PROVINCIAL COURT OF NOVA SCOTIA
Citation: *R v Yeo*, 2023 NSPC 66

Date: 20231117
Docket: see chart below
Registry: Dartmouth

Between:

His Majesty the King

v.

Arnold Bruce Yeo

Judge:	The Honourable Judge Theodore Tax
Heard:	December 4, 2019; December 18, 2019; October 22, 2020; December 2, 2020; January 5, 2021; January 6, 2021; January 12, 2021; January 28, 2021; March 15, 2021; March 16, 2021; March 17, 2021; March 18, 2021; June 29, 2021; October 19, 2021; December 15, 2021; January 14, 2022; May 3, 2022; June 27, 2022; December 15, 2022; June 15, 2023, and July 20, 2023, in Dartmouth, Nova Scotia
Dockets:	8245364, 8245365, 8245366, 8245367, 8245368
Decision:	November 17, 2023
Charge:	Section 255(2)x4 & 255(2.1) of the Criminal Code of Canada
Counsel:	Sarah Lane, for the Public Prosecution Service of Nova Scotia Victor Goldberg, K.C., for the Defence

By the Court:

[1] On Sunday, June 10, 2018, Mr. Arnold Bruce Yeo was operating his car on Nova Scotia Highway 102, between exits 5 and 6, in a southbound direction towards Halifax/Dartmouth just after passing the exit to the Halifax International Airport. Around 12:15 PM, his vehicle suddenly went off the passing lane of the southbound portion of the divided highway, onto the gravel shoulder and then crossed through the centre grassy median, became airborne and began rolling in a southerly direction on the northbound portion of the divided highway. Mr. Yeo's car collided with several vehicles proceeding in a northerly direction on that side of Highway 102. The collisions caused injuries to several people in those vehicles.

[2] Mr. Arnold Bruce Yeo was subsequently charged with four counts contrary to section 255(2) of the **Criminal Code** that he unlawfully had care or control of his motor vehicle while impaired by alcohol or drug and thereby caused bodily harm to four named individuals. Mr. Yeo also faces a fifth charge that he had care or control of a motor vehicle after having consumed alcohol in such quantity that the concentration thereof in his blood exceeded 80 mg of alcohol in 100 ml of blood and did cause an accident which resulted in bodily harm contrary to section 255(2.1) of the **Criminal Code**.

[3] The offences are alleged to have occurred at or near Goffs, Nova Scotia, on or about June 10, 2018. The five charges before the court were contained in an Information which was sworn on July 19, 2018. Mr. Yeo, through his counsel, made his first appearance in court in relation to these charges on July 25, 2018, and at that time, the Crown indicated that they were proceeding by indictment.

Introduction and Brief Procedural History

[4] On February 25, 2019, Mr. Yeo, through his counsel, elected to proceed in the Provincial Court and pled not guilty to all five charges. Based upon the information provided at that time, the Court scheduled a total of four days for the hearing of the trial on December 3, 4, 10 and 17, 2019. A pre-trial conference was scheduled to be held with the parties on July 3, 2019.

[5] During the pre-trial conference of July 3, 2019, the Crown Attorney advised that, unless certain agreements were made with Defence Counsel, they may be calling as many as 22 witnesses. Defence Counsel indicated that he was still

examining the issue as to whether there would be any **Charter** applications made prior to or during the trial itself. The Crown Attorney advised the Court that they would be calling an expert relating to extrapolation evidence and Defence Counsel advised the Court that he may be calling two expert witnesses. The parties estimated that four days would be needed for the trial and the trial was scheduled to proceed on December 4, 10, 17 and 18, 2019.

[6] After a couple of status dates to determine whether there were agreements to narrow the number of witnesses or issues in the trial and to determine whether additional or alternative dates for the trial might be required, Defence Counsel served notice on November 8, 2019, that he would be making a **Charter** application pursuant to sections 7, 8, 9 and 10(b) of the **Canadian Charter of Rights and Freedoms.** The notice alleged that there had been breaches of Mr. Yeo's **Charter** rights and that any evidence of the Approved Screening Device ("ASD") demand and any statements made by Mr. Yeo to a person in authority as well as any breathalyzer results should be excluded based upon the analysis in relation to section 24(2) of the **Charter**, as outlined in ***R. v. Grant***, 2009 SCC 32.

[7] Given the timing of that **Charter** application, the *voir dire* to determine whether Mr. Yeo's section 8 **Charter** right to be secure against unreasonable search and seizure had been violated, had to be heard during two days of the originally scheduled four days for the trial itself. The only witness called on the **Charter** *voir dire* was Const. Grant Thomas, who was the police officer that had made the ASD demand for Mr. Yeo to provide a sample of his breath into that approved screening device. The parties had also agreed that photographs filed as Exhibit 1 and 2 for the purposes of the *voir dire* could be tendered by agreement without the necessity of calling the police officers who had taken those photographs.

[8] Defence Counsel exercised his right to have the **Charter** *voir dire* heard as a stand-alone application in order to have the Court's **Charter** decision on whether Mr. Yeo's **Charter** rights had been violated and whether any evidence obtained would be excluded pursuant to section 24(2) of the **Charter**, prior to making further decisions with respect to the calling of defence evidence.

[9] The evidence on the **Charter** *voir dire* was heard on December 4, 2019, and the parties made their oral submissions on that **Charter** Application on December 18, 2019. At the outset of the *voir dire*, Defence Counsel stated that the key issue on the **Charter** application was in relation to the matters leading up to the decision

of Const. Thomas to make an ASD demand pursuant to section 254(2)(b) of the **Code.** The Court reserved its decision until March 31, 2020, and four additional dates for trial were scheduled for late April and early May 2020.

[10] Unfortunately, in mid-March 2020, a global Covid 19 pandemic was declared by the World Health Organization and shortly thereafter, the Canadian and Nova Scotia public health officials and governments declared a public health state of emergency to control the spread of that virus. As a result, the scheduled trial dates for April and May 2020 were postponed. On June 23, 2020, the parties appeared virtually by telephone and October 22, 2020, was scheduled for the section 8 **Charter** *voir dire* decision to be rendered. In addition, the Court rescheduled the originally estimated four days for the trial proper on December 2, 2020, as well as January 5, 6 and 12, 2021.

[11] On October 22, 2020, the Court provided its oral **Charter** decision, based upon the evidence heard and exhibits filed during the **Charter** *voir dire*, that Const. Thomas honestly held a subjective belief which was found to be objectively reasonable. In those circumstances, the Court concluded that he had formed the required "reasonable grounds to suspect" to make an ASD demand pursuant to section 254(2)(b) of the **Criminal Code** and concluded that Mr. Yeo's section 8 **Charter** right to be secure against unreasonable search or seizure had not been violated.

[12] Following the Court's **Charter** *voir dire* decision, the trial evidence called by the Crown was heard on December 2, 2020, and on January 5, 6, 12, and concluded on January 28, 2021. Defence Counsel called evidence on March 15, 16, 17, and 18, 2021, December 15, 2021, May 3, 2022, and Defence Counsel closed his case on July 27, 2022. The Crown called rebuttal evidence on November 21, 2022.

[13] At the conclusion of the trial evidence, but before counsel made any closing submissions on the trial proper, Defence Counsel filed a ***Jordan*** section 11(b) **Charter** application that there had been an unreasonable delay in this matter. On December 13, 2022, the parties made their oral submissions on that ***Jordan*** application. The decision of the Court denying the ***Jordan*** section 11(b) **Charter** unreasonable delay application was rendered on February 1, 2023. The details of the procedural history of this trial and the Court's decision with respect to ***Jordan*** application are set out in ***R. v. Yeo***, 2023 NSPC 11.

[14] Finally, by way of introduction, the sections of the **Criminal Code** under which Mr. Yeo was charged have since been repealed by Parliament and were replaced by section 320.14(2) of the **Criminal Code**. Those amendments came into force on December 18, 2018. The parties proceeded on the basis of the legislation and the law in effect with respect to that legislation as of June 10, 2018.

[15] In addition, the defence made a series of *Admissions*, which were filed as Exhibit 1 in the trial and dispensed with proof of the injuries alleged by the Crown. The documents contained in Exhibit 1 included medical documents and transcripts of audio statements made by Bernard and Sherry MacDonald, Abdulmajeed Faisal, Michelle Robichaud, Josh Brooking, Ronald Hiltz, Chris McQuaid, NaDena Norris, Jeff Pickrem and a series of photographs taken by Const. Thomas and the photographs taken by Sergeant Morrison. **However, it is important to note that all of those admissions were made by the defence without admitting causation.**

[16] Some of those statements and medical records were entered in those agreed facts to establish "bodily harm" in relation to the named individuals in the first four counts of the Information before the court. Statements were also admitted by individuals who had provided information to the police relating to the circumstances immediately before and/or just after the collisions occurred. As a result of the filing of the *Admissions* in Exhibit 1, the parties had agreed that it would not be necessary to call several witnesses to testify during the trial.

[17] The *Admissions* also confirmed that the identity of Mr. Yeo as the accused person was not in issue. Moreover, by virtue of the facts and circumstances in those agreed facts, it is evident that the date and jurisdiction in which the incident occurred were not contested.

Positions of the Parties:

[18] At the outset of his submissions, Defence Counsel stated that the evidence established that, shortly after 12:00 o'clock noon on June 10, 2018, there was a serious accident on Highway 102, near Goff's, Nova Scotia, which involved a vehicle being operated by Mr. Yeo. Mr. Yeo was subsequently charged with four counts contrary to s. 255(2) of the **Criminal Code,** which alleged that he "did unlawfully have care or control of a motor vehicle, while his ability to operate a motor vehicle was impaired by alcohol or a drug, **and did thereby cause bodily harm"** to four named individuals. Mr. Yeo was also charged with an offence contrary to s. 255(2.1) of the **Code,** which alleged that he, at that time and place,

"having consumed alcohol in such quantity that the concentration thereof in his blood exceeded 80 mg of alcohol in 100 ml of blood, did while having care or control of a motor vehicle, **cause an accident resulting in bodily harm."**

[19] Defence Counsel takes issue with the extrapolation evidence provided by the Crown's expert, Ms. Hackett, and submits that the Crown has not established beyond a reasonable doubt that Mr. Yeo was, either impaired by the previous consumption of alcohol or that his blood alcohol concentration was over 80 mg of alcohol in 100 ml of blood at the time of the accident on June 10, 2018.

[20] In addition, Defence Counsel submits that, with respect to the bodily harm aspect of the charges before the Court, there is a separate and specific issue that the Crown must establish, beyond a reasonable doubt, namely, the "**cause**" of that bodily harm to the four named individuals. He submits that the Crown has not established or at the very least, there is reasonable doubt with respect to the separate, but specific issue alleged in the Information that impairment by alcohol or "over 80" element of the charges, were the "cause" of the accident and the bodily harm to the named individuals.

[21] Defence Counsel submits that Mr. Yeo had been suffering from the symptoms of asthma due to cold-like symptoms during that weekend and had frequently used his Ventolin puffer for relief. In the moments before the accident, Mr. Yeo experienced another asthma attack and a coughing fit and Defence Counsel submits that the evidence established that Mr. Yeo was either reaching for his puffer or had briefly fainted by virtue of the excess coughing, which resulted in a momentary loss of control of the vehicle. In those moments, the wheels on the driver's side of his vehicle went off the paved portion of the highway onto the gravel shoulder, and the car went out of control through the grassy median and collided with vehicles proceeding outbound from Halifax on Highway 102.

[22] During his submissions, Defence Counsel noted that this trial involves the offence sections as they were prior to the revisions to the **Criminal Code** which came into effect in December 2018 and that this is a case where the transitional provisions apply. He referred to the former section 258(1)(c) of the **Criminal Code** which created a "presumption of accuracy" and a "presumption of identity" which stated that **if**, the breath samples were taken not later than two hours after the alleged offence and there was an interval of at least 15 minutes between the samples, the results of the analyses would be conclusive proof of the concentration

of alcohol in a person's blood **both** at the time when the analyses were made **and** at the time when the offence was alleged to have been committed.

[23] However, Defence Counsel submits, and the Crown Attorney does not take issue with the submission that, in the circumstances of this case, the former, so-called "presumption of identity" to also establish the concentration of alcohol at the time of the alleged offence is **not** available to be relied upon by the Crown as the breath samples were obtained more than two hours after the accident occurred on Highway 102. As a result, without the Crown being able to rely upon that "presumption of identity," the parties have called and qualified experts to provide extrapolation opinion evidence with respect to the concentration, if any, of alcohol in Mr. Yeo's blood at the time of the accident on June 10, 2018.

[24] Furthermore, with respect to the extrapolation expert opinion evidence of Ms. Hackett and the two breath samples themselves, it is the position of the defence that extrapolated opinion evidence is completely inconsistent with Mr. Yeo's physical and mental status. In addition, Defence Counsel submits that the expert opinion evidence of Greg Johnstone and Dr. Leblanc casts doubt on the standard of 2100 to 1 as the blood to breath ratio used by the Intox EC/IR II breathalyzer device. Since no actual blood samples were taken from Mr. Yeo and analysed, Defence Counsel submits that the 2100 to 1 blood to breath ratio used by the breathalyzer device, would likely result in a substantial "overestimation" of Mr. Yeo's blood-alcohol concentration. He points to the opinions of the experts called by the defence, which noted that Mr. Yeo was in the midst of an asthma attack which would cause his blood pressure to go up and that was compounded by the stress and shock of the accident.

[25] In terms of the essential elements of the offences before the Court, the defence acknowledges that Mr. Yeo was operating a motor vehicle, but they do not admit that he operated it either impaired by alcohol or being over 80 mg of alcohol in 100 ml of blood and that the Crown has the burden of establishing those elements beyond a reasonable doubt. The defence does not take issue with the "bodily harm" aspect of the charges, which has been admitted as a fact, but they do **not** admit causation and put the Crown to the strict proof of that essential element of the offence beyond a reasonable doubt. Defence Counsel cited ***R. v. Jagoe,*** 2012 NBCA 72 and ***R. v, Burdett***, 2015 MBQB 69 in support of those propositions, where the court determined that causation of the bodily harm had not been established beyond a reasonable doubt, but the accused was guilty of the included

offence of care or control of a motor vehicle with over 80 mg of alcohol in 100 ml of blood.

[26] With respect to the issue of whether the Crown had established that Mr. Yeo was impaired by virtue of the consumption of alcohol, Defence Counsel referred to the case of ***R. v. Landes***, 1997 CarswellSask 701 at para. 16, where Justice Klebuc listed the eight common observations or tests listed by police officers or individuals as to whether a person's ability to operate a motor vehicle was impaired by alcohol. Those common indicia were: (1) evidence of improper or abnormal driving, (2) presence of bloodshot or watery eyes, (3) presence of a flushed face, (4) odor of an alcohol beverage, (5) slurred speech, (6) lack of coordination and inability to perform physical tests, (7) lack of comprehension, and (8) inappropriate behaviour.

[27] Although those common indicia are not an exhaustive list, Defence Counsel submits that there was no evidence before the court from any of the witnesses or statements in the *Admissions* that Mr. Yeo demonstrated any of those common indicia of impairment, prior to driving back to Halifax, on the drive to Halifax or during any interactions with police officers at the roadside or at police station. There was no evidence or reports of any improper driving on the highway or any odour of alcohol on his breath despite a close interaction with Const. Thomas. There was no evidence of Mr. Yeo having any slurred speech or any lack of coordination, staggering etc. and no problem with any fine or gross motor skills as the evidence established that Mr. Yeo chopped vegetables, cut steak, cracked eggs and cooked breakfast that morning. Finally, there was no lack of comprehension of what Mr. Yeo was being asked or stated and no improper behaviour was observed by the police or by the witness who has known Mr. Yeo for over 20 years.

[28] It is the position of the defence that the "Fail" result on the ASD is not proof of impairment, it simply provides grounds for a police officer to make a breath demand. Given the lack of any of those normal indicia of impairment, Mr. Yeo's physical and mental state simply does not "jive" with the extrapolated opinion evidence presented by the Crown that Mr. Yeo was 80 mg of alcohol in 100 ml of blood at the time of the accident.

[29] Coming back to the point which had been raised earlier by Defence Counsel with respect to this being a transitional case given the significant amendments respecting offences in relation to conveyances which came into effect in the **Criminal Code** as of December 18, 2018. It was noted by Defence Counsel and

the Crown Attorney agreed that section 32(2) of the *Act to Amend the Criminal Code* stipulated that certain provisions under section 320.31 do apply retroactively to this case. Section 32(2) of the *Amending Act* read as follows:

> **32(2)** Subsection 320.31(1) of the **Criminal Code**, as enacted by section 15 of the [*Amending Act*] applies to the trial of an accused that is commenced on or after the day on which that section 15 comes into force if the sample or samples to which the trial relates were taken before that day."

[30] Defence Counsel pointed out that, if the criteria for two suitable samples of breath were provided for analyses by an Approved Instrument, which required a qualified technician to conduct system blank test and that the calibration check was within 10% of the target value of the alcohol standard, there was an interval of 15 minutes between the times when the samples were taken and the results of the analyses were rounded down to the nearest multiple of 10 mg but did not differ more than 20 mg of alcohol, then section 320.31(1) of the **Code** would only determine that the lower of the two readings, if they were different, would be **conclusive proof** of the person's blood-alcohol concentration **at the time when the analyses were made.**

[31] It is the position of the defence that the impact of that transitional provision is that if those criteria were met, then the analyses are **only conclusive proof** of the person's blood-alcohol concentration **at the time when the analyses were made.** In other words, Parliament, through that transitional provision has maintained the so-called "presumption of accuracy," but not the so-called "presumption of identity." The legislation did not stipulate that the analyses were, as stated in the former section 258(1)(c) of the **Code** to be *identical* to the person's blood-alcohol concentration *when the offence was alleged to have occurred.*

[32] In the absence of the "presumption of identity," Defence Counsel submits that the Crown is required to establish, beyond a reasonable doubt, through extrapolation opinion evidence, that Mr. Yeo's blood-alcohol concentration was over 80 mg of alcohol in 100 ml of blood, at the time of the accident. It is the position of the defence that, considering Ms. Hackett's extrapolations of very high blood alcohol concentrations and her opinion relating to expected symptoms of an "average social drinker" at different blood-alcohol concentrations, they are totally inconsistent with all of the activities that Mr. Yeo undertook prior to the accident.

[33] Defence Counsel submits that Mr. Yeo's diagnosis of asthma, which the Crown Attorney confirmed that they were not contesting, may have played a

significant role in the actual causation of the accident. Defence Counsel pointed to the opinion evidence of Dr. Leblanc that asthmatics who are in the midst of a vigorous coughing fit, may temporarily lose consciousness, which he referred to as a "cough induced syncope" and he added that it is well-established in medical literature and that he has observed in his own patients. In addition, Mr. Yeo's heightened usage of the Ventolin puffer prior to the accident, in Dr. Leblanc's opinion evidence may have increased his gas transfer rate which may have then resulted in an "overstated" blood-alcohol concentration when Mr. Yeo provided breath samples for analyses by the breathalyzer device.

[34] Defence Counsel also submitted that the expert opinion evidence of Greg Johnstone raises a reasonable doubt with respect to the accuracy of Ms. Hackett's opinion evidence and the very high extrapolations in relation to Mr. Yeo's blood alcohol concentrations, which was based upon an assumption that Mr. Yeo was a "social drinker." Mr. Johnstone had questioned the reliability of Ms. Hackett's opinion as it did not consider the very real medical and drug related aspects of Mr. Yeo's condition and their contribution to the accident.

[35] Defence Counsel also pointed out that, in Mr. Johnstone's opinion, the blood to breath ratio has been set as a standard 2100 to 1 ratio, being an indirect measure of alcohol in a person's blood which does not measure individual differences. He stated that a person's actual blood to breath ratio may vary on a bell curve from 800-4000 to 1. In addition, Mr. Johnstone pointed out that, in this case, there was no blood sample taken which would have resulted in a specific analysis of Mr. Yeo's blood-alcohol concentration. Without a blood sample from him, the presence of alcohol in Mr. Yeo's body could only be analysed by the indirect means of the breathalyzer device.

[36] In the final analysis, it is the position of the defence that the Crown has not established, beyond a reasonable doubt, that Mr. Yeo was impaired by alcohol and/or that his blood-alcohol concentration was over 80 mg of alcohol at the time of the accident. Moreover, the Crown has not established, beyond a reasonable doubt, that any impairment by alcohol "caused" the accident which resulted in the bodily harm to the named individuals, in more than a *de minimis* manner. As a result, Defence Counsel submits that Mr. Yeo should be acquitted of all charges before the Court.

[37] It is the position of the defence that the Crown did not establish, beyond a reasonable doubt, that Mr. Yeo's prior consumption of alcohol had "caused" the

accident on June 10, 2018, and the resultant "bodily harm" to the individuals named in the Information. In those circumstances, Defence Counsel acknowledges that the Court must still determine whether the included offences of impaired care or control by alcohol and/or over 80 mg of alcohol in 100 ml of blood in the offences, have been established beyond a reasonable doubt. However, looking at the totality of the evidence before the court, Defence Counsel submits that Mr. Yeo should be acquitted of all charges before the Court.

[38] The Crown Attorney submits that they have established, beyond a reasonable doubt, that Mr. Yeo should be found guilty of all five offences before the Court based upon the totality of the credible and reliable evidence of the police and civilian witnesses, the exhibits, and the expert opinion extrapolation evidence of Ms. Hackett. The *Admissions* and agreed statement of facts confirmed that the four named individuals suffered "bodily harm" as a result of the accident which occurred on Highway 102 when Mr. Yeo's vehicle which had been proceeding southbound towards Halifax collided with vehicles proceeding northbound out of Halifax on June 10, 2018.

[39] Given the evidence called by the defence and in particular, the evidence of Mr. Yeo himself, the Court will have to apply the instructions for triers of fact as outlined by the Supreme Court of Canada in ***R. v. W.D***. The Crown Attorney submits that Mr. Yeo's evidence certainly raises reliability issues as he candidly stated that his memory of events and times may not be accurate. In addition, in some cases, since he did not recollect the number of drinks that he had or the time when he went to bed, and he was relying on information subsequently provided to him by other people who were with him on the weekend in question.

[40] Furthermore, she submits that Mr. Yeo's evidence that after the amount of alcohol consumed and when he drank alcohol, he stated that he woke up early in the morning and felt "good and sharp," essentially indicating that he felt no effects from the alcohol. The Crown Attorney submits that his statement is not reliable and is hard to reconcile with his other statements that he was experiencing cold symptoms, asthma attacks, coughing fits, which had all affected his sleep.

[41] The Crown Attorney also points out that the defence witness who was present at the cottage for the weekend made no comment of Mr. Yeo being sick or coughing in the morning when he was preparing food for breakfast. Mr. Morrison did not recall Mr. Yeo having any health issues earlier in the day on the golf course or any issues breathing at the cottage during the evening or the next morning. In

addition, he could not comment on the specific amount of alcohol that Mr. Yeo had consumed prior to going to sleep and added that he did not know when Mr. Yeo went to sleep because he slept in a different area of the cottage.

[42] Furthermore, the reliability of Mr. Yeo's evidence also becomes a significant factor for the opinion evidence of Dr. Leblanc and the extrapolation opinion evidence proffered by Mr. Johnstone. She submits that Mr. Johnstone's extrapolation opinion of Mr. Yeo's stated amounts and times of the alcohol consumed by him prior to the accident are entirely inconsistent with the conclusive analyses of the second breath sample by the breathalyzer being 160 mg% at 3:29 PM on June 10, 2018.

[43] The Crown Attorney submits that the defence experts based their opinions on one unlikely scenario after the other with a view to questioning the accuracy and reliability of the breathalyzer analyses. Simply put, it is the position of the Crown that Mr. Yeo's stated amount of alcohol consumed and the period of time during which alcohol was consumed does not undermine the reliability of the breathalyzer analyses. She submits that a more logical explanation which would be consistent with the breathalyzer analyses would be that Mr. Yeo consumed more alcohol over a longer period than he stated, and that he may be a more than a "social drinker" as the experts had based their extrapolation opinions based on him being an "social drinker."

[44] In terms of the possible scenario put forward by Dr. Leblanc that, just before the accident, Mr. Yeo may have experienced a paradoxical bronchospasm, she submits that the scenario is not supported by any evidence of Mr. Yeo coughing after the accident, he did not have to be taken to the hospital, he had no problems speaking with the police officers and he provided suitable samples for analyses by the ASD and the breathalyzer device. In addition, during cross examination, Mr. Yeo confirmed that he had never previously lost consciousness or become dizzy from the utilization of his puffer. Therefore, the Crown Attorney submits that the possibility of a paradoxical bronchospasm having been the cause of the accident is an opinion which does not have any evidentiary foundation and simply amounts to unreliable speculation.

[45] In fact, Mr. Yeo stated that he is not sure how the accident occurred, although he did say he was searching for his puffer in the moments before the driver's side wheels went onto the gravel shoulder. The Crown Attorney points out that, although no accident reconstruction was performed by the police, based upon

the evidence of the witnesses who were operating their vehicles behind him or on the other side of the highway, they did not see the brakes being applied by Mr. Yeo or notice any reduction in his speed as he went through the grassy median at a consistent speed then went airborne on the other side of the divided highway and rolled down the highway colliding with a few vehicles.

[46] In terms of the essential elements of the offences before the Court, the Crown Attorney acknowledges that the offence of impaired driving causing bodily harm denotes a causal connection between the injury or injuries suffered by others and the driving conduct of the accused. She submits that, with respect to the issue of impairment, a clear statement on that essential element was provided by the Ontario Court of Appeal in ***R. v. Bush***, 2010 ONCA 554 at para. 47 which held that impairment may be established where the prosecution proves any degree of impairment from slight to great: ***R. v. Stellato*** (1993), 12 OR (3rd) 90 (ONCA), aff'd [1994] 2 SCR 478 (SCC). Slight impairment to drive relates to a reduced ability in some measure to perform a complex motor function whether impacting on perception or field of vision, reaction or response time, judgment, and regard for the rules of the road as stated in ***R. v. Censoni***, 2001 CarswellOnt 4590 at para. 47.

[47] Based upon that statement of the essential element, which is also supported by several other authorities cited by the Crown Attorney, she submits that the key aspect of the charges of over 80 or the impaired causing bodily harm is whether the drinking was a cause, at least beyond *de minimus*, of the faulty driving and the bodily harm to the victims. The cases involving this charge require the court to consider the totality of the circumstances and to determine whether the accused's impairment by alcohol has been proven to be a substantial, although not necessarily the only cause of the injuries to the victims. So long as it is a contributing cause and something more than *de minimus*, in her submission, the requisite causal element has been established.

[48] In terms of the causation issue, the Crown Attorney points to the evidence of a series of poor decisions having been made by Mr. Yeo on the drive back to Halifax from the golf weekend near Pugwash. Despite having problems with asthma and coughing, even some momentary dizziness, Mr. Yeo maintained a high speed, according to him, driving 5 km over the speed limit without pulling over to use his puffer. He had repeatedly used the inhaler well beyond the recommended amount according to the Monograph for that inhaler which reflected poor judgment. In addition, Mr. Yeo's use of the puffer while driving without pulling

over to the side also reflected poor judgment, given the way in which the relief must be inhaled. A further example of poor judgment was then placing the puffer on the passenger seat where he had to divert his attention and try to locate and then use his puffer when he felt that he needed to take additional puffs for relief.

[49] The Crown Attorney acknowledges that independent witnesses who were following Mr. Yeo confirmed that there was no weaving on the highway or any poor driving exhibited while they were behind or beside him as he travelled in the passing lane. Defence Counsel also confirmed with police officers that they had not received any calls that morning in relation to a complaint of a possible impaired driver on the road. However, those aspects must be considered with the totality of the circumstances and when those other issues of poor judgment are considered, it is the Crown's position that the accident was caused by Mr. Yeo's actions which demonstrated "some degree of impairment" as mentioned by the ***Stellato*** case. She submits that the Crown is not required to establish, beyond a reasonable doubt that the impairment was a significant or marked departure from what a sober driver may have done in a similar situation.

[50] With respect to the defence submissions that, on the date in question, Mr. Yeo did not exhibit any of the often-cited indicia of impairment, the Crown Attorney points to the expert opinion evidence of Ms. Hackett. In her opinion, it is certainly possible that some people may not appear to be intoxicated or impaired by the consumption of alcohol but, as a result of the consumption of alcohol their ability to operate a motor vehicle, may be impaired.

[51] With respect to the breathalyzer analyses, the Crown Attorney notes that some experts would say a person's ability to operate a motor vehicle would be impaired at 50 mg%, but it was certainly Ms. Hackett's opinion that someone's ability to perform the complex divided attention tasks of operating a motor vehicle would be impaired at any analyses over 100 mg%. Even if the Court was to be left in some reasonable doubt as to the possible "overestimation" of Mr. Yeo's BAC based upon the opinions of Dr. Leblanc and Mr. Johnstone, given the 160 mg% result, on top of the speculation with respect to that possible "overestimation," it would be highly unlikely that the error factor of the Approved Instrument would so large as to result in the extrapolation of Mr. Yeo's BAC being below 80 mg of alcohol in 100 ml of blood at the time of the accident.

[52] With respect to the submissions made by Defence Counsel, the Crown Attorney agrees that, if the Court does not conclude that Mr. Yeo's BAC was over

80 mg of alcohol and/or his impaired operation of a motor vehicle by virtue of the consumption of alcohol was not greater than a *de minimus "*cause" of the accident which occasioned the bodily harm, Mr. Yeo could be acquitted of those charges. However, in that event, the Court may, in the alternative, convict him of the lesser included offences of having care or control of a motor vehicle with over 80 mg of alcohol in 100 ml of blood or impaired operation of a motor vehicle.

[53] With respect to Dr. Leblanc's evidence, the Crown Attorney submits that his opinion that the asthma can affect an increased rate of transfer of gases such as oxygen and alcohol between the blood and the lungs, which in his opinion, "could have overestimated" the quantity of alcohol present in the blood, does not have any evidentiary foundation. Moreover, she points out that Dr. Leblanc's opinion is qualified by the fact that he stated that asthma is a "variable condition" and he could not determine what Mr. Yeo's diffusion or rate of gas transfer was or would have been at the time when the breathalyzer test was administered.

[54] Dr. Leblanc also talked about the possibility of a cough induced (or situational) syncope where a patient will lose consciousness after coughing. Once again, the Crown Attorney points out that Dr. Leblanc stated that, in his opinion, only between 2% and 8% of people with asthma in Nova Scotia have what he would consider to be "severe asthma" as he sees most of the "severe" cases in the province. He also opined that excessive use of Ventolin for a tight chest may create a paradoxical bronchospasm, but it is "uncommon or rare." During cross-examination, she pointed out that Mr. Yeo had said that he was at the tail end of a cold/flu, which Dr. Leblanc stated was viral and then agreed that it was "unlikely" that Mr. Yeo would have experienced a "cough induced syncope" at that point.

[55] In addition, the Crown Attorney submits that most of the opinions proffered by Dr. Leblanc, while certainly being within his area of expertise, provide little assistance to the Court in determining the critical factual and legal issues in this case. She points out that many of the opinions expressed by Dr. Leblanc were significantly qualified by his own statements that they were an "educated theory," "plausible," "possible," that asthma "could have overestimated" the quantity of blood alcohol as measured by the breathalyzer.

[56] Furthermore, with respect to Dr Leblanc's opinion with respect to the possible "overestimation" of gas transfer, he also qualified his comments that he has not done any work with respect to gas transfer of ethanol in his experience or training. However, Dr Leblanc added that the gas transfer rate, if elevated, starts at

about 20% and for the most severe cases which he sees in Nova Scotia, he has never seen more than a 30 to 40% additional transfer of gas in those asthmatic patients. In those circumstances, the Crown Attorney submits that even if there was that "overestimation" and additional gas transfer of 40%, given the second breathalyzer reading of 160 mg%, Mr. Yeo's blood-alcohol concentration (BAC) would still be well over 100 mg% at the time of the accident.

[57] It is the position of the Crown that the expert extrapolation opinion evidence provided by Ms. Hackett is based upon the knowledge of the precise functioning of the specific Approved Instrument (Intox EC/IR II) and the fact that the Instrument is set up to truncate the results down to the "benefit" of the person providing the breath samples. She notes that her extrapolation is based upon the lower of the two results of the analyses and that the results are rounded down to the lowest 10 mg% by the Approved Instrument. As a result, if the analysis of Mr. Yeo's breath sample was actually as high as 169 mg%, the Approved Instrument is designed to round that number down to 160 mg%.

[58] Based upon that knowledge of how the Approved Instrument is designed and operates, the Crown Attorney submits that Ms. Hackett addressed the issue of any possible "overestimation" of Mr. Yeo's BAC as opined by Dr. Leblanc. Without necessarily accepting Dr. Leblanc's opinion, Ms. Hackett stated that, even if there was a 30 to 40% overestimation of the BAC, the Approved Instrument is designed to underestimate by almost 20 mg% and, in those circumstances, the difference between the two BAC's would be 10 to 20 mg% and if that percentage was deducted from the lower of the two breath samples which was 160 mg%, Mr. Yeo's BAC would still be well over 100 mg per %.

[59] With respect to the reliability of Mr. Yeo's evidence with respect to the timing and amount of alcohol consumption, the Crown Attorney submits that there is a significant inconsistency between his evidence and the extrapolations based on that evidence relative to the BAC analysed by the Approved Instrument. She notes that with respect to both extrapolations based upon his drinking, even using different alcohol elimination rates of 10, 20 or 25 mg of alcohol per 100 ml of blood per hour, both experts indicate that at the time of the accident, assuming that he was an "average social drinker" and that his last drink was at 1:30 AM, Ms. Hackett opined that there would be no detectable alcohol and Mr. Johnstone opined that there would be less than 4mg% at 12:18 PM on June 10, 2018, which would have become 0 mg% at 12:41 PM that day.

[60] Furthermore, both Ms. Hackett and Mr. Johnstone stated that the Approved Instrument (Intox EC/IR II) had functioned properly in producing the results of 170 mg% and the 160 mg% after providing two suitable samples of breath for analysis. Moreover, if based upon Mr. Yeo's evidence both extrapolations back to 12:18 PM resulted in 0 mg% at that time and there was no evidence of any alcohol having been consumed after the accident, it is a further indication that Mr. Yeo's evidence with respect to the timing and amount of alcohol consumed prior to the accident it is unreliable and should not be accepted.

[61] In those circumstances, it is the position of the Crown that Mr. Yeo probably drank more alcohol than he stated for a longer period and he may have been more of a "seasoned" drinker with a greater "tolerance" for alcohol than being a "social" drinker of alcohol as the experts had assumed in their extrapolations. In addition, the Crown Attorney also confirmed with Dr. Leblanc that there is no alcohol in the puffers/inhalers used by Mr. Yeo for relief from the symptoms of asthma and, in those circumstances, the use of the puffers/inhaler would not have caused a false positive for the detection of alcohol in his breath by the Approved Instrument. In addition, the evidence established that there was no alcohol in the Approved Instrument prior to Mr. Yeo's breath samples and that he had not consumed any alcohol during the 15 minutes observation period between the breath samples.

[62] Ms. Hackett and Mr. Johnstone both provided opinions and agreed that a person whose BAC was at 100 mg% would be impaired in their ability to operate a motor vehicle and that some experts might even say there was impairment of the ability to operate a motor vehicle at 50 mg%. In Ms. Hackett's opinion, a person with a BAC of 170 mg% would be impaired to operate a motor vehicle safely. In her opinion, the lack of physical indicia of impairment does not necessarily mean that the person did not have some impairment mentally, which would impact their ability to safely operate a motor vehicle, especially, in an urgent situation.

[63] In her closing submissions, the Crown Attorney also pointed out that Dr. Leblanc had discounted the possibility of the accident having caused Mr. Yeo any physiological shock that would have impacted the results of the breath analyses. Dr. Leblanc stated that he could not tell if Mr. Yeo had suffered any physical or physiological shock. On the other hand, in Mr. Johnstone's opinion on the extrapolation evidence, he believed that Mr. Yeo experienced physiological shock which then affected the blood alcohol concentration analyses and, as a result, he looked for other possibilities to explain the results of the breath analyses, without considering that Mr. Yeo may have consumed more alcohol for a longer period of

time than he stated in his evidence. Therefore, the Crown Attorney submits that Mr. Johnstone's opinion in this report in relation to this "plausible" explanation for the high BAC readings is speculation at best and was not actually based upon Mr. Yeo's trial evidence.

[64] Finally, with respect to the novel argument that asthma and taking salbutamol in an inhaler/puffer significantly impacted the blood-alcohol concentrations as measured by the Approved Instrument, the Crown Attorney submits that there are no reported cases that support that proposition. In addition, she refers to the article from the Medical Science Law Journal [1991] Vol. 31, No.3 entitled "*The Effect of Salbutamol on Breath Alcohol Testing in Asthmatics*, by P.J. Gomm et al filed as Exhibit 12 which concluded, albeit in a limited study, in their Abstract that: "We conclude that the use of salbutamol by asthmatics does not affect the reliability of measurements made by evidential breath alcohol testing devices. The research was conducted and published by the British Home Office Forensic Science Service.

[65] In the final analysis, the Crown Attorney submits that they have established, beyond a reasonable doubt, that when Mr. Yeo was operating his vehicle and the accident occurred on Highway 102, while his blood-alcohol concentration was well over 80 mg of alcohol in 100 ml of blood, and he should be found guilty of that offence. She also submits that the Crown has also established, beyond a reasonable doubt, that Mr. Yeo's ability to operate a motor vehicle was impaired by alcohol. She acknowledges that the Court has to conclude, beyond a reasonable doubt, that the impairment by alcohol was the causation of or causal link to the bodily harm to the named individuals in the Information, beyond a *de minimus* level.

Summary of the Trial Evidence

The Circumstances of the Motor Vehicle Accident – Sunday, June 10, 2018:

[66] The civilian and police witnesses who testified in court in relation to the circumstances of the motor vehicle accident at about 12:18 PM noon, on Sunday, June 10, 2018, on Nova Scotia Highway 102, between Exits 5 and 6, described the day as relatively warm and sunny day, with some scattered white clouds. Sgt. Lyndon Morrison of the RCMP, who arrived at the scene of the accident at 12:37 PM stated no one mentioned the direction of that the temperature, at that time, was 17 °C and there was a "slight breeze" but no one mentioned the direction of the wind.

[67] Those witnesses stated that, at the time of the accident, shortly after 12:00 noon on June 10, 2018, the conditions on the roadway were clear and dry. There was no precipitation or water on the roadway, nor were there any potholes or other obstructions on the highway. They also stated that the traffic was steady for a Sunday afternoon in both directions going "outbound" in a northerly direction from Halifax towards the airport as well as on the "inbound" lanes going in a southerly direction towards Halifax.

[68] Photographs contained in Exhibit 1 which were taken shortly after the accident confirmed the witnesses' evidence that it was a sunny day, blue sky with some high, white scattered clouds and the road surface being clear and dry. Ms. Tracy Boswell described the driving conditions as she was going "outbound" towards Enfield, Nova Scotia as being "perfect driving conditions."

[69] The photographs contained in Exhibit 1 as well as the police and civilian witnesses who testified during the trial described the portion of Highway 102 between exits 5 and 6 as being very straight and essentially flat or level with very little, if any, grade or incline in the surface of the roadway.

[70] Highway 102 is a Nova Scotia 100 Series divided highway with limited access only at identified exits. At the point where the multi-vehicle accident occurred, there are three lanes going in the "outbound" direction towards the airport. On the other side of the grass median, there are two lanes going in the "inbound" direction towards Halifax and Dartmouth. The posted speed limit in the area where this accident occurred is 110 km in both directions.

[71] Cpl. Robert Kellock of the RCMP and Sgt. Morrison described the scene of the accident by referring to photographs that they had taken of the accident scene and the grass median between the inbound and outbound lanes of Highway 102 between Exits 5A and 6. Those photographs were filed the *Admissions*, which were filed as Exhibit 1 in the trial. The photographs taken by those two police officers are in Exhibit 1 at Tab #10 and clearly show the vehicles involved in the accident, the highway, and debris on the highway as well as the grass median between the two directions of the divided highway.

[72] In photographs 61 and 62 of Exhibit 1 at Tab # 10, Sgt. Morrison took pictures of that grassy median and circled the area where Mr. Yeo's car went off the highway in a southbound direction and crossed through the grassy median and collided with cars proceeding in a northerly direction on Highway 102. Witnesses also described the gravel shoulder on the edges of the paved roadway and the grass

median. They also described the grass median as sloping down to the middle from each side of the divided highway to form a U-shape.

[73] In terms of the width or slope of the grass median between the inbound and outbound sections of Highway 102 between Exits 5 and 6, no witness measured the width of the grass median or estimated the slope. Ms. Wellwood, who has travelled that highway "often," estimated that the median might be as much as 30 feet wide, but she freely acknowledged that she was not sure of the actual width despite travelling that highway "often," and that she could only estimate it's width.

[74] The civilian witnesses who testified in court and others whose statements and other documents which were filed as Exhibit 1 in the trial, as *Admissions*, stated that the multi-vehicle collision occurred shortly after noon on June 10, 2018. on the "outbound" lanes of Highway 102. A black Mazda 6 was being driven in the passing lane of Highway 102 "inbound" going in a southerly direction towards Halifax, went out of control, crossed through the grass median of the divided highway, became airborne, then landed on the "outbound" lanes of Highway 102, rolled several times, and crashed into four "outbound" vehicles.

[75] In the "outbound" lanes of Highway 102, the black Mazda 6 had collided with a white GMC Terrain SUV driven by Mr. Bernie MacDonald with his wife, Sherry MacDonald in the passenger seat, a purple Toyota Highlander driven by Mr. Abdulmajeed Faisal and a dark blue Mazda 3 driven by Ms. Michelle Robichaud. It also flew over a brown Jeep Liberty driven by Ms. Tracy Boswell with her husband, Kim Walker in the passenger's seat, causing some damage to her vehicle from the flying debris.

[76] The black Mazda 6 ultimately stopped rolling and landed on its driver's side, with all four wheels off the ground and the sole occupant of the vehicle being in the driver's seat. The exact location and images of where the black Mazda 6 finally came to rest on the "outbound" portion of Highway 102 are clearly shown in photographs #16 and #17 at Tab 10 of Exhibit 1. Photo #1 of Exhibit 3, shows the black Mazda 6, completely demolished, at that point with the roof of the car cut off to extract the driver. The demolished black Mazda 6 is located on the "outbound" pavement of Highway 102, immediately adjacent to a large Provincial highway sign indicating that it is two kilometres to the Exit for the Halifax Robert L Stanfield International Airport.

[77] Const. Thomas and other police witnesses described arriving at the location where the black Mazda 6 ultimately came to rest on its driver's side. Since the

airbag had deployed and the driver had his seatbelt on, a few witnesses stated that they were able to communicate with the driver of that vehicle to check on his medical condition, but he was not able to extricate himself from the car. As a result, firefighters used the jaws of life to cut the roof off and then remove Mr. Yeo from his car.

[78] Const. Thomas and a couple of other witnesses stated that gas and other fluids were leaking from the black Mazda 6 on the roadway. Const. Thomas mentioned that the odour of gas was strong around the car. He and other witnesses mentioned, as confirmed by photographs #1 and #2 of Exhibit 3, that firefighters had deployed some absorbent on the highway over those fluids. There are no clear photographs of the black Mazda 6 laying on its driver's side before the roof was cut off by the firefighters.

[79] Mr. Arnold Bruce Yeo was identified by Const. Thomas and other police officers as the driver of the demolished black Mazda 6, which was a four-door sedan. Const. Thomas stated that, as part of his investigation which ultimately led to the charges before the Court, he took photographs of the insurance information in Mr. Yeo's vehicle and his Nova Scotia driver's licence [see Exhibit 1, tab #10 at photos #4 and #5]. The insurance document confirmed that Mr. Yeo was one of the owners of the "insured vehicle" which was a 2010 Mazda 6 GS. The photo of Mr. Yeo's Nova Scotia driver's license [Exhibit 1 at tab #10] had a photo of Mr. Yeo and stated that his birthdate was March 13, 1958, and that his height was 178 cm.

[80] During the trial, Const. Thomas was asked questions relating to Mr. Yeo's height and weight and he stated that the driver's license had indicated that Mr. Yeo's height was 178 cm and he estimated that Mr. Yeo was about 5'10" tall. In terms of Mr. Yeo's weight, Const. Thomas said that he had not made any notes about Mr. Yeo's weight on June 10, 2018, and that he was testifying about two and a half years after the accident, but he estimated that Mr. Yeo would have been in the range of 170-180 pounds, at that time.

[81] Cpl. Kellock of the RCMP heard a dispatch call at 12:21 PM and arrived at the scene of the accident on Highway 102 at 12:32 PM on June 10, 2018. Other police officers, firefighters and EHS personnel were already there, and he saw Mr. Yeo being extracted from the black Mazda 6 by firefighters. Cpl. Kellock was not close enough to Mr. Yeo to determine if there was any level of impairment, but added that when he saw Mr. Yeo, it was incredible to see that he did not have any visible injuries.

Description of the Multi-Vehicle Accident:

[82] Ms. Shealynn Wellwood was driving her car "inbound" on Highway 102 from Enfield, Nova Scotia, around noon on June 10, 2018. She was travelling in the right-hand lane of the two lanes going in that direction and had just gone past Exit 6 to the airport, when she was passed by a black Mazda, which being driven in the passing lane. After that vehicle passed her, Ms. Wellwood immediately pulled out into the passing lane for "inbound" traffic and proceeded behind that black Mazda 6. At that point, they were both going between 115 to 120 km/h and she candidly acknowledged that she was "probably too close" as she pulled into the passing lane and began following the black Mazda. She confirmed that the speed limit on the highway at that location is 110 km/h.

[83] From her position, being only a few car lengths behind the black Mazda, Ms. Wellwood saw that car "drift" to the left and then both of the driver's side tires went onto the gravel shoulder and began kicking up small stones and dust. She stated that there were no animals, no potholes or any obstructions on the road and that wind was not a problem. The traffic was moving along at a steady pace.

[84] Ms. Wellwood estimated that the driver's side tires travelled on the gravel shoulder of the highway for about 10 to 15 seconds. Then, she noticed that the driver who had been leaning to his left as he was driving, straighten up in his seat and then made a quick swerve to the right to try to get his car back onto the paved portion of the highway.

[85] Ms. Wellwood stated on direct examination and confirmed on cross examination that prior to Mr. Yeo's car drifting onto the shoulder, she had not seen any erratic driving or any weaving on the road. However, she said that after he tried to "whip back" onto the pavement from the gravel shoulder, the car swerved again to the left and continued down into the grass median and up the slope on the other side of the highway. Ms. Wellwood stated that as the black Mazda went down into and then up out of the grassy median, she observed parts of the car fall off it and added that the "car never slowed down at all." Then, she saw the black Mazda hit a few cars as it rolled two or three times and ended up on its side.

[86] Ms. Wellwood had said, on direct examination and confirmed on cross examination, that prior to the driver losing control of the car, the black Mazda had been driving along the highway "fine" and that, according to her, nothing seemed "out of the ordinary."

[87] Ms. Tracy Boswell was driving a brown Jeep Liberty "outbound" on Highway 102 towards Enfield, around noon on June 10, 2018. At that time, she was travelling in the passing lane closest to the "wide" grassy median between the two directions of traffic. Near Goffs, Nova Scotia, she and her husband saw a car go down into the grass median from the "inbound" side of highway 102 and start kicking up dust in the median. She thought that the car, which was going through the median directly towards her would stop or slow down, but it never did.

[88] Ms. Boswell stated that Mr. Yeo's car was still going at the highway speed when it came up the slope of the grass median on the "outbound" lanes of Highway 102 and went into the air. Mr. Yeo's car flew over the top of her Jeep and as it did, she clearly saw the undercarriage of the black sedan and then, in her mirror, she saw it rolling down the road behind her.

[89] Ms. Boswell stopped her vehicle and immediately went back to Mr. Yeo's car which had ended up with the driver's side on the ground. She asked Mr. Yeo if needed any medical assistance, whether he was having any troubles breathing or if he was bleeding. He said that he had a cut and she advised him to put his hand on it to stop the bleeding. Once she was satisfied that he did not require immediate medical assistance, she left his car and provided a statement to the police.

[90] Mr. Bernard MacDonald provided a short statement [Exhibit 1 at Tab 1C], which indicated that as he was driving to the airport off on Highway 102, he saw a car driving across the median at a high rate of speed. The car jumped the shoulder and came right at their SUV, in the air.

[91] Ms. Michelle Robichaud provided a short audio statement to the RCMP on June 10, 2018, about a half-hour after the accident. The transcript of the audio statement was filed in Exhibit 1 at Tab 4A which states that she was on the right side of the highway and all of a sudden, a car on the other side "went really fast into the ditch." She added that the car became airborne on her side of the highway and smashed into the front side of her car and then hit other cars.

[92] Mr. Josh Brooking, whose information about the accident was contained in a transcript of an audio statement to an RCMP officer which was filed in Exhibit 1 at Tab 5 as part of the *Admissions*. Mr. Brooking saw Mr. Yeo's car go through the grass median and become airborne, going approximately eight to ten feet in the air, and then hit a white SUV. After the rolling car missed his vehicle, Mr. Brooking stopped and immediately went back to check on the people in the cars behind him. He briefly spoke to Mr. Yeo to see if he was okay, and Mr. Yeo said: "yes". Mr.

Brooking did not see anything abnormal but did recall seeing that the driver had a cut on his head.

[93] The transcript of an audio statement of Mr. Ron Hiltz was also contained in Exhibit 1 at Tab 6. He was travelling "outbound" on Highway 102 when he saw a car proceeding on the "inbound" passing lane, go on to the gravel portion next to the grass median between the lanes of traffic and lose control. He saw the driver "boxing the wheel" to get his tires back onto the pavement, but when those tires hit the pavement, it seemed that the car was pushed back into the grass median. Then, he saw that car, come through the median and go airborne towards the approaching "outbound" traffic. Mr. Hiltz said that the car was going "a really fast speed" because it became airborne and must have been 10 feet in the air when it came out of the grass median.

[94] Ms. NaDeanna Norris forwarded a letter to Const. Thomas as her witness statement with respect to the June 10, 2018, motor vehicle accident on Highway 102 just past exit 5A. The letter of Ms. Norris was filed as part of Exhibit 1 at Tab 8 as part of the *Admissions*. She was travelling north on Highway 102 "outbound" and just past exit 5A, she saw a black Mazda travelling south "inbound" hit the gravel shoulder next to the passing lane, then overcorrect back toward the passing lane, lose control and cross through the median going into the northbound traffic hitting four vehicles just behind her as it rolled down the road.

[95] Ms. Norris, who is an experienced Registered Nurse and immediately pulled over to the side of the highway and ran back to check on the individuals involved in the accident. She noted that a young lady who had been driving a compact car was out of her vehicle, lucid but screaming in shock and had numerous small lacerations from broken glass. She spoke to a couple of other people who did not require any medical assistance.

[96] The last vehicle that Ms. Norris approached was the black Mazda lying on the driver's side perpendicular with the road. When she arrived, she noted several things: there were golf clubs on the ground, "a large can of open beer that was approximately six feet from the front of the overturned car and a cell phone case that was approximately three feet from the beer can." She retrieved some golfing items from the ditch and placed them next to the back wheel on the driver's side. The driver was trapped inside. as she and another person tried, unsuccessfully, to open the passenger side door. She did note, however, that the driver was "lucid and able to remove his seatbelt and attempted to crawl up to the passenger door."

[97] The final witness statement included in Exhibit 1 at Tab 9 was the transcript of an audio statement of Mr. Jeff Pickrem. He was travelling northbound in the middle lane of three lanes of traffic on Highway 102 between Exit 5A and Exit 6. At that moment, he saw a vehicle proceeding southbound on the other side of the highway, cross through the centre median, come onto the northbound lanes of Highway 102 and collide with four or five vehicles before coming to rest on its side.

[98] Mr. Pickrem stated that the time of the accident was at about 12:10 PM on June 10, 2018. He works as a tow truck operator and as a Volunteer Fire Chief with the Halifax Regional Fire Department. After seeing the car colliding with several vehicles, he stopped his vehicle, grabbed his portable radio and "called it in requesting RCMP, EHS and fire." Then, he walked back up the road to check with people and do a "scene assessment" to determine if there were any injuries that needed immediate attention.

[99] Mr. Pickrem was asked about what, if any, contact he had with Mr. Yeo. He stated that his initial contact was to make sure that the driver was "fine" which he did by "a face-to-face with him through the windshield." He added that Mr. Yeo was still inside the vehicle, and since they were not able to get him out, he told Mr. Yeo to stay put until the Fire Department arrived. When asked if he located or observed any items inside the vehicle, he said: "The only thing that was really obstructing my way inside the vehicle was a set of golf clubs at the back window." He also saw a can of Guinness beer on the road, but "it seemed to be sealed and was split all the way down the side."

[100] Based upon Mr. Pickrem's specific recollection of the time of the accident, which was provided to the police in an audio statement made on June 10, 2018 at 1:21 PM, and when he used his portable radio to call for assistance by the RCMP, EHS and Fire, I find, as a fact, that the time of this multi-vehicle accident would have occurred at about 12:10 PM on June 10, 2018. I find that this timing of the accident is certainly consistent with the other witnesses who had indicated that the accident occurred shortly after noon on June 10, 2018. Moreover, I find it is also consistent with the information provided by police witnesses relating to the timing of the dispatch call for RCMP members and their arrival at the accident scene.

[101] Sgt. Lyndon Morrison of the RCMP stated that he received a dispatch call to assist at the scene of the accident on Highway 102 at 12:18 PM on June 10, 2018. He arrived at the scene of the accident at 12:37 PM and indicated that he was not

the first police officer at that location. He saw a black Mazda on its side, which was leaking gas, and the Fire Department was trying to extract the driver from that vehicle. He did not speak with Mr. Yeo or any of the injured parties.

[102] Sgt. Morrison stated that he was on scene to supervise the police response, to check with people affected by the accident and to ensure that traffic was detoured around the debris and damaged vehicles on the highway. As he walked along the accident scene, he took photos #36 to #75, in Exhibit 1 at Tab 10 of the "chaotic scene" with debris all over the highway and the vehicles heavily damaged when the black Mazda collided with them. In particular, he pointed out that photos #61 and #62, are images of the location where the black Mazda went off the "inbound" passing lane of Highway 102, then tore up the grass in the grass median and its tires left a trail of dirt marks as it crossed diagonally through the grass median and then up onto the "outbound" lanes of Highway 102.

[103] Sgt. Morrison pointed out that, when he arrived on scene, the Fire Department was already there and that it took some time for the firefighters to cut the roof off the black Mazda and extract Mr. Yeo from it. He did not take any close-up photographs of Mr. Yeo's vehicle before the roof was cut off and added that he was not present when the firefighters cut off the roof. He confirmed that he took photographs #6-#35 between 12:45 PM and 1 PM on June 10, 2018, which were also filed in Exhibit 1 at Tab 10.

"Bodily Harm" Sustained by Motorists on "Outbound" Lanes of Highway 102:

[104] The first four counts in the Information before the Court allege that Mr. Yeo unlawfully had care or control of a motor vehicle while his ability to operate a motor vehicle was impaired by alcohol or a drug and causing bodily harm, contrary to section 255(2) of the **Code**. The four counts relate to separate allegations that bodily harm was caused to Sherry MacDonald, Bernie MacDonald, Michelle Robichaud and Abdul Majeed Faisal.

[105] By virtue of an agreement between counsel and *Admissions* made by Mr. Yeo, pursuant to section 655 of the **Criminal Code**, for the purpose of dispensing with proof thereof and for the exclusive purpose of this trial matter and related criminal proceedings, without admitting causation, Mr. Yeo admits that the injuries alleged by the Crown and supported by the documents and statements contained in Exhibit 1, meet the criteria to establish "bodily harm" in relation to all counts in

the Information before the Court. As a result of that admission in relation to "bodily harm," none of the named individuals were required to testify in court.

[106] With respect to Mr. Bernie MacDonald, the medical information contained in Exhibit 1 at Tab 1 confirms that he had initially been seen by doctors at the Cobequid Center about one hour after the accident which indicated that he had suffered multiple contusions as a result of the accident, had a headache and was feeling lightheaded. A follow-up assessment was done on June 15, 2010, which confirmed that Mr. MacDonald had suffered a concussion and that the symptoms were worsening. The report also indicated that tinnitus was bilateral, but worse in the left ear and he was experiencing blurred vision, had difficulty reading and tingling in his left foot. Mr. MacDonald had been driving a rental vehicle and was returning to the airport to fly home to Michigan. When he was first seen by doctors on June 10, 2018, he was advised not to travel due to his concussion but was cleared to travel on June 15, 2018, and did so on June 17, 2018.

[107] In Exhibit 1 at Tab 1B, there is a medical report, dated September 28, 2018 from Mr. McDonald's Doctor located in Ann Arbor Michigan, which states that Mr. MacDonald is recovering from "traumatic brain injury" sustained during a motor vehicle accident this summer and "that he has been making significant progress over the past few months." He was cleared to return to work on October 1, 2018.

[108] Mr. Bernie MacDonald had been driving in the white GMC Terrain SUV with license plate number GFB 812 which suffered extensive damage to the driver's side front panels, broken windshield, smashed driver's door which caused the airbags to deploy. The extensive damage to that rental vehicle was photographed by Cpl. Kellock in photographs #7 to #11 of Exhibit 1.

[109] Ms. Sherry MacDonald, who was the passenger in the rental SUV, driven by her husband, was taken to the hospital for examination shortly after their SUV was hit by a vehicle. The airbags in the SUV had deployed and she was complaining of pain in the sides of her neck. With respect to Sherry MacDonald, counsel agreed by way of admission pursuant to section 655 of the **Criminal Code** in Exhibit 1 at tab 1C that as a result of the accident on June 10, 2018, she experienced: (a) a mild concussion; (b) headaches; (c) cuts through her clothing; (d) a scar on her hand; (e) pain in her neck, hand and neurological pain down her arm and (f) weakening of musculature in her neck and swelling result in problems holding her head up and causing shaking and pain when exercising.

[110] Counsel also agreed that, as a result of the injuries suffered by Ms. Sherry MacDonald as a result of the accident, she had undergone physical therapy two times per week for four months and had been ordered medication for pain management (naproxen) which had the side effect of making her drowsy when it is taken.

[111] Mr. Abdulmajeed Faisal was driving his Toyota Highlander vehicle with license plate number FZL386. The extensive damage to his vehicle was to the front panels and windshield on the passenger side was contained in Exhibit 1 at Tab 10, photographs #12 to #14.

[112] With respect to the injuries sustained by Mr. Faisal, he prepared a letter dated November 7, 2019, which was part of the *Admissions* contained in Exhibit 1 at Tab 3B. Mr. Faisal stated that following the car accident on June 10, 2018, he continued to have physical health problems and was unable to work for more than six months. In December 2018, he was only able to return to work on a part-time basis - three days a week for four hours per day. He returned to work on a full-time basis in May 2019. Mr. Faisal added that after the accident, he was referred to physiotherapy sessions and continued with them on a regular basis until July 2019.

[113] Several months into his physiotherapy sessions, Mr. Faisal was advised to see an orthopedic surgeon due to continued and worsening pain in his left shoulder. The surgeon informed him that he had a full tear of one rotator cuff muscle and that there were some arthritic changes in his AC joint. The surgeon recommended a surgical procedure called a “shoulder scope” to repair the tear. However, since the surgeon had advised him that the procedure is not always successful and would require over six months of physiotherapy post-operation, Mr. Faisal decided to forgo the operation due to the risks involved. Although physiotherapy ended in July 2019, Mr. Faisal was dealing with pain in his left shoulder as of the date of the letter in November 2019.

[114] The fourth individual specifically named in the Information with respect to suffering “bodily harm” was Ms. Michelle Robichaud. She was driving a blue, Mazda 3 compact four-door sedan with license number EYG 130. The extensive damage to the front-end and crushed hood and windshield as well as to the driver’s side front panels driver’s door and driver side rear panel was photographed by Cpl. Kellock in Exhibit 1 at Tab 10 Photographs, #31 to 35.

[115] With respect to the injuries sustained by Ms. Robichaud as a result of the accident, the medical information was filed as part of the *Admissions* in Exhibit 1

at Tab 4B. Ms. Robichaud's primary complaint immediately after the accident, at the hospital, on June 10, 2018, was neck pain to especially her left lateral clavicle. She had also suffered hematoma. The attending physician at the hospital recommended that she should be off work for one week and to see her general practitioner during that time.

"Reasonable Suspicion" and the ASD Demand:

[116] As previously mentioned, Const. Grant Thomas of the RCMP had testified in December 2019 during the **Charter** *voir dire* which proceeded on a standalone basis and not as a blended *voir dire* with the trial proper. As a result, the evidence of Const. Thomas on the **Charter** *voir dire* did not form part of the evidence in the trial proper. On October 22, 2020, the Court rendered its oral decision on that section 8 **Charter** application and concluded that Const. Thomas had formed the required "reasonable grounds to suspect" to make a valid ASD demand pursuant to section 254(2)(b) of the **Criminal Code** and that there was no **Charter** violation**.**

[117] On January 6, 2021, Const. Thomas testified in the trial proper with respect to his involvement at the scene of the accident and ultimately making an ASD demand pursuant to subsection 254(2)(b) of the **Criminal Code** to require Mr. Yeo to provide a sample of his breath into an Approved Screening Device [ASD] to enable the proper analysis to be made whether alcohol or drug was in his body and that he operated or had care or control of a motor vehicle within the preceding three hours.

[118] When Const. Thomas testified in court, he stated that he had about 13 years of experience as a police officer. He has been qualified as a breath technician and, at that point, had conducted about 100 breathalyzer tests. He also indicated that he has been the lead investigator on about 20 impaired driving offences.

[119] On June 10, 2018, he was on duty, wearing his RCMP uniform and that, at about 12:18 PM on that date, he heard dispatch information of a multi-vehicle collision on Highway 102 in the outbound lanes near Exit 5A. Based upon the information communicated over the radio, he estimated that the accident probably occurred just prior to the dispatch report. He drove to the scene of the collision in a marked police vehicle and arrived there at 12:47 PM. Firefighters, EHS personnel and an ambulance as well as some RCMP officers were already at the scene.

[120] On arrival, the first vehicle which Const. Thomas walked by was a black Mazda sedan resting on its side, with firefighters around that vehicle. The driver

and only occupant of that car was trapped inside, and firefighters were assisting that person. They were getting ready to cut the roof off the car and extract Mr. Yeo from the overturned vehicle, as he walked by the black Mazda. Const. Thomas looked through the windshield of the car and noted that the driver was conscious, breathing and was moving his head to look around. He did not notice any injuries on Mr. Yeo.

[121] After those brief observations of the black Mazda, Const. Thomas walked up the highway to the next vehicle stopped on the road which was a Toyota Highlander with damage to its windshield and quarter panels. When he looked up the highway, Const. Thomas saw about 100 metres of debris on the road and other vehicles stopped in the "outbound" lanes of the highway or just off the highway on the gravel shoulder. He described it as a "chaotic" scene.

[122] Const. Thomas stated that it was "good weather" as it was a sunny day, with some clouds, the temperature was 17 °C and the roads were clean and dry. There was a "light breeze" and, on arrival, he did not see any obstructions on the "inbound" lanes of Highway 102. Const. Thomas stated that the highway, in both directions in that area, is very straight and level for "as far as you can see."

[123] The driver of the Toyota Highlander was Mr. Faisal, and he was still seated in his driver's seat. He advised Const. Thomas that he was quite shaken and sore from the black Mazda hitting his vehicle. Mr. Faisal explained how the accident occurred and that the black Mazda had gone through the grass median, in his estimation at a high rate of speed. Then, Const. Thomas looked at the tire tracks in the median going from the "inbound" lanes of Highway 102 in a diagonal direction toward the "outbound" lanes of Highway 102 and pointed them out in Exhibit 1 at Tab 10, photographs #61 and #62.

[124] After his brief conversation with Mr. Faisal, Const. Thomas walked back to the black Mazda and by that time, the firefighters had already cut the roof off the vehicle. He saw the firefighters assist Mr. Yeo out of the vehicle, pick him up and then walk with him over to the ambulance, which was parked nearby. Although Mr. Yeo walked to the ambulance, Const. Thomas observed that the firefighters took some of the weight off his feet as they acted like "human crutches."

[125] Const. Thomas pointed out that, as Mr. Yeo walked the short distance from his overturned car to the ambulance, he appeared to have a "little bit of a limp," but Const. Thomas did not note any signs of impairment at that time. He added that there was a strong smell of gasoline which had spilled on the road. In

addition, as Mr. Yeo went by him, he did not make any eye contact with the officer. Const. Thomas remained a few feet away from Mr. Yeo and asked him a couple of questions about the accident, as the firefighters escorted him to the ambulance. He noted that Mr. Yeo was "very short with his answers," but acknowledged that, at the same time, the firefighters were talking to Mr. Yeo to ensure that he was okay.

[126] Const. Thomas noted that there was already someone in the back of the ambulance on a stretcher and for that reason, Mr. Yeo was placed on a seat through a door on the side of the ambulance. Const. Thomas did not note any abnormal breathing by Mr. Yeo. He added that if he had seen anything "out of the ordinary," he would have made a note. Const. Thomas stated that Mr. Yeo was not "clinching at anything" and did not appear to be in any "significant pain" and added that nothing really stood out.

[127] It was "crowded" near Mr. Yeo as EHS paramedics and the firefighters were around him, while Const. Thomas was trying to ask questions about how the accident had occurred. Once Mr. Yeo was seated in the ambulance, he was facing the back of the ambulance, but did not turn his head to make eye contact with Const. Thomas as he asked questions about the cause of this major collision. Mr. Yeo told Const. Thomas that he did not recall what had happened prior to the accident and just remembered rolling down the road. He added that he was coming from Pugwash and was on his way home from playing golf.

The Open Can of Beer as part of the "Totality of Circumstances:"

[128] As Const. Thomas was asking Mr. Yeo questions about what had happened, Sgt. Morrison came over to him and said that there was a can of beer near the black Mazda on the roof of the car. Const. Thomas walked back to the black Mazda and saw a can of Sleeman's 2.0 beer on the interior part of the roof, which had been cut off with the exterior part of the roof lying on the ground. Const. Thomas pointed to photo #18 at Tab 10 of Exhibit 1 at Tab 10, as the image of where he saw the can of beer on the blue pants.

[129] During his testimony, Const. Thomas also noted that the can of beer could be seen by looking at the photographs taken by Const. MacIntyre, which were filed as Exhibit 3. In Exhibit 3 in a close-up picture at photo #3, the can of beer is clearly visible in the photograph of the interior part of the car's roof beside a blue plastic of bottle of Montellier water. In Exhibit 3 at photo #1, Const. Thomas

pointed to the top of the beer can and that noted that the tab on the beer can was open.

[130] With respect to the finding of the Sleeman's 2.0 beer can, Sgt. Lyndon Morrison had stated that other police officers at the scene had told him that there was a beer can in or near Mr. Yeo's car and that he had asked one of the police officers to process or document it. Although he had taken several photographs of the scene, he confirmed, on cross-examination, that he did not photograph the beer can in the series of photographs that he had taken shortly after his arrival on scene.

[131] Cpl. Robert Kellock arrived at the scene of the accident at 12:32 PM and stated that there were already other police officers, firefighters and EHS paramedics on scene. He estimated that he walked through the scene of the accident and took the photographs #6-#35 in Exhibit 1 at Tab 10, between 12:45 and 1 PM. He had seen an unopened, but empty can of Guinness beer [photo #26] which was split open along its side on the gravel shoulder of the road about 10 to 20 feet from Mr. Yeo's vehicle.

[132] During his cross-examination, Cpl. Kellock stated that he had also seen can of a beer on the roof of Mr. Yeo's car, after the roof had been cut off and placed on the ground. In referring to his photo #16, he circled the location where he had seen that can of beer on the blue pants, which were on the inside part of the cut off roof. He did not touch the can of beer but stated that Const. MacIntyre did pick up the can and shook it to see if there were contents inside. The beer can's tab had been opened and she heard the liquid in the can "slosh." Based upon that sound, she estimated that the can was still a quarter to half full of liquid.

[133] Const. Kayla Jeffrey [formerly Stevens], who was stationed at the RCMP Enfield detachment, responded to a dispatch call for assistance and arrived on scene shortly after 12:25 PM on June 10, 2018. She walked along the "outbound" lanes of Highway 102, saw debris everywhere and an overturned car with fluids leaking out of it.

[134] Const. Jeffrey took a statement from Michelle Robichaud and then she and Const. MacIntyre walked back to the Mr. Yeo's overturned car. When she got back to Mr. Yeo's car, one of the firefighters had said that there was something in the car to look at and then she saw a Sleeman's beer can on the cut off roof of the vehicle. The beer can's top was open, and the can was silver and blue, it looked "okay" and did not appear to rusty, faded or weathered. She did not touch the can herself.

[135] Const. Jeffrey stated that Const. MacIntyre picked up the can and shook it. Based upon the sound that she heard, Const. Jeffrey estimated that the beer can still had about one quarter to about one half of the liquid inside. She was standing next to Const. MacIntyre when her colleague shook the can. She added that when she saw the can of beer and when Const. MacIntyre shook the can, the occupant was no longer in the vehicle. She and Const. MacIntyre then reported the fact that they had located a beer can beside the vehicle to Sgt. Lyndon Morrison.

[136] On cross-examination, Const. Jeffrey confirmed that she had not seen Mr. Yeo extracted from his vehicle, but she did state that she saw the can of the beer on the clothing as shown in photo #16 of Exhibit 1 at Tab 10.

[137] Const. Deirdre MacIntyre heard a dispatch call for additional RCMP assistance at the scene of the accident on the "outbound" lanes of Highway 102. When she arrived at the scene of the accident, she spoke with Michelle Robichaud and just after doing that, a firefighter motioned for her to come to the overturned car. Based on what he had said, she understood that a beer can had fallen from the car. Const. MacIntyre took four photographs [filed as Exhibit 3] and pointed out that the Sleeman 2.0 beer can was lying on pants on the inside part of the roof of Mr. Yeo's car, which had been cut off and was lying on the ground.

[138] In Exhibit 3, photo #3, Const. MacIntyre took a close-up of the Sleeman 2.0 can lying on the pants next to a bottle of water and that photo #4 shows the interior of the car, with the driver's side on the ground. The Crown Attorney also filed an enlargement of the photo of the Sleeman clear 2.0 can of beer as Exhibit 4. She stated that the photos were an accurate representation of what she saw that day.

[139] Const. MacIntyre stated that she believed that one of the firefighters or Const. Stevens who was standing beside her, was the person who picked up the can and shook at to see if there was any liquid inside. Based upon what she heard, it seemed like there was "not a lot" of liquid in the open can of beer. She stated that she did not shake the can and that no liquid was spilled out. After taking her photographs of Mr. Yeo's car, she advised Sgt. Morrison about the can of beer and where it was located.

[140] On cross-examination, Defence Counsel advised Const. MacIntyre that Const. Stevens had testified that she was the one who shook the can of beer. Const. McIntyre stated that she did not shake the can of beer herself and was not sure who had shaken the beer can but said that only Const. Stevens and a firefighter were

beside her when that happened. When she was shown photo #3 of Exhibit 3 and Exhibit 4, Const. McIntyre confirmed that is how the beer can looked when she took the photograph – it was dented a little on the side with an open tab.

[141] Const. Thomas stated that he had made a note of the fact that Mr. Yeo was extracted from the black Mazda after the firefighters cut off the roof of the vehicle at 12:53 PM. After having his brief conversation with Mr. Yeo on the way to the ambulance and at the ambulance door, Const. Thomas said that, at 12:58 PM, Sgt. Morrison advised him that an open can of beer was found near Mr. Yeo's car on the cut off roof.

[142] After receiving that information, Const. Thomas walked over and saw the can of Sleeman 2.0 beer on the roof of Mr. Yeo's Mazda. Based upon all the other factors that he had considered, when he saw the open can of beer near Mr. Yeo's wrecked vehicle, he stated that he formed his "reasonable suspicion" that Mr. Yeo had alcohol in his body when he recently operated his motor vehicle. Having formed his "reasonable suspicion," Const. Thomas made an ASD demand for Mr. Yeo to provide a sample of his breath to enable proper analysis. Const. Thomas stated that he formed the grounds for an ASD demand based upon, what he referred to as the "totality of the situation."

The "Totality of the Situation" and the ASD "Fail" Result:

[143] Const. Thomas was asked to provide the details of what he meant by his statement that he considered the "totality of the situation" before making an ASD demand for Mr. Yeo to provide a sample of his breath for analysis. Const. Thomas stated that he took several factors into account in forming his "reasonable grounds to suspect" that Mr. Yeo had alcohol in his body when he operated the motor vehicle.

[144] The factors mentioned by Const. Thomas were: (a) there was no apparent explanation for why Mr. Yeo went off the "inbound" highway, crossed through a grass median and became airborne causing a very serious traffic accident by crashing into several oncoming vehicles proceeding in the "outbound" lanes of Highway 102; (b) it was a clear, sunny and warm day at about noon on a summerlike day; (c) the surface of the road was clear and dry and there were no obstructions, potholes, etc. on the "inbound" lanes of Highway 102 in that area; (d) Mr. Yeo had driven off the passing lane of Highway 102 where it is a long, straight and level stretch of the divided highway; (e) when Const. Thomas asked questions

about how the accident had occurred, Mr. Yeo did not make eye contact with him and in his experience in dealing with possible impaired drivers that was a common occurrence; (f) Mr. Yeo had only given very brief answers to the questions posed by Const. Thomas and could not recall how the accident occurred; and (g) all of those other factors that he considered in the "totality of the situation" then came together when he was informed by Sgt. Morrison of the open can of beer near Mr. Yeo's car and he walked over and observed the open can of beer near where Mr. Yeo's car came to rest on its driver's side, after rolling down the highway and colliding with several motor vehicles.

[145] Const. Thomas stated that, taking all those factors into account, he formed the "reasonable suspicion" that Mr. Yeo had alcohol in his body while he had recently operated the motor vehicle and that the consumption of alcohol was a contributing factor to the serious motor vehicle collision. At 12:58 PM on June 10, 2018, Const. Thomas read the ASD demand *verbatim* from a card provided by the RCMP which required Mr. Yeo to provide a breath sample at the roadside.

[146] Const. Thomas did not have the card that he used with him to read the specific wording of the ASD demand into the record, but Defence Counsel confirmed that they took no issue with the wording of the ASD demand that was read to Mr. Yeo. Defence Counsel also confirmed that they did not take issue with the fact that Const. Thomas also had informed Mr. Yeo of his **Charter** rights and the right to contact a lawyer.

[147] After reading the ASD demand, Const. Thomas asked Mr. Yeo if he understood the demand and would provide a sample of his breath for analysis. Mr. Yeo said: "yes" at 12:59 PM. Const. Thomas then asked Mr. Yeo when he had his last drink of alcohol and he answered that it was at 4:00 AM. Then, Const. Thomas retrieved the Alco-Sensor FST approved screening device from his police car, turned it on and placed a new mouthpiece on the device. Mr. Yeo provided a suitable sample for analysis at 1:01 PM and the digital screen of the ASD displayed a "Fail" result. Const. Thomas immediately showed the result to Mr. Yeo.

[148] Const. Thomas stated that the ASD used for Mr. Yeo's roadside breath test was shown in Exhibit 1 at Tab 10 photos #1-3, which clearly show that the yearly service was due on December 5, 2018, and as Const. Thomas explained, it was properly calibrated with the next calibration due on June 24, 2018.

[149] Const. Thomas also stated that he was a Qualified Operator of that approved device, having been trained on how to operate it and its parameters. He confirmed that the ASD was in proper working order and had been calibrated within the prior two weeks. Const. Thomas added that the ASD will not work or be allowed to be used if the calibration has expired. He confirmed that a new, unopened plastic mouthpiece was used as shown in Exhibit 1 at Tab 10 at photo #2 beside the ASD.

[150] During his cross examination, Const. Thomas stated that he could not recall whether Mr. Yeo required more than one attempt to provide a suitable sample of his breath for analysis by the ASD. It was also suggested by Defence Counsel that Mr. Yeo had told Const. Thomas that he had asthma after not being able to provide a sample of breath for analysis on the first attempt. Const. Thomas stated that he did not recall Mr. Yeo making that statement and in looking at his notes, he added that if it had been said, he would have made a note of that fact. Const. Thomas added that if he had been told that something might hinder Mr. Yeo's ability to provide a breath sample, he would have noted that it took multiple attempts as it might have led to the possibility of being charged with refusal to provide a sample.

[151] When asked if he had searched Mr. Yeo prior to placing him in the back of the police car, Const. Thomas said that Mr. Yeo was searched before he was placed in the police car and his pockets were checked. He confirmed that he did not make any note of an asthma puffer being in Mr. Yeo's possession.

[152] On further cross-examination, Const. Thomas stated that when he arrived at the scene of the accident at 12:47 PM, he noted that Mr. Yeo was still trapped in his black Mazda. As he walked by the black Mazda to check on other people, there were firefighters around the car, and he did not notice a can of beer in or around the car at that point. Const. Thomas did not recall speaking with Const. MacIntyre or Const. Jeffrey [Stevens] at the scene.

[153] Const. Thomas said that, at 12:53 PM, he walked back to Mr. Yeo's black Mazda and by that time, he had been extracted from the car. He agreed with Defence Counsel that he had no personal knowledge of what had caused Mr. Yeo's car to go through the median and crash into traffic proceeding in the "outbound" lanes. Const. Thomas also confirmed that he had no knowledge of any prior reports of any erratic driving.

[154] However, Const. Thomas added that when he went back to Mr. Yeo's car after he had been extracted from it, he was checking to see if Mr. Yeo was okay and whether there were any signs of impairment which might have indicated a

cause for the accident. As Mr. Yeo walked by him with the support of the firefighters, Const. Thomas noted that Mr. Yeo did not look in his direction, so he could not tell if his eyes were bloodshot, and he could not detect any odour of alcohol because of the strong smell of gasoline on the road around the black Mazda. Moreover, Mr. Yeo was being assisted to the ambulance for medical attention, so Const. Thomas stayed a few feet away from him to not delay Mr. Yeo getting medical attention.

[155] During his cross examination, Const. Thomas stated that once Mr. Yeo was seated on a chair located on the side of the ambulance, he confirmed that during his brief conversation with Mr. Yeo, he did not detect any slurred speech, but added that he received short answers to his questions. Up to that point in time, Const. Thomas agreed with Defence Counsel that he had not seen the can of beer and added that he only went back to look at the can of beer on the roof after being informed about that by Sgt. Morrison at 12:58 PM, according to his notes.

[156] Const. Thomas stated initially that he did not recall whether the open can of Sleeman 2.0 beer was lying on its side but after seeing his evidence on the *voir dire*, he agreed that was what he had previously said. He did not see anybody lift the can up and he confirmed that he did not touch the beer can. However, Const. Thomas noticed that the beer can was open and a few moments later, he learned that there was some liquid in it. He agreed with Defence Counsel that he did not seize the can of beer. In looking at Const. McIntyre's photographs [Exhibit 3], Const. Thomas stated that he could clearly see the brand of beer and that the can of beer was open.

[157] Const. Thomas added that the liquid being in the can did not cause him to conclude that he had a "reasonable suspicion" that Mr. Yeo had alcohol in his system while he operated the motor vehicle. He stated that the open beer can and liquid in it became part of the "totality of the circumstances" around the accident. He added that, prior to seeing the open can of beer near Mr. Yeo's car, he did not believe that he had the proper "reasonable suspicion" to make an ASD demand. After the ASD "fail" result, Const. Thomas believed that he had grounds to make a breathalyzer demand for Mr. Yeo to provide samples of his breath for analysis.

[158] In concluding his cross examination, Const. Thomas again confirmed that he had not observed any slurred speech on the part of Mr. Yeo. He had not observed any balance problems or problems with his gait on his walk over to the ambulance but added that Mr. Yeo had the "human crutch" of firefighters to assist him. Const.

Thomas also stated that as Mr. Yeo walked from his damaged vehicle to the ambulance, he was not close enough to detect any odour of alcohol but there was also the odour of gasoline all around the car. In addition, he confirmed that he could not tell if Mr. Yeo's eyes were bloodshot, because Mr. Yeo did not make eye contact with Const. Thomas when he briefly spoke with him.

[159] In addition, Const. Thomas agreed with Defence Counsel that he had not noticed any deterioration of Mr. Yeo's ability to do what he was asked to do, nor was there any mental or sensory impairment noted by him. However, Const. Thomas did state that once Mr. Yeo was placed in the back of the police car and its windows were up, with no other odours like the smell of gasoline at the roadside, being in the vehicle, the odour of alcohol from Mr. Yeo was "prominent."

[160] On re-examination, Const. Thomas stated that, if a person had indicated that they had respiratory issues and required the use of a puffer, it would be "evident that they needed it." He added that, for example, an officer would notice wheezing or that the person was having a hard time breathing or that a person would be grabbing their chest and saying that they needed a puffer. None of those things ever happened with Mr. Yeo. Const. Thomas added that if a person required a puffer and used it, the police officer would stay with them to ensure that it was properly administered. But, once again, Const. Thomas stated Mr. Yeo never took a puffer.

No Prior Reports of Erratic Driving:

[161] Sgt. Morrison confirmed during his cross examination by Defence Counsel that he did not recall hearing any reports of erratic driving on the "inbound" lanes of Highway 102 on June 10, 2018. He added that the Lower Sackville RCMP detachment has a Road supervisor, who was, at that time, Cpl. Kellock. Sgt. Morrison added that, in any event, any reports like that are assigned by dispatch.

[162] As mentioned above, during his cross examination by Defence Counsel, Const. Thomas confirmed that he had no knowledge of any prior reports of any erratic driving prior to the accident on Highway 102 on June 10, 2018.

[163] During the cross examination of Cpl. Kellock, he confirmed that he was the road supervisor for the RCMP for the Lower Sackville detachment on June 10, 2018. He did not recall receiving any reports of erratic driving "inbound" on Highway 102. Cpl. Kellock added that, if there were any reports of that nature,

from the Big Stop gas station in Enfield going into the Halifax Regional Municipality, they would have been referred to the Lower Sackville detachment.

[164] Cpl. Kellock also confirmed, on cross-examination, that when he first walked by Mr. Yeo's car, the roof had not been cut off and that he had not taken any close-up photos of the car before the roof was cut off. He estimated that it took the fire department 15 or 20 minutes to cut the roof off and that he was standing nearby when the firefighters extracted Mr. Yeo from the car. Once Mr. Yeo was out of his vehicle, Cpl. Kellock confirmed that he did not observe any signs of intoxication at that time. However, he added that he did not speak with Mr. Yeo and was never standing close enough to him to detect any odour of alcohol. Once Mr. Yeo was extracted from his car, Cpl. Kellock stated that Mr. Yeo did not appear to have any visible injuries, which he acknowledged was "surprising" given the severity of the accident.

[165] On cross-examination, Const. Jeffrey also confirmed that, on the day in question, she had not heard any complaints of erratic driving on the "inbound" lanes of Highway 102 in their area of responsibility which was Enfield and beyond.

The "Breathalyzer Demand" and Results of the Analyses:

[166] As indicated earlier in this decision, on October 22, 2020, the Court had concluded on the **Charter** *voir dire* that there had not been a violation of Mr. Yeo's section 8 of the **Charter** to be secure against unreasonable search and seizure. As a result, the Court concluded that the demand made by Const. Thomas pursuant to section 254(2)(b) of the **Criminal Code** for Mr. Yeo to "forthwith" provide a sample of breath for proper analysis to be made by an ASD was a legally valid and binding demand and did not contravene his section 8 **Charter** rights. In coming to that conclusion, there was no need for the Court to analyze whether any evidence which resulted from the ASD demand should be excluded from under section 24(2) of the **Charter**.

[167] At the outset, Const. Thomas stated what Mr. Yeo's "Fail" result indicated to him based upon his training as a qualified operator of an Approved Screening Device (ASD) and his understanding of how an ASD operates. The "Fail" result confirmed that Mr. Yeo had provided a suitable sample of breath which enabled the ASD to conduct a proper analysis to be made of the breath sample. Const.

Thomas added that the "Fail" result only indicated that there was a presence, but not necessarily the proof, of over 100 mg% of alcohol in the breath sample.

[168] Const. Thomas stated that, based upon the other factors which he had already considered prior to making the ASD demand and then the "Fail" result on the ASD, at 1:02 PM, he formed his "reasonable grounds to believe" that Mr. Yeo had operated his motor vehicle while his ability was impaired by alcohol. He then read the breathalyzer demand that Mr. Yeo provide, as soon as practicable, samples of breath into an Approved Instrument that would enable a proper analysis to be made to determine the concentration of alcohol, if any, in his blood.

[169] At the same time, Const. Thomas arrested Mr. Yeo for impaired driving causing bodily harm. Following the breath demand and his arrest for those charges, Const. Thomas also informed Mr. Yeo of his **Charter** rights and the right to contact a lawyer. Mr. Yeo stated that he understood the breathalyzer demand and his **Charter** rights. He advised Const. Thomas that he would provide samples of breath at the detachment and would accompany the officer for that purpose.

[170] Prior to leaving the scene of the accident, Const. Thomas confirmed with the paramedics that Mr. Yeo did not need any further medical attention at the roadside. In addition, Mr. Yeo also advised Const. Thomas that he was "fine" and that he did not need to go to the hospital.

[171] Const. Thomas placed Mr. Yeo in the back of his police car at 1:12 PM and left the scene of the accident, driving straight to the Lower Sackville RCMP detachment, arriving there at 1:24 PM on June 10, 2018.

[172] Const. Thomas stated that, while Mr. Yeo was seated in the back of his police car, in an enclosed space with the windows up with no other odours like gasoline in the vehicle, as had been the situation at the roadside, there was now the odour of alcohol in his vehicle, which he described as being "predominant" and it was "obvious" to smell that odour.

[173] Const. Thomas stated that while he and Mr. Yeo were on the way to the Lower Sackville RCMP detachment, Mr. Yeo called his wife on his cell phone to arrange his call to a lawyer. Upon arrival at the detachment at 1:29 PM, Mr. Yeo was placed in a cell area and given the opportunity to contact his lawyer by using his own phone. It was a Sunday afternoon and neither Const. Thomas nor Mr. Yeo were able to contact a couple of the lawyers named by Mr. Yeo. The phone calls to the lawyers went into their voicemail and messages were left to return the call.

[174] Shortly after those efforts to contact a lawyer, Const. Thomas noticed that Mr. Yeo was showing some signs of discomfort on the left side of his stomach area and he was walking around the cell area. At this point, Const. Thomas stated that his primary concern was to make sure that Mr. Yeo was okay, so he asked for EHS paramedics to come to the detachment and examine Mr. Yeo to determine if he needed to be treated at a hospital and to verify if it was okay to proceed with the breath tests.

[175] Const. Thomas stated that, while he was waiting for the paramedics to arrive, he was observing Mr. Yeo, who was seated on a bench and talking to his wife on his cell phone. Mr. Yeo did not appear to have any difficulty breathing but he was showing some discomfort on his side. The paramedics arrived at the Lower Sackville detachment at 1:53 PM. Ms. Miranda Newhook was the paramedic who assessed Mr. Yeo's condition in the main area of the detachment. Const. Thomas stayed nearby while the paramedic was assessing Mr. Yeo. He placed another call to the first lawyer contacted by Mr. Yeo at about 2:00 PM and left another message to call Mr. Yeo at the Lower Sackville detachment.

[176] Const. Thomas stated that, after the paramedic finished her assessment of Mr. Yeo around 2:16 PM, she then spoke with a doctor. While the paramedic was speaking with the doctor, at 2:22 PM, Const. Thomas made another call to the lawyer that Mr. Yeo had tried to reach, but that call also went to voicemail.

[177] Once the paramedic completed her assessment of Mr. Yeo and she had talked to the doctor, at 2:27 PM, he was placed back in a room where he could speak in private with the Legal Aid duty counsel. Based upon the information provided to him by the paramedic and the doctor's opinion, Const. Thomas believed that Mr. Yeo was "fine" to proceed with the breath tests and if he wanted to be further evaluated, he could go to the hospital after the breath tests to be checked over.

[178] Const. Thomas noted that the call to the Legal Aid duty counsel began at 2:27 PM and was completed at 2:35 PM. Once the call was completed, he began a minimum 15 minute "observation period" of Mr. Yeo in the room where he had made the call to the lawyer. After the call, Const. Thomas noted that Mr. Yeo was laying on the floor and he advised Const. Thomas that being in that position was more comfortable for him.

[179] Const. Thomas stated that he did not watch Mr. Yeo while he was on the telephone with the duty counsel, but he had not seen or been advised of any

communication problems. The officer added that Mr. Yeo had no problem communicating with him. As the "observation period" continued, Const. Collins who was the Qualified Technician on duty to conduct the breath tests, advised Const. Thomas that the Approved Instrument was ready for the breath tests.

[180] Const. Thomas stated that the minimum 15 minute "observation period" of Mr. Yeo prior to providing his first breath sample started at 2:35 PM. The first "observation period" ended at 2:54 PM when Mr. Yeo provided the first suitable sample of breath for analysis. During that initial "observation period," Const. Thomas confirmed that Mr. Yeo did not consume any beverage or smoke anything and the officer did not see any burping or vomiting by Mr. Yeo prior to him providing that first sample of breath for analysis.

[181] After Mr. Yeo provided his first sample of breath for analysis at 2:54 PM, Const. Thomas escorted him back to the cell area and began the second minimum 15 minute "observation period" prior to providing a second sample of breath for analysis. During that second "observation period," Mr. Yeo's wife called the detachment at 3:04 PM and advised that she had reached Defence Counsel and that he was available to talk to Mr. Yeo. Mr. Yeo was then placed in contact with Defence Counsel and they had a private conversation which ended at 3:09 PM.

[182] Once Mr. Yeo concluded his call with Defence Counsel at 3:09 PM, Const. Thomas began another minimum 15 minute "observation period" prior to Mr. Yeo providing a second sample of breath for analysis. At 3:29 PM, Mr. Yeo provided a second suitable sample for analysis by the Approved Instrument. Const. Thomas confirmed that, during that second "observation period," Mr. Yeo had not consumed anything, had not vomited, burped, or done anything which would affect the results of the breath test. He added that, if any of those things had occurred, he would have had to start another minimum 15 minute "observation period."

[183] During the second "observation period," Const. Thomas did note that Mr. Yeo had clenched his left side while he was seated in the cell area. As a result of that observation, Const. Thomas spoke with Mr. Yeo to ensure that he was not experiencing any breathing or speaking problems. Const. Thomas stated that he did not note any specific problems or anything different from what he had earlier seen. After taking photographs and fingerprints of Mr. Yeo at 3:54 PM, Const. Thomas noted that Mr. Yeo's physical signs of discomfort had "subsided" and he was not grabbing at his side. About 10 minutes later, Mr. Yeo was released, and his wife picked him up in the parking lot of the RCMP detachment.

[184] On cross-examination, Const. Thomas confirmed that before Mr. Yeo was put into the back of his police car, he was searched, which included a search of his pockets. He did not make any notes of finding an asthma puffer on Mr. Yeo at that time. Once at the detachment, Mr. Yeo was placed in a cell room for observation and for making calls to a lawyer, but the person's personal effects are taken off for safety reasons and left outside the room. Const. Thomas stated that if someone had told him that they needed an asthma puffer, the decision as to whether he would have kept it with him would have been made by either Const. Thomas or Const. Collins who was the Qualified Breath Technician on duty.

[185] Const. Thomas was asked questions with respect to Mr. Yeo's physical condition, and he stated first that he is not a doctor and secondly, that Mr. Yeo had told him that he was okay and did not need to go to the hospital. Const. Thomas agreed with Defence Counsel that Mr. Yeo was cooperative with the police officer. Const. Thomas confirmed that, at 1:24 PM, Mr. Yeo did indicate that he had some discomfort on his left side, and that he had asked the police officer to call EHS paramedics to attend and check him out. Const. Thomas confirmed that he had called for the paramedics to attend, and that Mr. Yeo was checked out by them and cleared to provide breath samples, which he did.

[186] Const. Michael Collins, an officer with about 12 years experience at the time of the accident was the Qualified Technician who conducted the breath tests provided by Mr. Yeo on June 10, 2018. Const. Collins stated that he had completed the training to act as a Qualified Technician on the Approved Instrument which, in this case, was the Intox EC/IR II. After that training, he was listed in the Gazette as a Qualified Technician first in Newfoundland and since 2017, in Nova Scotia.

[187] On June 10, 2018, at about 12:18 PM, he was on duty at the RCMP's Lower Sackville detachment when a dispatch call was received in relation to an accident on Highway 102 "outbound." Const. Collins responded to the call and arrived on scene between 12:25 and 12:30 PM. On arrival, he drew a diagram of the scene of the accident, which was filed as Exhibit 2, showing skid marks of vehicles and where the vehicles involved in the accident were located on the road.

[188] Const. Collins took an audio statement from Mr. Bernie MacDonald, who was the driver of a white SUV with license plate number GFB 812, at 12:36 PM on June 10, 2018. After that, Const. Collins got EHS paramedics to check the medical condition of Bernie and Sherry MacDonald.

[189] After being on scene for about 15 minutes, Const. Collins took the four photos of the accident scene, marked as #76 to #79, which had been previously filed in Exhibit 1 at Tab 10. Const. Collins estimated that those photographs were taken at about 12:46 PM. During his testimony, Const. Collins stated that he also had enlarged copies of those four photographs, and they were then filed as Exhibit 9. Const. Collins confirmed that he had no interaction at the roadside with Mr. Yeo.

[190] A short time later, Const. Collins was asked by Sgt. Morrison to be the breath technician at the detachment, after Const. Thomas's demand to Mr. Yeo to provide suitable samples of breath for analysis by an Approved Instrument. Once Mr. Yeo was placed in the back Const. Thomas's police car, Const. Collins left the accident scene at 1:11 PM, with Const. Thomas following him. They went directly to the Lower Sackville Detachment and arrived there at 1:24 PM.

[191] On arrival at the Lower Sackville detachment, Mr. Yeo was placed in the cellblock area and, at 1:27 PM, Const. Thomas placed calls to the lawyer named by Mr. Yeo. However, the lawyer was not available at that time, and it was then, according to Const. Collins that, Mr. Yeo complained of a pain on the left side of his stomach. After hearing that comment, Const. Collins said that Const. Thomas called at 1:38 PM for an EHS ambulance to come to the detachment to assess Mr. Yeo's condition.

[192] For his part, Const. Collins' observations of Mr. Yeo were that he had no problem talking or in his ability to communicate the issue with his stomach. He did not see "anything out of the ordinary" in terms of Mr. Yeo's breathing.

[193] The paramedics arrived at about 1:54 PM and met with Mr. Yeo in the cell area. After completing their assessment, a paramedic called a doctor and then explained their evaluation and informed Mr. Yeo and the police officers that he was okay to provide breath samples. Mr. Yeo was also advised that, after providing the breath samples, he could come to the hospital for further evaluation if he wished to do so.

[194] It was acknowledged by the Crown Attorney and Defence Counsel that Const. Collins had just related some hearsay information- that is, what the doctor had told the paramedic and then what the paramedic had told Const. Collins about the doctor's opinion. The Crown Attorney confirmed that the hearsay information was not being tendered for the truth of its contents, but rather, as part of the narrative to put into context the subsequent police actions.

[195] After Mr. Yeo had been cleared by the paramedics to provide breath samples, Const. Collins asked him whether he understood the breath demand and he confirmed that he did. Const. Collins stated that, in his brief interactions with Mr. Yeo, his speech was "normal." Then, Const. Collins asked Mr. Yeo whether he had spoken with a lawyer at that point and he indicated that he had not spoken with his lawyer, so Const. Thomas connected Mr. Yeo with the Legal Aid duty counsel.

[196] According to his notes, Const. Collins stated that Mr. Yeo spoke with the Legal Aid duty counsel between 2:27 PM and 2:35 PM. After Mr. Yeo completed his call with the duty counsel, then Const. Collins began the minimum 15 minute "observation period" before the first breath test. During that time, Mr. Yeo advised Const. Collins that he was "satisfied" with his conversation with the duty counsel.

[197] Const. Collins confirmed that the "observation period" is to ensure that there is nothing in the subject's mouth that might affect the breath sample and during that time, a police officer will ask the subject to open his or her mouth to ensure that no food or drink has recently been consumed prior to the test. Const. Collins confirmed that prior to Mr. Yeo providing his first sample for analysis, he had not had anything to eat or drink. In addition, Const. Collins had not observed any vomiting or burping or anything else that might affect the results of the breath test.

[198] While Mr. Yeo was speaking with the duty counsel, Const. Collins went to the breath room to prepare the Approved Instrument, in this case, the Intox EC/IR II to analyze Mr. Yeo's breath samples. Const. Collins followed the steps to prepare the Approved Instrument based upon his training and based upon the information provided by the Instrument, it was ready to be used. Const. Collins said that the Intox EC/IR II conformed with all of the requirements for operation. He added that if anything was not functioning normally or there was not an Approved solution in the Approved Instrument, there would be an error message. In this case, there were no error messages.

[199] Const. Collins said that the Approved Instrument goes through a sequence of self-tests to ensure that it is working properly. If there is an issue, it stops and has to be reset, but there were no issues with respect to the proper operation of the Intox EC/IR II. Prior to Mr. Yeo's first breath sample, the Approved Instrument automatically does a "system blank" to ensure that there is no residual alcohol in the instrument.

[200] Following that, Const. Collins inserted the details of Mr. Yeo's breath test into the device, placing his name as the Q.T. or Qualified Technician, the subject's

name being A. Bruce Yeo with the "observation start time" at 14:35 [2:35 PM] and that the observer was Grant Thomas. The Test Start Date was listed as 2018-06-10 and that this was Test Number: 1366.

[201] The Intox EC/IR II "Subject Test" printout, which was filed as Exhibit 8, provided information that the Dry Gas Value [at sea level] was 82 mg/100 ml, the Alcohol Standard Manufacturer: Airgas, the Alcohol Standard Lot Number: Ag 724201 and the Expiry Date of the Cylinder: 2019- 08- 30. Then, the "Subject Test" printout lists the "Breath Sequence 1" as well as the "Breath Sequence 2." The "Subject Test" printout [Exhibit 8] was signed by Const. Collins on June 10, 2018, at 15:31 [3:31 PM].

[202] The "Subject Test" printout [Exhibit 8] confirms that the result of Mr. Yeo's first breath sample at 2:54 PM was 170 mg of alcohol in 100 ml of blood. At the completion of that first "breath sequence," Const. Collins pointed out that the Intox EC/IR II then does a "system blank" to remove any residual alcohol from the Approved Instrument's cylinder. He stated that when the "system blank" is done by the Approved Instrument, the printout should indicate a "0" as it did on each occasion when that was done during the two "breath sequences" and between the two "breath sequences."

[203] Const. Collins stated that the result of the second "breath sequence" was 160 mg of alcohol in 100 ml of blood and after the second "breath sample," the Intox EC/IR II produced a **Certificate of the Qualified Technician**. In this case, Const. Collins printed a copy of that Certificate of the Qualified Technician and handed it to Mr. Yeo.

[204] However, Const. Collins stated that, as a result of the amendments to the legislation in this part of the **Criminal Code** which came into effect in December 2018, he also issued a new form of **Certificate of a Qualified Technician** based upon the information contained in the original Certificate of Qualified Technician and signed that document on July 25, 2019, which was filed as Exhibit 5.

[205] Thereafter, in the space at the bottom of the new **Certificate of a Qualified Technician**, under the heading of **Notice of Intention to Produce Certificate**, Const. Collins served notice on Mr. Yeo that, "pursuant to subsection 320.32(1) and subsection 320.32(2) of the **Criminal Code of Canada**, the prosecution intends to produce in evidence a copy of which appears above." Const. Collins confirmed that the **Certificate** and **Notice of Intention to Produce Certificate** were served upon Mr. Yeo on August 15, 2019.

[206] Const. Collins also pointed out that "system blank" tests done by the Approved Instrument all produced a result with zero alcohol in the Instrument and that the "Alcohol Standards" utilized by the Intox EC/IR II were suitable for use in that Approved Instrument. As further support for that statement, the **Certificate of the Qualified Technician** indicated that the alcohol standard manufacturer was Airgas and that the lot number was AG 724201. Const. Collins also pointed out that the **Certificate of an Analyst** [Exhibit 6] with respect to that Airgas Lot of the alcohol standard was analysed by Amy Minh on September 28, 2017 and a second **Certificate of an Analyst** [Exhibit 7] of that Airgas Lot of the alcohol standard by Karen Chan [Exhibit 7] also on September 28, 2017, both certified that the expiry date on Airgas Lot AG 724201 was August 30, 2019.

[207] Prior to concluding the Crown Attorney's direct examination, Const. Collins confirmed that, prior to Mr. Yeo providing the first breath sample, he explained how to give a sample of breath for analysis by blowing into the new mouthpiece with a tight seal and to keep blowing until he was told to stop. Const. Collins confirmed that Mr. Yeo understood that direction and provided the first suitable sample for analysis on his first attempt. Const. Collins did not note any difficulty in providing that breath sample.

[208] Const. Collins confirmed that he used new mouthpieces for each of the two breath samples and stated that there were no obstructions in those mouthpieces. He also pointed out that the operational design of the Intox EC/IR II as the Approved Instrument is that once a suitable sample has been provided for analysis, the Instrument has a built-in timer that counts down 15 minutes between tests. No test is possible before the countdown has concluded. In this case, he stated that there was a total of 35 minutes between the first breath test at 2:54 PM and the second one at 3:29 PM.

[209] Const. Collins stated that the second 15 minute "observation period" which began shortly after the first sample was provided, was stopped to facilitate Mr. Yeo's call to Defence Counsel shortly after 3:00 PM. After the call, another 15 minute "observation period" was started and it was completed prior to the second breath sample being provided at 3:29 PM.

[210] Const. Collins stated that, in addition to the new form of **Certificate of a Qualified Technician** which was served upon Mr. Yeo on August 15, 2019, a similar **Certificate** was printed after Mr. Yeo provided his second suitable sample for analysis and that was handed to him on June 10, 2018. Const. Collins added

that after the breath test, he advised Mr. Yeo that he had “failed the test” and would be charged.

[211] On cross-examination, Const. Collins stated that his four photographs were taken at about 12:45 PM, on his own initiative and that he was not asked to do so by another officer. They were taken about five to ten minutes after he finished the audio statement with Mr. Bernard MacDonald, which was done at about 12:36 PM. The four photographs and the enlargements of those photographs were filed as Exhibit 9. Const. Collins stated that photo #79 of Exhibit 9, which shows Mr. Yeo’s car on its side, with the roof already cut off with firefighters and two police officers standing nearby, is an image from as close as he got to view Mr. Yeo’s vehicle.

[212] On further cross-examination, he confirmed that he met Mr. Yeo for the first time when he arrived at the Lower Sackville detachment after he was transported there by Const. Thomas in his police car. He was aware that Mr. Yeo had made a complaint about pain in his stomach and that he was walking back-and-forth in the cell area and sometimes lying on the floor.

[213] Based upon Mr. Yeo’s comments about pain in his stomach, Const. Collins confirmed that Const. Thomas had called EHS to come to the detachment and check on Mr. Yeo’s health. Const. Collins stated that paramedic Miranda Newhook attended at the detachment to do a medical assessment of Mr. Yeo, but he did not watch that assessment. He was aware that the paramedic had spoken with Mr. Yeo and then talked to a doctor as part of her assessment before leaving.

[214] During cross-examination, Const. Collins confirmed that he was certified as a Qualified Technician for the Intox EC/IR II and, in order to get that certification, he took the specialized training course for that Approved Instrument. The Instrument measures milligrams of alcohol in 100 ml of blood from deep lung air which is blown into the Instrument by the subject providing a breath sample. He confirmed that no blood is taken by the Qualified Technician as part of the breath test.

[215] Based upon his training and certification as a Qualified Technician for the Intox EC/IR II Approved Instrument, he explained that when a person consumes alcohol, it goes into the stomach and is absorbed in the blood and in the deep lung of the subject. The breath test result is a scientific calculation of the alcohol which has gone through the walls of the lung and the breath test measures the deep lung air to get the ratio of milligrams of alcohol in 100 ml of blood.

[216] Const. Collins also explained that the scientific calculation of the breath to blood ratio is based upon the fact that 2100 parts of alcohol in blood is equal to one part of alcohol in the breath. The breath test results are based on that blood to breath ratio and that the 2100:1 ratio was part of his training to be certified as a Qualified Technician on the Approved Instrument and that ratio does not change.

[217] On re-examination, Const. Collins added that, based upon the training course that he followed in 2007 to be certified as a Qualified Technician, it was stated that the actual scientific calculation is about 2400 parts of alcohol to one part of blood, but this instrument is calculating that ratio on the 2100 to 1 parts basis. However, Const. Collins added that using the 2100 parts of alcohol in blood will produce lower breath test results than if the 2400 parts ratio was used. As a result, in his opinion, the use of that ratio is a "benefit" to a subject, as lower breath test results may mean that a person would not be charged with the care and control of a motor vehicle over 80 mg of alcohol in 100 ml of blood offence.

[218] Const. Collins also stated that, as a certified Qualified Technician, another aspect of how the Approved Instrument operates to the potential "benefit" of the subject, is that the breath test results are rounded or "truncated" down to the nearest 10 mg%. In those circumstances, for example, if the Intox EC/IR II analysed the actual alcohol to blood ratio from the breath of a subject at any number from 171-179 mg%, the result on the subject test printout will be 170 mg%.

Crown's Expert Toxicology Opinion Evidence - Josette Hackett

[219] The Crown Attorney called Ms. Josette Hackett, who was at the time of her initial evidence introduced by the Crown, a Forensic Alcohol Specialist at the RCMP's National Forensic Laboratory Services in Ottawa, to be qualified as an expert and provide opinion evidence in the areas of:

a) The absorption, distribution and elimination of alcohol in the human body,

b) The measurement of alcohol in bodily fluids and solutions, and the suitability of said samples for analysis,

c) The extrapolation and interpretation of alcohol concentrations in bodily fluids,

d) The effect of alcohol on individuals and on their ability to operate a motor vehicle, including the interpretation of blood-alcohol concentrations with respect to the effects on individuals and the ability to operate a motor vehicle,

e) The theory and operation of breath testing instruments and screening devices and interpretation of breath test result, and

f) The calculation of blood-alcohol concentrations [BAC] at a point in time based on breath or blood alcohol concentration and/or a pattern of alcohol consumption.

[220] The Crown Attorney advised the Court and Defence Counsel confirmed that there would be no need to hold a ***Mohan*** *voir dire* with respect to Ms. Josette Hackett's qualifications to provide expert opinion evidence in certain areas. The parties were satisfied that Ms. Hackett could be qualified as an expert to provide opinion evidence in those designated areas.

[221] However, it was also agreed between counsel that the Crown Attorney would provide an overview of her credentials to be qualified as an expert and that Defence Counsel would have an opportunity to cross-examine Ms. Hackett on her qualifications prior to hearing her substantive testimony and opinion evidence.

[222] Ms. Hackett testified by video conference from Ottawa, Ontario. Ms. Hackett's *Curriculum Vitae* (*CV*) was filed as Exhibit 10 and that document outlines her duties as a Forensic Specialist, her training, education, previous employment publications, external courses or conferences attended. She has occupied the position as a Forensic Alcohol Specialist since 2008. In addition, the CV noted that she has been designated as an Analyst under subparagraph 320.4(b)(ii) and para. 320.4(c) [or their predecessor provisions] of the **Criminal Code** in eight provinces including Nova Scotia and both Territories. She has been qualified as an expert to provide opinion evidence on over 90 occasions by Courts in seven provinces which include both the Nova Scotia Provincial Court and the Nova Scotia Supreme Court.

[223] Ms. Hackett also stated that, in 2012, she was one of the authors of a peer-reviewed publication in the *Canadian Society of Forensic Science Journal* entitled "Blood Alcohol and Breath Alcohol comparisons Using the Intox EC/IR II" which measured blood and breath alcohol concentration at the same time to see how close

the Intox EC/IR II Approved Instrument came to the concentration of alcohol based upon the analysis of a blood sample.

[224] Ms. Hackett confirmed that her opinions were provided to assist the Court and provide information and opinion evidence on issues which were likely outside the experience and knowledge of a judge. She also confirmed that, in providing opinion evidence in court, it would be provided in an impartial, objective and independent manner.

[225] On cross-examination, she confirmed that, in the Forensic Laboratory, she and the other specialists provide opinions to extrapolate blood alcohol readings at different points in time based upon facts presented and a "pretty standard" rate of elimination of alcohol over time. The forensic specialists utilize a Policy and Procedures Manual for standard laboratory practices. She added that the analysis of blood is more straightforward, as there would be an analysis of the blood which would have been taken at a hospital.

[226] During the cross-examination in relation to her qualifications, Ms. Hackett stated that her extrapolations use, and the Policy and Procedures Manual states that, the "standard" elimination rate of alcohol over time from a person's body may vary somewhat, but 10 to 20 mg% per hour is the standardized number utilized by the forensic specialists. She added that, if the actual "time of the incident" utilized in her report was more than 15 minutes earlier or later than the time used in her opinion, she would have to recalculate her opinion which she could do "on-the-fly" with the information provided during the trial.

[227] On further cross-examination by Defence Counsel, Ms. Hackett confirmed that she is not able to opine on any medical conditions that may affect breath tests or the effect of certain drugs on breath tests.

[228] Following those preliminary questions posed of Ms. Hackett in relation to her qualifications, the Court confirmed that she would be qualified to provide expert opinion evidence on the six areas which were outlined above.

[229] At the outset of her direct examination by the Crown Attorney, Ms. Hackett confirmed that Const. Thomas had asked for an opinion letter based upon Mr. Yeo's breath test results and information provided to her by the officer. Ms. Hackett's three-page opinion letter to Const. Thomas was dated September 12, 2018. The Forensic Science and Identification Services Laboratory Report of Ms. Josette Hackett dated September 12, 2018, was marked as Exhibit 11 in the trial.

[230] Ms. Hackett stated that she needed certain information for that opinion which included the gender and weight of the person, the approximate "time of the incident" which in this case, was the time of the motor vehicle collision which involved Mr. Yeo's vehicle as well as the times of and results of his breath samples. She had been advised by Const. Thomas that the subject was a male weighing 91 kg, the approximate "time of the incident" was 12:18 hrs. and the first breath sample resulted in 170 mg% at about 14:54 hrs. with the second breath sample collected and analysed at about 15:29 hours with the result of 160 mg%. She was advised that the motor vehicle collision and breath tests were all conducted on June 10, 2018. Const. Thomas had also advised Ms. Hackett that "an open can of Sleeman 2.0 beer" containing 4% alcohol by volume was discovered "in the vehicle."

[231] In terms of an extrapolation opinion to provide a range of Mr. Yeo's blood-alcohol concentration at the "time of the incident," she stated that her extrapolation would be determined from the lower of the two results of the analysis by the Intox EC/IR II Approved Instrument on June 10, 2018. She mentioned that by using the lower one of the two results, would be a "benefit" to the subject.

[232] Furthermore, she added that the reason that she utilized the lower of the two breath test results was because the Intox EC/IR II Approved Instrument assesses the breath and blood results at the same time when an individual is in the "post-absorption phase" and that tends to "underestimate" the "true" Blood Alcohol Concentration by 20% on average. Ms. Hackett explained that breath testing is an indirect measure of Blood Alcohol Concentration because the analysis is not conducted by taking the actual blood from the subject, rather, it equates the breath alcohol concentration to Blood Alcohol Concentration.

Evidence regarding the Operation of the Intox EC/IR II Instrument:

[233] In providing additional information with respect to the previous comments, Ms. Hackett described the lung physiology and how the respiratory tract works with outside air being breathed in through air sacs to the capillary blood, which is then eliminated when a person exhales. When alcohol laden blood is in air sacs, a small proportion of alcohol goes into the lungs and that is what is exhaled during the breath test. She added that the small proportion of alcohol that goes into the blood through the air sacs occurs at a person's core temperature which is 37 °C. The temperature of the breath decreases at the mouth to 34 °C and that is where the measure of alcohol is taken as it leaves the mouth.

[234] The Approved Instrument then calculates a blood to breath calculation to obtain the Blood Alcohol Concentration which is based on a proportion of 2100 parts of breath contained one part of blood. From there, the instrument multiplies by that amount to get the Blood Alcohol Concentration [BAC]. However, Ms. Hackett added that the Intox EC/IR II is designed to "underestimate" the BAC as the actual ratio is between 2300 or 2400 parts of breath to one part of blood.

[235] Ms. Hackett added that studies have shown that when a person is in the post-absorption state, that is, where the alcohol is "fully absorbed" and the BAC is falling, the Instrument underestimates the "true" BAC based upon its calibration to multiply by 2100 parts and not 2300 or 2400 parts of breath to one part of blood.

[236] Ms. Hackett also mentioned another design feature of the way the Intox EC/IR II Instrument operates to the "benefit" of a subject by "truncating" the BAC down to the nearest ten. In this case, she pointed out that the lower of the two breath test results was noted as being 160 mg% which is a truncated number down to the nearest 10 mg%. In other words, this is another way in which the BAC is "underestimated" on the instrument as the actual BAC could have been somewhere between 161-169 mg%.

[237] After having provided information with respect to the way the Intox EC/IR II Approved Instrument operates and stating that Blood Alcohol Concentration is "likely underestimated by 20%," Ms. Hackett was asked if it was possible for that instrument to "overestimate" the actual BAC. She stated that it would be possible to have an overestimation of the actual BAC if there was "residual alcohol" in the subject's mouth, by the subject having had a recent drink of alcohol or regurgitated something from the stomach. Ms. Hackett stated that, in anyone of those situations, the residual alcohol might "falsely elevate" the BAC.

[238] However, she added that the possibility of "residual alcohol" affecting the BAC is addressed by the Qualified Technician who is conducting the test, as they are required to conduct a minimum 15 minute "observation" period before a breath test. In that way, the Qualified Technician has observed the subject for that period to eliminate the possibility that alcohol is left in the mouth, has been burped up or regurgitated into the mouth.

[239] In addition, Ms. Hackett stated that the possibility of any "residual alcohol" affecting the breath result is also addressed by the way in which the Intox EC/IR II Instrument works. She stated that the Approved Instrument monitors for any mouth alcohol before each breath sample and if any mouth alcohol is detected from the

subject, the Intox EC/IR II will prompt the Qualified Technician to conduct another 15-minute observation period.

[240] Ms. Hackett stated that there is another possible way that the Intox EC/IR II could potentially "overestimate" the actual Blood Alcohol Concentration. The specific example provided by her was when a person is still in the absorbing state and their BAC is rising at that time. As an example, Ms. Hackett stated that if the subject had consumed a small amount of alcohol just before the breath test or a large amount about an hour before the breath test, they could still be in the absorption phase.

[241] In order to address the potential "overestimation" of the actual BAC due to recent consumption or having consumed a larger amount in the previous hour, it is very important for the Qualified Technician to know when the subject had their last drink of alcohol. In this case, Const. Thomas asked that question of Mr. Yeo immediately after making the ASD demand and he advised Ms. Hackett that Mr. Yeo had told him that the last drink that he had consumed, was at 4:00 AM.

[242] In this case, Ms. Hackett opined that a potential "overestimation" because of recent consumption of alcohol would not be a relevant factor, since Const. Thomas had informed her that the motor vehicle accident had occurred at 12:18 PM and the first breath test was conducted at 2:54 PM with a prior observation period. In addition, Ms. Hackett understood that Mr. Yeo was in police custody for most of that time prior to the breath samples and for that reason, she could opine that his Blood Alcohol Concentration was not rising at the time of the breath test.

[243] Finally, Ms. Hackett also mentioned that the Intox EC/IR II Instrument also addresses another possibility of recent consumption of alcohol causing an "overestimation" of a person's BAC, through its operational design where there is a difference of 30 mg% between the first and second breath tests. In that situation, the Qualified Technician is required to commence another minimum 15-minute "observation" period of the subject so that any possibility of "residual mouth alcohol" affecting the result is eliminated and then conduct a third breath test. The Qualified Technician is required to conduct additional breath tests of the subject until the difference between the last two tests is no greater than 20 mg%.

[244] Then, with respect to the information contained on Mr. Yeo's Subject Test printout [Exhibit 8] from the Intox EC/IR II, Ms. Hackett stated that it was operated by a trained and Qualified Technician [Michael Collins], the quality of the alcohol standard was good and the automated steps taken by the Approved

Instrument were started by the Qualified Technician and looking at the data, they all worked as required. In particular, the system blank [BLK on Exhibit 8] tests were blank with 0 mg/100 ml and the "subject tests" [SUBJ on Exhibit 8] were within "acceptable criteria."

[245] Ms. Hackett was asked to provide her opinion with respect to her extrapolation of what Mr. Yeo's Blood Alcohol Concentration would have been at about 12:18 PM based upon the breath samples collected and analysed at 2:54 PM on June 10, 2018, being 170 mg% and the second breath sample being provided at 3:29 PM with the result of 160 mg%.

[246] Ms. Hackett stated that her opinion was based upon certain information provided by the officer or assumptions which were: (1) the subject was a male weighing 91 kg.; (2) The time of the "incident" or accident occurred, when Mr. Yeo would have last been in care and control of his motor vehicle being approximately 12:18 PM on June 10, 2018; (3) his Blood Alcohol Concentration would have been steadily falling at the rate of 10-20 mg% from the "incident" to the time of the breath tests; (4) no alcohol was consumed just prior to or just after the assumed time of the "incident." However, she added that if there was any consumption of alcohol just prior to or after the "incident," she would also factor that into her opinion. the weight and gender of the subject.

[247] In her report [Exhibit 11], Ms. Hackett prepared three extrapolations based upon the result of 160 mg% at 3:29 PM with no alcohol being consumed in the 30 minutes prior to the time of the "incident" and no alcohol having been consumed between the time of the "incident" and the time when the breath samples were collected. Based upon the difference in time which by her calculations was approximately 3.2 hours, the range of Mr. Yeo's Blood Alcohol Concentration [BAC] assuming an elimination rate of 10 mg% would result in BAC of 192 mg% at 12:18 PM and assuming an elimination rate of 20 mg% per hour, the BAC would be 224 mg% at 12:18 PM.

[248] Ms. Hackett added that, if some alcohol was consumed during the 30 minutes prior to the "incident" or between the time of the incident and the breath samples, then the calculated BAC would be too high by an amount proportional to the amount of alcohol consumed. She added that if the accident or "incident" was within 15 minutes earlier or later than the 12:18 PM time of the accident, which she had used for her calculations, there would be a minimal impact on the

extrapolated BAC at the time of the "incident" by no more than 5 mg% and it would not affect the other opinions expressed by her.

[249] For her second extrapolation of Mr. Yeo's BAC, she relied on the same basic assumptions outlined in the earlier opinion, but amended this extrapolation based upon the assumption that the open can of 355 ml of Sleeman 2.0 beer, which contains 4% alcohol by volume, which was found at the scene, was consumed by Mr. Yeo in the 30 minutes prior to the accident or "incident." In that event, it was her opinion that there would likely be some alcohol that entered the person's system **after** the time of the driving his car.

[250] Ms. Hackett opined that one can of that beer of that volume, being consumed within that timeframe by a male weighing 91 kg would be expected to contribute no more than 19 mg% to the range calculated in the previous extrapolation. Therefore, for the purposes of this second extrapolation opinion, Ms. Hackett deducted 19 mg% from each end of the range previously calculated and opined that Mr. Yeo's BAC at the time of the "incident" could have been as low as 173 mg% to as high as 205 mg%.

[251] Ms. Hackett also conducted a third extrapolation opinion to estimate the BAC, assuming that the subject was a male who weighed approximately 91 kg and had a BAC of 80 mg% at 12:18 PM on June 10, 2018, and then, had a BAC of 160 mg% at 3:29 PM [the lower BAC at the time of the second breath sample]. For this extrapolation opinion, Ms. Hackett stated that, knowing the gender and weight of the subject, she would be able to provide an opinion as to the amount of alcohol that would have had to have been in the subject's stomach, **unabsorbed either at the time of the accident** [which she referred to as the "incident"] **or** was consumed **after the time of the "incident", but before the breath samples** were taken, with the first sample being taken at 2:54 PM and 3:29 PM.

[252] Ms. Hackett noted that the Certificate of the Qualified Technician confirmed the times and the BAC results of the two breath samples. She also added that Const. Thomas had provided her with information and requested opinion in relation to a "male subject" who weighed 91 kg. Ms. Hackett also noted, both in her written report and in court, that if the individual was 5 kg heavier or lighter than 91 kg, there would be "no significant change" in the calculated amount of alcohol that would have had to have been consumed within the stated time frames. If, for example, the individual weighed 81 kg, in her opinion, it would not take as much alcohol to get into the extrapolated range. If the individual weighed 10 kg

more than assumed, that is, about 101 kg, then an individual would have had to consume more alcohol to be within that extrapolated range.

[253] Based upon those **assumptions**, Ms. Hackett's opinion was that the "minimum amounts" of **unabsorbed** alcohol in the individual's stomach either at the "time of the incident" or consumed after the time of the "incident" but before the breath samples were collected would be, depending on the alcohol consumed, as follows: (1) 7.5 to 9.7 ounces of hard liquor (40% alcohol by volume), or (2) 5.0 to 6.4 bottles [341 ml] of regular beer (5% alcohol by volume) or (3) 6.0 to 7.7 cans [355 ml] of Sleeman 2.0 beer (% alcohol by volume).

[254] Ms. Hackett also stated that there were a couple of other points to note with respect to this extrapolation opinion, first, she is assuming that if beer was consumed it was in the standard sizes of cans and bottles, but she recognized that beer is available in larger sizes, which would result in more alcohol being contributed to the BAC. She also indicated that her opinion was based upon a "theoretical minimum" of unabsorbed alcohol and that in a "real drinking situation", the actual amount required to increase the BAC could be up to twice the calculated amount.

[255] Ms. Hackett was also asked to provide her opinion on the effect of alcohol on individuals and their ability to operate a motor vehicle. She stated that alcohol operates as a central nervous system depressant, in the sense that it slows down brain activity. The intensity of the effect is directly proportional to the concentration of alcohol in the blood. The first functions that are usually affected by the consumption of alcohol are what she referred to as "complex processes" such as "divided attention" tasks. She opined that there would likely be decreases in attention and impacts on visual skills such as visual acuity, depth perception to evaluate distances and peripheral vision, judgment, reaction times and coordination of body movement such as hand eye coordination, which would all have an effect a person's ability to operate a motor vehicle.

[256] In a more general sense, Ms. Hackett also provided her opinion on what some of the "expected symptoms" might be displayed by an "average social drinker" at various blood alcohol concentrations. She also pointed out that at a BAC of less than 50 mg%, there would likely be few, if any observable symptoms and that a small number of people might be impaired by alcohol.

[257] At the next level with a BAC in the range of 50 to 100 mg%, Ms. Hackett was of the opinion that an average social drinker with a BAC in that range would

be associated with "**impairment**," where the skills required for driving would likely decline due to decreases in attention, judgment, concentration, visual skills and overall loss of fine motor control and coordination. Common observable symptoms might include watery bloodshot eyes, a flushed face and an odour of an alcohol beverage on the breath. People at the higher end of that range may have problems with balance, coordination and have slight speech defects.

[258] In Ms. Hackett's opinion, an "average social drinker" with a BAC in the range of 100 mg% to 150 mg%, would likely be associated with **mild to moderate intoxication.** In this range of BAC**,** she stated that, in addition to the observable symptoms which she had previously described, a person may exhibit problems with balance, motor control and coordination as well as slurred speech. The performance of physical tasks may be affected due to loss of both fine and gross motor control and coordination.

[259] She then stated that the next BAC range of 150 mg% to 300 mg% would likely be associated with a person at a level of **moderate to severe intoxication**. She stated that as the BAC increases, the symptoms of "intoxication" become more intense, creating marked problems with gross motor control and coordination, leading to balance problems, staggering gate and noticeable slurred speech. The performance of physical tasks is likely to be adversely affected due to loss of fine and gross motor control and coordination. A "heavily intoxicated person" may display significant mental and sensory impairment, exaggerated emotional states, impaired memory and mental confusion.

[260] Finally, Ms. Hackett provided her opinion with respect to the "expected symptoms" of a person with a BAC of over 300 mg%. In her opinion, a person with a BAC at that level is generally associated with **severe intoxication,** which would be characterized by significant mental and motor dysfunction, lack of movement, apathy in the sense of lack of reactions, incontinence, stupor**,** loss of consciousness, coma and possible death due to respiratory depression.

[261] With respect to all of those ranges, Ms. Hackett opined that the symptoms displayed could be affected by an individual's "tolerance" to alcohol. She stated that, if an individual is accustomed to the effects of alcohol due to the repeated exposure at high BAC's, they may require higher BAC to display some of the symptoms which she had previously described. Conversely, if an individual was unaccustomed to the effects of alcohol, they may display greater symptoms than would the "average person" in those BAC ranges.

[262] Ms. Hackett opined that based upon those ranges and the fact that driving is a "complex divided attention task," some individuals ability to safely operate a motor vehicle may be impaired at a BAC of 50 mg% or lower. However, as the BAC rises, the number of driving skills which become impaired will increase as does the severity of the impairment. In her opinion, based upon studies, the risk of being involved in a motor vehicle collision increases as the BAC increases.

[263] With respect to her opinion as to whether Mr. Yeo's ability to safely operate a motor vehicle was impaired by alcohol, Ms. Hackett referred to her extrapolated BAC at the time of the "incident" or accident at 12:18 PM on June 10, 2018. For this opinion, she utilized her second extrapolation which resulted in a lower range of BAC *based upon the possible consumption of one can of light beer [4 % alcohol by volume] within 30 minutes prior to the time of the "incident*." Based upon that second extrapolation and that assumption, the range which could have been between as low as 173 mg% to 205 mg% at the time of the accident. In that range, it was Ms. Hackett's opinion that Mr. Yeo's ability to safely operate a motor vehicle would have been impaired by the consumption of alcohol.

[264] Although Ms. Hackett had already commented generally on the impact of the consumption of alcohol on the "complex divided attention task" of driving, she provided her opinion on how the consumption of alcohol would affect both the motor skills and the ability to use sensory information to operate a motor vehicle, including vision, judgment, fine motor control and coordination and reaction time.

[265] First, in terms of the impact of alcohol on a person's vision, Ms. Hackett explained that a person's visual acuity, depth perception and peripheral vision would all deteriorate. In addition, alcohol decreases the eyes' ability to compensate for changes in light conditions such as recovery from the glare of oncoming headlights. Alcohol also decreases the number of eye movements leading to fewer visual cues being perceived, and impacts a driver's ability to detect hazards, observe traffic lights and signs, pedestrians and other vehicles on the road.

[266] Secondly, with respect to judgment, Ms. Hackett opined that alcohol increases self-confidence and decreases inhibitions and increases risk-taking by drivers not obeying speed limits, traffic signs or traffic signals.

[267] Third, Ms. Hackett opined that the fine motor control and coordination may be affected by alcohol and as a result, it may be difficult to keep the vehicle in the proper lane, may cause weaving within the lane or outside the lane and include crossing over a centreline into oncoming traffic. It may also lead to

overcompensation during corrections, taking corners to narrow or too wide and problems with acceleration and braking.

[268] Finally, Ms. Hackett opined that alcohol decreases the rate at which information is processed in the brain and results in increasing the amount of time required to recognize potentially hazardous situations, determine the correct course of action and then execute the action. She stated that it may also cause an individual to take no action at all when faced with the hazardous situation.

[269] The Crown Attorney posed a question whether the presence or absence of observable signs of impairment would affect her opinion. Ms. Hackett stated that whether a person shows any observable signs or not, it would not alter her opinion which, as she had previously stated, was based upon the Blood Alcohol Concentrations of an "average social drinker." She added that a person who shows no observable signs of impairment, may still be impaired by alcohol to operate a motor vehicle.

[270] In concluding the direct examination, the Crown Attorney asked Ms. Hackett to comment on the reliability and accuracy of the Approved Instrument used by Const. Collins, which was the Intox EC/IR II. She stated that the Alcohol Test Committee put that Instrument through rigorous tests for reliability and accuracy in 2008-09 and the Alcohol Test Committee was satisfied that the instrument met those requirements. Ms. Hackett added that the Intox EC/IR II has been used as the Approved Instrument in Canada since that time. In her opinion, that Approved Instrument when operated by a certified Qualified Technician in accordance with their training as a Qualified Technician, is a forensically accurate and reliable Instrument.

[271] On cross-examination, Ms. Hackett confirmed that the assumptions in her report were based upon information provided to her by Const. Thomas in a request for a toxicology opinion. She added that if any of the assumptions were incorrect, then her opinion would change.

[272] Ms. Hackett disagreed with Defence Counsel's suggestion that her opinion relating to the amounts of **unabsorbed** hard liquor or beer that would have had to have been in a person's stomach for a BAC of 80 mg% at 12:18 PM and then, result in a BAC of 160 mg% at 3:29 PM was a "theoretical minimum." The "theoretical minimum" that she estimated could be quite different in a "real drinking situation" and could be up to twice the calculated amounts. The "theoretical minimum" estimated by her would "benefit" the individual involved

by using the lower amounts of alcohol. In addition, some unknown possible factors could impact her "theoretical minimum" opinion, for example, whether the individual was drinking on a full or empty stomach or the individual was not an "average social drinker."

[273] With respect to the accuracy of the Approved Instrument's calculation of the Blood Alcohol Concentration, Ms. Hackett said that, in fact, the true or actual BAC could be underestimated by 20%. The Approved Instrument takes a breath sample rather than a blood sample and then calculates the amount of alcohol in that breath sample based upon lung physiology. From there, the Instrument equates breath alcohol to blood alcohol using a ratio of 2100 parts of breath to equal one part of blood to arrive at the BAC.

[274] Ms. Hackett explained that the ratio of 2100 parts of breath to equal one part of blood to determine the BAC is based upon the "average population" in Canada and has been used for approximately 50 years. Being based upon an "average population," she agreed that the BAC might not be the exact number for each individual at that moment, but it is based upon an average. It is certainly possible that an individual's ratio could be less than 2100 parts of breath to equal one part of blood, but lab studies have shown that there is not a significant percentage of the population that would be less than 2100 parts of breath to one part of blood.

[275] Defence Counsel asked Ms. Hackett what her extrapolated opinion would be if she had used an equation of 2400 parts of breath to equal one part of blood, instead of the 2100 parts of breath as utilized by the Approved Instrument. Based upon that hypothetical, Ms. Hackett re-calculated her opinion, based on 2400 parts of breath to equal one part of blood and indicated that the Mr. Yeo's BAC would have been 183 mg% at 3:29 PM, instead of 160 mg%.

[276] Defence Counsel posed the question with respect to the possibility that there was a higher percentage of the population where the parts of breath to one part of blood would be lower than the 2100:1 ratio used by the Approved Instrument. Ms. Hackett stated that, based upon studies that she had reviewed which tested the breath as well the blood of drinking drivers, the data indicated that the absorption rate was not demonstrably different. There were less than 3% of the drivers tested where the breath results "overestimated" the BAC as compared to the blood results, and for that small group, the difference was only by 7%. With respect to those studies, Ms. Hackett acknowledged that any potential health factors of those

individuals tested were not known, as they were randomly stopped during an impaired driving investigation.

[277] Ms. Hackett was asked questions about a study which dealt with subjects who had asthma and COPD. The study compared breath and blood samples to test the accuracy of the breath results. Ms. Hackett was aware of that study and noted that it involved a small number of people, a small control group and that they were using a different Instrument. Ms. Hackett had a copy of the study which had been reported in the *Medicine Science and Law Journal*, 1991, vol. 31, no.3 in 1991 which was entitled "*The Effect of Salbutamol on Breath Alcohol Testing in Asthmatics.*" She pointed out that the sample size was eight asthmatics patients and they had three people as the control group who had normal pulmonary conditions.

[278] In the article about the study, Ms. Hackett stated that people were given alcohol and then the researchers conducted breath testing as well as taking blood samples. Then, the subjects took a dose of Ventolin, and the researchers again took breath samples and blood samples within 60 minutes. The results of that small study of the breath to blood ratio at two points in time - pre-dosing and post-dosing of Ventolin, showed that the lung function improved, but no significant difference between the asthmatics and the control group. In addition, there was no statistically significant difference in the small number of asthmatic subjects before and after the dose of salbutamol. In the small group, the lowest ratio of breath parts to blood parts was 2082 to 1 with the highest being 2773 to 1.

[279] As the cross examination of Ms. Hackett continued on the next trial date [January 28, 2021], Defence Counsel filed the 1991 article on "*The Effect of Salbutamol on Breath Alcohol Testing in Asthmatics*" as Exhibit 12. In addition, during the previous day's cross examination, Ms. Hackett had indicated that her opinion had utilized information contained in their Laboratory Services Manual and a copy of the 2018 Manual had been provided to Defence Counsel as additional disclosure. Defence Counsel asked that the National Forensic Laboratory Services Manual's cover page with its effective date of 2018-09-07 and pages 44, 46, 47 and 48, be filed as Exhibit 13.

[280] With respect to the 1991 article, based upon the small sample size of subjects in England, Ms. Hackett confirmed that the subjects had indicated they suffered from asthma, but none of them were in the middle of an asthmatic episode at the time of the test. Defence Counsel posed questions with respect to patient number six whose pre-inhaler ratio was 2773:1, post inhaler was 2900:1 and then

post inhaler 60 minutes later was 3200:1. In the article, the authors had placed an asterisk beside that subject and indicated that the "variation in the blood: breath ratio is probably due to the low levels obtained for blood and breath results with this subject."

[281] Ms. Hackett acknowledged that her retrograde extrapolation opinion report [Exhibit 11] was calculated from the estimated time of operation/care or control to the time of collection of a breath sample, based upon an assumption in the September 2018 - National Forensic Laboratory Services Manual [Exhibit 13] at page 46(x) that "an elimination rate of 10 mg/100 ml per hour to 20 mg/100 ml per hour, regardless of the BAC." Ms. Hackett stated that the elimination rate range was, in her opinion "conservative," and she added that a "chronic consumer" could exceed 20 mg%. However, she added that if the elimination rate was higher, for example, using an elimination rate of 25 mg% per hour then the upper end of the range of her extrapolation would have been somewhat higher than the 224 mg% [which she had based on an elimination rate of 20 mg%].

[282] On further questioning about the range of elimination rates, Ms. Hackett stated that she was familiar with the research of Alan Jones relating to alcohol impaired driving and breath testing, and she was aware that he had recommended a range of 15 mg% to 25 mg% for a retrograde extrapolation. She did not agree with Defence Counsel's suggestion that the range utilized by Mr. Jones was a "better range." She did, however, say that if the person had a BAC over 200 mg%, she and the other specialists in the Forensic Laboratory Services of the RCMP have used a higher elimination rate than 20 mg% in certain circumstances.

[283] Ms. Hackett explained that, since the analyst cannot say what an individual's elimination rate is at a certain point in time, that is why they provide their opinion with an elimination rate as a range. However, she agreed with Defence Counsel that para. (xii) on page 46 of the Manual [Exhibit 13] does indicate that the analyst may include additional retrograde extrapolations using elimination rates greater than 20 mg/100 ml per hour "when the facts support that approach, e.g., a chronic user of alcohol."

[284] Then, Defence Counsel posed the question as to what Ms. Hackett's opinion would be if she used a 25 mg% per hour elimination rate for her retrograde extrapolation. Ms. Hackett said that her report already contained the retrograde extrapolation based upon an elimination rate range from 10 mg% to 20 mg% being, 192 mg% at the 10 mg% [low-end of the range] and using the higher

elimination rate of 20 mg% per hour it would be 224 mg% at the time of the accident [12:18 PM]. If she had relied upon a 25 mg% per hour elimination rate as suggested by Defence Counsel, then the retrograde extrapolation to the time of the accident of that person's BAC would have been about 240 mg%.

[285] Ms. Hackett added that paragraph (xiii) on page 47 of the Manual [Exhibit 13] states: "all final calculated BAC results from a retrograde extrapolation will be reported to the nearest 1 mg/100 ml as per normal scientific convention and are not to be truncated." This paragraph explains the differences between a retrograde extrapolation opinion which provides a specific BAC and the Approved Instrument result which Ms. Hackett had previously explained truncates the BAC down to the lowest 10 mg%. Therefore, for example, the 192 mg% of her retrograde extrapolation would register as 190 mg% on the Approved Instrument.

[286] Ms. Hackett's indicated that she uses the "Widmark formula" mentioned in para. (xiv) on page 47 of the Manual to make her calculations of the "theoretical maximum attainable BAC from the consumption of a known amount of alcohol beverage and account for the reduction per unit time or elimination." She also confirmed that, in accordance with the Manual, all her calculations were reviewed by the "technical reviewer" to "confirm the validity and accuracy of all mathematical calculations" pursuant to para. (xvi) on page 47 of the Manual. The reviewer's initials are on her mathematical worksheet which was not part of her final report.

[287] Defence Counsel then asked whether there is an odour from alcohol itself. Ms. Hackett explained that alcohol refers to chemicals of a certain group, for example, ethanol, methanol and iso-propyl alcohol. Beverages which contain ethyl alcohol have no smell, but ethanol can irritate and give an odour, but generally, the odour comes from other components.

[288] Ms. Hackett agreed with Defence Counsel that the smell of alcohol itself is not evidence of impairment, just of consumption. For the purposes of her report, at page 2, where she referenced an "average social drinker," Ms. Hackett maintained that it is a person who does not drink alcohol that often and drinks alcohol without the intent to get drunk. She added that she would define a man's "social drinking" as not more than 14 drinks in a week and not more than four drinks in one sitting.

[289] In her report, at page 2, Ms. Hackett had described the effects of different BAC levels and the "expected symptoms" which would be "generally associated with" the different BAC ranges. She stated that the symptoms which may manifest

can differ between people who had previously not had anything to drink or only drank a little as compared to a person who drank heavily on a regular basis. In other words, the "expected symptoms" would vary with the amount of alcohol consumed and with the individual's "tolerance" to alcohol.

[290] Ms. Hackett stated that as the BAC becomes higher and higher, the outward manifestations or "symptoms" will show up, but again, they will depend on the person's individual "tolerance" to alcohol. For an "average social drinker," the outward manifestations would be "obvious" to a third party not familiar with the individual who had a BAC of 150 mg% or higher. Ms. Hackett stated that an "average social drinker" who had a BAC of 150 mg% would likely exhibit staggering, speech issues, balance issues, difficulty with fine motor coordination as well as watery and bloodshot eyes.

[291] Then, Defence Counsel posed **hypothetical** situations and asked Ms. Hackett to calculate a series of retrograde extrapolations. She was asked to assume that a male had not consumed any alcohol after going to bed, no alcohol was consumed in the morning or while operating a motor vehicle and there was no bolus drinking after the person stopped operating a motor vehicle. The final assumption would be to utilize the 160 mg% breath test results at 3:29 PM and do retrograde extrapolations back to 1:00 AM, 2:00 AM 3:00 AM, 7:00 AM 8:00 AM 9:00 AM and 11:00 AM. In addition to providing an opinion with respect to those times, she was also asked to extrapolate back to those times using three different elimination rates – 10 mg%, 20 mg% and finally, 25 mg% per hour.

[292] Ms. Hackett took a few moments to calculate her retrograde extrapolations at various times under the three different elimination rates and stated:

TIME:	**at 10 mg%**	**at 20 mg%**	**at 25 mg%**
1:00 AM	305 mg%	450 mg%	523 mg%
2:00 AM	295 mg%	430 mg%	498 mg%
3:00 AM	285 mg%	410 mg%	473 mg%
7:00 AM	245 mg%	330 mg%	373 mg%
8:00 AM	235 mg%	310 mg%	348 mg%
9:00 AM	225 mg%	290 mg%	323 mg%
11:00 AM	205 mg%	250 mg%	273 mg%

[293] Ms. Hackett pointed out that her report already contained her retrograde extrapolations for **12:18 PM** being 192 mg% using an elimination rate of 10 mg%

per hour, 224 mg% at an elimination rate of 20 mg% per hour and she had just provided her opinion at an elimination rate of 25 mg% being 240 mg%.

[294] In referring to Ms. Hackett's report [Exhibit 11], she had mentioned under para. 4 (e) that for "an average social drinker" with a BAC over 300 mg% that the "expected symptoms" would be associated with "severe intoxication." This could result in significant mental and motor dysfunction, incontinence, loss of consciousness, and possible death due to respiratory depression. She noted that those symptoms could be affected by an individual's "tolerance" to alcohol. However, she agreed with Defence Counsel that a BAC at that level would likely affect fine motor skills and coordination, as well as hand/eye coordination in chopping or dicing food.

[295] Defence Counsel then referred Ms. Hackett to para. 4(d) of her report which referred to "expected symptoms" of a person with a BAC in the range of 150 to 300 mg% and she stated that in that range the symptoms would be generally associated with "moderate to severe intoxication." She added that as the BAC increases, the "symptoms" become more intense resulting in marked problems.

[296] On further cross-examination, Ms. Hackett stated that issues with fine motor skills like chopping food could arise where their BAC was at 225 mg% or 235 mg% for an "average social drinker." She said that a small difference of 10% would not likely change the person's degree of impairment, but at 300 mg%, she would expect that a person's fine motor skills would be "severely impaired" for an average social drinker.

[297] Ms. Hackett agreed with Defence Counsel that elimination rates at very high Blood Alcohol Concentrations would be higher than 10 mg% and would likely be 20 mg% or even higher. For this retrograde extrapolation, Ms. Hackett stated that, when she was asked to prepare her report, she was not asked to provide an opinion based upon an elimination rate of 25 mg%.

[298] Ms. Hackett agreed with Defence Counsel that a BAC of 300 mg% would be very high for an "average social drinker." Based upon her calculations at various points earlier in the day, she stated that between 1:00 AM and 3:00 AM, several "outward symptoms" would probably manifest themselves at a BAC of 285 mg% or greater. She opined that the person would probably show physical and mental impacts, such as stumbling or staggering excessively, using supports to stand, comprehension and vision would likely be impaired, reaction time increased and consciousness affected by becoming sleepy, being in a stupor or even unconscious.

[299] When asked what "outward symptoms" might be present in a timeframe between 7:00 AM and 9:00 AM if a person had a BAC of 225 mg% at that time, Ms. Hackett stated that there would be similar symptoms to what would likely have been displayed at the higher BAC. She indicated that a person would probably still stumble and stagger, but it would be more noticeable at the higher BAC. She agreed that, for an "average social drinker," death could be a possible outcome at those elevated BAC levels. In her opinion, that person would likely be "severely impaired" with their fine motor skills being affected and likely an impact on hand-eye coordination, for example, not being able to get a license out of the wallet and having problems comprehending questions.

[300] Ms. Hackett agreed with Defence Counsel that in her report, she had used an elimination rate of 10 mg% and 20 mg%, and that their Manual would allow her to go over 20 mg% in situations where there were very high Blood Alcohol Concentrations. However, she stated that when alcohol is consumed, there is first the absorption stage and then the elimination stage begins. As a result, Ms. Hackett indicated that the elimination rate does not really differ that much, as it is not linear and proceeds at the same rate until almost all the alcohol is eliminated and near that point, the elimination rate will drop.

[301] Defence Counsel asked what the elimination rate might be if a person had consumed alcohol until going to bed between 1:00 AM and 3:00 AM and then did not consume any more alcohol. Ms. Hackett stated that the elimination rate will depend on the Blood Alcohol Concentration obtained at that time and not necessarily the total amount of time to eliminate all alcohol from the body.

[302] Then, Defence Counsel asked Ms. Hackett to provide her opinion relating to the "outward symptoms" that one might expect to see from an "average social drinker" whose BAC was in the range of 225 mg% to 245 mg% between 7:00 AM and 9:00 AM. She indicated that there would likely be some speech impediments, for example slurred speech and at the higher end of that range, there would likely be difficulty communicating and comprehending questions to answer coherently.

[303] Following those questions, Defence Counsel asked Ms. Hackett to provide her opinion relating to those "outward symptoms" that might be expected from an "average social drinker" at 11:00 AM, whose BAC was in the range of 205 mg% to 273 mg%. She stated that the symptoms would be like what she had previously said, although they would probably manifest themselves to a lesser extent at the

lower end of the range. Once again, she would expect that there might be balance problems, stumbling, fine motor coordination and impaired judgment.

[304] With respect to that same BAC range of 205 mg% to 273 mg%, Ms. Hackett stated that she would expect that a person's ability to safely operate a motor vehicle would be impaired. She would expect to see more driving errors, which included difficulties in operating the vehicle, for example, braking or stepping on the gas may be more abrupt or the person may over or under compensate on turns, weave in the traffic lanes and would have problems reacting to an emergency or some situation where a sudden reaction would be required.

[305] Furthermore, with respect to a BAC range of 205 mg% to 273 mg%, Ms. Hackett stated that weaving on the lanes of highway would certainly be a possible manifestation of impaired operation. However, she added that she could not state what issues in relation to the safe operation of a motor vehicle would manifest themselves at either end of that range. Moreover, she indicated that not all manifestations of impaired operation of a motor vehicle, at that range of BAC, will manifest themselves or be displayed in all cases.

[306] Ms. Hackett was then asked whether an "average social drinker" who had a BAC range of 205 mg% to 323 mg%, (as she had just extrapolated back between 9:00 AM and 11:00 AM) who was driving on a highway during that timeframe, would display erratic driving, Ms. Hackett stated that the driving "could be erratic."

[307] Defence Counsel then posed another hypothetical situation and asked Ms. Hackett to calculate an extrapolation based upon a blood to breath parts ratio of 900:1, which he indicated, may have been caused by a cold or an active asthmatic attack. Ms. Hackett replied that the BAC of 160 mg% was based upon the blood to breath ratio of 2100:1, and if that was changed into a ratio of 900:1, then using the Approved Instrument's result of 160 mg% at 3:29 PM, her calculation of the BAC at a ratio of 900:1 would result in a BAC of 69 mg% at that time.

[308] When asked whether she could comment on the effects of asthma, an asthma attack or stomach pain from the stress of an accident, Ms. Hackett had previously said that she was not a doctor and was unsure of what the effect of trauma might be on a breath testing instrument. However, from articles that she had reviewed, it was her opinion that asthma does not appear to affect the "accuracy" of breath testing instruments. She added that she was not providing an opinion on asthma, she was simply commenting on the accuracy of breath testing instruments and in

the studies reviewed by her, the Instrument's accuracy did not differ for people with asthma.

[309] Defence Counsel then posed a **hypothetical** question as to whether she would consider that a person's ability to operate a motor vehicle was impaired by alcohol if that person did not display any external indicia of impairment, for example: no bloodshot eyes, no slurred speech, no staggering, no weaving in the lanes of traffic, incontinence or stupor, and the only indicia was an odour of alcohol from his breath. Ms. Hackett stated that the indicia outlined by Defence Counsel were associated with what she had earlier described as some levels of "intoxication" and they are not issues related to "impairment" which may impact, for example, how a person processes information.

[310] In Ms. Hackett's opinion, the fact that none of those external manifestations may have been apparent with a BAC of 190 mg% to 200 mg% may be due to a person's "tolerance" to alcohol. She added that the absence of those outward signs or symptoms of "intoxication" does **not** automatically mean that a person's ability to operate a motor vehicle was **not** impaired by alcohol at the extrapolated range of 192 mg% to 220 mg%.

[311] Ms. Hackett went on to state that her opinion relates to impairment by alcohol and not to the symptoms of intoxication due to alcohol consumption. But she added that for an "average social drinker" who did not have an apparent "tolerance" to alcohol, she would expect that the person would show some outward signs or indicia of impairment. Moreover, for a person who really did not drink at all, but had consumed that much alcohol, she would expect that they would certainly show some indicia of impairment. In other words, the "tolerance" of the individual to alcohol will impact whether they display external manifestations.

[312] Finally, Ms. Hackett advised Defence Counsel that she has not seen any studies in the published literature where the blood to breath ratio of 900:1 was used in the post-absorptive phase.

[313] On re-examination by the Crown Attorney, Ms. Hackett confirmed that the study referred to by Defence Counsel was a controlled drinking study, which she believed had used RCMP officers as the subjects. Following the drinking of alcohol, their blood and breath alcohol results were comparable, but she repeated that she has not seen any literature supporting a blood to breath ratio of 900:1.

[314] Ms. Hackett added that a 900:1 ratio of blood to breath could be possible if the subject had recently stopped drinking, so that the alcohol was in the stomach or the intestine, but not yet absorbed. When the alcohol passes into the blood, and is being absorbed, then the BAC would be rising. However, before the alcohol is absorbed in the blood, there could be a 900:1 blood to breath ratio because the breath results at that point are from arterial versus venous blood alcohol concentration.

[315] Ms. Hackett also pointed out that if the venous blood is in the absorptive phase, it will likely produce a lower BAC, but once no more alcohol is absorbed from the stomach, then the arterial and the venous BAC will be the same. After that, the venous BAC will be higher as the alcohol is eliminated from the bloodstream. Finally, she pointed out that a person would have had to have recent consumption of alcohol for a 900:1 ratio in venous blood or there was some contamination of the breath test by recent mouth alcohol being there or a burp, in which case, the breath results would not be accurate and would be below 2100 parts of blood to one part of breath alcohol.

[316] Following that last comment, Ms. Hackett stated that the Intox EC/IR II Approved Instrument has been specifically designed to detect mouth alcohol and it automatically "locks out" the Qualified Technician from proceeding with the breath test for 15 minutes. During that 15-minute period, the Instrument eliminates any mouth alcohol and secondly, the requirement of the agreement between samples eliminates the possibility of contamination or mouth alcohol.

[317] With respect to the hypothetical questions posed by Defence Counsel and her opinion with respect to the range of BAC at various periods of time earlier in the day on June 10, 2018, Ms. Hackett stated again that there would have to have been "recent consumption" of alcohol to have a blood to breath ratio of 900:1.

[318] In her opinion, if there was "recent consumption" of alcohol by Mr. Yeo, it would have to had to be consumed within one hour of the breath samples. Since the breath sample provided by Mr. Yeo was analysed by the Approved Instrument at 2:54 PM on June 10, 2018, if there was any "recent consumption" of alcohol, it would have had to occur at or after 1:54 PM for the alcohol to still be in the process of being absorbed in the stomach or in the small intestine.

[319] With respect to Defence Counsel's questions relating to the article entitled "*The Effect of Salbutamol on Breath Alcohol Testing in Asthmatics*" in 1991 by Gomm et al [Exhibit 12], Ms. Hackett was asked to provide her opinion on the

significant difference in the blood to breath ratio between “subject 6” and the other seven subjects. She noted that the result of blood-breath ratio of 3200:1 was probably due to low levels of blood obtained for the comparison of the blood and breath results with that subject. Moreover, she noted that there was an asterisk beside the data for that subject and that the authors had identified the variation in the blood-breath ratio as being probably due to the low levels obtained for blood and breath results.

[320] Once again, Ms. Hackett was asked why she had only used a range of elimination rates at either 10 mg% or 20 mg% per hour, and she stated that those elimination rates would not necessarily apply to every single person in every circumstance, but they are based upon more than half the population and on scientific literature provided by Alan Jones and other scientists.

[321] Moreover, she added that those rates of elimination are consistent with the recent **Criminal Code** amendment, which is at the lower end of the range that stipulates an elimination rate of 5 mg% for every 30 minutes which equals 10 mg% per hour. The 10 mg% elimination rate is the lower end of the range which they use in extrapolating a BAC back to an earlier point in time and will result in a lower BAC at that earlier point in time then using a 20 mg% elimination rate. She added that, in conducting her retrograde extrapolation, she will utilize the higher elimination rate of 20 mg% when the BAC from the Approved Instrument is very high, which might indicate that the person was not “an average social drinker.”

[322] Once again, Ms. Hackett stated that her definition of an “average social drinker” for a male would be a person who had 14 drinks of alcohol in a week, and no more than four drinks of alcohol in one sitting. Since Defence Counsel had asked about whether she would define a person who had “six drinks in a day” as an “average social drinker,” she stated that if a day was equal to an “occasion” or a “sitting” and only had the six drinks occasionally, she would <u>not</u> define that person as a “heavy drinker.”

[323] With respect to the retrograde extrapolations calculated by Ms. Hackett in court for the hypotheticals posed by Defence Counsel and her opinion with respect to the BAC at various points in time, she stated that her opinion would be the same and that she would still use an elimination rate of 10 mg% at 11:00 AM. She would also expect that the BAC reading at that time would be about 205 mg%, given the 160 mg% BAC result at 3:29 PM.

[324] Finally, the Crown Attorney posed a question whether more or less sleep would have an impact on the elimination rate. Ms. Hackett stated that sleep has no impact on a person's elimination rate of alcohol but may impact person's "subjective feelings" of feeling better after sleeping for a period of time, as opposed to when they went to bed. However, she added that sleep does not have any impact on how a person's body or liver eliminates alcohol.

[325] At the conclusion of Ms. Hackett's re-examination, the Crown Attorney closed her case and tendered all Exhibits in support thereof.

Defence Evidence:

[326] After the Crown Attorney closed her case, Defence Counsel called Mr. Peter Morrison and Mr. Yeo to relate evidence as to Mr. Yeo's weekend activities with his friends, including his alcohol consumption prior to returning to Halifax on the morning of Sunday, June 10, 2018. Defence Counsel also called Dr. Aaron LeBlanc to provide expert opinion evidence on the diagnosis and treatment of asthma and more generally, respirology and pulmonary physiology and function. The final witness called by the defence was Mr. Greg Johnstone who was qualified as an expert to provide toxicology and extrapolation opinion evidence.

Mr. Yeo's Golf Weekend Activities and Alcohol Consumption:

[327] Mr. Arnold Bruce Yeo testified that, in June 2018. He was 60 years old and weighed about 200 pounds. At that time, he described himself as being a "social drinker" who would drink alcohol at social gatherings and added that he was often the "designated driver" at family events. He confirmed that his health is good although, about 20 years ago, he was diagnosed to have asthma. In terms of the asthma, he noted that it might be triggered by cold air, having a cold or exercise and when he is playing hockey, he will use a "puffer" before the game.

[328] Mr. Yeo stated that he has been prescribed medications contained in two "puffers" to treat his asthma condition. He uses a Ventolin puffer [blue container] as a "relief puffer" with the other puffer, which is Pulmicort [red container], which is a steroid to build lung capacity. The usual dosage for the Ventolin [blue] is to take two puffs on each occasion, four times a day, but he added that he only uses it for relief. The prescribed dosage for the Pulmicort is two puffs, twice per day.

[329] Mr. Yeo stated that when he has a cold, he often has a very difficult time breathing and he is left gasping for air. When that occurs, he uses his Ventolin

puffer to get some air into his lungs. In addition to gasping for his breath, he feels a weakness possibly due to limited air supply. When he has an asthma attack, he may end up coughing so hard that he becomes lightheaded and dizzy, and the situation is worse when he has a cold. He does not generally carry his puffers with him, but if he is travelling, he will take both of them with him, in case there is a need.

[330] With respect to the events prior to the accident on June 10, 2018, he had been invited to Peter Alexander's cottage in the Pugwash, Nova Scotia area, for a golf weekend with friends. Mr. Yeo had been going to this golf weekend for several years and Mr. Alexander usually invited seven friends to attend the weekend activities. Golf is played on Friday afternoon and Saturday afternoon with the eight men making meals at the cottage from Friday evening until Sunday morning. He usually arrives around noon on Saturday, participates in the afternoon golf game, the evening meal and activities during the evening. Mr. Yeo traditionally leaves after breakfast on Sunday morning to return to Halifax.

[331] Mr. Yeo explained that the golf weekend has followed the same basic plan for several years. There is a golf game on Friday and Saturday afternoon, with a steak dinner following the Friday game and a lobster dinner following the Saturday game. On Sunday morning, Mr. Yeo's role has been to make a breakfast for the others using the steak leftovers from Friday evening, chopped vegetables and scrambled eggs. While he is making breakfast, the others tidy up the cottage and people leave after the Sunday morning breakfast.

[332] In terms of the sleeping arrangements, the cottage has four bedrooms, but someone is always sleeping on a couch in the living room or downstairs. Mr. Yeo indicated that Peter Morrison, who testified earlier in the trial was a "new guy" at the golf weekend, so he was designated to the couch. They share the expenses of the weekend with the host, but Mr. Yeo added that everyone attending the golf weekend usually brings their own beer and wine for themselves and to share with the others. On this occasion, Mr. Yeo brought a dozen Sleeman beer in cans, 4 cans of Guinness beer and a bottle of wine.

[333] Mr. Yeo stated that, in early June 2018, he was just getting over a cold and struggling with asthma. When he went to Pugwash on the morning of Saturday, June 9, 2018, he had some tightness in his chest and a hard time breathing, so he used his puffers "quite often." He stated that he used his Ventolin every two hours or as needed if he had trouble breathing or was coughing, to relax the coughing. At

times, he coughed so hard that he became dizzy. He took his medications with him on the two-hour trip from Halifax to Pugwash and stated that there were no asthma problems on the trip to Mr. Alexander's cottage.

[334] On Saturday, June 9, 2018, about 15 minutes after he arrived at the cottage, everyone left to go to the golf course and played golf that afternoon. Mr. Yeo placed a few cans of beer that he had purchased in his golf bag before going to the golf course. Mr. Alexander had divided the eight men into two foursomes and Mr. Yeo shared a golf cart with Don Sheehan, while the other two in his group were Peter Morrison and Alan Archibald.

[335] The golf game took about five hours, during which Mr. Yeo had some issues with asthma while he was at the course. He had a few coughing spells and used his blue Ventolin puffer during the golf game. He drank some cans of beer while he was golfing and "guessed" that he drank four cans of Sleeman beer during the 4.5 hours on the golf course. Mr. Yeo also stated that he had purchased a sandwich and a can of beer from the service golf cart going around the course. Based on that recollection, Mr. Yeo stated that he "probably" drank three cans of the beer that he had brought with him to Pugwash, and that he "probably" had a total of four cans of beer during the golf game that afternoon.

[336] After the golf game, they returned to the cottage, he placed his clubs in the car and brought the rest of his Sleeman's beer and Guinness beer into the cottage. He recalled that he had given two of his Guinness beer to others during the golf game. In terms of the sleeping arrangements when he got back to the cottage, he was told that he had the top bunk of a bunkbed in one of the upstairs bedrooms.

[337] When asked to describe the amount of alcohol consumed during the evening, Mr. Yeo said that shortly after 5:00 PM when they got back to the cottage, he drank one of his Guinness beers. The traditional Saturday supper of lobster and salad was served around 7:00 PM. After supper and cleaning up the cottage, it was a cool evening, so the men gathered in the living room area of the cottage to listen to music and converse with each other. During the evening, he still felt the effects of his asthma with some coughing spells, but it was not as bad as earlier in the day on the golf course.

[338] Prior to dinner, Mr. Yeo said that he drank one can of Sleeman on the porch and then during the dinner, he drank three or four glasses of wine. After dinner, he did not drink any more beer and he recalled phoning his wife around 9:00 PM for a short chat. From about 8:00 PM when they finished dinner until 1:30

AM, he stayed with the others, listened to music, talked, and watched TV. He was the first person to go to bed because he was quite tired as he had been up during the previous night "coughing and hacking" due to his asthma. He was not sure whether he drank alcohol right up to the time when he went to bed, but he had "sat around with a glass of wine all evening."

[339] Mr. Yeo woke up on Sunday morning around 7:00 AM but laid in bed for about an hour and then went outside for a while where he had a coughing spell in the cool, crisp air. Around 8:00 AM, when the others were starting to get up, he began working on the breakfast, cutting up leftover steak and potatoes, mushrooms, and onions to fry them in a frying pan. He was using two frying pans for the scrambled eggs and cooked bacon. He used a kitchen knife and had no difficulty cutting up the ingredients for the breakfast and did not cut his finger. As people arrived at the table, he plated and served their meals.

[340] Mr. Yeo confirmed that he ate breakfast and did not consume any alcohol then or at any time on Sunday morning. He did not feel any aftereffects from the alcohol consumed the previous evening or any problems with his hand movements. However, he still had some tightness and coughing due to the asthma, but it was better than the previous day. After assisting in the cleanup of the cottage, he was the first to leave around 11:00 AM on Sunday morning.

[341] On the drive back to Halifax, Mr. Yeo had no difficulties driving the car and added that no one had expressed any concern about him driving a car that morning. In terms of the alcohol that he had bought for the cottage, there was still one can of Guinness left in the car on the floor in the backseat. When he was referred to photos #26 and #27 in Exhibit 1, he agreed that it looked like the can of Guinness that he had bought and that there was "a good chance it came from my car." Mr. Yeo stated that the beer on the floor was unopened. He believed that the Sleeman beer can seen in the photograph had been left in his golf bag from the Saturday golf game. He did not drink any beer while he drove his car on Sunday morning.

[342] Mr. Yeo stated that the drive back from Pugwash to Halifax took him on a winding country road near Ski Wentworth and then he went south on Highway #4 to get to Highway 104 near Masstown, then onto Highway 102 to return to Halifax. He had no difficulty driving on the 100 Series Highways and estimated that he was probably going about 5 km over the speed limit, having set his cruise control at about 115 km an hour.

[343] As he was driving back to Halifax, Mr. Yeo drank some sparkling water and recalled that, although he was feeling "fine," he did have a couple of coughing fits on the way. The first was, shortly after leaving Pugwash, near New Annan. He reached into the backseat of his car where his kit bag was, got his Ventolin puffer, took two puffs of Ventolin and drank some water. Mr. Yeo said that he had a second "coughing episode" near Elmsdale, on Highway 102, and he took another two puffs from his puffer. He then put the puffer back in his kit bag which he had placed on the passenger seat after the earlier "episode."

[344] As he got near the Halifax International Airport, he recalled that there was construction, so he reduced his speed to 80 km an hour and once he got by the construction, he increased his speed back up to about 110 km an hour. Just after doing that, he had another "coughing spell" and he recalled reaching over with his right hand to his bag on the passenger seat to get a puffer and that is when the accident happened. He had the car on cruise control and then a couple of the wheels went onto the gravel shoulder of the highway, so he applied the brakes, but the car swerved, and he had trouble controlling it.

[345] Prior to that moment, Mr. Yeo reiterated that he had not been weaving on the highway or did not have any problems driving the car, other than having a couple of "coughing spells." When the car went out of control just past the airport, he was "guessing or speculating" that he briefly lost consciousness when he had the coughing spell. At that point, he used his right hand to reach for the puffer in his kit bag on the passenger seat and almost immediately thereafter, a couple of his wheels were on the gravel shoulder.

[346] After the car went out of control, he recalled it tumbling and rolling but did not recall it ever becoming airborne. The next thing that he recalled was a woman looking through his windshield and asking him if he was okay. He told her that he was okay. At that point, the car was overturned on the other side of the road. He was initially seated in the driver's seat with the seatbelt attached, but then, he undid the seatbelt, stood up and tried to open the passenger door, but was unable to do so.

[347] With respect to the photos in Exhibit 3 of the Sleeman beer, Mr. Yeo said that he only saw that can of beer as the firemen were getting ready to extract him. The can was unopened, but it was spraying out beer with a "hissing sound" and he assumed that it was punctured during the accident. He had purchased the Sleeman beer for the golf weekend and assumed that it had fallen out of his golf bag, which

was on the floor of the backseat. He was only drinking some bottled water as he drove back to Halifax.

[348] In terms of how he felt at that moment, Mr. Yeo stated that he was "bewildered" about what had happened, and he did not really know what was going on around him. He was not really thinking that he was in any pain, because he was in shock at that time. The extraction from the overturned vehicle took about 30 minutes and a fireman again asked him if he was okay and assisted him out of the car. Mr. Yeo did not feel unsteady on his feet as the firemen walked with him over to the ambulance. Const. Thomas was just outside his car and leaned over to him and asked a few questions while the firemen escorted him to the ambulance. Mr. Yeo added that it was not a windy day while the officer questioned him.

[349] At the ambulance, since someone was already at the back of the ambulance, Mr. Yeo was seated on a bench seat located inside a side door of the ambulance. An EMT came to the door and asked him how he was feeling. At the same time, Mr. Yeo recalled that Const. Thomas was asking him questions about how the accident had occurred. The EMT came back to the side door and said if he was hurting in any way, he would be taken to the hospital and the police could ask questions later.

[350] Mr. Yeo was seated facing the back of the ambulance and Const. Thomas was less than a foot away from him as he asked questions. As the officer asked questions, he was not evading any answers, but stated that he is usually a quiet person, and that he generally provides short answers to questions.

[351] Mr. Yeo stated that, at this time, he felt "totally fine" and was not feeling any pain and that there was no need for him to be checked over by a physician. He stated that he had his Ventolin puffer in his jacket pockets and while he was waiting to be extracted from the car by the firemen, he took a couple of puffs.

[352] While Const. Thomas was asking him questions at the ambulance, another officer came over and talk to Const. Thomas and then the two of them walked away. A few moments later, Const. Thomas returned to the ambulance and stated that they had found a can of beer in or near the car and that he had a suspicion to make "roadside alert" demand. Mr. Yeo agreed to provide a breath sample.

[353] On the first attempt, Mr. Yeo stated that there was a lot of wheezing and he told Const. Thomas that he had asthma, but the officer replied that it did not matter and that he still had to provide a breath sample. On the next attempt, Mr. Yeo

stated that he blew into the device "with all I could" and the result was a "Fail." After that, Const. Thomas made a breath demand and Mr. Yeo was placed in the back of the police vehicle and taken to the Lower Sackville police station. With respect to Const. Thomas's statement that he smelled alcohol while Mr. Yeo was seated in the backseat of the police vehicle, Mr. Yeo replied "I have no comment toward that."

[354] It was about a 15-minute drive to the police station and as time went on, Mr. Yeo stated that he started to feel some pain mostly in his chest and on his side. The pain started while he was in the police car but became more intense when he got to the police station and was seated on a bench at the station. He called his wife to complain about the pain and also told Const. Thomas who then called the paramedics who had just seen him to come back to the police station. A female paramedic examined him and contacted a doctor to explain the symptoms. Mr. Yeo was advised that the doctor had stated that he could proceed with the breath tests at the station and if needed, he could go to the hospital afterwards.

[355] A breath demand was made by Const. Thomas and Mr. Yeo said that he wanted to speak with a lawyer, and he named a few lawyers to call. However, none of those lawyers could be reached at that time, so a call was placed to the Legal Aid lawyer. Mr. Yeo was placed in a room and had a private conversation with that lawyer. After the phone call, as Const. Thomas had said, he was lying on his back on the bench for a few minutes to be more comfortable as some pain had intensified. He did not have any coughing spells while he was at the police station and confirmed that the last time he used his puffer was just before he was extracted from the vehicle.

[356] After that, Mr. Yeo was introduced to Const. Collins who was the breath technician who conducted the breath tests. He stated that, although it was hard to exhale with any force, he was able to provide breath samples for the device to analyze. Mr. Yeo recalled having told Const. Thomas that he had asthma prior to the "alert" test but did not recall mentioning that to Const. Collins. After the results and paperwork at the police station, Mr. Yeo left the police station around 3:00 PM and his wife drove him to the Cobequid Medical Centre for examination.

[357] At the Medical Centre, x-rays were taken of his side and chest as well as a general examination. Mr. Yeo reported that he had some stiffness in his neck and was told that he would probably have some bruising and stiffness for a few days. He was at the hospital for about three hours and although not admitted, he was

under observation for most of that time. He was told that there were “no major concerns” and that he could go home but if any symptoms got worse, he could come back. He had some bruising the next day on his torso and was sore, and not able to sleep on his side for a few days.

[358] With respect to his asthma, his general practitioner referred him to Dr. Aaron Leblanc. He first saw Dr. Leblanc several months after the accident and there were no real asthma attacks other than waking up daily and coughing. Dr. Leblanc had performed some pulmonary tests and he confirmed that Mr. Yeo had asthma. They discussed medications and Dr. Leblanc recommended using Symbicort rather than the combination of Ventolin and Pulmincort, as the recommended one provides both treatments in one puffer.

[359] In concluding his direct examination, Mr. Yeo stated that, at the time of the accident, he had no difficulty with his visual skills, concentration, judgment, or fine motor skills. No one told him that he had bloodshot eyes, any balance issues or speech problems and he had no difficulty performing any of the physical tasks of the morning.

[360] When asked how the accident occurred, Mr. Yeo repeated that he was coughing quite hard just before it occurred, and as he was searching for his puffer, the next thing that he knew, he was on the gravel. He does not believe that alcohol played any role in the accident, and if he suspected that the previous evening’s alcohol consumption was a problem, he would not have driven his car.

[361] On cross examination, Mr. Yeo confirmed that he had been at this golf weekend on six or seven occasions prior to 2018 and acknowledged that during the golf weekend, he consumed more alcohol than he normally did. On Saturday, when they played golf, he drank three of his Sleeman 2.0 cans of beer and one 12-ounce beer purchased on the golf course. When he returned to the cottage, he drank one of his Guinness beers before supper and had wine with his meal. After supper, he had about four glasses of wine between 7:00 PM and 1:30 AM, when he went to bed.

[362] He agreed with the Crown Attorney that drinking alcohol can affect a person’s memory of the amount consumed and agreed that he had consumed an “unusual amount” that evening. He agreed that he felt the effects of the alcohol during the evening but added that he felt more tired from not sleeping well the prior night due to the coughing spell, than due to the consumption of alcohol. Mr. Yeo added that he was not slurring his speech and there were no other side effects

but agreed that he had consumed a lot of alcohol that day, stating it was probably 9 or 10 beverages, over a long period of time.

[363] In terms of his Ventolin usage on Sunday, June 10, 2018, Mr. Yeo stated that he had used his Ventolin puffer for two puffs prior to breakfast, two puffs on the drive back to Halifax before the accident and two puffs prior to being extracted from the car. He believed that the recommended dosage for Ventolin was two puffs four times a day but was "not certain" of the recommended dosage at that time. He acknowledged that, on other occasions, he had exceeded the recommended dosage and had taken two puffs of Ventolin eight times during the day for a total of 16 puffs.

[364] Mr. Yeo stated that, on Saturday morning when he left the city to go to the cottage, his asthma symptoms were "significant." On the way home on Sunday morning, he felt that his symptoms were a lot better. He agreed with the Crown Attorney that taking lung medications outside the prescribed dosage could be risky to his health and agreed that on June 9 and 10, 2018, he probably took more than the prescribed dosage of Ventolin.

[365] With respect to his driving before the accident, Mr. Yeo stated that there were no problems driving to Halifax. He agreed that there were no wind issues before he went into the median and the highway was flat and straight in that area. He also agreed that there were no obstructions on the road and that he had been travelling a little over the speed limit.

[366] Mr. Yeo said that, on the way back to Halifax, on the two occasions where he had some coughing fits, he took a couple of Ventolin puffs while he was driving, as he did not feel it was necessary to off the road to do so. He added that, on the first occasion, he had to reach into the backseat to get his overnight bag, but then he left the bag on the passenger seat and placed his puffer in the bag after the first use that morning. The Ventolin provided instant relief. In hindsight, reaching to the back or over to get the Ventolin and to take the puffs may have been a "bad decision" and a distraction to driving the car.

[367] Mr. Yeo recalled that, in the moments just before going out of control, he had one hand on the steering wheel and the other reaching for his bag. When the wheels hit the shoulder, he was trying to maintain control, but he knew if he touched the brakes, he might lose control of the car. He lightly touched the brake pedal to release the cruise control and then braked a bit, but the car swerved and fishtailed and he lost control of the vehicle. The car went down into the median

and started flipping over on the other side of the road. He did not recall his car flying up in the air prior to flipping down on the other side of the highway.

[368] On further cross-examination with respect to the amount of alcohol consumed the prior evening, Mr. Yeo stated that he drank alcohol until he went to bed around 1:30 AM but agreed that the time was an estimate, because he does not wear a watch. He agreed that he could have gone to bed later than 1:30 AM but added that he based that estimated time on what other people had told him after the fact. He added that, even if he went to bed after 1:30 AM, in the morning, although he may have only had about five hours sleep, he felt "rested, refreshed and sharp."

[369] With respect to the evidence about the beer can that was "hissing," Mr. Yeo said that his golf clubs were in the backseat and the beer can was probably in his golf bag. He had not opened the "hissing" Sleeman beer can and he did not drink any alcohol during the drive back to Halifax. After the accident, he found his kit bag and used his inhaler to take two puffs while he was waiting to be extracted. After taking those puffs prior to being extracted, Mr. Yeo did not have any further coughing fits and had no difficulty breathing or speaking with the paramedics. He also confirmed that he had no difficulty breathing or speaking with Const. Thomas.

[370] Mr. Yeo agreed that when he was initially screened by the paramedics at the scene, he told them that he was "fine" and agreed that he did not advise them that he had any recent incidents with his asthma. In addition, he never told them that he may have been unconscious for a brief time and reiterated that he felt that there were no physical injuries from the accident itself. However, he added that, on other occasions, he has coughed to the point where he may have blacked out for a moment, but he has never lost consciousness.

[371] Mr. Yeo confirmed that he had the inhaler with him during the golf game on Saturday afternoon, and he used it on one occasion during a coughing fit. Before supper on Saturday after the golf, he had been sitting on the porch in the cool air and he used the puffer on one occasion and then went inside. He did not have any coughing fits or need to use the inhaler after he went into the cottage for the evening as it was warm inside.

[372] On the morning of Sunday, June 10, 2018, prior to leaving the cottage, Mr. Yeo stated that he was not tired, not feeling ill and did not have any nausea, dizziness, confusion, or an irregular heartbeat. On the drive back to Halifax, he did not feel any of those symptoms but when he coughed, he had momentary, slight dizziness. He did not recall having any of those symptoms as the car went onto the

shoulder of the road, but it was a “chaotic” situation and he “thinks or assumes” that he might have had a “dizzy spell” just before going onto the shoulder.

[373] Mr. Yeo acknowledged having spoken with some of the other men who were at the golf weekend to get some of the details of times and events that had taken place during the weekend. However, he said that most of his testimony was based upon his own recollection of the events but added that his statement that he went to bed around 1:30 AM, was based upon the information provided to him by Don Sheehan. When the Crown Attorney suggested that he may have gone to bed later than that, even as late as 4:00 AM, Mr. Yeo reiterated that he did not have a watch and was relying on his friend’s information. However, he disagreed that it could have been as late as 4:00 AM.

[374] Mr. Peter Morrison indicated that he has been a long-time friend of Mr. Yeo and on the weekend of a Friday, June 8 to Sunday, June 10, 2018, they gathered with six other men to have a golf weekend and stayed at a friend’s farm in the Pugwash, Nova Scotia area. Mr. Morrison was not able to attend the Friday activities, but he arrived around 8:00 PM on Friday, June 8, 2018. Mr. Yeo was not present for any of the Friday activities and Mr. Morrison recalled that Mr. Yeo arrived in the Pugwash area around noon on Saturday and then they all went to play golf around 1:00 PM.

[375] At the golf course, the eight golfers divided into two groups of four and Mr. Morrison recalled that Mr. Yeo was in his group of four. They played 18 holes of golf, and their game took about four and a half hours. Although they were together throughout the afternoon. Mr. Morrison did not recall seeing Mr. Yeo coughing or seeing him utilize an asthma puffer. During the game, Mr. Morrison drank one or two cans of beer, but he did not recall what, if any, alcohol that Mr. Yeo drank at the golf course. After the golf, everyone went back to the cottage to get ready for supper.

[376] On Saturday evening, Mr. Morrison said that all eight men sat around a long table and that they had lobster for supper around 7:00 PM. There was wine and beer on the table and he had some beer and wine during the evening but did not note what alcohol Mr. Yeo had consumed. During the evening, he did not note any behaviour of Mr. Yeo that he thought was out of the ordinary. After cleaning up the table and the kitchen from dinner, the men sat around the propane fireplace on the deck and later moved into the living room, played instruments, and told stories for the rest of the night.

[377] Mr. Morrison recalled going to bed between 2:00 AM and 3:00 AM. He was one of the last to leave the living room and go upstairs to his bedroom, but he did not recall when or where Mr. Yeo went to sleep. He recalled that everyone "shut down" for the evening at about the same time. He did not notice anything "untoward" in any of Mr. Yeo's behaviours that night.

[378] Mr. Morrison stated that everybody got up around the same time between 7:00 and 8:00 AM, played more music and ate breakfast. He recalled that the host was having a wedding at the cottage the next weekend and then everybody helped with the cleanup. Mr. Morrison said that the breakfast was served before 9:00 AM. He recalled that Mr. Yeo had helped to prepare the breakfast which used the leftover steak from the previous evening's barbecue, vegetables and eggs. No alcohol was consumed in the morning.

[379] Based upon his recollection, Mr. Morrison stated that Mr. Yeo did not seem sleepy, did not stumble or stagger and definitely did not have any slurred speech or any memory or sensory impairment. Once again, he did not notice anything out of the ordinary. In addition, he did not recall if Mr. Yeo had coughed in the morning or had used a puffer. Mr. Morrison did not observe any signs of impairment, and added that if he had, he would not have let him get in his car. He had no concerns about Mr. Yeo's ability to drive a motor vehicle.

[380] Mr. Morrison stated that he left the cottage in the Pugwash area between 10:00 AM and 10:30 AM and he believed that Mr. Yeo left about 30 to 45 minutes before him. He did recall seeing the accident on Highway 102 and the long lineup of cars, but never imagined that Mr. Yeo was involved in that accident,

[381] On cross-examination, Mr. Morrison agreed that the other golfers probably had the same amount of alcohol as him. He confirmed that, during the golf game, he did not recall seeing Mr. Yeo have any difficulty breathing or having to stop for any health issues of Mr. Yeo. Mr. Morrison did not notice Mr. Yeo in any medical distress during the golf but added that they were in different golf carts. However, he agreed with the Crown Attorney that if Mr. Yeo was experiencing any medical distress, he would have noticed that.

[382] Once the men got back to the cottage for the evening, Mr. Morrison acknowledged that he never observed Mr. Yeo have any difficulty breathing or any medical distress during the evening, the following morning at breakfast or when Mr. Yeo left the cottage.

[383] Mr. Morrison stated that people had brought alcohol for the weekend and there was wine and beer on the table. During the dinner, he drank wine but did not recall what alcohol Mr. Yeo had consumed. He added that, during the evening, some of the men stayed in the cottage's living room, while others were outside on the deck by the fire pit. He also agreed with the Crown Attorney that he was not watching what other people had to drink that evening and, for that reason, he could not say what Mr. Yeo or anyone else had to drink that night.

[384] Mr. Morrison confirmed that he has known Mr. Yeo for about 20 years. The two of them had gone on several road trips with their sons who on the same hockey team and said that the parents might drink some alcohol in a hospitality suite. He gone camping with Mr. Yeo and recalled that the two of them had consumed alcohol on those occasions. However, Mr. Morrison added that he had never seen Mr. Yeo "drink to excess or falling down drunk" and having to help him to bed.

[385] He agreed with the Crown Attorney that different people have different tolerances to alcohol and that there is a difference between social drinking of a few bottles of beer and binge drinking. Mr. Morrison said that, on this occasion, it was difficult to compare Mr. Yeo's demeanour to another event where they had been together but added that Mr. Yeo "seemed fine to me." He stated that the socializing for the evening ended between 2:00 AM and 3:00 AM and repeated that he had no idea of the number of drinks of alcohol that Mr. Yeo had during the evening or if he continued to consume alcohol after he went to his bedroom.

Expert Respirology Opinion Evidence - Dr. Aaron LeBlanc

[386] Dr. Aaron LeBlanc, who is a physician with specialty training in Internal Medicine, Respirology, and Intensive Care was called by the defence who sought to qualify him as an expert witness to provide opinion evidence on the diagnosis and treatment of asthma and more generally, respirology. During the *voir dire*, Dr. Leblanc spoke to his areas of expertise in dealing with respiratory diseases, pulmonary function, pulmonary physiology and Internal Medicine, which included the treatment of patients with asthma.

[387] After the submissions of counsel, the Court concluded that he was qualified to provide opinion evidence in relation to respiratory diseases, pulmonary function, pulmonary physiology, and Internal Medicine. He was also qualified to provide opinion evidence on the diagnosis, physiology and effects of asthma, asthma drugs and inhalers and respiratory diseases on the human body.

[388] Dr. Leblanc stated that Mr. Yeo had been referred to him by his family physician in August 2019. After the initial meeting with Mr. Yeo, Dr. Leblanc did confirmatory testing of Mr. Yeo's oxygen levels on September 3, 2019, listening to his lungs and lab tests to check his pulmonary function. Mr. Yeo had advised him that his symptoms were variable in nature, a cough, shortness of breath, wheezing and noisy breathing that had dated back several years. The triggers had been exposure to pollens, cold air and activity or exertion.

[389] Dr. Leblanc's testing demonstrated "significant reversibility" which meant that there could be a 12% improvement in how much air could be breathed out in one second after the administration of Ventolin or salbutamol which is a bronchodilator that opens the airways. The testing involved three tests without medication and then three tests after Ventolin was administered to determine if there was a significant difference or "significant reversibility "through the use of the asthma medications.

[390] Dr. Leblanc also was shown Exhibit 14 which was an expired salbutamol [Ventolin] inhaler used by Mr. Yeo and described how that inhaler would function. He stated that it is a "metered dose inhaler" which requires a patient to shake the container before using it, remove the cap and put the inhaler in the mouth. Then, the patient should breathe out all the way to empty their lungs and press down on a cylinder to breathe in the full amount of the dose and hold their breath for 10 seconds. The usual effect would be improvement in symptoms within two to five minutes, with the peak being around 45 minutes lasting for between four to six hours. Dr. Leblanc referred to this as the "rescue inhaler" which provides immediate relief when patients are experiencing significant symptoms.

[391] Dr. Leblanc indicated that, after utilizing a "rescue inhaler," it would provide relief to the four key symptoms of asthma, being cough, shortness of breath, chest tightness or wheezing. The recommended dose which he prescribes is two inhalations four times a day, as needed, with a maximum recommended dose of eight "inhalations" or "puffs."

[392] Following his initial testing with Mr. Yeo, Dr. Leblanc stated that he did a follow-up meeting with him in November 2019. The results of the testing had demonstrated significant improvements and Dr. Leblanc confirmed the diagnosis of asthma during that visit. He prescribed Symbicort with the recommendation of one or two inhalations four times a day for a maximum of eight inhalations per day, as a replacement to all of his other inhalers including Ventolin.

[393] Dr. Leblanc confirmed that Mr. Yeo had been previously on Pulmicort or Budesonide as well as Ventolin as needed. He indicated that Pulmicort is a steroid inhaler which is used in asthma to decrease airway inflammation. It is commonly taken as one puff twice a day or two puffs twice a day with doses that can range between 100 to 200 micrograms.

[394] Dr. Leblanc first met with Mr. Yeo in 2019 and was then informed of the asthma symptoms that Mr. Yeo had been experiencing in 2018. He stated that they were "fairly common" symptoms when someone experienced an "asthma attack." He added that patients may use a rescue inhaler up to 15 to 20 times per day, with two to four puffs on each occasion, possibly totaling up to 60-80 doses/day.

[395] Dr. Leblanc confirmed that he had been informed that there was a motor vehicle accident on June 10, 2018, and that Mr. Yeo had informed him that the day before and the day of that accident, he was experiencing increased asthma symptoms being shortness of breath, cough, wheezing and chest tightness. He opined that asthma symptoms may cause an asthmatic, under certain circumstances to lose consciousness, with the medical diagnosis for that being "situational syncope."

[396] Dr. Leblanc stated that a "situational syncope" is cough induced syncope and it is well-known as a cause of loss of consciousness. With "vigorous coughing", which does not have to be prolonged, the pressure in the chest is increased, which decreases blood flow to the heart and less blood going to the brain. Then, without enough blood flow, a person experiencing that would pass out and lose consciousness.

[397] In addition, Dr. Leblanc opined that the increased use of Ventolin could exacerbate or contribute to a loss of consciousness through a process called "paradoxical bronchospasm." Medications such as a Ventolin inhaler, instead of having the intended effect of opening the airways, may have a "paradoxical or opposite effect" and cause the airways to further tighten. Dr. Leblanc said that asthma is an obstruction to the airflow and that Ventolin which is a bronchodilator and is designed to open the airways. While a "paradoxical bronchospasm" could occur to narrow a person's airways, in his experience, it is "uncommon and rare" that that would occur.

[398] Dr. Leblanc opined that a "paradoxical bronchospasm" might occur where a patient was having an asthma attack, when their airways are already tight. In terms of the symptoms of asthma that Mr. Yeo had said that he was experiencing

on June 10, 2018, Dr. Leblanc said that he could only say that it is “possible” that the “paradoxical effect” could have occurred given that his symptoms were not relieved by the inhaler, which could have led to a “situational syncope” or the loss of consciousness.

[399] With respect to the physiology of the lungs, Dr. Leblanc stated that gas transfers in and out of the lungs to the blood vessels. The transfer is dependent on multiple factors, the solubility of the gas, the pressure of the gas in the airways and in the lungs. The process of transferring gas in and out of the lungs is either at the alveolar level or the airway level.

[400] Dr. Leblanc explained that, at the alveolar level there are pockets of lung tissue that surround airways where there is a thin membrane, which allows gases within the lung to go across that thin membrane and dissolve into the neighbouring blood vessel as well as dissolved gases go from the blood vessel through that membrane into the alveolar sac. A lot of gas exchange occurs at this level because of the thinness of that membrane, but it can also occur less often in the airways because that membrane is often thicker, and it is harder for the transfer to occur through numerous cellular layers.

[401] With respect to the gas exchange, Dr. Leblanc opined that asthma could increase the rate of gas exchange, meaning that gases will exchange “faster” in a person with asthma than it would in someone who does not have asthma. Asthma patients are often working harder to breathe which draws more negative pressure which can have the effect of allowing increased blood flow going to the lungs. Because of the stimulation of an asthma attack, blood flow is distributed more evenly throughout the lungs and the gas exchange could be throughout the entire lung, as opposed to the usual blood flow occurring predominantly at the bottom portion of the lungs.

[402] Dr. Leblanc stated that he had a “general understanding” of how a breathalyzer machine works and that it takes the concentration of ethanol or alcohol in the lungs and uses a ratio to estimate how much ethanol would be in the blood when it is transferred from the blood into the lung as a gas. He added that you would not have liquid alcohol or ethanol in your lungs, but the ethanol transfers to the lung as a gas, and that is what gives the particular odour when someone has been drinking alcohol. Dr. Leblanc added that alcohol would not be contained in the lungs unless someone has consumed alcohol and it transfers from the blood into the lungs.

[403] Dr. Leblanc stated that the rate of transfer of a gas from a blood vessel into the lungs will depend on the region, the airflow and the solubility of the gas. The rate of transfer does vary in an asthmatic, and it would increase further during an asthma attack. The positive pressure would increase in the moments during a cough but overall, the increased work of breathing through inhalation increases the negative pressure which indirectly increases the rate of transfer of gas to the lungs. In support of this opinion, Dr. Leblanc referred to two "peer reviewed" studies in his report [Exhibit 16] which indicated that asthma is a cause of increased rate of gas transfer.

[404] Dr. Leblanc confirmed that he did not perform any tests or studies on Mr. Yeo at the time of any of his symptoms that would indicate his particular rate of transfer. As a result, he could only opine that "it is possible that Mr. Yeo could have had an increased rate of transfer" at the specific time on June 10, 2018, but without having measured it at that specific time, "there is no way to know."

[405] Dr. Leblanc reiterated that when alcohol is consumed and absorbed, it gets into the blood. As the blood passes from the lungs, an asthma attack can increase that gas transfer and it is "possible" that the increased transfer could then increase the amount of alcohol concentration in the lungs which would "overestimate" the amount of alcohol concentration in the blood if the ratio was not altered on the breathalyzer. While the overall quantity of alcohol in the person has not changed, he opined that the local quantity in the lungs of an asthmatic may be higher than it would have been without that increased rate of transfer of gases into the lungs.

[406] Before Defence Counsel asked Dr. Leblanc to comment on Exhibit 12, which is an article entitled "*The Effect of Salbutamol on Breath Alcohol Testing in Asth*matics" which was published in the *Medicine Science and Law Journal* [1991] vol. 31, No.3, Dr. Leblanc confirmed that alcohol or excessive alcohol consumption is <u>not</u> known as a trigger of an asthma attack. He confirmed that Salbutamol is also known as Ventolin and that he had two main concerns with the study – one being the quality of the study and the second being the context and its applicability in this case.

[407] Dr. Leblanc's first concern with the study was that it should have included how the patients who were in the study were diagnosed with asthma. He indicated that it takes several steps to confirm a diagnosis and that asthma was commonly misdiagnosed with up to one-third of adults being diagnosed with asthma who do not actually have asthma. So, without a confirmatory diagnosis, he could not say

that the study actually involved eight patients who had asthma as they did not justify in their study that the patients were asthmatic.

[408] The second aspect of concern with respect to the quality of the study is the "sample size". Dr. Leblanc pointed out that there were only eight patients and three controls in the study and without a good sample size, there could be a "false negative results." In his opinion, a study of that nature should have had, at a minimum, 30 subjects in the study and there were only 11 in total, eight in one group believed to be asthmatics and three in a control group. As a result, the sample size was not large enough to calculate any statistics with a "confidence interval" that if you replicated that study, it would result somewhere in the same range about 95% of the time. In his opinion, the study, while having "interesting information" was "not reliable" and should have been confirmed by a larger study.

[409] In concluding his opinions in relation to Mr. Yeo, Dr. Leblanc stated that Mr. Yeo does indeed have asthma as confirmed by national and global guidelines. In addition, on the date in question, based on the reported symptoms and his use of the Ventolin inhaler at that time, it was consistent with an asthma attack. Those symptoms and the inhaler usage "could have" led to a combination of a worsening of chest tightness, increased coughing and a "situational syncope." Finally, based upon his understanding the lung function and specific gas transfer and how asthma effects that, Dr. Leblanc opined that "the quantity of blood-alcohol could have been overestimated based on the increased rate of transfer and the increased rate of alcohol present in the lungs at the time of testing."

[410] On cross-examination, Dr. Leblanc confirmed that he had been asked to provide an opinion on whether Mr. Yeo had a true diagnosis of asthma, whether asthma could have contributed to his symptoms on June 10, 2018, and whether asthma could have affected the blood-alcohol results as measured by the breathalyzer. He had also been asked about the potential contribution of Ventolin on breathalyzer testing but stated that he was not able to comment on that aspect.

[411] With respect to the possibility of a paradoxical bronchospasm being present, Dr. Leblanc stated that it would be "unlikely" that it was occurring if only a cough was present and the person was not also experiencing shortness of breath, chest tightness or wheezing, in addition to a cough.

[412] In terms of his comments that asthma could have affected the blood-alcohol results as measured by the breathalyzer, Dr. Leblanc said that his comments were "an educated theory" based on a "general understanding" but not a technical

understanding of the breathalyzer combined with his education and understanding of lung function and how asthma affects lung function. He agreed with the Crown Attorney that he could not speak to the specifics of how the testing equipment takes a sample, where takes it sample from and what goes into that sampling process. Furthermore, he agreed that he was not formally educated in the study of alcohol or ethanol in the lung or the transfer of that in the lung.

[413] Dr. Leblanc confirmed that he had consulted with Mr. Greg Johnstone in preparing his report and that Mr. Johnstone had initiated contact with him. Mr. Johnstone had provided Dr. Leblanc with the references looking at Ventolin and the effects on the human body as well as references that were mentioned during the ***Mohan*** *voir dire* on mathematical models looking into alcohol transfer between the blood and the lungs. Dr. Leblanc stated that the studies provided by Mr. Johnstone did not factor into his conclusions as he did not feel that they were applicable to the specific context in this case.

[414] Dr. Leblanc also confirmed that there were three to five occasions where he had some discussions with Mr. Johnstone prior to his testimony the first being in 2019 and more recently, during the last week in March 2021. He agreed that they had assisted each other in preparing their conclusions and for upcoming testimony. However, Dr. Leblanc stated that the sections in his report [Exhibit 16] regarding a diagnosis of asthma, and contribution of asthma to the accident, would not have been impacted at all by his conversations with Mr. Johnstone.

[415] In addition, their conversations would not have affected his comments on the physiological impact of asthma on breathalyzer testing or the possibility of a paradoxical bronchospasm or a cough induced (or situational) syncope leading to a momentary loss of consciousness contributing to or being the cause of the accident. Finally, he confirmed that they had also discussed breathalyzer testing and how the Approved Instrument functions and that “part of his general understanding” would have come from his discussions with Mr. Johnstone.

[416] With respect to Dr. Leblanc’s “general understanding” of the breathalyzer testing, he said that his conclusions were based upon his understanding of lung function and gas transfer and understanding that alcohol transfers from blood to the lungs and that a breathalyzer would not be measuring blood-alcohol content. However, he added that his opinion was stated as what “could be” or the “possible” effect because he agreed that he did not have a technical understanding of the

breathalyzer and that there was no real way of knowing what Mr. Yeo's gas transfer was at the time of the accident.

[417] In addition, Dr. Leblanc added that he could only say that it was a "possibility", and he could not state that with medical certainty. He confirmed that all of the information relating to Mr. Yeo's triggers and medications were self-reported and he did not review any other documented history, independently verifiable records or have his own personal observations to support the symptoms.

[418] In terms of the pulmonary function test which Dr. Leblanc performed on Mr. Yeo in September 2019, while it was about 15 months after the accident occurred, if the test was normal and Mr. Yeo self-reported symptoms were similar on both occasions, he would likely conclude from a medical standpoint, that it was due to the same condition. He added that he could not provide a conclusive determination that it was asthma even at the time of the test, but he would be able to say that it was a "diagnostic probability and the most likely diagnosis."

[419] With respect to the cough induced syncope, Dr. Leblanc stated that there is a spectrum of reactions, and a person could experience pre-syncope leading up to but not entirely losing consciousness. It would involve a lightheaded feeling or feeling like you might fall down and lose consciousness. With respect to that spectrum, it is usually present during vigorous coughing episodes, and it may be even more predisposed if a person is unwell or dehydrated, which can lead to a full loss of consciousness.

[420] He stated that, while the spectrum of reactions is variable, a pre-syncope phase usually lasts for one to two seconds to no more than a couple of minutes. As for the management of the cough induced syncope, it is important to try and manage the underlying causes of the cough and to make sure that the person maintains adequate hydration. There would be no requirement for a specific medical intervention to address cough induced syncope itself.

[421] Based upon the self-report by Mr. Yeo, Dr. Leblanc stated that cooler or cold air was a trigger of his asthma symptoms, but the residual effects depend on the severity of the underlying asthma, and he did not know the severity of the trigger. He also indicated that a person who was experiencing an asthma attack with coughing fits who had used Ventolin could play golf for five hours. He would likely consider that to be a mild asthma "flareup" which the Ventolin could relieve the symptoms for a period of time. However, Ventolin does not treat the underlying cause of the underlying airway inflammation.

[422] The Crown Attorney posed a **hypothetical** question with respect to the likelihood that a person would have experienced a "cough induced syncope" where (a) a person was feeling the effects of a viral illness or being on the tail end of a cold on one day, (b) had a couple of coughing fits during the day, (c) none through the night, and (d) having a coughing episode in the morning and possibly one later in the day, but otherwise reporting feeling that the symptoms had improved. Dr. Leblanc opined that it would be "unlikely" that they would experience a cough induced syncope after that point. Cough induced syncope is "unlikely" with a cough in general and really depends upon the severity of the cough at a certain point in time. He added that cough induced syncope is "not a common complaint."

[423] Further, with respect to a possible paradoxical bronchospasm, which Dr. Leblanc agreed would be the reverse of the intended effects of a Ventolin inhaler, he stated that shortly after the administration of the inhaler, there would be no relief within minutes and would be a worsening of the four "Cardinal symptoms" of asthma – cough, shortness of breath, chest tightness and wheezing. Dr. Leblanc stated that a paradoxical bronchospasm would <u>not</u> likely occur in a situation where a person had taken Ventolin for a number of years and had not previously experienced a paradoxical bronchospasm.

[424] In Dr. Leblanc's report, he had referred to the product Monograph for Ventolin HFA, salbutamol sulphate inhalation aerosol. Based upon that reference, the Crown Attorney obtained a copy of that Monograph dated November 17, 2017 and it was marked as Exhibit 17 in the trial. Dr. Leblanc reviewed the document and indicated that it was the same product Monograph that he had referred to in his report at footnote #4.

[425] The Crown Attorney asked Dr. Leblanc to comment on the statement made in the Monograph [Exhibit 17] under the heading of Respiratory on page 5 which states that:

> "As with other inhaled medications, paradoxical bronchospasm may occur characterized by an immediate increase in wheezing after dosing. The manufacturer indicates that this should be treated immediately with an alternative presentation or different fast acting inhaled bronchodilator to relieve acute asthmatic symptoms. Ventolin HFA should be discontinued immediately, the patient assessed and if necessary, alternative therapy instituted."

[426] Dr. Leblanc stated that product monographs always err on the side of caution whenever there is a side effect that may be potentially serious, but it would

not be necessary to change inhalers if it was on the milder end of the spectrum. In terms of the person taking puffs in excess of the prescribed amounts, for example, taking 16 puffs of their inhaler in a 24-hour period, Dr. Leblanc stated that it is possible that it could cause physiologic effects such as dizziness, shakiness and an elevated heart rate. If a person had taken 16 puffs of the inhaler in a 24-hour period, there would be an equal probability that a person would not experience any of those symptoms.

[427] Dr. Leblanc was asked whether use of Ventolin above the prescribed limit would impair motor functions of a person in terms of their ability to, for example, walk or drive a car or to apply the brakes. He stated that the only impairment that he could anticipate was if there was excessive shakiness from the Ventolin itself to impair the motor function of the hands, but dizziness could also lead to some impairment of focus and concentration. With respect to performing multiple divided attention tasks at the same time, while driving a car, Dr. Leblanc agreed that there may be some momentary impairment if someone was feeling quite lightheaded or dizzy until that light-headedness resolves.

[428] Then, with respect to Exhibit 14 which was one of Mr. Yeo's expired inhalers, Dr. Leblanc agreed that there was a warning that the prescription "may cause dizziness" on the inhaler. Referring to page 2 of Dr. Leblanc's report, he concluded that: "Given the frequent use of Ventolin that exceeded the maximum recommended amounts and the known reported side effects, Mr. Yeo's high use of Ventolin could have paradoxically worsened his symptoms." Dr. Leblanc added in his report that "it is plausible this was a further contributing factor to the loss of consciousness while driving on June 10, 2018." Dr. Leblanc had stated that while a paradoxical bronchospasm was "unlikely" from the very high use of Ventolin, the high use of Ventolin could have worsened the symptoms of drowsiness, weakness and dizziness.

[429] The Crown Attorney then suggested that if Mr. Yeo's evidence was that he had lost consciousness for a brief period, he must have also regained consciousness while operating a motor vehicle, as he had stated that he had his head up and his hand on the steering wheel and was determining whether or not he should apply the brake or he should steer to maintain his place in the road. Dr. Leblanc stated that it might have been possible to do that as it may have been pre-syncope or nearly losing consciousness to entirely losing consciousness.

[430] The Crown Attorney noted that Dr. Leblanc had stated in his direct examination that the physiological impacts of asthma might have an effect on the transfer of gases into the lungs and that alcohol does dissolve in the blood and transfers into the lungs as a gas. With respect to the presence of alcohol in the blood, Dr. Leblanc agreed with the Crown Attorney that for alcohol to be in the lungs, there had to be alcohol in the blood as a gas. He also agreed that if there was no alcohol in the blood, then there is none in the lungs and therefore there would be nothing to be transferred or measured.

[431] Further with respect to the discussion of the physiologic impact of asthma on the breathalyzer testing on page 2 of his report, Dr. Leblanc pointed out that the statement that his comment that there would be an "overestimation" of the quantity should be qualified by the word "**if"** the rate of transfer is increased then it would be "overestimated" for a patient with asthma due to an increased rate of transfer.

[432] Dr. Leblanc added that the rate of transfer is measurable, but it is variable. However, if it is not measured at the time of the incident than you cannot determine whether the rate of transfer was increased. Dr. Leblanc stated that there are two "qualifiers" with respect to his comment about an "overestimate", which is not an absolute because one qualifier is that the patient has asthma and the second qualifier being if the patient had an increased rate of transfer at the time of the breathalyzer.

[433] In response to questions about what a normal rate of gas transfer would be, Dr. Leblanc stated that it is dependent on a number of specific values, including the patient's age, gender, height and race. For a person with asthma, the rate of gas transfer would be a minimum of 20% increase in the rate of transfer. When asked whether it could be double that to a 40% increase in the rate of transfer, Dr. Leblanc said that he has never seen that, it could occur but would be "unlikely." He has seen an increased range of transfer of 30% to 40% which in his opinion was "entirely plausible." However, in his clinical experience, he has "never" observed an increased rate of transfer beyond that upper range.

[434] Then, the Crown Attorney posed a question based upon the fact that Mr. Yeo had provided suitable samples of breath for testing in both the roadside screening device (ASD) as well as the Intoxilyzer at the station. She stated that the minimum flow rate of air for a suitable sample of breath to be analysed by an ASD, requires 0.2 L per second or 12 L per minute; a minimum volume of 1.3 L and a 3% drop in the flow rate once the minimum volume is reached. Then, based upon

those criteria for a suitable sample, the Crown Attorney asked whether a person who was experiencing similar asthma symptoms to those described by Mr. Yeo would have had difficulty providing a breath sample for those specifications.

[435] Dr. Leblanc stated that would be "possible" for the person to provide a sample and that it depends upon the patient and the severity of the flareup. A person with severe obstruction would not be able to perform this test at baseline, regardless of whether they were having a flareup or not. A patient in the moderate range with the flareup may not be able to perform this. However, a patient in the mild range would most likely be able to perform it in a mild exacerbation. He expected that a person with a case of moderate to severe exacerbation would be visibly in distress.

[436] The Crown Attorney asked Dr. Leblanc whether Mr. Yeo could have provided a sample of his breath roughly 40 minutes after the accident and having received a puff of Ventolin about 35 minutes before the breath test and not coughing at that time. Dr. Leblanc mentioned that, in his lab tests, a patient would have to breathe as hard as they could for at least six seconds to determine values, but it appeared that an ASD device did not require that "maximal flow."

[437] Based upon his recollection of Mr. Yeo's breathing test, Dr. Leblanc opined that if Mr. Yeo was well at the time of the test, Dr. Leblanc stated that it is likely that he would be able to complete the test. If he was having a mild flareup at that moment, Dr. Leblanc was of the view that Mr. Yeo would still most likely be able to perform the test, but he could not be as certain if there was a moderate or severe flareup.

[438] With respect to the Gomm article on the effect of salbutamol on breath alcohol testing in asthmatics, Dr. Leblanc stated that he was not aware of any other reports or studies on that particular topic.

[439] Finally, the Crown Attorney posed a question with respect to the possibility of traumatic shock and whether, there could be both psychological and physiological impacts from a motor vehicle collision. In terms of an acute physical injury, there could be blood loss and other aspects to treat in an intensive care unit. In terms of physiological shock, Dr. Leblanc stated that it could affect a person's blood circulation and decrease the blood flow. In this case, Mr. Yeo had not reported any blood loss or immediate physiological trauma but later reported some discomfort in his abdomen. Dr. Leblanc stated that, in the physiologic sense, that would <u>not</u> be "shock," and that in a physiologic sense there is nothing else coming

into play in this situation. He could not comment on whether there was any psychological shock present in the case.

Expert Toxicology Opinion Evidence - Greg Johnstone

[440] Mr. Gregory Johnstone was called by the Defence to be qualified as an expert to provide toxicology opinion evidence. Defence Counsel filed his curriculum vitae as Exhibit 18, and a further letter in support of his expert witness qualifications and experience dated June 20, 2020, as Exhibit 19 and finally, his Pharma Tox Inc. forensic toxicology review and opinion letter dated December 11, 2020, as Exhibit 20.

[441] Following a *voir dire* to determine the areas upon which he would be qualified to express opinion evidence as an expert, the Court determined that Mr. Johnstone could provide opinion evidence in relation to the following matters: (1) the absorption, distribution, elimination effects of alcohol in and on the human body; (2) the absorption, distribution and elimination and effects of drugs including asthma drugs and inhalers in the human body; (3) the measurement of alcohols in bodily fluids and solutions and the suitability of said samples for analysis; (4) the extrapolation and interpretation of alcohol concentrations in bodily fluids; (5) the impairing effects of alcohol on individuals and on their ability to operate a motor vehicle and their functional capacity; (6) the theory of breath testing instruments and screening devices and interpretation of breath test results; and (7) the calculation of blood-alcohol concentrations at a point in time based on breath or blood alcohol concentration and/or a pattern of alcohol consumption.

[442] At the outset of his evidence, Mr. Johnstone was asked to comment on the three scenarios that were listed by Ms. Hackett in her report [Exhibit 11] dated September 12, 2018. He noted that her extrapolation was based upon the lower of the two breath test results being 160 mg of alcohol in 100 ml of blood at 3:29 PM. She had then calculated what the blood-alcohol level would be for that same individual three hours and 11 minutes earlier at 12:18 PM. She had utilized and added an elimination rate at 10 mg% and 20 mg% per hour and her extrapolation of the BAC range back to 12:18 PM was between 192 mg% and 224 mg%.

[443] Mr. Johnstone stated that Ms. Hackett's use of that 10 mg% to 20 mg% elimination rate was the "accepted convention" for the general population, without knowing what the individual's actual rate of alcohol elimination. He added that there is a bell curve for alcohol elimination rates of the general population, but

elimination rate for the majority of the public in the Western world is probably in the range of 16 mg% to 18 mg%. He repeated that we do not know the actual elimination rate of any individual person.

[444] Mr. Johnstone was also asked to comment on Ms. Hackett's second and third scenarios, based on the assumptions that she had utilized for a male subject weighing 91 pounds, the time of the vehicle collision being 12:18 PM and the first breathalyzer result being 170 mg% at 14:54 hrs. and the second being 160 mg% at 15:29 hrs.

[445] He noted that the second scenario is based upon the possibility that a can of beer was consumed within 30 minutes of the accident and the possibility that the alcohol was absorbed into the individual system after the time of driving. The third scenario was based upon the possibility of having a BAC of 80 mg% at the time of the accident [12:18 PM] and then subsequently produce the 160 mg% results at 3:29 PM with her estimate as to the amount of alcohol that would have to be in the person's stomach unabsorbed at the time of the accident or consumed after the time of the accident.

[446] Mr. Johnstone noted that Ms. Hackett had, for that third scenario, listed the "theoretical minimum" of alcohol that would have to be unabsorbed to produce the results that she described, but added that in a real drinking situation the actual amount required to increase the BAC could be up to twice the calculated amount. Mr. Johnstone said that because we do not know the intricate workings of Mr. Yeo's or any person's body, there is a possibility that her statement might be an "underestimation" of the amount of alcohol required to increase the BAC.

[447] Mr. Johnstone confirmed that he had reviewed the scenarios provided by Ms. Hackett and he verified her calculations for the three scenarios. He arrived at the same values and numbers as her. He added that the breathalyzer is a "generally reliable measure of or estimation of what is likely to be the blood level at the time of the breath test" and it does that by introducing a fixed conversion ratio of 2100 to 1 molecules of alcohol getting out of the lungs and into the lung air.

[448] Mr. Johnstone agreed with the comments made by Ms. Hackett at para. 7 of her report which addressed the impact of alcohol on motor skills and abilities, sensory information and operating a motor vehicle and he agreed with what she had said as it is "core material in our field." There can be individual factors which are also predictable and may impact an extrapolation, for instance, if a person had no exposure to alcohol versus somebody who is a heavy drinker. For the latter

person versus a social drinker, they would probably use a higher alcohol elimination rate and see higher levels of alcohol present when they individualized the interpretation.

[449] Defence Counsel also asked Mr. Johnstone to comment on the extrapolation calculations of Mr. Yeo's blood-alcohol concentrations [BAC] at various points in time, which were done by Ms. Hackett on the witness stand. Those calculations were not entered as a separate exhibit in the trial, but Defence Counsel asked Mr. Johnstone if he agreed with her calculations of Mr. Yeo's BAC at 1:00 AM on June 10, 2018 as being 305 mg% with an elimination rate of 10 mg% per hour, then based on a 20 mg% per hour elimination rate the BAC would be 450 mg% percent and based on 25 mg% per hour, the BAC would have been 523 mg%. Mr. Johnstone said that he had done his own calculations and came up with exactly the same numbers, as they were "both using the same conceptual approach and the same math."

[450] Mr. Johnstone also agreed with Ms. Hackett's calculations of Mr. Yeo's BAC at 2:00 AM using elimination rates of 10 mg%, 20 mg% and 25 mg% being a BAC of 295, 430 and 498 respectively. Using those same elimination rates, he also agreed with all of her calculations as read into the record for 3:00 AM, 7:00 AM, 8:00 AM, 9:00 AM as well as with her calculation of Mr. Yeo's BAC at 11:00 AM using the three elimination rates – being 205 at 10 mg%, 250 at 20 mg% and 273 at 25 mg%.

[451] After Mr. Johnstone agreed with all of Ms. Hackett's extrapolations of Mr. Yeo's BAC at certain points in the night and the morning of June 10, 2018, he was asked to express an opinion on how a person would appear or symptoms that would be apparent to others. Mr. Johnstone was asked to consider that Mr. Yeo had testified that he had not consumed any alcohol after going to bed around 1:30 AM, based upon what other people told him or perhaps as late as 3:00 AM.

[452] Mr. Johnstone stated that, based upon the assumption that Mr. Yeo was a "social drinker" and not a heavy alcoholic drinking large quantities every day, the person would be quite intoxicated visibly to other people, he would probably have mobility problems with coordination and walking as well as slurred speech. They would likely have trouble communicating with people and others would have trouble understanding what they were saying. If they were still asleep, they would be hard to arouse. He added that at 1:00 AM at the 20 mg% and 25 mg% elimination rates, the BAC could be a lethal concentration for that person.

[453] Based upon Ms. Hackett's extrapolation calculation of the BAC at 8:00 AM being 235 at elimination rate of 10 mg% and 310 at elimination rate of 20 mg% and then her calculation of the BAC at 9:00 AM being 225 at 10 mg% and 290 at 20 mg%, Mr. Johnstone said that he would expect that a person would not even get out of bed, they would be substantially impaired and it would be visible to others.

[454] Then, Defence Counsel posed a question whether those blood-alcohol ranges "jive" with Mr. Yeo's evidence that he woke up between 7:30 and 8:00 AM on that morning, used his telephone, played computer games and between 8:00 and 9:00 AM, he prepared breakfast by thinly slicing meat, vegetables, and onions with a kitchen knife, cracked eggs and prepared them in two frying pans and then plated the breakfast for the others. Mr. Johnstone's opinion was that "it would be obviously incompatible or inconsistent with the amount of alcohol." He described some of those activities as being "safety sensitive functions" due to the hazards of working with a sharp knife, hot stoves with a high risk to cut a finger or burn themselves.

[455] Defence Counsel asked Mr. Johnstone to express an opinion with respect to Mr. Yeo's extrapolated BAC by Ms. Hackett around 10:30 AM when he left the Pugwash area to return to Halifax, in light of Mr. Yeo's evidence that he felt okay to drive and another witness who had stated he did not notice any indications of Mr. Yeo being impaired and if so, he would not have let him drive. Once again, based upon Ms. Hackett's opinion as to Mr. Yeo's BAC at 11:00 AM, Mr. Johnstone stated that the indicated BAC for that period of time, in his opinion, "did not make sense" with that description of Mr. Yeo.

[456] However, Mr. Johnstone added that there can be exceptions if someone has an unusually high "tolerance" to alcohol as a result of heavy regular drinking or the presence of some other drug that could offset some of the effects of alcohol. In those circumstances, indicia of impairment might not have been apparent, but Mr. Johnstone added that he would expect that this person would have shown some signs of impairment, especially if someone had contact with him.

[457] Following that, Mr. Johnstone was asked to provide an opinion with respect to whether a social drinker of Mr. Yeo's height and weight with that estimated BAC at the time of driving would be able to drive along a winding road for about 20 minutes and then continue for about an hour on the 100 series Highway. He stated that it had to be a "general answer" because he could not specifically say how it would relate to any individual person. However, if road conditions were

good, he might have been able to navigate along those roadways, but there would still be some impairment and that the longer he drives, the impairment will take a toll on a person's capacity to manage the driving function.

[458] Mr. Johnstone added that, if someone was watching him and it appeared that there were no issues, it would be "contradictory" to that high blood alcohol level. He stated that most people who are over 100 mg% would be impaired to some degree, whether or not it is visible to other people. The higher the BAC, the greater the impairment and it is likely to be more visible to other people. However, he added that, at those high BAC levels, it may be at a level where if a person had a lot of "tolerance" or if they were on certain medications or drugs in their body, their impairment may not be visible to others and it would probably come down to the amount of contact time that the observer had with that individual.

[459] Mr. Johnstone also opined that, at the BAC levels calculated by Ms. Hackett at 11:00 AM being 205 mg%, 250 mg% and 273mg%, using the three different elimination rates, there would likely be a high probability that the person would show signs of weaving on the road and difficulty in staying in the traffic lane, which would be obvious and visible to others who were following that person.

[460] Defence Counsel also asked Mr. Johnstone to provide his opinion with respect to the indicia of impairment that he would expect at about 12:18 PM on June 10, 2018, which was believed to be the time of the accident. Mr. Johnstone stated that extrapolation provided by Ms. Hackett, based upon a male weighing 91 kg and being "an average social drinker" would be between 192 and 224 mg%, using the elimination rates of 10 mg% and 20 mg% per hour. Mr. Johnstone had previously stated that he and Ms. Hackett started from that same assumption and the accurate reading of the breath instrument.

[461] However, Mr. Johnstone added that his comments with respect to indicia of impairment a person might exhibit at that point in time, especially after a motor vehicle accident, are complicated by his opinion that Mr. Yeo's body may have been traumatized by the accident. He added that there is also the factor of Mr. Yeo's asthma, the coughing spells that he had that morning, the impacts of the medication and the shock-like reaction from the accident psychologically and physiologically. In addition, Mr. Johnstone stated that there could have been impairing effects just before the accident that were no longer visible because of the effects of the accident on Mr. Yeo's body chemistry and the other factors.

[462] Mr. Johnstone opined that the impact of the accident may have affected the person's vision but if there was no accident, a person with that high BAC would likely have less visual focus and he would expect that there would be issues in terms of pupil dilation from alcohol, eye movement, visual acuity and perceiving and tracking movement and bloodshot eyes. However, Mr. Johnstone opined that some of those impacts could have been caused by a bump on the head during the accident, instead of the alcohol. In addition, adrenaline flow after the accident might impact the eyes and if they were bloodshot, it would not be as visible.

[463] Mr. Johnstone also stated that, in terms of a person's balance, he would expect that an impact would be visible, but it would be difficult to determine if the impairment was from alcohol consumed or whether the balance issues were aftereffects of the accident. As for the odour of alcohol, if there was a lot of alcohol in his body at the time of the accident, the alcohol odour on his breath would still come out and should be detectable by someone in his presence, especially if that person was in close proximity to him, unless there were complicating factors such as wind or the smell of gasoline in the area.

[464] Prior to concluding the evidence heard on June 29, 2021, Defence Counsel asked Mr. Johnstone to comment on whether the blood alcohol concentrations as extrapolated by Ms. Hackett were, in his opinion, consistent with all of the things that Mr. Yeo, as a social drinker, was able to do on the morning of June 10, 2018, referring to getting up early, using his phone, preparing breakfast, then driving a significant distance and no weaving prior to the accident. Mr. Johnstone stated that, in his opinion, he viewed that "functional capacity as being inconsistent with the high levels of alcohol" based upon the calculations from the breath test results. For him, this was a "contradiction of facts" as he believed that the description of Mr. Yeo's abilities versus the high blood alcohol level, was "incompatible."

[465] The direct examination of Mr. Johnstone continued on December 15, 2021. Mr. Johnstone stated that, with respect to the appropriate elimination rate to use in doing an extrapolation, the scientific data and studies say that the "average consumer's rate of alcohol elimination" is between 15 mg and 20 mg. In terms of how the breathalyzer works, it does not measure blood directly, it measures air coming from the subject and any alcohol in that breath specimen is detected by the instrument. The instrument is designed with the conversion factor of 2100:1 and prints out an equivalent amount of blood alcohol based on the breath specimen.

[466] Defence Counsel asked Mr. Johnstone what factors, if any, would cause an "overestimation" of the blood-alcohol concentration. First, he said that the 2100:1 conversion factor is based on a bell curve of the general population, but it is possible to see actual measured ratios from 800:1 to 4000:1. One possible cause could be elevated body temperature due to a fever, as the increase in temperature would increase the rate of release of alcohol into the breath.

[467] Mr. Johnstone added that, if there was a disruption of the blood flow due to a cardiovascular problem or problems with the lungs and there were asthma symptoms clogging airways or if chemicals in the body altered the function of the lungs, any of those things could alter the rate of release of alcohol from the blood crossing into the deep lung air. In those situations, Mr. Johnstone opined that a person who had just experienced a trauma, like an accident, the shock could change the blood flow through the body and any temperature changes might create a longer contact time between the blood and the deep lung air, then more alcohol could escape during that unit of time.

[468] Defence Counsel then posed questions with respect to the indicia or symptoms of impairment that one would expect to see at the various levels outlined in Exhibit 11 by Ms. Hackett at para. 4 and considering the blood alcohol content of a 60-year-old male, social drinker weighing approximately 91 kg. At a range of 305 to 523 mg%, Mr. Johnstone said that would potentially be a fatal level and would be considered a "gross intoxication level" where a person would show obvious signs of motor impairment, cognitive impairment and awareness of the situation and would certainly be quite intoxicated or drunk. They would likely have trouble walking and would be grossly impaired for their ability to operate a motor vehicle and be dangerous. However, if the person was on stimulant drugs, they may show effects that might be associated with lower alcohol concentration because of the offsetting effects of the powerful stimulant.

[469] In terms of whether he believed there would be any impact from the constant taking of Ventolin, Mr. Johnstone said that, in some respects, Ventolin acts as a stimulant of certain systems in the body, in particular the cardiovascular and respiratory system. It helps the body work more efficiently, but in higher doses it may become "disruptive." Ventolin would not necessarily impair the metabolism of alcohol, but it would allow a person to breathe easier, settle down and slightly offset the effects of alcohol.

[470] With respect to blood-alcohol concentrations in the range of 285 to 473 and 235 to 348, Mr. Johnstone stated that as you go to a lower level, you are going to have less impairment from alcohol. A person may be able to walk and talk and be somewhat in touch, but they are still going to be quite obviously impaired to most other people. If it was not apparent to other people or a police officer, which in his opinion would be "very rare," it is likely someone who is a heavy, chronic drinker as opposed to the average person who does not drink very much and would be grossly and obviously impaired at those levels.

[471] In terms of manual dexterity and ability to do intricate tasks at various levels, the more intricate the task, the impairment will show up earlier in terms of the concentration of alcohol. Vision will become impaired more obviously than a person's ability to walk at the same blood-alcohol concentration. So, for example, complex cognitive and sensory functions are easier to impair at lower concentrations and that is why gross impairment shows up later, because the subtle impairments will be evident at lower concentrations. If a person had the ability to cut up vegetables, dice steak etc., those actions relate to manual dexterity and require conscious and visual focus and anybody who is at a BAC of 200 would be at high risk of injuring themselves.

[472] In terms of symptoms or indicia of impairment of a 91 kg male "social drinker" with a blood-alcohol concentration between 192 and 240, Mr. Johnstone said that, at that level, if they were not a heavy drinker, a regular drinker would start to show more noticeable impairment but could still function and be somewhat in touch with their environment. With a BAC in the range of 150 to 200 mg%, a person may be more socially outgoing, more talkative, more active and more engaging and start to show signs of speech slurring, cognitive functions and having difficulty concentrating on certain things, especially if they did not have any "tolerance" to that amount of alcohol.

[473] After showing Mr. Johnstone the photograph of Mr. Yeo's damaged vehicle, which ended up landing on the driver's side of the vehicle and indicating that Mr. Yeo had taken two puffs of Ventolin after the accident, Defence Counsel asked whether Mr. Johnstone had any opinion about the accident and any potential impact of the Ventolin usage on the symptoms and indicia of impairment that he described as being likely with a BAC from 192 mg% to 240 mg%.

[474] Mr. Johnstone stated that Ventolin is a dry powder and that when you get any kind of dry powder in your lungs, it can cause a coughing spasm or what is

called a bronchial spasm. Only a small amount of Ventolin gets into the deep lung to work, but taking three or more doses in a short period of time along with other puffs that may have been taken in the previous 24 hours, may contribute to a drop in blood pressure and a paradoxical bronchial spasm. It would likely occur as an unexplainable, unexpected, sudden onset of coughing where you coughed so hard that when combined with the drop in blood pressure, it could lead to fainting and that could lead to an accident.

[475] Defence Counsel tendered Exhibit 20 which was Mr. Johnstone's forensic toxicology review and opinion letter dated December 11, 2020. In the opinion letter, he discussed the research that he had done; the review of the Crown's disclosure documents and his communications with Dr. Leblanc. He had also reviewed the expert report prepared by Josette Hackett dated 2018-09-12 and he had interviewed Mr. Yeo to obtain the fact scenario for the purpose of making certain assumptions in his report.

[476] Mr. Johnstone indicated that his report was in response to a request to evaluate the impact on Mr. Yeo's body functions by the asthma medications that he had taken in the period leading up to the accident and how any toxicological effects could impact the integrity of the collected breath specimens and whether the breathalyzer results accurately represent the true BAC of Mr. Yeo at the time of the breath test and the accident.

[477] Defence Counsel asked Mr. Johnstone to refer to his report and outline where he agreed or disagreed with what Ms. Hackett had stated in her report. Mr. Johnstone said that, in doing their extrapolations back to the time of the accident, they both started with the breathalyzer results, used the same assumptions and they both came up with the same numbers for the range of what the blood alcohol level would have been at the time of the accident.

[478] Mr. Johnstone pointed out that for his report, he had assumed that there was no evidence of drinking after the accident and no indication of drinking before the accident, so in those circumstances, he concluded that all the drinking was done and had been ingested the night before the accident. He had made similar assumptions to the ones made by Ms. Hackett and they both started with the breathalyzer reading and worked it back to the night before. They both arrived at the very high range of blood-alcohol concentrations that must have been present to yield the reading that the police obtained from the breath tests on the breathalyzer.

[479] Mr. Johnstone felt that, if Mr. Yeo's blood-alcohol concentrations were that high the night before the accident, he questioned how Mr. Yeo could have functioned so well in the morning. As a result, he thought of other possible explanations such as drinking while he was driving, having a drink after the accident and he noted that Ms. Hackett had addressed both of those possibilities. She had calculated the number of alcoholic beverages in different forms that would have had to be in his stomach unabsorbed at the time of the accident. Mr. Johnstone did the same thing and they both came up with similar numbers.

[480] However, it was Mr. Johnstone's opinion that those numbers seemed "improbable in my mind in terms of sheer volume." Ms. Hackett was projecting that about a litre or two of beer being in a person stomach not absorbed and he felt that was a lot of volume. He also felt that the blood-alcohol concentrations being close to 500 mg% would likely place someone in the hospital or they would be dead, so that caused him to explore other explanations.

[481] Mr. Johnstone explained that, since he was not with Mr. Yeo during the weekend, he does not know exactly what he drank and he did not see him in the morning, but Mr. Johnstone thought there might be other explanations starting with he is asthmatic and had been heavily using his Ventolin drug while he had a cold. Although Ventolin is a very common drug for respiratory therapy, Mr. Johnstone stated that it is a "risky" drug in the sense that when you look at the monograph for the product, there are several precautions indicated when it is used in excess, especially on the cardiovascular system. It was noted that the Monograph for Ventolin had been filed as Exhibit 17.

[482] Mr. Johnstone then referred to the heading in his report letter on page 5 called "Scientific background and rationale for an alternate explanation of events, other than excessive alcohol ingestion as suggested in the RCMP expert's conclusion." Mr. Johnstone explained that there are number of complex physical, chemical, and biological factors that need to be understood to grasp what he is saying and that his comments on pp. 5-6 covers some of those things. Those comments are based upon the information that he obtained from the Crown disclosure which are referred to at pp.2-3.

[483] One of the points that he considered in his review was that prior to providing the breath samples at the RCMP detachment, Mr. Yeo had complained about physical discomfort and that he was cleared by a doctor to provide breath samples. He also noted that the police report had indicated that Mr. Yeo's last consumption

of alcohol prior to the accident was between 3:00 and 4:00 AM on June 10, 2018. He also noted that Mr. Yeo was experiencing intermittent coughing fits on June 9th and during the drive back to Halifax on June 10, 2018, and that Mr. Yeo had taken about 34 to 36 salbutamol puffs during a 30-hour period from the early morning of June 9, 2018, to the time of the accident on June 10th.

[484] Then, taking all of those facts and circumstances into account and the trial evidence that Mr. Yeo may have gone to bed as late as 3:00 AM, and assuming that no alcohol was consumed after that time, he used the same approach as Ms. Hackett and arrived at a BAC in the range of 280 to 400 mg% of alcohol using a 10 mg% to 20 mg% reduction per hour.

[485] Mr. Johnstone was also asked what his opinion would be in terms of Mr. Yeo's blood-alcohol concentration if he went to bed around 1 AM and did not consume any alcohol after that. Mr. Johnstone said that would probably add between 40 mg% to 50 mg% to his earlier estimate, and his extrapolation of the BAC for that time would range from 300 mg% to 400 mg%. Those blood-alcohol concentrations, without any further alcohol consumption that evening or the next morning, would yield the breathalyzer results of 170 and 160 mg%, which were obtained by the police in the afternoon.

[486] From there, Mr. Johnstone looked at the symptoms and nature of impairment that one would expect to see at different blood-alcohol concentrations that were indicated in Ms. Hackett's report. He then considered the fact that Mr. Yeo got up in the morning, made breakfast with friends, packed up, drove almost two hours over a winding Highway 311 to Truro and then onto divided Highway 102 without incident. As a result of being able to drive that distance without any problems, Mr. Johnstone felt that it raised a question in his mind whether the loss of control of the vehicle was from something other than just the alcohol consumption.

[487] Mr. Johnstone pointed out that he was not questioning the accuracy of the breath instrument or whether it had not operated properly. He agreed that it did what it was programmed and designed to do. As a result, he questioned at page 7 of his report, what could contribute to more alcohol being released from the blood into the deep lung air than would otherwise have been expected.

[488] One "possibility" was the conversion factor and the fact that the instrument is not actually measuring blood but is an indirect measure of what is predicted to be in the blood based on a partition ratio of the breath from deep lung air. Once again, Mr. Johnstone mentioned that the instrument did exactly what it was

designed to do, but the human body was the aspect that was unpredictable in this case because of the impact of the factors of the accident and use of medications.

[489] Based upon those factors and conditions, Mr. Johnstone was of the opinion that the "actual" blood to breath alcohol partition ratio value would have been substantially different than the value programmed into the breath instrument and used for the test, which was 2100 to 1. While there is a bell curve of distribution of ratios in the general public, there can be variability in that partition ratio depending whether the person had just started drinking or had been drinking for a full day, whether they were healthy or whether they had asthma symptoms on another day. He indicated that, by convention, the partition number of 2100 was picked as it represents a large portion of the population and in this case, he believes that more alcohol would have escaped from Mr. Yeo's blood into the instrument yielding a "higher than assumed" alcohol concentration.

[490] Then, Mr. Johnstone indicated that by using what he referred to as a "false high blood alcohol concentration" and then doing an extrapolation back based upon that "false high number," it would lead to other "false numbers" coming out of those calculations. Mr. Johnstone said that neither he nor Ms. Hackett know what the actual numbers are, but they were given the numbers that came out of the instrument as their starting point for the extrapolation opinion.

[491] Mr. Johnstone also referred to the impact of asthma medications used by Mr. Yeo in this matter at pp.8-9 of his report. He notes that Ventolin has been around for decades and that it is an asthma drug, but it does affect other systems of the body especially the cardiovascular and respiratory system. Ventolin is designed to go into the lungs and make it easier to breathe but only a small portion of a dose actually gets into the lungs. The rest of the drug ends up either going through the intestinal tract or is swallowed in the stomach and may affect other body parts.

[492] Since Ventolin is well-known to cause disruptions with many body systems, Mr. Johnstone opined that the effects of the Ventolin combined with the cold and coughing episode in and of itself, even in the absence of alcohol, could have led to the outcome of losing consciousness or losing control of the vehicle or passing out simply by nature of the drug. Any of those disruptions could have easily led to the loss of control of the vehicle, and they could occur in the presence of or the absence of any alcohol.

[493] Then, Mr. Johnstone referred to page 9 of his report and said that based solely on the Crown documents and Ms. Hackett's expert report as well as the

assumptions that Mr. Yeo's body was working "fine" after the accident and had been medically "cleared" to perform the breath tests, one possibility is that the accident is solely related to Mr. Yeo's alcohol consumption more than 8 to 12 hours earlier. In that scenario, with those blood alcohol concentrations while they may explain the high BAC at the time of the breath test, that amount of alcohol would have left him grossly intoxicated and possibly even dead, the night before the accident. The other view expressed by Ms. Hackett was that Mr. Yeo may have consumed some alcohol as he drove, which was later absorbed to give those very high readings, but Mr. Johnstone found that possible scenario to be "unsupportable with the information" during the trial.

[494] As a result, he offered an "alternate explanation" for the very high readings, which involved the impact of asthma drugs, having a cold and the disruption to Mr. Yeo's body systems both before the accident that led to the accident and then, after the accident, with physical trauma and the fact that the accident may have disrupted his body function. In Mr. Johnstone's "alternate explanation," all of those things may have come together and may have caused higher than normal alcohol concentrations to escape from the blood into the lung which went into the instrument and was then "exaggerated" due to the design of the instrument and the conversion factor programmed in the instrument. Mr. Johnstone explained that by applying the "multidisciplinary aspects of how drugs work and interact with the body," it may explain why Mr. Yeo may have lost control of his vehicle that led to the accident and that was the essence of his report, conclusion and opinion.

[495] Mr. Johnstone explained that he was basing his opinions on the information that was provided to him and the assumption that Mr. Yeo did not have any more alcohol to drink after he went to bed and that there was no drinking before or while he was driving. There was no drinking after the accident as he was initially trapped in his car, then with the paramedics and ultimately in the hands of the police. Mr. Johnstone also indicated that his "alternate explanation" was supported by the functionality that Mr. Yeo demonstrated on Sunday morning, which Mr. Johnstone would not have expected from a person who would have been grossly intoxicated from alcohol at very high levels of 200 mg% or more.

[496] In concluding the direct examination, Mr. Johnstone was also asked whether there was anything in the PJ Gomm article from 1991 [Exhibit 12] which, in any way, altered his opinion and the "alternate explanation" that he had just provided. Mr. Johnstone stated that nothing changed his opinion but there were a couple of interesting observations that he wanted to draw to the Court's attention. It was a

small subject group in the study which limits it is value and interpretation value. There was also a significant variability in the blood to breath ratios between a few of the subjects. Although they were generally within the 2000 plus or minus range, there was still variability of the ratio between subjects.

[497] The second major point that he wanted to make with respect to the study was that it involved a single dose of Ventolin, and it appears that none of the subjects had active asthma symptoms at that time. They did not have colds, respiratory or upper respiratory tract disruptions from the cold. In addition, there was no repetitious doses of Ventolin, just one single dose which is quite different from the situation in this case where there were multiple doses over a period of time prior to the accident and there was no trauma from the impact of a crash as demonstrated by Mr. Yeo's soreness and discomfort at the police station which was later diagnosed by doctors at the clinic.

[498] On cross-examination by the Crown, Mr. Johnstone was asked about the medical report from the Cobequid Hospital Health Centre which he had referred to in his report and whether his opinion and conclusions would have changed if he did not have that information. Based upon the report, Mr. Johnstone understood that Mr. Yeo was experiencing some pain and other physical consequences as result of the accident. It also influenced him to conclude that Mr. Yeo was in "distress" when he was with the police officers and before his breathalyzer tests were taken. Mr. Johnstone added that the police officer had noted that Mr. Yeo had complained about some pain and was laying down on the floor at a certain point.

[499] Mr. Johnstone explained that his opinion was based upon his extensive training and experience in basic biological sciences including physiology, that is, how the body works, the consequences of disruption of normal function, how they would manifest themselves as symptoms and how they would be managed by medications. He acknowledged that he is not a medical doctor, and he would not venture into how a doctor would treat Mr. Yeo in an emergency department, but he was comfortable with knowledge of how the body can be disrupted by physical trauma or emotional or other traumas.

[500] The Crown Attorney then noted that Mr. Johnstone had indicated that Mr. Yeo had experienced physiological shock after the accident, but that Dr. Leblanc had indicated that there would not be the presence of physiological shock. Mr. Johnstone stated that he had not heard Dr. Leblanc's evidence but was considering that Mr. Yeo's body had been beaten up and had rolled around from the accident

which would disrupt the physiological functions. In his opinion, there could be changes in blood pressure, there could be the stress or trouble concentrating and remembering things from the shock that Mr. Yeo was experiencing.

[501] Mr. Johnstone also stated that, while he was not in a "position to challenge" Dr. Leblanc's opinion that there was no physiological shock, he still maintained, that even if any impact of shock was removed as a factor, his conclusion about the results would not change. He believes that Mr. Yeo's reports of discomfort and pain at the police station and at the Medical Centre are from injuries sustained during the accident and that his physiology was disrupted at the time of the breath tests and afterwards. However, he did agree with the Crown Attorney that whether there was a psychological shock is not something he could determine.

[502] With respect to the impact of excessive doses of Ventolin, the Crown Attorney noted that Mr. Johnstone's opinion letter had referred to the Ventolin [salbutamol] and the Symbicort inhaler usage, which was based upon his understanding that, from the morning of June 9th until the time the accident on June 10th [being about 30 hours], Mr. Yeo had taken 34-36 salbutamol puffs and 6 puffs of Symbicort. The Crown Attorney pointed out that the information upon which Mr. Johnstone had relied was inconsistent with Mr. Yeo's testimony during the trial. After a brief review of Mr. Yeo's evidence, the parties agreed that Mr. Yeo had stated that he took 14 puffs of Ventolin on Saturday, six puffs on Sunday morning prior to the accident and two more puffs after the accident.

[503] After clarifying that Mr. Yeo had taken 20 puffs of Ventolin in the 30 hours **prior** to the accident and not the 34-36 puffs as Mr. Johnston had utilized in his report, Mr. Johnstone was asked whether that impacted his opinion. He indicated that it would only impact in a partial way, but not absolutely. Mr. Johnstone added that each puff is designed to allow a person to inhale about 10 % of the actual dry powder that goes into their mouth, goes down and gets absorbed in the deep lung to have a therapeutic effect. The other 90% is stuck in the mouth and the back of the throat, is ultimately swallowed, and goes into the stomach. As a result, there would be a net accumulation of the Ventolin over 24-hour period and it would take some time to eliminate it down to zero. In the meanwhile, Mr. Yeo would have had the effects associated with that net accumulation.

[504] After reviewing the Ventolin Monograph [Exhibit 17], which stated that the maximum dose is eight puffs in 24 hours for anyone over age 12, the Crown Attorney asked what, if any, effects would occur if a person exceeded the

maximum of 8 single puffs of 100 Micrograms in a 24-hour period. Mr. Johnstone stated that the Monograph is probably referring to a single puff of 100 Micrograms and that each puff is a “metered dose”, and there is no bright line to determine what might be the effect of taking 36 puffs. Someone could have a high tolerance to take more, while someone else might be hypersensitive and not be able to take as much.

[505] Mr. Johnstone added that for every dose higher than the daily recommended maximum amount, there is a high probability of negative consequences of adverse effects. If the body becomes dehydrated, a person may have more effects at six puffs than another person at eight puffs if they were hydrated. So, if a person was drinking any amount the night before and had eaten a lot of protein the night before, those are things that cause the body to lose water and they typically end up with some measure of dehydration the next day.

[506] Mr. Johnstone indicated that too many doses of Ventolin in a short period of time would contribute to adverse effects with some of them being a paradoxical bronchial spasm otherwise known as a coughing spell. If that occurred, it causes very forceful coughing that changes the dynamics of pressure and blood flow and a profusion of blood supplying the lungs and other tissues.

[507] In terms of those comments, Mr. Johnstone said that he was not expressing a medical opinion, rather it was a pharmacology and toxicology opinion. Since he was not present, he could not state whether Mr. Yeo was experiencing those symptoms at that time. Mr. Johnstone agreed that every inhalation would have an impact and if there were too many in a short timeframe, it could have a greater disruptive impact. When much higher doses of Ventolin circulate in the body by virtue of a net accumulation, with half of the earlier doses being metabolized or eliminated, the accumulation of higher concentration of circulating salbutamol or Ventolin becomes problematic. Mr. Johnstone stated that it could start disrupting the cardiovascular system and muscle symptoms which may cause panic attacks and coughing spasms.

[508] In addition, Mr. Johnstone stated that the disruption in the body systems means that other symptoms try to compensate and then they are disrupted so the capacity to compensate diminishes dramatically after every dose. In those circumstances, the person is essentially in a “toxic mode” with too much Ventolin. Affecting the cardiovascular system will also affect the brain and function and a person’s muscles as well as the ability to concentrate and probably trigger a

coughing spasm. In other words, the more that the person takes trying to get rid of the symptom, it may only make it worse.

[509] Mr. Johnstone was asked whether the impact from additional puffs of Ventolin affected the cardiovascular system and other systems and if so, was he saying that the additional puffs caused the accident. He responded that he did not say that the cardiovascular impacts had "caused the accident directly," he was simply stating that with certain drugs, the higher the dose taken, the more you get into a toxic situation which he just described. Then, the impact is more predictable on people at those higher levels.

[510] In terms of Ventolin, Mr. Johnstone stated that based upon the research as stated in the Monograph, it has been established that a "toxic" level would be if you exceeded 6 or 8 doses in a 24-hour period and if you went to 20 or 30 doses, you would clearly be in a "toxic" range for multiple systems in the body. He added that his use of the word "toxic" was as a conceptual term for a person who had exceeded the recommended level of doses in a 24-hour period. However, it is also possible that a person could develop some "tolerance" to the drug, but if "over usage" of the rescue inhaler exceeds a person's "tolerance," then the impact could be in the "toxic" range and impact multiple body systems.

[511] Looking at Mr. Johnstone's opinion letter [Exhibit 20 at page 4(h)], the Crown Attorney noted that he had stated that Mr. Yeo reported that he was experiencing numerous asthma attacks in the 36 hours leading up to the accident. Mr. Johnstone added that Mr. Yeo had said that he had asthma attacks while he was driving home and just before the accident, he took additional puffs of the rescue inhaler, which exceeded the recommended doses for that time period.

[512] However, the Crown Attorney stated that Mr. Yeo had testified that he was coughing but they were not asthma attacks at that time and she asked whether that information impacted his opinion. Mr. Johnstone said that the coughing could have been related to several things such as dehydration or dry air triggering a coughing response, or it could have been leftover inflammatory sensitivity to multiple coughing episodes during the 24-hour period. He added that coughing is a symptom of an asthma episode, but it is also a symptom of other things such as an issue of hydration.

[513] Mr. Johnstone confirmed that coughing as a result of a cold is not an example of a paradoxical bronchospasm. A cold would not require Ventolin to address that coughing fit. Mr. Johnstone noted that Mr. Yeo had stated that taking

the Ventolin cleared up the coughing, but he also took more Ventolin and that could have led to a major coughing spell later.

[514] At the conclusion of the evidence for the day, the Crown Attorney advised Mr. Johnstone that she was going to ask him to do some calculations based upon the trial information in relation to the times and quantities of alcohol consumed by Mr. Yeo and then to do an extrapolation back to evening of June 9, 2018, when Mr. Yeo consumed alcohol. She asked him to assume that there was no alcohol was consumed after 1:30 AM on Sunday morning to the time of the accident. Mr. Johnstone stated that he preferred to do those extrapolations at home and come back on the next trial date.

[515] As a result, it was agreed that, prior to the next continuation date on July 27, 2022, the Crown Attorney would prepare a summary of Mr. Yeo's evidence as to the amount of alcohol consumption, his personal metrics, the details of the beverages consumed and the intervals of consumption. It was also agreed that the information would be forwarded to Mr. Johnstone by Defence Counsel. The Crown Attorney's memo with that information was filed as Exhibit 22.

[516] The information contained In Exhibit 22, had summarized Mr. Yeo's evidence that he had consumed four cans of beer while golfing, after golf and before supper two more cans of beer and then, after supper until 1:30 AM, he drank four glasses of wine. Mr. Yeo had testified that he did not consume any alcohol on June 9, 2018, prior to the golf afternoon and that he had no consumption of alcohol after 1:30 AM on June 10, 2018, when he said that he went to bed. Mr. Johnstone was asked to provide his opinion on what Mr. Yeo's BAC would have been at 5:00 PM and 7:00 PM on June 9, 2018, and then at 1:30 AM, 4:00 AM, 12:18 PM and 3:29 PM on June 10, 2018.

[517] In making his calculations of BAC, the Crown Attorney asked Mr. Johnstone to provide his results for 10 mg%, 20 mg% and 25 mg%. The final request for his opinion with respect to Mr. Yeo's BAC was, if the calculations reach 0 mg% at any time prior to 3:29 PM on June 10, 2018, what time would you calculate that his BAC reached 0 mg%?

[518] After indicating the parameters of her request, as stated in the memo sent to Defence Counsel, Mr. Johnstone indicated that he had prepared a one-page table of his calculations with the different scenarios and variations. Mr. Johnstone explained that his table also included some clarification comments as he could not be certain if all of the alcohol was fully absorbed at the specific time or thereafter.

[519] Mr. Johnstone also noted that the RCMP experts often qualify their opinion in the same manner. So, for the purposes of his calculations, he has assumed that the alcohol was absorbed within half an hour of the time that he calculated Mr. Yeo's BAC and if not, it would "carry forward," be metabolized and be reflected in the next time unless it was eliminated. The "calculation table" based on alcohol elimination rates of 10, 20 and 25 mg of alcohol per 100 ml of blood per hour, with comments was filed as Exhibit 21.

[520] Mr. Johnstone was first asked what his calculations at 7:00 PM, which incorporated the alcohol consumed during the golf afternoon and a prior to supper at 7:00 PM. He stated that according to his calculations for 7:00 PM - Mr. Yeo's BAC using the 10 mg% per hour elimination rate would have been 73.9 mg% comprised of an "carryover" of BAC from 5 PM of 47.3 mg% plus 26.1 mg% BAC which was the BAC of the drinks between 5:00 and 7:00 PM for the total BAC of 73.9 mg% with the elimination rate of 10 mg% per hour.

[521] For the 7:00 PM calculation of Mr. Yeo's BAC, but using the elimination rate of 20 mg% per hour, Mr. Johnstone calculated that there would be a "carry over" from the golf afternoon of 12.3 mg% and the alcohol consumed between 5:00 and 7:00 PM would add 6.1 mg%, so his calculation was that the combined BAC at 7:00 PM would have been 18.4 mg% based on the assumption that all alcohol was absorbed and distributed prior to 7:00 PM. If not, then a lower BAC would have been "carried over" beyond 7:00 PM.

[522] Again, for the 7:00 PM calculation of BAC, but utilizing a higher elimination rate of 25 mg% per hour, Mr. Johnstone noted that elimination rate is 2.5 times faster than an elimination rate of 10 mg% which will produce a much lower BAC with the result, with all alcohol consumed up to that time having been absorbed and distributed prior to 5:00 PM and 7:00 PM. Therefore, according to his calculations, there would be no "carry over" or only the possibility that there would be a very low "carry over" of BAC.

[523] Then, Mr. Johnstone was asked to provide his calculations for Mr. Yeo's BAC at 1:30 AM, when Mr. Yeo believed that he went to sleep. For that calculation, Mr. Johnstone started with the 73.9 mg% carry over from the alcohol consumed up to 7 PM and then added the 37.9 mg% which he calculated as the BAC from the drinks consumed between 7:00 PM and 1:30 AM for a total/combined BAC at 1:30 AM being 111.8 mg% using an elimination rate of 10 mg% per hour. Once again, he assumed that all alcohol was absorbed and

distributed prior to 1:30 AM, but if not, then a low BAC would have carried over beyond 1:30 AM.

[524] According to his calculations, Mr. Johnstone stated that using an alcohol elimination rate of 20 mg% per hour to extrapolate Mr. Yeo's BAC at 1:30 AM when he believed he went to bed, there would have been the small "carry over" of 18.4 mg% from the earlier consumption of alcohol that was not fully absorbed and distributed between 7:00 PM and 1:30 AM. Then, at the elimination rate of 20 mg% at 1:30 AM, Mr. Johnstone calculated that there would be no "carry over" from any alcohol consumed and absorbed prior to 1:30 AM, with the calculations that, at 1:30 AM, Mr. Yeo's combined BAC would have been "zero."

[525] Mr. Johnstone added that, at an alcohol elimination rate of 25 mg%, according to his calculations, Mr. Yeo would have had a "zero" BAC at about 11:10 PM on June 9, 2018, unless some alcohol was ingested close to 1:30 AM. However, in that event, it would be a low BAC that would only persist for a short period of time. At 4:00 AM, using an alcohol elimination rate of either 20 mg% or 25 mg% per hour, Mr. Yeo's BAC at that time would have been "zero."

[526] Mr. Johnstone stated that, based upon his calculations, prior to 4:00 AM, Mr. Yeo's BAC with an elimination rate at either 20 mg% or 25 mg% per hour would have yielded a "zero" BAC at that time. Mr. Johnstone added that his calculation of the "zero" BAC indicated that Mr. Yeo did not have any alcohol in his body.

[527] However, with respect to Mr. Yeo's BAC at 4:00 AM when he used an elimination rate of 10 mg% per hour, according to his calculations, Mr. Yeo's BAC would have been 86.8 mg%.

[528] According to his calculations, Mr. Johnstone stated that with an elimination rate of 20 mg% or 25 mg% per hour, Mr. Yeo had no alcohol in his body by 4:00 AM. Based upon his chart, shortly after 1:30 AM, using an elimination rate of 25 mg% per hour, the only calculation left to be extrapolated was what Mr. Yeo's BAC would have been at 12:18 PM on June 10, 2018, which was the estimated time when the accident occurred.

[529] For that extrapolation, Mr. Johnstone said that it was a simple math calculation of eliminating 10 mg% per hour from the 86.8 mg% that he had calculated at 4:00 AM to determine the time when Mr. Yeo's BAC would have been "zero." He indicated that he simply added 8.6 hours which would be the amount of time required to eliminate 86.8 mg% of alcohol at that 10 mg% per hour

elimination rate, and he concluded that at the 10 mg% elimination rate Mr. Yeo's BAC would have been "zero" at about 12:41 PM on June 10, 2018.

[530] Looking at his Table Chart [Exhibit 21] and having just confirmed that Mr. Yeo's BAC would have been "zero" at 12:41 PM on June 10, 2018, he realized that there had been a slight error in his calculations as the estimated time of the accident was 12:18 PM on June 10th. At that point, Mr. Johnstone said that there should have been a value representing the "last little bit of alcohol" in Mr. Yeo's body at that 10 mg% elimination rate.

[531] Mr. Johnstone did that calculation, and he initially indicated that Mr. Yeo's BAC at 12:18 PM using the 10 mg% elimination rate would have been 6.8 mg%. However, a few moments later he realized that might be the BAC for 12:00 noon, and he had to consider that the 10 mg% elimination rate would have continued for another 18 minutes prior to the accident. After Mr. Johnstone did some further calculations, he confirmed that the BAC at 12:18 PM on June 10, 2018 was about 3.9 mg% and as a result, Exhibit 21 was amended and 3.9 mg% inserted under the elimination rate of 10 mg%.

[532] Based upon his calculations of the times and amounts of alcohol consumed by Mr. Yeo, and the other variables that the Crown Attorney had asked Mr. Johnstone to consider, he confirmed that there would be no detectable amount of alcohol at any elimination rate by 12:41 PM on June 10, 2018. He confirmed that based upon his calculations, as noted on the table chart, by 12:41 PM, Mr. Yeo's BAC would have been "zero" based upon all three possible elimination rates.

[533] In addition, Mr. Johnstone stated that, according to his calculations of the **hypothetical** information that he was asked to consider, at the time of the breath testing by the InTox EC/IR II at 3:29 PM, there was "zero" or no alcohol present at all three elimination rates, to be detected. He agreed with the Crown Attorney that, in those circumstances, the breath test results should have been "zero."

[534] As a follow-up to that question, the Crown Attorney noted that she had not asked Mr. Johnstone to calculate what Mr. Yeo's BAC would have been at about 1:03 PM on June 10, 2018, when Mr. Yeo provided a breath sample into the ASD. Mr. Johnstone stated that based upon the **hypothetical** information and his extrapolations, he had calculated that Mr. Yeo's BAC was "zero" by 12:41 PM on June 10th, at all three elimination rates. In those circumstances, he agreed that Mr. Yeo's BAC would have been "zero" at 1:03 PM when Mr. Yeo provided a suitable sample of his breath for analysis by the ASD.

[535] On further cross-examination, Mr. Johnstone agreed, as he had previously stated on several occasions, the Intoxilyzer machine used in this case was working properly, there were no faults indicated and that there was no difficulty in reading the samples. He agreed with the Crown Attorney, that for an Intoxilyzer to analyze a sample of breath to determine a BAC, there had to be some alcohol present in the breath and for alcohol to be in the breath, there must have been alcohol in the blood. He agreed that an Intoxilyzer "should" have shown "zero" to indicate that there was no alcohol in the breath or the blood.

[536] Having agreed with all those statements by the Crown Attorney, Mr. Johnstone also agreed that the Intoxilyzer produced two results, one being 170 mg% and the other being 160 mg% and that he was not aware of any issues in relation to the proper operation of the ASD. He also agreed that a "Fail" result on the ASD would not be possible if there was no alcohol present in the breath.

[537] Following those agreements relating to the Intoxilyzer and the ASD, the Crown Attorney questioned if the evidence of Mr. Yeo was accepted about his consumption of alcohol, Mr. Johnstone replied that, according to his calculations, there would have been no alcohol in Mr. Yeo's lungs and no alcohol in his blood, so there should have been no alcohol in his breath to have been detected by the Approved Instrument.

[538] Mr. Johnstone was then asked, if the breathalyzer worked as it was intended and generated the measured results of 170 mg% and 160mg% from Mr. Yeo's breath tests, he agreed that the breathalyzer would not have produced those results if there was "zero" alcohol in Mr. Yeo's breath at the time of the breath tests, regardless of any transference ratio. Mr. Johnstone also agreed with the Crown Attorney's suggestion that his evidence would be "incompatible" with those results. Mr. Johnstone answered "yes" and said that he saw this as a "contradiction of facts" because "they do not fit."

[539] Furthermore, Mr. Johnstone added that he would have expected a "zero" reading from the breathalyzer under the "**hypothetical scenario**" and the same "zero" result from the ASD breath sample. Moreover, he stated that, in that event, the breath ratio concept would be "irrelevant," as there has to be some alcohol detected on of person's breath in the first place.

[540] The Crown Attorney then asked Mr. Johnstone whether, given all the details of Mr. Yeo's actions on Sunday morning, playing games on his phone, making breakfast, etc. if that puts in question the assumption that he is a "social drinker."

Mr. Johnstone said that a more "seasoned" drinker might not have felt all the effects of the alcohol that morning, but he did not have enough information about Mr. Yeo to make that judgment. He added, theoretically, that if you see a BAC that high, it might be consistent with someone who is a "heavy, regular drinker" and that they have some measure of "tolerance." In this case, he had no reason to suspect the description of Mr. Yeo as a "social drinker."

[541] In referring to Ms. Hackett's statement of expected symptoms of a person with a BAC in the range of 100 mg% to 150 mg% [in Exhibit 11] which she had indicated would generally be associated with "mild to moderate intoxication" with some observable symptoms and performance of physical task possibly being adversely affected, the Crown Attorney asked whether a heavier drinker or person who had developed a "tolerance" might not appear to be "obviously impaired." Mr. Johnstone replied that, if a person was drinking a lot on a regular basis, either daily or multiple times in the week in large quantities, they would probably develop a "tolerance." Once again, Mr. Johnstone stated that he did not know enough about Mr. Yeo to consider that possibility, other than to accept his statement.

[542] A further question was posed with respect to "tolerance" and whether a person with "tolerance" would be able to make the breakfast easier than someone who was a social drinker. Mr. Johnstone answered that if someone is over the legal limit, even if they did not show any signs of impairment, there would probably be some signs of impairment, even if they had "tolerance" and the person would still be impaired even if nobody observed it.

[543] Mr. Johnstone added that, if Ms. Hackett's calculations were accurate, and when he considered all the things that Mr. Yeo did in the morning and assuming that he had nothing else to drink, his BAC would have been very high and that "caused concern" for him because there was such a "contradiction of realities." As a result, that is why he explored other things such as the blood to breath ratio, the influence of Ventolin and the coughing. However, Mr. Johnstone said that the higher the BAC, the more impaired the person is going to be and that even if they showed some "tolerance" it would not be enough to hide all of the impairment and it would be visible to others.

[544] Having done the calculations and knowing the results of the breath test, the Crown Attorney suggested that Mr. Yeo must have consumed more alcohol in the night before going to bed or in the morning of June 10 or perhaps during the drive home. Mr. Johnstone said there might be a couple of explanations for the

"**hypothetical** scenario", one being that he may have consumed more alcohol the night before and early in the morning before going to bed or he may have had some alcohol after waking up in the morning, which would change the picture due to the presence of alcohol in the morning.

[545] The Crown Attorney posed the question whether Mr. Johnstone's opinion with respect to the times of the alcohol consumed had now changed as a result of his calculations based on the fact that, in his prior report, he had assumed that all of the alcohol had been ingested the night before the accident. Mr. Johnstone replied that, as people continue drinking in a social or drinking environment and as their blood alcohol level starts to accumulate, they tend to become less and less aware of remembering all of the details, they become more impaired, tend to drink more than they thought they did and often have to rely on someone else or something else to deduct what they actually had to drink.

[546] The Crown Attorney then asked whether the "hypothetical scenario" in Exhibit 22 that she had forwarded to Mr. Johnstone for his calculations, "lines up" with the breathalyzer results that were obtained and whether Mr. Yeo's testimony relating to the times and amounts of alcohol that he consumed are incorrect, based upon the "valid results" on the breathalyzer.

[547] Mr. Johnstone stated that, if the breathalyzer detected any significant quantity of alcohol from Mr. Yeo's breath sample, which was after a serious accident and after he had coughing issues, with the Ventolin changing his internal body function, then, in his mind, there is a "debate" as to whether the reading of the instrument is, in fact, an "accurate representation" of his BAC at that time breath test. Mr. Johnstone stated that he believes that there were "other disruptions" caused by the other things, while alcohol was in his body and if Mr. Yeo had a "zero" BAC at the time of the test, the breathalyzer would have come up with a "zero" BAC result. However, since the breath test did detect some alcohol, then all of the "factors" which he had just mentioned would, in his view, come into play.

[548] Mr. Johnstone added that, based upon his earlier comments, if in fact Mr. Yeo had more to drink the night before and he does not remember the times and amounts, then the instrument would pick up alcohol on his breath and that is where the issue of the blood to breath ratio disruption, the Ventolin, the coughing and the possibility of fainting all come into play. Because the breathalyzer did detect

alcohol, all of those other issues impact the **reliability** of the breathalyzer representing his BAC at that time.

[549] Mr. Johnstone stated that another "contradiction" that he had considered, was his personal familiarity with the same roads that Mr. Yeo had used to drive back to Halifax, and the fact that he had driven that far under those conditions without an accident. For Mr. Johnstone, the fact that there was an accident after driving that distance, also seemed to be "contradictory" and motivated him to understand all of the "complexities" that were going on in this case.

[550] Then, the Crown Attorney suggested that it was possible that Mr. Yeo had consumed some alcohol in the morning or on the drive, which had impaired him and led to the accident. Mr. Johnstone said that it was possible, as most things are "possible" but if he drank some alcohol while he was driving or before he left, that may explain why there was a breath test result. However, without knowing the quantities that might have been in stomach and then absorbed after the accident which were detected by the breathalyzer, Mr. Johnstone stated that it also leads to several hypotheticals without knowing if Mr. Yeo did or did not consume alcohol prior to or on the drive home.

[551] The Crown Attorney then asked Mr. Johnstone whether his calculations of Mr. Yeo's BAC based on the information provided in Exhibit 22 ["**hypothetical scenario**"] which was based upon Mr. Yeo's trial evidence, were "incompatible" with the breathalyzer readings. Mr. Johnstone agreed that Mr. Yeo's description of his drinking was "not compatible" with the information provided in the "hypothetical," as his blood level would have been "zero" at the time of the accident and would also have been "zero" at the time of the breath tests.

[552] Mr. Johnstone added that, in reality, the scenario of when and what amount of alcohol was consumed in Exhibit 22, would have also been "inconsistent" with the ASD result. He added that it was those "incompatibility of facts" which motivated him to try and understand "what other possible explanations there could be." He agreed with the Crown Attorney that it was also a "possibility" that Mr. Yeo's BAC was in excess of 80 mg% at the time when he was driving and that he was impaired while he was driving.

[553] Mr. Johnstone was then questioned about his comments that there may have been an "overestimation" of Mr. Yeo's BAC. The Crown Attorney noted that Mr. Johnstone had agreed with Ms. Hackett's earlier extrapolation back to the time of the accident that Mr. Yeo's BAC would have been between 192 mg% to 224 mg%.

She also noted that Dr. Leblanc had indicated, with respect to a possible "overestimation" of Mr. Yeo's BAC, that he had never observed an increase of gas transfer in an asthmatic person to be over 40% and she asked Mr. Johnstone to calculate what a 40% "overestimation" of the BAC would be in this case.

[554] Prior to doing that calculation, Mr. Johnstone stated that he was not present for Dr. Leblanc's evidence and that he believed the doctor was thinking about gases like oxygen and carbon dioxide which are the typical ones that he would be involved with clinically. However, this case deals with alcohol, which has a different molecule, molecular weight, and a different vapour density. Mr. Johnstone did not know if Dr. Leblanc's statement of 40% would apply to ethanol as it does to oxygen and carbon dioxide. Mr. Johnstone's previous comments about the blood to breath ratio were based upon ethanol, and that the evidence and data showed that there is a wide range from 800 to almost 4000 for the ratio, but the Approved Instrument has been programmed to use 2100:1 as the ratio.

[555] Mr. Johnstone also stated that most people are close to either side of the mean distribution curve for that ratio, but we do not know that there is 100% variability in the order of magnitude. As a result, Mr. Johnstone said he was unsure if 40% is the ethanol ratio exchange or if it can be greater than 40% and from his perspective, he did not think it was appropriate to use the 40% gas transfer rate for ethanol.

[556] The Crown Attorney then suggested that even if the "overestimation" of ethanol was 100%, based upon the 160 mg% result on the second test, then the overestimation by 100% could be rounded down to 80 mg% or 85 mg% [based upon the first test] and when extrapolated back to the time of the accident, Mr. Yeo's BAC would have been between a range of 96 mg% to 112 mg%. Mr. Johnstone was then asked if he agreed with the mathematics representing those numbers for the elimination rates at 10 mg% or 20 mg% per hour and if so, did he agree with the fact that Mr. Yeo's BAC would be over 80 mg% at the time of the accident.

[557] Mr. Johnstone stated that, in that context, even if there was an 100 % "overestimation" or "error", Mr. Yeo would still be over 80 "mathematically" and that would be correct. Mr. Johnstone went on to say that there is still the reality of what happened inside his body at that time and that the mere presence of alcohol does not necessarily mean that the alcohol "caused the accident." They both agreed that would be for the court to determine at the end of the trial.

[558] Following the completion of Mr. Johnstone's evidence, Defence Counsel tendered all of their exhibits and closed the case for the defence.

Crown Rebuttal Toxicology Opinion Evidence – Josette Hackett

[559] The Crown Attorney had previously indicated, that after hearing from the defence witnesses, Ms. Hackett would likely be recalled in rebuttal to reconsider her opinions that she had expressed in her original report, which had been based exclusively on information contained in the police report made shortly after the accident in 2018. The Court had previously scheduled a trial continuation date for the Crown's Rebuttal evidence on November 21, 2022.

[560] At the outset of Ms. Hackett's testimony, the Crown Attorney indicated that the expert witness had been asked to prepare a table of calculations in response to a "**hypothetical scenario**" presented by Ms. Lane, the Crown Attorney, and using various alcohol elimination rates, to calculate an individual's blood-alcohol concentration at various times. Ms. Hackett confirmed that she had prepared that Table of Calculations on November 8, 2022, and it was marked as Exhibit 23.

[561] Based upon that **hypothetical scenario**, the Crown Attorney had asked Ms. Hackett to calculate on two different dates, at several times the blood-alcohol concentration (BAC) of an individual using three rates of alcohol elimination – 10 mg% per hour, 20 mg% per hour and 25 mg% per hour. The scenario in her chart had indicated in the comments section the amount of alcohol consumed and her calculations were based on an individual's weight and gender as well as the volume and alcohol content of those beverages. Ms. Hackett was informed that the subject was a 200-pound male, and all alcohol was absorbed and distributed by the times of interest.

[562] As a starting point on June 9, at 1:30 PM, Ms. Hackett assumed that the individual had a BAC of 0 mg% and that there was no alcohol in their body when the drinking "scenario" started. The scenario stated that the individual consumed three Sleeman 2.0 cans of beer and one beer from a cart between 1:30 PM and 5:00 PM. Based upon her chart, each of the four 355 ml cans of beer were 4% alcohol, which represented 18.7 mg% per 355 ml can. Then, Ms. Hackett calculated that, at 5:00 PM, after consuming those four cans of beer in the three and half hours, the individual's BAC with an elimination rate of 10 mg% per hour would be 40 mg%, with a faster elimination rate of 20 mg% per hour, the BAC would be 5 mg% and

there would be a “zero” BAC at 5:00 PM with the fastest elimination rate of 25 mg% per hour.

[563] The next indication of consumption was one Sleeman 2.0 beer and one Guinness Draught beer, which was in a 440 ml can at 4% alcohol, which she stated would produce 23.2 mg% to the BAC. In terms of her calculation for the person’s BAC on June 9 at 7:00 PM, after the consumption of those two cans of beer, with some “carry over” from the earlier consumption of alcohol, but also some elimination. Then, using an elimination rate of 10 mg% per hour at 7:00 PM, the BAC would be 62 mg%, while an elimination rate of 20 mg% per hour, with a small amount of “carry over” from the previous consumption of 5 mg%, she calculated the individual’s BAC at 7:00 PM would have been 7 mg% with the elimination rate of 20 mg% per hour. Once again, at 7:00 PM the individual’s BAC based upon that consumption of alcohol over that period using the rate of 25 mg% per hour, the individual’s BAC would still be “zero.”

[564] The next calculation of the individual’s BAC was for the period from 7:00 PM on June 9 and ending at 1:30 AM on June 10th. During that period, the individual consumed four glasses of wine and there was no further consumption after 1:30 AM. For that consumption of alcohol and assuming that each glass of wine was 5 ounces of 12% alcohol by volume, Ms. Hackett calculated that, at 1:30 AM, the individual’s BAC would be 87 mg% based upon the alcohol elimination rate of 10 mg% per hour. At that time, using elimination rates of either 20 mg% or 25 mg% per hour, the individual’s BAC would have been “zero” or “0 mg%.”

[565] In terms of the calculation of the individual’s BAC on June 10 at 1:30 AM, Ms. Hackett did note that, depending on the time when the last of the four glasses of wine was consumed between 7:00 PM and 1:30 AM, when the BAC was calculated at the elimination rates of either 20 mg% per hour or 25 mg% per hour, there could be some residual alcohol in the individual’s system for short amount of time. However, the individual’s BAC would have been at or very close to “zero” by 1:30 AM based upon either one of those two rates of elimination.

[566] The next period to calculate the individual’s BAC at 4:00 AM, assuming that no additional alcohol was consumed between 1:30 AM and 4:00 AM. During that time, Ms. Hackett stated that the individual’s BAC would be continuing to decline. She calculated the individual’s BAC would have been 62 mg% at 4:00 AM based upon the alcohol elimination rate of 10 mg% per hour. Like her previous

calculations for 1:30 AM, the BAC of the individual using an elimination rate of either 20 mg% or 25 mg% per hour would have both resulted in a BAC of "zero."

[567] The next calculation of BAC was based on the time when the individual's alcohol elimination rate at 10 mg% per hour would yield a BAC at or near "zero." According to Ms. Hackett's calculations, at about 10:12 AM on June 10th, the individual's BAC would have reached "zero" based upon that 10 mg% elimination rate per hour.

[568] For the other time periods on June 10, 2018, which Ms. Hackett was asked to calculate an individual's BAC, specifically 12:18 PM and 3:29 PM, she noted that the **hypothetical** scenario indicated that no further alcohol was consumed after 1:30 AM on June 10th. Then, Ms. Hackett stated that, for all three calculations whether using elimination rates at 10 mg%, 20 mg% and 25 mg% per hour, the BAC would have been "zero" by 10:12 AM and would also have been "zero" at 12:18 PM and at 3:29 PM.

[569] Based upon Ms. Hackett's understanding of the operation of the breath screening device and the breath testing instruments, if an individual's blood alcohol concentration was "zero" at the time of those breath tests, the result on the Intox EC/IR II would be a "zero" BAC. Similarly, she stated that. with respect to the ASD, which in this case was in Alco-Sensor FST, if there was absolutely no alcohol in the blood at the time when the breath sample was provided, there would be no alcohol in the device to analyze.

[570] She also noted that forward calculations or calculations based on hypothetical drinking scenarios are "inherently unreliable." She added that there are many factors that cannot be taken into account for these calculations. For example, the consumption of food at the same time as the consumption of alcohol will lead to a decreased absorption of the alcohol and a lower maximum blood-alcohol concentration.

[571] She pointed out that, for these calculations, she had assumed a "maximum" absorption and "maximum" blood-alcohol concentration. There is simply no reliable way to take into account the consumption of food, for example, but in her opinion, the BAC would be lower in an individual who drank and was also eating food versus an individual who was drinking alcohol on an empty stomach. As a result, that is why it is her practice to give the "theoretical maximum blood-alcohol concentration."

[572] Ms. Hackett also explained that the rate of consumption as well as the timing of consumption can also play a role. For example, if the consumption of each beer or glass of wine is not spaced out, there can be different outcomes if at the beginning of the scenario, a small amount is consumed, and the balance is consumed towards the end. For that reason, they make an assumption that the beverages are spaced out evenly through the drinking scenario.

[573] Finally, another important variable that cannot be considered in providing an opinion, is that the expert does not know exactly what amount or when the consumption occurred and when an individual self-reports a drinking scenario, she stated that people tend to under-report what they consumed. The lack of accurate information about those variables could be due to impaired memory or decreased attention or a misunderstanding of the alcohol content of the beverage.

[574] Ms. Hackett provided an example of where this lack of information may impact an extrapolation. For example, in a restaurant if you order a glass of wine, the amount is measured by the restaurant. However, in a social setting at someone's house, the wine tends to be a "Free Pour" so the volume and alcohol content of the wine being poured into the glass is uncertain. In addition, the individual may not know that someone else had topped up their glass of wine.

[575] Next, the Crown Attorney asked Ms. Hackett to comment on the calculations of the **hypothetical** scenario made by Mr. Johnstone in Exhibit 21. The Crown Attorney stated that Mr. Johnstone had been provided with the same **hypothetical** scenario and noted that there were a few differences in their calculations. Ms. Hackett stated that specialists may use several different equations - some consider gender, height and weight, others only gender and weight, while some others may also consider blood density. In addition, some specialists also consider an absorption factor and that a certain amount of alcohol is not deemed to have contributed to the person's blood alcohol concentration which would lead to a lower BAC, in a sense.

[576] Following a discussion with counsel, in the absence of Ms. Hackett, it was agreed that the portion of her Table of calculations [Exhibit 23] on the second page entitled "Additional Calculation" would be excised from the Exhibit. However, during rebuttal evidence, it was also determined that the Crown could pose further **hypothetical** questions based upon opinion evidence proffered by defence witnesses. The Crown Attorney posed a **hypothetical** question based upon second breath test results of a BAC of 160 mg% and asked Ms. Hackett if an individual

had a 40% increased gas exchange, how would that impact the BAC results at 3:29 PM and then, what would be the BAC when extrapolated back to 12:18 PM.

[577] Ms. Hackett made those calculations on the stand and stated that, if an individual's gas exchange in their lungs was increased by 40%, the result obtained by the breath test instrument would be "too high." In this case, since the BAC was 160 mg% at 3:29 PM, if a BAC at that point was increased by 40% to result in a BAC of 160 mg% number, then based on her calculations, the BAC would have been 114 mg% at 3:29 PM. She indicated that a BAC of 114 mg% BAC when increased by 40 % would equal the rounded result of 160 mg% at 3:29 PM.

[578] Then, Ms. Hackett continued with the second part in the **hypothetical** scenario, which was to extrapolate that result back to the "time of the incident" at 12:18 PM, which has been utilized as the time of the accident. Ms. Hackett stated that she calculated the range of the individual's BAC to be between 146 mg% using an alcohol elimination rate of 10 mg% and 178 mg% using a 20 mg% per hour alcohol elimination rate.

[579] Ms. Hackett added that those are the "standard rates" of elimination that she typically uses in her reports, she does not usually go up to 25 mg% unless asked.

[580] Ms. Hackett was then provided with another **hypothetical** scenario, with the same basic facts but instead of a 40 % increase in the gas exchange, to calculate if the gas exchange was double [that is, 100%] the normal gas exchange. In putting forward this hypothetical scenario, the Crown Attorney referred to Dr. Leblanc's opinion evidence about gas exchange rates, that is, the passage of gases from the bloodstream into the lungs or vice versa. In this case, the movement of gas or gases would be the alcohol crossing the lung membrane which would then utilize the blood to breath ratio of the Approved Instrument.

[581] Ms. Hackett stated that the Intox EC/IR II device has been calibrated with a blood to breath ratio of 2100 parts of deep lung air to one part of blood, as the partition ratio. If the partition ratio or gas exchange rate was doubled, that is, being 100% more, then the blood to breath ratio would be too high. Therefore, you would have to cut that ratio in half so that the blood to breath ratio would be 1050:1 instead of 2100:1 ratio.

[582] For this **hypothetical**, if the blood to breath partition ratio was 1050:1 as opposed to 2100:1, Ms. Hackett was asked what the BAC would have been using that hypothetical based upon the Intox EC/IR II breath sample result at 3:29 PM

being 160 mg%. Ms. Hackett stated that, using that **hypothetical** (1050:1) partition ratio, the second breath test would have been 80 mg% at 3:29 PM if the gas exchange rate was increased by 100% and the instrument would have been "overestimating" the BAC by double in that event.

[583] Given that result, based upon the hypothetically doubled (1050:1) partition rate at 3:29 PM, being the time when the second suitable sample of breath was analysed by the Approved Instrument, the Crown Attorney asked Ms. Hackett to extrapolate that hypothetical 80 mg% BAC at 3:29 PM back to the time of the accident (12:18 PM) and to indicate a range of BAC using the elimination rates of 10 mg% and 20 mg% per hour. Ms. Hackett conducted that extrapolation and stated that her calculation of that 80 mg% BAC at 3:29 PM back to 12:18 PM, would result in a BAC of between 112 mg% with an elimination rate of 10 mg% per hour and 144 mg% using an elimination rate of 20 mg% per hour.

[584] On cross-examination, Ms. Hackett confirmed that the calculations done in Exhibit 23 were in response to Ms. Lane's questions as well as her oral testimony in relation to other assumptions and that they do not reflect any individual's measured blood alcohol content. In terms of the discussion around the 40 % increase in gas exchange, Ms. Hackett agreed that it was based upon Dr. Leblanc's evidence that, in asthmatic patients, gas exchanges can be increased by up to 40 % in his practice. She also confirmed that she has not done any calculations that would reflect excessive Ventolin use or any calculations that would reflect any increased gas exchange as a result of physical stress or trauma by an accident.

ANALYSIS:

[585] At the outset of my analysis, it is important to note the general principles which apply in all criminal trials. First, in a criminal trial the burden is on the Crown to prove the charges against any accused beyond a reasonable doubt. Furthermore, Mr. Yeo is presumed to be innocent of the charges before the Court unless I conclude that the Crown has proved his guilt beyond a reasonable doubt. The effect of that presumption of innocence means that Mr. Yeo did not have to testify, present any evidence or prove anything. The burden of proof is on the Crown, and it never shifts to Mr. Yeo.

[586] The Supreme Court of Canada has established in cases such as ***R. v. Lifchus,*** [1997] 1 SCR 320 and ***R. v. Starr,*** [2000] 2 SCR 144 that "reasonable doubt" does not require the Crown to prove the allegations to an absolute certainty. However,

the standard of proof beyond a reasonable doubt falls much closer to absolute certainty than to proof on a balance of probabilities.

[587] The Supreme Court of Canada has also pointed out in those decisions that a reasonable doubt is not based upon sympathy or prejudice, nor is it an imaginary or frivolous doubt. It is a doubt based upon reason and common sense which is logically connected to the evidence or the lack of evidence.

[588] Reasonable doubt may arise through the evidence presented by the Crown, if the Court determines that the evidence was vague, inconsistent, improbable, or lacking in cogency so as to not constitute proof beyond a reasonable doubt. Of course, reasonable doubt can also arise from testimony of an accused, or any other evidence tendered by the Defence from any other sources.

[589] In ***R. v. W. (D.),*** [1991] 1 SCR 742, the Supreme Court of Canada formulated model instructions for a trier of fact regarding the issue of reasonable doubt which I must keep in mind and apply. If I accept the evidence of the accused, I must acquit. If I do not accept the evidence of the accused, but the evidence of the accused leaves me with a reasonable doubt, then I must acquit. If I am not left with a reasonable doubt by the evidence of the accused, then I must look at the totality of the evidence which I accept and, on that basis, determine whether the Crown has proved its case beyond a reasonable doubt.

[590] It must be emphasized that mere disbelief of the accused's evidence does not satisfy the burden of proof which rests upon the Crown. Given the third step in the application of the burden of proof as mentioned in the ***W. (D.)*** case, it is not necessary for the trial judge to believe or accept the Defence evidence for there to be a reasonable doubt. The evidence as a whole may leave the trier of fact with a reasonable doubt and in considering the evidence or lack of evidence, I may believe and accept all, some or none of the evidence of a witness or accept parts of the witness's testimony and reject other parts.

[591] In this trial, the parties were able to reach an agreement on several factual issues, which have been referred to as *Admissions*, which were made pursuant to section 655 of the **Criminal Code**. In those *Admissions*, which were filed as Exhibit 1 in the trial, the parties have agreed that Mr. Yeo admits, for the purpose of dispensing with the proof thereof and **for the exclusive purposes of this trial matter** and related criminal proceedings that, **without admitting causation**, the injuries alleged by the Crown and supported by the documents attached in Exhibit

1 meet the criteria to establish “bodily harm” in relation to all counts of the Information before the Court.

[592] The parties have also agreed that the identity of the accused has been established and that all statements, facts, and documents contained in Exhibit 1 are as alleged. Exhibit 1 includes written reports, medical records, transcripts of audio statements obtained by the police following the motor vehicle accident on June 10, 2018, and photographs taken shortly after the accident.

[593] In determining whether the Crown has established all of the charges beyond a reasonable doubt, the trier of fact must consider all of the evidence. While I have just outlined the areas where the parties have reached an agreement with respect to certain *Admissions***,** several witnesses were called to testify in court by the Crown Attorney and Defence Counsel. In those circumstances, the Court has to consider the credibility and the reliability of the witness’s evidence and determine what, if any, weight should be attached to the evidence in the consideration of the key trial issues.

[594] Credibility relates to a witness’s sincerity, that is, his or her willingness to speak the truth as the witness believes it to be. Reliability, on the other hand, relates to the actual accuracy of the witness’s testimony. The accuracy of a witness’s testimony involves considerations of the witness’s ability to accurately observe, recall and recount the events in issue. The assessment of the evidence of a credible, that is honest witness, may still be unreliable.

[595] In addition, expert witnesses were called by the Crown Attorney and by Defence Counsel and were qualified to provide independent, impartial and unbiased opinion evidence in their specific areas of education, training and experience. Like other witnesses, the Court must determine how much weight to accord to that opinion evidence based upon their reasons for expressing the opinion and in consideration with the totality of the evidence in the case.

ISSUES:

[596] The issues presented in this trial flow directly from the counts set out in the Information, which was sworn on July 19, 2018:

1. With respect to the first four counts in the Information, has the Crown established, beyond a reasonable doubt, that on or about June 10, 2018, near Goffs, Nova Scotia, Mr. Yeo unlawfully had care or control of a motor

vehicle, while his ability to operate a motor vehicle was **impaired** by alcohol or drug, "**and did thereby cause bodily harm**" to Sherry MacDonald, Bernie MacDonald, Michelle Robichaud and Abdulmajeed Faisal, contrary to section 255(2) of the **Criminal Code?**

2. With respect to the fifth count in the Information, has the Crown established, beyond a reasonable doubt, that on or about June 10, 2018, near Goffs, Nova Scotia, Mr. Yeo had consumed alcohol in such a quantity that the concentration thereof in his blood **exceeded 80 mg of alcohol** in 100 ml of blood, **while** having care or control of a motor vehicle, **"cause an accident resulting in bodily harm,** contrary to section 255(2.1) of the **Criminal Code**?

[597] In outlining the key issues in this trial, it is important to note that, during the submissions of both the Crown Attorney and Defence Counsel, they highlighted the fact that the onus was on the Crown to establish all the essential elements of the five charges before the Court, beyond a reasonable doubt. However, during their submissions, the Crown Attorney and Defence Counsel also acknowledged that the Court must not only determine whether Mr. Yeo was impaired by alcohol or drug when he operated his motor vehicle but also determine the essential element of the "**causation"** of the bodily harm. Counsel agreed that if the Court concluded that the "**causation**" of the bodily harm was not established beyond a reasonable doubt, Mr. Yeo should be found not guilty of those charges.

[598] In the event that the Court concluded that the "**causation**" issue had not been established by the Crown, beyond a reasonable doubt, both counsel submitted that, there are the included offences of either impaired care or control/operation of a motor vehicle and the over 80 mg in 100 ml of blood charge while having care or control of a motor vehicle operation, in the five offences before the Court. As a result, if the Court concluded that the evidence only established those included offences, beyond a reasonable doubt, Mr. Yeo could be found guilty of the included offences contrary to section 253(1)(a) or (b) of the **Criminal Code**.

[599] In reviewing the key essential element of the charges before the Court with respect to the **causation** issue of the bodily harm**,** I find that Parliament has clearly intended that the Court consider whether the Crown has established, beyond a reasonable doubt, the two different and distinct aspects of the "**causation**" essential element in the charges before the court.

Relevant Sections of the Criminal Code

A. The Offence Sections:

[600] The sections of the **Criminal Code,** RSC 1985, c. C-46 which were in force on June 10, 2018, when these offences are alleged to have occurred, and pursuant to which Mr. Yeo was charged, read as follows:

> **253(1)** Everyone commits an offence who operates a motor vehicle or vessel or operates or assists in the operation of an aircraft or of railway equipment or has care or control of a motor vehicle, vessel, aircraft or railway equipment, whether it is in motion or not,
>
> **(a)** while the person's ability to operate the vehicle, vessel, aircraft, or railway equipment is impaired by alcohol or a drug; or
>
> **(b)** having consumed alcohol in such a quantity that the concentration in the person's blood exceeds 80 milligrams of alcohol in 100 millilitres of blood.
>
> **255 (2)** Everyone **who commits an offence** under paragraph 253(1)(a) **and causes bodily harm to another person as a result** is guilty of an indictable offence and liable to imprisonment for a term of not more than 10 years.
>
> **255 (2.1)** Everyone who, **while committing an offence** under paragraph 253(1)(b), **causes an accident resulting in bodily harm to another person** is guilty of an indictable offence and liable to imprisonment for term of not more than 10 years. [*Emphasis added*]

[601] As I previously indicated, I have found that, with respect to the essential element of "**causation**" which the Crown must establish beyond a reasonable doubt, that there are two separate and distinct aspects of that "**causation**" issue. In setting out the sections of the **Criminal Code** above, which were in effect at the time of the offences before the court, I have highlighted the significant distinctions in the wording of the legislation between those two charges before the court.

B. The Evidentiary Sections:

[602] On December 18, 2018, significant amendments respecting offences in relation to conveyances set out in ***An Act to Amend the Criminal Code*** *(offences relating to conveyances) and to make consequential amendments to other Acts*, SC 2018, c.21 [***Amending Act***] came into force. Section 32(2) of the ***Amending Act*** stipulated that certain provisions under section 320.31 apply retroactively. It reads:

> **2(2)** Subsection 320.31(1) of the **Criminal Code**, as enacted by section 15 of the [*Amending Act*] applies to the trial of an accused that is commenced on or after the day on which that section 15 comes into force if the sample or samples to which the trial relates were taken before that day."

[603] As mentioned, the allegations underlying the offences in this case pre-date the December 18, 2018, coming into force date, of those amendments to the **Criminal Code**, by about five months. Accordingly, since the trial of Mr. Yeo commenced well after the current provisions of the **Criminal Code** came into force and effect, I find that this is a "transitional" case to which the relevant provisions of the ***Amending Act*** apply.

[604] Section 320.31 (1) of the **Criminal Code** reads as follows:

> **320.31(1)** If samples of a person's breath had been received into an approved instrument operated by a qualified technician, the results of the analyses of the samples are conclusive proof of a person's blood-alcohol concentration at the time when the analyses were made if the results of the analysis were the same - or if different, the lowest of the results would be conclusive of the blood-alcohol concentration at the time when the analyses were made – if
>
> (a) before each sample was taken, the qualified technician conducted a system blank test and the result of which is not more than 10 mg of alcohol in 100mL of blood and the system calibration check that the result was within 10% of the target value of the alcohol standard as certified by an analyst;
>
> (b) there was an interval of at least 15 minutes between the times when the samples were taken; and
>
> (c) the results of the analyses, rounded down to the nearest multiple of 10 mg, did not differ by more than 20 mg of alcohol in hundred mL of blood

[605] In essence, the Crown has relied on section 320.33 of the **Code** which reads as follows:

> **320.33** A document that is printed out from an approved instrument and signed by a qualified technician who certifies it to be the printout produced by the approved instrument when it made an analysis of a sample of a person's breath is evidence of the facts alleged in the document without proof of the signature or official character of the person who signed it.

[606] In my opinion, the impact of that "transitional" provision is that if those criteria were met, then the analyses are **conclusive proof** of the person's blood-alcohol concentration **at the time when the analyses were made.** In other words, Parliament, through that transitional provision maintained the so-called

"presumption of accuracy," but not the previous so-called "*presumption of identity*" as the amended legislation did not stipulate that the analyses were, as stated in the former section 258(1)(c) of the **Code,** to be *identical* to the person's blood-alcohol concentration *when the offence was alleged to have occurred.*

[607] Given the fact that the ***Amending Act*** created only a transitional provision for the "*presumption of accuracy*," a great deal of litigation arose as to whether the former "presumption of identity" continued for transitional cases. In ***R. v. McDermott***, 2019 NSPC 70 (CanLII), I found that the former "presumption of identity" in section 258(1)(c) of the **Code** applied to "transitional" trials where the breath tests were taken before December 18, 2018, but the trial was heard after that date. The most succinct statement that the former "presumption of identity" applied in transitional cases was in ***R. v. Pawson,*** 2021 BCCA 2022 **(**CanLII**)** at para. 29, where Frankel JA stated that "much judicial ink has been spent" on the issue and that he agreed "with those judgments that have held that the presumption does apply in such cases."

[608] However, in this case**,** looking at the provisions of the **Criminal Code** that were in force in June, 2018, I find that the "*presumption of identity*" in the former section 258 (1)(c) of the **Code** would not have been available to be utilized by the Crown, in any event, as the conditions precedent for its application had not been met due to the fact that the first of the breath samples was taken more than two hours after the time when the offence is alleged to have been committed.

[609] As a result, both the Crown Attorney and Defence Counsel called and qualified toxicology experts to calculate retrograde extrapolations of Mr. Yeo's blood-alcohol concentration at the time of the accident, approximately 12:18 PM on June 10, 2018, from the time of the second suitable sample of his breath, which was analysed by the Approved Instrument at 3:29 PM on June 10, 2018.

[610] I note here, parenthetically, that when the **Criminal Code** amendments came into force and effect in December 2018, for the purposes of paragraphs 320.14 (1)(b) and (d) of the **Criminal Code**, Parliament removed the requirement that the two samples had to be taken within two hours after the time of the alleged offence and instead legislated a statutory "*presumption- blood-alcohol concentration*" in section 320.31(4) of the **Code**.

Applicable Law – Section 255(2) Impaired driving Causing Bodily Harm

[611] An excellent summary of the applicable law in relation to the impaired operation of a motor vehicle for the purposes of the section 255(2) **Code** charge was summarized by Chief Justice Richards of the Saskatchewan Court of Appeal in ***R. v. Cramer,*** 2019 SKCA 118 at paras. 18 to 21:

> [18] At the time of the matters in issue here, s. 253(1)(a) of the *Criminal Code* (now repealed) provided that it was an offence for a person to operate a motor vehicle "while the person's ability to operate the vehicle … is impaired by alcohol or a drug".
>
> [19] In order to secure a conviction under s. 253(1)(a), the Crown was required to prove, beyond a reasonable doubt, that the ability of the accused to operate a motor vehicle was impaired by alcohol or drugs at the time of the driving at issue.
>
> [20] Any degree of impairment in the ability to operate a motor vehicle, even a slight impairment, is sufficient to sustain a conviction. The impairment need not be marked. See: ***R. v. Stellato*** (1993), 1993 CanLII 3375 (ON CA), 78 CCC (3d) 380 (Ont. CA) at 384, as approved by the Supreme Court of Canada, 1994 CanLII 94 (SCC), [1994] 2 SCR 478.
>
> [21] The issue of impairment must be adjudicated by taking into account the whole of the relevant evidence. Behaviour that is a marked departure from normal will typically carry more probative weight than behaviour that is not a marked departure. However, there is no bright line that says impairment can *only* be inferred from behaviour that is a marked departure from the norm. Justice Jackson put it this way in ***R. v. Hall*** (1994), 1994 CanLII 4630 (SKCA), 125 Sask. R. 62 (CA):
>
> > [8] Hence the importance of Labrosse, J.A.'s words (at p. 384): "[i]f the evidence of impairment is so frail as to leave the trial judge with a reasonable doubt as to impairment, the accused must be acquitted. If the evidence of impairment establishes any degree of impairment ranging from slight to great, the offence has been made out". The essence of ***Stellato*** *(*and the cases referred to therein***, e.g., R. v. Campbell (W.S.)*** **(1**991), 1991 CanLII 2751 (PE SCAD), 87 Nfld. & P.E.I.R. 269; 271 A.P.R. 269; 26 M.V.R. (2d) 319 (P.E.I.C.A.)) is to avoid the application of some rigid standard which might deprive the trier of fact of determining on all the facts whether an accused was indeed impaired. The trier of fact no longer asks the question: does the accused's behaviour or physical characteristics represent a marked departure from the norm. A trier of fact may be able to infer impairment from behaviour which is far outside the norm, but if such behaviour is not present, impairment may be inferred, in the appropriate case, from something less. The trier of fact must, of course, be satisfied beyond a reasonable doubt that the accused's ability to operate a motor vehicle was impaired. (***Stellato***, before its approval by the Supreme Court of Canada, was followed by ***R. v. White***

> ***(G.)*** (1994), 1994 NSCA 77 (CanLII), 130 N.S.R. (2d) 143; 367 A.P.R. 143; 28 C.R. (4th) 160 (C.A.)). [*Emphasis in original*]

[612] In addition, in the case of ***R. v. Phan***, 2015 ONSC 2088, Justice Trotter, as he then was, pointed out how expert evidence in relation to the accused's blood-alcohol concentration at the relevant time may be utilized to establish that the accused's ability to operate a motor vehicle was impaired by alcohol. In that case, there was no evidence of Mr. Phan's manner of driving, and no one observed any indicia of intoxication or impairment after the accident, he had consumed some alcohol prior to driving his van and eventually hitting a woman, who was standing on the driven portion of the highway trying to hitch a ride.

[613] In ***Phan***, *supra*, at para. 64 Trotter J. stated that:

> [64] In appropriate circumstances, impairment may be proved through expert evidence based on breath or blood test results: see ***R. v. Letford*** (2000), 2000 CanLII 17024 (ON CA), 150 C.C.C. (3d) 225 (Ont. C.A.), at p. 230, ***R. v. Laprise*** (1996), 1996 CanLII 6000 (QC CA), 113 C.C.C. (3d) 87 (Que. C.A.), at pp. 92-93 and ***R. v. Hoffner*** (2004), 2005 CanLII 32924 (ON SC), 24 M.V.R. (5th) 280 (Ont. S.C.J.), at para. 66. That is, there is no rule that prevents a trier of fact from relying on this type of evidence alone to conclude beyond a reasonable doubt that an individual's ability to operate a motor vehicle is impaired by alcohol. Moreover, the evidence need not prove profound or significant impairment. This element of the offence is satisfied if the evidence establishes any degree of impairment, from slight to great: see ***R. v. Stellato*** (1993), 1993 CanLII 3375 (ON CA), 78 C.C.C. (3d) 380 (Ont. C.A.), aff'd (1994), 1994 CanLII 94 (SCC), 90 C.C.C. (3d) 160.

[614] With respect to the issue of "**causation**," the comments of Trotter J. in ***Phan,*** *supra***,** at para. 66, 67, 69 and 73 provide helpful guidance with respect to determining the concepts of factual and legal causation:

> [66] The most difficult aspect of this case relates to causation. Mr. Phan was instrumental in the death of Ms. Williams. But an inquiry into causation extends beyond mere instrumentality; it also engages considerations of blameworthiness. These two concepts are known as factual and legal causation.
>
> [67] In ***R. v. Nette*** (2001), 2001 SCC 78 (CanLII), 158 C.C.C. (3d) 486 (S.C.C.), Arbour J. explained these interrelated concepts in the following passage (at p. 505):
>
> > In determining whether a person can be held responsible for causing a particular result, in this case death, it must be determined whether the person caused that result both in fact and in law. Factual causation, as the

> term implies, is concerned with an inquiry about how the victim came to his or her death, in a medical, mechanical, or physical sense, and with the contribution of the accused to that result. Where factual causation is established, the remaining issue is legal causation.
>
> Legal causation, which is also referred to as imputable causation, is concerned with the question of whether the accused person should be held responsible in law for the death that occurred. It is informed by legal considerations such as the wording of the section creating the offence and principles of interpretation. These legal considerations, in turn, reflect fundamental principles of criminal justice such as the principle that the morally innocent should not be punished: (citations omitted). In determining whether legal causation is established, the inquiry is directed at the question of whether the accused person should be held criminally responsible for the consequences that occurred. […]
>
> In a given case, the jury does not engage in a two-part analysis of whether both factual and legal causation have been established. Rather, in the charge to the jury, the trial judge seeks to convey the requisite degree of factual and legal causation that must be found before the accused can be held criminally responsible for the victim's death.

[69] The law recognizes, as this case demonstrates, events or consequences may have more than one cause. In ***Smithers** v. **The Queen***, 1977 CanLII s7 (SCC), [1978] 1 SCR 506, the Supreme Court held that liability may attach when it is proved that the accused is a *contributing* cause "beyond the *de minimis* range." The courts decisions in ***Nette*** and ***Maybin*** favour the use of more straightforward language – the Crown must prove that the accused was a "significant contributing cause" of the relevant consequence. This new formulation is meant to envelope both factual and legal causation: see ***R. v. Talbot*** (2007), 2007 ONCA 81 (CanLII), 217 CCC (3d) 415 (ONCA), at page 437.

[615] It is also interesting to note that, in ***Phan***, *supra*, at paras 78-82, Trotter J. provided some examples where legal causation was **not** established, notwithstanding the finding of factual causation, noting circumstances where it was found that the accident resulted from actions of another driver forcing evasive manoeuvres, or pedestrians by moving into the path of a vehicle. Other categories could include a sudden white out, unforeseen black ice, an animal jumping unexpectedly onto the roadway or a mechanical failure. He indicated that those were all circumstances that may result in an accident such that it cannot be said that the accused driver of the vehicle "caused" the accident.

[616] In my opinion, when you consider those examples provided by Justice Trotter of situations where factual, but legal causation was **not** established, I find that the real issue in those cases boiled down to the court concluding that there had

not been an "*accident*" (as in ***R. v. Jagoe***, 2012 NBCA 72) or the other major category that the Court determined that if there was an accident, it was "*unavoidable*" as in the examples noted above and therefore was not "*caused*" by the accused.

Applicable Law – Section 255 (2.1) Blood alcohol level over legal limit – bodily harm:

[617] In ***R. v. Koma,*** 2015 SKCA 92 (CanLII) at para. 25, Justice Caldwell stated that subsection 255(2.1) of the **Criminal Code** came into force in 2008. Then, in ***R. v. Koma***, *supra,* at para. 27, after referring to the specific wording of that subsection, Caldwell JA stated, based upon the modern principles of statutory interpretation, what that offence requires the Crown to prove:

> [27] On a plain and ordinary reading, and in its grammatical and ordinary sense, the wording of the offence under section 255(2.1) requires the Crown to prove three things beyond a reasonable doubt so as to justify a conviction:
>
> (a) the accused had a blood alcohol concentration of over .08 while operating a motor vehicle or having care or control of a motor vehicle, which is the offence under section 253(1)(b) of the **Criminal Code**;
>
> (b) the accused caused an accident while so operating a motor vehicle or having care or control of a motor vehicle; and
>
> (c) the accident resulted in bodily harm to another individual.
>
> On the straightforward reading, the Crown must establish a **temporal** link between an accused's prohibited blood alcohol concentration, the occurrence of an accident that has resulted in bodily harm to another, but it need not establish a **causal** link between those two elements." (*Emphasis in original*]

[618] The distinction between the "causation" issues of section 255(2) and section 255(2.1) of the **Code** were also very succinctly outlined in ***R. v. Koma***, *supra*, at paras. 31 and 32. The issues around causation in the **Criminal Code** had been addressed by Parliament in 2008 when, as Justice Caldwell pointed out in the decision, Parliament amended the causation element of section 255(2) by inserting the words "*as a result*" after causes bodily harm to another person. Justice Caldwell also pointed out that Parliament, at the same time, also introduced section 255(2.1) which had a different causation element of "*causes an accident resulting in bodily harm."*

[619] In ***R. v. Koma***, *supra*, at para. 31 and 32, Caldwell JA stated:

> [31] The absence from s.255(2.1) of a causal connection similar to that found in section 255(2) reflects the difficulty of requiring the Crown to prove an individual has caused an accident *because* he or she was over .08, without the Crown leading some form of expert evidence as to the effect of blood alcohol concentrations in excess of .08 on *that* individual's ability to operate a motor vehicle that is causally tied to the accident in question. However, this kind of evidentiary difficulty does not arise in cases of impaired driving or dangerous driving where objective indicia of an individual's impairment or recklessness provide an evidentiary basis for a court to conclude the causes of an accident might include an inability to operate a motor vehicle brought on by impairment, negligence or recklessness. For this reason, the causation element of the offence of impaired driving causing bodily harm [s. 255 (2)] is different. There, the Crown has to prove a causal link between an individual's impaired operation of a motor vehicle and bodily harm to another person.
>
> [32] Thus, for a conviction to lie under s. 255 (2.1) of the **Criminal Code**, I conclude the Crown must prove beyond a reasonable doubt that an individual, while operating a motor vehicle or in care or control of a motor vehicle, had a blood-alcohol concentration exceeding 80 mg of alcohol in 100 mL of blood and the individual caused an accident that resulted in bodily harm to another; but, section 255(2.1) does not require the Crown to prove the individual's over .08 blood-alcohol concentration caused the accident. The judge made no error when she concluded similarly. [*Emphasis in the original*]

[620] An equally very clear and persuasive determination of the distinction between the "**causation**" element of the section 255(2) and the section 255(2.1) of the **Code** offences was provided by the Québec Court of Appeal in ***R. v. Gaulin***, 2017 QCCA 705 (CanLII). In that case, the Québec Court of Appeal, *supra,* at paras. 36-37, referred to paras 27- 29 and 31-32 of the Saskatchewan Court of Appeal in ***R. v. Koma***, *supra*, [which I have also referred to above] and noted that the line of authority for the essential element of the "**causation**" for the purposes of section 255(2.1) **Code** charge had been utilized by Rosborough J. in ***R. v. Carver***, 2013 ABPC 140, as well as in Québec cases. Justice Belanger, referring to that "line of authority", stated in ***Gaulin***, *supra*, at para. 38: "In my opinion, this is the most fitting approach."

[621] While the Québec Court of Appeal case dealt with the distinction between section 255(3) **Code** charge of Impaired driving causing death and section 255(3.1) **Code** charge of Blood-alcohol level over the legal limit - death, the wording of both of those provisions is identical to the offences before the court, the only difference being whether a victim had suffered bodily harm or had died.

[622] The Québec Court of Appeal in ***Gaulin,*** *supra*, then added that, although they agreed with the ***Koma*** decision, they believed that more than a "temporal link" between driving with the prohibited blood alcohol level and the accident is needed. Belanger JA stated *supra*, at para. 40-45 as follows:

> [40] A double causal link must be established. First, it must be shown that the driver caused the accident. Then, it must be demonstrated that the accident resulted in injury to or the death of a person. The use of the word "cause" indicates that the legislator intended to exclude cases where the driver's wrongful conduct cannot be linked to the accident. The driver must necessarily have been the effective cause of the accident. [*Emphasis in the original*]
>
> [41] This interpretation is consistent with the language of the statutory provision and the legislator's choice when it chose different wording for the new offence in 2008.
>
> [42] This interpretation also ensures that the accused's blameworthy conduct was in relation to the prohibited consequences. Indeed, an accused should not be convicted merely because, while driving with a blood-alcohol level over the legal limit, he or she was involved in an accident that cannot be attributed to him or her in any way.
>
> [43] Through his or her conduct or driving, the accused must have acted or failed to act in such a way as to have caused an accident. The accused's driving must be evaluated against that of a reasonable driver.
>
> [44] Some wrongdoing must be attributable to the accused, who therefore must be a significant contributing cause of the accident. On this point, the tests adopted by Arbour, J in ***R. v. Nette*** and by Karakatsanis, J in ***R. v. Maybin***, are generally used.
>
> [45] In short, the accused must have significantly contributed to causing the accident, granting, however, that his or her driving need not be the sole cause of the accident.

[623] Furthermore, the Québec Court of Appeal, before summarizing the essential elements of the offence, and in particular, the **causation** element of their offence which involved the over 80 causing death charge [255(3.1) **Code**] stated in **Gaulin**, *supra*, at para. 48:

> [48] It has long been recognized that the offence of driving with a blood alcohol level exceeding 80 mg of alcohol in 100 mL of blood does not require proof that the accused's abilities were impaired by alcohol***. Evidence of a lack of symptoms is irrelevant.*** **[21]** If evidence of the symptoms is irrelevant under paragraph 253(1)(b) of the **Criminal Code**, it should also be irrelevant under section 255(3.1) **Criminal Code** which requires proof of the included offence. [*Emphasis*

> *is mine and the QCCA attributes that remark as footnote #21 in reference to* ***R. v. Boucher****, 2005 SCC 72*.]

[624] In overturning the trial judge's acquittal of the accused and ordering a new trial, the Québec Court of Appeal in ***Gaulin,*** stated *supra* at para. 49**,** as the Saskatchewan Court of Appeal had stated in ***Koma***, that in the analysis of the offence contrary to section 255(3.1) **Criminal Code,** the trial judge was **not** required to determine whether the respondent was impaired.

[625] Instead, the Québec Court of Appeal stated, *supra*, at para. 50, that with respect to the offence contrary to section 255(3.1) of the **Code**, there were three essential elements that the trial judge had to consider, whether:

- The respondent was driving a motor vehicle with the blood alcohol level exceeding the legal limit, that is, whether she violated para. 253(1)(b) of the **Criminal Code**,
- She caused an accident, in that she was a significant contributing cause of the accident as a result of her driving, actions or omissions, granting that her driving need not be the sole cause of the accident, and

- The accident resulted in the death of another person.

[626] In addition, an equally clear distinction between the different causation aspects of the charge of impaired care or control causing bodily harm contrary section 255(2) of the **Code** and the over 80 charge where bodily harm is the result of an accident contrary to section 255(2.1) of the **Code** was provided by Justice Wakefield in ***R. v. Andrews-Summers,*** 2020 ONCJ 286 (CanLII) at para. 11:

> [11] Unlike the charge of impaired care or control, section 255(2.1) does **not** require proof of a causal connection between the alcohol consumption and the consequential bodily harm, but rather requires the Crown to prove beyond a reasonable doubt that the Defendant caused an accident from which a victim suffered bodily harm, **while** the defendant had a blood-alcohol concentration in excess of 80 mg of alcohol in 100 ml of blood. [*Emphasis is mine*]

Analysis re Over 80 mg Alcohol Cause Bodily Harm - Section 255 (2.1) Code

[627] Based upon the essential elements of this offence for which the Crown bears the onus to establish, beyond a reasonable doubt, as stated by the Saskatchewan and Québec Courts of Appeal, I find that the first issue to resolve is whether Mr.

Yeo was driving a motor vehicle on June 10, 2018 **while** he had a blood-alcohol concentration which exceeded the legal limit of 80 mg of alcohol in 100 ml of blood, and thereby committed the offence under section 253(1)(b) of the **Code**.

Was Mr. Yeo operating a motor vehicle while his blood-alcohol level was over 80 mg of alcohol in 100 ml of blood [over .08] and thereby in contravention of section 253(1)(b) of the ***Criminal Code****?*

[628] Based upon Mr. Yeo's evidence and the evidence of Peter Morrison, Mr. Yeo arrived at Peter Alexander's cottage, which is located near Pugwash, Nova Scotia, shortly after noon on Saturday, June 9, 2018. A short time later, Mr. Yeo and the seven other men who were attending this golf weekend at Mr. Alexander's cottage left for the golf course. They played golf, as two groups of four, during the afternoon of Saturday, June 9, 2018, and while at the golf course, Mr. Yeo "guessed" that he had consumed four cans of beer.

[629] After the golf game, everyone went back to Peter Alexander's cottage. Once back at the cottage, during the late afternoon and before dinner, Mr. Yeo stated that he had consumed a couple of cans of beer. Mr. Yeo stated that he drank three or four glasses of wine during the dinner. After dinner, the men socialized and although Mr. Yeo did not specifically recall how much wine he drank during the evening or whether he drank alcohol right up to the time he went to bed, he recalled having sat around with a glass of wine all evening.

[630] According to Mr. Yeo, in terms of his alcohol consumption during the golf game on the afternoon of Saturday, June 9, 2018, he had consumed four (4) cans of beer, and then drank two additional cans of beer after the group returned to the cottage, before he ate supper. During the evening, Mr. Yeo said that he ate dinner and socialized with his friends until he went to bed. According to Mr. Yeo, he only had four glasses of wine during the entire evening and believes that he went to bed around 1:30 AM and did not drink any alcohol after going to bed.

[631] Mr. Yeo stated that he woke up around 7:00 AM on Sunday, June 10, 2018, but laid in bed for about an hour then went outside for a while where he had an asthma attack and coughing spell in the cool crisp morning air. After using his cell phone and playing some video games for a while, around 8:00 AM as the others were starting to wake up, Mr. Yeo started working on the breakfast, which was his traditional role on this golf weekend.

[632] Mr. Yeo used a kitchen knife to cut up and slice leftover barbecued steak from the Friday night dinner, potatoes, vegetables, and cooking them with scrambled eggs in a frying pan. He also cooked bacon and as the other men came to the breakfast table, he plated the meals for the others. While doing that breakfast preparation, Mr. Yeo stated that he did not cut his fingers, he did not burn himself when frying the scrambled eggs or the bacon and had no problems preparing and serving the breakfast. Mr. Morrison's evidence certainly confirmed all of Mr. Yeo's activities in the preparation and plating of the breakfast which he stated was served just before 9:00 AM on Sunday, June 10, 2018.

[633] Mr. Yeo had stated that he was a "social drinker" and weighed about 200 pounds in June 2018. On the morning of Sunday, June 10, 2018, he stated that he did not feel any aftereffects from the alcohol consumed the previous day, however he still had some tightness and coughing due to his asthma, but it had improved from the previous day. While he acknowledged, on cross examination, that he had consumed "an unusual amount" of alcohol the previous afternoon and evening, he added that it was probably nine or 10 beverages over a long period of time and, in the morning, he did not feel any aftereffects from the alcohol consumption the previous day.

[634] Mr. Morrison, who has been a friend of Mr. Yeo for over 20 years stated that Mr. Yeo did not seem tired, did not stumble or stagger and there was no slurred speech or any memory or sensory impairment. He did not recall Mr. Yeo coughing in the morning or using his Ventolin puffer and added that he had not seen any signs of Mr. Yeo being impaired on Sunday morning.

[635] Mr. Yeo stated that he was one of the first to leave the Pugwash area around 11:00 AM on Sunday morning. Mr. Yeo also stated that he did not drink any alcohol on Sunday morning, June 10, 2018, prior to leaving the cottage. He also stated that he did not drink any alcohol on his drive back from the Pugwash area to Halifax. He was feeling a little dehydrated on the drive back to Halifax and drank some bottled water as well as using his Ventolin "puffer" to ease the effects of the asthma that he was experiencing that morning. Mr. Yeo also stated that, after he lost control of his vehicle and it crossed through the centre median of the highway, became airborne and it rolled down the northbound lanes of Highway 102 near the Halifax International Airport, colliding with several vehicles before his car came to rest on its driver's side doors. The roof of Mr. Yeo's car had to be cut off by firefighters in order to extract him from his vehicle.

[636] Mr. Yeo had testified that he had been diagnosed with asthma, about 20 years earlier, when he was about 40 years old and that it might be triggered by cold air, having a cold or the flu or by exercise.

[637] Mr. Yeo explained that when he had a difficult time breathing or was left gasping for air because of his asthma condition, he would use his prescribed Ventolin "puffer" to treat his asthma condition. He indicated that, on occasion, an asthma attack has left him coughing so hard that he becomes light-headed and dizzy, and the situation is made worse when he has a cold or flu-like symptoms.

[638] Mr. Yeo stated that he was experiencing "significant" asthma symptoms during that weekend and that he utilized his Ventolin "puffer" on several occasions. He acknowledged that his use of the "puffer" was more than the recommended dosage, and he was also aware that exceeding the prescribed dosage for the Ventolin "puffer" could be risky to his health.

[639] During the trial testimony, Dr. Leblanc confirmed that, when he met with Mr. Yeo over a year after the incident (in September 2019), he conducted an evaluation of Mr. Yeo and confirmed the asthma diagnosis. Dr. Leblanc also confirmed that the "possible" physiological side effects from the overutilization of the Ventolin "puffer," based on his experience and the product's Monograph [Exhibit 17] were that it could cause dizziness or feeling light-headed, shakiness and an elevated heart rate. In his opinion, the dizziness, or a brief feeling of being light-headed could impair a person's focus and concentration while performing a multiple divided attention task, like driving a car.

Mr. Yeo's operation of his vehicle until the "incident" on Sunday, June 10, 2018:

[640] In terms of Mr. Yeo's operation of his motor vehicle, I find that the evidence established that Mr. Yeo's vehicle went off the southbound lanes of Highway 102 on his way back to Halifax, on Sunday, June 10, 2018, a short distance past the exit to the Halifax International Airport. I find that the evidence of several witnesses and as stated in agreed facts established that Mr. Yeo's vehicle went off the southbound passing lane of Highway 102, crossed through a central grass median and then collided with vehicles travelling on the northbound lanes of Highway 102 around 12:15 PM on June 10, 2018.

[641] In terms of the time when Mr. Yeo's vehicle left the inbound portion of Highway 102 and crossed over to the outbound portion of Highway 102, I note here, parenthetically, that the expert toxicology witnesses. Ms. Hackett and Mr.

Johnstone, in conducting their retrograde extrapolations, have utilized what is probably the reported time of the "incident" being 12:18 PM for their calculations. During their evidence, both Ms. Hackett and Mr. Johnstone indicated that a few minutes difference in the time of the "incident" would not have had any significant impact on their retrograde extrapolations.

[642] Based upon Mr. Yeo's testimony with respect to his approximate time of departure (about 11 AM) from Mr. Alexander's cottage in the Pugwash area to the time when his vehicle left the southbound lanes of Highway 102 and crossed over to the northbound lanes of Highway 102, he had probably operated his vehicle for about 75 to 90 minutes. Mr. Yeo stated that he had initially driven on a "winding country road" near Ski Wentworth, then south on Highway #4 to continue on Highway 104, near Masstown and from there, to continue toward Halifax on Highway 102 from the Truro area. Mr. Yeo stated that he had no difficulty driving his vehicle on any of those roads and that when he got onto the 100 Series Highways, where the speed limit is 110 km/h, he set his cruise control and was travelling somewhere between 5 to 10 km over the posted speed limit.

[643] In those circumstances, I find that the route taken by Mr. Yeo from Pugwash to return to Halifax certainly presented different types of roads and driving conditions, including the volume of traffic travelling on those roads, the width and grade of the road. Mr. Yeo stated that he had set his cruise control at 5 to 10 km/h over the posted speed limit, which the evidence established for Highways 102 and 104, was 110 km/h. I am also prepared to take judicial notice that the posted speed limits on those secondary roads travelled by Mr. Yeo was 80 km/h. Mr. Yeo had stated that he had no difficulty driving on those highways under variable road widths, grades, speeds and likely traffic volume differences.

[644] In those circumstances, it is fair to say that, based upon Mr. Yeo's own observations and the fact that he had just passed the airport exit on Highway 102 southbound, that he had not previously had any problems staying on the travelled portion of the three different types of highways.

[645] During the cross examination of several police witnesses, Defence Counsel had confirmed that they had not received any reports that morning of a potential impaired driver due to any erratic driving or weaving all over the road.

[646] In addition, in the moments just before Mr. Yeo lost control of his vehicle after passing the airport exit on Highway 102 inbound, witnesses who were on Highway 102, either beside or immediately behind Mr. Yeo, had stated that Mr.

Yeo was driving his vehicle in the passing lane, probably going between 115 to 120 km/h and that he was driving “fine” and “nothing was out of the ordinary.”

[647] With respect to the weather conditions and the condition of southbound lanes of Highway 102 between the exit to the Halifax International Airport and the next exit off that Highway, several witnesses confirmed that there were no obstructions on the highway, or any animals that suddenly ran across the highway and there were no potholes or debris on the highway to avoid. The traffic was steady and consistently moving in both southbound lanes towards Halifax at or slightly above the posted speed limit of 110 km/h.

[648] I find that the evidence established that it was a sunny and warm day in early June, with a slight breeze and no witness stated that wind was an issue. The temperature was 17 °C and Highway 102 was clear and dry. Several witnesses confirmed that Highway 102, being a divided highway with two lanes proceeding inbound towards Halifax where Mr. Yeo’s vehicle went off the road, crossed through the grass median and then began rolling down the outbound lanes of Highway 102, was straight and essentially level. In other words, I find that the evidence established there were “ideal driving conditions” around noon on June 10, 2018, on Highway 102 near the Halifax International Airport.

Mr. Yeo loses control of his vehicle:

[649] Mr. Yeo had stated that on the drive back to Halifax, prior to losing control of his vehicle, he had no difficulties driving the car.

[650] Mr. Yeo had stated that, shortly after waking up, he had been sitting outside in the cool air for a period and that he experienced some tightness in his chest and was coughing due to his asthma. He had taken a couple of “puffs” of Ventolin at that time. On the drive back to Halifax, Mr. Yeo drank some sparkling water to maintain hydration, and after drinking that sparkling water while driving his vehicle, he maintained that, although he was feeling “fine,” he still had some coughing fits.

[651] Mr. Yeo’s evidence is that, shortly after leaving Pugwash, near New Annan, he had a coughing fit and reached into the backseat where he had placed his kit bag, got his puffer out and took two puffs of Ventolin and drank some water. He also stated that he had a second “coughing episode” as he was driving near Elmsdale, on Highway 102.

[652] Given Mr. Yeo's speed and the distance involved from Elmsdale to the location where he lost control of his vehicle, I prepared to take judicial notice that this second "coughing episode" occurred about 15 minutes before he lost control of his vehicle. Mr. Yeo stated that he took another two puffs from his Ventolin "puffer" and then put the puffer back in his kit bag, which he had placed on the passenger seat after the earlier "episode."

[653] Mr. Yeo stated that he had a third "coughing spell" near the exit to the Halifax International Airport. At that point, Mr. Yeo stated that, prior to losing control of his vehicle, he had been driving his car on cruise control at about 115 km/h, as he had indicated that he generally drives about 5 km over the posted speed limit.

[654] I find that his evidence with respect to his speed was consistent with the evidence of Ms. Shealynn Wellwood who had testified that she was driving her vehicle in the passing lane immediately behind Mr. Yeo in the moments before his vehicle went out of control. Ms. Wellwood had stated that Mr. Yeo was driving in the passing lane of the highway and after he went by her vehicle, she moved into the passing lane and continued behind Mr. Yeo's vehicle. In that position, she candidly stated that she was "probably too close" to him as they were both going between 115 to 120 km/h on Highway 102 in the passing lane. Based upon that evidence, I find that Mr. Yeo was driving between 5 to 10 km over the speed limit, when his car went out of control immediately in front of Ms. Wellwood, at a speed of about 115 km/h to 120 km/h.

[655] With respect to Mr. Yeo's third "coughing spell" just after the airport exit as he was driving back to Halifax on Highway 102, Mr. Yeo stated that, like the other two occasions, he did not feel that it was necessary to pull over to the side of the road and take "puffs" from his Ventolin inhaler. On this third occasion, he had to reach over to the passenger seat and locate the inhaler as he continued to drive his vehicle at 115 km/h to 120 km/h, now, with only one hand on the steering wheel. On cross-examination, in retrospect, Mr. Yeo acknowledged that it was probably a "bad decision" to not pull over and that his efforts to locate the puffer on the passenger seat was probably a "distraction."

[656] Mr. Yeo had "speculated" that he briefly lost consciousness when he had that third "coughing spell" while he was reaching for the Ventolin inhaler and that is when the wheels on the driver's side of his car went onto the gravel shoulder. On cross-examination, Mr. Yeo had stated that he was trying to maintain control, but

knew if he touched the brakes, he might lose control. He believed that he lightly touched the brake pedal to release the cruise control and then applied the brakes for a moment, but the car swerved and fishtailed out of control, through the grass median and then rolled over a few times on the outbound portion of Highway 102.

[657] I find that Ms. Wellwood's evidence was consistent with Mr. Yeo's evidence that the driver's side tires of his vehicle had gone off the pavement of the passing lane and were on the gravel shoulder, as his car "drifted" to the left. However, she added that those tires of Mr. Yeo's vehicle were on the gravel shoulder for about 10 to 15 seconds, and that the driver, who had been leaning to his left, straightened up and made a quick swerve to the right to try to get back onto the paved portion of the highway. Ms. Wellwood had not seen any indication of his brakes being applied or that Mr. Yeo's car had ever slowed down as it then swerved back to the left and continued through the grass median then onto the other side of the highway and rolled two or three times.

[658] The witnesses who were travelling on the outbound portion of Highway 102 also stated that they did not see any indication that Mr. Yeo's vehicle had slowed down, prior to going through the grass median, becoming airborne and rolling down the outbound portion of Highway 102.

[659] When I consider the totality of the evidence in relation to speed of Mr. Yeo's vehicle at the moment when he lost control and the vehicle went down into the grass median and then became airborne and started rolling down the outbound lanes of Highway 102, I find that, for his vehicle to go through a grass median and then become airborne and fly over a vehicle on the northbound lanes of Highway 102, there can be no doubt that he had to be travelling at a very significant rate of speed, likely continuing at 115 to 120 km/h. In addition, I find that the evidence of Ms. Wellwood, and the evidence of the drivers on the outbound portion of Highway 102 that they did not see any reduction in his speed, established that there was no reduction in the speed of Mr. Yeo's vehicle after it left the paved portion of Highway 102 inbound.

[660] Finally, with respect to the issue of Mr. Yeo losing control of his vehicle shortly after passing the Halifax International Airport exit, I note that there is no evidence whatsoever of him having to take some immediate evasive action as a result another person's operation of their vehicle on the highway or his vehicle having had any sudden and totally unforeseen mechanical problems, such as a tire being blown, which may have caused his car to go out of control. As I have

previously found, when Mr. Yeo lost control of his vehicle on Highway 102 southbound towards Halifax, there were "ideal" driving conditions around noon on June 10, 2018, the roads were clear and dry, there were no weather-related issues that could have affected the operation of anybody's vehicle at that time. In addition, Highway 102 in that location was straight, in good condition and the grade was generally level.

[661] I find that the evidence established through the witnesses and through the *Admissions*, that Mr. Yeo's vehicle collided with the cars of three people on the northbound lanes of Highway 102. In addition, as previously indicated, it was admitted that the four occupants of those three vehicles had suffered "bodily harm" as a result of those collisions. However, as previously stated, the Defence has not admitted the issue of "causation" of the "bodily harm" to those individuals and therefore the Crown has the onus to establish that essential element of the charges before the Court, beyond a reasonable doubt.

Extrapolation opinions of Mr. Yeo's Blood Alcohol Concentration (BAC):

[662] At the outset, as I earlier indicated, with respect to the breathalyzer results in this case, it is important to note that Parliament, in the **Criminal Code's** December 2018 amendments to the care or control of a "conveyance" while impaired or over 80 mg of alcohol in 100 ml of blood offences, created a transitional legislative provision which maintained the "presumption of accuracy." The transitional provisions stated that**, if** the three requirements of section 320.31(1) of the **Code** were met, then, the analyses made by the Approved Instrument operated by a Qualified Technician, if the results were different, the lowest of the results would be **conclusive** of the blood-alcohol concentration **at the time of when the analyses were made.**

[663] Pursuant to section 320.31(1) Code --- **If** the samples of breath had been received into a Approved Instrument operated by a Qualified Technician, the results would be **conclusive *at the time when the analyses were made* if : (a)** a system blank test to be conducted by Qualified Technician and a system calibration check to determine that the result was within 10% of the target value of the Alcohol Standard as certified by an analyst; **(b)** there was an interval of at least 15 minutes between the times when the samples were taken; and **(c)** the results of the analyses, rounded down to the nearest multiple of 10 mg, did not differ by more than 20 mg of alcohol in 100 ml of blood.

[664] I find that all of those requirements for the analyses Mr. Yeo's breath samples to be "**conclusive proof**" **at the time when the analyses were made** were met through the evidence of Const. Collins and Exhibits 5, 6 and 7. In addition, Exhibit 8 which was the Intox EC/IR II's "Subject Test Printout" confirmed all of the breath test sequencing for Mr. Yeo's samples, with an analysis of his first breath sample at 2:54 PM being 170 mg% and his second breath sample at 3:29 PM on June 10, 2018, being 160 mg%.

[665] As mentioned, Section 320.31(1) of the **Code** stipulates that if those three requirements were met and the results of the analyses were different, the "lowest of the results" would be conclusive of the blood-alcohol concentration at the time when the analyses were made. However, since the requirements for the former so-called "presumption of identity" of the BAC could not be met due to the timing of the breath tests after the "incident" involving Mr. Yeo's vehicle colliding with other vehicles, the Crown Attorney and Defence Counsel, both called and qualified toxicology experts to provide their retrograde extrapolations.

[666] Ms. Hackett, who had been called by the Crown Attorney and Mr. Johnstone, who had been called by Defence Counsel, conducted their initial retrograde extrapolations of Mr. Yeo's BAC back to the time of the accident at about 12:18 PM on June 10, 2018, from the result of the second breath analysis, being 160 mg% at 3:29 PM.

[667] In Ms. Hackett's initial extrapolation opinion, which was filed as Exhibit 11 and dated September 12, 2018, her calculations were exclusively based upon the background information in the police file that a male individual had provided the breath samples, that he weighed 91 kg and that the approximate time of the "incident" when Mr. Yeo's vehicle collided with other vehicles, was 12:18 PM on June 10, 2018. In addition, at the time of her initial report, Ms. Hackett had also made assumptions that no alcohol had been consumed at least 30 minutes prior to the time of the collision and that no alcohol was consumed between the time of the collision and when the breath samples taken. were

[668] Based upon those assumptions and using the lower of the two blood-alcohol concentrations from the second breath sample, being 160 mg% at 3:29 PM, Ms. Hackett calculated a retrograde extrapolation, without knowing the amounts of alcohol consumed or the time when the alcohol was consumed, utilizing two different elimination rates of 10 mg% and 20 mg% per hour from that measured and known blood alcohol concentration (BAC). In that initial extrapolation, Ms.

Hackett calculated that Mr. Yeo's BAC at about 12:18 PM would have been between 192 mg% at an elimination rate of 10 mg% per hour and 224 mg% at an elimination rate of 20 mg% per hour.

[669] In Mr. Johnstone's initial retrograde extrapolation back to the time when Mr. Yeo's vehicle collided with other vehicles on Highway 102, he had relied upon the same information and the same assumptions as Ms. Hackett. Mr. Johnstone had also used the same elimination rates per hour from the lower of the two known and measured BAC results, and his calculations came to the same range as Ms. Hackett for Mr. Yeo's BAC at about 12:18 PM on June 10, 2018.

[670] During her cross-examination, Ms. Hackett was asked by Defence Counsel to provide her retrograde extrapolation opinions with respect to Mr. Yeo's BAC at several times during the early morning hours of June 10, 2018, starting at 1:00 AM and using three different elimination rates, being 10 mg% per hour, 20 mg% per hour and 25 mg% per hour. She was asked what would be the "expected symptoms" for an "average social drinker" and what physical or mental indicia of impairment at those various times, would likely be evident.

[671] During the cross-examination, Ms. Hackett acknowledged that some of the "expected symptoms" that might be associated with "severe intoxication" at very high BAC's of over 300 mg%, might even be "lethal," but added that those "expected symptoms" might be affected by a person's "tolerance" to alcohol. She also stated that the external manifestations of a BAC in the range of 190 mg% to 200 mg% may not be externally apparent due to a person's "tolerance" to alcohol Ms. Hackett added that, even in the absence of outward signs or symptoms of "intoxication," it did not necessarily mean that a person's ability to operate a motor vehicle was not impaired by alcohol at an extrapolated BAC range of 192 mg% to 220 mg%.

[672] In relating what "expected symptoms" an "average social drinker" might demonstrate at different ranges of BAC, Ms. Hackett and Mr. Johnstone did not necessarily differ in their descriptions of the expected symptoms that would likely be exhibited at certain BAC levels. They were both of the same view that it would be likely that an "average social drinker" would show some signs of impairment with a BAC in a range between 50 mg% and 100 mg%.

[673] In Ms. Hackett's opinion, for an "average social drinker," some of the impacts on a person's ability to drive would likely be due to decreases in attention, judgment, concentration, visual skills and overall loss of motor control and

coordination. At a range of between 100 mg% to 150 mg%, again, according to Ms. Hackett, an individual would likely be associated with mild to moderate intoxication and there would be several observable symptoms in addition to what she had already mentioned, around balance, motor control and coordination and slurred speech.

[674] In addition to those retrograde extrapolations by Ms. Hackett and Mr. Johnstone to determine Mr. Yeo's BAC going back at certain points in time, which had been based upon utilizing different elimination rates of alcohol from the known result of 160 mg% on the second breath test on the Approved Instrument at 3:29 PM on June 10, 2018, both experts were asked to provide their toxicology opinions, **going forward** in time on the basis of a "scenario."

[675] The "scenario" prepared by the Crown Attorney [Exhibit 22] was based upon Mr. Yeo's testimony in relation to the times when alcohol was consumed, his personal metrics, the details of the beverages consumed with percentage of alcohol by volume and utilizing three different elimination rates. The "scenario" indicated the times when and the amount of alcohol consumed in the afternoon and the evening and that no alcohol had been consumed after going to bed, around 1:30 AM on Sunday, June 10, 2018. Mr. Yeo had also stated that he had not consumed any alcohol after waking up on Sunday morning, during the drive back to Halifax or after he lost control of his vehicle and it collided with other vehicles on Highway 102.

[676] Based upon that **hypothetical** "scenario," during Mr. Johnstone's cross-examination and later, during Ms. Hackett's rebuttal evidence, they were asked to provide their toxicology opinion evidence as to Mr. Yeo's BAC at various points in time, **going forward** from the estimated times and amounts of alcohol consumed on June 9-10, 2018, to the time of the lower of the two known breath samples as determined by the Approved Instrument, being 160 mg% at 3:29 PM on June 10, 2018. Both experts were also specifically asked to calculate Mr. Yeo's BAC **going forward** based upon the "scenario" times and volumes of alcohol consumed, **at 12:18 PM on June 10, 2018**, which had been utilized as the time of the "incident" when Mr. Yeo lost control of his vehicle and it collided with vehicles proceeding in the other direction on Highway 102.

[677] In conducting his calculations, Mr. Johnstone stated that he was using the same criteria as utilized by the RCMP experts, that is, that he was assuming that all the alcohol was absorbed within 30 minutes of the time that it was ingested, and if

not, then some would "carry forward" and be metabolized and reflected at the next calculation, unless it had been eliminated. Mr. Johnstone's toxicology opinion evidence with respect to Mr. Yeo's blood-alcohol concentration at various points in time were filed as Exhibit 21. Mr. Johnstone had calculated Mr. Yeo's BAC at different points in time, using three elimination rates - 10 mg%, 20 mg% and 25 mg% of alcohol, per 100 ml of blood per hour.

[678] While Mr. Johnstone was on the witness stand, he made a minor amendment to his calculations in Exhibit 21 and revised his chart to indicate that, at 12:18 PM on June 10, 2018, Mr. Yeo's BAC would have been 3.9 mg% at elimination rate of 10 mg% per hour. As he had already noted that, in Exhibit 21, Mr. Yeo's BAC, at the elimination rate of 10 mg% per hour, would have been "zero" at 12:41 PM on June 10, 2018.

[679] According to Mr. Johnstone's toxicology opinion evidence, based upon the "scenario" provided by the Crown Attorney which reflected Mr. Yeo's trial testimony, Mr. Yeo's BAC at 1:30 AM on June 10, 2018, would have been 111.8 mg% using an elimination rate of 10 mg% per hour. Mr. Yeo had stated that he believed that he went to bed at that time, slept for the evening and did not consume any additional alcohol after that or at any time the following morning. Mr. Johnstone also calculated Mr. Yeo's BAC **going forward** at 1:30 AM on June 10, 2018, with an elimination rate of 20 mg% per hour and based upon the "scenario," Mr. Yeo's BAC would have been "**zero**" at about 1:00 AM on June 10, 2018. Mr. Johnstone also calculated the BAC based upon the "scenario" and using an elimination rate of 25 mg% per hour, he calculated that Mr. Yeo's BAC would have been "**zero**" around 11:10 PM on June 9, 2018.

[680] According to Mr. Johnstone's calculations of Mr. Yeo's BAC based upon the "scenario" provided by the Crown Attorney which reflected Mr. Yeo's trial evidence, regardless of which one of the three elimination rates was utilized, there would have been "**zero**" alcohol in his body when he provided a sample of his breath into the ASD which registered as an "Fail" at 1:02 PM on June 10, 2018. Furthermore, based upon Mr. Yeo's evidence that no alcohol was consumed on the drive in the morning or after he lost control of his vehicle or prior to going to the police station, the "**going forward**" result would not have changed. In those circumstances, according to Mr. Yeo's stated drinking "scenario," there would still have been "**zero**" alcohol in his body when he provided the second suitable sample of breath for analysis by the Approved Instrument at 3:29 PM on June 10, 2018, which produced the BAC result of 160 mg%.

[681] During her rebuttal evidence, Ms. Hackett presented her calculations of Mr. Yeo's BAC **going forward** at various points in time, based on the same "scenario" and assumptions that had been provided to Mr. Johnstone for his calculations. Ms. Hackett prepared a chart [Exhibit 23] of her calculations of Mr. Yeo's Blood Alcohol Concentrations [BAC's] at various points in time. Ms. Hackett's calculations of Mr. Yeo's BAC were, at a few points in time, slightly lower than Mr. Johnstone's calculations based upon the "scenario," when she used the three different elimination rates of 10 mg%, 20 mg% or 25 mg% per hour.

[682] Ms. Hackett and Mr. Johnstone both agreed that Mr. Yeo's highest BAC would have been at 1:30 AM on June 10, 2018, which was when he believed that he went to bed. At that point in time, Mr. Johnstone's calculation of Mr. Yeo's BAC would have been 111.8 mg%, while Ms. Hackett calculated Mr. Yeo's BAC would have been 87 mg% at 1:30 AM, when both experts used an elimination rate of 10 mg% per hour. Based upon the "scenario" of the timing and amount of alcohol consumed and the assumption that no alcohol was consumed close to 1:30 AM on June 10, 2018, both experts calculated that Mr. Yeo's BAC **going forward** would have been "**zero**" at 1:30 AM, using an elimination rate of either 20 mg% or 25 mg% per hour.

[683] According to Ms. Hackett's calculations based upon the "scenario" of times and amounts of alcohol consumed by Mr. Yeo, and assuming that the alcohol was fully absorbed and distributed at the times when she was asked to estimate Mr. Yeo's BAC, his BAC with an elimination rate of 25 mg% per hour would have been "**zero**" throughout the day on June 9, 2018. In her opinion, Mr. Yeo's BAC would have been "**zero**" at 1:30 AM on June 10, 2018, using an elimination rate of 20 mg% per hour and using an elimination rate of 10 mg% per hour, Mr. Yeo's BAC would have been "**zero**" at 10:12 AM on Sunday, June 10, 2018.

[684] In the final analysis, both experts had calculated that, based upon the "scenario" of Mr. Yeo's stated times and amounts of alcohol consumption, his BAC **going forward** would have been "**zero**" at any one of the three elimination rates that they had utilized, well **before** the ASD breath sample and **several hours prior** to his two samples of breath being analysed by the Approved Instrument. Based upon their calculations, both Mr. Johnstone and Ms. Hackett concluded that the "scenario" of Mr. Yeo's stated times and amounts of alcohol consumed on Saturday, June 9 and perhaps into the early morning hours of Sunday, June 10 were completely "**incompatible**" with their **retrograde or back extrapolations**, from the known breathalyzer result of 160 mg% at 3:29 PM.

[685] Ms. Hackett concluded that Mr. Yeo's stated amounts and times of consumption of alcohol as stated in the "scenario" upon which she provided her calculations of Mr. Yeo's blood-alcohol concentrations, going forward at certain times, were, in her opinion, "inherently unreliable" as they were completely "incompatible" with her retrograde extrapolation back from the analyses by the breathalyzer [Approved Instrument] at 3:29 PM. In those circumstances, Ms. Hackett was of the opinion that Mr. Yeo probably consumed more than the stated amount of four glasses of wine with each glass being assumed to contain 5 ounces of wine during the period between 7:00 PM and 1:30 AM, when he thinks he went to bed.

[686] Ms. Hackett stated, during her rebuttal evidence, and Mr. Johnstone had made a similar remark during his cross examination, that people tend to underestimate the amount of alcohol that they have consumed, especially where it was consumed over a lengthy period and where the alcohol is not served in a restaurant where there would be a "measured pour." Ms. Hackett added that, in a social setting, someone else may have topped up a person's glass of wine without the person knowing that had occurred or each glass of wine may have contained more than the assumed amount of a 5 ounce pour of wine or there may have simply been more glasses of wine consumed than the person recalled. As a result, Ms. Hackett stated that the "assumption" that each glass of wine was only 5 ounces, in a lengthy social setting as described by Mr. Yeo and Mr. Morrison, was likely an inaccurate indication of the volume of alcohol consumed.

[687] During Mr. Johnstone's cross examination with respect to his calculations of Mr. Yeo's BACs at certain times, based upon the times and amounts of alcohol consumed as framed in the "scenario," Mr. Johnstone also agreed that stated times and amounts were "**incompatible**" with his retrograde extrapolation back from the breathalyzer result at 3:29 PM on June 10, 2018. On further cross-examination with respect to what his calculations indicated in relation to the information that he had analysed based on the "scenario," Mr. Johnstone stated that, for him, this only represented an "**incompatibility of facts**."

[688] Given the clarity of the opinions of Ms. Hackett and Mr. Johnstone with respect to Mr. Yeo's stated times and amounts of alcohol consumed as stated in the "scenario," that she believed the scenario information was "inherently unreliable" and Mr. Johnstone's view that the "scenario" represented an "incompatibility of facts," it is evident that their analyses of Mr. Yeo's BAC "**going forward**" raised clear issues relating to the "reliability" of Mr. Yeo's evidence.

[689] While the experts' comments related to the reliability of the "scenario" assumptions, which were based upon Mr. Yeo's trial evidence, the issue of the actual credibility and reliability of any witness's evidence and the weight, if any, to be attached to that evidence, including the opinion evidence of expert witnesses, is a matter for the Court to determine.

[690] With respect to Mr. Yeo's evidence, in terms of his recollection of the amounts and types of alcohol that he consumed during the afternoon during and after the golf event, during supper and then the evening while socializing with the other men at the cottage, while I generally found that his testimony appeared to be credible, however, there were several key aspects of his evidence which, in my opinion, clearly impacted the reliability of certain statements.

[691] First, in my opinion, there is the issue with respect to the reliability of his evidence in relation to the number of drinks of beer and the volume of wine that Mr. Yeo stated that he had consumed during the day on June 9, 2018, until going to bed around 1:30 AM. After cross-examination around the time that he went to bed, the Crown Attorney then suggested that he may have ingested more alcohol than he had previously indicated, Mr. Yeo initially replied: "I don't believe so." However, after the Crown Attorney suggested that it was possible that he had consumed more alcohol than he had previously indicated, Mr. Yeo replied: "it's possible but I… I am not… I am only speculating. I wasn't counting my drinks." In addition, during cross examination, the Crown Attorney had suggested that he had consumed a significant amount of alcohol that day and Mr. Yeo agreed with that suggestion in stating, in his words, that he had consumed an "unusual" volume of alcohol on June 9, 2018, prior to going to bed.

[692] Then, there was the issue of when Mr. Yeo went to bed after the events of Saturday, June 9, 2018, as both experts, in doing various calculations of his blood alcohol concentrations had assumed, based upon his evidence that he went to bed at about 1:30 AM on Sunday, June 10, 2018, and had not consumed any alcohol thereafter. With respect to this evidence, during cross-examination, Mr. Yeo acknowledged that he was not certain of some of the details of times, for example, when he went to bed, because he does not wear a watch. He also acknowledged that his statement that he had gone to bed at about 1:30 AM was an "estimate" and it could have been later, but he was relying on the information which was provided to him by a friend [Mr. Sheehan], at some unspecified point well after the incident on June 10, 2018, that he went to bed around 1:30 AM.

[693] In addition, after Mr. Yeo had explained his basis for his "estimate" that he went to bed around 1:30 AM, the Crown Attorney suggested that Mr. Yeo had gone to bed later than that and he did not necessarily disagree, other than to repeat that it was an "estimate" and that he did not wear a watch. Mr. Yeo recalled that he was one of the first to go to bed, but in that regard, I note that Mr. Morrison recalled that the men socialized until sometime between 2:00 and 3:00 AM. I do note, however, that Mr. Morrison's remark was general in nature, and he was not able to estimate when Mr. Yeo went to bed or make any specific remarks as to how much alcohol Mr. Yeo had consumed prior to going to bed. When I consider this evidence relating to when Mr. Yeo went to bed for the evening and no longer consumed any alcohol, I find that the stated time being 1:30 AM on June 10, 2018, is unreliable.

[694] Then, when I consider the opinions of both toxicology experts with respect to the "scenario" of Mr. Yeo's stated times and amounts of alcohol consumed, I agree with their opinions that the "scenario" of Mr. Yeo's times and consumption of alcohol was either "inherently unreliable" or represented an "incompatibility of facts." I also agree with Ms. Hackett that those aspects of Mr. Yeo's testimony as being "inherent unreliability" is based on the evidence that it represents a complete "incompatibility of facts" with their **retrograde extrapolations** from Mr. Yeo's "**conclusive**" BAC of 160 mg% at 3:29 PM as analysed by the Intox EC/IR II [Approved Instrument].

[695] Furthermore, I find that there is another very important aspect of Mr. Johnstone's and Ms. Hackett's calculations of Mr. Yeo's BAC **going forward** based upon the "scenario" of his stated times and consumption of alcohol, which demonstrates the "inherent unreliability" of Mr. Yeo's stated times and amounts of alcohol consumed during the afternoon of June 9, 2018, into the early morning hours of June 10, 2018.

[696] In calculating Mr. Yeo's BAC for various times **going forward**, based upon the "scenario" of his stated times and amounts of alcohol consumed, both Ms. Hackett and Mr. Johnstone stated that Mr. Yeo's blood-alcohol concentration, when using an elimination rate of either 20 mg% or 25 mg% per hour, would have been "**zero**" and no alcohol would be present in Mr. Yeo's body at 1:30 AM on June 10, 2018.

[697] When both toxicology experts analysed the "scenario," **going forward**, using an elimination rate of 10 mg% per hour, there was a slight difference

between their calculations, with Ms. Hackett calculating that Mr. Yeo's BAC would have been "**zero**" at 10:12 AM on June 10, 2018. For his part, Mr. Johnstone calculated that Mr. Yeo's BAC at 12:18 PM on June 10, 2018 [the estimated time when Mr. Yeo lost control of his vehicle], would have been 3.9 mg% and then would have resulted in a "**zero**" BAC at 12:41 PM on June 10, 2018.

[698] The significance of the "inherent unreliability" or the total "incompatibility of facts" of the "scenario" is that, according to the calculations of both experts, **there would have been no alcohol present in Mr. Yeo's body** that would have been in his breath sample to be analysed by the ASD at 1:01 PM which registered as a "Fail."

[699] Specifically with respect to the ASD breath sample, as the Crown Attorney and Defence Counsel pointed out and I entirely agree, the ASD result is **not** proof of a certain level of BAC. However, the legal significance of that "Fail" result was, as Const. Thomas stated, was that it provided him a reasonable belief that there was a certain level of alcohol in Mr. Yeo's body at that time. As Const. Thomas stated, based upon that result and other information available to him at that time, he believed that he had reasonable grounds to make a further demand that Mr. Yeo provide suitable samples of his breath into an Approved Instrument for analyses.

[700] Then, and once again, the significance of the "**inherent unreliability**" and its total "**incompatibility of facts**" with the "scenario" of Mr. Yeo's stated times and amounts of alcohol consumed on June 9-10, 2018, is further demonstrated by the result of the suitable samples of his breath that were analysed by the Intox EC/IR II [Approved Instrument]. Once again, based on the "scenario" of Mr. Yeo's stated times and amount of alcohol consumed, as calculated by both toxicology experts, **there would have been no alcohol present in Mr. Yeo's body** that would have been in his breath to be analysed by the Approved Instrument.

[701] However, Mr. Yeo did provide two suitable samples of breath for analysis with the first suitable sample of his breath being analysed by the Approved Instrument, about two (2) hours after the ASD demand at 2:54 PM, as being 170 mg%. The second suitable sample of breath was analysed at 3:29 PM on June 10, 2018, as being 160 mg%. Based on the provisions of the **Criminal Code**, as outlined above, I find that the results of the analyses of the samples of Mr. Yeo's breath are "**conclusive proof of his blood-alcohol concentration at the time when the analyses were made."** Pursuant to section 320.31(1) of the **Criminal**

Code, given the difference between the two results, "the **lowest** of the results would be **conclusive of the blood-alcohol concentration at the time when the analyses were made."**

[702] With respect to the meaning and impact of the "conclusive proof of the blood-alcohol concentration at the time when the analyses were made." In the recent case of ***R. v. Tweedle***, 2023 NSCA 11 (CanLII) at paras.15-16, our Court of Appeal cited with approval the comments in *The Law of Evidence in Canada*, 6th Ed. where the authors, Sopinka, Lederman and Bryant describe conclusive presumptions in the following terms:

> "4.24 - Conclusive or irrebuttable presumptions of law are rare and those that exist are mostly statutory. On proof of fact A (the basic fact), fact B (the presumed fact) is conclusively deemed or proven to exist. A person against whom the conclusive presumption operates is not permitted to adduce contrary evidence because a conclusive presumption is absolute, and thus it is irrebuttable."
>
> 4.26 - A conclusive presumption is a rule of substantive law clothed in the language of presumptions…
>
> 4.28 - **Subsections 320.31(1) and (4) of the Criminal Code create conclusive presumptions in relation to the measurement and calculation of a person's blood alcohol level for the purpose of proving the new "over 80" offences in section 320.14.** [*Emphasis added in original text*]

[703] As mentioned, I have already found that Mr. Yeo's evidence was unreliable in relation to the time that he went to bed and the time when he last consumed some alcohol as well as the unreliability of his evidence in relation to the times and amounts of alcohol consumed. In addition, I also find that the "**inherent unreliability**" of his evidence was also highlighted by the **going forward** calculations provided by both experts and that both agreed that the evidence of times and amounts of alcohol consumed were also **totally inconsistent** with a **retrograde** extrapolation.

[704] Furthermore, as both toxicology experts had calculated Mr. Yeo's BAC **going forward** based upon the "scenario" of his stated times and amounts of alcohol consumed to be "**zero**" based upon all three elimination rates, **prior** to either the ASD or Approved Instrument breath samples, I find that the "inherent unreliability" and a complete "incompatibility of facts" of Mr. Yeo's evidence was again demonstrated by the results of the breath sample provided into a properly functioning and operated ASD. The ASD did **not** provide proof of the BAC at that time, but rather, the "fail result" simply an indication of the presence of a

significant amount of alcohol in his blood and provided grounds for Const. Thomas to make a formal breath demand.

[705] Then, over two hours after the ASD result as a "Fail," there are the BAC results of Mr. Yeo's breath samples which were analysed by properly functioning and operated Approved Instrument [Intox EC/IR II]. In addition, pursuant to the provisions of the **Criminal Code,** the lowest of the results are **conclusive of the blood-alcohol concentration at the time when the analyses were made** at 3:29 PM on June 10, 2018.

[706] When I consider what I have found to be significant reliability issues in relation to Mr. Yeo's stated evidence of the times and amounts of alcohol consumed, which reliability issues were also highlighted by the toxicology experts' calculations of his BAC being inconsistent with a **retrograde** extrapolation as well as being completely "unreliable" and "incompatible" with the calculations of his BAC **going forward** prior to the ASD breath sample and the Approved Instrument breath samples, I cannot accept Mr. Yeo's stated evidence of the times and amounts of alcohol that he consumed at the times relevant to the issues before the court.

[707] In fact, based upon what I have found to be "unreliable" evidence of Mr. Yeo's stated times and amounts of alcohol consumed, which was also demonstrated by the toxicology experts' calculations of Mr. Yeo's BAC at certain points in time, I find that the only reasonable inference from the totality of that evidence, that is consistent with the **conclusive blood-alcohol concentration at the time when the analyses were made,** at 3:29 PM on June 10, 2018, is that Mr. Yeo had consumed more alcohol, likely over a longer period, than he believed and has stated.

[708] In those circumstances, it was certainly the opinion of Ms. Hackett that the most accurate estimation of Mr. Yeo's blood-alcohol concentration at about 12:18 PM on June 10, 2018, was based upon a retrograde extrapolation from the **conclusive blood-alcohol concentration at the time when the analyses were made, at 3:29 PM** on June 10, 2018**.** As she mentioned and Mr. Johnstone also acknowledged, the use of elimination rates at 10 mg% and 20 mg% per hour are based upon and supported by scientific literature and long-standing interpretations of available data.

[709] In both her direct examination and during a vigorous cross-examination, Ms. Hackett stated that her **retrograde** extrapolation opinion of Mr. Yeo's BAC at

12:18 PM, that is, at the time of the incident/accident using the known and "**conclusive**" BAC result of 160 mg% at 3:29 PM, and then adding to that known result the elimination rates of 10 mg% or 20 mg% per hour, would result in a BAC range of between 192 mg% and 224 mg%.

[710] During cross-examination, Ms. Hackett explained that when alcohol is consumed by a person, there is first the absorption stage and after that, the elimination stage begins. In conducting her retrograde extrapolation, which she stated was supported by scientific literature and her training as a toxicology expert, she stated that elimination rates do not differ that much and that elimination rates are not linear, but proceed at a constant fixed rate, until almost all the alcohol is eliminated. It is at that point, that the elimination rate will drop.

[711] Based upon Ms. Hackett's evidence that the elimination of alcohol from a person's body proceeds at a "constant fixed rate," it would take a certain amount time to eliminate alcohol from a person's body and the amount of time to do so would obviously be a factor of the amount of alcohol that the person had previously consumed. Given Ms. Hackett's expert opinion evidence that alcohol is eliminated from a person's body at a "constant fixed rate" after the absorption phase, the obvious conclusion from her evidence is that a person's BAC would have been higher at an earlier point in time, as his body would not have eliminated an amount of alcohol at that constant fixed rate of either 10 mg% or 20 mg% per hour, for that period of time.

[712] In this case, Ms. Hackett calculated that retrograde extrapolation and added back either 10 mg% or 20 mg% per hour to the known and "**conclusive**" breathalyzer result of 160 mg% at 3:29 PM. Ms. Hackett's conclusion with respect to a retrograde extrapolation opinion was that Mr. Yeo's BAC at about 12:18 PM on June 10, 2018, would have been between 192 mg% and 224 mg%.

[713] For his retrograde extrapolation from the known breathalyzer result of 160 mg% at 3:29 PM on June 10, 2018, Mr. Johnstone agreed that he did the same calculations as Ms. Hackett by adding to the known result an elimination rate of 10 mg% or 20 mg% per hour to establish a range of Mr. Yeo's BAC at 12:18 PM. Mr. Johnstone had previously stated that, in making his own calculations for that retrograde extrapolation, he had used "the same conceptual approach and the same math" as Ms. Hackett.

[714] Mr. Johnstone had also stated that using the 10 mg% to 20 mg% per hour as an elimination rate is the "accepted convention" for the general population, without

knowing what any individual's actual rate of alcohol elimination might be. He added that the elimination rate is on a bell curve and that, for most of the general population in the Western world, the elimination rate is probably between 16 mg% to 18 mg% per hour. When Mr. Johnstone conducted his calculations to establish his retrograde extrapolation, in using the same "accepted convention" and the same "conceptual approach" as Ms. Hackett, Mr. Johnstone stated that he came up with the same BAC range as she did. Mr. Johnstone's calculations, like Ms. Hackett's retrograde extrapolation, was that Mr. Yeo's BAC at about 12:18 PM on June 10, 2018, would have been between 192 mg% and 224 mg%.

[715] In those circumstances, I find that both toxicology experts agreed that their retrograde extrapolations from the "**conclusive**" breathalyzer result of 160 mg% at 3:29 PM, was that Mr. Yeo's BAC at 12:18 PM on June 10, 2018, when he lost control of his vehicle and it collided with vehicles on the outbound portion of Highway 102 would have been between 192 mg% and 224 mg%. In addition, I note that, in providing their extrapolation opinion evidence, that they both utilized the same "accepted conventions" and "conceptual approach," based upon the scientific literature as well as their training and experience as toxicologists.

Did the Approved Instrument "Overestimate" Mr. Yeo's Blood Alcohol Concentration?

[716] It is the position of the defence, based upon the opinion evidence of Mr. Johnstone and Dr. Leblanc that, although the Approved Instrument was functioning properly and operated by a Qualified Technician, there were several "alternate explanations" for an "overestimation" of Mr. Yeo's BAC by the Approved Instrument or as Mr. Johnstone opined, in his report, the Approved Instrument had generated "a false high equivalent blood-alcohol concentration." It was Mr. Johnstone's opinion, that therefore, any 'extrapolations' based on the abnormally high reported BAC would thus be "inaccurate representations of Mr. Yeo's actual BAC at the time of the accident."

[717] In Mr. Johnstone's report [Exhibit 20 at page 5] and in his direct evidence, he opined that the "alternative explanation will integrate the effects of the asthma, the presence of cold/flu symptoms, the effects of medications he was using during June 9 and 10 and post accident trauma physical effects and shock reaction suffered by Mr. Yeo." Mr. Johnstone added that the "alternative explanation" was based on a number of factors impacting Mr. Yeo's body function in a manner that contributed to him "involuntarily losing control of the vehicle." He opined, in his

report [Exhibit 20 at page 6] and in his evidence that "the asthma symptoms, excess effects of the asthma medication and possibly a shock reaction associated with physical trauma of the accident, could cause the fainting and loss of consciousness and hence his control of the vehicle immediately prior to the accident."

[718] Mr. Johnstone opined in his report [Exhibit 20 at page 7 to 8] as well as in his direct evidence that the Approved Instrument had produced a "false high blood concentration" which would have "overestimated" Mr. Yeo's BAC at the time of the tests" based upon Mr. Yeo's ingestion of asthma medications, asthma symptoms and the physical trauma of the accident.

[719] In addition to the opinion evidence of Mr. Johnstone with respect to a possible "overestimation" of Mr. Yeo's BAC by the Approved Instrument, Defence Counsel also called Dr. Aaron LeBlanc. Dr. Leblanc was qualified to give opinion evidence in terms of the respirology and, in particular, to the impact that Mr. Yeo's acknowledged overutilization of his Ventolin puffer for asthma might have had on the transfer of alcohol as a gas into the lungs.

[720] Dr. Leblanc stated that it was "possible" that Mr. Yeo's increased use of the Ventolin puffer could have increased the rate of transfer by virtue of the use of the puffer, but he had no way to know if that actually happened on June 10, 2018. In addition, he conceded during cross-examination that he had no real way of knowing what Mr. Yeo's gas transfer rate was at the time of the accident and all he could say was what might have been a "possible" effect.

[721] Although Dr. Leblanc had expressed an opinion of a "possible" "overestimation" of gas transfer, he also acknowledged on cross examination that he had not done any work with respect to the gas transfer of ethanol in his experience or training. However, from his experience, he said that an elevated gas transfer rate in the asthma patients that he sees in Nova Scotia starts at 20% and that the most that he has ever seen, in the "most severe asthma patients" that he regularly sees, was between 30 to 40% additional gas transfers in asthmatic patients.

[722] With respect to the weight of this opinion evidence having any significant bearing on the issue of an Mr. Yeo's BAC was "overestimated" by the Approved Instrument at the time of the breath tests, I find it is significant to note that Dr. Leblanc did not state that Mr. Yeo was one of those "most severe asthma patients" despite having conducted a pulmonary function test on Mr. Yeo in September 2019

when he first met with Mr. Yeo. In fact, I noted that Dr. Leblanc also stated that he could not provide a "conclusive determination" from a medical standpoint that Mr. Yeo had asthma at the time of the breath tests, but that it was a "diagnostic probability and the most likely diagnosis."

[723] Dr. Leblanc also put forward several possible scenarios with respect to how asthma might have affected the breath tests based upon an "overestimation" of the alcohol present in Mr. Yeo's breath, due to Mr. Yeo's overutilization of the Ventolin puffer. However, Dr. Leblanc candidly acknowledged during cross-examination, that with respect to his opinions, he only had what he referred to as "general understanding" as to how breathalyzer works, which was based upon his conversations with Mr. Johnstone. As a result, Dr. Leblanc stated that he had provided "qualifiers" or "caveats" to his opinions, that he was advancing "an educated theory" or that an impact on the breathalyzer was "plausible" or "possible" as a result of the Mr. Yeo's reported difficulties with his asthma and his overutilization of the Ventolin puffer.

[724] As a starting point to the analysis of the opinion evidence of Mr. Johnstone that the Approved Instrument may have "overestimated" his actual BAC when he provided two suitable samples for analysis, it is apparent that his "alternate explanation" is largely based on Mr. Johnstone's understanding that Mr. Yeo did not exhibit any or certainly any significant indicia of impairment on the morning of Sunday, June 10, 2018 when used his phone, prepared and served the breakfast and drove his vehicle for one and half to two hours before losing control of it on Highway 102 near the airport.

[725] Mr. Johnstone was of the opinion that, since Mr. Yeo had an apparent lack of indicia of impairment while making and serving the breakfast for his friends, and driving about two hours without incident, that "raised questions in his mind" that there may be "alternate explanations of the events and factors that could recently contribute to and cause the accident." He added in his report [Exhibit 20 at page 5] and in his evidence that the "alternate explanation" would provide a "valid scientific and clinical explanation for the breath test result that may have been a 'technically accurate measurement' of the breath alcohol concentration, while not being representative of his 'actual blood alcohol concentration' at the time of the breath test and therefore at the time of the accident as presumed by Ms. Hackett's back calculation approach which is based on the breath test result."

[726] With respect to that approach, as I mentioned earlier with respect to the essential elements of the offence of care or control of a motor vehicle while having over 80 mg of alcohol in 100 ml of blood in a person's body, and causing bodily harm or death, the Québec Court of Appeal had clearly stated, in ***R. v. Gaulin***, *supra*, at para. 48 that evidence of a lack of symptoms is irrelevant:

> [48] It has long been recognized that the offence of driving with a blood alcohol level exceeding 80 mg of alcohol in 100 mL of blood does not require proof that the accused's abilities were impaired by alcohol***. Evidence of a lack of symptoms is irrelevant*** [21]. If evidence of the symptoms is irrelevant under paragraph 253(1)(b) of the **Criminal Code**, it should also be irrelevant under section 255(3.1) **Criminal Code** which requires proof of the included offence. [*Emphasis is mine - The number [21] in the middle of this paragraph is a footnote number, to reference that their statement is based upon comments made in* ***R. v. Boucher****, 2005 SCC 72*].

[727] In his opinion letter, which was filed as Exhibit 20, Mr. Johnstone listed, at page 2, the information that he believed was relevant from the Crown disclosure documents [at page 2-3] and information obtained from Mr. Yeo and his legal counsel [page 3-4]. It is interesting to note that Mr. Johnstone's report and for that matter during his direct examination, his opinion evidence was largely in relation to the retrograde extrapolation made by Ms. Hackett, with which he actually agreed in terms of her analysis from the known breathalyzer results. However, Mr. Johnstone then moved on to proffer his "alternate explanations" for the "overestimation" or "false high BAC result" breathalyzer results and Mr. Yeo losing control of his vehicle.

[728] In reviewing Mr. Johnstone's direct examination and his opinion letter [Exhibit 20], it appears that he did not base his opinions upon information obtained from Mr. Yeo with respect to the times and amounts of alcohol that he consumed on June 9-10, 2018. As a result, during his cross examination by the Crown Attorney, it would appear that, for the first time, Mr. Johnstone actually calculated Mr. Yeo's BAC at various points in time, **going forward**, based upon the **hypothetical** "scenario" presented by the Crown Attorney of Mr. Yeo's stated times and amounts of alcohol consumed.

[729] After Mr. Johnstone made his calculations of Mr. Yeo's BAC at various points in time **going forward** to the breath tests, based upon the "scenario," Mr. Johnstone calculated that Mr. Yeo's BAC was "**zero**" over **three hours before** the breath tests at 3:29 PM on June 10, 2018, using the elimination rate of 10 mg% per hour and over **12 hours before** the breath tests using an elimination rate of either

20 mg% or 25 mg% per hour. When questioned about his calculations relative to the known breathalyzer results, Mr. Johnstone simply stated that it was an "incompatibility or contradiction in facts."

[730] In those circumstances, as an expert witness, who had stated in his opinion letter and in his trial evidence that the "breath test instruments are not in question in this matter" and then after calculating Mr. Yeo's BAC being "**zero**" mg% result based upon the facts of the "scenario" several hours **before** those breath tests, it is hard to believe that his calculations did not also raise any questions in his mind as to the foundation for his "alternate explanations." Moreover, based on the "scenario" calculations of the BAC **going forward** being "zero" hours before the breath tests, it did not raise a question in his mind how it was then possible that the Approved Instrument had "overestimated" Mr. Yeo's BAC or had generated a "false high BAC."

[731] In addition, although Mr. Johnstone had put forward a possible "alternate explanation" for the "false high blood alcohol concentrations" and that the breathalyzer had "overestimated the predicted blood-alcohol concentration of Mr. Yeo," he agreed on cross examination that breath samples had been received into a properly operated and functioning Approved Instrument. Mr. Johnstone had also agreed that the Approved Instrument would only generate a "**zero**" result, if there was essentially no alcohol in the person's body to be analysed by the breath samples.

[732] Mr. Johnstone had stated in his report [Exhibit 20 at page 7], that the breath test instruments are "designed with very strict design and functional tolerances, to be able to detect and measure the amount of alcohol in the breath blown into it, to determine airflow volume and pressure and other parameters associated with the subject providing the breath sample." Given that statement and that he had also noted that the "reliability of the Approved Instruments was not in question," Mr. Johnstone should have also known that Mr. Yeo's BAC could not have actually been at "**zero**" with no alcohol being present in his body, when the Approved Instrument had detected Mr. Yeo's BAC as being 170 mg% at 2:54 PM and 160 mg% at 3:29 PM, on June 10, 2018. In fact, the "**conclusive**" evidence is that the Approved Instrument had detected a very significant amount of alcohol in the breath sample of Mr. Yeo at the time when those breath samples were taken.

[733] While Mr. Johnstone acknowledged that his calculations of the BAC **going forward** at certain points in time, based upon that "scenario" of Mr. Yeo's stated

times and amounts of alcohol consumed. were “incompatible” or represented a “contradiction of facts” with the “**conclusive**” breath test results from a properly functioning and operated Approved Instrument [Intox EC/IR II], I find that he did not necessarily address the most significant implication of that “incompatibility.”

[734] I find that Mr. Johnstone’s calculations of Mr. Yeo’s BAC **going forward** based upon the “scenario,**”** which were confirmed with minor variations by Ms. Hackett, clearly established that Mr. Yeo’s recollection of those times and amounts of alcohol that he consumed as related to the Court, had to be inherently inaccurate and therefore, unreliable.

[735] I have previously concluded, while Mr. Yeo’s evidence may have been credibly stated, I have found that, in several key respects, there were issues of its reliability. In addition, I also note that as both Mr. Johnstone and Ms. Hackett had stated, from their prior experiences as expert witnesses, people who have consumed a significant amount of alcohol may have impaired memory due to alcohol consumption or have decreased awareness of their alcohol consumption, which contributes to a tendency of underreporting of the amount of alcohol they consumed and impacts the reliability of their evidence.

[736] Given the fact that Mr. Johnstone’s calculations **going forward** of Mr. Yeo’s BAC, at various times, based upon the “scenario” of his stated times and amounts of alcohol consumed, would have been a “**zero**” BAC result **several hours before** the provision of suitable samples for analyses by the Approved Instrument, it simply defies credulity that Mr. Johnstone could continue to proffer an opinion that the Approved Instrument had somehow generated a “false high BAC” or an “overestimation of Mr. Yeo’s BAC” from the **conclusive** BAC of 160 mg% at 3:29 PM on June 10, 2018, based upon what I have found to be the unreliable information with respect to Mr. Yeo’s stated times and amounts of alcohol consumption.

[737] In those circumstances, based upon Mr. Johnstone’s and Ms. Hackett’s retrograde calculations from the known and **conclusive** breathalyzer results, there was still a very significant quantity of alcohol in his blood, which had not been eliminated, when he provided those breath samples. In addition, given the number of occasions where Ms. Hackett and Mr. Johnstone have been qualified as experts in the area of toxicology and they have utilized the same “conceptual approach” in doing their retrograde extrapolation, Mr. Johnstone would have known what Ms. Hackett had stated - once all of the alcohol which was consumed and has been

fully absorbed in the person's body, then the elimination of that alcohol proceeds at a "constant fixed rate."

[738] Based upon that scientifically known fact that alcohol elimination proceeds at a "constant fixed rate." it stands to reason that if a person had a very elevated blood alcohol concentration at an earlier point in time, it would take several hours at that "constant fixed rate" of elimination to reach a "zero" BAC. In addition, as both experts calculated a retrograde extrapolation to determine what a person's BAC would have been at an earlier point in time, in this case, over three hours prior to the known and **conclusive** breathalyzer results test, it is logical that the person's BAC would have been higher at that earlier point in time. Given that constant fixed rate of elimination, a certain amount of alcohol, based upon the elimination rate per hour, would not have been eliminated at that earlier time.

[739] Therefore, as both experts had indicated, in a situation where no additional alcohol was consumed shortly before or after the critical time, in this case at about 12:18 PM when Mr. Yeo lost control of his car, calculating his BAC going back to an earlier time means from the known and **conclusive** 160 mg% breathalyzer analysis at 3:29 PM, his body would not have had the time of over three hours to eliminate alcohol at the "constant fixed rate" of between the 10 mg% and 20 mg% per hour.

[740] As a result, in calculating her retrograde extrapolation, Ms. Hackett calculated the amount of time from the time of the breath test, back to the estimated time when Mr. Yeo lost control of his vehicle and added what had been eliminated during that period of time to the lower of the two breath test results. It was on that basis that Ms. Hackett concluded that her retrograde extrapolation of Mr. Yeo's BAC back to 12:18 PM on June 10, 2018, would be in the range between 192 mg% and 224 mg%.

[741] In fact, in Mr. Johnstone's report [Exhibit 20 at page 5], without indicating that he was basing his opinion on a stated amount of consumption of alcohol by Mr. Yeo as opposed to the retrograde extrapolation from the 160 mg% breathalyzer result at 3:29 PM on June 10, 2018, Mr. Johnstone had stated:

> "For example if I assume that Mr. Yeo had **not** ingested any alcohol after he went to bed in the early morning of June 10, say around 3:00 AM, and I use the same approach as Ms. Hackett, I arrive at a blood-alcohol concentration (BAC) in the range of 280-400 mg of alcohol per 100 mL of blood or greater, at the time when he went to bed at 3:00 AM (depending on his bodies rate of alcohol elimination).

> With that high earlier bedtime BAC at no additional ingested alcohol between then and the accident, the police tests would yield the results they did, without considerations of all the other factors noted in this report."

[742] In those circumstances, prior to considering what Mr. Johnstone proffered as other possible "alternate explanations" for the high BAC reading, it is important to keep in mind that the calculations of Mr. Yeo's BAC **going forward** based upon the "scenario" of his stated times and amounts of alcohol that he consumed, were based upon what I have found to be Mr. Yeo's inaccurate and unreliable evidence. Mr. Yeo's evidence of his stated times and amounts of alcohol consumed, being, in my opinion, unreliable, does not leave me with a reasonable doubt that there was a possible "overestimation" of his BAC or, in an alternative scenario, how a "**zero**" BAC many hours before the scientifically reliable and accurate breathalyzer test, with no additional alcohol being consumed, could somehow result in a BAC of 160 mg% at 3:29 PM on June 10, 2018.

[743] By the same token, both experts in doing what has been regarded as the "accepted conceptual approach" to calculate a retrograde extrapolation from a known and **conclusive** breathalyzer result, would add the amount of alcohol that would have been eliminated in the timeframe, in this case, between 12:18 PM and 3:29 PM on June 10, 2018. As mentioned, a retrograde extrapolation from a known breathalyzer result, by definition, going back in time, would **add** the amount of alcohol that would have been eliminated from a person's body at that "constant fixed rate" during that period of time.

[744] In addition, notwithstanding the fact that Mr. Johnstone had recognized, during his cross examination by the Crown Attorney, that there was as an "incompatibility" or a "contradiction of facts" from his calculations of Mr. Yeo's BAC based upon the facts in the "scenario" **going forward** at certain points in time with the known and **conclusive** Approved Instrument's analysis of 160 mg% at 3:29 PM on June 10, 2018, Mr. Johnstone continue to maintain that there was, as he had stated in his opinion letter [Exhibit 20 at page 9] "an alternate, scientifically supported, hence plausible and credible explanation of events, leading to the accident." He had also stated that the RCMP expert's opinion "did not consider the very real medical and drug-related aspects of Mr. Yeo's condition and their contribution to this accident." [Exhibit 20 at page 10].

[745] Mr. Johnstone's opinion, expressed in his letter and reiterated during his direct examination, was that "if Mr. Yeo's body had the asthma symptoms, ingested the asthma medications, experienced the described drug effects and the

physical trauma effects of the accident, combined with other factors noted here," then he believed that Mr. Yeo's "actual" blood to breath ratio would have been lower than the instrument's assumed 2100:1 ratio. In those circumstances, Mr. Johnstone opined that the BAC reported by the instrument would have "overestimated" Mr. Yeo's BAC at the time of the tests and his BAC extrapolated back to the time of the accident would have also been 'overestimated.'"

[746] With respect to the contention that the Approved Instrument had "overestimated" Mr. Yeo's BAC at the time when it was taken, it is important to remember that the Approved Instrument, as both experts noted, is designed to effectively "underestimate" the results as it "truncates" the analysis of the breath test to the lowest 10 mg%. Therefore, built into the design and function of the Approved Instrument, the 160 mg% results at 3:29 PM on June 10, 2018, could have been as high as 169 mg%, which initially builds in an "underestimation" of the subject's actual BAC of between 1 mg% and 9 mg%.

[747] Then, as both Ms. Hackett and Mr. Johnstone stated, the Approved Instrument also "underestimates" a person's blood alcohol concentration when it conducts the blood to breath calculation to obtain the subject's blood alcohol concentration (BAC). Both experts noted that the Approved Instrument, in this case, the Intox EC/IR II is programmed to have a blood to breath partition ratio of 2100:1, which essentially means that for each 1 mg of alcohol in 2100 ml of lung air, there would be 1 mg of alcohol in 1 ml of blood. However, both experts also stated that, for the large majority of the population, the actual blood to breath ratio is between 2300:1 to 2400:1. In those circumstances, Ms. Hackett had stated that the Approved Instrument is further designed to "underestimate" the large majority of the population's BAC by about 10%.

[748] With respect to the experts' opinions with respect to the blood to breath ratio, I also note that in the 1991 study done in England by PJ Gomm, entitled "*The Effect of Salbutamol on Breath Alcohol Testing* in **Medical Science Law**, [1991] vol. 31, No.3, 226-228 [Exhibit 12], which was filed by the defence during Ms. Hackett's cross-examination, and later discussed during Dr. Leblanc's evidence, the authors of that peer-reviewed study commented on blood to breath ratios at page 228:

> "The ratios did not alter significantly after using the inhaler and remained fairly constant for one hour. The values obtained for the blood: breath alcohol ratios and the elimination rates of alcohol agreed with normal values reported in a national survey (i.e. blood: breath ratio - 92% of the results between 2100:1 and 2900:1,

> elimination rates - 72% of the results between 4 and 12pg/100 ml/hour (Cobb and Dabbs, 1985)."

[749] With respect to the variability of partition rates in the population, Mr. Johnstone had stated that, based upon the scientific literature that he had reviewed, the partition factor is based on a bell curve of the general population between 800:1 and 4000:1. Based upon that wide range, the 2400:1 partition ratio is the median, but Mr. Johnstone added, as Ms. Hackett had also stated, the partition ratio of 2100:1 has been utilized by the Government of Canada for the Approved Instruments based on the fact that it represents a large portion of the population. It was clear from Mr. Johnstone's evidence that he had no idea what Mr. Yeo's specific, but apparently variable, partition ratio was at the time of the breath tests or for that matter, at any point in time.

[750] I also note that Dr. Leblanc had been asked a similar question whether the partition ratio of an asthmatic person in the midst of an asthma attack might have increased the rate of the transfer of ethanol [alcohol] as a gas into the lungs. Dr. Leblanc mentioned that a couple of "peer-reviewed" studies in his report had indicated that asthma could cause an increased rate of gas transfer. However, since Dr. Leblanc stated that he had not performed any tests or studies on Mr. Yeo at the time of any of his symptoms that would indicate a particular rate of transfer, he could only say that it there was a "possible" increase on June 10, 2018. He also conceded, on cross-examination, without having measured it at that specific point in time, "there is no way to know."

[751] When I consider those comments with respect to the partition ratio, Mr. Johnstone had previously acknowledged that he did not know what Mr. Yeo's specific partition ratio was, and although he speculated that it could be possible that it was one half of the programmed Approved Instrument, that is, 1050:1. Given the wide variance of 800:1 to 4000:1 in the partition ratios, based upon the expert evidence the large majority of the population are around the median of that range with a 2400:1 partition ratio. In those circumstances, it is far more likely that Mr. Yeo's partition ratio is in the "large majority of the population", but if not, the other equally speculative possibility is that is partition ratio is at the upper end of the range. In those circumstances, I find that Mr. Johnstone's opinion that it was possible that Mr. Yeo had a 1050:1, being one half of the programmed partition ratio in the Approved Instrument, is an example of mathematical speculation without any basis in the evidence before the Court.

[752] Dr. Leblanc had opined that, while Mr. Yeo was experiencing asthma symptoms, it might be "possible" for an increased rate of transfer, but he also conceded that he had "simply no way to know" whether that was the case at the time of the breath tests without having measured it at that specific point in time.

[753] In addition, Dr. Leblanc had "qualified" that opinion as he also stated that he only had a "general understanding" of how the breathalyzer machine worked, which he had obtained during a few conversations with Mr. Johnstone. While Dr. Leblanc said that the rate of transfer is measurable, he added that it is variable and if not measured at that specific time, you cannot determine if the rate of transfer had actually been increased.

[754] Having stated that the rate of transfer is variable, and that he could not determine if it was actually increased at any particular point in time, Dr. Leblanc went on to express a further opinion, based upon an "educated theory" and a "general understanding" of how the Approved Instrument operates, that there might have been some "overestimate" of a BAC. Once again, during his cross examination, he clearly acknowledged that he could not state that opinion absolutely. He added that was because there were two "qualifiers" to his opinion, which were: "**if**" the person had asthma and "**if**" there was an increased rate of transfer at the time of the breathalyzer tests. In the final analysis, Dr. Leblanc conceded that the most that he could say in relation to this "qualified" opinion was that there was a "possibility" that there might have been some unspecified and unquantified "overestimate" of Mr. Yeo's BAC by the Approved Instrument.

[755] In addition to those "qualifiers" being advanced by Dr. Leblanc, I also note that during Ms. Hackett's cross-examination, Defence Counsel introduced in article from the **Medical Science Law**, [1991] vol. 31, No.3, 226-228 entitled "*The Effect of Salbutamol on Breath Alcohol Testing in Asthmatics"* [Exhibit 12] and she was asked to comment on the study as was Dr. Leblanc during his expert opinion evidence. Although both experts acknowledged that the sample size was relatively small (11 in total – 8 "asthmatic patients" and 3 "healthy" volunteers as the "controls") and Dr. Leblanc's comment that he was not sure that the eight people were actually "asthmatic," the conclusion in the *Abstract*, at page 226, was as follows:

> "Experiments showed that although salbutamol caused bronchodilation, it did not affect breath alcohol levels of 'asthmatics' who have been drinking. The blood: breath alcohol ratios obtained from 'asthmatics' were within the normally recorded range before and after the use of salbutamol. We conclude that the use of

> salbutamol by 'asthmatics' does not affect the reliability of measurements made by evidential breath alcohol testing devices."

[756] As a result, I conclude with respect to the issue of a "possible" increased or decreased partition ratio affecting Mr. Yeo's BAC on the **conclusive** breath tests, it is speculative at best. Furthermore, I find that the speculative nature of that opinion with respect to the partition ratio is further highlighted by the fact that neither Mr. Johnstone nor Dr. Leblanc had any basis for further conjecture that their initial speculation had any specific and quantifiable impact to significantly reduce or, for that matter, perhaps on the other hand, even increase what was Mr. Yeo's known and **conclusive** BAC of 160 mg% at 3:29 PM, which would then have to be extrapolated back to 12:18 PM on June 10, 2018.

[757] Then, Mr. Johnstone had also stated, that in his opinion, Mr. Yeo had likely suffered physiological shock as a result of the accident and the impact of that shock may have altered or "overestimated" the breathalyzer results in some unspecified manner. During his cross examination, the Crown Attorney pointed out that Dr. Leblanc had not agreed with his view that there was likely physiological shock as a result of the accident. Mr. Johnstone stated that he had not heard Dr. Leblanc's evidence, and not being a doctor himself, he was not in a position to challenge Dr. Leblanc's opinion. Notwithstanding that concession, Mr. Johnstone still maintained that Mr. Yeo may have experienced some "disruption of physiological functions" from his car rolling after the accident and he pointed to Mr. Yeo's evidence that he experienced some pain while he was at the police station prior to the breath tests.

[758] Once again, I find that Mr. Johnstone's opinion in relation to possible physiological shock had some impact, in some unspecified manner, on the breathalyzer results, is entirely speculative on his part. First, although he acknowledged that he is not a Medical Doctor, Mr. Johnstone still questioned Dr. Leblanc's opinion that there had not been any physiological trauma based upon Mr. Yeo's testimony as to the symptoms that he was experiencing, a short time after the accident. With respect to these comments by Mr. Johnstone, it certainly bordered on providing opinions outside his area of expertise and in doing so, ventured into opinions as an advocate.

[759] Furthermore, with respect to any "possible" significant impact on the **conclusive** breathalyzer results due to "possible" physiological trauma, I note that, after Mr. Yeo was extracted from his vehicle, he was checked by the EMT team in the ambulance at the scene of the accident and Mr. Yeo was cleared to provide an

ASD sample. Prior to that, there were no indications of any physiological problems as Mr. Yeo had advised Mr. Pickrem that he was okay, Mr. Brooking said that he appeared to be okay with the "cut on his head" and Ms. Norris stated that he appeared to be okay and "lucid." In addition, Mr. Yeo himself had communicated to those people that he was "okay," and he had no problems interacting with Const. Thomas prior to the ASD sample being provided.

[760] In addition, as Mr. Johnstone noted, Mr. Yeo had stated that he was experiencing some pain and discomfort at the police station, prior to the breath tests. As a result, the RCMP officer delayed the breath tests and called for EMT staff to come to the detachment and examine Mr. Yeo. The EMT staff came to the detachment and Mr. Yeo was medical condition was checked for a second time by paramedics. Based upon the evidence of Const. Thomas, paramedics had been called to examine Mr. Yeo, and then they contacted a doctor after their assessment and verified their evaluation with the doctor. Then, once again, Mr. Yeo was cleared to provide the breath samples. After that, Mr. Yeo also attended at the hospital and was under observation for about three hours but was not admitted. Mr. Yeo had stated that x-rays were taken of his chest and side, and he was advised that there were no major concerns, but he could experience some stiffness for a few days.

[761] When I consider all of the relevant evidence with respect to whether Mr. Yeo had "possibly" experienced some physiological shock that "might have impacted the breathalyzer results, there were two medical assessments performed by the EMT personnel and Mr. Yeo was cleared to provide breath samples. On the second occasion where Mr. Yeo was cleared to provide breath samples by EMT personnel, I find that the evidence established that their opinion was verified by a doctor. Then, there was the evidence of Mr. Yeo's comments at the scene after the accidents that he was "okay" as confirmed by the people who interacted with him at the scene, and Dr. Leblanc's belief that there was no "physiological trauma" which affected the breath tests. Taking all of those circumstances into account, I find that Mr. Johnstone's opinion is based on pure speculation and is not supported by the evidence that is actually before the Court.

[762] Furthermore, I cannot accept what I consider to be Mr. Johnstone's further conjecture, based upon his unsubstantiated speculation of some "physiological trauma," then possibly somehow, impacted the **conclusive** breathalyzer results in a very significant, but unquantified manner.

[763] In addition, Dr. Leblanc had opined that it was "possible" that Mr. Yeo's increased use of the Ventolin puffer could have increased the rate of transfer by virtue of the excessive use of the puffer. During cross-examination, Dr. Leblanc acknowledged that he had no way to know if that actually happened on June 10, 2018, and that furthermore, he had also acknowledged that he did not have anything more than a "general understanding" about how the breathalyzer works, and that his "general understanding" was based upon his conversations with Mr. Johnstone.

[764] With respect to what Dr. Leblanc had posited as a "plausible," "possible" or an "educated theory" in which an asthmatic person who might be overusing his Ventolin puffer somehow elevated the breathalyzer results, another important point to note is that Dr. Leblanc had **confirmed that the Ventolin "puffer" does not contain any alcohol.** He stated that the "puffer" sprays a powder into the mouth and that only a small percentage of that powder is absorbed in the lungs.

[765] In those circumstances, I find that there can be no doubt whatsoever that Mr. Yeo's use and, for that matter, his excessive use of the Ventolin "puffer" did not itself add any quantity of alcohol to the amount of alcohol that was already present in his body from his previous consumption of alcohol, when the breathalyzer samples were analysed.

[766] Furthermore, with respect to this "possible" or "educated theory" that the excessive usage of the Ventolin "puffer" somehow impacted the breathalyzer results, it is important to recall that Mr. Yeo's evidence was that he was experiencing severe asthma symptoms throughout the day on June 9, 2018, and again on the morning of Sunday, June 10, 2018. Mr. Yeo acknowledged, and Dr. Leblanc confirmed that his utilization of the Ventolin "puffer" was far greater than the recommended dosage as stated in the product Monograph for "Ventolin HFA" [Exhibit 17 at page 11 of 24]. The Monograph states that "if a more severe attack has not been relieved by the usual dose, further inhalations may be needed every four to six hours. More frequent or larger number of inhalations is not recommended. In these cases, patients should immediately consult their doctor or the nearest hospital."

[767] I also note from a detailed review of the Ventolin HFA Product Monograph [Exhibit 17] that the manufacturer provides information to warn users of possible side effects. In fact, Dr. Leblanc had stated that the manufacturer usually provides that information in an "overcautious" manner, in both the Monograph [Exhibit 17

at page 9 of 24] which refers to "Drug-Drug Interactions" and in the Consumer Information [Exhibit 17 at pages 21-22 of 24], where the manufacturer lists possible "Interactions with this Medication" and "Warnings and Precautions" if the person has or is experiencing certain symptoms. Despite all of those specific warnings and possible interactions, I note that there were no specific warnings in the Ventolin HFA Monograph or the Consumer Information that it should not be utilized if a person is consuming or has consumed alcohol.

[768] Based upon Mr. Yeo's evidence, he had clearly stated that, despite his excessive use of the Ventolin "puffer," he still had significant asthma symptoms and those additional inhalations did not provide any immediate or longer relief to his asthma symptoms on the morning of Sunday, June 10, 2018. Given the fact that Mr. Yeo maintained that his excessive use of the Ventolin "puffer" had not alleviated his asthma symptoms to any significant degree prior to losing control of his vehicle, I find that his evidence is completely inconsistent with the conjecture opined by Mr. Johnstone and Dr. Leblanc that there was a "possible," but essentially unmeasurable, but significant increase in his rate of gas exchange, which may have then "possibly" impacted the **conclusive** breathalyzer results to "overestimate" his BAC.

[769] I find that this "possibility" based upon an "educated theory" is, in my opinion, a further example of an illogical speculation that Mr. Yeo's excessive utilization of the Ventolin "puffer" had somehow caused an "overestimation" of Mr. Yeo's BAC by some unspecified amount. It bears repeating here that Mr. Yeo's evidence was that, despite excess utilization of his Ventolin "puffer," it had not provided any immediate or some ongoing relief [as described in the "Consumer Information" of the Monogram [Exhibit 17 at page 21 of 24] to relieve chest tightness, wheezing and cough to allow the person to breathe more easily.

[770] In those circumstances, I find that it is completely illogical that Mr. Johnstone and Dr. Leblanc could then "speculate" that Mr. Yeo's excessive prior usage of his Ventolin "puffer," which had apparently not provided the relief described in the Monograph, might have then, well **over three hours after his last inhalation** of the Ventolin "puffer," caused the **conclusive** analysis of Mr. Yeo's breath sample to be "overestimated" in some unquantified manner, by a properly functioning and operated Approved Instrument.

[771] After Defence Counsel closed his case, the Crown Attorney recalled Ms. Hackett to provide rebuttal evidence with respect to the Defence experts' opinion

evidence relating to "possible or plausible" impact of the asthma medication on the Approved Instrument and an "overestimation" of Mr. Yeo's blood-alcohol concentration. It was readily apparent that Ms. Hackett did not concur with any of the "possible," or "plausible" opinions put forward by Mr. Johnstone as "alternate explanations" or Dr. Leblanc's "possible" or "educated theory" based upon a "general understanding" for a possible "overestimation" of Mr. Yeo's BAC as determined by the Approved Instrument.

[772] With respect to Dr. Leblanc's "educated theory" which was based upon a "general understanding" of how the Approved Instrument operates, his opinion was that, during an asthma attack, there could be an increase in the rate of gas exchange which would be "faster" in a person with asthma than in a person who does not have asthma. However, Dr. Leblanc had "qualified" his opinion by stating that he had not performed any test or studies on Mr. Yeo at the time of any of his symptoms, and without having measured the rate of transfer at the specific time of the breathalyzer samples, there was no real way to know the actual rate of transfer.

[773] During his testimony, Dr. Leblanc also stated that a person with asthma would have a minimum of a 20% increase in the rate of transfer after the use of a "puffer" and that he had sometimes seen a 30% increase in the rate of transfer, but it was "unlikely" that the rate of transfer would double to a 40% increase in transfer. In his clinical experience, which he indicated was based upon his dealing with some of the most severe asthmatic patients in the province, Dr. Leblanc said he has never observed over a 40% increase in the rate of transfer of gas exchange through the lungs.

[774] During Ms. Hackett's rebuttal evidence, the Crown Attorney asked her to calculate Mr. Yeo's **hypothetical** BAC **assuming** that there was a 40% increase in the rate of gas exchange in Mr. Yeo's second breath sample on June 10, 2018, at 3:29 PM, which had been analysed as being 160 mg%. Based upon an **assumed** 40 % increased rate of transfer or gas exchange, Ms. Hackett calculated that Mr. Yeo's BAC, would have been 114 mg% at 3:29 PM when the second suitable sample of Mr. Yeo's breath was analysed by the Approved Instrument.

[775] Then, Ms. Hackett was asked to calculate a **hypothetical** retrograde extrapolation of that 114 mg% [based on a 40% increased rate of transfer of gas into the lung] back to the time of the incident/accident at 12:18 PM. Ms. Hackett calculated that **hypothetical** retrograde extrapolation and indicated that at 12:18 PM on June 10, 2018, the individual's blood-alcohol concentration would have

been between 146 mg% with an elimination rate of 10 mg% and 178 mg% using the 20 mg% per hour alcohol elimination rate.

[776] In addition, during her rebuttal evidence Ms. Hackett was also asked to provide an extrapolation opinion with respect to the "possibility" that Mr. Yeo had a much lower partition ratio for the transfer of the gas (in this case as ethanol) to the lungs and then into the deep lung breath sample, which was analysed by the Approved Instrument. For this **hypothetical** extrapolation, Ms. Hackett was asked to calculate what Mr. Yeo's BAC would have been **assuming** that his partition ratio or gas exchange rate was a ratio of 1050:1, which Mr. Johnstone had opined as a "possibility." Ms. Hackett stated that a 1050:1 partition ratio is one half (50 %) of the 2100:1 ratio, which has been approved by the Government of Canada and has been programmed into the Approved Instrument for the purpose of calculating a person's blood alcohol concentration.

[777] In posing this **hypothetical scenario** for Ms. Hackett to calculate what Mr. Yeo's BAC would have been if the partition rate was reduced to 1050:1 on the assumption that Mr. Yeo's "possibly" had a partition rate of 1050:1 on June 10, 2018. With respect to this **hypothetical** extrapolation, I find that it is important to keep in mind that Dr. Leblanc had previously stated that, unless someone had conducted a test of what Mr. Yeo's actual partition ratio was at the relevant time on June 10, 2018, there is simply "no way to know" what his actual partition rate of transfer was at the time of the breath tests.

[778] Mr. Johnstone had acknowledged, in his report [Exhibit 20 at page 7(g)] and in his trial evidence that "the breath test instruments are not in question in this matter" and that he was not questioning the accuracy of the breath instrument or whether it had been properly operated. In acknowledging that the breath test instruments were not an issue, Mr. Johnstone also opined that the blood to breath conversion ratio or factor is on a bell curve and that it is "possible" to see actual measured partition ratios from 800:1 to 4000:1. However, Mr. Johnstone also acknowledged that the 2100:1 partition ratio, as programmed into the Approved Instrument, does represent a large portion of the population.

[779] Having acknowledged those facts, in this case, Mr. Johnstone opined in court, what he had stated in his report [Exhibit 20 at page 8(h)] that the impact of the factors of the accident and Mr. Yeo's use of asthma medications "would have" impacted Mr. Yeo's body "to such an extent that is actual Bl:Br APR value would have been substantially different than the value programmed into the breath test

instrument used for his tests." In those circumstances, he further opined, in court as well as in Exhibit 20 at page 8(h) that "the consequence of the lower blood to breath ratio [with higher lung air alcohol concentration] would be for the instrument to overestimate the **predicted** blood-alcohol concentration of Mr. Yeo, thus yielding a false high BAC result."

[780] With respect to Mr. Johnstone's opinion and the fact that "the breath test instruments are not in question in this matter," it is also important to recall that the **conclusive** evidence has established that, on June 10, 2018, Mr. Yeo provided two suitable samples of his breath for analyses by the Approved Instrument at 2:54 PM being 170 mg% and at 3:29 PM being 160 mg%.

[781] The evidence of Const. Collins and the Certificate of the Qualified Technician [Exhibit 5], the Certificates of an Analyst [Exhibits 6 and 7] as well as the "Intox EC/IR II: Subject Test" [Exhibit 8] established that Mr. Yeo's suitable samples of breath were analysed in accordance with the criteria established in section 320.31(1) of the **Criminal Code** by a properly functioning and operated Approved Instrument. As a result, I find that, pursuant to section 320.31(1) of the **Criminal Code,** the lowest result of the analyses of the samples **is conclusive proof** of the person's blood-alcohol concentration **at the time when the analyses were made**.

[782] So, while the accuracy of the Approved Instrument is not an issue and the 160 mg% at 3:29 PM is **conclusive** proof of Mr. Yeo's BAC at that time, Ms. Hackett was asked, during her rebuttal evidence to calculate a **hypothetical** retrograde extrapolation based upon the "possibility" that some people, including Mr. Yeo, may have **hypothetically** had a partition ratio or gas exchange rate of 1050:1.

[783] For this **hypothetical** retrograde extrapolation, **assuming** that the subject's gas exchange rate was 1050:1, instead of the 2100:1 as programmed into the Approved Instrument's operational design, Ms. Hackett said that 1050:1 partition would represent 50% of the Approved Instrument's programmed partition ratio. In those circumstances, using a 1050:1 partition ratio, Ms. Hackett stated that the individual's BAC at 3:29 PM, would be 80 mg% instead of being 160 mg% at the partition ratio of 2100:1.

[784] Like the previous **hypothetical** posed by the Crown Attorney during Ms. Hackett's rebuttal evidence, she was then asked to do a retrograde or back extrapolation of that 80 mg% BAC at 3:29 PM to 12:18 PM on June 10, 2018,

which was the time of the incident/accident. Ms. Hackett calculated the retrograde extrapolation and determined that with an elimination rate of 10 mg% per hour, the low-end of a possible range of the person's blood alcohol concentration would have been 112 mg% and that the upper end of the range, the person's BAC using an elimination rate of 20 mg% per hour, would have been 144 mg%.

[785] With respect to Ms. Hackett's second calculation with respect to the partition ratio being 1050:1 as opposed to 2100:1, I note that, during Mr. Johnstone's cross-examination by the Crown Attorney, he was asked to calculate a **hypothetical** based upon a scenario that there was a "overestimation" of ethanol by 100%. Although the Crown Attorney did not refer to the partition ratio being reduced from 2100:1 to 1050:1, in my opinion, Mr. Johnstone was asked to calculate the same hypothetical issue as Ms. Hackett, during his cross examination.

[786] During his cross examination, Mr. Johnstone had stated that, based upon that same **hypothetical** scenario that was presented to Ms. Hackett on rebuttal, that is, with the subject having a partition ratio of 1050:1 instead of 2100:1, Mr. Johnstone stated that the 160 mg% result at 3:29 PM would be rounded down to 80 mg% or 85 mg% at the time of breath tests. Then, when Mr. Johnstone did same retrograde extrapolation back to the time of the incident/accident at 12:18 PM, he calculated that the subject's BAC range would have been between 96 mg% an elimination rate of 10 mg% and 112 mg% with an elimination rate of 20 mg%.

[787] In looking at these two analyses for retrograde extrapolation based upon the **hypothetical** scenario and **assuming** that the person had a partition ratio of 1050:1 instead of 2100:1 as programmed into the Approved Instrument, both Mr. Johnstone and Ms. Hackett agreed that the BAC at 3:29 PM would be 50% of the result on the Approved Instrument. It appears that Mr. Johnstone also considered the fact that the Approved Instrument "truncates" the breath results and that it was possible that Mr. Yeo's "actual" BAC could have been as high as 169 mg%, and for that reason, he also put forward the slightly rounded up possibility that the person's BAC could have been 85 mg% or 80 mg%. I find that Ms. Hackett utilized 50 % of the lowest or "truncated" result [80 mg%] to calculate her retrograde extrapolation.

[788] Looking at the divergence in the two blood-alcohol concentration ranges as calculated by Ms. Hackett and Mr. Johnstone, I find that Ms. Hackett's retrograde extrapolation accurately calculated the **hypothetical scenario** with respect to what a person's BAC would have been at 12:18 PM with a blood to breath partition rate

of 1050:1. I find that Ms. Hackett's retrograde calculation, accurately considered that the partition rates programmed into the Approved Instrument have nothing to do with the alcohol elimination rates that, as both experts noted, continue at a "constant and fixed rate" until the alcohol in a person's body is eliminated.

[789] As a result, I find that Ms. Hackett's **hypothetical** retrograde calculation of the person's BAC at 12:18 PM, which appropriately and accurately added back the elimination rates of either 10 mg% or 20 mg% per hour for slightly over three hours from 50 % of the **conclusive** BAC at 3:29 PM, which resulted in a **hypothetical** BAC range from 112 mg% to 144 mg%.

[790] On the other hand, I cannot accept Mr. Johnstone's retrograde calculation of the person's BAC based upon the **hypothetical** situation of a "**possible**" partition rate of 1050:1, back to the time of the incident/accident at 12:18 PM. I find that his retrograde calculation, which was a range of 96 mg% to 112 mg%, was much lower than Ms. Hackett's **hypothetical** retrograde calculation, since I find that he erroneously also divided the elimination rates by 50 % and therefore, only added back 16 mg% or 32 mg% to the **hypothetical** 1050:1 partition rate of 80 mg% at 3:29 PM.

[791] Furthermore, it is important to keep in mind that this **hypothetical** scenario, was based on Mr. Johnstone's speculation that it was "possible" that Mr. Yeo's blood to breath ratio on June 10, 2018, was much lower than the Approved Instrument's programmed 2100:1 partition ratio. He speculated that Mr. Yeo may have been at the lowest end of that range with a partition ratio of 1050:1, but Mr. Johnstone also stated that the upper end of the partition rate range was 4000:1. In those circumstances, it is interesting to note that Mr. Johnstone did not even consider the other **hypothetically** "**possible**" alternative that Mr. Yeo's partition ratio may have been towards the upper end of that range. It is also important to recall that Dr. Leblanc had stated that there was no way of knowing if Mr. Yeo had an "increased rate of transfer" and without having measured it, at that specific point in time, in his words, "there is no way to know."

[792] Interestingly, in the article "*The Effect of Salbutamol on Breath Alcohol Testing in Asthmatics"* [Exhibit 12], although it was a small study, it was also a peer-reviewed article which detailed the specific methods utilized by the authors **and** that the results of the breath tests were compared to blood samples taken during the experiment. Under the heading "**Conclusions,**" at page 228, the authors stated that "In asthmatics who were known to be capable of using the evidential

breath alcohol testing devices, improvements in pulmonary function following the use of salbutamol **had no effect on** either breath or blood alcohol concentrations after the consumption of alcohol."

[793] In addition, with respect to "*The Effect of Salbutamol on Breath Alcohol Testing in Asthmatics"* article, once again, I note that it was a small sample, but this was a peer-reviewed study and in that study the authors actually measured the blood to breath ratio of the eight "asthmatic" patients and the control group. While the study involved a limited number of people, the blood to breath ratio **pre-inhaler** ranged from a low of 2082:1 to 2773:1, **post-inhaler** the blood to breath ratio of those "asthmatic" patients ranged from 2174:1 to 2900:1 and then one hour after the use of the inhaler those same "asthmatic" patients had a blood to breath ratio between 2300:1 to 3200:1.

[794] Looking at that study, in relation to Mr. Johnstone's **hypothetical** partition rate scenario of 1050:1 and given the fact that there was no way to know what Mr. Yeo's partition ratio was at the relevant time, no one in that study had a partition ratio below 2082:1, pre or post inhaler usage. In fact, the range of blood to breath ratios in that study were consistent with the values reported in the British national survey with 92% being between 2100:1 and 2900:1, which is also consistent with the evidence of Ms. Hackett and Mr. Johnstone in relation to the partition rate range of the large majority of the population. Moreover, it is also consistent with Ms. Hackett's evidence that the Approved Instrument is programmed to actually "underestimate" the blood to breath ratio of that "large majority" of the population.

[795] In concluding her cross-examination of Mr. Johnstone, the Crown Attorney had asked, based upon his **hypothetical** retrograde calculation with the partition ratio being 1050:1 instead of 2100:1, regardless of whether the elimination rate was 10 mg% per hour or 20 mg% per hour, whether Mr. Yeo's BAC would have been well over 80 mg% at 12:18 PM, being the time of the incident/accident. Mr. Johnstone agreed that Mr. Yeo would still be over 80 mg% "mathematically" at the time of the incident/accident and "that would be correct." However, Mr. Johnstone added that, in his opinion, there was the reality of what he believed happened inside Mr. Yeo's body at that time and that the presence of alcohol did not necessarily mean that the alcohol "caused the accident."

[796] After having considered the totality of the evidence with respect to Mr. Yeo's blood-alcohol concentration at the time of the incident/accident at 12:18 PM on June 10, 2018, I find that the evidence established, beyond a reasonable doubt,

that pursuant to section 320.31(1) of the **Criminal Code** that, the results of the analyses of Mr. Yeo's samples are **conclusive** proof of his blood-alcohol concentration being 160 mg% at the time when the analysis was made at 3:29 PM on June 10, 2018.

[797] In the circumstances of this case, the so-called "presumption of identity" was not available to be utilized by the Crown. As a result, the Crown called and qualified Ms. Hackett as a toxicology expert and I accept her retrograde or back extrapolation opinion from that **conclusive** BAC, which as she stated was based upon the literature and scientifically "accepted conceptual approach" of either an elimination rate of 10 mg% or 20 mg% per hour.

[798] According to Ms. Hackett's retrograde extrapolation, I accept her opinion that Mr. Yeo's BAC at about 12:18 PM on June 10, 2018, which has been utilized as the time of the incident/accident, was between 192 mg% and 224 mg% based upon adding the elimination rates of either 10 mg% or 20 mg% per hour to the measured BAC. In those circumstances, I find that Mr. Yeo's blood-alcohol concentration would have been more than twice the legal limit of 80 mg% at the time of the accident.

[799] In addition, I note that Mr. Johnstone who was called by the defence and qualified as a toxicology expert initially indicated that he had also calculated a retrograde or back extrapolation of Mr. Yeo's blood-alcohol concentration from the **conclusive** breathalyzer result of 160 mg%. Mr. Johnstone stated that he had used the same "accepted conceptual approach" that had been utilized by Ms. Hackett to calculate a retrograde extrapolation. Mr. Johnstone stated that based upon his initial calculation of the retrograde or back extrapolation, his initial opinion was that Mr. Yeo's blood-alcohol concentration at 12:18 PM was essentially in the same range as had been calculated by Ms. Hackett.

[800] However, in his opinion letter and in his trial evidence, Mr. Johnstone moved away from his initial agreement with Ms. Hackett's retrograde or back extrapolation opinion of Mr. Yeo's BAC at 12:18 PM based upon the **conclusive** breathalyzer result of 160 mg% at 3:29 PM on June 10, 2018. In his letter and trial evidence, Mr. Johnstone opined, largely based on the lack of any apparent indicia of impairment being displayed by Mr. Yeo on the morning of the Sunday, June 10, 2018, and having driven for about two hours over initially winding roads and then a divided highway, that asthma symptoms, asthma medications as well as a

possible different partition ratio, presented “alternate explanations” for the “false high BAC” and the cause of the incident/accident.

[801] When I consider Mr. Johnstone’s opinion evidence, I find that his “alternate explanations” which were expressed in his opinion letter and his trial evidence, largely based on the fact that he believed that the high BAC results did not “jive” with the evidence that Mr. Yeo did not exhibit any indicia of impairment on the morning of Sunday, June 10, 2018, and that he was able to operate his vehicle for 90 minutes to two hours initially over a winding road and then the Nova Scotia 100 series divided Highways, without incident, until his car went out of control, off the road and collided with vehicles on the northbound lanes of Highway 102.

[802] As I indicated earlier in this decision, I found that Mr. Yeo’s stated times and amounts of alcohol consumed at the relevant times were very clearly established to be unreliable. In addition, the experts had stated that a lack of indicia may have been due to the possibility that Mr. Yeo was not “an average social drinker” and/or he had a “tolerance” to the consumption of alcohol. Regardless, I am certainly mindful of the cogent statement by the Québec Court of Appeal in ***R. v. Gaulin***, *supra*, at para. 48 in relation to offences of driving with the blood-alcohol level exceeding 80 mg of alcohol in 100 ml of blood that the offence does not require proof that the accused’s abilities were impaired by alcohol - **“Evidence of a lack of symptoms is irrelevant.”**

[803] In addition, with respect to Dr. Leblanc’s “an educated theory” that it was “possible” that Mr. Yeo “could have” had an increased rate of transfer of gases into the lungs [in this case ethanol] on June 10, 2018, as an asthmatic person from his excessive use of his Ventolin puffer to alleviate the asthma symptoms. However, Dr. Leblanc candidly acknowledged, that he did not really know how the Approved Instrument operates and that, without having measured Mr. Yeo’s rate of transfer, “there was no way to know” what his actual rate of transfer was at that time. Moreover, Dr. Leblanc had stated that it would be “unlikely” for there to be an increase of 40% in an individual’s gas exchange in their lungs through the usage of the asthma medications like Ventolin.

[804] Although Dr. Leblanc could only speculate, without knowing Mr. Yeo’s actual and variable rate of transfer that it was “possible” that there “could have been” an increased rate of transfer of up to 40%, he acknowledged that in his practice, dealing with the most severe asthmatic patients in Nova Scotia, which did not include Mr. Yeo, he had only seen an increase of 30% increase in the rate of

transfer of some patients. Having conceded, during cross-examination, that a 40% increased rate of transfer was "unlikely," I find that Ms. Hackett's **hypothetical** retrograde or back extrapolation even on that "unlikely" and speculative scenario that there "might have been" a 40% increase in Mr. Yeo's gas exchange, the **hypothetical** extrapolated result of his blood-alcohol concentration at 12:18 PM would still have been between 146 mg% at an elimination rate of 10 mg% per hour to 178 mg% with an elimination rate of 20 mg% per hour.

[805] For the reasons outlined above, I agree with the submissions of the Crown Attorney and find that, in relation to those "alternate explanations," "possibilities" or "educated theories," they were based on speculation and conjecture which, in my opinion, was also ultimately based upon what I have found to be the unreliable evidence of Mr. Yeo with respect to the times and amounts of alcohol that he had consumed at all relevant times to the issues before the Court.

[806] In addition, having concluded that there was no problem with the breathalyzer's functionality or its use, and in fact, Mr. Johnstone had specifically stated that "the breath test instruments were not in question in this matter," I cannot accept opinions based upon speculation which, in some cases, were based upon further conjecture to put in question the **conclusive proof** that Mr. Yeo's blood-alcohol concentration (BAC) was 160 mg% at 3:29 PM on June 10, 2018.

[807] As indicated previously, I have accepted Ms. Hackett's opinion that Mr. Yeo's BAC at about 12:18 PM on June 10, 2018, which has been utilized as the time of the incident/accident, was between 192 mg% and 224 mg% based upon adding the elimination rates of either 10 mg% or 20 mg% per hour to the measured and "**conclusive**" blood-alcohol concentration of 160 mg% as analysed by the Approved Instrument at 3:29 PM on June 10, 2018. In those circumstances, I find that Mr. Yeo's blood-alcohol concentration would have been more than twice the legal limit of 80 mg% at the time of the accident.

[808] In the final analysis, based upon the totality of the evidence and expert opinion evidence which I have accepted, and for the reasons that I have outlined above, I find that the Crown has established, beyond a reasonable doubt that, on Sunday, June 10, 2018 at about 12:18 PM, Mr. Yeo had care and control and was operating his motor vehicle, after having consumed alcohol in such quantity that the concentration in his blood exceeded 80 mg of alcohol in 100 ml of blood.

[809] Having come to those conclusions, beyond a reasonable doubt, I hereby find Mr. Yeo guilty of having committed the over 80 mg offence contrary to para.

253(1)(b) of the **Criminal Code**, which I find to be an included offence in the charge contrary to section 255(2.1) of the **Criminal Code.**

Has the Crown established that Mr. Yeo's operation of his motor vehicle while having a BAC of over 80 mg % "caused" an "Accident"?

[810] The Supreme Court of Canada has stated, on several occasions that the test for "causation" is whether the accused's actions or omissions were "a significant contributing cause" as set out in ***Smithers v. The Queen***, [1978] 1 SCR, 506, 1977 CanLII 7, and affirmed in ***R. v. Nette***, 2001 SCC 78 and ***R. v. Maybin***, 2012 SCC 24. The Supreme Court of Canada also emphasized in those cases that causation issues are case-specific and fact-driven.

[811] As I indicated earlier in this decision when the essential elements of the offences before the Court were discussed, it is important to note that the section 255(2.1) **Criminal Code** offence came into force in 2008. The Saskatchewan Court of Appeal in ***R. v. Koma***, *supra* at para. 32 concluded that section 255(2.1) of the **Code** requires the Crown to establish, beyond a reasonable doubt, a *temporal* connection between the accused operating or having care or control of a motor vehicle **while** they had a blood alcohol concentration exceeding 80 mg of alcohol in 100 ml of blood **and** that the accused *caused an accident* that resulted in bodily harm to another.

[812] The Québec Court of Appeal in ***R. v. Gaulin***, *supra*, at paras. 40 to 45, cited earlier in this decision, essentially agreed with the Saskatchewan Court of Appeal, but added a nuance to the essential elements that the Crown must establish, in stating that the offence contrary to section 255(2.1) **Code** requires a "double causal link." Belanger JA stated, *supra*, at para. 40:

> First, it must be shown that the driver caused the accident. Then, it must be demonstrated that the accident resulted in injury to or the death of a person. The use of the word "cause" indicates that the legislator intended to exclude cases where the driver's wrongful conduct cannot be linked to the accident. The driver must necessarily have been the effective cause of the accident." [*Emphasis in the original*]

[813] I find that the Québec Court of Appeal in ***Gaulin,*** *supra,* at para. 50, in agreeing with the ***Koma*** decision of the Saskatchewan Court of Appeal very clearly stated, with respect to the "causation" essential element of the section 255(2.1) **Code** offence, that the Crown is required to establish, beyond a

reasonable doubt, that the accused "caused an accident," in the sense that the accused was a "significant contributing cause of the accident as a result of the accused's driving, actions or omissions, granting that the accused's driving need not be the sole cause of the accident." [*I have substituted the word "accused", where the Québec Court of Appeal, in referring to the accused, had utilized "she" or "her."*]

[814] In addition, the Québec Court of Appeal provided further clarification to the "causation" element by reiterating that the accused does not have to be the "sole cause" of the accident. The accused may be convicted of the offence if they were a significant contributing cause to the accident and the bodily harm. However, the Québec Court of Appeal added, *supra*, at para. 42, that he or she should not be convicted, merely because, while driving with a blood-alcohol level over the legal limit, he or she was involved in an accident that cannot, in any way, be attributed to him or her.

[815] With respect to this latter point that the accident "cannot in any way, be attributed to him or her," there have been cases where the "causation" essential element was not established to impute legal liability because the Court had held that there was no "accident" in the first place. For example, in his supplemental brief, Defence Counsel cited a few examples where Courts had found there was an "unavoidable" accident and the accused was only convicted of the included offence of over 80 and impaired driving. One of those cases was ***R. v. Gentles***, 2016 BCCA 68, where the Court found that the victims had walked out in front of the accused's vehicle at an uncontrolled street corner with "minimal" lighting at 2:00 AM on a late April day. The accused, based upon an accident reconstruction, was determined to have only applied his brakes "milliseconds" before striking the two pedestrians, one being seriously injured and the other being killed instantly.

[816] In other circumstances, where the accused person was only convicted of the included offence, the Court had determined that the accident was "unavoidable" as a result of something like a sudden blizzard and white out conditions reducing visibility to zero or there was an accident that was "unavoidable" due to sudden and unforeseen black ice or an animal jumping unexpectedly onto the roadway or a sudden and serious mechanical failure of the car.

[817] I find that the evidence established that on Sunday, June 10, 2018, that Mr. Yeo while Mr. Yeo was driving his vehicle back towards Halifax near the Halifax International Airport, the visibility, weather and road conditions presented

absolutely “ideal or perfect driving conditions.” It was sunny and 17 °C in the early afternoon, the roads were clear and dry, and witnesses described the highway in that area where Mr. Yeo lost control of his vehicle, as being straight with very little, if any, grade or incline on the surface of the southbound portion of the divided Highway 102. There were no potholes or gale-like crosswinds or any animal(s) running across the road in front of him which might have caused him to suddenly veer to avoid the animal and may have momentarily caused him to lose control of his vehicle.

[818] I find that the evidence established that Mr. Yeo was travelling between 5 to 10 km over the speed limit in the passing lane of Highway 102 southbound towards Halifax. Mr. Yeo had been driving his vehicle that morning from the Pugwash area back to Halifax for about 75-90 minutes at the time when he lost control of his vehicle. There was no evidence of any other moving vehicle on his side of the road making contact with him or causing him to take evasive action to avoid hitting another vehicle that suddenly moved into the passing lane on Highway 102 southbound or, for that matter, any mechanical issues with his vehicle such as a blown tire that might have caused his vehicle to suddenly go out of control.

[819] It goes without saying that none of the cars which were proceeding on the northbound lanes of Highway 102 with which Mr. Yeo’s vehicle collided had, in any way, “caused” this accident. The vehicles proceeding on the northbound lanes of Highway 102 towards the airport exit, where the posted speed limit for Highway 102 was 110 km/h, when Mr. Yeo’s vehicle collided with them, simply had the misfortune of travelling northbound on that highway at that moment and being in the wrong place at the wrong time. Having said that, on the other hand, it is miraculous that no one involved in this accident died or suffered life-threatening injuries.

[820] With respect to the causation issue, the Crown Attorney had submitted that Ms. Hackett had done a retrograde extrapolation from the conclusive breathalyzer result of 160 mg% at 3:29 PM on June 10, 2018, which resulted in an opinion that Mr. Yeo’s blood-alcohol concentration was well over two times the legal limit of 80 mg of alcohol in 100 ml of blood. During their opinion evidence, both Ms. Hackett and Mr. Johnstone had expressed their opinion that an “average social drinker” whose BAC was at 100 mg% would likely be impaired in their ability to operate a motor vehicle. Ms. Hackett added that some experts might even say that

an individual's ability to operate a motor vehicle would be impaired to some extent by virtue of the consumption of alcohol if they had a BAC of 50 mg%.

[821] It was the position of the Crown that Mr. Yeo, while he was operating his vehicle with what I have found to be a blood alcohol concentration of over two times the legal limit of 80 mg of alcohol in 100 ml of blood, had made several poor decisions on the drive back to Halifax. In the moments before Mr. Yeo's car went out of control and collided with vehicles on the northbound portion of Highway 102, I find that he failed to take any evasive actions by braking or steering his vehicle to stay in the grassy median rather than flying up and onto the northbound lanes of Highway 102 and then rolling down the highway, colliding with several vehicles of oncoming traffic.

[822] In addition, I find that Mr. Yeo failed to consider the distraction and the likely consequence that he would not able to maintain his vehicle in his proper lane of traffic while proceeding in the passing lane of the highway, holding the steering wheel in one hand and trying to reach for his Ventolin "puffer" which he had previously placed on the passenger seat or given the uncertainty of his evidence, perhaps even trying to inhale additional doses from his Ventolin "puffer" while going over the speed limit at about 115 to 120 km/h.

[823] Furthermore, Mr. Yeo had stated that he thought that he "might have had a dizzy spell" just before losing control of his vehicle, which was also a "possibility" raised by Dr. Leblanc and Mr. Johnstone. The experts opined that it was "possible" that Mr. Yeo may have lost consciousness for a brief moment because of his excessive overutilization of his Ventolin "puffer." With respect to this "possibility" as the "cause" of the accident, I find that Mr. Yeo's excessive overutilization of his Ventolin "puffer" and this "possibility" does not transform this incident into what might be considered to be an "unavoidable" accident. I find that the evidence established that Mr. Yeo's excessive overutilization of the Ventolin "puffer" was well beyond the recommended dosage in the product Monograph, which had very clear warnings that overutilization of his Ventolin "puffer" could cause significant adverse effects such as drowsiness, dizziness, or weakness among other impacts. The product Monograph had also specifically indicated that the dosage or frequency of administration should only be increased on medical advice. Having used a "puffer" for many years to address his asthma issues, it is hard to believe that Mr. Yeo would not have been fully aware of the known, potential side effects of overutilization of his "puffer." In those circumstances, in overutilizing his "puffer" and taking additional dosages and instead of pulling over to the side of the

highway for those dosages, by continuing in continuing to travel over the speed limit, he had consciously ignored the warning of those significant side effects.

[824] Defence Counsel had submitted that this was likely an "unavoidable" accident due to an asthma attack and brief coughing fit and possibly due to a momentary blackout or may have occurred as a result of a momentary diversion of attention, while Mr. Yeo was reaching over to the passenger seat to obtain his Ventolin "puffer," with only one hand on his steering wheel while he continued travelling over the speed limit at between 115 to 120 km/h in the passing lane of Highway 102.

[825] Defence Counsel submitted that Dr. Leblanc had also raised the "possibility" of a paradoxical bronchospasm, or a cough induced syncope, which might have caused a momentary loss of consciousness. First, with respect to this possible scenario, there was Mr. Yeo's evidence that, as the wheels on the driver's side went off the paved portion of the highway, he briefly applied the brake to release the cruise control and he tried to steer the wheels back onto the paved portion of the highway. Witnesses confirmed that they saw Mr. Yeo attempt to turn the wheels back onto the paved portion of the highway and, in those circumstances, I find that he had to be aware of his situation in order to take those actions and then, he failed to take actions avert the collisions by failing to brake to reduce speed and steer to avoid flying onto the northbound lanes of traffic on Highway 102.

[826] Then, with respect to the "possibility" of Mr. Yeo having briefly experienced a momentary loss of consciousness due to a paradoxical bronchospasm, I find that during his cross examination, Dr. Leblanc had stated that a momentary loss of consciousness due to a paradoxical bronchospasm would be "unlikely" if a person was only coughing and it would also be "unlikely" in a situation where a person had taken Ventolin for number of years and had not previously experienced a paradoxical bronchospasm. Dr. Leblanc had also stated, during his cross examination, that a "cough induced syncope" was "unlikely" to have occurred with a cough in general and in his experience, was not "a common complaint."

[827] In the final analysis, when I consider the totality of the evidence with respect to the visibility, weather, road and traffic conditions, which together presented "perfect or ideal driving conditions," there was simply no environmental, lighting or any other conditions or motorists that contributed to the "cause" of this accident.

[828] Having considered the totality of the evidence, I find that Mr. Yeo's conscious actions and omissions or inactions, including his excessive overutilization of his Ventolin "puffer" which is a prescribed drug and was, according to his evidence, used in a manner completely contrary to the prescribed usage/dosage of the "puffer" which was clearly stated on the product Monograph with equally clear warnings as to possible negative effects, do not transform what occurred on June 10, 2018 into a so-called "unavoidable" accident.

[829] In addition, I find that the expert evidence also established that Mr. Yeo's stated times and consumption of alcohol were inaccurate and unreliable and that he drank more alcohol, likely for a longer period and that he went to bed much later than he had stated in court. In those circumstances, and likely having only about four hours of sleep before starting the activities of the day at about 7:00 AM on Sunday, June 10, 2018, I find that the evidence that he was leaning to the left in his vehicle and then suddenly straightened up just before the car went out of control, it is "possible" that the leaning was due to drowsiness from his excessive usage of the Ventolin "puffer" but it also may have been due to a lack of sleep and the continuing effects of his very high blood-alcohol concentrations, as calculated by the experts, from Mr. Yeo's significant prior consumption of alcohol.

[830] Then, in my opinion, most directly related to the causation issue, is the fact that I have found that the Crown has established, beyond a reasonable doubt, that Mr. Yeo was operating his vehicle **while** he had more than double the legal limit of 80 mg of alcohol in 100 ml of his blood. I have previously accepted Ms. Hackett's retrograde extrapolation evidence with respect to Mr. Yeo's blood-alcohol concentration at the time of the accident and, with respect to that causation issue, I note that both experts were of the opinion that a person's ability to operate a motor vehicle would likely be impaired by virtue of the prior consumption of alcohol with a BAC of 100 mg%. Given the fact that I have found that Mr. Yeo's BAC was more than double the legal limit, and in view of the expert's opinion evidence, I also find that his ability to operate a motor vehicle was impaired by alcohol and contributed more than being a merely "*de minimis*" cause of the accident.

[831] When I consider the totality of that evidence, in relation to the "causation" of the "accident," first, I find that there is no reasoned, rational or commonsense basis to conclude that Mr. Yeo's vehicle colliding with several vehicles on the northbound portion of Highway 102 at about 12:18 PM on June 10, 2018, could be considered as an "unavoidable accident."

[832] Having come to that conclusion, I find that Mr. Yeo's driving, conscious actions and omissions or inactions were the effective "cause" of the accident on Highway 102 near the Halifax International Airport at about 12:18 PM on June 10, 2018. There can be no doubt, as I previously stated, that none of the people who were injured when their vehicles were hit by Mr. Yeo's car crossing through a grass median, then becoming airborne and rolling and colliding with their vehicles as they proceeded northbound on the divided Highway 102, had, in any way, contributed to the "cause" of this accident.

[833] In those circumstances, I find that the Crown has established beyond a reasonable doubt that Mr. Yeo "**caused**" an accident, in circumstances where I have previously found that he was operating or in care or control of his motor vehicle **while** he had a blood-alcohol level exceeding the legal limit of 80 mg%, and as such, had committed an offence contrary to para. 253(1)(b) of the **Criminal Code.**

Did the "Accident" result in "Bodily Harm" to other People?

[834] The final essential element of the offence of over 80 causing bodily harm contrary to section 255(2.1) of the **Criminal Code**, required the Crown to establish, beyond a reasonable doubt, that the "accident" had resulted in "bodily harm" to the named persons in the Information.

[835] At the outset of the trial, the parties had agreed that the medical evidence which was contained in the *Admissions* [Exhibit 1] confirmed that, although the defence had not admitted causation, the injuries suffered by the named individuals as alleged by the Crown, did constitute "bodily harm" as defined in the **Criminal Code**. The Parties had agreed that it was not necessary to call those named individuals to relate the nature of their injuries to the Court, as the attached documents and statements in the *Admissions* [Exhibit 1] described the extent of their injuries and that those *Admissions* did establish the "bodily harm" in relation to all counts of the Information.

CONCLUSION

[836] Coming back to the essential elements of the impaired over 80 charge causing bodily harm pursuant to section 255(2.1) of the **Code,** after considering the totality of the evidence, I have found that the Crown has established, beyond a reasonable doubt, that on or about June 10, 2018 at or near Goffs, Nova Scotia, Mr.

A. Bruce Yeo was operating a motor vehicle and had care or control of a motor vehicle, after having consumed alcohol in such a quantity that his blood-alcohol concentration exceeded 80 mg of alcohol in 100 ml of blood, and that he thereby committed the included offence under paragraph 253 (1)(b) of the **Criminal Code**.

[837] Furthermore, I find that the offence contrary to section 255(2.1) of the **Criminal Code** does **not** require the Crown to prove a causal connection between the alcohol consumption and the consequential bodily harm, but rather, requires the Crown to prove beyond a reasonable doubt that the Defendant **caused an accident** from which a victim or victims suffered bodily harm, **while** the defendant had a blood-alcohol concentration in excess of 80 mg of alcohol in 100 ml of blood. For the reasons outlined above, I have concluded that the Crown has established, beyond a reasonable doubt, that Mr. Yeo **caused an accident** at or about 12:18 PM on June 10, 2018, that resulted in "bodily harm" to the named individuals, as alleged in the Information.

[838] As mentioned previously Parliament established this provision in 2008 and based on the very clear definition of the essential elements of this offence as stated by Justice Caldwell in ***R. v. Koma***, 2015 SKCA 92 (CanLII) at para. 32, the Crown is **not** required to prove that Mr. Yeo being over .08 blood alcohol concentration had "caused" the accident. As I have indicated, I find that, looking at the totality of the circumstances in this case, Mr. Yeo "caused" the "accident" which occasioned the bodily harm to the four named individuals **while,** in a temporal sense, he was operating his motor vehicle when he had a blood-alcohol concentration of over 80 mg in 100 ml of blood.

[839] In addition, I have concluded that Mr. Yeo's vehicle leaving the southbound lanes of Highway 102 and colliding with vehicles travelling on the northbound lanes of Highway 102, was not an "unavoidable" accident. I have found that, given the totality of the circumstances present at the time of the accident, no one else or any other unforeseen factors contributed to his car colliding with the other vehicles, which might have absolved him of being the "effective" person imputable for legal causation of the "accident."

[840] After having considered the totality of the evidence in this case, I have concluded that the Crown has established, beyond a reasonable doubt, that Mr. Yeo had care or control and was operating his motor vehicle **while** he, after having consumed alcohol in such quantity that his blood-alcohol concentration exceeded 80 mg of alcohol in 100 ml of blood, "**caused**" **an accident**, which resulted in the

four named individuals in the Information having suffered “bodily harm” as defined in the **Criminal Code**. .

[841] Having come to the foregoing conclusions, beyond a reasonable doubt, with respect to all of the essential elements of the offence of having a blood-alcohol concentration over 80 mg of alcohol in 100 ml of blood and “causing” an accident which resulted in bodily harm to another person contrary to section 255(2.1) **Criminal Code**, I find Mr. A. Bruce Yeo guilty of that offence.

[842] In view of my finding that Mr. Yeo was guilty of the section 255(2.1) of the **Code** offence, I am prepared to enter conditional stays on the other four charges before the Court in relation to the section 255(2) of the **Code** offences of unlawfully having care or control of a motor vehicle, while his ability to operate the motor vehicle was impaired by alcohol or drug, and did thereby cause bodily harm to the four named individuals, contrary to section 255(2) of the **Criminal Code.**

Theodore Tax, JPC