietary to Marquis.

[116] Secure go on to argue, in the alternative, that if Mr. Wu is the sole inventor and the invention was made after he left Marquis, then Mr. Wu misappropriated confidential information from Marquis in order to develop the invention of the Disputed Patents, relying on paragraphs 112 to 116 of their initial closing written submissions. In those paragraphs, Secure mention the technical information related to the 585 Patent continuation as well as the fact that Mr. Wu was aware of the 339 Patent.

[117] Secure add that in this case, the determination of inventorship is highly relevant to the issue of ownership because it affects the chain of title. Essentially, Secure assert that if Mud do not meet their burden, than they, Secure, can be granted the relief they seek, including a declaration that Secure is the owner, or in the alternative, the co-owner of the Disputed Patents.

[118] However, I am left searching through their submissions to infer Secure's arguments in support of the claim and allegations of ownership they raised in response to the Motion for summary trial, and for the pieces of evidence that precisely support each of these allegations.

[119] As mentioned earlier, in support of this Motion, Secure adduced the affidavit of Mr. Anderson, who Secure announced was called to testify about the experience with Marquis and the ownership, how it came to be that Secure acquired the 339 Patent as well as the intellectual property and confidential information of New West. Mr. Anderson was not present at Marquis during the 2001-2006 period.

[120] In regards to “confidential information”, Mr. Anderson confirmed that, in 2012, Marquis Alliance purchased the assets of New West, including the 339 Patent and all the intellectual property and confidential information.

[121] Again, as mentioned earlier, Secure also adduced the expert evidence of Professor Rivard who, relevant to this, opined that the 585 and 339 Patents each overlapped with the 300 and 190 Patents, which, Secure argue, shows that the invention underpinning the Disputed Patents was developed at Marquis.

(b) *Mud’s position and evidence*

[122] As Mud assert that Secure alone bore the burden to prove their ownership of the Disputed Patents as part of the Motion for summary trial, they have more detailed arguments in response to Secure’s allegations than in support of their own ownership allegations.

[123] In essence, Mud impose the burden solely on Secure to prove their counterclaim of ownership, and assert that, given that Secure have failed, Mud are entitled to the ownership declaration they seek.

[124] In their opening statement, Mud assert that Mr. Wu's work at Marquis was directed towards emulsion drilling fluids, and that he invented Marquis' flagship product BASE which is protected by the 585 Patent. They add that, per Mr. Wu's testimony, while at Marquis, he never worked on encapsulating drilling fluids, which is the key point in the Disputed Patents.

[125] In their first memorandum, filed after the first hearing of the Motion, Mud submit that (1) challenging ownership of a patent is a defensive tactic employed by Secure; (2) that the 585 Patent Mr. Wu worked on while at Marquis, relates to an emulsion drilling fluids; (3) that emulsifying bitumen and inhibiting dispersion of bitumen (encapsulation) are diametrically different solutions; (4) that Marquis and Mr. Wu did no work on encapsulation fluids pre-September 2006, as confirmed by the August 8, 2006 email Mr. Rawlyk sent to Mr. Wu, the detail of the various project he worked on, and the compilation of Mr. Wu's work product attached to Mr. Anderson's affidavit; and (5) the fact that Secure sought to acquire rights to the Disputed Patents.

[126] Mud argue that the issue is a narrow one and whether the Disputed Patents "overlap" prior art patents is immaterial to the question of who invented the Disputed Patents and that the issues of inventorship and obviousness should not be conflated (*Apotex Inc v Wellcome Foundation Ltd*, [2000] FCJ No 1770 at paras 24-27). They add that the ownership issue does not require expert evidence or a complicated claims constructions analysis, but simply requires an understanding that the Disputed Patents are related to encapsulating drilling fluids used in the oil sands to overcome certain issues caused by bitumen when drilling, citing *Drexan Energy Systems Inc v Canada (Commissioner of Patents)*, 2014 FC 887 at paragraphs 3, 27; *Bell Helicopter*

Textron Canada Limitée v Eurocopter, société par actions simplifiée, 2013 FCA 219 at paragraph 38; *Valence Technology Inc v Phostech Lithium Inc*, 2011 FC 174 at paragraph 208.

[127] Mud assert that to be successful on their ownership claim, Secure bear the burden of proving on a balance of probabilities that (1) Mr. Wu developed the inventions of the Disputed Patents while employed by Marquis; (2) Mr. Brockhoff contributed to the development of those inventions; or (3) Mr. Wu misappropriated Marquis' confidential information to develop those inventions.

[128] Mud assert that Secure failed to prove either of these three (3) elements. Mud caution the Court not to conflate inventorship with inventiveness and allege that even if Professor Rivard's assertions are true and that elements are covered by a combination of the 585 and 339 Patents, Secure do not have a *de facto* right to the combination made (*Apotex*).

[129] In the additional submissions presented to the Court, apart from the issues raised by the Court and addressed earlier, Mud added that it is not necessary to prove that an invention was made or that an invention exists to prove ownership, and that it is necessary to identify the inventor of the Disputed Patents to prove ownership.

[130] Mud respond that there is no evidence of Mr. Wu, nor anyone else at Marquis, having worked on the development of *an encapsulating* drilling fluid prior to Mr. Wu's departure from Marquis on September 18, 2006. Mud argue that "[...] the record is unambiguous with respect to the nature of Mr. Wu's work product while employed at Marquis. There, Mr. Wu worked on:

conventional drilling fluid additives; emulsion (i.e., dispersion) drilling fluids (including BASE Mud / 585 Patent); and silicate-based and other drilling fluids not used for oil sands applications” [Emphasis added.]

[131] Mud add that Secure failed to prove that Mr. Wu developed the inventions while at Marquis. They explain that the differences between the nature of the Disputed Patents and Mr. Wu’s work at Marquis are glaring, noting Dr. Rivard’s conclusions that (1) inhibiting (i.e., preventing) dispersion of bitumen into a drilling fluid would constitute inhibiting (i.e., preventing) emulsification; (2) inventions of the Disputed Patents both include the use of hydrophobically associating polymers in a drilling fluid to encapsulate and inhibit sticking and/or dispersion of bitumen; and (3) the objective of the 585 Patent, first developed by Mr. Wu in 2002 while at Marquis, is to emulsify bitumen (or disperse the bitumen into the drilling fluid). Mud argue that none of Mr. Wu’s work at Marquis pertained to using hydrophobically associating polymers or “encapsulating agents” to inhibit the dispersion of bitumen into a drilling fluid, rather, Mr. Wu’s oil sands related work at Marquis was directed at promoting dispersion of bitumen (i.e., emulsification).

[132] Mud assert that Secure suggest that the inventions of the Disputed Patents had already been disclosed in the prior art, and they highlight that Secure appear to be running at least one of the following arguments: (1) Mr. Wu could not have invented anything because the inventions overlap with the subject matter of the 585 and 339 Patent; or (2) as the current owner of the 585 and 339 Patent, Secure own all subject matter that may overlap with those patents in combination.

[133] According to Mud, to follow Secure's argument that Mr. Wu did not invent anything and therefore that Mud Engineering Inc. cannot own the Disputed Patents, the Court would necessarily have to undertake a validity analysis. Mud remind the Court that the issue of inventorship is separate and distinct from the issue of inventiveness.

[134] Mud explain that Professor Rivard is characterizing the Disputed Patents as a combination of the 585 and the 339 Patents. Mud argue that "[e]ven if Dr. Rivard's assertions are true, a patentable invention may lie in a combination of elements in the prior art. Further, and contrary to Secure's suggestion, even if those elements are covered by a combination of the 585 and 393 Patents, Secure does not have a de facto right to the combinations made" and cite section 32 of the *Patent Act*.

[135] Mud again add that Professor Rivard undertook unnecessarily complex, literal and selective claims construction analysis although "[i]ssues of validity, including the sufficiency of the disclosure, demonstrated utility/sound prediction, whether the claims are broader than the invention made or disclosed, anticipation, and obviousness are not before this Honourable Court".

(c) *Discussion and decision*

[136] First, there is no evidence that Mr. Wu has appropriated confidential or proprietary information. Secure have provided very little detail and information about this allegation, but it seems derived from the fact that (1) Mr. Wu asked for and obtained some 500 pages of documents relating to the 585 Patent continuation just before filing its 969 Provisional; and (2)

Mr. Wu knew about New West's 339 Patent while he was working at Marquis, and in 2012, Marquis acquired the 339 Patent and the intellectual property and confidential information of New West.

[137] Secure did not confirm which document, if any, were confidential in the 585 Patent continuation package remitted to Mr. Wu in June 2007. Likewise, Secure did not explain how Mr. Wu would have obtain confidential information on the New West 339 Patent or intellectual property information, while or because he worked for Marquis from 2001 to 2006 considering that this information became Marquis' in 2012, per Mr. Anderson's testimony. Mr. Wu has admitted having been aware of New West's work and of the 339 Patent, but no more. The evidence likewise fails to establish which confidential document or information would have been appropriated.

[138] Second, the claim, on this Motion, that Mr. Brockhoff is co-owner derives from Professor Rivard's evidence that there is overlap between the 585 Patent and the Disputed Patents, combined to Mr. Wu's testimony that he did not work on encapsulating drilling fluids while at Marquis. The Court is invited to infer that Mr. Brockhoff, as the co-inventor of the 585 Patent, would therefore have inevitably worked on the "overlapping" aspect to a point that he could be the inventor or co-owner of the Disputed Patents.

[139] Given the evidence adduced, or lack of, I cannot reach that conclusion on a balance of probabilities.

[140] I agree with Mud that Secure's evidence is insufficient to meet their burden and that Secure have failed to establish that Mr. Brockhoff made the alleged contribution to the Disputed Patents. Secure provided no evidence that Mr. Brockhoff in particular worked with encapsulating drilling fluids, made any efforts to inhibit dispersion of bitumen into drilling fluids, nor made any contribution to the specific drilling fluids formulations or combinations described in the Disputed Patents.

[141] Notably, Secure has adduced no evidence from Mr. Brockhoff himself, despite their obligation to put their best foot forward, and despite the fact that Mr. Brockhoff still works for Secure, choosing instead to tender evidence from Mr. Anderson who was not at Marquis in the 2001-2006 period. I draw a negative inference from Secure's failure to adduce the best evidence per Rule 216(4). In their submissions, Secure themselves noted that the Court can draw adverse inferences at common law, for instance "[...] where a party fails to lead evidence of facts that are particularly within its knowledge, the Court may draw an adverse inference as well", citing the decision *Pfizer Canada Inc v Apotex Inc*, 2003 FC 1428 at paragraph 13.

[142] The last allegation in Secure's bid for ownership is that Mr. Wu worked on material elements of the Disputed Patents while he was employed at Marquis between 2001 and 2006, which, per Secure's argument, would have triggered the intellectual property clause of the non-solicitation and confidentiality agreement he signed in 2003.

[143] This clause confirms that "[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"

[Emphasis added.] There is no dispute that Mr. Wu 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.

[144] Professor Rivard confirms, in his conclusion, that Mr. Wu “worked on, worked with or was aware” of the Disputed Patents’ subject matter while at Marquis. I note that Secure have not explain how Mr. Wu, working on the subject matter of the Disputed Patents while at Marquis, assuming it is proven he did, meets the language of the non-solicitation and confidentiality agreement so that the Disputed Patents’ ownership would be assigned to Secure. Secure have not explain, nor establish that *working on* the subject-matter of the Disputed Patents while at Marquis, if established, equates to “the developing of an invention in the course of the discharge of his employment duties”. Given the lack of argumentation on how this applies to Mr. Wu’s contractual obligation, Secure’s argument can more appropriately be construed as a veiled attack on the Disputed Patents’ validity. As Mud assert, and as I stated earlier, validity is not at play in this Motion.

[145] In addition, I have not been convinced, on balance of probabilities, that Mr. Wu *worked on* the subject matter of the Disputed Patents while at Marquis. In his conclusion, Professor Rivard conflates “worked on, worked with and was aware”, while Mr. Rawlyk’s email of August 8, 2006 is the earliest correspondence in which an encapsulation system is mentioned by anyone from Marquis, and was not written until after Mr. Wu had announced his resignation. The email confirms that Marquis did not have an encapsulating drilling fluid at the time in development.

[146] Again, notably, Secure tendered no evidence from any witness with personal knowledge of the purported facts underlying this claim. Secure adduced no evidence from either Mr. Brockhoff or Mr. Rawlyk that could have shed some light on the events at Marquis while Mr. Wu worked there.

[147] I cannot conclude that Secure have established, on balance of probabilities, that Secure Energy (Drilling Services) Inc. owns or co-owns the Disputed Patents.

IV. Conclusion

[148] In their Notice of Motion, Mud are seeking their costs of the Motion, payable forthwith as well as such further and other relief as this Honourable Court may deem just.

[149] Similarly, Secure request an order awarding Secure their costs on this Motion and such further and other relief as this honourable Court may deem just.

JUDGMENT in T-89-18

THIS COURT'S JUDGMENT is that:

1. The Motion for Summary Trial is dismissed.
2. Mud Engineering Inc's action is dismissed.
3. Secure Energy (Drilling Services) Inc.'s counterclaim is dismissed.
4. Costs are awarded to Secure according to Rule 407.

"Martine St-Louis"

Judge

FEDERAL COURT
SOLICITORS OF RECORD

DOCKET: T-89-18

STYLE OF CAUSE: MUD ENGINEERING INC. v SECURE ENERGY (DRILLING SERVICES) INC.AND SECURE ENERGY SERVICES INC. AND BETWEEN SECURE ENERGY (DRILLING SERVICES) INC. AND MUD ENGINEERING INC. AND AN-MING (VICTOR) WU

PLACE OF HEARING: HELD BY ZOOM VIDEO CONFERENCE

DATE OF HEARING: MAY 25, 2021

JUDGMENT AND REASONS: ST-LOUIS J.

DATED: JUNE 30, 2022

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