IN THE SUPREME COURT OF BRITISH COLUMBIA

Citation: *XY, LLC v. Canadian Topsires Selection Inc.,* 2016 BCSC 1095

Date: 20160615
Docket: S122330
Registry: Vancouver

Between:

XY, LLC

Plaintiff

And

Canadian Topsires Selection Inc.,
Fraser Biomedical Inc.,
Ai De Diagnostic Co. Ltd. (also known as Aide Diagnostic Co. Ltd.),
Sire Lodge Inc.,
GenerVations Inc.,
Technoterm Integrated Services Ltd.,
International Newtech Development Incorporated,
IND Embryontech Inc.,
IND Diagnostic Inc.,
497244 BC Ltd.,
Barry Dong Sheng Cheng,
Kevin Chung Li Xu also known as Kevin Chun Li Xu,
Abbotsford Veterinary Clinic & Hospital Ltd.,
Canadian Pacific Genetics Center Ltd.,
Richard Vanderwal,
Zhenyu Zhang,
Jesse Zhu (also known as Jia-Bei Zhu and Jesse Jia-Bei Zhu),
Shu Li Wang (also known as Shuli Wang),
Shu Xi Wang (also known as Peter Wang and Peter Shu Xi Wang),
Jin Tang (also known as Tang Jin),
Selen Zhou (also known as Cui Feng Zhou and Selen Cui Feng Zhou and Selen Cheung),
James Yang,
Alice Lin,
Cheng Li (also known as Li Cheng),
Fu Qi (also known as David Qi and David Fu and Fu (David) Qi),
Zhigang Wang (also known as Gary Wang and Zhigang (Gary) Wang),
Shu Qing Wang,
Xiahong Xu (also known as Xu Xiahong and Xiahong (Amy) Xu),
Maggie Hu,
Jane or John Does #3-10,
IND Pharmaceuticals Inc.,

John Doe (Company) #2,
and John Doe (Company) #3-10

Defendants

Before: The Honourable Madam Justice Fitzpatrick

Reasons for Judgment

Counsel for the Plaintiff:	C. S. Wilson G. M. Bowman K. Smiley
Place and Date of Trial:	Vancouver, B.C. November 2-6, 9-10, 16-20, 2015
Written Submissions	January 18, 2016
Place and Date of Judgment:	Vancouver, B.C. June 15, 2016

I. INTRODUCTION

[1] This action, commenced in March 2012, concerns the continuing efforts of the plaintiff, XY, LLC ("XY"), to enforce its intellectual property rights and technology relating to the sexed sorting of bull semen. These efforts follow from XY's successful prosecution of earlier proceedings against many of the defendants in this action.

[2] On March 2, 2012, Justice Kelleher issued reasons after trial in the earlier B.C. Supreme Court proceedings (the "Original Action"). There, XY had advanced claims including breach of contract, conspiracy, deceit, breach of confidence and unjust enrichment.

[3] Justice Kelleher granted judgment in favour of XY against JingJing Genetic Inc. ("JingJing"), Jesse Zhu ("Zhu"), and two of his employees, Jin Tang ("Tang") and Selen Zhou ("Zhou"), in the amount of approximately $8.5 million on the basis of breach of contract, breach of confidence, conspiracy and deceit. He also granted a permanent and mandatory injunction designed to protect XY's intellectual property and technology rights: *XY, Inc. v. International Newtech Development Incorporated*, 2012 BCSC 319 (the "Trial Reasons"); rev'd in part *XY, LLC v. Zhu*, 2013 BCCA 352 (the "Appeal Reasons").

[4] The responses to civil claim filed by the major defendants in this action, including Zhu, and various companies related to him, have now been struck. Two defendants related to Zhu, being Ai De Diagnostic Co. Ltd., also known as Aide Diagnostic Co. Ltd., ("Ai De"), and Zhenyu Zhang ("Zhang"), though served, have failed to defend. Only the response to civil claim of Tang remains extant, although Tang did not attend this trial. Other defendants have settled with XY, and the action as against them has been discontinued.

[5] Accordingly, the liability portion of this trial concerns only Tang, Zhang and Ai De. The other major issue is the determination of damages with respect to: firstly, Tang, Zhang and Ai De, if liability is established; and, secondly, the other defendants against whom liability has already been established. XY seeks compensatory damages arising in the period after that considered by this Court in the Original Action (i.e. after the end of 2008), on the basis of conspiracy and breach of confidence. XY also seeks disgorgement of profits on the basis of unjust enrichment, injunctive relief, a constructive trust, punitive damages and special costs.

[6] I have been greatly assisted in preparing these reasons by the extensive oral and written submissions of XY at the conclusion of this trial. Any similarity between these reasons and those written submissions is entirely intentional on my part: *Cojocaru v. British Columbia Women's Hospital and Health Centre*, 2013 SCC 30 at paras. 36 and 75.

II. THE MAJOR DEFENDANTS / THEIR STATUS

[7] It will be apparent from the style of cause that there is a significant cast of characters composed of both individual and corporate defendants.

[8] Zhu is said to be the person who leads the IND group of companies (the "IND Group"), which operate either in Canada and China. The IND Group includes the defendants:

a) Canadian Topsires Selection Inc. ("CTS");

b) Fraser Biomedical Inc. ("FBI");

c) International Newtech Development Inc. ("IND");

d) IND Embryontech Inc. ("IEI");

e) IND Diagnostic Inc. ("IDI"); and

f) Ai De.

[9] On June 1, 2015, I granted an order striking the responses to civil claim of Zhu, CTS, FBI, IND and IEI based on their non-compliance regarding document production. Judgment was granted in favour of XY with damages to be assessed: *XY, LLC v. Canadian Topsires Selection Inc.*, 2015 BCSC 912. On June 10, 2015, Kelleher J. struck the response to civil claim of IDI based on IDI's contempt of this Court's order: *XY, LLC v. Canadian Topsires Selection Inc.*, 2015 BCSC 988. In August 2015, I refused to allow the participation of all these defendants at this trial, given the ongoing defaults in respect of their compliance with the *Supreme Court Civil Rules* (the "*Rules*") and certain court orders: *XY, LLC v. Canadian Topsires Selection Inc.*, 2015 BCSC 1840. I understand that all of these orders are under appeal.

[10] The defendant, Shuli Wang ("Ms. Wang"), is Zhu's wife and a shareholder of the defendant 497244 B.C. Ltd. ("497"). 497 owns a building at 1629 Foster's Way, Delta, B.C., where one of the laboratories in issue is located (the "Foster's Way Lab"). XY has settled its claim against Ms. Wang and 497 and the action has been discontinued as against them.

[11] Ms. Wang's brother, and Zhu's brother-in-law, is the defendant Shu Xi Wang (aka Peter Wang). He was a former director of FBI and is now deceased. It does not appear that the pleadings were served on him and, therefore, XY does not seek any relief at this trial as against his estate.

[12] The other laboratory relevant to this action was located at 131-5589 Byrne Road, Burnaby, B.C., which was owned and/or operated by FBI and CTS (the "Byrne Road Lab"). Employees of the Byrne Road Lab included the following defendants:

a) Tang – semen and embryo manager. Tang was in charge of the work in the Byrne Road Lab from 2005 until February/March 2012. She was responsible for organizing the employees who did the semen sorting;

b) Zhou – IND accounting manager. She started working for the IND Group in 1997 and worked there until March 2013. She was initially hired as a bookkeeper, and by the time she stopped working for the IND Group she was the accounting manager. Zhou testified that she worked for the Canadian companies that were under the control of Zhu and Ms. Wang, including IND, IDI, 497 and others. She referred to them generally as "IND". Zhou was aware of Zhu's various Chinese companies, but she did not handle any of those activities. She was, however, involved in dealings between the Canadian and Chinese companies, such as transactions relating to money transfers. Zhou considered that both Zhu and Ms. Wang were her bosses, although Zhu was the ultimate decision-maker;

c) James Yunjian Yang ("Yang") – IND office manager. He was initially hired by the IND Group in 1999 and worked as a general labourer. From 1999 to 2004, he worked in a variety of roles for the various companies. In 2004, Yang was temporarily laid off for approximately ten months. Around 2008, Yang became the key contact with the government. By 2010, Yang was the business manager for IEI and also worked for CTS. He was the main contact person for government agencies and helped IEI and CTS obtain necessary permits and certificates. He was also the main contact for semen and ovary suppliers in Canada. He developed the CTS business, including assisting in finding a new location for the semen-sorting machines in 2010 (which was ultimately the Byrne Road Lab). Between 2012 and 2014, the vast majority of Yang's time was focused on semen, embryo and dairy production, including the IND Group's business-development efforts in Uruguay and California;

d) Kevin Chunli Xu ("Xu") – head lab technician who worked for the IND Group from April 2006 to October 2014. Xu holds both a Bachelor's degree and a Master's degree in electrical engineering. He was initially hired to do industrial electrical work as a machine maintenance worker under the supervision of James Jihai Wang. By October 2006, Xu was responsible for maintaining semen-sorting equipment and was supervised by Tang who, in turn, reported to Zhu. He operated the semen-sorting equipment;

e) Barry Dong Sheng Cheng ("Cheng") – lab technician working for the IND Group from May 2004 until October 2014. Tang became his supervisor and remained so until he was laid off on October 15, 2014; and

f) David Qi Fu ("Fu") – lab technician for the IND Group from 2003-2006 and 2007 to October 2014. Fu was educated as a medical doctor in China. He was initially hired as an embryo lab technician and worked in Quebec and Pennsylvania making IVF bovine embryos. While working in Quebec, Fu was employed by IEI. When he was re-hired in 2007, he was hired to operate cytometers for sorting bovine semen in B.C. Cheng trained him how to operate the cytometers. In both roles, he was supervised by Tang.

[13] XY served Tang with a notice of intention to call her as an adverse witness at the trial. Nevertheless, she did not attend. At the commencement of the trial, XY's counsel brought to my attention that Tang had asserted to them that she lacked funds for legal fees. She also advised XY's counsel, by email, that she was having mental-health issues. Nevertheless, XY does not seek judgment against her based on her failure to attend pursuant to Rule 12-5(25), nor does XY ask this Court to draw any adverse inference as against her based on her failure to testify.

[14] Zhou settled with XY in February 2014 and Yang, Xu, Cheng and Fu settled with XY in November 2014. I will collectively describe all these individual employee defendants (not including Tang) as the "IND Employees". As part of that settlement, the IND Employees agreed to cooperate in providing both documentary and oral evidence in this proceeding. All of them gave testimony at this trial.

[15] The IND Employees and Tang were all employed by the IND Group in relation to the previous laboratory operated by JingJing (also known as IND Lifetech, Inc.), which was the subject matter of the Original Action.

[16] Finally, Zhang is recorded in the corporate documentation of CTS as its director and shareholder.

[17] Both Ai De and Zhang were substitutionally served, pursuant to court order, with the notice of civil claim in late May 2014, but neither filed any response to civil claim. XY did not earlier seek default judgment against them. However, XY now seeks judgment at this trial as against them, contending that these defendants have now admitted the facts alleged by XY in its pleading by reason of their failure to respond.

[18] In summary, this trial is only directed at the following defendants: the individuals Zhu, Tang and Zhang, and certain IND Group companies, being CTS, FBI, IND, IDI, IEI and Ai De.

III. XY'S BACKGROUND

[19] XY owns certain technology, and the intellectual property rights associated with that technology, which permits the separation of X (female) and Y (male) chromosomes in bovine sperm. This is valuable technology for the dairy and other livestock industries in

that it allows these businesses to elevate the chances of a cow having either a female or male offspring, as they might desire.

[20] For an historical description as to how XY came to develop this technology, see the Trial Reasons at paras. 50-55.

[21] The central aspect of XY's technology involves the use of a cytometer, which is a machine that analyzes and sorts cells. XY has developed a specific version of a cytometer, called an "SX cytometer", which uses specialized parts or equipment to analyze and sort bovine sperm into either X or Y cells. Some of the specialized parts used in an SX cytometer include beam-shaped optics (BSOs), a nozzle or tip assembly and Summit software, all of which are proprietary technology developed by XY. XY's intellectual property also includes the manner in which a SX cytometer is configured and certain protocols as to the use of the SX cytometer in the sorting process.

[22] Three employees of XY or XY's parent company were called to give evidence. They were Mike Evans and Thom Gilligan, both of whom testified at the trial in the Original Action, and XY's chief financial officer, Scott Holland. Mr. Holland gave evidence that XY's technology is really the only commercially-viable method of producing "sexed semen" on the market. In addition to producing sexed semen, this technology also allows for the use of sexed semen in the production of "sexed embryos", which also provides a higher likelihood of selective reproduction in cattle.

[23] Since 2007, the market for sexed semen and sexed embryos has grown very fast. Demand has significantly increased as the quality of the product has improved. Mr. Holland's evidence was that sexed semen has become a trusted product which adds considerable value for XY's customers.

IV. THE ORIGINAL ACTION

[24] To fully understand this action, it is necessary to review the issues addressed in the Original Action and the results. The details are fully set out in the Trial Reasons; however, I will summarize them here.

[25] The Original Action concerned a licencing arrangement between XY and JingJing, one of Zhu's companies. XY granted a licence to JingJing in February 2004 (the "Licence"), which required JingJing to pay certain royalties to XY for its use of its technology relating to sexed semen and sexed embryos. In accordance with arrangements between the parties, JingJing originally acquired two SX cytometers for use in its semen-sorting business. XY terminated the Licence in November 2008 after disputes with JingJing arose.

[26] As I will discuss in more detail below, two events occurred in the lead-up to the trial in the Original Action that have some relevance to this action.

[27] Firstly, in January 2008, there was a sale of the shares in JingJing to two persons, one of whom was Shu Xi Wang (Ms. Wang's brother). Justice Kelleher described the sale as a "curious one" lacking "commercial reality", and noted that Zhu acknowledged that it had been done to avoid liability to XY (Trial Reasons at paras. 118-121). Secondly, in August 2010, JingJing assigned itself into bankruptcy. This bankruptcy was not directly addressed in the Trial Reasons, but Kelleher J. did make certain interlocutory orders regarding the disposition of JingJing's assets by JingJing's trustee in bankruptcy that are relevant here, as I will describe below.

[28] The trial in the Original Action took place over many days commencing on October 18, 2010 and continuing to March 11, 2011. One of the issues that arose at the trial, as with this trial, was an order that certain testimony of XY's representatives and related documentation be sealed to protect aspects of confidentiality as it related to XY's intellectual property rights and technology. An issue arises here from the disclosure of that testimony in the Original Action, as I will discuss below.

[29] The Trial Reasons were issued on March 2, 2012. Justice Kelleher made the following findings:

a) JingJing was in breach of the Licence (Trial Reasons at paras. 187-200) by reason of:

   i. a concerted effort to under-report its use of XY's technology by which royalties were due, including the intentional falsification of its records in furtherance of the plan to do so; and

   ii. its misuse of XY's confidential technology by allowing IEI to use the technology to produce sexed embryos in Quebec;

b) JingJing, Zhu, Tang and Zhou had been involved in a widespread misuse of XY's technology amounting to a breach of confidence (Trial Reasons at paras. 201-229);

c) JingJing, Zhu, Tang and Zhou had intentionally deceived XY by reason of the false reporting to XY (Trial Reasons at paras. 237-262). As the Court noted in the Appeal Reasons at para. 12, "[t]he relationship between the contracting parties was marred by dishonesty on the part of JingJing from the very beginning"; and

d) Zhu, Tang and Zhou had conspired to cause financial loss to XY by reason of the false reporting (Trial Reasons at paras. 263-277).

[30] It remains relevant that Kelleher J. found that Zhu, Tang and Zhou were not credible witnesses (Trial Reasons at paras. 175-184).

[31] The relief granted by Kelleher J. included damages for breach of contract, deceit and conspiracy. These damages were assessed at $8,507,891, being the royalties that XY would have received in respect of JingJing's semen and embryo production to December 2008 (Trial Reasons at paras. 281-296). Punitive damages were not awarded; special costs were awarded (Trial Reasons at paras. 341-362).

[32] Justice Kelleher found that XY's technology included certain confidential matters, the "Confidential Information", which was defined in Appendix A to the order made after trial (the "Trial Order"). The Confidential Information included: firstly, a number of specified components of the SX cytometer, including its configuration; secondly, XY's protocols, and all other information and techniques imparted from XY during training, or otherwise, to any of the defendants in the Original Action or their employees relating to the use and operation of SX cytometers; and, thirdly, XY's confidential patent information: Trial Reasons at paras. 209-217.

[33] Having found a breach of confidence by the widespread misuse of XY's technology and protocols, Kelleher J. issued a prohibitory injunction against the defendants, including Zhu and others, to prevent future use of the Confidential Information, either directly or indirectly. Justice Kelleher also issued a mandatory injunction by which Zhu, Tang and others were to deliver all Confidential Information in their possession, power or control to XY: see Trial Reasons at paras. 322-340.

[34] Justice Kelleher dismissed XY's claims of deceit and civil conspiracy against IND, IEI and other corporate defendants within the IND Group: Trial Reasons at paras. 297-318. This conclusion was upheld on appeal; however, the Court of Appeal remitted XY's claims of unjust enrichment against these defendants for a retrial: Appeal Reasons at paras. 82-97.

[35] Zhu's appeal from Kelleher J.'s judgment in the Original Action was heard and the reasons were issued in July 2013. Those efforts were largely unsuccessful. The only change made by the Court of Appeal was to slightly amend the provisions of Appendix A of the Trial Order, by which the "Confidential Information" was defined.

V. XY'S CLAIMS

[36] XY now advances claims in breach of confidence, civil conspiracy and unjust enrichment.

[37] The foundation of XY's present claims rests on its now-proven allegations that the defendants in the Original Action were in possession of information confidential to XY, and that they breached their duty in respect of that confidence. In particular, XY relies on Kelleher J.'s findings concerning what he defined as XY's "Confidential Information" in the Trial Order.

[38] In this action, XY alleges that Zhu and Tang continued to breach that duty of confidence to XY after the events that were addressed in the Original Action, and even during the trial itself and beyond. In addition, XY alleges that many other persons, being the other defendants in this action, assisted Zhu and Tang in breaching this duty, and they also benefitted or were unjustly enriched from their actions, although in differing degrees. XY also says that the defendants in this action conspired to harm XY by their actions and that they succeeded in doing so.

VI. DOCUMENT PRODUCTION ISSUES

[39] Despite the lack of opposition at this trial, XY has not engaged in any shortcuts in proving its case; rather, it has introduced detailed and comprehensive evidence as was available. There is voluminous documentary evidence before the Court as to the operations and activities of the defendants (in both actions), both before and after the issuance of the Trial Reasons.

[40] However, as I will discuss in more detail below, XY has been hampered in proving its case, particularly regarding the post-March 2012 operations of the IND Group given the lack of full document production by the defendants. This is a similar refrain to Kelleher J.'s observation that Zhu's failure to produce documentation in the Original Action "had a substantial impact on [XY's] ability to prove its case": Trial Reasons at paras. 9, 278-280.

[41] The documentation introduced at this trial has been, in large part, obtained by XY through seizures under an Anton Piller order granted in this action in April 2012 (the "APO"), and by disclosure in the Original Action. Some of that documentation has been before the Court on various interlocutory applications since late 2012.

[42] The evidence discussed by the Court in the earlier interlocutory decisions in this action has largely foreshadowed the evidence produced at this trial. Arising from the document production since the commencement of this action, including recent document

production by the IND Employees after settlement and just prior to the start of this trial, a definite, yet somewhat incomplete, picture emerges. That picture indicates surreptitious and wrongful activities of Zhu, his companies, and the other defendants in relation to XY's intellectual property rights and technology, even as early as 2008, which were not known to XY at the time of the Original Action.

[43] I agree with XY that the document disclosure by Zhu and the various defendant companies and his employees has been wholly inadequate.

[44] The settlements between XY and the IND Employees required them to make full disclosure to XY. They did so, and the extent of their previous default in document production is more than evident by the fact that they produced an additional list of documents of over 800 pages only after that settlement.

[45] Yang testified that he was involved in assisting the IND Group with document production in this case after the lawsuit started. Yang was the main contact person for the other employees, the companies and their legal counsel. Yang was aware, along with the other IND personnel, that XY had made a number of demands for document disclosure, and that various orders had also been granted compelling document disclosure in the period from 2012-2014. These demands are outlined in my reasons at *XY, LLC v. Canadian Topsires Selection Inc.*, 2015 BCSC 912 at paras. 12-55.

[46] On June 1, 2015, I struck the responses to civil claim of Zhu, IND, IEI, CTS and FBI on the basis of a failure to comply with document disclosure obligations and orders.

[47] What was not known to XY or the Court at the time was that these defaults in document production were deliberate and part of a highly-organized, concerted and extensive attempt by the IND Group companies and individual defendants to thwart XY's efforts in this litigation.

[48] Yang testified, at this trial, that following each of XY's demands or the granting of court orders for document production, the IND Group purposely did not take any steps to comply with the required document production.

[49] Yang stated that no action was taken to respond to XY's counsel's demand of August 27, 2013 for production of documents. I would note that a supplemental list was prepared on December 19, 2013, which I assume was a cursory attempt to disclose some further documents. He stated that nothing was done to comply with the Court's order of May 30, 2014 which imposed a deadline for further document production by August 19, 2014. It was only on August 28, 2014 when the Court refused an extension of the deadline under the May 30, 2014 order, at the request of newly-retained counsel, that

the IND Group took any steps to produce further documents. Even so, Yang testified that he was explicitly told by Anna Huang ("Huang"), a lawyer hired by Zhu to manage the litigation, that he was to restrict document production. Yang was explicitly told not to produce or show to the IND Group's external legal counsel certain documents that were clearly relevant and producible. Yang's email to Zhu of September 15, 2014 clearly advises Zhu that Huang denied the existence of certain relevant documents to their own counsel. There is no evidence as to Zhu's response but these documents were never produced.

[50] Zhu also exercised complete control over the document disclosure of the IND Employees prior to their settlement with XY.

[51] Xu also testified that Huang provided him with a list of the categories of documents that should or should not be disclosed by him in the litigation. Zhu also requested that Xu give him a copy of all the documents that he was going to produce so that he could produce the same documents. When Xu was asked whether Zhu produced any documents, other than what Xu and the other IND Employees provided to him, he confirmed that Zhu had not.

[52] Similarly, Yang testified that he asked Zhu, on many occasions, to produce emails or documents from his computer. He said that Zhu always responded that he did not have the time or money to produce these documents. Finally, after the May 30, 2014 document disclosure order, Yang asked again and Zhu responded by asking him to send any emails that Yang and Xu were listing which contained Zhu's email address, so that Zhu could use this for his list of documents. Yang and Xu carried out these instructions.

[53] Yang testified that he reviewed Zhu's September 1, 2014 list of documents, which is attached to Zhu's affidavit, verifying the list of documents sworn on September 2, 2014. Upon reviewing all of the emails listed under item 1.203 (entitled "folder of emails from the computer of Jesse Zhu"), Yang confirmed that all of the emails listed were only ones that he and Xu sent or received (either directly or as an attachment to another email).

[54] Yang further testified that Zhu's laptop was not disclosed to his lawyers in order to search for relevant documents. In addition, he was not aware that any of the following documents were ever produced: (i) any documents, other than emails, from China; (ii) semen and embryo records from China; (iii) records of semen or embryo use; or (iv) records showing the revenues of Zhu's Chinese companies (other than in business plans attached to emails).

[55] Zhou testified that, before the Trial Reasons were issued in the Original Action, Zhu gave her a new laptop and took away her old laptop. He permitted her to put information from the old laptop onto an external hard drive so that she could continue to access the information she needed for her daily work. On the first day the APO was executed, the external hard drive was in Zhou's purse in her office. After work that day, she purchased a USB, and that night or the next morning, copied some important documents to the USB so that she could keep it, as she was still a defendant in the Original Action. The next day, she gave the external hard drive to James Wang, the IT manager. Zhou did not believe that the external hard drive was seized or mirrored during the execution of the APO.

[56] Following the APO, Zhou testified that Zhu specifically asked her to create a "gmail.com" email address and to use that for work purposes instead of her "selen@ind.ca" email address. When Zhou stopped working for the IND Group, she gave the password to this new account to James Wang and never accessed it again. She did not produce any emails from this "gmail.com" account during the course of this action.

[57] It is also more than apparent that Tang's document disclosure has been incomplete.

[58] Given their non-participation in this action, Zhang and Ai De have not disclosed any documents.

[59] As XY contends, it is readily apparent that one of the themes of this litigation (just as in the Original Action), has been the failure of the defendants to comply with their disclosure obligations under the *Rules* or court orders, all in a concerted effort to frustrate XY's pursuit of relief.

[60] I find that Zhu knowingly and deliberately orchestrated and directed the withholding of relevant documents in this action by not only himself, but also the IND Group companies, the IND Employees and Tang. These instructions were carried out by Zhu's employees, including the IND Employees. Some further and proper document production by the IND Employees did not occur until after the settlements with XY; however, Zhu, CTS, FBI, IND, IEI, IDI and Tang remain in default of their document disclosure obligations under the *Rules* and court orders granted in this action.

VII. THE IND GROUP

[61] There is little doubt that the IND Group includes various companies, including the defendant companies noted above. I find that Zhu owns and controls these companies,

either directly or indirectly. This finding arises principally from the evidence of Yang and Zhou, which I accept on this point, and the relevant documentation.

(1) Canadian Companies

[62] The Canadian companies include IND, CTS, FBI, IEI and IDI.

[63] Zhou indicated that Zhu was the 100% owner of IND.

[64] CTS was set up by Yang to carry out the semen-sorting activity for the IND Group on the instructions of Zhu. Although Yang was instructed to indicate Xuanfeng Chu as the shareholder of CTS, this was later changed to Zhang by Zhu. Zhang, an IND Group employee in China, was simply a nominee owner of CTS.

[65] Yang testified that CTS was set up to appear as if it had no connection with the IND Group so that the IND Group could hide its semen-sorting operations from XY. Accordingly, it is clear that CTS was specifically formed to permit the IND Group to conceal its operations which involved the improper and ongoing use of XY's intellectual property rights. To the knowledge of Zhu, Tang, Zhang and the IND Employees, CTS also operated for a short time in early 2012 in breach of the Trial Order.

[66] FBI was initially set up for immigration purposes in order to provide an investment vehicle for Chinese people who wanted to immigrate to Canada. In reality, the money that these people invested came from loans from Zhu, and they paid some fees to Zhu for the loans. As such, this was arguably a fraud against the Canadian government. Again, nominee shareholders were used for FBI, being Shu Xi (Peter) Wang and a person named Ito. Both Yang and Zhou indicated that they never actually managed FBI.

[67] The IND Group used FBI to conduct some financial transactions. Zhu instructed his employees that FBI would be the entity to enter into the lease for the Byrne Road Lab, which it did in February 2010. FBI purchased some materials for CTS and paid for its employees for some of the time.

[68] IEI's ownership is said to be IND Lifetech Group Inc., a Cayman Island company. IND Lifetech Group Inc. is, in turn, owned indirectly by IND through another company incorporated in the British Virgin Islands. IEI was, or is, in the business of manufacturing embryos. As of 2010, IEI's main laboratory for embryo production was located in Drummondville, Quebec.

[69] Zhu's wife, Ms. Wang, was the director of IDI and its ostensible shareholder. However, Yang testified that Zhu had full power over IDI. Further, Yang more generally testified that if there were ever different opinions on a matter between Zhu and his wife,

the employees always followed Zhu's decision, even on IDI business. Ms. Wang was not involved in the sperm-sorting operations, although she did deal with the payroll and she also signed FBI's lease for the Byrne Road Lab.

(2) Foreign Companies

[70] The IND Group also operated through a number of companies incorporated in jurisdictions outside of Canada.

[71] A number of these are summarized in the chart titled "IND Group Company Structure and Shareholders" which Zhou prepared in 2008/2009 to keep track of the various companies and to allow her to carry out Zhu's instructions regarding the various companies he controlled. This chart indicates a number of companies formed in the Cayman Islands or British Virgin Islands which appear to be holding companies.

[72] Yang testified that the IND Group had various businesses in China, including diagnostics, manufacturing and sales, the semen and embryo business, and interests in the dairy farm business. Yang was aware that the IND Group had two head offices in China, in Beijing and Qing Dao. However, none of the IND Employees had much personal knowledge about the activities of the IND Group in China.

[73] Ai De is a Chinese company also owned indirectly by Zhu. The sole shareholder of Ai De is a British Virgin Island company (Unique Way Technology Limited) which, in turn, is owned by IND, which is owned by Zhu. In September 2010, Zhu filed a proof of claim on behalf of Ai De in JingJing's bankruptcy proceedings. In that proof of claim, he signed as "the owner" of Ai De.

[74] There were also companies located in the United States. In 2013 and 2014, Yang was involved in helping the IND Group develop businesses in California.

[75] Yang also testified about the IND Group's business development efforts in Australia.

[76] In Uruguay, Yang helped set up IND Lifetech Uruguay. He testified that this was for the dairy business as Zhu intended to ship dairy heifers from Uruguay to China. When they set up the company, Zhu told Yang that he did not have time to be there himself so he told Yang to be a director of this company. Yang insisted on a second director because he did not want all of the responsibility. Accordingly, Edward Richard, a consultant, also agreed to act as a shareholder. Although Yang was indicated on paper as "owning" 95% of the shares in IND Lifetech Uruguay, he never considered himself to be the owner of the company; rather, Zhu was.

(3) Corporate Structure

[77] In a prescient comment of what would ultimately be proved at this trial, Justice Voith stated in his reasons, defined as the APO Reconsideration below:

> [63] I am further troubled by the apparent free flow of people between the IND companies and by the various references to the “IND Group” or to “our companies” in the material. The members of the group do not appear to operate with the clarity of identity that counsel for [IND] argues in favour of.

[78] That concern has been decidedly proven here to be valid. Although the various companies appear to have been set up for different purposes, they were, from Zhu’s point of view, interchangeable as his wishes dictated.

[79] The IND Employees did not distinguish between the Canadian companies. The IND Employees testified that they did not always know who their actual employer was, that they were transferred between companies without their prior knowledge or consent, and that their roles did not change when they were transferred. They were often unaware that they had been transferred until they received a paycheque from a different company. They regarded the various companies as one group (i.e. the IND Group), all owned and controlled by Zhu and, to a lesser extent, Ms. Wang.

[80] Yang testified that when he worked in the human resources and purchasing departments for the IND Group, the departments were not specific to one company. He did work for various companies including IND, IDI, JingJing and others. Yang also testified that in 2006, although he was technically employed by IND, he was actually doing work for IDI and JingJing. He understood that this arrangement of using multiple companies was so that IND could obtain more government grants to cover part of his salary.

[81] Yang also testified that, although he moved from one company to another, he did not receive any new contract upon such a move. He testified that the company would just tell him that starting from this moment, he would go to “that department”, and have a different supervisor.

[82] Similarly, when testifying about the bankruptcy of JingJing, Fu referred to JingJing as “the department of IND that was sorting semen that went bankrupt”.

[83] Tang testified, at her discovery, that she felt the various companies were the same and that there was no difference between them. She was unsure which company had been paying her support payments since September 2014.

[84] I accept XY's position that the companies were not regarded by Zhu or his employees as separate entities. I also accept XY's position that they were not separately managed or controlled but, rather, they were all under the common control and direction of Zhu as he dictated for his own purposes. As I will explain below, those purposes included concealing his scheme and true activities in breaching XY's intellectual property rights and protecting himself against any claims that might be advanced by XY.

[85] Also, as I will note below, it has been shown that Zhu used these corporate vehicles to hide his true activities from and make false representations to this Court through the "shield" of FBI.

(4) Nominee Shareholders

[86] Zhu frequently used nominee shareholders and directors for various companies in the IND Group. Zhou assisted Zhu in setting up many of these companies. In her corporate chart, Zhou confirmed that many of the shareholders listed were only shareholders "on paper" and that, "in reality", Zhu owned these companies.

[87] Xu testified that Zhu asked him to be listed as the owner of one of his companies; however, he declined because he was aware that Zhu had many companies in China for which he had asked other people to be the legal representative. Xu stated that, after working in China in 2012, he had heard that many of these companies had legal problems.

[88] With respect to another company, Shenbang Biomedical Technology Ltd., Xu confirmed that Wang Chen is only the owner on paper and that Zhu was the real owner.

[89] As above, Yang and Mr. Richard's shareholdings in ING Lifetech Uruguay are another example of this fictitious recording of the true ownership in these companies.

[90] Zhou testified that Zhu used nominee shareholders for various purposes, in particular, in aid of:

(a) evading payment of Canadian taxes (organizing offshore companies to have non-Canadian shareholders and directors to avoid being considered Canadian-controlled);

(b) obtaining government grants (by organizing Canadian companies to have shareholders not ostensibly directly related to him in order to qualify for further grants or tax credits);

(c) securities regulations issues (organizing companies to appear to be owned or controlled by others to allow Zhu to create the appearance that a company is widely held); and

(d) litigation issues (nominating others to be the "legal person" for companies involved in litigation or likely to be involved in litigation).

[91] I accept XY's submissions that any so-called "independent" ownership or control (by directors and officers) of the companies within the IND Group, whether in Canada or China is, in reality, a mere guise to conceal Zhu's true ownership and control of such entities.

VIII. A BRIEF SUMMARY

[92] As an overarching comment, it is difficult to express the degree and scope of Zhu's wrongdoing in relation to his concerted plan and actions to steal XY's Confidential Information for his own financial ends, as now more fully revealed in the extensive oral and documentary evidence introduced at this trial. Others, including Tang, Zhang, and the IND Employees, actively assisted him in doing so. This wrongdoing has been exacerbated by numerous misrepresentations made to this Court, all in accordance with this plan and in aid achieving Zhu's ends.

[93] The battle in the Original Action and the battle in this action are only indicative of the larger conflict that Zhu envisages with XY. This conclusion was supported by the later document production arising from the order of Justice Skolrood just before this trial began. WeChat transcripts of Zhu's comments to Xu in May 2014 indicate a business plan (or more accurately, scheme) to steal XY's intellectual property and technology to the point where XY's market would collapse:

> … the focus of our fight with [XY] would no longer be the question of **CTS** and Canada. For sure it would turn towards an expedition on market industry and the related legal matters. Due to [XY]'s adopting various means to ban independent research and development of technologies relating to cytometers. Total bankruptcy. What they will be facing is the huge threat by the new system to their existing products and market, especially their business model. … If the new system is swiftly marketed, causing the overall sexed semen production cost to fall by twice as much, how do you think they are going to live from now on? … So I propose using about 3 years in making [XY] collapse or be acquired cheaply. Of course this is a huge project that can only be accomplished through the joint efforts of people of ideals and integrity and people of kindness in all respects.
>
> ….
>
> Settling with [XY], that is not my goal. My goal is when I should acquire it and at what opportunity, using the simplest fashion to promote sexed semen technology worldwide and develop industrialization to the maximum extent. breaking [XY]'s conservative and selfish business model in one fell swoop, letting this system favour the human world all around as soon as possible. …At the most opportune

> time, to acquire [XY] using the best price should be our basic strategy. Before that, we shall engage in attrition with them, drag them on as much as possible, drag them down, to let them feel all the time the sword of Damocles is on their heads. For this, we have already designed a comprehensive operational scheme …

[94] Although somewhat melodramatic, these statements support that, as early as 2009, Zhu developed a plan to steal XY's technology for the use and profit for himself and his IND Group companies which plan he and his employees executed. Given the deceit in abiding by the terms of JingJing's Licence from as early as 2004, one might reasonably conclude that Zhu's scheme began even years earlier.

[95] Zhu has been nothing but persistent in his efforts to derail this litigation so that he may continue to execute his scheme without further distraction. On Monday, November 2, 2015, the first day of this trial, Zhu's then newly-hired counsel applied for an adjournment of the trial. I dismissed the application citing Zhu's continual disregard for court orders, and the fact that the application was brought at the last possible minute. My reasons on the application referred to my conclusion that such a tactic was not new in this litigation and was indicative of the many actions or inactions on Zhu's part designed to frustrate XY's efforts: *XY, LLC v. Canadian Topsires Selection Inc.*, 2015 BCSC 2284. I awarded special costs against Zhu, IND and IEI.

[96] In the next sections, I will address the individual claims of XY and my further findings of fact arising from the evidence as to the various defendants' activities. These activities span the considerable timeframe of some five years, beginning in 2007 when the Original Action began, up to the spring of 2012 when this action began.

IX. BREACH OF CONFIDENCE

(1) The Law

[97] In the Trial Reasons, Kelleher J. described this cause of action as follows:

> [202] The general principle underlying breach of confidence is that where a person obtains information in confidence, the person may not use the information for activities detrimental to the person who makes the communication: *Terrapin Ltd. v. Builders' Supply Co. (Hayes) Ltd.* (1959), [1960] 5 R.P.C. 128 (C.A.). It is an equitable cause of action, rather than a tortious one: *Economic Interests in Canadian Tort Law* (Peter T. Burns and Joost Blom (Markham: LexisNexis, 2009)) ("*Economic Interests*") at 213. …

[98] An obligation of confidence can, of course, arise from a contract (such as in the Original Action). In the absence of a contract, such as in this action, the test for breach of confidence consists of three elements: (a) the information conveyed was confidential; (b) it was communicated in confidence; and, (c) it was misused by the party to whom it was communicated: *Coco v. A.N. Clark (Engineers) Ltd.*, [1969] R.P.C. 41 at 47 (U.K. Ch.D.),

cited by La Forest J. in *Lac Minerals Ltd. v. International Corona Resources Ltd.*, [1989] 2 S.C.R. 574 at 635-36; Trial Reasons at para. 202.

[99] Confidential information may be comprised of materials available to the public, yet remain confidential. What makes the information confidential is “the fact that the maker of the document has used his brain and, thus, produced a result which can only be produced by somebody who goes through the same process”: *Saltman Engineering Co. Ltd. v. Campbell Engineering Co.* (1948), 65 R.P.C. 203 (C.A.) at 215; *Lac Minerals* at 610; Trial Reasons at para. 203.

(2) Is XY’s Technology Confidential?

[100] The evidence of Mr. Evans and Mr. Gilligan on the confidential nature of XY’s technology imparted to JingJing, Zhu, and his employees, was accepted by Kelleher J. in the Original Action. He found that the confidential information included the SX cytometers, the specialized parts found on the SX cytometers, XY’s protocols and XY’s training and techniques: Trial Reasons at paras. 209-215.

[101] Appendix “A” to the Trial Order contains an extensive definition of the “Confidential Information”. This included various components of the SX cytometers and their configuration which the Court accepted were confidential to XY: Trial Reasons at para. 210; Trial Order, Appendix “A”, para. (a). The confidential SX cytometer components included:

a) the PMT detector circuitry/circuit board;

b) nozzle or tip assembly;

c) the BSO;

d) the detector system;

e) laser beam steering towers, stages and optics;

f) the Summit software with Cytrack;

g) the pulsed laser;

h) the illumination chamber;

i) the strobe assembly; and

j) the pinhole strip.

[102] Even licensees are not taught how to add or modify most of these components: Trial Reasons at para. 211.

[103] Justice Kelleher also accepted that XY's protocols were confidential to it: Trial Reasons at paras. 213-215; Trial Order, Appendix "A", para. (b).

[104] The Court of Appeal modified the definition of Confidential Information to remove from it any information that might become available to the public, other than by disclosure by the defendants in the Original Action: Appeal Reasons at paras. 110-114.

[105] Justice Kelleher also found that all improvements made by JingJing, its successors or related companies, and all those over whom Tang and Zhu exercised control, directly or indirectly, were confidential and included within the definition of Confidential Information. This included all research and development regarding the use of sexed semen by any of the defendants in the Original Action internally or with the assistance of third parties: Trial Order, Appendix "A", para. (e) and definition of "Improvements" in (e)(i).

[106] Justice Kelleher granted a mandatory injunction to the effect that all Confidential Information was to be returned to XY on or before March 16, 2012. In addition, he granted a prohibitory injunction that JingJing, Zhu, Zhou, Tang and others, including their agents, employees, servants, affiliates, joint venturers, subsidiaries and related companies, were restrained from any further use of the Confidential Information: Trial Reasons at para. 229; Trial Order, paras. 15-16.

[107] Given the passage of time since the trial in the Original Action concluded (March 2011), and when the Trial Order was issued (March 2012), two matters must be addressed as to the present state of the confidentiality of the "Confidential Information".

[108] Firstly, Mr. Evans and Mr. Gilligan both confirmed that nothing has changed since they testified at trial in the Original Action with respect to what is Confidential Information: Trial Reasons at paras. 211-215. Both Mr. Evans and Mr. Gilligan confirmed that XY's parts, protocols, training and techniques remain confidential today and have not been disclosed to the public.

[109] In addition, XY remains very diligent about the matter and takes active steps to protect the confidentiality of this information. Both Mr. Evans and Mr. Gilligan testified:

(a) all employees sign confidentiality agreements;

(b) only XY employees, including Mr. Evans, service the cytometers;

(c) only XY is authorized to sell the SX cytometers and parts;

(d) formerly, DakoCytomation Ltd. ("Dako"), a supplier of the cytometers and parts, was permitted to sell the parts pursuant to confidential agreements between XY and Dako;

(e) XY employees, including a former employee, Todd Cox, were not permitted to sell SX parts personally (see Trial Reasons at paras. 219-221 re Mr. Cox assisting in the earlier breach of XY's confidentiality);

(f) the BSO was sealed with epoxy to prevent tampering by licensees; breaking the epoxy voided the warranty. Mr. Evans explained that he or another technician adjusts the BSO before the part leaves XY based on the type of sperm the licensee is permitted to sort (i.e. adjusted for different species). The particular adjustment is not disclosed even to licensees;

(g) all licensees sign confidentiality agreements;

(h) the protocol books are prominently stamped "CONFIDENTIAL" on the cover; and

(i) the research bulletins are marked as confidential.

[110] Both XY witnesses testified that XY has always treated its technology as being confidential. Employees are reminded, from time to time, not to discuss XY's technology with anyone, unless and until they had signed non-disclosure agreements. Visitors are not allowed access to the laboratory and are only given a "glazed over" description of XY's technology, unless and until they have signed confidentiality documents.

[111] Both XY witnesses also testified that XY publishes numerous patents and scientific papers about its technology. Those aspects of its technology are protected by the patents themselves. In addition, XY protects some aspects of its technology as a trade secret without publishing it in a paper or a patent application.

[112] Secondly, in my earlier reasons for judgment issued in this action, I ordered that the principles of *res judicata* and abuse of process apply, such that it is not open to CTS, FBI, Cheng, Xu and Yang to re-litigate the issue of whether the Confidential Information, as defined in the Trial Order, was confidential to XY as of March 11, 2011, (the date of the close of the defendants' case at the trial of the Original Action): *XY, LLC v. Canadian Topsires Selection Inc.*, 2014 BCSC 2017 at paras. 117, 127. Justice Kelleher's findings

of confidentiality apply, of course, to Zhu, Tang, IND and IEI as parties to the Original Action.

[113] Although not argued before me on the facts presented in this trial, I see no reason why a similar finding would not be supportable in respect of Zhang (as a nominee shareholder of CTS), IDI and Ai De on the basis that they are privies to the defendants in the Original Action: *XY, LLC v. Canadian Topsires Selection Inc.*, 2014 BCSC 2017 at paras. 88-116.

[114] I am satisfied, and find as a fact, that there has been no change, to this point in time, as to the confidentiality of what was previously defined as Confidential Information in the Trial Order, as amended by the Court of Appeal.

(3) Was the Information Communicated in Confidence?

[115] Justice Kelleher found that the Confidential Information was imparted to JingJing in circumstances importing an obligation of confidentiality. JingJing expressly agreed that the information was confidential under the Licence: Trial Reasons at paras. 205-208.

[116] It can be seen from Kelleher J.'s discussion in the Trial Reasons, and my following description of the misuse of this Confidential Information, that there can be no doubt that Zhu and his employees were well-aware of the confidential nature of XY's technology and information. There is also no doubt that Zhu and his employees were aware of their obligations concerning that confidentiality in relation to the information and parts provided to them by XY under the Licence. Of course, Kelleher J. found that Zhu, Tang and Zhou had express knowledge of the confidentiality of XY's information.

[117] I agree with XY that IND, IDI, IEI, CTS, FBI and Ai De, being companies owned and controlled by Zhu, received the Confidential Information impressed with the knowledge, through Zhu, that XY's information and parts were confidential. Similarly, Tang, Zhang and the IND Employees received the Confidential Information and had express knowledge that XY's information and parts were confidential.

(4) Was there Misuse of the Confidential Information?

[118] In the Original Action, Kelleher J. found that there had been "widespread misuse" of XY's Confidential Information: Trial Reasons at paras. 218-229. He found that this misuse was in order to (para. 221):

> … develop and improve on XY's confidential information in breach of the [License], in order to undermine XY's market position as the provider of the technology and know-how to efficiently sort bovine semen.

[119] As the evidence now adduced at this trial shows, XY – and hence the Court – were not fully aware of the misuse that was occurring at the time of the Original Action. Only much later would Zhu's plan, conceived perhaps almost concurrently with the execution of the Licence, be more fully revealed. Indeed, it is somewhat ironic that, to some degree, Zhu used the course of the Original Action to aid in the execution of his plan, assisted by the non-disclosure of his true activities. In doing so, Zhu would be instrumental in making various misrepresentations to this Court in many respects, as I will outline below.

[120] To some extent, I will repeat events that were addressed by Kelleher J. in the Trial Reasons, but only to provide more context for the bigger picture that emerged at this trial.

(a) The Original Action (2007-2010)

[121] Around 2003, Zhu entered into discussions with XY to obtain a licence to use sex-selected bull semen to mass produce sex-selected cattle embryos by *in-vitro* fertilization: Trial Reasons at paras. 57-59.

[122] In February 2004, JingJing entered into the Licence, by which XY gave JingJing the right to use XY's technology to create sex-selected semen to use for IVF purposes and for sale directly to end-users for artificial insemination: Trial Reasons at para. 66. By July 2007, JingJing had purchased three cytometers from Dako, the supplier of SX cytometers, based on direct arrangements between Dako and XY.

[123] A dispute developed between JingJing and XY arising from allegations that JingJing was not providing any or accurate royalty reports. XY commenced an action in 2007; the relief sought included an injunction preventing JingJing from transferring or selling the SX cytometers (which JingJing was threatening to do), or disclosing the confidential information that XY had provided to it. A limited injunction was granted on October 12, 2007 which restrained any disposition of the SX cytometers and their parts: *XY, Inc. v. IND LifeTech Inc.*, 2007 BCSC 1666; Trial Reasons, paras. 115-116.

[124] XY commenced a second action in March 2008 claiming damages for conspiracy, breach of confidence, deceit and breach of contract. This action was consolidated with the first one and became the Original Action.

[125] In February 2008, an email to Zhou from Shu Xi Wang confirmed that JingJing had a number of nozzles, BSOs and nozzle tips on hand, and that a number of these had been obtained by Mr. Cox, an ex-employee of XY, who had acquired them contrary to XY's prohibition on unsanctioned sales of SX parts.

[126] In July 2008, XY applied to expand the injunction, contending that JingJing was planning, with various other IND companies, to set up sperm-sorting operations in China. Zhu opposed this application, swearing under oath:

> I categorically state under oath that I have no plans, individually or through any company of mine, to produce sex-selected semen in China.
>
> IND Embryontech Inc. is no longer engaged in the production of embryos.

[127] The application was dismissed largely based on Zhu's sworn evidence: *XY, Inc. v. IND Lifetech, Inc.*, 2008 BCSC 1215 at paras. 83-88. In what would be a harbinger of things to come, Zhu's sworn evidence would prove to be entirely false: Trial Reasons at paras. 131-133,137, 227-228.

[128] As I described above, another of Zhu's strategies to defeat XY in the Original Action was the sale of JingJing's shares to his brother-in-law, Shu Xi Wang, and his friend, Zhen Hong Liu ("Liu"), both of whom were in China. This would prove to be a persistent strategy employed by Zhu for a variety of reasons, as I noted above in relation to the use of nominee shareholders. In this regard, Zhu admitted that the sale of the JingJing shares was done to avoid liability in the Original Action: Trial Reasons at paras. 118-121.

[129] XY officially terminated the Licence in November 2008. The relief sought and granted in the Original Action was premised on JingJing and the other defendants having stopped producing sexed semen and sexed embryos around that time. Despite noting the lack of documentation produced by the defendants, Justice Kelleher calculated the damages based on that premise: Trial Reasons at para. 296.

[130] After November 2008, and during the continuation of the Original Action, Zhu was presumably content to let XY think that JingJing's operations had stopped as a result of the termination of the Licence. To further perpetuate this deception, JingJing filed a counterclaim in the action in February 2009 claiming damages for XY's alleged breach of the Licence.

[131] During the course of the Original Action, Zhu and the other defendants continued to assert that JingJing had been put out of business. What XY did not know was that the IND Group continued to use the three cytometers in their possession to sort semen during the course of the Original Action, despite termination of the Licence. It appears that Zhu considered the termination of the Licence, in November 2008, to be entirely irrelevant. It was business as usual for Zhu's semen-sorting operations after November 2008.

[132] Both Fu and Cheng testified that the IND Group was sorting semen between late 2009 and mid-2010 by operating the SX cytometers at full capacity. This occurred until the bankruptcy of JingJing, as I will now discuss.

(b) The Bankruptcy Shell Game

[133] Yang's evidence was to the effect that Zhu considered XY his "biggest enemy". Further, Yang stated that even with the lawsuits ongoing, Zhu thought that he could continue his semen-sorting business. As noted above, Zhu did just that. However, Zhu was anxious to hide his activities. He was also concerned that he could not go to the market to sell or export the sexed semen that the IND Group employees continued to create without XY finding out and taking action to stop him.

[134] In late June 2010, Zhu conceived of another strategy to assist in defeating XY in the Original Action, namely, to put JingJing into bankruptcy. As matters unfolded, this strategy would ultimately allow him to improperly retain confidential SX cytometer parts. Importantly, this strategy also assisted Zhu in ostensibly cleansing him and the IND Group companies from any involvement with the SX cytometers and XY's protocols and their use, all in aid of continuing his deception of XY in terms of his ongoing use of its technology.

[135] Zhu instructed Chen Fang ("Chen"), another lawyer who assisted him from time to time, to look into the option of JingJing declaring bankruptcy immediately. On July 4, 2010, Chen confirmed, in an email, that the bankruptcy was conceived "mainly due to strategic considerations regarding the lawsuit with XY". To a large degree, the intention was also to avoid document disclosure requirements in the Original Action.

[136] Throughout July 2010, Chen reported on a number of issues and Zhu and some of his other employees, such as Zhou and Yang, debated the pros and cons of putting JingJing into bankruptcy. Even by this time, Zhu had identified the possibility of buying the SX cytometers back from the bankruptcy estate for use in his semen-sorting operations. On July 28, 2010, Chen commented on potential concerns arising from a "fraudulent bankruptcy (conceptually and outwardly)". Zhu was steadfast in quelling these concerns, advising his employees not to "get all nervous".

[137] By August 21, 2010, Zhu had concluded that the bankruptcy would proceed in order to "create variables and waver to XY's basis and confidence". This was, as Zhu stated, in aid of being "able to defeat the American aggressor and wild ambitious wolf!".

[138] On August 20, 2010, Tang held an important meeting with Cheng, Xu and Fu in which she set out the work plan for her semen-sorting team after JingJing's bankruptcy.

This included conducting research into remodelling ordinary cytometers back to SX cytometers, a task specifically assigned to Xu.

[139] On August 30, 2010, two months before the trial in the Original Action was scheduled to commence, JingJing declared bankruptcy. Meyers Norris Penny Limited was appointed as the trustee in bankruptcy (the "Trustee"). Patricia Wood was the licenced trustee at the Trustee's offices overseeing the file.

[140] Quickly thereafter, on September 8, 2010, IND and Ai De filed proofs of claim with the Trustee advancing unsecured debt claims against JingJing.

[141] The Trustee was unaware of any relationship between JingJing and the other IND Group companies, including IND and Ai De. The Trustee was also unaware that Zhu owned and controlled all the IND Group companies, which had included JingJing.

[142] On September 25, 2010, Zhu quickly moved to advise the Trustee of his intention to appoint an inspector to the estate based on his contention that IND and Ai De were creditors of the estate. Typically, inspectors are representatives of creditors of the estate and they provide advice and guidance to a trustee in bankruptcy in terms of the administration of an estate. This strategy would ultimately allow Zhu to have not only inside knowledge of the bankruptcy administration, but also some influence and control over the Trustee's decisions and actions.

[143] Understandably, XY was concerned about the Trustee taking over and possibly selling the SX cytometers and other assets in the hands of JingJing. XY considered these assets to be confidential and subject to the injunction that it had obtained in October 2007 which prevented any disposition of these assets without a court order.

[144] In late September 2010, Mr. Evans attended JingJing's facility, being the Foster's Way Lab, to look at the SX cytometers. He intended to find out what type of equipment was there, which software was on the system, which parts were there, and generally assess what aspects of JingJing's assets included XY's Confidential Information. Mr. Evans inspected the three SX cytometers and prepared a report regarding his site visit.

[145] Mr. Evans' later report, dated October 10, 2010, would note his observation that despite each SX cytometer coming with a small tool kit, which includes spare parts, including a full assembly of the SX nozzle, he only found one spare nozzle tip. The backup or spare nozzle assemblies and nozzle tips for each system were not found.

[146] On October 1, 2010, XY's counsel wrote to the Trustee asking about a number of specific parts noted as missing by Mr. Evans, including SX nozzle assembly serial #24578, four extra SX nozzle assembly tips and SX BSO serial #2196 and #2169 (the "Missing Parts"). XY asked the Trustee to locate the Missing Parts immediately. These specific parts had been earlier identified by a defendant in the Original Action, Richard Remillard, on behalf of JingJing, as being located at JingJing's premises in January 2008.

[147] The Missing Parts were, of course, part of XY's Confidential Information, as would later be defined in the Trial Order.

[148] XY's counsel's letter of October 1, 2010 came to Zhu's attention on October 11, 2010 through his counsel in the Original Action.

[149] On October 12, 2010, Ms. Wood, on behalf of the Trustee, emailed Zhou and Cheng Li (another IND Group employee) asking about the Missing Parts.

[150] Around October 12, 2010, Cheng Li, Tang, Zhu, Zhou, Chen and Yang discussed what "reasonable explanation" they might give to the Trustee about the Missing Parts. In response, Tang suggested the explanation of "normal wear and tear". Chen noted that "[i]t is logical that such parts have been thrown away. XY should know this." Cheng Li expressed the hope that the "trustee will not ask and be done with it".

[151] Zhu agreed with the strategy of obfuscation and deceit with respect to the Missing Parts in relation to both the Trustee and XY. Tang then circulated a draft "explanation", which Cheng Li translated and circulated for approval before ultimately sending to the Trustee. Cheng Li's email, ultimately sent to the Trustee on October 22, 2010 states "all the parts mentioned had damaged [sic] or worn out since those machines had been used since 2004".

[152] This, of course, was a lie, as later events would disclose. Clearly, Zhu's strategy, executed by his employees, was intended to avoid having to return the Missing Parts to the Trustee (and XY), given that the IND Group intended to use the Missing Parts in the future.

[153] The matter of the Missing Parts was but one aspect of the deception employed by Zhu and his employees in regards to the Trustee, the bankruptcy, and the related proceedings. In fact, the Missing Parts were anything but "missing" in that Zhu's team, particularly Tang, had possession of them. Zhu and his employees had every intention of using them in the IND Group's semen-sorting business. Astoundingly, Cheng Li's email of October 22, 2010 suggests to the Trustee:

… you might have to look for them harder and more carefully, since they are tiny.

[154] All of these strategies can be described as Zhu and his employees attempting to distance themselves from JingJing, while also attempting to improperly obtain information and benefits from the bankruptcy proceedings.

[155] Some of the further deceptions by Zhu and his employees arising from the bankruptcy can be summarized as follows:

a) there was a misrepresentation to the Trustee about the source of funds for the retainer for the bankruptcy. It was stated that Nina Li was the person to pay the funds but, in fact, IND Pharmaceutical Inc., another IND Group company, provided $25,000 to Li for that purpose;

b) Zhu filed false proofs of claim on behalf of Ai De, IND, IDI and IEI. The email traffic before this occurred indicates that weeks before the bankruptcy, fictitious credit arrangements were created in order to support that these companies were owed monies by JingJing;

c) the proofs of claim of Ai De, IND, IDI and IEI and their resulting status as creditors allowed them to arrange for the appointment of Zhou and Chen as inspectors of the estate in October 2010 in advance of the sale of the cytometers. Ms. Wood was aware of a previous relationship between Zhou and Chen and JingJing. However, as noted above, she was unaware that Zhu, who filed or caused to be filed proofs of claim on behalf of various IND Group companies, also owned and controlled JingJing. The IND Group employees did not disclose to the Trustee the true current relationship between Zhou and Chen on the one hand, and Zhu and the IND Group companies on the other, to avoid any suggestion that the IND Group companies were related to JingJing and, thus, in a conflict of interest (more on this later); and

d) the IND Group employees put forward Liu as the JingJing representative to be examined by the Trustee with the express intention of concealing Zhu's true interest. This was all in aid of contradicting XY's potential argument toward making "the Trustee and ultimately the court believe that even though JingJing's shareholder was switched to [Liu], the controller is still [Zhu]". The emails indicate clearly that Liu had no idea about the operations of JingJing. Just before the bankruptcy, on August 14, 2010, Zhu approved his employees' plans to prepare points for Liu to learn in order that he could respond to possible questions from the trustee in bankruptcy to be appointed. Liu's translator, Xiao Ji, was equally coached for this exercise to make sure the "right" answers were given.

[156] The most striking deception in the bankruptcy, however, was yet to come and would yield the most benefits for Zhu through the means of the bankruptcy.

[157] By February 2010, FBI had been incorporated. In that month, FBI entered into the lease of the Byrne Road Lab.

[158] By email dated August 18, 2010, just before the bankruptcy, Yang advised the Canadian licencing authorities that JingJing would transfer its business, including the facility, equipment, employees and production to IEI. Following the bankruptcy of JingJing at the end of August 2010, the IND Group continued to take steps to transfer JingJing's semen-sorting operation to a new company. Needless to say, this was not disclosed to the Trustee by the IND Group employees who knew that the Trustee was statutorily mandated to deal with and, if possible, realize on the assets of JingJing.

[159] By mid-September 2010, the Trustee was taking steps to sell JingJing's equipment, including the three SX cytometers and the SX parts in the Foster's Way Lab. Zhu and his employees were keen to acquire the cytometers. Tang confirmed that, by this time, Zhu's intention was to obtain the SX cytometers so he could continue with his semen-sorting business.

[160] The difficulty facing Zhu and the IND Group was XY, who remained alive to the fact that XY's Confidential Information was part of what was held by JingJing. Zhu was aware of possible issues with XY that might prevent the Trustee from selling the cytometers directly to the IND Group. He, therefore, concluded that it was necessary to conceal his actions by taking steps to avoid any connection between the IND Group and any purchase of the equipment. The IND employees, therefore, set out to find someone "more reliable" in order to make the purchase.

[161] Ultimately, the IND Group employees arranged for Technoterm Integrated Services Ltd. ("Technoterm"), a local Vancouver used medical-equipment retailer, to be the ostensible purchaser of JingJing's equipment. On September 27, 2010, as organized by Chen, Technoterm expressed to the Trustee its interest in purchasing the cytometers. This was a tactic well-known to Zhu and his employees since something similar had been done in earlier negotiations with XY: Trial Reasons at paras. 111-112.

[162] On October 13, 2010, FBI paid $54,000 to Xu Di, a friend of Tang. The documents indicate that Xu Di was described as a representative of Futonghua Bio-tech Co. Ltd., one of Zhu's Beijing companies. Ultimately, the IND Group employees arranged for

Technoterm to pay these monies to the Trustee as a deposit on the purchase of the three cytometers for the sum of $360,000 in accordance with a formal offer to the Trustee dated October 13, 2010.

[163] By mid-October 2010, the Trustee was required to consider Technoterm's offer in relation to the cytometers. Zhu then moved to appoint Zhou and Chen as inspectors of the estate, which he would have reasonably anticipated would result in the Trustee seeking their input on the proposed sale.

[164] The trial in the Original Action began on October 18, 2010. However, Zhu and his employees' actions toward stealing XY's rights and technology continued unabated.

[165] Despite Yang's attempt to transfer JingJing's semen-sorting licence to the new laboratory (ostensibly IEI's at the time), he was ultimately told by the regulatory authorities that the licence could not be transferred and that the new licensee would need to go through the application process again.

[166] Accordingly, in anticipation of the purchase of the cytometers, on October 27, 2010, CTS was incorporated by Yang. Yang picked Zhang as the nominee shareholder of CTS to avoid any suggestion of the IND Group/Zhu's involvement. Zhang agreed to this deception. Later, on November 26, 2010, Zhang would joke with Tang about his holding of these shares in stating:

> Haw-Haw --- which one is the number company? Are those the documents signed by me before Mr. Zhu came back to Canada last time? Is it safe?

[167] The Trustee accepted Technoterm's offer to purchase the cytometers. Because it was prevented from completing any sale by reason of the October 2007 injunction granted in the Original Action, the Trustee applied to vary that order. XY ultimately agreed to the sale being approved by the Court on the condition that the confidential SX parts (identified by Mr. Evans during his September 2010 visit), would be removed by XY prior to completion of the sale and replaced with non-SX parts. On November 5, 2010, Kelleher J. granted the order that approved the sale and the removal of the SX parts.

[168] In the face of that order, Technoterm later refused to complete the sale. It did not object to XY removing the parts; however, it demanded a discount ostensibly relating to issues relating to the cytometers' functionality arising from the removal of the SX parts. This "objection" was carefully crafted by Chen to be sent by Technoterm to the Trustee. The Trustee held meetings with Zhou and Chen, as the inspectors of the Estate, to discuss the objection. Ultimately, with the disingenuous agreement of Zhou and Chen, as the ostensible "independent" inspectors of the Estate, but really only the shills of Zhu, the

Trustee agreed to a 12% discount by reason of Technoterm's "objection". That revised purchase price was later approved by order of Goepel J. (as he then was) on December 10, 2010.

[169] I find that Zhu and his IND employees involved in the bankruptcy process were well-aware that both court applications were made, and that the resulting court orders granted were based on false premises (i.e. that Technoterm was the purchaser of the cytometers) and involved the active deceit by Zhu and his employees of both XY and the Court.

[170] Later still, in March 2011, Zhou was instrumental in arranging a sale by the Trustee of semen held by JingJing to Qing Dao Jiahua Biotech Co. Ltd. Zhou was very familiar with this Chinese company as one of Zhu's companies in the IND Group. There is no indication that she disclosed her connection to this company to the Trustee in relation to her status as an inspector of the estate (which would have indicated a conflict) and, in doing so, deceived the Trustee in relation to that sale also.

(c) The Retrofitting Process Begins

[171] As stated above, the trial in the Original Action began on October 18, 2010. Zhu's strategy of making misrepresentations to this Court continued during the hearing.

[172] On October 19, 2010, Mr. Evans was giving his evidence at the trial. At some point, the Court granted a sealing order with respect to his testimony as to the confidential aspects of XY's technology. On October 19, 2010, counsel for the defendants in the Original Action proposed that Xu remain in the courtroom while Mr. Evans' evidence was given. Counsel for the defendants made the following statements to Kelleher J.:

> So, My Lord, in the context of that order, I'd now like it noted that my clients will be leaving the courtroom. The only person who will remain, at least from our side, is Mr. Kevin Chung Li, C-h-u-n-g, Li, L-i, Xu, and <u>Mr. Xu is a former employee of JingJing prior to its demise. He now works for a company called Fraser Biomedical Inc., which is no ownership connection at all to any of the IND companies</u>. They make --they raise mice, and they use mice fluid for medical resources and medical device purposes. And so IND, the various components of the IND diagnostic company or group of companies, IND pharmaceuticals, purchase the mice fluid from Fraser Biomedical Inc., and there was a connection since then; at one point in time they were in the same building, but <u>there's no ownership or other connection to IND. He is, however, a former employee of IND but is no longer an employee of IND</u>.
>
> [Emphasis added]

[173] Justice Kelleher then said:

> Yes. Kevin Chung Li Xu is going to be hearing evidence that's confidential, and he's instructed not to disclose any of the confidential information to any person who is not present here, and so on that basis, the parties who are -- the parties or persons or future witnesses who are leaving the courtroom for this purpose are -- cannot expect to speak to him about this matter.

[174] There is no suggestion that defence counsel was aware that his representations to Kelleher J. were inaccurate.

[175] Xu confirmed, in his evidence at this trial, that Zhu had instructed him to remain in court on October 19, 2010 to hear Mr. Evans' confidential sealed testimony on the false pretenses that he had no relationship with the IND Group and that FBI had no relationship to the IND Group.

[176] Indeed, the IND Group took immediate steps after Xu heard this evidence to avoid anyone drawing a connection between FBI and the IND Group. On October 20, 2010, Tang emailed Zhu and Zhou and directed Zhou to:

> … switch the company's [FBI's] financial system from direct control to indirect control, ostensibly to break away from the management by [Zhu, Shuli Wang, Zhou and Tang]…

[177] With the purchase of the three cytometers from the Trustee in hand, Zhu and Tang began to assign tasks to the IND Employees regarding the retrofitting of those machines once physical possession of the cytometers was obtained. In accordance with Kelleher J.'s November 5, 2010 order, Zhu knew that XY would remove the Confidential Information from the SX cytometers. Accordingly, Zhu needed to be able to retrofit the machines back to SX cytometers once they were physically back in the hands of the IND Group to the point where they could recommence semen-sorting operations.

[178] Specifically, Tang assigned Xu the task of retrofitting the dismantled cytometers back to SX cytometers based on XY's Confidential Information. Xu would eventually accomplish this by:

a) his knowledge of the machines through his previous maintenance of the SX cytometers;

b) his notes and photographs taken before the machines were dismantled, based on Tang's instructions to him on December 16, 2010 to "make a record of the location and model of each part of the machine, so that we may know in the end what parts are replaced by XY";

c) his knowledge gained through the training that he had received on the operation of the cytometers;

d) his knowledge of Mr. Evans' confidential testimony on October 19, 2010; and

e) his use of certain SX parts which Tang had supplied him, being certain of the Missing Parts that had been withheld from the Trustee.

[179] On December 5, 2010, Tang confirmed that arrangements had been made for the payment of funds to the Trustee for the purchase.

[180] In anticipation of the closing of the sale of the cytometers on December 21, 2010, Mr. Evans returned to the Foster's Way Lab. Pursuant to Kelleher J.'s order, he removed the SX parts from the three cytometers and replaced them with non-SX parts. He also reconfigured the cytometers to adapt them to regular cytometers. All available SX specific parts were boxed, sealed, and prepared for shipment before he left the Foster's Way Lab. Mr. Evans confirmed that he received those parts in due course.

[181] In anticipation of getting the machines back, Tang stated, on December 30, 2010, that "[n]o matter what the result is, we cannot question **trustee** and **XY** on ***this machine***" (emphasis in original). On that same date, after the removal of the SX parts by Mr. Evans, but before delivery to Technoterm, Xu confirmed to both Zhu and Tang that he had done a detailed analysis on the machines, including noting what parts had been changed. This was possible because Zhu and the IND Group employees still appeared to have full access to the machines at the Foster's Way Lab, although technically these assets were in the possession of the Trustee. There is no indication that the Trustee knew that Zhu and his employees were dealing with the machines in this fashion.

[182] Xu's task, ahead of retrofitting the machines back to SX cytometers, was clear enough and was what he described as the "remodeling difficulties".

[183] In December 2010, the IND Group also arranged to purchase two additional ordinary cytometers from BioSurplus with the intention of retrofitting these into SX cytometers using XY's Confidential Information.

[184] In early January 2011, the purchase of JingJing's cytometers, ostensibly by Technoterm, completed. The Trustee's employees supervised the departure of the cytometers in a truck which they were told, by the IND Group employees, was destined for Technoterm. In fact, the truck just drove around the block, and immediately after the Trustee's representative left the premises, the truck returned to the Foster's Way Lab with the cytometers.

[185] With the delivery of the cytometers and with the Missing Parts on hand, Zhu's plan, within the context of the bankruptcy proceedings, was complete.

(d) The Retrofitting Continues in 2011

[186] By January 2011, the IND Group's employees, specifically Xu and others, were poised to begin the process of reinstating JingJing's cytometers to their past status; namely, SX cytometers (which included XY's confidential parts and configurations) capable of sorting semen using XY's Confidential Information. This process included taking steps to retrofit the cytometers and copy XY's parts.

[187] By this time, the IND Group was in possession of certain key assets and aspects of XY's Confidential Information that would allow them to do so:

a) the three cytometers, which had been studied by Xu in terms of what modifications had been made by XY and what was needed to retrofit them back to SX cytometers;

b) as I will describe in some detail below, certain of the Missing Parts, which Tang gave to Xu for that purpose;

c) XY's protocols, which remained in their possession. For some reason, these were not addressed by either XY or the Trustee as part of the bankruptcy proceedings and XY made no efforts to obtain them from the Trustee; and

d) skilled employees who had been trained in the use of the SX cytometers.

[188] In the meantime, on February 7, 2011, the trial in the Original Action continued (after adjourning from late November 2010). On that day, Zhu gave evidence and was specifically questioned about the Missing Parts. His testimony was evasive and vague. Later evidence would prove him to be a complete liar as to his claim that he did not know what happened to the Missing Parts. Incredibly, as did Cheng Li, Zhu suggested to XY's counsel at the trial that "[XY] didn't try hard" to find them.

[189] Zhu attempted to shore up his knowledge as to the lies and evasive statements told to the Trustee and XY about the Missing Parts when, at his request, an employee gathered up the previous emails between the IND Group employees the very day after his testimony at the trial on the issue. Cheng Li explained what happened to the Missing Parts in an email she sent to Zhou and Zhu on February 8, 2011:

> Upon xy found the missing parts, he [presumably a reference to the trustee who sent the e-mails] then sent us (selen and me) several e-mails to enquiry the situation; the related e-mails have been forwarded to Jia Bei, Tang Jin, etc.;
>
> First, we intended to ignore, but later we worried about that the litigation will be effected. We had planned to return some parts back to them, but we worried about that the numbers on nozzle maybe bought from mike (terry?), or the numbers were bought illegally (the numbers were not originally recorded), so xy knew this

> thing. So we discussed whether the numbers should be removed. At one night, when I and selen were preparing the information in the law firm, Jia Bei and Tang Jin called and told us that the attached numbers are difficult to be removed (they said, if the number are not intentionally tore off, the numbers can not fall off); Finally, the results that we decided was that I sent an E-mail to trustee, cc to selen. I also forwarded the e-mail to Bei and Tang Jin.
>
> Trustee didn't … further inquiry after receiving the e-mail. We never mentioned this matter again.
>
> My opinion is to base on the last reply we sent to trustee, all the parts are easy to wear; if there is no part, the part is lost after being worn (xy do not ask us to keep the damaged parts, and we also do not have the obligation). If there is one part, it must be in the goods delivered to the trustee (or in the corner of a box, they can go to find the part if necessary. Still we do not have the obligation.)
>
> But I do not know whether you put the part in the box – although we negotiated to put the part in the box, we worried about that they will have something on the numbers, so we didn't put the part in the box. Tang Jin and others can recall that situation.
>
> I will continue to look for whether there is something else left.

[190] On February 15, 2011, Zhu met with a group of employees, including Xu, to divide the work "between the Chinese and Canadian teams" to set out the overall objectives for the retrofitting process. The meeting minutes state:

> … First of all, in terms of copying the classic semen sorting machine type, the job of having a complete set of the parts on the existing machine has been completed, to start with. <u>Before the end of May, to complete the existing machine, [for it] to be able to proceed with the objective of preliminary semen sorting. Secondly to manufacture **IND**'s own sorting machine</u>…
>
> At the meeting, a clear division of work was done in terms of the collaboration between the Chinese and Canadian teams:
>
> > * The Vancouver team will [consist] mainly of XU Chun Li, to be assisted by WANG Zhi Gang, with other personnel to act in concert [with them.]
> >
> > * The Chinese team will [consist] mainly of GUO Hai Sen, to be assisted by Xiao OU, with other personnel to act in concert [with them].
> >
> > * It has yet to be determined who is to be in charge of the whole machine (meaning the chief eng [engineer])
>
> The relevant division of work is as follows:
>
> XU Chun Li:
>
> > a. focusing on completion of equipment transportation before February 28;
> >
> > b. debugging **PMT** equipment
> >
> > c. purchasing of electronic device
> >
> > d. taking advantage of the existing frozen semen, strive for being able to start proceeding with semen [sentence incomplete] …
> >
> > [Emphasis added]

[191] The retrofitting efforts continued in both China and British Columbia throughout 2011. Examples of these extensive and detailed efforts are as follows:

a) March 2011:

   i. two of the cytometers, one being from JingJing and one from BioSurplus, were shipped from Vancouver to Ai De in Qing Dao, China;

   ii. Kevin Yuan exchanged emails with Tang, Xu and another person regarding the parameters of a lens for the laser to be used with the BSO. Xu testified that he gave the parameters to another employee in China to arrange for the lens to be purchased there (for price reasons). The BSO had been sent to China for IND Group employees to copy;

   iii. Xu exchanged emails with other IND employees concerning the need for precise details of the BSO, having confirmed earlier that the BSO he had "was a copy" and he didn't know the parameters for it; and

   iv. an IND employee emailed Zhu and others regarding a patent filed by a third party for a cytometer nozzle tip. In part, that email contained a proposal that XY's tip be copied in the meantime:

   > Subject: Re: RE: Not **XY**'s cytometer nozzle patent
   >
   > ….
   >
   > Lately I am thinking about designing our own **tip** that is different from that of **XY** … The difficulty is the processing technique. … <u>Before a new one is designed, it is proposed to still copy **XY**'s first (the plan made by everyone the last time I went to Qing Dao.) To gradually improve after debugging the machine[/s].</u>
   >
   > [Emphasis Added]

b) April 2011:

   i. Xu exchanged emails regarding the need to purchase a signal gain card from Dako (the manufacturer licenced by XY to make SX cytometers and parts under a confidentiality agreement). The employees took measures to hide the fact that the buyer was affiliated with IND Lifetech. They also took steps to contact another manufacturer (Beckman) to purchase a signal gain card. Xu emailed Tang and Zhu: "Well it seems American imperialism is very cunning, suggest to make an imitation one …", clearly referring to XY. Zhu replied:

The law is strong, but the outlaws are ten times stronger.

c) May 2011:

i. Xu reports on an "in-depth test of the assembled machines";

ii. Tang confirms that Zhu and Xu were to go to Dalian, China to source four SX cytometers which were to be transported to Qing Dao after testing. Xu was tasked with setting up these machines.

d) June 2011:

i. Two machines had been installed. In Zhu's email, he refers to continuing efforts to manufacture gain boards, lenses, BSOs, tips and nozzles;

ii. Zhu emailed Xu with meeting minutes from June 2 and 3, 2011, confirming use of Mr. Evans' confidential testimony which he heard during the trial for the purpose of applying for a patent:

> [Xu] combined the patent **XY** applied for in China <u>and on the basis of the confidential information provided in court</u>, [and] according to our technology development, wrote our patent summary===obtain priority===and then patent application details.

Xu testified at this trial that he had not authored the patent summary, and suggested, during his testimony, that he had not used any confidential information or did not understand what Mr. Evans had said in court. I reject this aspect of Xu's evidence and find that he did, on the instructions of Zhu, use that evidence for the purposes of the IND Group knowing full well that it was confidential, and that his imparting of that information to others in the IND Group was in violation of the direction and order of Kelleher J. at the trial of the Original Action. On this point, I accept XY's submission that it is free to suggest that Xu's testimony be rejected on this point even though he was called as a witness by XY: *R. v. Biniaris* (1998), 104 B.C.A.C. 203 (C.A.) at para. 16; rev'd on other grounds 2000 SCC 15.

e) July-August 2011:

i. Tang asks the IND employees, including Cheng, Fu and Xu to vote on the "Qing Dao semen sorting centre domain name";

ii. the retrofitting process continued, with Xu, who was working on testing of the cytometers with the Summit 4.0 software, writing:

> I studied XY's patent carefully today, several improvements shall be made on circuit board of control unit. I will improve control unit and test tomorrow.

iii. on August 6, 2011, Zhu reports on a “major breakthrough” on the equipment remodelling with one machine having been completed. Xu’s trip to China is reported to have resulted in “great gains”. Zhu states that hopefully production can start by end of July/early August. Zhu advises on the shareholdings, directors and officers, and employee roles within CTS.

f) September 2011:

i. Liang Ziyuan (an IND Group employee in China), forwarded a revised business plan which had been proposed by Zhu and Zhang. This business plan is in the name of Beijing Futonghua Investment Co., Ltd. and refers to it and its subsidiary, CTS, as exploring development of the sexed-semen industry. The plan refers to the development of “new efficient flow cytometer”; and

ii. Jimmy Liang exchanged emails with a Chinese patent agency, copied to Xu, with instructions to “please apply for patent application priority as soon as possible”. The patent summary begins,

> This invention makes public a type of semen cytometer, that relates to the field of cell biotechnology. The said cytometer includes: nozzle, the lower part of the said nozzle connects to the tip, the tip head of the said tip being wedge shape, the internal of the said nozzle being flat oval. This invention improves on the foundation of the conventional flow cytometer, substantially increasing the efficiency and accuracy of semen sorting. …

g) October 2011:

i. Tang confirms that they have five machines but they only have three usable tips and need to manufacture more. Other than that, she indicates that “the progress of the machine[/s] has been smooth sailing. The main problem[/s] has[/ve] been well solved”. Tang identifies that there is risk in discussing the matter of the tips with a potential manufacturer of the tips if “XY would soon learn about the information”. The IND employees work on preparing drawings for this purpose which is aided by “seeing the real thing” and “by referring to the real sex-controlled **tip** object” (emphasis added). I find that this was a reference to XY’s tip, which was part of the Missing Parts.

h) December 2011:

i. the IND Group arranged for Small Precision Technologies (“SPT”) to manufacture SX nozzle tips. In order to hide their true identity, Xu, Tang and

Zhu discussed the risks of bringing samples for copying by the factory in China. During this discussion, Xu states:

> Another problem: we communicate with the Wu Xi manufacturer in the name of Aide Diagnostic. If we bring the samples over, will it involve patent issues, will it cause **XY** to track us down.

Zhu agreed with Xu's proposal but nominates the arrangements with SPT to be in the name of Nuo Ya [Noah] Yan Ke [Scientific Research]; and

ii. in aid of the manufacturing process, an IND employee indicated that they are "breaking up a damaged **Nozzle** ourselves, to analyze what it is like inside". I also find that this was a reference to one of XY's tips.

(e) The Retrofitting Completes in January 2012

[192] On January 18, 2012, Tang reported to Zhu and Zhou that:

> Since the *CTS* company was set up, [and] due to the efforts of everyone, remodeling of the machine has now been completed.

This communication, sent in a congratulatory tone, suggested that there would be a "wage adjustment" for the IND Group employees in recognition of this effort.

[193] Accordingly, by January 2012, two cytometers at the new Byrne Road Lab, now retrofitted as SX cytometers, were capable of sorting semen at the same speed as they had been before Mr. Evans dismantled them in late 2010. Xu testified that the IND Group employees got raises around this time due to their success in retrofitting the cytometers back to SX cytometers which included XY's Confidential Information on them.

[194] On February 2, 2012, the Canadian regulatory authorities approved the Byrne Road Lab as a semen-sorting lab. Yang wrote to Zhu, Tang and Zhou that:

> All the laboratories have passed the CFIA accreditation, [and] can commence producing formally! Hahaha, when the boss comes back to give a treat, eh!"

[195] The "boss", namely Jesse Zhu, wrote back, "[f]or sure, for sure."

[196] Cheng testified that, by February 2012, semen sorting by the IND Group was underway in British Columbia after the temporary suspension of operations arising from JingJing's bankruptcy earlier in August 2010.

(f) XY Discovers CTS's Operations

[197] The Trial Reasons, released on March 2, 2012, indicated that a mandatory injunction had been granted which required Zhu, Tang and Zhou to deliver the

“Confidential Information” to XY (para. 329). These individuals took absolutely no action after that date to comply with that order.

[198] Just days after the release of the Trial Reasons, XY received a tip that Zhu and Tang had set up a new company, FBI, for the purpose of secretly producing sexed semen using XY’s technology.

[199] That information led to private investigators conducting surveillance at both the Foster’s Way Lab and the Byrne Road Lab in late March 2012. Those private investigators also collected physical evidence from garbage bags found at both locations. Photographs were taken of people coming and going from both locations and the items seen in their possession. In particular, an Asian woman, later identified as Tang, was seen transporting items from the Byrne Road Lab to the Foster’s Way Lab in her BMW vehicle.

[200] During hearings held March 30 and April 2, 2012, XY applied to this Court for an Anton Piller order (earlier defined as the “APO”), allowing the seizure of evidence from both the Foster’s Way Lab and the Byrne Road Lab. The APO was granted by Voith J. against CTS, FBI, Tang, IND and IEI as the “Implicated Defendants”, on April 2, 2012: *XY, LLC v. Canadian Topsires Selection Inc.* (2 April, 2012), Vancouver S122330 (B.C.S.C.). The APO was executed on April 2-4, 2012, as I will describe in more detail below.

[201] The APO would later be reviewed and reconsidered by Voith J. As a result, the APO was set aside as against IND and IEI: *XY, LLC v. Canadian Topsires Selection Inc.*, 2012 BCSC 1797 (the “APO Review”), and later reinstated as against IEI: *XY, LLC v. Canadian Topsires Selection Inc.*, 2013 BCSC 780 (the “APO Reconsideration”).

[202] In accordance with the APO, Roger Lee, assisted by David Spratley, was appointed as the independent supervising solicitor (“ISS”) to record the execution of the APO with respect to the Foster’s Way Lab. John Singleton Q.C., assisted by Ian Jones, was appointed the ISS to record the execution of the APO with respect to the Byrne Road Lab.

[203] Both ISSs seized various items, defined in the APO as “Evidence for Seizure”, and removed those items from the premises for safekeeping. Materials removed from the Foster’s Way Lab included various documentation and hard drives. Items removed from the Byrne Road Lab also included various documentation and computers, including hard drives (although not the hard drive from Zhou’s old laptop which was in her purse, as

noted above in para. 55). All of these hard drives were eventually mirrored, and the computer and hard drives were returned to the appropriate defendant.

[204] Also of significance, regarding the Byrne Road Lab, was the discovery of three cytometers and related equipment. Two of these machines were functioning and had data displayed on them similar to SX machines. Fu would later identify a screen shot on one of these machines as probably a semen production record from early 2012. The third machine was not functioning.

[205] The machines at the Byrne Road Lab were seized by Mr. Singleton. After being secured, that equipment was removed to the premises of Accurate Bailiff Ltd. (the "Bailiff"). This equipment remains at the Bailiff's premises to this day, and includes the original hard drives located at the various work stations where the cytometers had been placed.

[206] Prior to removal of the equipment from the Byrne Road Lab, Mr. Evans assisted in inspecting and dismantling the equipment. Mr. Evans noted:

a) two of the cytometers were the very ones that JingJing had obtained through XY as part of the licencing arrangements which he had dismantled (by removing the SX parts) back in December 2010. Tang later confirmed that these had been purchased from the Trustee;

b) the two operational machines were running XY's proprietary software with Cytrack and they had been modified to operate as an SX cytometer. These modifications include changes to the PMT controller; installation of SX nozzle assemblies; installation of SX BSOs; and placement of parts in the configuration necessary for sperm sorting;

c) with respect to the third, non-functional cytometer, Mr. Evans noted BioSurplus labels (Tang confirmed that this cytometer had been purchased from BioSurplus). Mr. Evans testified that this machine was in the process of being retrofitted to operate as an SX cytometer;

d) he located spare parts, in particular, SX nozzle assemblies and SX nozzle tips, which appear to have been purchased from SPT;

e) he located XY's confidential protocols, derivatives and improvements to them as made by IND personnel; and

f) he discovered that the equipment included false labels which appeared to have been made up by the IND Group. Xu would later confirm that the IND Group employees had created these labels themselves.

[207] Most disconcerting was that Mr. Evans located SX BSO serial #2196 and SX nozzle assembly #24578, both of which were identified as among the Missing Parts, at the Bryne Road Lab. The original BSO #2169 was never found. Many counterfeit tips and SX nozzle assemblies, apparently purchased from SPT, were also seized.

[208] In the APO Review, Voith J. described the results of the search as follows:

a) three cytometers were found at the Byrne Road location, including two operational and one in the process of being configured. All were found to have XY's confidential parts and features which were found to be "Confidential Information" in accordance with Kelleher J.'s Trial Order (paras. 42, 51);

b) documentation found included the XY protocols that had been specifically included as "Confidential Information" (para. 40); and

c) found to be "particularly disturbing" was that XY discovered certain parts at the lab that it had sought to earlier locate and secure from JingJing's bankruptcy trustee (i.e. the Missing Parts), notwithstanding that Zhu, in his testimony at the trial in the Original Action, had claimed to have no knowledge of these parts (paras. 43, 51).

[209] The definition of the "Premises" that could be the object of the search and seizures authorized by the APO included the Byrne Road Lab, along with "every vehicle … owned, leased or otherwise under the control of the Implicated Defendants that is at, appurtenant or adjacent to the Premises…". The definition of Implicated Defendants included Tang. In accordance with this provision, Mr. Jones searched and seized certain documentation found in Tang's BMW vehicle which was parked near the Byrne Road Lab at the time of execution of the APO.

[210] Tang was asked directly by Mr. Jones if she had any knowledge of the whereabouts of the items listed in Schedule C to the APO. Tang responded "I don't think so, I don't know". When asked about a bag of documents stored in the trunk of her car parked at the Byrne Road Lab, Tang claimed that they were documents from other companies which might contain company secrets. She also asserted a potential claim of privilege relating to these documents.

[211] Upon Mr. Jones' review of the documents found in Tang's vehicle, it was determined that there was absolutely no basis for any claim of privilege. In fact, the documents related to laboratory operations and some were in the name of IND. These documents also included an XY research bulletin which expressly stated that it contained trade secrets and confidential information.

[212] These later events support my conclusion that by January 2012, as a result of Zhu's and his employees' activities both in the Lower Mainland and China, the IND Group had an unlimited ability to manufacture SX BSOs and SX tips. That is borne out, in part, by Mr. Evans finding a package of SPT SX tips at the Bryne Road Lab at the time of the seizure during execution of the APO.

(g) The IND Group's Activities in China

[213] At the trial in the Original Action, the focus was on the activities of JingJing in Canada. However, XY certainly suggested, at the time, that JingJing and Zhu's activities went beyond Canada's borders and included sub-licencing and use of XY's technology in China. Even earlier, in July 2008, XY's submissions to this Court to that effect were not accepted toward expanding this Court's injunction: Trial Reasons at para. 137. In addition, even after the trial in the Original Action, Kelleher J. found that such suspicions were "inconclusive": Trial Reasons at para. 199.

[214] It appears that, at best, the evidence available to XY up to the time of the Original Trial established that JingJing had attempted to establish sorting operations in China and that Zhu had lied in denying that he had such plans: Trial Reasons at paras. 227-228.

[215] The defendants in this action were quick to argue that the execution of the APO in early 2012 put them "out of business". That may have been the case with respect to operations in British Columbia; however, it remains to be determined, in this action, the extent of the IND Group's efforts to use XY's Confidential Information in China and possibly elsewhere.

[216] The evidence at this trial on the IND Group's activities in China went well beyond what was before the Court in the Original Action. That evidence included:

a) while retrofitting the cytometers at the Byrne Road Lab in the spring of 2011, Xu sent parts, measurements, and photographs to IND Group employees in China to arrange for copies to be made;

b) Xu testified that he was sent to China for the IND Group to make contact with companies in China and arrange for copying SX parts, in particular, the BSO, nozzle and nozzle tip. The IND Group did, eventually, contract with SPT to copy the SX nozzle tips in December 2011;

c) in March 2011, arrangements were made to ship two cytometers to Ai De in Qing Dao through Unique Way Technology, another of Zhu's companies. This was done with the assistance of Zhang;

d) on July 28, 2011, Tang wrote to a number of IND Group employees and asked them to "vote regarding the Qing Dao semen sorting centre domain name";

e) following the retrofitting of two cytometers in the Byrne Road Lab by Xu in 2011, Fu was tasked with going to China to assemble two cytometers and retrofit them into SX cytometers. One of the cytometers in China was the third XY cytometer which had been re-purchased by the IND Group from the Trustee after being stripped of its SX parts. The other cytometer in China was an ordinary cytometer that had been purchased from BioSurplus. Tang supplied the labels for these cytometers;

f) before going to China, Fu compared the BioSurplus cytometer, located in the Byrne Road Lab, with another cytometer which Xu had already retrofitted to an SX cytometer. Fu also took the parts from the SX cytometer and fit them into the ordinary cytometer to debug the machine and confirm that they were compatible. He obtained a copy of XY's software from the IND Group IT department and compared it to the software on the ordinary cytometer. Xu trained Fu how to retrofit the cytometers;

g) Fu testified that Tang gave him SX parts; in particular, two SX BSOs and two SX nozzles which he was to take with him to China. The IND Group IT department also put a copy of XY's Summit software on a removable hard disc for him to take to China. Fu confirmed that there were already SX nozzle tips in China;

h) Fu went to China in late 2011. He prepared part of a progress summary that confirmed that, by November 16, 2011, he had one of the machines in Qing Dao working as an SX machine. Tang reported on a number of other elements required to establish the semen-sorting lab in Qing Dao, including auxiliary components and training of personnel;

i) Fu went to China to work for the IND Group again in mid-2012. On that trip, he was instructed to install and debug the semen straw-filling machine in Qing Dao which is used in the production and packaging of semen. While in Qing

Dao, Fu confirmed that there was an SX cytometer operating at the lab. The other machine had been taken to the IND Group's Beijing location. The lab and the semen production in China was under the supervision of Zhu Qian, Zhu's cousin. Further, while in Qing Dao in 2012, Fu was told, by Zhu Qian, that the semen being sorted was used for testing for the purpose of signing a contract with Guo Ming Dairy Company;

j) Xu testified that when he went to Qing Dao in March 2014, there were between 400 to 500 employees of the IND Group working there; and

k) Xu testified that, before October 2014, he understood from IND Group employees in China that they were not allowed to give him any information about developments in China, and that a fingerprint device had been installed to secure the IND Group's laboratory in Qing Dao.

[217] None of the IND Employees who testified at the trial were able to give exact details as to the operations in China, including any embryo production. However, as early as August 2011, Zhu wrote to Tang and Fu confirming his intention to develop embryo-production facilities in China.

[218] Zhu's complacency about the Trial Order, and any potential effect of these proceedings on his Chinese operations, is somewhat indicated by a later event. On December 29, 2014, Zhu's counsel "returned", to XY's counsel, an SX BSO (with a counterfeit label with the same serial number (#2196) as one XY had seized during the execution of the APO), and a SX nozzle and SX tip. There was no explanation as to why these parts were returned and how Zhu came to be in possession of such items.

[219] I agree with XY that the natural presumption arising from this event is that Zhu already has either the originals or copies of these parts sufficient for his purposes in terms of carrying on his operations in China and possibly elsewhere.

[220] I conclude, and find as a fact, that the misuse of XY's Confidential Information took place in the Lower Mainland and in China in equal measure. I find that by the end of 2011/early 2012, at least two cytometers were also in the hands of the IND Group in China, which the IND Group employees had similarly retrofitted into SX cytometers using XY's Confidential Information for the purpose of semen sorting.

(5) Summary re Breach of Confidence

[221] I conclude that the evidence overwhelming supports the following findings of fact:

a) Zhu, along with his key employees in the IND Group, used XY's Confidential Information to continue JingJing's operations past the date of termination of the Licence in late 2008 to create sexed semen. They did so until Zhu and the IND Group's key employees concocted a plan in 2010 that would place JingJing into bankruptcy with a view to disguising their ongoing operations and use of XY's Confidential Information;

b) concurrent with placing JingJing into bankruptcy, the IND Group companies (IND, IEI, IDI, CTS and FBI), its employees and Zhu expressly planned to use XY's Confidential Information for their own purposes in the future. They succeeded in doing so by January 2012, which saw a resurrection of their operations in the Lower Mainland (through CTS), and either a continuation or commencement of their operations in China. These activities arose, in part, from their use of both "real" SX parts withheld from XY and the Trustee, and also the copying of manufactured SX parts (the BSO and tips) based on further misuse of XY's Confidential Information; and

c) the plan was implemented by Zhu and his key IND Group employees, while knowing full well as to the confidential nature of XY's technology, and to exacerbate matters, while doing so in the face of litigation (i.e. the Original Action) commenced by XY to protect its interests in its technology.

[222] I agree with XY that the fact that Zhu and the IND Group employees, both in Canada and China, took such pains to keep their plans secret, indicates that all these individuals were well-aware that their actions were breaches of confidence. In execution of this plan, Zhu and his employees made extensive efforts to hide their efforts. This included:

a) lying to the Trustee and XY in various respects and, in particular, misleading XY and the Court about who was the true purchaser of the cytometers;

b) making misrepresentations as to the Missing Parts and withholding the Missing Parts for their future (mis)use;

c) using false names, in terms of sourcing materials and parts for the retrofitting process of the cytometers, all in aid of hiding the IND Group's efforts from XY; and

d) attempting to remove the serial numbers from the SX parts and making counterfeit labels for the newly-copied parts and machines.

[223] Zhu's plan was achieved, in part, by various misrepresentations to this Court, all as directed by Zhu and implemented by the IND Group employees at his direction.

[224] I also accept XY's submissions that the IND Group employees have created what was defined in the Trial Order (as amended by the Court of Appeal) as "Improvements" as a result of their semen and embryo research, both in Canada and China. In terms of their activity relating to embryos, from the early negotiations in May 2003, the IND Group knew they needed an embryo licence from XY in order to produce sexed embryos from sexed semen: Trial Reasons at paras. 58, 62-63, 66-67.

[225] I conclude, and find as a fact, that in addition to copying the SX cytometer parts, the defendants have used the newly-retrofitted SX cytometers to make substantial quantities of sexed semen and sexed embryos, all in breach of confidence relating to XY's Confidential Information.

[226] All of the defendants involved in this trial received XY's Confidential Information knowing that it had been provided by XY to JingJing in confidence. Their surreptitious actions and misrepresentations taken in relation to this Court, the Trustee, and XY to avoid detection of their true activities are indicative of this knowledge. Equity will pursue the information into the hands of a third party who receives it knowing, or later learns, it was communicated in breach of confidence and impose its remedies: *Cadbury Schweppes Inc. v. FBI Foods Ltd.*, [1999] 1 S.C.R. 142 at para. 19.

[227] I find that Zhu, both personally and through his various companies, being IND, IDI, IEI, FBI, CTS and Ai De, all participated in this breach of confidence.

[228] The further amended notice of civil claim sets out the following allegations against IND, IDI, IEI, FBI, CTS and Ai De:

> Para. 4: [IND] has a number of related and subsidiary companies which it operates and regards as divisions of [IND] and not as independent legal entities.
>
> Paras. 2/3/5/8/9: [CTS], [FBI], [Ai De], [IEI] and [IDI] are "not operated or regard by its senior management as a separate legal entity but is a division of [IND]."
>
> Paras. 2/5: [CTS] and [Ai De] have been "for [IND] and its divisions, locating, purchasing, transporting, selling and otherwise trading in cytometers and cytometer parts, including cytometers and parts outfitting with or using XY's Confidential Information, and has obtained or is attempting to obtain, including by reverse engineering, specially adapted cytometer parts which contain and/or exploit XY's Confidential Information."
>
> Para. 3: [FBI] obtained machinery, equipment and office space for use by other divisions of [IND] to create sex-selected inseminates using XY's Confidential Information and/or embryos made with such sex-selected inseminates for use and/or sale, directly or indirectly, by or on behalf of [IND] and its divisions.
>
> Para. 8: [IEI] uses sex-selected inseminates created by the wrongful use of XY's Confidential Information to produce IVF embryos for sale by or on behalf of [IND].

> Para. 9: [IDI] produces chemical solutions used by other divisions of [IND] to produce, store, and/or use sex-selected inseminates for sale by or on behalf of [IND] and its divisions.
>
> Para. 39: [IDI] and its divisions, including affiliated and related companies, are and have been operating as a common enterprise with respect to the intentional, knowing and wrongful use of XY's Confidential Information as set out above. Among other things:
>
> (a) the profits of the divisions are treated as the profits of [IDI], including that funds flow from one division to another or to [IDI] without exchange for full or any value;
>
> (b) the affairs of the divisions are controlled by persons appointed by or on behalf of [IDI];
>
> (c) [IDI] directly or indirectly makes all decisions for the divisions;
>
> (d) [IDI] governs the business and aims of the divisions;
>
> (e) profits of the subsidiaries are derived from the skill and direction of [IDI]; and
>
> (f) [IDI] has effectual and constant control of the divisions.
>
> Para. 40: In general, but also specifically with respect to the intentional, knowing and wrongful use of XY's Confidential Information as set out above, [IND] and its divisions are not operated or regard by the divisions' own nor by [IND]'s senior management as separate legal entities. The divisions and [IND] act jointly and in concert. They are also jointly liable, whether as a common enterprise or alternatively as joint venturers in a common purpose and project to wrongfully use XY's Confidential Information and as participants in the funds, directly or indirectly, necessary for and deriving from such wrongful use.

[229] IND, IDI, IEI, FBI and CTS are essentially deemed to have admitted these allegations by reason of the striking of their responses to civil claim: *British Columbia (Director of Civil Forfeiture) v. Crowley*, 2013 BCCA 89 at para 76. I have already mentioned that Ai De was served but did not file any responses to civil claim. As such, the facts asserted by XY are also deemed as having been admitted by Ai De: *ICBC v. Wiese*, 2011 BCSC 238 at para. 4.

[230] Even so, the evidence at this trial overwhelmingly supports that Zhu, both personally and through his various companies by which he operates, received the Confidential Information and expressly and improperly misused it for his own purposes through the corporate actions of IND, IDI, IEI, FBI, CTS and Ai De. While the evidence is not sufficient to specify clearly the exact roles of some of the companies, I am more than satisfied that Zhu was acting in his capacity as owner of these corporations in directing their improper activities through the means of the various IND Group employees. All of these corporations took some action in aid of Zhu's goals, and while in possession of knowledge that it was acting for the purpose of improperly using XY's Confidential Information.

[231] In addition, Zhu and Zhang were participating as "directors" or directing minds of various IND Group companies, and their actions amounted to a deliberate knowing pursuit or conduct to commit acts which cannot be said to be in the best interests of the companies through whom they acted. As such, they are personally liable for those acts: Trial Reasons at para. 259; *Prism Hospital Software Inc. v. Hospital Medical Records Institute* (1987), 18 C.P.R. (3d) 398 (S.C.) at 399; *Mentmore Manufacturing Co. v. National Merchandise Manufacturing Co. Inc.* (1978), 89 D.L.R. (3d) 195 (Fed. C.A.) at 204.

[232] The available evidence is sufficiently clear, in terms of the role of FBI and CTS, which were involved (and in CTS' case, created) for the express purpose of acting to improperly use and exploit XY's Confidential Information. There is no evidence that IND, IDI, IEI and Ai De were expressly created for the purpose of using XY's Confidential Information, but corporate actions taken by them were used to further the improper activities relating to XY's technology, as directed by their owner, Zhu.

[233] Accordingly, Zhu and the IND Group companies, being IND, IDI, IEI, FBI, CTS and Ai De, and Zhang, as a director of CTS, are all liable to XY for breach of confidence.

[234] The principles from *Cadbury Schweppes* apply equally to Tang and Zhang, against whom XY seeks judgment.

[235] Tang filed a response to amended civil claim on June 28, 2012 denying liability and asserting that, at all material times, she was an employee of IEI acting under the direction of Zhu. She asserted, at paragraph 5, that "[a]s lab manager, [her] job was to manage and support the laboratory technicians who conduct research at the laboratory facility located at the [Byrne Road Lab] and the [Foster's Way Lab]". She denied, in her pleading, that she uses, or has used, XY's Confidential Information.

[236] As I stated above, Tang was aware of the dates of this trial, in addition to being served with a notice to call her as an adverse party witness pursuant to *Rule* 12-5(21). She emailed XY's counsel confirming that she would not participate relying, instead, on an indemnity agreement with Zhu which she attached. She did not ask for an adjournment of the trial, but noted that she had been suffering from depression for some time and could not afford a lawyer.

[237] Again, the evidence, as to Tang's involvement in the plan to misuse XY's technology, is manifestly clear. She was:

a) the supervisor of the semen-sorting group in Canada and she was in charge of arranging the tasks for the various employees;

b) she was the most senior team member at the decisive August 20, 2010 meeting, at which time she instructed Xu to retrofit the two ordinary machines they anticipated receiving from BioSurplus by copying the three SX machines they currently had in their possession;

c) Xu, Fu and Cheng all testified that she was their supervisor;

d) when the IND Group learned that XY was to strip the SX parts from the machines in December 2010, she specifically instructed Xu to record the parts that were to be replaced by XY in aid of the retrofitting process;

e) in her discovery evidence, she stated that she understood, by September 2010, that the "intention is to turn these cytometers back into semen sorting SX cytometers";

f) she also admitted, in her discovery evidence, that she participated in the lie to the Trustee about who was actually purchasing the cytometers in order to avoid any suggestion that the IND Group was involved;

g) Xu testified that he received the SX parts from Tang when the time came to retrofit the machines. Tang admitted, on discovery, that she was "in charge of safekeeping" the parts and that she kept them in a cupboard. These parts consisted of "three or four complete sets of SX parts", namely, BSOs, nozzles and nozzle tips. She knew the SX parts were only available to XY's licensees, and knew they were being used to retrofit the ordinary cytometers back to SX cytometers both in Canada and China, confirming, "Yes, later when it was being done, of course I knew."; and

h) Tang was also directly and extensively involved throughout the course of events in the 2010-2012 timeframe as the various IND Group employees sought to copy the SX parts and retrofit the machines.

[238] Accordingly, Tang is liable to XY for breach of confidence.

[239] In its pleading, at paragraph 14, XY alleged that Zhang (i.e. the nominal director of CTS), was a current or former partner or joint venturer with Zhu, Ms. Wang and/or IND, to produce sex-selected inseminates and store sex-selected inseminates for sale and/or use by or on behalf of IND. Finally, XY alleged, at paragraph 33a, that Zhang intentionally, knowingly and wrongfully used and collaborated with the other defendants in the wrongful use of XY's Confidential Information. As was Ai De, Zhang was served

with XY's pleading but did not file any response to civil claim. As such, the facts asserted by XY against him are deemed as having been admitted: *Wiese* at para. 4.

[240] As with Tang, the involvement of Ai De and Zhang in the intentional misuse of XY's Confidential Information has, in any event, been clearly proven. The facts include:

(a) Zhu signed as the "owner" of Ai De in its fraudulent proof of claim filed in JingJing's bankruptcy;

(b) Zhang was an employee of the IND Group in China and participated in the breach of confidence. He agreed to be the nominee director of CTS knowing that this was done to avoid any suggestion as to Zhu's involvement; and

(c) on February 21, 2011, Zhang emailed Ai De's delivery documentation and invoice to the Canadian IND Group employees, through which the two cytometers were shipped to China for the purpose of being retrofitted using XY's Confidential Information. On September 12, 2011, Zhang participated in the preparation of the Beijing Futonghua business plan.

[241] It is not clear to me when Ai De was incorporated, but it certainly participated in Zhu's scheme, as I note above. Accordingly, Zhang and Ai De both played a direct role in receiving and misusing XY's Confidential Information.

[242] In summary, Zhu, IND, IDI, IEI, FBI, CTS, Tang, Ai De and Zhang are all jointly liable for breach of confidence by reason of their conduct. As such, XY is entitled to certain remedies, both compensatory and injunctive, as are discussed below.

X. CIVIL CONSPIRACY

[243] XY also alleges that Zhu, his companies, IND, IDI, IEI, FBI, CTS and Ai De, and the individuals, Tang and Zhang, have conspired to harm it through their actions.

[244] The essential elements of the tort of conspiracy are:

(a) an agreement between two or more persons;

(b) concerted action pursuant to the agreement;

(c) (i) if the action is lawful, there must be evidence that the conspirators intended to cause damage to the plaintiff; and (ii) if the action is unlawful, there must be evidence the conspirators knew or ought to have known their action would harm the plaintiff; and

(d) actual damage suffered by the plaintiff.

See *Tracy v. Instaloans Financial Solution Centres (B.C.) Ltd.*, 2008 BCSC 669 at para. 75, aff'd 2009 BCCA 110 at para. 20; *Le Soleil Hospitality Inc. v. Louie*, 2010 BCSC 1183 at paras. 341-345, aff'd 2011 BCCA 305 at para. 111.

[245] XY alleges that the conspiracy here is one of unlawful acts. It alleges that the defendants acted in concert, taking certain unlawful steps with the express intention of harming XY through the destruction or diminishment of its Confidential Information, and with the knowledge that their acts would cause injury to XY. XY further alleges that Zhu and Zhang's interest in so acting was separate and distinct and in addition to their role as officers and directors in the various corporate defendants and that, in certain respects, they used the corporate defendants for that purpose: *Tracy* (B.C.S.C.) at paras. 85-86; (B.C.C.A.) at paras. 25-28.

[246] I am satisfied that the first element of the tort – an agreement – is made out.

[247] As Kelleher J. stated in the Trial Reasons:

> [268] Direct evidence is not required to demonstrate the existence of an agreement between co-conspirators, nor does the agreement have to be contractual. Rather, an agreement may be inferred from the facts, so long as they "cannot fairly admit of any other inference being drawn from them": *Golden Capital Securities Ltd. v. Holmes*, 2004 BCCA 565 at para. 46, citing *Sweeney v. Coote*, [1907] A.C. 221 at 222 (H.L.).

[248] As I stated above, Zhu's intention, formed by at least early 2009 after the Licence was terminated, was to continue to use and exploit XY's technology for his own purposes. Various steps were taken in pursuit of that goal. In particular, the email exchanges in the summer of 2010 leading to the decision to bankrupt JingJing make clear that that option was discussed, debated and, ultimately, agreed to by the various IND Group employees who would see it through to implementation and execution. Although I appreciate that the actual course of events were not expressly planned ahead of time, at all times, the employees acted toward the agreed and never-wavering goal of using XY's Confidential Information to retrofit the SX cytometers for the IND Group's businesses in Canada and China.

[249] In that respect, I agree with XY's submissions that Zhu and Zhang were acting in their personal and separate capacities beyond their positions within the corporations in

entering into the agreement to so act and in acting to misuse XY's Confidential Information.

[250] To that end, it was clear by all the defendants that they would have to create this sham bankruptcy and, in so doing, deceive the Trustee, act in violation of duties under the bankruptcy legislation, deceive XY and the Court, and withhold assets of JingJing from the Trustee.

[251] The second element is met by the concerted action each of the defendants took, which included deceiving the Trustee, the Court and XY in various ways. All of these actions allowed the IND Group employees to work in relative obscurity in copying the SX parts and retrofitting the cytometers, all the while using XY's Confidential Information towards their mutual benefit in continuing operations.

[252] The conduct of the defendants was all directed to the common goal of using XY's Confidential Information in breach of the confidence they knew to exist by rebuilding the SX cytometers and using them in Canada and China to create sexed products, including semen and embryos.

[253] Similar to what was noted in the Appeal Reasons at para. 55, Zhu, Zhang and Tang were part of the "management team" of the various companies who not only acted in concert to carry out the unlawful acts, but also assisted in the planning as to how best to go about it. As the Court of Appeal commented in *Tracy*, acting through corporations does not shield corporate insiders:

> [28] The fact the illegal activity was actually conducted by the Instaloans companies would, in the circumstances, appear to be of no consequence to the personal liability of Mr. Latimer and Mr. Arcand. While the primary reason individuals choose to incorporate is to protect themselves from personal liability through the separate legal personality of the corporation, as I have said, the law does not treat favourably individuals who either incorporate a company for the purpose of undertaking a wrongful act, or who, while acting as directors, cause the company to engage in a wrongful act.

[254] Turning to the third element of the tort of conspiracy, XY contends that the defendants' various actions were unlawful. XY argues that the unlawful acts included a breach of confidence, as found above.

[255] In the Appeal Reasons, the Court commented on the meaning of "unlawful act":

> [49] There is not a great deal of case law in Canada on the meaning of "unlawful means" or "unlawful act" in the context of civil conspiracy. In 1961, in *Gagnon v. Foundation Maritime Ltd.* [1961] S.C.R. 435, the Court referred in this context to "means … [that] were prohibited, and this of itself supplies the ingredient necessary to change a lawful agreement which would not give rise to a cause of action into a tortious conspiracy …". (At 446.) More recently, the Ontario

> Court of Appeal considered the issue in *Agribrands Purina Canada Inc. v. Kasamekas* 2011 ONCA 460 in connection with a claim of intentional inference with economic relations. The Court referred to *Bank of Montreal v. Tortora*, supra, in which it was said at para. 47 that for conspiracy to lie, the plaintiff must show unlawful conduct by each conspirator. After considering the specific context of intentional interference cases, the Court in *Agribrands* continued:
>
>> [R]ather than automatically adopting the meaning of unlawful conduct given in the intentional interference tort cases, I think the better course is to use those cases as a guide, but also consider the kind of conduct that the jurisprudence has found to be unlawful conduct for the purposes of the conspiracy tort.
>>
>> It is clear from that jurisprudence that quasi-criminal conduct, when undertaken in concert, is sufficient to constitute unlawful conduct for the purposes of the conspiracy tort, even though that conduct is not actionable in a private law sense by a third party. The seminal case of *Canada Cement LaFarge* is an example. So too is conduct that is in breach of the *Criminal Code*. These examples of "unlawful conduct" are not actionable in themselves, but they have been held to constitute conduct that is wrongful in law and therefore sufficient to be considered "unlawful conduct" within the meaning of civil conspiracy. There are also many examples of conduct found to be unlawful for the purposes of this tort <u>simply because the conduct is actionable as a matter of private law</u>. In Peter T. Burns & Joost Blom, *Economic Interests in Canadian Tort Law* …, the authors say this at p. 167-168:
>>
>>> … Examples of conspiracies involving tortious conduct include inducing breach of contract, wrongful interference with contractual rights, nuisance, intimidation, and defamation. <u>Of course, a breach of contract itself will support an action in civil conspiracy and, as one Australian court has held, the categories of "unlawful means" are not closed</u>.
>>>
>>> The second category of unlawful means is conduct comprising unlawful means not actionable in itself.
>>>
>>> ...
>>
>> What is required, therefore, to meet the "unlawful conduct" element of the conspiracy tort is that the defendants engage, in concert, in acts that are <u>wrong in law, whether actionable at private law or not</u>. In the commercial world, even highly competitive activity, provided it is otherwise lawful, does not qualify as "unlawful conduct" for the purposes of this tort. [At paras. 36-8; emphasis added.]
>>
>> (See also *Rummery v. Matthews* 2000 MBQB 67, var'd on other grounds, 2001 MBCA 32; *Lerik v. Zaferis* [1930] 1 D.L.R. 634 (B.C.C.A.); and G.H.L. Fridman, *The Law of Torts*, *supra*, at 769-771.)
>
> [50] In my view, the misconduct of the Personal Defendants in this case – essentially the preparation of false records and reports sent by JingJing to XY and the breach of confidence found by the trial judge − satisfies in law the "unlawful act" requirement for these purposes.

[256] Accordingly, similarly, the misconduct of all the defendants here stand as "unlawful acts" sufficient to satisfy this element of civil conspiracy. In that event, one must ask what is to be gained by XY pursuing this cause of action. The Court of Appeal asked a similar

question in relation to liability of corporations for both conspiracy and unjust enrichment (where the corporate veil was pierced) in *Tracy* (B.C.C.A.) at para. 24.

[257] XY argues that, while some of the unlawful acts established through the evidence relate to the breach of confidence, there are other unlawful acts that support a finding of the tort of civil conspiracy. These unlawful acts are said to be:

a) the filing of a false evidence (Zhu's affidavit, quoted above) in July 2008 which caused Slade J. to dismiss XY's application for an order extending the injunction granted earlier on October 30, 2007. At that time, XY was seeking an injunction to prevent Zhu and his companies from attempting to establish production of sexed semen and sexed embryos in China;

b) after November 2008 when XY terminated the Licence held by JingJing, Zhu and others, on behalf of JingJing, led everyone to believe it had ceased producing sexed semen. This was accomplished, in part, by the filing of a sham counterclaim in the Original Action in February 2009, by which damages for unlawful termination and relief from forfeiture were claimed;

c) Zhu and the IND Group employees decided to perpetuate the perception that JingJing was out of the semen-sorting business by having it file for bankruptcy in August 2010;

d) the IND Group employees, Zhu, and others organized the affairs of JingJing to transfer the business to a new company (CTS) so as to avoid liability to XY;

e) the IND Group employees, Zhu, and others deceived the Trustee into thinking that certain members of the IND Group who claimed to be creditors were not related to JingJing, allowing the IND Group to appoint Zhou and Chen ostensibly as independent inspectors representing these "creditors", so as to exert influence and control over the conduct of the bankruptcy;

f) the IND Group and Zhu created false, back-dated records to substantiate the IND Group companies' proofs of claim and, thus, participate as creditors in the bankruptcy proceedings;

g) Zhu kept up the pretence, to such an extent that he swore an affidavit on October 3, 2010, for the purposes of opposing the Trustee's application regarding JingJing's counterclaim against XY. He attested as to the IND Group's intention to pursue JingJing's counterclaim filed against XY pursuant to s. 38 of the *Bankruptcy and Insolvency Act*, R.S.C. 1985, c. B-3 (the "*BIA*"). This provision allows a creditor to take up causes of action in the place of a trustee in bankruptcy. Zhu falsely testified that he did not have notice of the Trustee's intention to settle the counterclaim. Kelleher J. ruled against Zhu and XY ultimately paid $100,000 to settle this counterclaim;

h) Zhu organized the making of false representations to the Court about FBI and Xu by asserting they were not connected to the IND Group at the beginning of trial in the Original Action. This was done for the express purpose of obtaining access to XY's confidential testimony in court so that it could be used in the future by the IND Group. This confidential testimony was used by Zhu and his various companies, although the extent of such use is not clear;

i) IND Group employees actively discussed, planned and then made false representations about the Missing Parts to the Trustee, and then to the Court and XY in October 2010;

j) IND Group employees actively discussed, planned, and then made false representations about the proposed purchaser of JingJing's cytometers to the Trustee, and then to the Court and XY in October 2010. A similar false representation was made regarding the purchaser of the semen inventory held by JingJing; and

k) IND Group employees did not disclose all of JingJing's assets to the Trustee, such as the Missing Parts and all of XY's protocols which were in their possession. Indeed, they actively lied about their continuing possession of the Missing Parts. These Missing Parts were simply transferred to various IND Group companies, including IEI, CTS and IND, for their own use.

[258] As can be seen, many of the above unlawful acts, such as deceit of the Trustee, XY and the Court, are not technically breaches of confidence in respect of XY's Confidential Information. Rather, they are the means by which that breach was accomplished. Deceitful actions, in relation to the Trustee, were pleaded by XY in its

further amended notice of civil claim at paras. 47(a)-(d), and, thus, has now been deemed to be admitted by Zhu, Zhang and the IND Group companies. There is also no doubt that Tang was equally complicit in deceiving the Trustee (and also XY and the Court in the Original Action and in the bankruptcy proceedings).

[259] I find that the unlawful acts committed by the defendants also include being deceitful towards the Trustee, XY and this Court. In addition, many of the actions of the IND Group employees constitute breaches of the duties of a bankrupt and creditors or offences under the *BIA*: see ss. 158, 159, 198, 200, 201, 204. In particular, s. 201(1) of the *BIA* provides that where a creditor wilfully and with intent to defraud makes a false claim in a bankruptcy, such as the proofs of claim of IND and Ai De executed by Zhu, that person is guilty of an offence punishable on summary conviction. As an officer, director or agent of IND or Ai De, Zhu is equally liable: *BIA*, s. 204.

[260] The fourth element is established by XY's loss of royalties, loss of control over sexed semen and embryo production in China and loss of the benefits of the Improvements. Mr. Evans, Mr. Gilligan and Mr. Holland all testified about the importance to XY of implementing quality control measures toward ensuring the quality of the product. In addition, XY ensures control over the technology by requiring that its licensees disclose any testing, development and distribution of Improvements and by requiring that such Improvements are assigned to XY. I agree with XY that, while this loss relating to Improvements may be more difficult to measure than lost royalties – which is the more obvious form of actual damage – it, nevertheless, also constitutes actual damage to XY.

[261] Tang is liable for the tort of civil conspiracy as a joint tortfeasor by reason of her conduct. The findings of Kelleher J. in the Trial Reasons apply equally here:

> [257] Furthermore, Selen Zhou, Tang Jin and Jesse Zhu are liable as joint tortfeasors by operation of the principle discussed in *Osborne v. Pavlick*, 2000 BCCA 120. In *Osborne* at para. 16, Southin J.A. adopted the description of joint tortfeasors from *The Koursk*, [1924] P. 140 (U.K.C.A.), where Scrutton L.J. stated at 155:
>
> > The substantial question in the present case is: What is meant by "joint tortfeasors"? and one way of answering it is: "Is the cause of action against them the same?" Certain classes of persons seem clearly to be "joint tortfeasors": The agent who commits a tort within the scope of his employment for his principal, and the principal; the servant who commits a tort in the course of his employment, and his master; two persons who agree on common action, in the course of, and to further which, one of them commits a tort. These seem clearly joint tortfeasors; there is one tort committed by one of them on behalf of, or in concert with another.
>
> [258] In this case, regardless of which defendant committed which aspect of the tort, the evidence supports a finding that Helen Zhou, Jesse Zhu, Tang Jin and

> Dr. Remillard each played a part and acted in concert to deceive XY about JingJing's use of its technology and information.

[262] The evidence makes clear that all of these defendants each played a part in the overall plan to steal XY's Confidential Information for their own use by various means, including breaching the confidence in relation to XY's Confidential Information. They all worked together to achieve their goals based on their agreement as to the "common purpose"; namely, to use XY's Confidential Information to retrofit the cytometers so that they could be operated as SX cytometers in the future, and also to allow them to copy XY's Confidential Information for their future use. This was all done for the benefit of the IND Group so that the Group could collectively benefit from the use of that Confidential Information. It matters not that each of them completed only certain aspects of the plan.

[263] Accordingly, I find Zhu, IND, IDI, IEI, FBI, CTS, Tang, Ai De and Zhang liable to XY in civil conspiracy.

XI. UNJUST ENRICHMENT

[264] XY also advances a claim against Zhu, IND, IDI, IEI, FBI, CTS and Ai De on the basis of unjust enrichment (i.e. not against Tang or Zhang).

[265] The test for unjust enrichment has three elements: (i) an enrichment of the defendant; (ii) a corresponding deprivation of the plaintiff; and, (iii) the absence of juristic reason for the enrichment. See *Harraway v. Harraway*, 2009 BCCA 561 at paras. 14-21, citing *Garland v. Consumers' Gas Co.*, 2004 SCC 25; *Tracy* at para. 56, 59-60 (S.C.).

[266] Given my discussion of the evidence and my findings as above, it has been proven that, by reason of the actions of Zhu, mainly through the corporate defendants, XY has suffered a deprivation and there has been enrichment through the breaches of confidence of XY's Confidential Information. I am also satisfied that there is no juristic reason for this enrichment.

[267] The question that arises is who has been enriched?

[268] XY made substantial submissions on the doctrine of piercing the corporate veil in terms of fastening liability on directors, officers and shareholders of a corporation, contrary to the well-known principle of separate corporate identity per *Salomon v. Salomon & Co.*, [1897] A.C. 22 (H.L.).

[269] This is not necessary in terms of the causes of action relating to breach of confidence and conspiracy, as discussed above, given the basis upon which liability has been found against the individual defendants.

[270] On the unjust enrichment issue, however, XY argues that the corporate veil should be lifted so as to collapse Zhu's corporate holdings in order to hold Zhu personally liable in addition to all the corporations.

[271] As I have already discussed, Lowry J.A. commented in *Tracy* (B.C.C.A.) at para. 24 that it was questionable whether a claim of conspiracy against a corporation could co-exist with a successful claim in unjust enrichment by which the corporate veil was pierced to fix liability on directors of a corporation. The reasoning of the Court was that if the corporate veil was to be disregarded, a shareholder could not conspire with himself.

[272] Nevertheless, XY has confirmed that, similar to the representative plaintiff in *Tracy*, the conspiracy claim was advanced only as an alternate to the unjust enrichment claim: *Tracy* (B.C.C.A.) at para. 24.

[273] I agree with XY that, supplementing the deemed admissions, it is manifestly clear that Zhu uses his companies, and nominee shareholders and directors, with little or no regard for the notional separate personality of his companies. Rather, he creates corporations and appoints nominees to create the false appearance that a company is not owned or controlled by him, or otherwise to carry out his intentions which, in this case, were unlawful. This is also done to shield himself from liability for such unlawful actions.

[274] An example of this mindset is indicated in an audio recording of a group meeting Zhu emailed to Tang, Cheng and Yang on February 21, 2012. That recording included Zhu's comments that:

> Uh, and then this company does not undertake stud bull, stud, sorting of sexed semen. Then we would do research and development, eh, and then, this sorting company, if **XY** wants to sue, go ahead and sue. This company would have nothing, no equipment, nothing whatsoever, it would all [belong to a parent] company, that's it, no land too, so the land is another company, eh, that would roughly be the model. Right now; the immediate issues involved are on veterinarian selection and site selection...

[275] Again, I find as a fact that here, the IND Group of companies are all dominated and controlled by Zhu, and the defendant corporations were created and/or used by him for the improper and unlawful purpose of exploiting XY's Confidential Information.

[276] This type of fixing of liability on corporate insiders was discussed in *Tracy* (B.C.S.C.) at paras. 90-93 and (B.C.C.A.) at paras. 18, 27-28. As the Court of Appeal commented in *Tracy*, acting through corporations does not shield corporate insiders in

relation to unjust enrichment claims when a person forms and/or acts through the corporate entity to do a wrongful act:

> [18] Mr. Latimer and Mr. Arcand contend the judge erred in finding they cannot take any advantage of the corporate structure to shield themselves from the liability borne by the Instaloans companies that actually made the loans through the storefront operations. But it has long been recognized that if a company is formed for the purpose of doing a wrongful act, or when formed is directed by those in control to do something that is wrong, the individuals as well as the company are responsible for the consequences: *Rainham Chemical Works, Ltd. (In Liquidation) v. Belvedere Fish Guano Co.*, [1921] 2 A.C. 465 at 476 (H.L.). Mr. Latimer and Mr. Arcand accept that if the basis of there being an unjust enrichment is confined to the conflict with s. 347, as it is, their contention in this regard cannot succeed. This is a case in which the corporate veil is to be "pierced", rendering not only the Instaloans companies but the two principals, as shareholders, liable for the unjust enrichment, as found by the judge.

[277] XY argues, in the alternative, that the leading case in British Columbia, *B. G. Preeco I (Pacific Coast) Limited v. Bon Street Holdings Ltd.* (1989), 37 B.C.L.R. (2d) 258 (C.A.) at 268, sets out that the corporate veil may be pierced where there is "fraud or improper conduct" and where the corporation "is used to effect a purpose or commit an act which the shareholder could not effect or commit".

[278] I confess to having some difficulty in seeing the need to apply *B. G. Preeco* here. In this case, neither Zhu nor any of his companies (including JingJing) were in a position to use and exploit XY's Confidential Information during the relevant timeframe. As such, none of the corporations were used to commit acts that only the shareholders were not able to commit.

[279] While the IND Group did use various corporations in their efforts to gain control of the cytometers, and improperly use and exploit XY's Confidential Information (such as through FBI and CTS), this simply resulted in fixing joint and several liability on those corporations as joint actors with the persons controlling the actions of the corporations.

[280] I am more than satisfied that Zhu created and/or used the various corporate defendants for the purpose of doing a wrongful act, and that as the directing mind of these corporations, he directed them to use and exploit XY's Confidential Information for the benefit of the IND Group and himself personally. As such, all are jointly and severally liable in unjust enrichment and liable for the consequences of such a finding: see *Tracy*. I would note that this finding is consistent with XY's allegations as found in its pleadings and, as such, are deemed admissions as against Zhu, IND, IDI, IEI, FBI, CTS and Ai De.

[281] Relief for unjust enrichment may be not only a return of the property improperly received, but also damages in the form of disgorgement of any gains consequent on receipt of that property: *Alers-Hankey v. Teixeira*, 2002 BCCA 227 at para. 27; *Tracy*

(B.C.S.C.) at para. 65. XY seeks monetary compensation in the form of disgorgement of the profits derived from the improper use of its Confidential Information.

[282] Further, XY seeks a constructive trust over all those things, tangible or intangible, including, but not limited to, sexed semen, sexed embryos, cattle, goats, cytometers, equipment, parts, property, intellectual property (including, but not limited to, patents, patent applications, copyright, trademarks, trade secrets), which are derived, in any way, from XY's Confidential Information, whether held directly or indirectly, legally or beneficially, by any of the defendants or their agents, nominees, or assignees.

[283] I will now turn to consider the remedies sought by XY against the various defendants.

XII. THE REMEDIES

(1) General Principles

[284] XY bears the onus of proving any damages it suffered arising from the defendants' actions.

[285] The overall objective in assessing damages (or profits) in intellectual property cases is to find a broadly equitable result. It "must always be more or less a matter of estimate, because it is impossible to ascertain, with arithmetical precision, what, in the ordinary course of business, would have been the amount of the [plaintiffs'] sales and profits": see *Cadbury Schweppes Inc.* at para. 99, citing *United Horse-Shoe and Nail Co. v. Stewart* (1888), 13 App. Cas. 401 (H.L.). The tribunal must do "the best it can": *Cadbury Schweppes Inc.* at para. 99, citing *Wood v. Grand Valley Railway Co.* (1915), 51 S.C.R. 283 at 289.

[286] If a plaintiff establishes that a loss has been suffered, the difficulty of determining the amount does not excuse the wrongdoer from paying damages or disgorging its profits. Damages are to be assessed by the court, not calculated, based on facts that were within the plaintiff's power to prove, and upon which the court may make a fair and reasonable estimate of damages: *Encorp Pacific (Canada) v. Rocky Mountain Return Center Ltd.*, 2008 BCSC 779 at paras. 129-130.

(2) Adverse Inference

[287] Earlier in these reasons, I noted Kelleher J.'s comment (Trial Reasons at para. 9), on the failure of the defendants in the Original Action to produce documents, and that such failure had negatively affected XY's ability to prove its case. In considering the calculation of damages, the Court stated that, in such circumstances, factual inferences

may be drawn against the party who has failed to produce records that would be relevant to that calculation. Indeed, Kelleher J. applied this principle against the defendants in the Original Action: Trial Reasons at para. 348. He discussed the principle as follows:

> [278] The plaintiff bears the burden of proving a compensable loss. Where a defendant's wrongful conduct prevents the plaintiff from establishing the loss, adverse facts will be presumed: *Le Soleil* (S.C.) at paras. 286-287, aff'd *Le Soleil* (CA).
>
> [279] Where the defendants fail to keep a record that would establish the actual measure of damages, the court may apply the principle *omnia praesumuntur contra spoliatorem* (all things are presumed against a wrongdoer). The principle has been applied by this Court: *Encorp Pacific Canada v. Rocky Mountain Return Center Ltd.*, 2008 BCSC 779. The origin of this legal principle has been traced to *Armory v. Delamirie* (1722), 1 Strange 504, 93 E.R. 664 (K.B.). In that case, the plaintiff gave the defendant a jewel for the purpose of having it assessed. The defendant failed to return it, and the court presumed the jewel to be of the best quality.

[288] Other cases cited by XY in support of this principle arising from *Armory* (cited above) are: *Lamb v. Kincaid* (1907), 38 S.C.R. 516 at 541; *Brandon Electric Light Co. v. Brandon (City)* (1912), 1 D.L.R. 793 (Man. K.B.) at paras. 14-16; *Grenn v. Brampton Poultry Co.* (1958), 13 D.L.R. (2d) 279 at para. 31 (Ont. H.C.J.); *Endean v. Canadian Red Cross Society* (1998), 48 B.C.L.R. (3d) 90 (C.A.) at para. 14; *Elsen v. Elsen*, 2010 BCSC 1830 at paras. 325-330.

[289] I have already commented on the concerted actions taken by the defendants to avoid document disclosure in this litigation. That evidence particularly arises from the testimony of Yang.

[290] Yang testified that IEI's embryo production records were intentionally not disclosed to their lawyers. Yang personally shipped those lab records from Quebec to the Foster's Way Lab but, in his presence, Huang told the IND Group's lawyers that the documents were not there. As stated above, Huang was a lawyer hired by Zhu to manage and coordinate the IND Group's defence of this action which had been Yang's responsibility.

[291] Yang also testified that, in addition to misleading the IND Group's external lawyers, the IND Group employees intentionally suppressed disclosure of the 2009 CTS semen-production record, as well as all their records from China. Yang confirmed that semen-production records, embryo-production records and embryos sales/use records, both in Canada and China, were not produced.

[292] XY made reasonably persistent efforts to obtain records from the defendants that would reveal the actual scope of the Canadian and Chinese operations, both before and after the commencement of this litigation. Consistent with its earlier suspicions during the

Original Action, XY continued to be of the view that operations by the IND Group were continuing in China even after the execution of the APO.

[293] XY's demand for document disclosure and production dated August 27, 2013, provided:

> ***(b) We demand disclosure of all documents which show or lead to the use of cytometers to create sexed semen and the use of sexed semen to create embryos, using XYs Confidential Information.***
>
> …
>
> 15. We demand disclosure of all documents which show or lead to the persons and process involved with using cytometers to sort semen (at the Burnaby Lab, in China (the "Chinese Labs") and elsewhere) including the source of semen, agreements to obtain semen, agreements to sort semen, payments to obtain semen, records related to sorting semen, the use and sale or distribution of sexed semen, inventories of sexed semen, payment for sexed semen, and agreements to provide and obtain sexed semen.
>
> 16. We demand all documents which show or lead to any of the defendants, anywhere, directly or indirectly, using cytometers or assisting others to use cytometers to create sexed semen. (See for example, Lawrence #1 at Exhibit E (paragraph 3) which shows Jesse Zhu and Jin Tang in July 2011 planning a semen sorting operation in China through CTS. See also Umbach #8 at Exhibit N which shows Jin Tang ordering supplies related to semen sorting through IND's purchasing department for delivery to China.)
>
> …
>
> 18. We demand all documents which show or lead to the inventory of sexed semen <u>and the use of sexed semen to produce embryos, including the inventory, distribution and shipping and/or use of such embryos</u>.
>
> [Emphasis Added]

[294] As I outlined in my earlier reasons, (*XY, LLC v. Canadian Topsires Selection Inc.*, 2015 BCSC 912), this demand was followed by two court orders (November 12, 2013 and May 30, 2014) requiring further document disclosure in relation to XY's demand letter. Yang testified that the defendants made no effort to comply with XY's demand and these court orders.

[295] I agree with XY that the evidence establishes that the IND Group companies kept detailed and well-organized records of its semen and embryo production. Records exist up to 2008, which I presume were in evidence at the trial of the Original Action and supported the damages calculation of Kelleher J. As XY argues, such recordkeeping is consistent with the goal of recording the genetic resource to create the sexed product (whether semen or embryos), as certain bulls would have better pedigrees that would yield a higher value for their sexed products. The email traffic between the IND Group employees in this timeframe is replete with references to reports and statistics, consistent with such recordkeeping.

[296] In my view, there is no reason to think that there has been any change in the manner and extent of the defendants' recordkeeping relating to semen and embryo production. A February 19, 2012 email refers to the defendants smuggling embryos into China by declaring them as "some kind of imported enzyme element". In a June 5, 2013 email, Zhu refers to "our standard daily report (including relating to the collection of fresh semen from bull studs), and that reports should be according to "our standard daily report format". This email alone supports the conclusion that the IND Group was sorting semen in China at that time and keeping detailed records of their production.

[297] I conclude that Zhu, either personally or within the IND Group companies that he controls, has detailed records relating to the production and use of sexed semen and embryos in China, including the birth of live calves, within his control and/or possession. I also conclude that he has production records of the IND Group's operations in Canada up to the time of the APO in April 2012.

[298] In that event, XY seeks a remedy based on an assessment of the highest reasonable number, and value, of sexed semen and embryos likely created and used by the defendants in Canada and China. I agree that, in these circumstances, the principle of *omnia praesumuntur contra spoliatorem* applies. Since the defendants have made it impossible to determine the extent of their operations in Canada and China, an inference should be drawn that the defendants used all the sexed semen and embryos they reasonably had the capacity to produce.

(3) Profit Analysis

[299] XY seeks a disgorgement of profits as against Zhu, IND, IDI, IEI, FBI, CTS and Ai De in respect of the Court's finding of unjust enrichment.

[300] As mentioned above, Kelleher J.'s calculation of damages was only for the period ending in December 2008. That calculation was based on the royalties that XY would otherwise have received from JingJing's production of sexed semen and sexed embryos. I agree, however, with XY's contention that using the royalty rates in this analysis is not appropriate. It is clear enough that the misuse of XY's Confidential Information was done entirely outside any contractual relationship with XY.

[301] Accordingly, the current analysis begins in early 2009.

(a) Semen Production

[302] I accept XY's summary of the evidence on this issue, which I detail below.

[303] Fu and Cheng testified regarding JingJing's semen-production records, confirming that the IND Group continued to sort semen throughout 2009 "at full capacity". According to the available records, their capacity to create sexed AI straws from 2005-2010 was as follows:

a) 2005: produced 40,937 sexed straws using 2 cytometers (1,700 straws per cytometer per month);

b) 2006: produced 70,508 sexed straws using 2 cytometers (2,900 straws per cytometer per month);

c) 2007: produced 60,122 sexed straws (acquired third cytometer July 12, 2007) (2,000 straws per cytometer per month);

d) 2008: produced 96,637 sexed straws using 3 cytometers (2,684 straws per cytometer per month);

e) 2009: records not produced but using 3 cytometers (kept on old CTS computer, per Fu); and

f) 2010 (January 29 to May 11; June 21 to August 12): produced 30,860 sexed straws (5 to 5½ months using 3 cytometers) (1,870 – 2,050 straws per cytometer per month).

[304] Therefore, the only year that the Court must estimate is 2009 as no records are available. Accordingly, XY suggests that it would be reasonable to extrapolate a range of 2,000 – 2,500 AI straws per month per cytometer. The three cytometers were acquired by JingJing in May 2004, October 2004 and July 2007: Trial Reasons at paras. 69, 71, 82. (Note: This is in addition to fresh semen produced by the defendants sufficient to produce over 100,000 IVF embryos per year, which is discussed below).

[305] Focusing on AI straws, XY submits that it was likely that the IND Group created between 72,000 straws (2,000 straws per month per cytometer x 3 cytometers x 12 months) and 90,000 straws (2,500 straws per month per cytometer x 3 cytometers x 12 months) of sexed semen in 2009. Taking the mid-point leads to the calculation of approximately 81,000 AI straws produced in 2009.

[306] By early 2012, the IND Group also had two functional SX cytometers in China arising from the use of XY's SX parts. Xu and Fu's testimony is to the effect that these retrofitted cytometers could produce similar numbers of straws per batch as they had previously done.

[307] Extrapolating the capacity of the B.C. SX cytometers to those in China results in an estimate that the IND Group had the ability to produce between 48,000 straws (2,000 straws per month per cytometer x 2 cytometers x 12 months) and 60,000 straws annually (2,500 straws per month per cytometer x 2 cytometers x 12 months), or approximately 54,000 straws using the mid-point. (Note: This does not include what XY contends is the capacity of the IND Group to create additional cytometers, which is discussed further below).

[308] In total, XY contends, and I agree, that a reasonable estimate of the number of AI straws produced by the IND Group from 2009 to 2015, in both China and B.C., using the cytometers for which there is direct evidence, can be calculated as follows:

Year	Number of straws	Notes
2009	81,000	
2010	30,860	up to August 2010 (i.e. JingJing's bankruptcy)
2011	NIL	during bankruptcy and retrofitting process
2012	54,000	not including production in B.C. from January to March 2012, when the APO was executed
2013	54,000	
2014	54,000	
2015	54,000	
TOTAL	327,860	

[309] XY also refers to various pieces of evidence in support of the value of the AI straws. Again, the defendants have not disclosed any direct evidence as to the value; rather, there are references in a variety of sources. These sources include magazine advertisements from 2006, and references in various IND Group documents and emails, including those found in various business plans for various Chinese companies in 2007 and 2011. In addition, Mr. Holland testified on this point and referred to various prices known to XY through its business operations.

[310] The prices indicated in the IND Group documents range from a low of US$20 to a high of US$55. Mr. Holland's figures, in some cases, were higher but those well beyond US$55 were likely for more valuable semen. Despite the potential of applying the

principle of *omnia praesumuntur contra spoliatorem* (which could result in the Court applying the highest value available), XY submits that a reasonable conclusion is to apply a value of US$40 per sexed AI straw produced from 2009 onwards. I agree that this value is reasonable.

[311] Turning to the matter of the cost of producing the straws, the onus is ordinarily entirely on a defendant to prove its cost. I accept XY's submissions that overhead (including wages) is viewed as a fixed cost and is not deductible.

[312] There is direct evidence of the IND Group's cost of producing sexed semen: $9.67 CDN (2005), $6.95 CDN (2006), $6.68 CDN (2007) and $5.37 CDN (2008) per straw. These numbers include wages. Excluding wages they are $8.32 CDN (2005), $5.97 CDN (2006), $5.73 CDN (2007), and $4.50 CDN (2008) per straw.

[313] XY argues that since the IND Group's semen-production cost steadily declined from 2005 to 2008, it would be reasonable to assume that after 2012, the cost declined even further once production moved to China.

[314] I agree that it would be fair to assume that the cost of semen production, at least, remained stable after 2008 and attribute a cost of CDN$4.00 per straw for production from 2009 to present. Taking an exchange rate near the mid-point between a high of 1.3173 (October 2015) and a low of 0.97 (June 2011), namely, 1.14, provides for an approximate cost of US$3.50.

[315] I conclude that a reasonable assessment of the IND Group's profit on the fair-market value of each straw of sexed semen is US$36.50. Applying these calculations to 327,860 sexed AI straws results in a calculation of the IND Group's profit of $11,966,890.

(b) IVF Embryo Production

[316] In addition to their production of AI straws, the IND Group also produced fresh semen for the purpose of creating IVF embryos.

[317] At trial in the Original Action, Kelleher J. granted XY a reference as to the number of embryos produced by IEI after December 2008. XY submits that a line must be drawn between the embryos that were the subject of the Original Action (where the defendants concealed their ongoing semen production), and the new embryos produced from the ongoing semen production that is the subject of this action. I agree that the line can be drawn, by excluding from this action only, those embryos produced from the semen purchased from Semex Alliance, as that was the basis on which Kelleher J. granted the reference (Trial Reasons at para. 131).

[318] With respect to the capacity to produce embryos, Kelleher J. pointed to evidence that the defendants had the capacity to produce between 100,000 and 300,000 IVF embryos per year. Justice Kelleher concluded that, between 2004 and 2008, they produced 650,000 embryos in total or an average of 130,000 IVF embryos annually: Trial Reasons at paras. 282-285. This finding is consistent with the 2006 Quebec embryo-production records in evidence at this trial (which may have been falsified to underreport), which generally indicate production of approximately 100,000 IVF embryos annually.

[319] I agree with XY that the evidence establishes, on a balance of probabilities, that the IND Group was producing sexed embryos from 2009 to the present. By the time Yang packed up the Quebec lab in 2014, Zhu was advancing plans to open a location in Tulare County, California, and move the embryo lab there. Zhu's affidavit, filed in support of the adjournment application at the commencement of this trial, suggests that he has a continuing presence in Tulare County which, in turn, suggests that he is continuing his efforts to set up operations there (or perhaps has already).

[320] I agree that for the period from January 2009 to the end of 2015, a period of seven years (and taking off half a year for what XY describes as an ovary shortage), a reasonable estimate of the number of IVF embryos produced by the IND Group in Canada and the United States is 650,000. XY notes that this is less per year than the 650,000 IVF embryos Kelleher J. found the IND Group produced over the five-year period from 2004 to 2008.

[321] As with the value of the AI straws of sexed semen, XY refers to various pieces of evidence in support of the value of the IVF embryos. Again, the defendants have not disclosed any direct evidence as to the value; rather, there are references to such values in a variety of sources. These sources include a magazine advertisement from 2006, and references in various IND Group documents and emails, including those found in a business plans in 2003. In addition, Mr. Holland testified on this point and referred to various prices known to XY through its business operations.

[322] The prices indicated in the IND Group documents range from a low of US$100 to a high of US$150. In some instances, Mr. Holland's figures were higher. XY submits that a reasonable conclusion is to apply a value of US$150 per IVF embryo produced from 2009 onwards. I agree that this value is reasonable. This is consistent with Kelleher J.'s finding that a fair value per embryo for slaughterhouse IVF embryos after January 2007 was US$150: Trial Reasons at para. 293.

[323] On the matter of cost, XY refers to various references found in the IND Group's documents as to the cost of producing embryos. Those figures range from a low of US$14.50 (in 2012) to a high of U$24-26 (2007). I agree with XY that based on these figures, it is reasonable to attribute US$20 to the cost of producing each IVF embryo.

[324] Accordingly, XY submits, and I agree, that a reasonable assessment of the IND Group's profit on the fair-market value of each IVF embryo is US$130. Applying these calculations to 650,000 IVF embryos results in a calculation of the IND Group's profit of $84,500,000.

(c) OPU / In Vivo Embryo Production

[325] With respect to production in China, the calculation is somewhat different because the inference cannot be drawn that the defendants had a source of Holstein slaughterhouse ovaries.

[326] Instead, and consistent with the industry trend Mr. Gilligan attested to, there is direct evidence that the IND Group in China had turned to producing and using far more valuable ovum pickup ("OPU") and *in vivo* embryos there.

[327] Mr. Gilligan testified regarding the emerging market for sperm-sorting technology in China. He confirmed that the sex-selected semen, combined with multiple ovulation embryo transfer ("MOET"), or OPU embryo fertilization, is the optimal way to accelerate genetic advances and improve the genetics of the herd. In this way, the identity and pedigree of both sire and dame are known and the embryos can be carried by surrogate cows with inferior genetics without impacting the quality of the calf. OPU embryos are made from the oocytes of living donors. OPU embryos have significant advantages over both IVF and MOET embryos, as they are "full pedigree" (and thus valuable). Like *in vivo* MOET (or super-ovulated) embryos, the pedigree of both the dam and the sire are known, but OPU embryos can be mass-produced in lab conditions.

[328] These newly-developing reproduction technologies are a particular advantage in China where the dairy herd has historically not been Holsteins, which is the dominant breed of dairy cows in North America and Europe, whose superior genetic traits increase milk production and provide a better source of embryos in the future. China is rapidly adopting Holsteins.

[329] The March 2007 IND Lifetech (Qing Dao) Co. Ltd. business plan notes that under Mr. Remillard's leadership, "the company's technology as a whole in living body ovum and embryo pick-up for OPU embryo production represents first class standard in Canada."

[330] The February 2008, IND Lifetech Group Ltd. ("ILG") business plan confirms that the company had identified a "reliable source of genetics … *in vivo* embryos produced in China from the top 10% of dairy cattle from the Company's herd." On cross-examination in the Original Action, Zhu agreed that "the company's OPU embryo production technology represents Canada's finest" and that "in 2000, the company started the construction of a superovulated embryo collection centre."

[331] This same ILG February 2008 business plan confirms that for *in vivo* embryo production, "each mature cow can undergo the process six to eight times a year, averaging over five embryos each time" (at page 19). ILG's June 2013 business plan confirms that it takes 12 months to breed a cow to maturity, it is usable for six to seven years total, and ILG had a herd of 10,000 cows at the end of 2012. XY suggests that this indicates an upper limit of 250,000 to 333,000 *in vivo* embryos per year, and that the capacity to produce OPU embryos would be higher.

[332] Mr. Gilligan confirmed that the estimate for the cattle's annual value growth rate of 36% contained in the IND Group's June 2013 Aide PowerPoint presentation was not realistic without sexed embryos. His view was that this high growth estimate was only realistic through the use of sexed embryos created with sexed semen.

[333] The data from Benson Zhang's June 5, 2013 email suggests that the IND Group's "OPU group" was using about 10 Wagyu OPU embryos each day (on the order of 2,000 – 3,000 annually). That amount does not take into account embryos they were stockpiling, as they did with slaughterhouse IVF embryos. In any event, Mr. Zhang's references to "thawed" embryos suggest they were freezing and stockpiling OPU embryos.

[334] Fu testified that, based on his experience working at the IND Group IVF lab in Quebec, three to four straws of sexed semen, with two to three million semen/straw, could produce about ten embryos.

[335] XY also argues that at the other end of the spectrum, if each cow were superovulated only once per year, that would entail producing on the order of 40,000 *in vivo* embryos across the herd each year. Mr. Gilligan suggested that superovulating a cow might take it out of milk production for a time, but he was not certain. It could be even less than that, if only a portion of the herd is used for the superovulation programme. On the other hand, with the higher efficiency of OPU production, that could make up for using only a portion of the herd.

[336] The above discussion highlights the lack of document disclosure as to the actual production of embryos by the IND Group in China. Applying the principle of *omnia praesumuntur contra spoliatorem* in these circumstances, as I consider is appropriate, I find that it is reasonable to conclude that the IND Group produced 40,000 OPU embryos per year from 2009 to present. Therefore, for the seven-year period from 2009 to the end of 2015, I find that the IND Group produced 280,000 OPU or *in vivo* embryos in China.

[337] XY also refers to various pieces of evidence in support of the value of these embryos. Again, there is no direct evidence from the defendants as to the value; rather, there are references to such values in various IND Group documents. In addition, Mr. Holland testified on this point and referred to various prices known to XY through its business operations.

[338] The prices indicated in the IND Group documents range from a low of US$150 to a high of US$300 (likely from 2006). Mr. Holland's figures as to current values were much higher (US$750 to US$1,800). XY submits that a reasonable conclusion is to apply a value of US$350 per *in vivo* embryo produced from 2009 onwards. I agree that this value is reasonable. This is consistent with Kelleher J.'s finding that a fair value per *in vivo* embryo after January 2007 was US$350: Trial Reasons at paras. 295-296.

[339] On the matter of cost, XY argues that this should be fixed at US$25, being the cost of producing IVF embryos (as above), plus a notional increase for additional labour cost in China of what appears to be a more complicated procedure. I agree that this is reasonable.

[340] Accordingly, it is reasonable to assess the IND Group's profit arising from the use of OPU, or *in vivo* embryos, at US$325. Applying these calculations to 280,000 embryos results in a calculation of the IND Group's profit of $91,000,000.

(d) Equipment Production

[341] By 2014, the IND Group also had the ability to recreate all of XY's parts. Everything but the nozzle had been copied by the time of the APO in April 2012, and the IND Group had found manufacturers to reproduce the SX tips (STP), and the BSOs (Wang Yun Qian). According to Xu's evidence, the nozzle was finally copied sometime in 2014.

[342] The evidence suggests that part of the IND Group's business plan in China was to sell SX cytometers.

[343] The IND Group's plans for producing additional cytometers are set out in the development outline of the Shengbang Biomedical Technology Ltd. ("Shengbang") business plan dated March 2014. Xu testified that Shengbang was another of Zhu's companies. Zhu is described in the document as the "chairman" of Shengbang. Section VI, entitled "Sales Outlook", estimates 2015 annual sales of 200 million Chinese renminbi ("RMB"), with a 40% profit and year-on-year increases of 50% for "Flow Cytometer-related preparations, spare parts and service".

[344] In addition, Xu testified as to certain April 2014 promotional material for IND Bio-technology Development (China) Co. Ltd., advertising the use of flow cytometers for sexed semen in the beef cattle industry. The document refers to various IND Group companies and states:

> After more than ten years of development, IND Group has now become the second sexed semen production enterprise in the world granted approval to proceed with commercialized sales of sexed semen, and also the first to obtain a license to sell in China, and the <u>first enterprise in the world to possess [XY]'s sexed sorting patented technology</u>, to carry out sexed semen production and commercialized sales. (p. 29)
>
> …

[345] Further, regarding "[r]ealization of using IND Biology's flow cytometer equipment to produce sex semen", the material states:

> … due to the long-term monopoly by the owner on the ability possessed to produce sexed semen flow cytometer equipment .. [w]hile they are selling the equipment at a high price, there are additional mandatory patent royalties … [c]ausing the purchaser's sexed frozen semen's production cost to be too high … (p. 36)
>
> …
>
> Possesses 40000 square meters of constructed area of IND Biology's flow cytometer development and production base[/s] at the Hi-Tech Zone of Ying Kou City, to meet the Company's industrialization development <u>based mainly on the production of flow cytometer and their related equipment</u> (p. 43).
>
> [Emphasis added]

[346] XY concedes that, although more than 18 months have passed since the March and April 2014 business plans, it is difficult to estimate how far Zhu may have progressed in manufacturing and selling SX cytometers.

[347] XY contends that I should find that Zhu and the IND Group companies are producing SX cytometers and selling them, as was referenced in Shengbang's March 2014 business plan. XY also contends that I should assess the profit at 40% of 200 million RMB, also in accordance with that business plan, which is equivalent to US$12.67 million.

[348] In my view, there is substantial uncertainty as to whether Zhu has produced and sold equipment using XY's Confidential Information. It is entirely possible that any production of such equipment has been for the purpose of its own use in its business operations. This is in contrast to the evidence about semen and embryo production, as I have already described above. I am unable to conclude that Zhu and his companies have acted in this fashion or, if they have, what success was likely achieved. Accordingly, I consider this claim to be speculation and not supported by the evidence before me.

[349] I am, therefore, unable to make any findings sufficient to ground any monetary compensation in favour of XY. However, I agree with XY that it is appropriate that injunctive relief and a constructive trust be granted to prevent any future misuse of all cytometers made by Mr. Zhu and those he controls which arise from or contain XY's Confidential Information.

(e) Conclusions re Profit Analysis

[350] The profit calculations, as determined above, indicate the approximate amount of $187.4 million from 2009 to 2015. Details of the calculations leading to this figure are set out below.

[351] XY argues that many of the documents substantiate that this figure is not entirely unreasonable in the circumstances.

[352] One example is Mr. Zhu's June 2013 business plan for ILG, which states that the combined market value of assets is estimated at US$1.37 billion (8.3 billion RMB), with revenues of 299.7 million RMB in 2012 (49 million RMB profits); 266.8 million RMB in 2011 (46 million RMB profits); 125.9 million RMB in 2010 (20.6 million RMB profits); and 87 million RMB in 2009 (8.7 million RMB profits). The forecast for 2013-2015 reveals an expectation that the trend will continue moderately upwards for the Chinese calf-breeding operations.

[353] Another example is a further document produced by the IND Group, which indicates just under 300 million RMB (CDN$48 million) in annual sales in 2012 arising from the production of Holstein cows.

[354] It is also evident that Zhu saw his business as immensely valuable. One of his strategies was to acquire XY's business. He took the view that this plan would generate enough income (or cause XY sufficient loss), to allow him to "acquire **xy** using the best price", thinking that XY's annual revenue was on the order of US$100 million.

[355] I agree with XY that the value that Zhu has added to his IND Group companies, through the use of XY's Confidential Information in the production of sexed semen and embryos, is substantial.

(4) Damages Calculation

[356] Damages would be calculated on the same basis as set out above, except that the defendants' costs would not be subtracted, and XY should be awarded 20% of the fair-market value of the products at issue.

[357] The reasoning for the 20% figure is the same as that applied by Kelleher J. in assessing the quantum of damages for *in vivo* embryos made by the defendants in breach of confidence: Trial Reasons at para. 295. This was done on the basis of the Licence, section 3.1.1(c), which provided for double the 10% royalty on "Gross Receipts generated outside the Territory or outside the Field of Use".

(5) Summary re Profit / Damages Calculations

[358] All figures in the profit and damages assessments have been derived generally using conversion rates from U.S. dollars and RMB to Canadian dollars as published in the Wall Street Journal. I consider those conversion rates to be generally applicable given that section 3.1.4 of the Licence provided for the use of these rates in relation to royalties payable by JingJing to XY. However, as XY contends, use of these rates is not strictly required given that damages are to be assessed generally.

[359] The following table summarizes the various calculations under both the profit and damages analysis (all figures in U.S. dollars)

Type of Product	Profit Calculation	Notes	Damages Calculation	Notes
Semen Production (327,860 Straws over 5 ½ years from 2009-2015 with gap from August 2010 to December 2011)	$11,966,890	$36.50 profits per straw	$2,622,880	20% of $40 per straw
IVF Embryos (650,000 IVF embryos over 6 ½ years)	$84,500,000	$130 profit per IVF Embryo	$19,500,000	20% of $150 fair market value

OPU/ *in vivo* Embryos (280,000 OPU / *in vivo* embryos over 7 years)	$91,000,000	$325 profits per OPU / *in vivo* Embryo	$19,600,000	20% of $350 fair market value
TOTAL	**$187,466,890**		**$41,722,880**	

[360] I conclude that judgment in favour of XY is available in the amounts set out above.

[361] To the profit analysis number of US$187,466,890 must be added pre-judgment interest of US$6,021,633.37 to January 15, 2016, for a total of US$193,488,523.37 (or CDN$269,856,121.68). A per diem rate of CDN$19,969.35 applies after that date.

[362] To the damages analysis number of US$41,722,880 must be added pre-judgment interest of US$1,340,182.75 to January 15, 2016, for a total of US$43,063,062.75 (or CDN$60,059,536.86). A per diem rate of CDN$4,444.41 applies after that date.

(6) Damages or Profit Disgorgement?

[363] XY submits that its claim for unjust enrichment can stand alongside the claims for breach of confidence and conspiracy. It argues that the Court can fashion an appropriate remedy of damages for the breach of confidence and conspiracy, and disgorgement of profits for the unjust enrichment, while still being careful to ensure there is no overlap in remedy.

[364] The leading English cases involving alternate or cumulative remedies are *United Australia Ltd. v. Barclays Bank Ltd.*, [1941] A.C. 1 (H.L.) and *Tang Man Sit v. Capacious Investments Ltd.*, [1996] A.C. 514 (J.C.P.C.).

[365] The principles from those cases and those that followed were summarized by Justice Gropper in *Bronson v. Tompkins Ranching Ltd.*, 2012 BCSC 770:

> [71] A critical matter in this case is the distinction between “inconsistent rights”, “alternative remedies”, and “cumulative remedies”. The leading case and starting point is *United Australia Ltd. v. Barclays Bank Ltd.*, [1941] A.C. 1 (H.L.) [*United Australia*]. The facts and result in *United Australia* are concisely summarized in *Chevron Canada Resources v. Canada (Indian Oil and Gas Canada)*, 2006 ABQB 945, at para. 15:
>
>> [15] ... [A] cheque payable to United Australia was converted by another company and collected for that company by its bankers, Barclays Bank. Initially, United Australia brought an action and obtained interlocutory judgment against the other company, but this was set aside. The action did not proceed to a final trial as the other company went into liquidation and the action was stayed. While United Australia made a claim in the

> liquidation, its claim was never admitted. Subsequently, United Australia brought an action for conversion against Barclays Bank. The House of Lords held that United Australia, merely by initiating an action against the other company for money loaned or had and received had not elected to 'waive the tort' so as to be precluded from bringing action against the Barclays Bank. The Court held that it would require judgment and satisfaction in the first action, and not just the bringing of the action, for the second action to be barred.
>
> [Emphasis added.]

[72] All of the judges concurred in the result in *United Australia*. Lord Atkin said the following at p. 29-31 on the distinction between "inconsistent rights" and "alternative remedies":

> It seems to me that ... it is essential to bear in mind the distinction between choosing one of two alternative remedies, and choosing one of two inconsistent rights. As far as remedies were concerned, from the oldest time the only restriction was on the choice between real and personal actions. If you chose the one you could not claim on the other. Real actions have long disappeared: and, subject to the difficulty of including two causes of action in one writ which has also now disappeared, there has not been and there certainly is not now any compulsion to choose between alternative remedies. You may put them in the same writ: or you may put one in first, and then amend and add or substitute another.
>
> ...
>
> On the other hand, if a man is entitled to one of two inconsistent rights it is fitting that when with full knowledge he has done an unequivocal act showing that he has chosen the one he cannot afterwards pursue the other, which after the first choice is by reason of the inconsistency no longer his to choose. ...
>
> I therefore think that on a question of alternative remedies no question of election arises until one or other claim has been brought to judgment. Up to that stage the plaintiff may pursue both remedies together, or pursuing one may amend and pursue the other: but he can take judgment only for the one, and his cause of action on both will then be merged in the one.
>
> ...
>
> In the present case, therefore, I find that the plaintiffs were at no stage in the proceedings they took against M.F.G. Trust called to make an election, and, if it were necessary so to hold, in fact made no election, to claim in contract and not to claim in tort: and the foundation of the defendant's defence disappears. But I think it necessary to add that even if the tort had been waived, or the plaintiff had made any final election against M.F.G. Trust, Ld., I fail to see why that should have any effect upon their claims against the bank. If a thief steals the plaintiff's goods worth 500*l*. and sells them to a receiver for 50*l*. who sells them to a fourth party for 400*l*., if I find the thief and he hands over to me the 50*l*. or I sue him for it and recover judgment I can no longer sue him for damages for the value of the goods, but why should that preclude me from suing the two receivers for damages. ... I can see no justice in the contention: and I know of no authority in support of it.
>
> [Emphasis added.]

[73] Although Lord Atkin's judgment in *United Australia* is the one most often cited by Canadian courts, the judgment of Viscount Simon L.C. is also helpful for the purposes of the case at bar. He directly addressed the ability of the plaintiff to bring a second action on the same set of facts as in the first action, but against a

different defendant and for a different remedy (i.e. in a situation that would be characterized in a later decision as featuring one of “cumulative remedies”). Simon L.C. held the following at p. 19-21:

> So far, I have been discussing what is the true proposition of law when the second action is brought against the same defendant. In the present case, however, the action which is said to be barred by former proceedings against M.F.G. is not an action against M.F.G. at all, but an action against Barclays Bank. I am quite unable to see why this second action should be barred by the plaintiff's earlier proceedings against M.F.G. In the first place, the tort of conversion of which the bank was guilty is quite a separate tort from that done by M.F.G. M.F.G.'s tort consisted in taking the cheque away from the appellants without the appellants' authority; that tort would have equally existed if M.F.G., instead of getting the cheque cleared through the bank, had kept it in its own possession. The bank's tort, on the other hand, consisted in taking a cheque, which was the property of the appellants, and without their authority using it to collect money which rightly belonged to the appellants. M.F.G. and the bank were not joint tortfeasors, for two persons are not joint tortfeasors because their independent acts cause the same damage.
>
> But, apart from this, what ground is there for saying that proceedings in which M. F. G. were sued on the basis of waiving the tort, but which never resulted in satisfaction, should be regarded as a bar to suing the Bank for conversion? A case which comes near to the present is *Morris v. Robinson* [(1824) 3 B. & C. 196]. There, cargo belonging to the plaintiffs had been improperly sold during the course of a voyage. There were thus two lines of remedy which the plaintiffs could pursue. They first brought an action against the shipowners for breach of their duty as carriers, with a count in trover. They recovered a verdict, but they did not enter up judgment and there had been no actual satisfaction of their claim. Instead, they brought another action against different defendants - namely, an action for conversion against the purchasers who had bought the cargo. It was held by the Court of King's Bench that the former action was no bar, and that the defendants in the second action were liable for their act in purchasing the plaintiff's goods. Bayley J., in giving judgment, observed :"If concurrent actions had been brought, that against the owners could not have barred the other; why then should it have that effect because they have been brought at different times? If indeed the plaintiffs were to recover the full value of the goods in each action, a court of equity would interfere to prevent them from having a double satisfaction, but there is nothing in the former action which can, in a court of law, prevent the recovery in this." Similar reasoning, as it seems to me, would apply in the present case, and it follows that the earlier proceedings against M.F.G. could provide the present respondents with no defence, unless as a result of them the plaintiffs had received satisfaction for their loss.
>
> ...
>
> To avoid misunderstanding, I must add that I do not think that the respondents in the present case would escape liability, even if judgment had been entered in the appellant company's earlier action against M.F.G. What would be necessary to constitute a bar, as Bayley J. pointed out in *Morris v. Robinson* , would be that, as the result of such judgment or otherwise, the appellants should have received satisfaction.
>
> [Emphasis added.]

[74] *United Australia* has been cited and relied upon by courts in British Columbia. See *Morrison-Knudsen Co., Inc. et al. v. British Columbia Hydro and Power Authority*, [1978] B.C.J. No. 1218, 85 D.L.R. (3d) 186 (C.A.) [*Morrison-*

Knudsen cited to B.C.J.]; *Sandell Developments Ltd. v. Boivin*, [1986] B.C.J. No. 3191, 2 B.C.L.R. (2d) 261 (S.C.) [*Sandell Developments*]; *Bratsch Inc. v. Lebrooy*, [1991] B.C.J. No. 3290 (S.C.); *Vanmills Establishment v. Coles*, [1992] B.C.J. No. 881 (S.C.) [*Vanmills*]; *Insurance Corporation of British Columbia v. Hosseini*, 2003 BCSC 1482; *Topgro Greenhouses Ltd. v. Houweling*, 2009 BCCA 469; and *Tracy v. Instaloans Financial Solutions Centres (B.C.) Ltd.*, 2010 BCCA 357.

[75] In summarizing the principle from *United Australia*, Hinds J. (as he then was) held in *Sandell Developments* at 265 that "a party, who has elected to pursue one of two inconsistent rights, cannot later pursue the other; but a party may pursue two alternative remedies up to the time of judgment, at which time an election of remedy must be made."

[76] The distinction between inconsistent rights and alternative remedies is given further explanation by the Court in *Morrison-Knudsen* at para. 140:

> It is necessary at the outset to distinguish between the two kinds of election that one must consider in a case such as this: an election between inconsistent rights and an election between alternative remedies. When faced with a fundamental breach the innocent party to a contract may elect to affirm the contract and hold the other party to the performance of its contractual obligations and sue as well for damages. On the other hand, he may elect to accept the breach as a repudiation of the contract. <u>This is an election between inconsistent rights.</u> It must generally be made with promptitude and communicated to the other party, and, once made, it is irrevocable. Where a plaintiff, having elected to accept the breach as a repudiation commences proceedings for his remedy, he may have, in a proper case, the right to *quantum meruit* as an alternative to the right of damages. <u>His election between these alternatives is an election between alternative remedies and need not be made until judgment. The taking of judgment on one of the alternatives binds the plaintiff and he may not then have the other remedy.</u>
>
> [Emphasis added.]

[77] However, *United Australia* offers a further nuance to this statement of the law: where a party only pursues one of two cumulative remedies in the first action, but later pursues the second remedy against a different defendant in the second action, the party will not be barred from bringing the second action if the judgment it obtained in the first action has not yet been satisfied.

[78] This additional aspect of *United Australia* was addressed by Seaton J.A. in *Cuttell v. Bentz* (1985), 65 B.C.L.R. 273 (C.A.) [*Cuttell*]. That case focused on "whether payment of a judgment in favour of the plaintiffs against a third person for breach of contract bars an action in tort against the defendants for the same loss": *Cuttell*, at 274. Each of the three judges wrote separate reasons, all of which allowed the tort action to continue. Seaton J.A. was the only judge to make reference to *United Australia*, and particularly the comments of Viscount L.C. cited earlier in these reasons. Seaton J.A. held the following at 279:

> I think that this part of *United Australia* was accurately summarized by Lord Diplock in *Mahesan S/O Thambiah v. Malaysia Govt. Officers' Co-op. Housing Soc.,* [1979] A.C. 374 at 382, [1978] 2 W.L.R. 444, [1978] 2 All E.R. 405 (P.C.):
>
> > The House of Lords also held that where the same facts gave rise in law to a cause of action against one defendant for money had and received and to a separate cause of action for damages in tort against another defendant, judgment recovered against the first defendant did not prevent the plaintiff from suing the other defendant in a separate action: but that to the extent that that

> judgment was actually satisfied this constituted satisfaction pro tanto of the claim for damages in the cause of action against the second defendant.

[79] A further qualification to the above principle, as alluded to earlier in these reasons, is that it has been said to apply where the two remedies in question can be characterized as <u>cumulative</u>, but not where the two remedies in question can be characterized as <u>alternative</u>. This reading of *United Australia* was confirmed in *Tang Man Sit v. Capacious Investments Ltd.*, [1996] A.C. 514 (J.C.P.C.) [*Tang Man Sit*]. The Court in *Tang Man Sit* briefly discussed the distinction between alternative and cumulative remedies at 521:

> The law frequently affords an injured person more than one remedy for the wrong he has suffered. Sometimes the two remedies are alternative and inconsistent. The classic example, indeed, is (1) an account of the profits made by a defendant in breach of his fiduciary obligations and (2) damages for the loss suffered by the plaintiff by reason of the same breach. The former is measured by the wrongdoer's gain, the latter by the injured party's loss.
>
> Sometimes the two remedies are cumulative. Cumulative remedies may lie against one person. A person fraudulently induced to enter into a contract may have the contract set aside and also sue for damages. Or there may be cumulative remedies against more than one person. A plaintiff may have a cause of action in negligence against two persons in respect of the same loss.

[80] In considering *United Australia*, the Court in *Tang Man Sit* held at 523 that "there is no inconsistency between the various speeches in that case if the different considerations applicable to alternative remedies and cumulative remedies are kept firmly in mind". The plaintiff in *United Australia* had a choice of two <u>alternative</u> remedies against M.F.G., namely damages in tort or in restitution, and the time at which the plaintiff had to elect between the remedies did not arise until judgment.

[81] The Court then went on to state at 523 that "the remedies of United Australia against M.F.G. on the one hand and the bank on the other hand were <u>cumulative, not alternative</u>", and thus "the earlier proceedings against M.F.G. could not bar the company subsequently bringing fresh proceedings against the bank unless the company had recouped the whole of its loss in the earlier proceedings" (emphasis added).

[82] At 522, the Court explained the concept of cumulative remedies in greater detail:

> Faced with alternative and inconsistent remedies a plaintiff must choose between them. Faced with cumulative remedies a plaintiff is not required to choose. He may have both remedies. He may pursue one remedy or the other remedy or both remedies, just as he wishes. It is a matter for him. He may obtain judgment for both remedies and enforce both judgments. When the remedies are against two different people, he may sue both persons. He may do so concurrently, and obtain judgment against both. Damages to the full value of goods which have been converted may be awarded against two persons for successive conversions of the same goods. Or the plaintiff may sue the two persons successively. He may obtain judgment against one, and take steps to enforce the judgment. This does not preclude him from then suing the other.

[83] This statement in *Tang Man Sit* was cited by Belzil J. in *Dreco Energy Services Ltd. v. Wenzel Downhole Tools Ltd.*, 2010 ABQB 252, at para. 19.

> [84] Despite the above statement, the Court in *Tang Man Sit* noted the following limitations to the freedom of a plaintiff to pursue cumulative remedies at 522:
>
> > In the interests of fairness and finality a plaintiff is required to bring forward his whole case against a defendant in one action. Another limitation is that the court has power to ensure that, when fairness so requires, claims against more than one person shall all be tried and decided together. A third limitation is that a plaintiff cannot recover in the aggregate from one or more defendants an amount in excess of his loss. Part satisfaction of a judgment against one person does not operate as a bar to the plaintiff thereafter bringing an action against another who is also liable, but it does operate to reduce the amount recoverable in the second action. However, once a plaintiff has fully recouped his loss, of necessity he cannot thereafter pursue any other remedy he might have and which he might have pursued earlier. Having recouped the whole of his loss, any further proceedings would lack a subject matter. This principle of full satisfaction prevents double recovery.

[366] Applying those principles to this case, I agree with XY that:

a) its claims against Zhu and the IND Group companies for damages (breach of confidence and conspiracy) and for disgorgement of profits (unjust enrichment) are alternative remedies: see *Pro-Sys Consultants Ltd., v. Microsoft Corp*., 2013 SCC 57 at para. 93. As such, XY is required to elect as to which remedy it will seek judgment. XY seeks judgment based on a disgorgement of profits as against Zhu, IND, IDI, IEI, CTS, FBI and Ai De, jointly and severally;

b) its claims against Zhu and the IND Group companies on the one hand, and Tang and Zhang on the other, are cumulative remedies. XY may pursue Tang and Zhang on another basis (i.e. damages for breach of confidence and conspiracy), which is the basis upon which XY seeks judgment against them jointly and severally; and

c) any amounts collected from Tang and Zhang will constitute partial satisfaction of the amount of the judgment as against Zhu and the IND Group companies.

[367] The relief as sought by XY is granted as against the various defendants.

(7) Injunctive Relief

[368] The accounting of profits remedy addresses Zhu and the IND Group company defendants' past misuse of XY's Confidential Information between 2009 and the end of 2015. However, it does not address their future conduct, or their continuing possession of the retrofitted SX cytometers, SX parts, protocols, and Improvements.

[369] In the Trial Reasons, Kelleher J. granted both a mandatory and prohibitory injunction based on the following reasoning:

> [326] As Robert J. Sharpe points out in *Injunctions and Specific Performance*, looseleaf (Aurora: Canada Law Book, 2010), in real property cases, conflicting property rights are in issue rather than outright appropriation of the plaintiff's property. He goes on to point out that in the intellectual property area, injunctions are a familiar remedy (para. 4.700).
>
> [327] An injunction in cases like the present will ordinarily follow where (1) the plaintiff has a legal right in the property; (2) there is a real threat or an actual invasion of the legal right; and (3) there is no defence of laches, delay, acquiescence or estoppel: see Sharpe at para. 4.690.
>
> [328] Injunctive relief is appropriate because the plaintiff is not seeking damages for future breach of confidence. If it were denied, the defendants would be permitted to sort semen using their intimate knowledge of XY's equipment and protocols without paying royalties to XY and in competition with other licensees in China, Canada or elsewhere who do pay royalties. The injunction is an appropriate remedy, both mandatory and prohibitory.
>
> [329] The plaintiff's mandatory injunction is sought to deliver or destroy under oath confidential information of XY which is in the hands of the defendants. The defendants have no right to possess such information and indeed do not assert they do. The injunction does no more than hold JingJing and its employees and related companies who had access to the bargain struck under the CLA.
>
> [330] Such a mandatory injunction is an ordinary ancillary remedy in intellectual property cases where an injunction is granted to restrain the use of the information. See Ronald E. Dimock, *Intellectual Property Disputes: Resolutions and Remedies*, Vol. 1, looseleaf (Toronto: Thomson Reuters Canada Limited, 2004), at 15.2.

[370] The Trial Order, at para. 13, included a mandatory injunction requiring the return to XY of the Confidential Information (including the parts and their configuration, the protocols, and all Improvements). The Trial Order also included a prohibitory injunction at paras. 12 and 15, by which Zhu, Tang, Zhou and others were prevented from using XY's Confidential Information for any purpose or to any extent in the future. The definition of "Confidential Information" was varied in two minor respects, but largely upheld, by the Court of Appeal: Appeal Reasons at para. 128.

[371] XY seeks the same form of injunction with certain additional terms. The relief sought is as follows:

> 10. In this Order, the term "**Confidential Information**" has the meaning set out in Appendix "A" attached hereto. [Note: substantially per the Trial Order, but now also referencing specific cytometers and related parts, photographs and records, intellectual property such as patents, cytometers held by Accurate Bailiffs, original and counterfeit parts and certain exhibits at trial. Also, "Confidential Information" in Appendix "A" includes "Improvements" which are in part as set out in Appendix "B"].
>
> 11. Zhu, Tang, Zhang and the IND Judgment Debtors [defined as CTS, FBI, IND, IEI, IDI and Ai De] and each of them (including by themselves, or by their directors, officers, agents, employees, servants, affiliates, joint venturers, successors, assigns, subsidiaries or related companies, and all those over whom they exercise control, directly or indirectly) (collectively, the "**Enjoined Parties**") are restrained from using the Confidential Information, for any purpose or to any extent, and are restrained from communicating, transferring, distributing, selling,

> publishing, leasing, licensing or in any other way or by any other means disclosing the Confidential Information to any person or for any purpose.
>
> 12. Within 14 days from the date of this Order After Trial, namely on or before ______, the Enjoined Parties, and each of them, shall deliver up to the plaintiff or its designate any and all Confidential Information in their possession, power or control, without keeping any copy, electronic or otherwise.
>
> 13. For clarity, the obligation to deliver up the Confidential Information applies notwithstanding any previous Order of this Court, including but not limited to the Anton Piller Order pronounced April 2, 2012 and the Consent Order pronounced May 11, 2012. Any and all previous Orders made in this action that might be deemed to interfere with compliance with this Order After Trial, are hereby varied to the extent necessary to permit compliance with this Order After Trial.
>
> …
>
> 15. To the extent that any Confidential Information in the power, possession or control of the Enjoined Parties, or any of them, consists of copyright, trade-mark, patent or other intellectual property applications or registrations, the Enjoined Parties and each of them shall be deemed to have transferred all such Confidential Information to the plaintiff, and shall promptly take all steps necessary to formally transfer such Confidential Information to the plaintiff or its designate.
>
> 16. For clarity, the requirement in this Order After Trial to deliver up all Confidential Information includes but is not limited to all equipment, parts, notes, memoranda, photographs, records and documents, specifically including e-mails and other electronic documents, which contain Confidential Information.
>
> 17. The independent supervising solicitors designated pursuant to the Anton Piller Order pronounced April 2, 2012, and the bailiffs under their control, are directed to cooperate with the plaintiff and the Enjoined Parties and each of them, to the extent necessary to ensure compliance with the terms of this Order After Trial.
>
> 18. Within 30 days from the date of this Order After Trial, namely on or before ______, Zhu, Tang, Zhang and the IND Judgment Debtors shall each deliver to XY through its counsel an affidavit providing and verifying the accuracy and completeness of an itemized list with full particulars of all Confidential Information that has been delivered up in compliance with this Order, and an itemized list of all Confidential Information that has been in the power, possession or control the Enjoined Parties, or any of them, since July 2010 but is no longer, and all particulars of the last known location of all such Confidential Information.

[372] In my view, the proposed relief is appropriate in the circumstances and is granted.

[373] In addition, the Mareva orders, which I granted earlier in this action, by their terms, continue until further order of the Court. XY has requested that this judgment expressly confirm that there is no intention to discontinue or vacate the existing Mareva injunctions. I agree that this is appropriate to avoid any argument that this judgment has caused the Mareva orders to expire or be discharged.

(8) Constructive Trust

[374] XY also seeks the following order:

> 14. All of the Confidential Information in the possession, power or control of the Enjoined Parties, and each of them, is impressed with a constructive trust for the

benefit of XY.

[375] I agree that this relief is also appropriate in the circumstances. This relief recognizes the proprietary nature of XY's Confidential Information and is consistent with enforcing XY's rights until (and if) the defendants comply with the injunctive relief that I have granted and the injunctive relief that remains in place per the Trial Order: see *Tracy v. Instaloans Financial Solution Centres (B.C.) Ltd.*, 2010 BCCA 357 at para. 21.

(9) Punitive Damages

[376] Similar to its position in the Original Action, XY seeks an award of punitive damages as against the defendants.

[377] Justice Kelleher addressed this argument in the Trial Reasons at paras. 341-348. He rejected this claim, finding that although the fraudulent conduct of Zhu, Tang and Zhou was "reprehensible", such conduct did not fall into the category of "malicious" or "highly reprehensible". The Court cited *Whiten v. Pilot Insurance Co.*, 2002 SCC 18 at para. 94 in support: Trial Reasons at para. 347.

[378] Justice Kelleher also referred to the rationale behind punitive damages, which are appropriate when compensatory damages do not meet the objectives of retribution, deterrence and denunciation. In the Trial Reasons at para. 348, Kelleher J. determined that this was essentially a fight between sophisticated business people, and that the application of the principle of *omnia praesumuntur contra spoliatorem* and the award of special costs was sufficient to achieve those objectives.

[379] At this trial, XY seeks an award of punitive damages against Zhu, IND, CTS, FBI, IEI, IDI and Ai De in the amount of $1,100,000. XY also seeks an award of punitive damages against Tang and Zhang in the amount of $100,000 each.

[380] In addition to Kelleher J.'s review of this issue, I have been greatly assisted by this Court's thorough review of the applicable law and principles as set out in *Le Soleil* (B.C.S.C.) at paras. 361-378. The Court, in *Le Soleil,* cites a number of authorities also before me, which include *Hill v. Church of Scientology of Toronto*, [1995] 2 S.C.R. 1130 at paras. 196-199, *Performance Industries Ltd. v. Sylvan Lake Gold & Tennis Club Ltd.*, 2002 SCC 19 at paras. 77-92 and *Whiten*.

[381] The proper focus is not on the plaintiff's loss but on the defendants' misconduct. In general, the conduct justifying such an award must merit condemnation by the Court. As stated above, the general objectives are punishment, deterrence and denunciation, and any award should be rationally related to these objectives.

[382] In August 2015, Kelleher J. found Zhu in contempt of the Trial Order in the Original Action in relation to: failing to deliver the Confidential Information in the Trial Order and Improvements made possible by or because of access to XY's technology; using the Confidential Information; failing to deliver to XY the Confidential Information in his possession, power or control (i.e. the Missing Parts); and failing to pay the judgment awarded against him: *XY, LLC v. International Newtech Development Incorporated*, 2015 BCSC 1524 at paras. 128, 142. Justice Kelleher found that XY had not established that Zhu was in contempt of the sealing order which he granted during the trial (referred to earlier in these reasons) in respect of the use of the information imparted to Xu during the trial in the Original Action: para. 146.

[383] XY expressly seeks not to have any award of punitive damages based on the actions of Zhu leading to this contempt finding. XY submits that the appropriate punishment in that respect should be left to the Court on the sentencing hearing for contempt. I agree.

[384] XY submits that the focus here should be on the steps undertaken by Zhu and his employees to achieve the conspiracy and breach of confidence, including being deceitful towards the Trustee, XY and the Court, the violation of bankruptcy laws and the abuse of the court process throughout this action.

[385] Here, I agree with XY that this is a case that invites an expression of condemnation by the Court. Unlike the facts before Kelleher J., where the deceit was largely within the context of a contractual relationship between XY and JingJing, Zhu's scheme, as now more fully revealed, went far beyond that scenario.

[386] That scheme, in part, involved false representations and false evidence before this Court, consistent with the earlier deceit that was part of the Original Action. This includes Zhu's lies under oath as noted by Kelleher J. in the Trial Reasons, and the deceitful actions in relation to Xu's status when he was allowed to remain in the courtroom to hear XY's confidential testimony. Also relevant here is that the Court was deceived as a result of the sale to Technoterm within the bankruptcy proceedings as the sale required court approval. Thirdly, Zhu lied under oath at the trial of the Original Action regarding the Missing Parts. Clearly, Zhu's deceit in these last two matters was not limited to the Court, but also included the Trustee.

[387] The scheme also involved a clear plan to avoid document disclosure of relevant documents in this action to disguise the true nature and extent of Zhu's operations.

[388] Of course, the deceit also involved XY. I consider that Zhu's actions go beyond trying to "pull a fast one" on XY. XY describes this as a fraud of epic proportions, which cries out for punitive damages commensurate with the complexity, breadth, and long-standing efforts of Zhu to cheat XY and steal its Confidential Information.

[389] There is considerable merit in XY's characterization of the matter. Years before this action was even started, Zhu conceived of a strategy to steal XY's intellectual property for his own gain. The course of his deception in achieving this goal never wavered. Zhu's tactics are more than deserving of punishment and denunciation. In addition, in my view, an award here would also serve the objective of deterrence. As can be seen from both the Trial Reasons and these reasons for judgment, Zhu often employs various people, including his family, friends and employees (such as Tang and Zhang), to do his dirty work. An award will send a clear message to those who have helped Zhu in his improper actions and those who might do so in the future, that assisting Zhu poses severe risks to them.

[390] The authorities are clear that any award must be considered in the context of other relief granted by the Court (just as Kelleher J. did). This is the concept of proportionality. In *Le Soleil* (B.C.S.C.), the Court commented:

> [377] The awards for compensatory damages and special costs are undeniably substantial. Standing alone, they will have a significant salutary effect. Nevertheless, such awards will not address fully all of Dr. Louie's and Mr. Nomani's wrongful conduct, including, for example, their repeated disruption of proper Strata Corporation functioning and reliance upon the Alleged June Agreements in other litigation such as the First 567 Action and the Telephone Action. In addition, they will not express fully the Court's condemnation of such a conscious, costly, fraudulent attempt to undermine a binding settlement.

[391] These same considerations arise here. While the compensatory damages and special costs (that I am awarding, see below) are substantial, in my view, they do not adequately address the highly-reprehensible conduct of Zhu and the other defendants. In addition, it is more than apparent that XY has been severely hampered by the actions of Zhu in hiding his true activities. I have no doubt that XY has expended significant time, money, and effort in advancing the litigation that, to some extent, will not be recovered even by an award of special costs: *Le Soleil* (B.C.S.C.) at para. 375.

[392] In *Whiten,* at para. 112, the Court stated that "[t]he more reprehensible the conduct, the higher the *rational* limits to the potential award" (emphasis in original). In *Le Soleil* (B.C.S.C.), the Court summarized many of the factors that may be considered in assessing the level of blameworthiness:

> [365] The degree of blameworthiness at issue may involve several elements. These include, amongst others: whether the misconduct was planned and

> deliberate; the defendant's motive and awareness that the misconduct was wrong; the period over which the misconduct persisted; attempts at concealment; and whether the interest violated was deeply personal to the plaintiff or irreplaceable: *Whiten* at para. 113; *Louis Vuitton Malletier S.A. v. 486353 B.C. Ltd.*, 2008 BCSC 799 at para. 85.

[393] Here, there can be no doubt that the misconduct involves a high degree of blameworthiness. It was planned and deliberate. The defendants were driven by a profit motive and were keenly aware that their conduct was wrong. The misconduct took place over a long period of time, being from at least 2009 to the present. I consider it likely that the misconduct continues to this day. There is overwhelming evidence of the defendants' attempts at concealment in relation to XY, the Trustee, and, finally, this Court.

[394] As did the Court in *Le Soleil* (B.C.S.C.) at para. 378, I conclude that this is an "exceptionally rare commercial case" where punitive damages are appropriate.

[395] As to quantum, the Court in *Le Soleil* (B.C.S.C.) at para. 370 set out various court decisions. Needless to say, this is a very fact-driven assessment. I agree with XY that this is a very unique situation and the facts to be considered are extraordinary.

[396] I award punitive damages against Zhu, IND, CTS, FBI, IEI, IDI and Ai De in the amount of $300,000 on a joint and several basis. In recognition of the lesser role played by Tang and Zhang, I award punitive damages against each of them in the amount of $100,000.

(10) Special Costs

[397] XY seeks special costs against Zhu, IND, CTS, FBI, IEI, IDI and Tang.

[398] In *Le Soleil* (B.C.S.C.), the Court summarized the relevant law regarding special costs:

> [383] Special costs may be awarded where a party has engaged in reprehensible misconduct. Such misconduct includes scandalous or outrageous acts, as well as milder forms of misconduct deserving of rebuke: *Garcia v. Crestbrook Forest Industries Ltd.*, [1994] B.C.J. No. 2486 (C.A.) at para. 17.
>
> [384] As a general rule, the type of misconduct that justifies an award of special costs will relate to the course of the litigation and not to pre-litigation misconduct. This is so because reprehensible pre-litigation misconduct giving rise to a cause of action is typically addressed by an award of punitive damages. In some cases, however, reprehensible misconduct may have originated prior to litigation but continued throughout the litigation process. In these circumstances, special costs may be ordered in addition to punitive damages without double punishment being imposed: *Golden Capital Sec. Ltd.* at para. 161-176.
>
> [385] Perjury is reprehensible misconduct, as is fraud and conspiracy. Such misconduct cannot be condoned by the court. On the contrary, it should be denounced and deterred, both specifically and generally. For these reasons, acts of perjury, fraud and conspiracy often attract an award of special costs. Such

> awards may be made on the basis of full indemnity: *Fullerton v. Matsqui (District)*, [1992] B.C.J. No. 2969 (C.A.) at para. 17; *Insurance Corporation of British Columbia v. Phung*, 2003 BCSC 1619 at para. 8 & 11.

[399] Reprehensible misconduct will include conduct from which the court seeks to dissociate itself: *Heppner v. Schmand* (1998), 59 B.C.L.R. (3d) 336 (C.A.) at para. 17.

[400] It is also open to the court to award special costs where there has been spoliation of evidence or a willful failure to produce documents: see *Endean* at para. 33. Justice Kelleher found this had occurred in the Original Action and awarded special costs on that basis: Trial Reasons at para. 355-362.

[401] As I have already described in great detail above, that same criticism rings true at this time. I agree with XY that Zhu's and his companies' approach to document discovery was a transparent and deliberate attempt to frustrate XY and the Court's ability to find the truth. It manifestly interfered with XY's ability to pursue its case on liability and establish the proper value of its claim in damages. This deliberate failure of the defendants to disclose their documents equally supports an award of special costs.

[402] Where a party deliberately provides dishonest testimony, this may also attract an award of special costs: Trial Reasons at para. 352-354. Here, Tang and Zhu did not testify at trial. However, Tang made false submissions to the Court as to the nature of documents. In addition, there are various instances of misleading the Court, as I have set out above.

[403] I award special costs as against Zhu, IND, CTS, FBI, IEI and IDI and Tang, which shall be assessed. XY is also awarded party-and-party costs against Zhang and Ai De on Scale 3, in recognition of the more than ordinary difficulty involved in this litigation.

(11) Apportionment

[404] XY agrees that any monetary award it is ultimately granted – to the extent it is joint and several and would permit any of the defendants to claim contribution and indemnity against Zhou and Ms. Wang/497 – should be reduced by the amount paid by Zhou and Ms. Wang/497 pursuant to their settlement with XY: see *Ashcroft v. Dhaliwal*, 2008 BCCA 352 at paras. 7-8 and 19-21.

[405] I agree that Zhou can be considered to have paid nothing under her settlement with XY by reason that the amount paid by her ($150,000 and a further contingent amount of $350,000), can be allocated to the existing approximately $8.5 million judgment that XY obtained against her in the Original Action.

[406] As regards Ms. Wang and 497, the specific amount to be paid under her settlement with XY has not yet been ascertained. Therefore, it is appropriate to provide in the judgment that the award, if it is of a joint and several nature where a defendant might claim contribution and indemnity, is reduced by any amount that XY may collect from Ms. Wang and 497.

XIII. CONCLUSION

[407] All calculations of either profit or damages done by XY, as above, have been in U.S. dollars, as this is the currency in which XY does business (see, for example, the Licence) and also the usual currency used by Zhu and his companies (in addition to Chinese RMB) in the substantial documentary evidence. Initially, XY sought judgment in U.S. dollars.

[408] An issue that arises is the application of the *Foreign Money Claims Act*, R.S.B.C. 1996, c. 155 (the "*Act*"). Section 1 of the *Act* provides:

> (1) If, before making an order for the payment of money arising out of a claim or loss, the court considers that the person in whose favour the order will be made will be most truly and exactly compensated if all or part of the money payable under the order is measured in a currency other than the currency of Canada, the court must order that the money payable under the order will be that amount of Canadian currency that is necessary to purchase the equivalent amount of the other currency at a chartered bank located in British Columbia at the close of business on the conversion date.
>
> (2) The conversion date is the last day, before the day on which a payment under the order is made by the judgment debtor to the judgment creditor, that the bank referred to in subsection (1) quotes a Canadian dollar equivalent to the other currency.

[409] Accordingly, the usual order would be to grant judgment in U.S. dollars and the judgment debtors would be required to pay the amount of Canadian currency that is necessary to purchase the U.S. judgment amount just before payment is made (namely, the "conversion date" per s. 1(2) above).

[410] As Justice Griffin stated in *Han v. Cho*, 2009 BCSC 458 at para. 96, in order to apply the *Act*, I must find two things: that XY will be "most truly and exactly compensated" if, firstly, all or a part of the judgment in measured in U.S. dollars; and, secondly, if the judgment amount is converted to Canadian dollars just prior to payment under the judgment.

[411] XY does not suggest that the *Act* should be applied, as it was not in *Han*, arising from currency fluctuations. Rather, XY contends that converting a U.S. dollar judgment just before the date of payment may lead to difficulties in enforcing the judgment in foreign jurisdictions. This circumstance was also relevant in *Han*, where Griffin J. noted:

> [104] There is an additional but lesser factor in this case weighing against application of the ***Foreign Money Claims Act***. The form of order under the ***Act*** leaves the determination of the total amount payable under the judgment to a future date, namely, one day before the date of payment, as this is the conversion date: s. 1(2) of the ***Act***. This form of order may work well when the judgment debtor is based in Canada and there is no evidence to suggest that the judgment debtor has assets elsewhere in the world that will need to be the subject of execution to satisfy the judgment. However, this form of order may cause too much uncertainty for a judgment creditor where the facts are similar to the facts in this case, where the evidence indicates that: Ms. Cho's home is in South Korea; she has carried on business in South Korea and possibly also in China; she may have no assets in Canada and the location of her assets is unknown; and it is unlikely that she will voluntarily pay the judgment of this court to the plaintiffs.
>
> [105] This is a case where the plaintiffs may need to take steps to enforce this court's judgment on a piecemeal basis in other jurisdictions, where they ultimately find Ms. Cho to have assets. It is my view that in all the circumstances of this case, a form of order made under the ***Foreign Money Claims Act*** may create undue ongoing uncertainty as to the total amount payable to discharge the judgment. It would also motivate the wrongdoer, Ms. Cho, to choose to delay paying the judgment until the currency rates are most favourable to her.

[412] Similar circumstances apply here. In March 2014, I granted a Mareva injunction as against Zhu, CTS, FBI, IND, IEI and IDI. Nevertheless, I have no doubt that the assets held by those defendants in this jurisdiction will not be sufficient to satisfy the judgments being awarded now.

[413] I am aware that enforcement proceedings, as against Zhu, are already underway. This included the commencement of action S142293 in March 2014, which XY describes as the "Recovery Action". The defendants include various offshore companies in the IND Group owned or controlled by Zhu. In March 2014, I also granted a worldwide Mareva injunction as against Zhu and these offshore companies.

[414] In addition, on the adjournment application, Zhu's counsel indicated to me that Zhu is afraid of setting foot in this jurisdiction for fear that he will be arrested (although I was not aware of any basis upon which that may have occurred then). In light of the various proceedings as against Zhu and his companies, I have little doubt that Zhu will have no appetite to bring or create any assets in this jurisdiction that might be seized by XY in execution of its judgment. In that vein, it appears that execution in other jurisdictions against the various defendants here is not only a possibility, but more likely a certainty.

[415] I conclude that judgment in favour of XY in U.S. dollars is not appropriate in these circumstances as it would not "most truly and exactly" compensate XY. Accordingly, it is appropriate to express the judgment amount set out above, based on the Canadian equivalent of the U.S. dollar claims as of January 15, 2016.

[416] Accordingly, the following relief is granted, in addition to the mandatory and prohibitory injunction provisions and declaration of constructive trust, as outlined above:

1. Zhu, CTS, FBI, IND, IEI IDI and Ai De Diagnostic (collectively, the "IND Judgment Debtors"), jointly and severally, shall pay the plaintiff $269,856,121.68, which includes pre-judgment interest to January 15, 2016, plus a per diem pre-judgment interest rate of $19,969.35 from January 16, 2016 to the date of this judgment (the "IND Award").

2. Jin Tang ("Tang") and Zhenyu Zhang ("Zhang"), jointly and severally, shall pay the plaintiff $60,059,536.86, which includes pre-judgment interest to January 15, 2016, plus a per diem pre-judgment interest rate of $4,444.41 from January 16, 2016 to the date of this judgment (the "Tang and Zhang Award").

3. The IND Judgment Debtors, jointly and severally, shall pay the plaintiff punitive damages of $300,000.

4. Tang shall pay the plaintiff punitive damages in the amount of $100,000.

5. Zhang shall pay the plaintiff punitive damages in the amount of $100,000.

6. The IND Award, the Tang and Zhang Award, and the awards of punitive damages against the IND Judgment Debtors, Tang and Zhang shall bear post-judgment interest pursuant to the *Court Order Interest Act*, R.S.B.C. 1996, c. 79, from the date of this judgment.

Costs

7. Zhu, Tang and the IND Judgment Debtors (other than Ai De Diagnostic), jointly and severally, shall pay the plaintiff special costs of this action to be assessed, plus post-judgment interest pursuant to the *Court Order Interest Act*, R.S.B.C. 1996, c. 79, from the date of assessment.

8. Zhang and Ai De Diagnostic, jointly and severally, shall pay the plaintiff party-and-party costs of this action on Scale 3.

Mareva Orders

9. Nothing in this Order is intended to affect the Mareva Orders pronounced in this action and not previously discharged, which shall remain in full force and effect until further Order of this Court.

[417] Lastly, there will be an order that any person affected by this order may apply to me (as remaining seized of the matter), for such further and other directions as may be required, on two business days' notice.

“Fitzpatrick J.”