

IN THE SUPREME COURT OF BRITISH COLUMBIA

Citation: *Biermann v. Great West Truck Lease
Rentals Ltd.*,
2019 BCSC 519

Date: 20190408
Docket: S120654
Registry: Vancouver

Between:

**Harley Biermann, 6291856 Canada Inc., TFI Transport 3 L.P./Transport TFI 3
S.E.C. Doing Business As Highland Transport, 6422217 Canada Inc., TFI
Transport 17 L.P./Transport TFI 17 S.E.C. doing business as ATS Retail
Solutions, Administration Transforce Inc., TFI Transport 2 L.P./Transport TFI 2
S.E.C. doing business as Gestion Transforce**

Plaintiffs

And

**Great West Truck Lease And Rentals Ltd., Explosives Limited, 1350410 Alberta
Ltd. Formerly Known As Taiko Carriers Inc., The Estate Of Mihail Atanasov,
Deceased, and The Estate Of Dimitar Botev, Deceased**

Defendants

No. M120529
Vancouver Registry

- and -

Between:

**1350410 Alberta Ltd. Formerly Known As Taiko Carriers Inc., Great West Truck
Lease & Rentals Ltd. and Paccar Leasing Of Canada, A Division Of Paccar Of
Canada Ltd./Paccar Du Canada Ltee.**

Plaintiffs

And

**Harley Biermann, 6291856 Canada Inc. doing business as Highland Transport,
TFI Transport 3 L.P./Transport TFI 3 S.E.C. Doing Business As Highland
Transport, 6422217 Canada Inc., TFI Transport 17 L.P./Transport TFI 17 S.E.C.
doing business as ATS Retail Solutions, Administration Transforce Inc., TFI
Transport 2 L.P./Transport TFI 2 S.E.C. Doing Business As Gestion Transforce,
Paccar Financial Services Ltd./Services Financiers Paccar Ltee. and ABC
Company Ltd.**

Defendants

- and -

No. S168255
Vancouver Registry

Between:

Absolute Waste Solutions Inc.

Plaintiff

And

**1350410 Alberta Ltd. Formerly Known As
Taiko Carriers Inc. and M. Lail Kosev Atanasov**

Defendants

Before: The Honourable Madam Justice Winteringham

Reasons for Judgment

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Place and Date of Trial:

Vancouver, B.C.
August 20-24, 2018
October 24, 2018 and
December 11, 2018

Place and Date of Judgment:

Vancouver, B.C.
April 08, 2019

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I. OVERVIEW

[1] On February 3, 2010, two tractor-trailers travelling in opposite directions collided on Highway #1 east of Revelstoke, British Columbia. Sadly, one of the drivers and his passenger died at the scene. This trial consisted of three actions heard together relating solely to a determination of liability for that accident. The parties agreed that the findings of fact and conclusions about liability would apply to the three actions.

[2] The driver of one of the tractor-trailers testified. Evidence was presented by deposition from the driver of a third tractor-trailer who was traveling behind the deceased driver's vehicle.

[3] Each side tendered accident reconstruction opinion evidence from professional engineers. The engineers disagreed about the cause of the accident. One engineer stated that the driver of the westbound truck was in a jack-knife position at the time of impact with his trailer swung into the eastbound lanes. The other engineer fundamentally disagreed with that opinion and stated the accident occurred because the eastbound truck crossed the centreline, striking the trailer of the westbound tractor-trailer.

[4] Both engineers relied on the available evidence from the accident scene, including post-accident positions of the tractors, trailers and debris, voluminous photographs, some measurements, weather conditions, police reports and witness statements. Both engineers agreed that this was a challenging accident scene due to the weather conditions, lack of pre-accident vehicle markings and the disturbance of the accident scene before it was captured by photographs and measurements. As such, they agreed that this accident was less conducive to the use of PC Crash simulation (software used for accident reconstruction) to determine the cause of the accident.

II. THE PROCEEDINGS

[5] To make sense of the style of cause, I will briefly set out those involved in the various lawsuits.

[6] Harley Biermann was driving a tractor-trailer¹ and traveling westbound on Highway #1 east of Revelstoke (I have referred to the parties associated to this tractor-trailer as “Highland Transport”). Mihail Atanasov was driving a tractor-trailer² with his passenger Dimitar Botev, traveling eastbound on Highway #1 (I have referred to the parties associated to this tractor-trailer as “Taiko Carriers”).

[7] In Vancouver Action No. M1020529, Taiko Carriers commenced an action against Highland Transport claiming damages for losses incurred as a result of the damage caused to the Taiko Carriers tractor-trailer.

[8] In Vancouver Action No. S120654, Highland Transport commenced an action against Taiko Carriers claiming damages for losses incurred by them as a result of the damage caused to the Highland Transport tractor-trailer.

[9] In Action No. S168255, Absolute Waste Solutions Inc. (“Absolute Waste”), of which Mr. Biermann is the principal, claims damages for losses associated to the damage to the tractor that Mr. Biermann was operating.

[10] I am told the determination of liability will likely resolve the claims raised in Actions M120529 and S120654. Mr. Biermann agrees that any judgment in these proceedings in relation to liability will be binding on Absolute Waste.

¹ 6291856 Canada Inc. is the general partner of TFI Transport 3 L.P. TFI Transport 3 L.P. was doing business as Highland Transport. 6422217 Canada Inc. is the general partner of TFI Transport 17 L.P. and TFI 17 was doing business as ATS Retail Solutions. Administration TransForce Inc. is the general partner of TFI Transport 2 L.P. doing business as Gestion TransForce. At the material time, Mr. Biermann was operating a tractor leased to TFI Transport 2 L.P. (for ease of reference, I will refer to these entities as collectively, “Highland Transport”).

² Paccar Leasing of Canada Ltd. and Great West Truck Lease & Rentals Ltd. owned the tractor driven by Mr. Atanasov. The tractor was leased to Taiko Carriers Inc. which later became 1350410 Alberta Ltd. The trailer was leased to Taiko by Lion’s Gate Trailers (for ease of reference, I will refer to these entities as collectively, “Taiko Carriers”).

[11] By order of a master made July 28, 2016, Action No. 168255 was transferred to the Vancouver Registry for all purposes and the three actions were ordered to be tried together to determine the issue of liability.

III. ISSUES

[12] Taiko Carriers contends that the accident occurred solely as a result of Mr. Biermann's negligence, submitting that Mr. Biermann's tractor-trailer was in a jack-knife position and was encroaching onto the eastbound lanes of travel at the time of the impact between the two tractor-trailers.

[13] Mr. Biermann maintains that his tractor-trailer was not jack-knifed. He flatly rejected the suggestions that he had engaged in any manoeuvre that would have caused his vehicle to jack-knife. Rather, he testified that his trailer was immediately behind his tractor at the time of impact.

[14] Highland Transport contends that the Taiko Carriers tractor-trailer crossed the centreline, striking the trailer of the Highland Transport unit.

[15] The parties rely on professional engineers, whom I found to be qualified to provide opinion evidence about accident reconstruction. The engineers' opinions are diametrically opposed.

[16] Each party presented a theory of liability that either one or the other driver was 100 percent at fault for the accident. Neither party made any submission regarding contributory negligence. Rather, the trial proceeded on the basis that one or the other driver was negligent (and 100 per cent at fault for the accident) because the driver crossed the centreline and the opposing driver was not contributorily negligent. In other words, the parties agree that a finding in favour of either theory of liability precludes a finding of contributory negligence of the other, based on the totality of the evidence presented in this case.

[17] I agree with the position taken by the parties that should the court accept either theory of liability, on the evidence presented, there was nothing a reasonably

prudent driver could have done to avoid the other. In reaching this conclusion, I have considered the principle as stated by Ritchie J. in *Adams v. Dias* [1968] S.C.R. 931 at 936:

It is true that a driver is in no way relieved from the liability which flows from a failure to take reasonable care simply because another user of the highway is driving in such a fashion as to violate the law, but in my opinion, no motorist is required to anticipate, and therefore keep on the look-out for, such an unusual and unexpected violation as was manifested by the appellant's course of conduct in the present case.

[18] The issues to be determined in this trial are thus:

- a) Was the accident caused by the negligence of Mr. Biermann by driving his tractor-trailer in a jack-knife position such that his trailer crossed the centreline and encroached into the lanes of the oncoming traffic?
- b) Was the accident caused by the negligence of Mr. Atanasov by crossing the centreline into the lane of the oncoming traffic?

[19] To answer these issues, I first set out the uncontested evidence. Next, I turn to the evidence of two drivers (the Highland driver and a driver traveling behind the Taiko unit) and the reliability and credibility assessment required. I then turn to the expert opinion evidence, the objections taken to it and the court's resolution of those objections. I end with my analysis, including my findings regarding liability.

[20] The parties presented this case as an attack on the other's expert. Lengthy written submissions were provided, focusing almost exclusively on the expert evidence. Between the parties, some 30 authorities were cited, only one of which dealt with liability in a motor vehicle accident case.

IV. BURDEN OF PROOF

[21] I wish to address the burden of proof in a case such as this where multiple actions are commenced and the parties appear both as plaintiff in one action and defendant in another. I have considered counsels' position regarding burden of proof. I accept Taiko Carriers' submission that "the court must evaluate the entirety of the evidence before it and determine whether [Taiko Carriers] or [Highland Transport] have met their respective burden to establish on a balance of probabilities that the accident occurred in a manner consistent with their theory" of negligence.

[22] I have considered the manner in which this trial proceeded, counsels' position on the issue of burden of proof, the pleadings and the nature of the evidence elicited about the accident. To succeed with its action, I am satisfied that Highland Transport must establish on a balance of probabilities that Taiko Carriers' negligence caused the accident by crossing the centreline in the manner described by the evidence tendered. Similarly, Taiko Carriers, to succeed on its action, must establish on a balance of probabilities that Mr. Biermann was negligent because the Highland Transport tractor-trailer caused the accident by crossing the centreline in the manner described by the evidence tendered.

[23] Both parties claim against the other in negligence for failing to keep their vehicles on the right side of the road. In its pleadings, Highland Transport alleges the Taiko Carriers' unit crossed over the centreline and collided with the [Highland Transport unit]. Taiko Carriers pleaded, among other allegations, that Highland Transport was negligent in that Mr. Biermann failed to drive the Highland vehicle to the right of a solid double line, contrary to section 155(a) of the *Motor Vehicle Act*, R.S.B.C. 1996, c. 318 ("*MVA*"). Taiko Carriers and Highland Transport both plead s. 144 of the *MVA*, alleging the other was negligent by driving without due care and attention.

[24] These *MVA* provisions were summarized in *Hogstead (Litigation guardian of) v. Spiers*, 2013 BCSC 764 at para. 86 and 87:

86. There is a statutory obligation to drive with care and with due consideration for other drivers, set out in s. 144 of the *Motor Vehicle Act*:

144 (1) A person must not drive a motor vehicle on a highway

- (a) Without due care and attention,
- (b) Without reasonable consideration for other persons using the highway, or
- (c) At a speed that is excessive relative to the road, traffic, visibility or weather conditions.

87. Of course, there is a statutory obligation to drive on the right side of the road and, in particular on the right side of a double line on a highway, as set out in the following sections of the *Act*:

150(1) The driver of a vehicle must confine the course of the vehicle to the right hand half of the roadway if the roadway is of sufficient width and it is practicable to do so, except

- (a) When overtaking and passing a vehicle proceeding in the same direction

...

...

154(1) The driver of a vehicle must drive the vehicle on the right hand side of the roadway when meeting another vehicle that is moving.

...

155(1) Despite anything in this Part, if a highway is marked with

- (a) A solid double line, the driver of a vehicle must drive it to the right of the line only,

...

[25] Again, the parties presented their theories on the basis that each theory of liability precluded any finding of contributory negligence and I have proceeded accordingly.

V. THE EVIDENCE

[26] The accident occurred at approximately 1:40 a.m. on February 3, 2010, about 45 kilometres east of Revelstoke and approximately 1000 feet west of the last of three snow sheds on Highway #1.

[27] Sergeant Noonan was the responding police officer responsible for gathering evidence relating to the accident scene. Sergeant Noonan's evidence was admitted through an Agreed Statement of Facts. His evidence touched on accident location, highway configuration, road conditions (as observed by him several hours after the accident), accident scene, road markings and vehicle measurements.

A. Agreed Statement of Facts

[28] I start with the parties' agreement to certain facts and provide this summary of the agreed statement of facts, filed as an exhibit in the trial:

- a) The accident occurred at approximately 1:40 a.m. on February 3, 2010, on Highway #1 approximately 45 kilometres east of Revelstoke.

- b) Sgt. Noonan was dispatched to the accident scene at approximately 2:30 a.m. and arrived at 4:46 a.m.
- c) At the accident scene, the roadway has a posted speed limit of 90 km/h and has three lanes running generally in an east/west direction with two lanes for eastbound traffic and one lane for westbound traffic.
- d) The east and westbound lanes are divided by a faint yellow double solid line that could not be seen due to the road conditions. The two eastbound lanes were delineated by a dashed line that was also almost invisible.
- e) The centreline contained a rumble strip.
- f) The road curves in a clockwise direction for westbound traffic and there is a slight downhill grade for westbound traffic ranging from a grade of 3.7% to 5.2%.
- g) The south edge of the road surface was super-elevated ranging from a grade of 3.7% to 4.8%.
- h) The westbound shoulder is paved and delineated from the westbound travel lane by a faint single solid white line.
- i) There were furrows in the snow bank from opposite the rest position of the Taiko Carrier tractor-trailer to the rest position of the Highland Transport tractor-trailer.
- j) The eastbound shoulder is paved and is approximately two metres wide and is bordered by a continuous no-post concrete barrier.
- k) There was snow plowed against the no-post and over the top of the no-post concrete barrier.
- l) When Sgt. Noonan arrived at the accident scene, the road surface was snow covered, it was foggy and there was intermittent snow falling. The air temperature was approximately .6 degrees Celsius and the road surface temperature was 2.0 degrees Celsius.
- m) The Taiko Carriers tractor-trailer was a 2010 Kenworth Conventional tandem axle tractor and was pulling an empty 1995 Stoughton Van trailer. Before the accident, it was traveling east along Highway #1.
- n) The Highland Transport tractor-trailer was a 2009 Conventional tandem axle tractor and was pulling a loaded 2003 Trailmobile Van trailer. Before the accident, it was traveling west along Highway #1.

[29] The Taiko unit was found in its final rest position in an upright position facing east straddling the centreline. These facts were admitted relating to the final rest position of the Taiko unit:

- a) The Taiko tractor was severely crushed. The cab had been torn from its mounts and was pushed from left to right. The engine had been dislodged

from its mounts on the frame. The front wall of the empty trailer was crushed rearward and the roof of the trailer had been peeled back.

- b) The left front wheel of the Taiko unit was depicted in photographs showing its position in the westbound lane as the faint yellow centre line was situated between the two front tires. Short skid scuff marks were noted at the rear axle of the trailer at a diagonal from the eastbound lane toward the centre lane. The outer left lead trailer axle tire was to the right (south) of the yellow centre line at rest. The tire scuff marks were approximately 1.5 metres long.
- c) The Taiko unit was surrounded by the dislodged cargo from the Highland trailer.

[30] The Highland vehicle was located in its final rest position in multiple locations:

- a) The trailer had been torn in half upon impact. The rear half of the van trailer body was located over the concrete no post barrier the embankment on the south side of the road surface adjacent to the rest position of the Taiko vehicle.
- b) The tandem axle wheel and suspension carriage from the trailer was located in an upright position facing in a southwesterly direction climbing the concrete no-post barrier.
- c) The left front axle wheels were on top of the snow bank south of the no-post and the front right wheels were on top of the no-post.
- d) The front half of the trailer and the tractor of the Highland unit came to rest jackknifed in the north ditch with the tractor facing south and the opened end of the trailer facing west.
- e) The impact to the Highland trailer was to the left front quarter of the trailer and the ribs all folded back toward the right rear.

[31] With respect to road markings and vehicle measurements, the parties agreed to the following facts:

- a) There were no visible pre-collision tire marks made by the Highland unit.
- b) The only tire marks on the road surface were from the rear tires of the trailer axle wheels of the Taiko unit. These marks were approximately 1.5 metres in length and they were angled from the eastbound travel lane toward the westbound lane. The lead outer left axle trailer tire was to the right (south) of the centre line at the end of this skid.

- c) Because of road conditions with slush and snow, marking the rest position of the Taiko unit was difficult. Sgt. Noonan used a HILTI gun and fired nails with washers into the asphalt road surface to mark the Taiko unit axle positions.

[32] In addition to the Agreed Statement of Facts, the parties admitted that Sgt. Noonan's 48 photographs truly and accurately depicted the accident scene. The parties also admitted a drawing prepared by Sgt. Noonan illustrating the rest positions of the Taiko and Highland units.

B. Harley Biermann

[33] As stated above, Mr. Biermann was the surviving driver of the Highland unit. He testified about the accident. At trial, Mr. Biermann was describing a traumatic event that had occurred over eight years earlier. The three lawsuits were commenced almost two years after the accident. Mr. Biermann attended two examinations for discovery, one conducted in 2015 and the second in 2018. Later in these reasons, I will conduct the necessary credibility assessment. In my view, it is unfortunate that there has been such a delay in bringing this matter to trial.

[34] Mr. Biermann testified that he has been a professional truck driver for over 45 years and that he had extensive winter driving experience at the time of the accident. He was operating a Kenworth W900L tractor and had been driving this tractor for some nine months before the accident. He was pulling a loaded 53-foot trailer. Between 9:20 and 10:00 p.m. on February 2, 2010, Mr. Biermann departed Calgary, traveling to Vancouver. Mr. Biermann had been doing this run for approximately three months before the accident and had driven the same route along Highway #1 about every second night during this time.

[35] He testified about the road conditions. He recalled that when he left Calgary, it was winter weather conditions with intermittent snow. He testified that he was "driving accordingly" based on the road conditions.

[36] Mr. Biermann testified about the moments immediately preceding the accident. After exiting the last snow shed, he estimated he was traveling about 47 –

52 kilometres per hour. He described the road conditions when he came out of the snow shed to be light snow on top of black ice and that the snow was intermittent. He testified that given his experience, he was not concerned about the conditions.

[37] He testified that he glanced in his left mirror and confirmed that his trailer was directly behind him “where it is supposed to be.”

[38] He testified that he first noticed the oncoming vehicle when it was about 20 – 30 feet away from him. He testified that all he had time to do was utter “[a profanity] and hang on – and it was over.” He testified that he did not hear his vehicle cross the rumble strip in the 1000 metres before the impact. He testified that he could not take any evasive maneuvers because there was nowhere to go. He estimated that his vehicle was approximately one foot from the centreline at the time of impact.

[39] Mr. Biermann maintained, in direct and cross-examination, that his trailer was not in a jack-knife position at the time of impact or before. He testified that he did not apply either the tractor or trailer brakes at any time prior to or during the impact, nor did he have time to engage in evasive steering.

[40] Mr. Biermann was cross-examined about inconsistencies between his trial testimony and what he had stated on prior occasions, including two examinations for discovery. These inconsistencies were identified by Taiko Carriers’ counsel and related to Mr. Biermann’s testimony regarding the following matters:

- a) He first saw the Taiko vehicle when it was about 20-30 feet away from his vehicle.
- b) The Taiko vehicle was moving towards his vehicle at an arc with an angle of approximately 20 degrees.
- c) He did not know whether the Taiko was passing another truck as it was coming up the hill towards him.
- d) He denied seeing any damage to the landing gear of his trailer.

- e) His reaction to the nature of the cargo he believed the Taiko vehicle was carrying.
- f) Discrepancies in the description he gave to the type of bumper his tractor had.
- g) The value of the cargo he was hauling and whether he had told the authorities that he was carrying expensive car engines.
- h) Whether he had stopped for a brake check at the 10 Mile Hill brake check before the accident.

[41] With respect to the above matters, Mr. Biermann conceded that his evidence was different in some respects from what he had stated at his examinations for discovery. He also tried to explain the bases for the differences.

[42] I will address these inconsistencies below when I deal with the credibility assessment.

C. Jarret Petrar

[43] At the time of the accident, Jarret Petrar was driving a Van-Kam tractor-trailer traveling eastbound on Highway #1. He observed Mr. Anatasov's driving before the collision. Mr. Petrar's evidence was tendered by video deposition conducted on July 31, 2018. Counsel for Highland Transport conducted the direct examination of Mr. Petrar. A short cross-examination was conducted by counsel for a litigant no longer involved in the proceedings. Although present at the video deposition, counsel for Taiko Carriers did not cross-examine Mr. Petrar.

[44] In terms of his driving experience, Mr. Petrar testified that he obtained his truck driver's license in 1999 and started truck driving in 2003. At the time of the accident, he had worked as a truck driver for seven years and had driven in winter conditions for each of those years. At the time of the accident, he was driving a day cab truck pulling a 53-foot loaded van body trailer.

[45] Mr. Petrar explained that he was approximately 15 minutes east of Revelstoke when he first observed the Taiko unit and that the accident occurred approximately 30 to 35 minutes later. In the deposition, he stated:

The [Taiko unit] came up behind me and had attempted to pass me twice – once on a blind hill, another on a corner. It seemed like they were in a hurry. And we got to a bit of a straight stretch, and I just kind of slowed down, pulled over to let him by.

[46] Mr. Petrar was asked to describe the weather when he first noticed the Taiko unit. He stated that it was “wintertime. Slush on the shoulders of the road. I don’t recall it being icy. And it was dark. It was pitch black.” He did not believe that it was snowing. Mr. Petrar believed that his own vehicle was going about 80 to 85 kilometres per hour.

[47] Mr. Petrar was asked about the Taiko unit’s first attempt to pass his vehicle. He stated that the first attempt was on a hill. The Taiko unit had pulled out and got about a quarter of the way up the trailer and then slowed down and cut back in behind him. He estimated his own speed to be approximately 80 km/hour. With respect to the second attempt to pass his vehicle he stated that “the second attempt was on an outside corner. The same, they pulled out and decided to slow down and get behind me again.” He estimated his own speed to be approximately 70 km/hour during the Taiko unit’s second passing attempt.

[48] He was asked to describe his reaction to the two attempts to pass his vehicle and he responded by stating, “I was surprised. It was pretty erratic driving. I remember thinking that was – was pretty brave there, he must have been in a hurry.” He said the driving surprised him because it was wintertime and “the middle of the night on Rogers Pass – isn’t very good conditions, and it wasn’t very safe.”

[49] Mr. Petrar testified that the Taiko unit eventually passed him. He stated that he slowed his vehicle down and the Taiko unit went around his vehicle. At that point, he thought his vehicle was traveling approximately 80 km/hour.

[50] He was asked to describe his observations after the Taiko unit passed him. He stated:

After they got around me – I caught up to them. They were stuck behind another Super B flat deck that was going pretty slow. And they had attempted to pass him two or three times. Again, driving pretty erratic, tried to pass on a hill, tried to pass him on a corner. And eventually they did pass him on a corner. And then that slow truck not too shortly after that pulled off to a pullout. And I kind of stayed within up to half a kilometre, I guess, from that truck, catching up to him, slowing down on the hills...

[51] Mr. Petrar described his observations in this way: “[They] had attempted to pass that truck multiple times, again, on a hill, on a corner where there was solid lines, where you can’t pass.” Mr. Petrar explained that he saw the truck attempting to pass the slow moving flat deck truck three times. He said the first attempt was on a blind hill and “they pulled out and the same thing they did to me – just decided it wasn’t – didn’t have enough room, so they slowed down and cut back in again.” The second attempt was on a corner, where “they pulled to the outside and slowed down again and then cut back in behind him.” The third attempt was “also on a corner. To the outside and again decided not to pass.”

[52] When he was asked to describe his reaction to these observations, Mr. Petrar stated, “I just remember thinking, these guys are crazy, they must be in a hurry.” After the slower moving truck had been passed, it pulled into a pullout. Mr. Petrar then stayed within about a half a kilometre of the Taiko unit. He stated that for the next few minutes, they were going pretty fast – cutting corners to the inside and driving unsafely. He said that as he was following, he would see the lights on the straight stretches and then they would go around a corner and the lights from the back of the trailer disappeared.

[53] Mr. Petrar did not witness the accident. However, he testified about coming upon the accident scene. He testified that he saw the vehicle lights [of the Taiko unit] disappear and then he came upon another truck that was half in the ditch and there was snow flying up in the air. He said there was a “trailer coming around towards me clockwise and went by my driver’s window – probably 10 feet or so” away from his vehicle. Mr. Petrar stated that he slammed on his brakes, locking up his tires and described “nothing but boxes hitting his windshield.”

[54] After his vehicle came to a stop, he saw the trailer of the Taiko unit without any lights on located about twenty feet in front of where Mr. Petrar's vehicle had stopped. After his vehicle came to a stop, Mr. Petrar jumped out of his vehicle and saw that there was not much left of the Taiko truck. He stated that he could hear another truck approaching and so ran up the highway to flag him down before they came upon the accident scene. At the deposition, Mr. Petrar was shown some photographs depicting the locations of the trucks after the accident. As he described the photographs, he stated that the police had asked him to move his vehicle farther along the highway.

[55] A very brief cross-examination was conducted at the deposition. Mr. Petrar was asked about the time just before the accident. He agreed that he was approximately 500 metres behind the Taiko unit on a straight stretch of road proceeding on a slight incline. He could not tell whether the Taiko unit was in the passing line immediately preceding the accident. He estimated the speed of the Taiko unit to be approximately 90 km/hour just before the collision. Mr. Petrar stated that he did not have any issues with his trailer or tractor slipping while going up that hill. He agreed that the lights of the Taiko unit were suddenly gone.

VI. CREDIBILITY/RELIABILITY ASSESSMENT

[56] I will now provide my assessment regarding the credibility and reliability of Mr. Biermann's testimony.

[57] Before doing so, I briefly comment on the testimony of Mr. Petrar. I note that his evidence is unchallenged. He was a non-interested witness who described his observations of the Taiko unit at the time leading up to the accident. Those observations included a number of examples of the Taiko unit engaging in driving manoeuvres that "surprised him" being that it was "wintertime and the middle of the night on Rogers Pass – isn't very good condition and it wasn't very safe." Those were comments made by a professional truck driver, experienced with winter driving, who was expressing a concern about the nature of the driving he observed in the moments before the collision. I find that I can safely rely on Mr. Petrar's evidence,

particularly with respect to weather and road conditions and manner of driving before the accident. I agree with Taiko Carriers, however, that Mr. Petrar did not see the collision. His evidence is thus restricted to his pre-accident observations and post “first impact” observations including the movement of the Highland trailer and the scattered cargo.

[58] I turn then to the testimony of Mr. Biermann. When assessing the truthfulness of the testimony of any interested witness, I am guided by the words articulated many years ago in *Faryna v. Chorny*, [1952] 2 D.L.R. 354 (B.C.C.A.) at 357:

...In short, the real test of the truth of the story of a witness in such a case must be its harmony with the preponderance of the probabilities which a practical and informed person would readily recognize as reasonable in that place and in those conditions. ...

[59] The factors to be considered when assessing credibility were summarized by Justice Dillon in *Bradshaw v. Stenner*, 2010 BCSC 1398 at para. 186, aff'd 2012 BCCA 296, as follows:

Credibility involves an assessment of the trustworthiness of a witness' testimony based upon the veracity or sincerity of a witness and the accuracy of the evidence that the witness provides (*Raymond v. Bosanquet (Township)* (1919), 59 S.C.R. 452, 50 D.L.R. 560 (S.C.C.)). The art of assessment involves examination of various factors such as the ability and opportunity to observe events, the firmness of his memory, the ability to resist the influence of interest to modify his recollection, whether the witness' evidence harmonizes with independent evidence that has been accepted, whether the witness changes his testimony during direct and cross-examination, whether the witness' testimony seems unreasonable, impossible, or unlikely, whether a witness has a motive to lie, and the demeanour of a witness generally (*Wallace v. Davis*, [1926] 31 O.W.N. 202 (Ont. H.C.); *Faryna v. Chorny*, [1952] 2 D.L.R. 152 (B.C.C.A.) [*Faryna*]; *R. v. S.(R.D.)*, [1997] 3 S.C.R. 484 at para.128 (S.C.C.)). Ultimately, the validity of the evidence depends on whether the evidence is consistent with the probabilities affecting the case as a whole and shown to be in existence at the time (*Faryna* at para. 356).

[60] Also relevant here, are the following comments from Gray J., in *Deplanche v. Leggat Pontiac Buick Cadillac Ltd.* [2008] O.J. No. 1420 at para. 47:

It is not surprising that the evidence of witnesses will diverge, even on critical points. Memories fade with the passage of time. Quite naturally, the perspective of a witness will be affected by his or her interest in the outcome of the case. That witness's memory of the events will be shaped by self-interest. Thus, two quite different

versions of the events will often emerge. There is nothing sinister, or surprising, about this. It is simply human nature at work.

[61] I agree with Taiko Carriers that Mr. Biermann's testimony at trial relating to certain matters, as set out in paragraph 40 above, was inconsistent with what he had stated during his examinations for discovery in 2015 and 2018. Mr. Biermann's testimony at trial regarding speed was also inconsistent with what he told a police officer at the scene a few hours after the accident. In light of these inconsistencies, I agree with counsel for Taiko Carriers that I must approach his testimony with some level of caution. In my credibility assessment, I have considered these inconsistencies and, by virtue of his role as a party, his interest in the outcome of the litigation. That said, I am troubled by the passage of time and its impact on his memory and ability to recall certain events, even at the examinations for discovery, which occurred many years after the accident. The lawsuits were filed days before the expiry of limitation periods and the parties did not file a Notice of Trial until the Spring of 2018. I do not fault Mr. Biermann for the pace of the litigation as he was not the one responsible for conducting it. I do not believe that these inconsistencies are attributable to anything sinister. Rather, it seems to me that they can be attributed to the passage of time when relaying the details surrounding a traumatic event that had occurred many years earlier. I nonetheless approach his testimony with caution.

[62] As a part of my overall credibility assessment, I have also considered Highland Transport's contention that the inconsistencies identified pertain to irrelevant matters. Highland Transports submits:

Mr. Biermann remained resolute and unshaken on five fundamental points of evidence: (1) that he did not brake either the tractor or the trailer of the Highland Transport vehicle at any time prior to impact; (2) he would never have applied uneven braking to the Highland Transport tractor or trailer; (3) that his trailer was not in a jackknife position; (4) that his trailer was not in Taiko Carriers' eastbound lane; and (5) that, prior to impact, the Taiko Carriers' tractor crossed the centreline and was in his westbound lane of travel.

[63] I have examined Mr. Biermann's testimony regarding these five pieces of evidence. I agree with counsel for Highland Transport that but for the issue

regarding the centreline, Mr. Biermann's testimony was not shaken in cross-examination on these points.

[64] I do wish to spend some time on Mr. Biermann's testimony regarding whether his trailer was in a jack-knife position and whether the Taiko unit had crossed the centreline. With respect to the first point of whether the Highland unit was in a jack-knife position, Mr. Biermann was skillfully and vigorously cross-examined. When it was suggested to him that the Highland unit was in a jack-knife position immediately before impact, Mr. Biermann responded, "I absolutely deny that." When asked where his trailer was immediately before impact, Mr. Biermann responded, "[it was] exactly where it was supposed to be."

[65] Mr. Biermann did not ever resile from this position.

[66] With respect to the second point of whether the Taiko unit had crossed the centreline, I do not agree with Taiko Carriers that Mr. Biermann's testimony regarding the centreline was materially inconsistent with what he had stated on prior occasions. At his examination for discovery, he stated that the Taiko unit was four to five feet across the centreline (into the westbound lane) at the time of impact. At trial, Mr. Biermann testified that the Taiko unit was approximately three feet into the westbound lane. He explained the difference by saying this was his "best estimate." I do not find that Mr. Biermann exaggerated his testimony regarding this material point. I conclude that Mr. Biermann was being careful in the estimate he provided to the court about whether the Taiko unit had crossed the centreline. Regardless of whether the estimate was three, four or five feet, Mr. Biermann maintained his evidence that the Taiko unit was over the centreline at the time of impact.

[67] My overall assessment of Mr. Biermann's testimony is that I must assess it with some caution. To that end, I have considered the totality of the evidence in the findings of fact that I make regarding road and weather conditions, location of vehicles after the accident, description of the accident scene, evidence of driving pattern before impact and speed of the trucks.

[68] Based on the totality of the evidence set out above (and the evidence of the experts examined below), however, I do accept Mr. Biermann's testimony regarding the position of the Highland unit just before impact (that it was not in a jack-knife position) and his observation that the Taiko unit was travelling across the centreline and into the westbound lane immediately prior to impact.

VII. ACCIDENT RECONSTRUCTION OPINIONS

[69] Both sides tendered opinions from professional engineers, who attempted to reconstruct the accident. As a part of its case, Highland Transport tendered an opinion from James Hrycay. Taiko Carrier tendered an opinion from Timothy Leggett. Both engineers prepared lengthy reports and testified at the trial.

[70] Taiko Carriers objects to Mr. Hrycay's reports on the basis that they are either inadmissible or should be given no weight because Mr. Hrycay is biased and lacked impartiality. They argue that he became an advocate over the course of the proceedings.

[71] Highland Transport objects to Mr. Leggett's report on the basis that it should be either disregarded in its entirety or given no weight because Mr. Leggett relied on documents not in evidence and "the lynchpin analysis that underlies the entirety of his opinion is not even contained or referenced in his report."

[72] To place the objections in context, it is necessary to set out the background and factual assumptions underlying the experts' opinions. I will then consider and determine the objections.

A. Timothy Leggett, P. Eng.

[73] Mr. Leggett is a professional mechanical engineer and has investigated over 1000 vehicle accidents involving tractor-trailers, including accidents occurring in the winter with poor road conditions.

[74] Mr. Leggett was retained on the day of the accident. As Mr. Leggett was unable to attend at the accident scene, a member of his firm, Sarah Davidson (also

a professional engineer) went to the scene the day after the accident. Ms. Davidson did not testify at the trial. Highland Transport takes issue with Mr. Leggett's reliance on Ms. Davidson's work product, including measurements she took (in addition to Sgt. Noonan's measurements, to which the parties reached agreement) and photographs she took.

[75] Ms. Davidson took some measurements not taken by Sgt. Noonan, including the roadway surface, cross slopes, marking lines, grades, rest locations of the Taiko vehicle and the rear severed portion of the Highland trailer. Ms. Davidson also went to the tow yard, where she examined the Highland tractor and remnants of the Taiko tractor, including its steer axles and frame rails.

[76] Mr. Leggett prepared two reports. The first was dated November 18, 2011, and the second, July 9, 2018 (primarily responding to Mr. Hrycay's report).

[77] In the November 18, 2011 report, Mr. Leggett described the accident scene and provided a lengthy analysis regarding his opinion about the cause of the accident, principally based on inferences drawn from the post-accident evidence. His conclusions, found at the end of this report, were brief:

- 1) The collision was a T-bone style impact rather than a sideswipe, with the Highland tractor/trailer having jack-knifed at impact such that the Highland trailer was at an angle of approximately 40 degrees or more with the [Taiko] tractor.
- 2) The [Taiko] tractor/trailer would have been further south (i.e. further into the eastbound lane) and further west at impact than at rest.
- 3) The [Taiko] unit would have been within the eastbound lanes at impact.

[78] In coming to his conclusions, Mr. Leggett's analysis started with the notion that a "sideswipe" collision would not have yielded the type of damage observed on both tractor-trailer units. He stated:

If both the Highland and [Taiko] units were aligned with the roadway, or close to, when the collision occurred, any impact between the two would have been of a sideswipe, or "clipping," style. Such an impact would have been characterized by longitudinal scraping along the contacting vehicle components, and potentially some penetration of the Highland trailer side and/or crush to the driver side front corner of the [Taiko] tractor. However,

there would not be the extent of damage to either the [Taiko] tractor or the Highland trailer as was observed in this case, and there would not have been a sufficient lateral force exerted on the Highland trailer to split it in two.

This type of damage would require a principal direction of force with a large perpendicular component. There would therefore have been a large angle between the Highland trailer and the [Taiko] tractor at impact, evidenced by the damaged profile of the Highland trailer. This damage profile was established based on the provided Highland trailer measurements and using photo reconstruction . . . The angle at which the front segment of the Highland trailer was cut by the [Taiko] tractor was approximately 40 degrees, and it follows that the angle between the Highland trailer and the [Taiko] tractor was approximately 40 degrees or greater at the time of the impact.

[79] Mr. Leggett performed a PC Crash simulation attempting to reconstruct the accident based on the assumption that the Taiko unit was traveling at 60 km/h and steering hard to the left. Following this simulation, he stated:

It was found that the maximum achievable angle between the [Taiko] tractor and the centreline attainable through steering alone would have been less than 5 degrees; at speeds greater than 60 km/h for the [Taiko] unit, which are more probable based on the provided Activity Report, this angle would be shallower still. This means that any misalignment of the [Taiko] tractor with the roadway would not have contributed significantly to the total angle between the [Taiko] tractor and the Highland trailer at impact; in other words, the Highland trailer must have been at a minimum angle close to 40 degrees with the roadway at impact.

[80] In part, Mr. Leggett explained the basis for determining that there was a 40-degree angle at the time of impact by reference to a report that was not tendered at trial. It is referenced here only because it was used by Mr. Leggett and places this aspect of Mr. Leggett's opinion in context. He wrote in his report:

The RCMP analyst report states that "had the [Highland] trailer swung out into the eastbound lane the impact damage would have been more of a flat impact and not diagonal." However, the damage profile of the Highland trailer is actually fairly symmetrical when viewed from the side, as shown in Figure 23; this is more indicative of a largely perpendicular impact than a largely parallel impact. It is clear from the nature of the damage, ie., severe rearward crush to the [Taiko] tractor and splitting in two of the Highland trailer, that the impact was not a sideswipe or "clip", but rather a T-bone style collision, with an angle of approximately 40 degrees between the Highland trailer and the [Taiko] tractor; it could not have occurred unless the Highland trailer had "swung out" prior to the impact. The observed damage would only have been

possible if the Highland trailer was largely³ perpendicular to the [Taiko] tractor at impact.

[81] He was cross-examined about his analysis and, in particular, the assumption regarding the 40-degree angle. Mr. Leggett described his analysis in this way:

Q: ... the rest of your analysis in the pages to come are about where the units came together and in what lane. All of that flows from and ultimately builds upon your 40-degree estimate, correct?

A: ... I think it's a little bit more than that but I think you're mostly right... We back the train up from where the Taiko unit came to rest, examine the physical evidence that's available to be seen in the photographs so we know the approximate area of impact. And literally the methodology goes, I need to get 40 degrees between these two vehicles. So, how am I going to get there? And so if Highland is going straight down the road westbound on the way to Revelstoke, can I get the Taiko unit to come across the road at 40 degrees? And I think the simulation that I've run and to some degree that Mr. Hrycay has run says no, you can't get 40 degrees. At that's intuitive and it's proven by our simulations. So, the next thing is then, what's the other way that I can get to 40 degrees if – is if the Highland unit is in a full on swing-out. And when I say full on – the police said that this couldn't have been that sort of situation because it wasn't perpendicular. They're right. It's not perpendicular because the jack-knife wasn't fully developed yet. It would have been developed if there hadn't been an impact. But it was about halfway fully developed. And it was in the process of swinging out when this unfortunate accident occurred.

Q: ... I think you just said everything turns on your thought process or your analysis of this accident you said I need 40 degrees. How do I get there? So, I put to you that if your 40-degree estimate is found to be an error the subsequent analysis would also be an error, correct?

A: Well, if it's not 40 degrees then it's not 40 degrees. I agree with that.

Q: If it's not 40 degrees it's not 40 degrees but more so, everything that you build upon subsequent to or from your 40-degree analysis would be incorrect as well?

A: Yeah, that's – that's true.

[82] Mr. Leggett looked to evidence from the accident scene to support his theory, including disturbed snow path, tire marks, gaps in the debris field and, as stated above, damage to both units. His evidence focused on the location and state of the cargo boxes. With respect to the cargo boxes, Taiko Carriers' counsel described the significance of Mr. Leggett's observations in this way:

³ During his testimony, Mr. Leggett testified that it was better to say "partially" rather than "largely."

Mr. Leggett noted that based on photographs taken by the RCMP, there was a gap in the debris field in the area of the Taiko trailer at rest. There were boxes found on either side of the Taiko trailer, but the area underneath the trailer was largely clear. This is seen in Figures 25 through 28 of Mr. Leggett's initial report (Ex. 11). The few objects that were present underneath the Taiko trailer appear to have been crushed or flattened in the wheel path. Mr. Leggett notes that this indicates that the Taiko trailer was a significant distance west of its rest position at impact, otherwise, the Highland trailer's contents would have continued to spill underneath the Taiko trailer, instead of exhibiting an abrupt transition on both sides of it.

A key piece of evidence in this case is the flattened boxes which are seen just forward of the Taiko trailer's rear axles at rest, as shown in Figure 28 of Mr. Leggett's initial report (Ex. 11, pg. 25). Mr. Leggett noted that to become flattened, these boxes must have been run over by the Taiko tractor's wheels as the unit moved further eastward after impact. Through photo reconstruction techniques, Mr. Leggett was able to determine that the flattened boxes were present less than half a metre forward of the Taiko trailer's rear axle at rest. These flattened boxes were therefore, approximately 11 meters west of the rear axle of the Taiko tractor at rest (given that the Taiko trailer's rear axle was approximately 11.5 meters behind its tractor's rear axle). In order for the Taiko tractor's drive axle to have run over the boxes, it would therefore need to have been at least 11 meters further west at impact than at rest. In other words, the Taiko unit moved a minimum of 11 meters east following the impact.

[83] In response to Mr. Hrycay's report, Mr. Leggett prepared a second report. In it, he maintains his theory that the Highland unit was in a jack-knife position at the time of impact. He critiqued Mr. Hrycay's analysis stating that Mr. Hrycay's proposed impact angle is not consistent with the physical evidence and not supported by any tangible analysis. He reiterated his conclusions that the more likely pre-impact scenario would be a loss of traction on the Highland trailer wheels, resulting in the trailer slipping out into the oncoming eastbound lane.

[84] In Taiko Carriers' written submission, Mr. Leggett's conclusion⁴ regarding the loss of traction on the Highland trailer wheels was explained this way:

110. Mr. Leggett explains that although the exact driver actions leading to the jackknife of the Highland unit are not known, when there is disproportionate braking between the tractor and trailer, one will

⁴ In a mid-trial ruling, I struck the concluding paragraphs of Mr. Leggett's responding report. I did so because those paragraphs simply repeated in an expanded form, the conclusions contained in the original report.

decelerate more quickly than the other, creating a compressive force between the tractor and trailer (if the tractor is decelerating more quickly) or an abnormal tensile force (if the trailer is decelerating more quickly). If the tractor and trailer are not perfectly aligned and symmetrical about their longitudinal axis, for instance, when the unit is negotiating a curve, this would result in rotational forces applied to the tractor and trailer. If there is insufficient tire-roadway friction/traction to resist this rotation, a jackknife can then be initiated.

111. In Mr. Leggett's opinion, disproportionate braking could occur if the Highland trailer's brakes were applied, but not the tractor brakes. Given that the Highland unit was comprised of a loaded trailer coming downhill around a corner and encountering compromised road conditions, this could easily have resulted in a jackknife.

Alternatively, if the engine brake or "Jake Brake" had been applied, the Highland tractor and not the trailer would have been decelerating, which would also have resulted in disproportionate braking.

[85] During cross-examination on this issue, Mr. Leggett testified, "We get a lot of jack-knives in this part of the country and that's the reason is because it's easy to do."

B. James Hrycay, P. Eng.

[86] Mr. Hrycay was qualified to provide an opinion about accident reconstruction. He testified that he was a specialist in the area of heavy commercial truck accident investigation and engineering analysis. His two reports, entered as exhibits, dated May 24, 2018 and May 29, 2018 (responding report to Mr. Leggett's report).

[87] Mr. Hrycay described three aspects of his analysis. First, he testified that he did not attend at the accident scene but rather used data collected by the R.C.M.P. and Mr. Leggett's firm. Next, he described his accident reconstruction as occurring in two stages. The first stage involved a kinematic analysis and traditional hand calculations. The second stage of his reconstruction was a traditional dynamic analysis. He testified that this involved taking all the available data, including rest positions of the vehicles, photographs and measurements, and layering that information to create diagrams of the accident site to represent first contact, maximum engagement and separation to final rest. These diagrams were marked as exhibits at the trial, enlarged for ease of review. Finally, Mr. Hrycay explained that the last stage of the dynamic analysis required the use of Human Vehicle

Environment – a motor vehicle crash simulation program. He stated that he ran multiple scenarios and it was used in his final analysis as a validation check to confirm the correctness of the scientific method.

[88] Mr. Hrycay provided this summary of the accident:

The front of the Taiko tractor came into contact with the left side of the Highland trailer, as a result of one of the vehicles crossing the undivided roadway centerline. After impact, the Highland tractor and front half of the trailer came to rest in a jackknifed orientation along the westbound right shoulder, with some of the cargo being ejected onto the ground. The rear half of the Highland trailer (box only) came to rest down an embankment south of the roadway. The tandem axle unit of the Highland trailer (suspension, axles, trailer wheels) came to rest in the eastbound shoulder over top of the concrete barrier. The Taiko vehicle came to rest facing east in the middle of the roadway straddling the yellow centreline.

[89] In his report, he explains why he is of the opinion that the Taiko unit crossed into the westbound lane. Following his analysis, he sets out his conclusions as follows:

1. The eastbound Taiko Vehicle collided with the westbound Highland Vehicle, with first contact being the left front of the Taiko tractor and the left side of the Highland trailer in an angled impact when the front end of the Taiko tractor had crossed the centreline and was on an angle and entirely in the westbound lane while the Highland Vehicle maintained a position in the westbound lane.
2. Impact forces caused extensive damages, including the tearing apart of the Highland trailer into three major sections; the front section, rear section and tandem axle section.
3. Maximum Engagement occurred when the front of the Taiko tractor engaged the front of the Highland trailer tandem axle, causing it to tear from the trailer and for the trailer to be torn into two major sections.
4. As a result of Maximum Engagement, the Taiko tractor was caused to rotate clockwise in separating from the Highland trailer, imparting a southerly velocity component to the dislodged Highland trailer rear section and trailer tandem axle resulting in them travelling southeasterly to final rest.
5. The Taiko tractor and front section of trailer continued primarily easterly but also southerly over approximately two tractor-trailer lengths. Just as it came to rest, the angled tire marks indicate the trailer moved slightly to the left toward the centreline.
6. The Highland tractor and front section of trailer rotated clockwise from impact to rest. The front section of trailer likely initially rotated counter-

clockwise immediately after impact, but subsequently reversed direction in any event, possibly from ground contact acting on the landing gear or floor while the trailer was angled to the right of the tractor.

7. The available evidence and my analysis indicates that impact occurred while the Highland Vehicle was in the westbound lane and the Taiko Vehicle had encroached into the westbound lane.
8. Both the Taiko Vehicle and the Highland Vehicle were likely travelling at approximately 60 km/h at the time of the Accident.

[90] A significant aspect of Mr. Hrycay's report is his opinion regarding the location of the vehicles at first impact. I address this part of his analysis in somewhat more detail. Mr. Hrycay described his analysis in this way:

Given the vehicle damages noted, at first contact, the left front corner of the Taiko tractor contacted the left wall of the Highland trailer at approximately 22 feet rear of the front of the trailer. Impact was neither a shallow angle sideswipe nor a 90 degree T-bone impact, but at some intermediate angle between those values.

The Taiko tractor increasingly engaged with the Highland trailer, with the front of the Taiko tractor under-riding the trailer. The rigid frame rails of the Taiko tractor did not initially engage with the structural rub rail and cross members of the Highland trailer. The Taiko tractor likely rotated counter-clockwise slightly during this time due to the inter-vehicle friction above its frame rails as the opposing vehicles contacted each other. Subsequently, the front of the Taiko tractor at the frame rail level struck the front of the Highland trailer tandem axle, dislodging the axle pair from the trailer and sharply bending the Taiko frame rail tips to the right. The Taiko tractor was ejected to the right, rotating clockwise. The collision forces also caused the bulk of the tractor to be shifted to the right, off the frame. As such, there were significant forces acting on the Taiko tractor to the right, and by extension, to the dislodged Highland trailer components and dislodged Highland trailer cargo from the rear portion of the trailer. The dislodged components and cargo were projected southeasterly. Some of the spilled cargo was overrun by the Taiko unit as the tractor-trailer continued to final rest. A large amount of cargo came to rest on both sides of the Taiko unit.

Collision forces acting on the Highland trailer were opposite in direction to those acting on the Taiko tractor, resulting in the front section of the Highland trailer initially rotating counter-clockwise but simultaneously likely inducing a clockwise rotation of the Highland tractor, given forces transferred at the kingpin/fifth wheel connection. Over 20 feet of loaded trailer was suddenly unsupported and allowed to drop down due to gravity. A moment after the trailer was torn apart, the (raised) landing gear and perhaps the rear edge of torn trailer floor likely touched down on the ground. This likely lightened the weight on the drive tires, and acted to halt the counter-clockwise rotation of the front section of trailer and cause it to rotate clockwise. From that point on, the Highland tractor and front section of trailer together rotated clockwise while continuing toward final rest, travelling west northwesterly into the

westbound right shoulder. Cardboard box cargo was spilled onto the ground much further west than the torn open trailer. The scattered cargo locations are consistent with the impact directions and rotations noted.

[91] Mr. Hrycay explained the movement of the rear portion of the Highland trailer and tandem axle as follows:

The rear section of the Highland trailer and the tandem axle necessarily had a southerly velocity component, based on their final rest positions. In my opinion, it is the clockwise rotation of the Highland tractor during impact which introduced the southerly component. The rear section of Highland trailer went down the embankment yet remained approximately adjacent to the tandem axle rather than coming to rest to the east or west of it. Thus, the rear section may have almost stopped in the same area as the tandem axle, then, slid down the embankment picked up speed before coming to stop at its final rest in the trees and snow.

There were no pavement scars or tire marks to independently indicate the impact location in the roadway. However, the laws of physics and likely vehicle motions were used to analyze the impact location which is consistent with vehicle damages and trails of evidence from impact to rest. Figures 4A through 4C highlight various steps in this analysis.

The coefficient of friction was not measured by the Police. For dry conditions and speeds over 48 km/h, ice can have a coefficient of friction as low as approximately 0.10. For dry snow, it can be as high as approximately 0.55. The slope in the area was approximately 0.04 (incline for eastbound). Thus, a vehicle achieving - 0.10 g on a level surface would achieve approximately - 0.14 g if that same surface had an incline of 0.04 (and -0.06 g going down the hill).

[92] As indicated earlier, Figures 4A, 4B and 4C were entered as exhibits at the trial and were enlarged for review. The analysis described in the preceding paragraphs is depicted in those figures.

[93] Mr. Hrycay was cross-examined regarding his analysis and, in particular, the value he attributed to the coefficient of friction. It was suggested to him that the coefficient of friction of .1 g indicated the roadway was "solid ice." Mr. Hrycay disagreed and stated this coefficient of friction reflected a "slippery road" and was consistent with the description of the roadway as given by Mr. Petrar and Mr. Biermann. He testified that dry pavement has the highest friction, resulting in the greatest ability to stop and brake, whereas wet pavement has less friction, resulting in more slippage. In choosing the applicable coefficient of friction, Mr. Hrycay explained that he used a low value, which reflects a "slippery" road.

[94] He was also cross-examined about his opinion regarding the angle of the Taiko unit to the centreline at the time of impact.

[95] Mr. Hrycay's report explains the significance of the rotation of the Highland Transport trailer in determining the impact angle:

Earlier, I described how the front portion of the Highland trailer initially rotated counter-clockwise due to the collision forces from the Taiko tractor-trailer. Those forces were primarily rearward and also inward on the highland trailer. The inward component of forces was sufficient to make the front portion of the Highland trailer rotate counter-clockwise, but in my opinion the subsequent reversal of rotation direction to clockwise (from that point onward matching the clockwise rotation direction of the Highland tractor) could not have occurred if the impact angle between Taiko tractor and Highland trailer was larger than approximately 28 degrees. If it was greater, then the collision forces on the Highland trailer would be more inward and cause a greater rotation of the front portion of the Highland trailer, to the extent that I do not believe that the ground contact by the landing gear or rear of the severed trailer portion could halt and reverse the rotation to clockwise, such as the evidence establishes did occur. In other words, the impact angle was low enough so that the counter-clockwise rotation of the trailer front portion could not halt the tractor rotation from clockwise to counter-clockwise, despite the low friction surface.

[96] As indicated above, Mr. Hrycay determined the relative angle of the Taiko Carriers tractor to the Highland Transport trailer at the moment of impact to be approximately 22.4 degrees. Thus, the Highland Transport trailer itself was angled slightly rightward, as a result of the rightward movement of the Highland Transport tractor-trailer. Mr. Hrycay found that angles up to approximately 28 degrees were possible by the time the front of the Taiko Carriers tractor had just crossed into the westbound lane.

[97] After describing the significance of the resting area of the cargo and Highland trailer, Mr. Hrycay described his diagrams as follows:

Figure 4A: First Contact shows the likely vehicle locations and orientations at the moment of first contact, which was when the Taiko tractor hood area contacted the left side of the Highland trailer. The relative angle of the Taiko tractor to the roadway centreline at the moment of First Contact was, in my opinion, approximately 20 degrees. This angle was developed using the combination of vehicle damages, laws of physics, roadway surface conditions and the use of HVE SIMON software. I assumed a .1 coefficient of friction roadway and I used 100 degrees of leftward steering wheel rotation implemented over a time period of 1.5 s.

By maximum engagement (figure 4B), the Taiko tractor rotated counter-clockwise due to intervehicle friction and at that moment the front of the Taiko tractor (frame rails) contacted the front of the Highland trailer wheels. At maximum engagement in my opinion the relative angle of the Taiko tractor to the roadway had increased from 20 degrees at first contact to 30 degrees. Large forces resulted in the tearing off of the trailer suspension and wheel assembly and tearing apart of the Highland trailer on the jagged angle.

Figure 4C: Separation to final rest highlights the likely intermediate positions of the vehicles as they traveled to a stop. Also shown is the approximate locations of scattered cargo from the Highland trailer.

[98] In his direct examination, Mr. Hrycay explained Figure 4A (first contact) and Figure 4B (maximum engagement) in further detail. He stated this:

You can see [the Taiko tractor] coming in on an angle. It's an articulated angle. The tractor and trailer aren't at the exact same angle, and that would be a function of the lateral movement of the Taiko tractor-trailer. I do have the actual angle that this diagram is shown at. I've drawn a line parallel to the passenger side of the Taiko tractor, and at that particular point another line that would line up tangent to the curve, and there's a number there, 19.7 degrees. That's what it's shown at.

For comparison I've shown what the angle between the driver's side of the Taiko tractor and the driver's side of the Highland trailer when this first contact occurs, and that's shown at the bottom of the figure. There's a sweeping arc that says 22.4 degrees.

So the angle between the tractors is a little bit bigger than what the actual exit angle of the Taiko tractor is relative to centre line. So it shows that there's a slight angle of a couple degrees of the Biermann [Highland] tractor-trailer at the moment first contact occurred. And the reason for the slight angle is that we know from the tracked evidence that that tractor continues moving to the west and to the north, and it sweeps a path to the outside of the CPX trailer [unit traveling in direction of Highland] final rest, but we also know that it has to be moving to the west so when that back half of the trailer swings around, it doesn't . . . impinge on the eastbound lanes to hit Mr. Petrar who managed to get through.

So it defines the relative position in the north/south direction from the moment of first contact and maximum engagement so that it can travel along the path of the evidence that we see.

...

[Figure 4B] was probably the most difficult one to prepare because by this time we're dealing with 3D objects, and it's very hard to show in plan view the consequences of the 3D interaction. But in essence what's happening is, because the rigid part of the trailer is above the rigid part of the tractor, when the Taiko tractor comes into the Highland trailer, its frame rails are below the trailer, and so the first contact is going to be up at the corner of the hood which -- it's sheet metal. It's components that are attached by bolts to the rigid frame rail, and those components are easily broken and separated very

easily before frame rails touch anything. And so what you have is you have the soft upper structure of the Taiko tractor and its rigid frame rails going underneath the rigid side rub rail of the trailer, and there's really nothing to stop the frame rails . . . of Taiko from going under the trailer completely, except we have this inter-vehicle friction and that dragging that causes the Taiko trailer to start moving and angle increasing as it's moving from front to back on the Highland trailer.

At some point in time as it moves from front to back on the Highland trailer, that front bumper area, frame rails of the Taiko trailer that continue to pass, they actually engage with the landing, the axles, the hard spots, on the Taiko trailer.

So what you have is you have this Taiko tractor that's basically submarining underneath the belly of the trailer, and as that's happening, the engine and the cab and the bunk of Taiko are getting flattened down as the Highland trailer is being lifted and risen up as Taiko goes further and further underneath.

It's not until the Taiko tractor is penetrated far enough to engage the front frame rails and the steer axle of the Taiko trailer with the axles on the back -- sorry -- the Taiko tractor with the trailer axles of Highland. Now when those two components hit, you have hard spot hitting to hard spot, and that's when we reach that maximum engagement point and forces are acting equal and opposite one another and vehicles will start to rebound from one another at that point.

The complicated factor in this accident is, by the time it's reaching that point, a lot of the Highland trailer's structure's been compromised, so instead of being one big piece, it's now being torn into two pieces, and the inertia and momentum of the heavily loaded Highland tractor-trailer carries the front half of the trailer and the tractor westerly down the road, and that back half of the trailer with the axle that's basically sitting on top of the Taiko tractor and flattening it, it's now like a -- for lack of a better word, it's a piece of mud stuck on the tractor and it's going to be carried with the Taiko tractor in the direction the Taiko tractor was moving and redirected.

And then from the physical evidence what you can see is that at some point they obviously separated because at final rest the Taiko tractor and trailer are past or east of where the -- that set of axles was torn off, and the back half of the trailer is actually even further south of the tires, and you'll recall I described how those tires are attached to the trailer. It appears from what I can see on the damage is that, because of those pin mechanisms, as that piece of trailer and axles were carried by the Taiko tractor-trailer, it's no longer on the ground and you don't have the gravitational forces, it's caused those pieces to ultimately separate and it appears that the box of the trailer just rolled down the embankment when it separated from the final separation from the wheels itself.

The other significant part to note on the evidence is when the Taiko tractor-trailer came and submarined underneath, it's flattening the cab and you can see the nose of the trailer is all flattened and it's pushed down at the top, but you also see the entire roof structure of the Taiko tractor that's all peeled back. That roof structure on Taiko, it's on all tractor-trailers, it's just flimsy

aluminum. It's not a structural component, so it's very easily torn. That's because of that piece of back half of the Highland trailer and those landing gears were engaging and basically ripping all that metal. It's ripped all the way to the back and, in fact, you can actually see there's passages on the roof of the Taiko tractor as well as on both sides, and that's just a fact that the Taiko tractor submarined, went under that trailer, lifted it up and just lifted it and redirected it and sent it down the embankment as it's going to its final rest.

[99] In his initial report, Mr. Hrycay responded to Mr. Leggett's opinion (that the Highland unit was in a jack-knife position at first impact). Mr. Hrycay stated this:

I also attempted in my engineering simulations using the HVE computer software to cause the westbound trailer to swing left further such that it would block the entirety of the eastbound lanes; it would need to be at an angle of approximately 31 degrees relative to the roadway in order to do so. I found that it could be made to do so, and in fact continue beyond that angle but in order to cause such trailer behavior this required heavy rightward steering movement (900 degrees of steering wheel rotation in just under 2 s) simultaneously with heavy brake application. It would take the Highland trailer at least 3 s to substantially block the eastbound travel lanes. This amount of steering wheel rotation in just under 2 s is not consistent with the normal steering wheel rotation while driving 60 km/hr and attempting to maintain the roadway curvature. Rather, it is a deliberate and severe steering wheel rotation to accomplish this in such a short period. Lesser steering wheel rotation could be initiated but the trailer swing would take much longer to achieve ...

[100] In response to Mr. Leggett's opinion, Mr. Hrycay prepared a second report. In short, Mr. Hrycay responded as follows:

[Mr. Leggett] concluded that the collision was a T-bone style impact, with at least a 40 degree angle between the Highland trailer and Taiko tractor. FDI relied on the tear angle of the Highland trailer as an indication of the angle at impact. I disagree; as outlined in my original report, the tearing was jagged and irregular, from the failure of individual components, and not from a clean cut through the Highland trailer would result. It is not likely that the angle of the vehicles would remain at the constant angle (40 degrees) throughout from impact to maximum engagement.

Related to the above point, FDI failed to note that the front of the Taiko tractor ultimately impacted at maximum engagement the wheel and suspension assembly of the Highland trailer, which is attached to the underside of the trailer near the rear. The large forces involved would have contributed to tearing the rear of the trailer from the front, especially since the left wall of the Highland trailer had already been compromised (moments earlier) by contact from the Taiko tractor. FDI recognized and expressly mentioned this two-[part] contact (page 4 of their second report) but did not realize and expand on the implications on how the two major sections of Highland trailer would likely tear apart.

Thus, I disagree with FDI's finding that owing to the geometry of the vehicles and site that this necessarily meant that the westbound Highland tractor-trailer was in a jackknifed position with the Highland trailer swung out 40 degrees or more into the eastbound lane, and maintain my opinions as expressed in my original report.

[101] It was Mr. Hrycay's opinion that the conclusions expressed by Mr. Leggett "are direct extensions of [his] incorrectly assumed Highland trailer angle at impact."

VIII. OBJECTIONS TO EXPERT OPINIONS

[102] During the trial, both sides objected to the admissibility of the other's expert reports. As stated earlier, I delivered a mid-trial ruling dealing with the admissibility of parts of Mr. Leggett's responding report. During closing submissions, the parties revived their objections. As stated earlier in these reasons, almost the entirety of the parties' closing submissions focused on the deficiencies of the other's report, arguing that the court should reject the opinion or place little weight on it.

[103] I now address the objections raised.

[104] Taiko Carriers takes the position that the court should reject or place little weight on Mr. Hrycay's opinion evidence. Taiko Carriers frames the objections as follows:

- a) He has demonstrated that he is an advocate and not an independent expert.
- b) When considered as a whole, his opinions are unreliable because they are inconsistent with proven factual assumptions on the evidence presented.

[105] This objection relates, in part, to Taiko Carriers' submission that Mr. Hrycay acted in a conflict of interest. Shortly after the accident, another engineer at Mr. Hrycay's firm was retained to examine the engine control module (ECM or "black box") of the Taiko Carriers unit. It seems the ECM was severely damaged and Mr. Hrycay's firm was unable to obtain any data from it and closed their file. It was this prior engagement that Taiko Carriers submits constituted a conflict of interest.

[106] Highland takes the position that Mr. Leggett's report should be disregarded in its entirety or given no weight because:

- a) Mr. Leggett relied on documents not in evidence; and
- b) the “lynchpin” of analysis that underlies the entirety of his opinion is not contained or referenced in his report.

[107] I start by addressing the authorities regarding expert testimony and will thereafter provide my analysis and decision regarding the expert testimony.

A. Legal Principles – Expert Evidence

[108] I begin with the well-known general principles governing the admissibility of opinion evidence. I begin here because admissibility issues may overlap with issues relating to weight. Indeed, during the trial, counsel launched an objection to the admissibility of the experts’ reports. For the most part, that objection was withdrawn on the basis that counsel had decided to address the issues as matters of weight rather than admissibility.

[109] The criteria for the admission of expert evidence is:

- a) The proposed evidence must be relevant to a material issue;
- b) The opinion must be necessary to assist the trier of fact because the subject matter is outside ordinary experience and knowledge;
- c) The evidence is not subject to any other exclusionary rule of evidence;
- d) The witness must be qualified to give the opinion, which qualifications include independence and a lack of bias;
- e) Even after the above analysis, the trial judge must fulfill the court's role as a gatekeeper and be satisfied that the probative value of the opinion is worth the potential prejudice, which includes consideration of the same factors above. To put it another way, the benefits of the proposed evidence must outweigh the costs.

See *White Burgess Langille Inman v. Abbott and Haliburton Co.*, 2015 SCC 23 [*White Burgess*]; *R. v. Mohan*, [1994] 2 S.C.R. 9 [*Mohan*]; *R. v. Orr*, 2015 BCCA 88; *R. v. M.C.*, 2014 ONCA 611; *R. v. Singh*, 2014 ONCA 791; and the useful summary provided by Saunders J. in *Anderson v. Pieters*, 2016 BCSC 889 at paras. 37-42.

[110] As emphasized by the Supreme Court of Canada, the court must fulfill a gatekeeper role with respect to opinion evidence to ensure only evidence that meets the legal requirements and is within the bounds of the expert's expertise is admitted. Justice Davies, in *British Columbia (Director of Civil Forfeiture) v. Angel Acres Recreation and Festival Property Ltd.*, 2019 BCSC 275 [*Angel Acres*], recently wrote a comprehensive decision addressing the interplay between issues relating to the admissibility of expert evidence and the considerations going to the weight of that evidence. Davies J. neatly summarized those principles relating to the gatekeeping function at paras. 10–15:

10. The legal principles governing the admissibility of expert opinion evidence were established and subsequently refined by the Supreme Court of Canada in *R. v. Mohan*, [1994] 2 S.C.R. 9 [*Mohan*] and *White Burgess Langille Inman v. Abbott and Haliburton Co.*, 2015 SCC 23 [*White Burgess*].
11. In *Mohan* the Court articulated a four-part test for the admissibility of opinion evidence. The four criteria identified were: relevance, necessity, the absence of an exclusionary rule, and a properly qualified expert.
12. In *White Burgess* the Court divided the admissibility inquiry into two stages.
13. Those two stages are:
 - 1) At the first stage the proponent of the expert opinion evidence must establish the four *Mohan* threshold requirements to admissibility with relevance at that stage referring to “logical relevance”. If those four criteria are not all met the evidence will be excluded.
 - 2) At the second stage the judge at trial must perform a discretionary “gatekeeping” inquiry at which the judge balances the potential risks and benefits of admitting the evidence in order to decide whether the potential benefits of the evidence justify the risks.
14. Concerning the second stage gatekeeping inquiry Cromwell J. wrote in *White Burgess* at para. 23:

... The required balancing exercise has been described in various ways. In *Mohan*, Sopinka J. spoke of the “reliability versus effect factor” (p. 21), while in *J.-L.J.*, Binnie J. spoke about “relevance, reliability and necessity” being “measured against the counterweights of consumption of time, prejudice and confusion”: para. 47. Doherty J.A. summed it up well in *Abbey*, stating that the “trial judge must decide whether expert evidence that meets the preconditions to admissibility is sufficiently beneficial to the trial process to warrant its admission despite the potential harm to the trial process that may flow from the admission of the expert evidence”: para. 76.

15. Although the threshold inquiry and the gatekeeping function engage different principles of analysis, concerns that arise in the threshold inquiry may also be relevant to the gatekeeping function at the second stage. That overlap is articulated by this Court's recent decision in *R. v. Giles*, 2016 BCSC 294 [*Giles*].

[111] Watt J.A., in *R. v. Vassel*, 2018 ONCA 721, described the second step (the gatekeeping step) in this way:

92. At the second or gatekeeping step, the trial judge must balance the risks and benefits of admitting the evidence, thereby to determine whether the proposed evidence is sufficiently beneficial to the trial process to warrant its admission despite the potential harm to that same trial process that may flow from the admission of the expert evidence: *White Burgess*, at para. 24; *Abbey '09*, at para. 76. Relevance, necessity, and reliability, as well as the expert's independence and impartiality, continue to play a role in weighing the overall competing considerations in admitting the evidence: *White Burgess*, at para. 54.

[112] In light of the objection raised here, I spend some time on Cromwell J.'s discussion on the issue of partiality. In *White Burgess*, Cromwell J. described the expert's duties and its relation to admissibility in this way:

33. As we have seen, there is a broad consensus about the nature of an expert's duty to the court. There is no such consensus, however, about how that duty relates to the admissibility of an expert's evidence. There are two main questions: Should the elements of this duty go to admissibility of the evidence rather than simply to its weight?; And, if so, is there a threshold admissibility requirement in relation to independence and impartiality?

34. In this section, I will explain my view that the answer to both questions is yes: a proposed expert's independence and impartiality go to admissibility and not simply to weight and there is a threshold admissibility requirement in relation to this duty. Once that threshold is met, remaining concerns about the expert's compliance with his or her duty should be considered as part of the overall cost-benefit analysis which the judge conducts to carry out his or her gatekeeping role.

[113] In *White Burgess*, Cromwell J. summarized the expert witness' duty to the court at paras. 26, 27 and 32:

26. There is little controversy about the broad outlines of the expert witness's duty to the court. As Anderson writes, "[t]he duty to provide independent assistance to the Court by way of objective unbiased opinion has been stated many times by common law courts around the world": p. 227. I would add that a similar duty exists in the civil law of Quebec: J.-C. Royer and S. Lavallée, *La preuve civile* (4th ed. 2008), at para. 468; D. Béchard, with the collaboration of J. Béchard, *L'expert* (2011), c. 9; *An Act to establish the new Code of Civil Procedure*, S.Q. 2014, c. 1, art. 22 (not yet in

force); L. Chamberland, *Le nouveau Code de procédure civile commenté* (2014), at pp. 14 and 121.

27. One influential statement of the elements of this duty are found in the English case *National Justice Compania Naviera S.A. v. Prudential Assurance Co.*, [1993] 2 Lloyd's Rep. 68 (Q.B.). Following an 87-day trial, Cresswell J. believed that a misunderstanding of the duties and responsibilities of expert witnesses contributed to the length of the trial. He listed in *obiter dictum* duties and responsibilities of experts, the first two of which have particularly influenced the development of Canadian law:

1. Expert evidence presented to the Court should be, and should be seen to be, the independent product of the expert uninfluenced as to form or content by the exigencies of litigation

2. An expert witness should provide independent assistance to the Court by way of objective unbiased opinion in relation to matters within his [or her] expertise An expert witness in the High Court should never assume the role of an advocate.

[Emphasis added by Cromwell J.; citation omitted; p. 81.]

(These duties were endorsed on appeal: [1995] 1 Lloyd's Rep. 455 (C.A.), at p 496.)

...

32. Underlying the various formulations of the duty are three related concepts: impartiality, independence and absence of bias. The expert's opinion must be impartial in the sense that it reflects an objective assessment of the questions at hand. It must be independent in the sense that it is the product of the expert's independent judgment, uninfluenced by who has retained him or her or the outcome of the litigation. It must be unbiased in the sense that it does not unfairly favour one party's position over another. The acid test is whether the expert's opinion would not change regardless of which party retained him or her: P. Michell and R. Mandhane, "The Uncertain Duty of the Expert Witness" (2005), 42 *Alta. L. Rev.* 635, at pp. 638-39. These concepts, of course, must be applied to the realities of adversary litigation. Experts are generally retained, instructed and paid by one of the adversaries. These facts alone do not undermine the expert's independence, impartiality and freedom from bias.

[Emphasis in original.]

[114] Rule 11-2 of the B.C. *Supreme Court Civil Rules*, B.C. Reg. 168/2009 provides:

Duty of expert witness

(1) In giving an opinion to the court, an expert appointed under this Part by one or more parties or by the court has a duty to assist the court and is not to be an advocate for any party.

Advice and certification

(2) If an expert is appointed under this Part by one or more parties or by the court, the expert must, in any report he or she prepares under this Part, certify that he or she

- (a) is aware of the duty referred to in subrule (1),
- (b) has made the report in conformity with that duty, and
- (c) will, if called on to give oral or written testimony, give that testimony in conformity with that duty.

[115] Justice Davies, in *Angel Acres* at para. 111, noted that once the “proposed witness certifies awareness of the duties under Rule 11-2(1) ... the burden shifts to a party opposing admission of the witness’ evidence to establish a realistic concern that the expert is unwilling or unable to discharge that duty. If such a realistic concern is established the burden shifts back to the party proffering the evidence to establish on a balance of probabilities that the opinion is not tainted by bias. If lack of taint is not established the opinion evidence, or those parts of it that are tainted by a lack of independence or partiality should be excluded. Those same burdens apply at common law. See *White Burgess* at paras. 47 and 48.”

[116] Cromwell J. makes it clear that an expert’s lack of independence and impartiality goes to the admissibility of the evidence in addition to being considered in relation to the weight to be given to the evidence if admitted: para. 45. At paras. 48 and 49, Cromwell J. described the assessment of partiality:

48. Once the expert attests or testifies on oath to this effect, the burden is on the party opposing the admission of the evidence to show that there is a realistic concern that the expert’s evidence should not be received because the expert is unable and/or unwilling to comply with that duty. If the opponent does so, the burden to establish on a balance of probabilities this aspect of the admissibility threshold remains on the party proposing to call the evidence. If this is not done, the evidence, or those parts of it that are tainted by a lack of independence or impartiality, should be excluded. This approach conforms to the general rule under the *Mohan* framework, and elsewhere in the law of evidence, that the proponent of the evidence has the burden of establishing its admissibility.

49. This threshold requirement is not particularly onerous and it will likely be quite rare that a proposed expert’s evidence would be ruled inadmissible for failing to meet it. The trial judge must determine, having regard to both the particular circumstances of the proposed expert and the substance of the proposed evidence, whether the expert is able and willing to carry out his or her primary duty to the court. For example, it is the nature and extent of the interest or connection with the litigation or a party thereto which matters, not

the mere fact of the interest or connection; the existence of some interest or a relationship does not automatically render the evidence of the proposed expert inadmissible. In most cases, a mere employment relationship with the party calling the evidence will be insufficient to do so. On the other hand, a direct financial interest in the outcome of the litigation will be of more concern. The same can be said in the case of a very close familial relationship with one of the parties or situations in which the proposed expert will probably incur professional liability if his or her opinion is not accepted by the court. Similarly, an expert who, in his or her proposed evidence or otherwise, assumes the role of an advocate for a party is clearly unwilling and/or unable to carry out the primary duty to the court. I emphasize that exclusion at the threshold stage of the analysis should occur only in very clear cases in which the proposed expert is unable or unwilling to provide the court with fair, objective and non-partisan evidence. Anything less than clear unwillingness or inability to do so should not lead to exclusion, but be taken into account in the overall weighing of costs and benefits of receiving the evidence.

50. As discussed in the English case law, the decision as to whether an expert should be permitted to give evidence despite having an interest or connection with the litigation is a matter of fact and degree. The concept of apparent bias is not relevant to the question of whether or not an expert witness will be unable or unwilling to fulfill its primary duty to the court. When looking at an expert's interest or relationship with a party, the question is not whether a reasonable observer would think that the expert is not independent. The question is whether the relationship or interest results in the expert being unable or unwilling to carry out his or her primary duty to the court to provide fair, non-partisan and objective assistance.

[117] In *Angel Acres* at paras. 137–139, Davies J. also writes about the biased expert:

137. The defendants rely upon "*Taking a 'Gouge' out of Bluster and Blarney: an Evidence Based Approach to Expert Testimony*", in (June 2009) 13 C. Crim. L.R. 135 an article by then Professor Paciocco (now Paciocco J.A. of the Ontario Court of Appeal) stressing the importance of an expert maintaining an open mind.

138. In that article Professor Paciocco identified various forms of bias, some of which can often be subconscious.

139. In *R. v. France*, 2017 ONSC 2040 at para. 17 Molloy J. summarized Professor Paciocco's enumeration of the forms of bias identified by him as follows:

17. Professor Paciocco stresses the importance of the expert maintaining an "open mind to a broad range of possibilities" and notes that bias can often be unconscious. He refers to a number of forms of bias: lack of independence (because of a connection to the party calling the expert); "adversarial" or "selection" bias (where the witness has been selected to fit the needs of the litigant); "association bias" (the natural bias to do something serviceable for those who employ or remunerate you); professional credibility bias (where an expert has a

professional interest in maintaining their own credibility after having taken a position); "noble cause distortion" (the belief that a particular outcome is the right one to achieve); and, a related form of bias, "confirmation bias" (the phenomenon that when a person is attracted to a particular outcome, there is a tendency to search for evidence that supports the desired conclusion or to interpret the evidence in a way that supports it). Confirmation bias was a particular problem identified in the Goudge Report as Dr. Smith and other pathologists and coroners at the time approached their investigations with a "think dirty" policy, an approach "inspired by the noble cause of redressing the long history of inaction in protecting abused children," and designed to "help ferret it out and address it." Unfortunately, as commented on by the Goudge Report and by Professor Paciocco, such an approach raises a serious risk of confirmation bias.
[Footnotes omitted.]

[Emphasis Davies J.'s.]

[118] The authorities cited above demonstrate that partiality must be considered at both stages of the admissibility inquiry. Should the opinion be ruled admissible, partiality continues to feature when the court determines the weight to be attributed to the opinion.

[119] I turn now to Highland Transport's objection regarding Mr. Leggett's reliance on inadmissible hearsay. Highland Transport submits that little weight should be attributed to Mr. Leggett's opinion because he relied on material not in evidence (for example, a photograph not included in the package of admitted photographs and measurements and observations made by an associate who did not testify and which are not otherwise in evidence). I set out here the principles regarding the impact of hearsay on an expert's opinion.

[120] In *R. v. Giles*, 2016 BCSC 294, Ross J. considered how and why otherwise inadmissible hearsay evidence can be relevant and admissible in the context of expert opinion evidence. I have quoted from Ross J.'s decision at some length because it contains a useful summary on the topic. At paras. 39 to 51, she stated as follows:

39. Hearsay has relevance in two aspects in relation to an expert opinion. The first is as one source of the expert's expertise. In Sopinka, Lederman & Bryant, *The Law of Evidence in Canada*, 2d. ed., (Toronto: Butterworths, 1999) at §12.88, the authors note:

An expert's knowledge is made up of the distilled assertions of others not before the court. Recognition of this hearsay basis of expertise has been acknowledged by Canadian courts for some time. One example is a New Brunswick decision in which it was said:

A doctor, chemist, professional man or any other person who qualifies as an expert is not confined to opinions based solely on his personal experience of observation, but may draw on information obtained from lectures during his education in his particular field, textbooks, as well as from discussions with other persons learned in the same field. The weight to be given to any opinion is always a matter for the consideration of the trial Judge.

Reference Re Sections 222, 224 and 224A of the Criminal Code (1971), 18 D.L.R. (3d) 559 (N.B.C.A.)

40. The second way in which hearsay has relevance is in relation to the factual basis of an expert's opinion. There are three potential sources for the opinion offered by an expert. The first source is facts which are the direct observations of the expert; for example, a physician's observations of the physical condition of the person examined. The second source is facts provided to the expert; for example, the contents of an interview conducted by the expert. The third potential source is a hypothetical provided to the expert by counsel. The second source, which consists of information which serves as a factual foundation for the opinion that is outside the expert's own observation engages considerations of hearsay.

41. In *Abbey 1982*, the Court articulated principles concerning the admissibility and weight of an expert's opinion in relation to an expert's report based in whole or in part on hearsay. These principles were described by Wilson J. in *R. v. Lavallee*, [1990] 1 S.C.R. 852 [*Lavallee*] at 893 as follows:

1. An expert opinion is admissible if relevant, even if it is based on second-hand evidence.
2. This second-hand evidence (hearsay) is admissible to show the information on which the expert opinion is based, not as evidence going to the existence of the facts on which the opinion is based.
3. Where the psychiatric evidence is comprised of hearsay evidence, the problem is the weight to be attributed to the opinion.
4. Before any weight can be given to an expert's opinion, the facts upon which the opinion is based must be found to exist.

42. In *Lavallee*, Justice Sopinka, in a concurring decision, suggested refinements to the treatment of the issue of hearsay relied upon by the expert. At 898 and 899, Justice Sopinka distinguished between opinion based upon forms of enquiry and practice that are accepted as a means of decision within that expertise where there are strong circumstantial guarantees of trustworthiness, with those which rely upon a source which is inherently suspect, such as a party to the litigation. In both cases the hearsay is admissible to show the basis of the opinion. However, in the case of the

former, independent proof of the hearsay will not be required, but independent proof of those facts will be required in the case of the latter.

43. In *R. v. S.A.B.*, 2003 SCC 60 [S.A.B.], the Court adopted the distinction described by Sopinka J. In that case the DNA expert had relied upon international guidelines to explain and support her conclusion that the non-matching test sample was a mutation. The Court held that the expert was entitled to rely upon such sources within her field without the necessity for independent proof of those sources. Another example of the application of this distinction is the case of *City of Saint John v. Irving Oil Co. Ltd.*, [1966] S.C.R. 581, in which the issue was the reliance by an appraiser upon information of comparable transactions he had investigated in coming to his opinion.

44. By contrast, examples of situations in which independent proof of the hearsay relied upon by the expert has been required include: statements of the accused, complainant, friends or relatives, see *Abbey 1982*; and *Lavallee*.

[121] The above analysis guides the court in determining the expert's use of hearsay and whether, in this case, the expert impermissibly used information that is not properly before the court.

B. Analysis Of Expert Evidence (And Its Use) In This Case

[122] I address each objection now.

[123] Taiko submits that "Mr. Hrycay has demonstrated that he is not an independent witness, and that he is heavily biased in favour of the Highland Entities. As such, the Taiko Entities seek that the court exercise its discretionary gatekeeping role against admitting Mr. Hrycay's evidence, given that its potential benefits are far outweighed by the risks of its admission into evidence."

[124] Taiko's objection rests on two factors. First, that Mr. Hrycay's firm was retained initially by Taiko to examine the "black box". Second, that "Mr. Hrycay set out to support those conclusions in his report by cherry picking assumptions which favoured these conclusions and by disregarding scene and vehicle evidence where such evidence contradicted such conclusions."

[125] On the circumstances presented here, I am not satisfied that Mr. Hrycay was in a conflict of interest when he accepted the retainer from Highland Transport. As I examine the nature and extent of the interest identified, including the nature of the

earlier retainer (to determine whether any data could be salvaged from the ECM) and Mr. Hrycay's subsequent retainer, I am not satisfied the existence of this connection renders Mr. Hrycay's evidence inadmissible at the discretionary gatekeeping stage or otherwise. I have paid particular attention to the firm's limited involvement in its examination of the ECM, the nature of the retainer and the very different type of opinion later sought from Mr. Hrycay.

[126] Similarly, I do not agree with the submission that Mr. Hrycay "cherry picked" assumptions to suit his opinion and ignored information that did not support his opinion. Taiko Carriers framed their objection in this way: "Mr. Hrycay has made far too many choices in the circumstances of this litigation which favour the Highland Entities, and demonstrate a clear bias in their favour. As such, his evidence is unreliable and carries with it a significant risk of prejudice, which far outweighs any probative value it may possibly have."

[127] I agree that an expert who assumes the role of an advocate for a party is clearly unwilling and/or unable to carry out their primary duty to the court. I do not agree that is what occurred with Mr. Hrycay. He was extensively cross-examined about the assumptions that formed the basis for his opinion.⁵ Mr. Hrycay maintained his evidence that his opinion was not influenced by suggestions from Highland Transport's lawyer in their instruction letter to him. After considerable cross-examination on this point, Mr. Hrycay testified he "knew it was my duty at that time to look at the facts and, if my analysis proved different that what [the lawyer's] opinion was, I would certainly [let the lawyer know] ...we deal with the facts and the science and the physics."

[128] To demonstrate this bias, Taiko Carriers focused the cross-examination on Mr. Hrycay's value of coefficient of friction and the speed of the vehicles. I have examined Taiko Carriers' assertions regarding Mr. Hrycay's use of .10 as the

⁵ Taiko Carriers initially challenged Mr. Hrycay's qualifications to provide opinion evidence as sought by Highland Transport. Taiko Carriers withdrew their objection to his qualifications. However, I agreed with Taiko Carrier's request that the evidence elicited during the qualifications voir dire could also be considered on the trial proper without the need to repeat that evidence.

coefficient of friction and speed of the tractor-trailers at the time of impact. I address each of these assertions.

[129] With respect to the coefficient of friction, Taiko Carriers submits the coefficient used reflected a road surface that was covered with solid ice (a description different than that described by the witnesses). As such, says Taiko Carriers, Mr. Hrycay used a coefficient that was inconsistent with the evidence:

- Q: I take it that the coefficient of friction that you assumed for the roadway, which is .10 for your analysis, is it consistent with what these witnesses are saying?
- A: Well, there is a contradiction in each of the witness' own statements as to the fact that they say ...there's slush but they're saying it's not slippery. That's just their own individual opinions. As I described earlier, when the drivers don't have to make any sudden steering maneuvers and when they don't have to apply their brakes hard on the snowy and slushy roads, they're going to think they're in control. But once they have to do that, all bets are off. I see it time and time again where the drivers say that road conditions were good, but they're just basically travelling along. They're not having to steer around vehicles or apply their brakes and things of that nature. So they're somewhat lulled into a false sense of security because they're not slipping because ...they're not really doing any steering maneuvers or brake maneuvers.
- Q: So you've considered Mr. Petrar and Mr. Biermann's statements to the police in conditions but even though you've considered them, because of the inconsistencies that were apparent to you, you used your independent opinion to come up with the .10 coefficient of friction that you used for your analysis, correct?
- A: As I've stated before, I used slippery roads. I used the low value and the slippery roads are consistent with the description of slush on the road... it would be incorrect on my part to use coefficient of frictions that are representing wet roads or dry roads when the evidence clearly says it's slushy – some say it's snowing; some say it's not. But it's clear that ...it's not ideal conditions and it's on the slippery side.

[130] Mr. Hrycay explained the basis for his use of .10 coefficient of friction, reflecting a slippery road, and that it allowed for the somewhat different descriptions provided by Mr. Petrar and Mr. Biermann. Importantly, Mr. Hrycay did not agree that .10 was consistent with a solid ice surface. Rather, it reflected that which was described by the witnesses, a slippery road surface.

[131] Taiko Carriers also challenged Mr. Hrycay's assumptions regarding speed of the vehicles, submitting that Mr. Hrycay used a lesser speed than that described by the witnesses. Based on his analysis, Mr. Hrycay estimated the speeds of both vehicles to be approximately 60 km/hour. This is lower than the speed estimates provided for the Taiko Carriers unit. It is also higher than Mr. Biermann's testimony at trial regarding the speed of the Highland Transport unit. Mr. Hrycay stated that they were most likely mistaken in their estimates as the analysis did not support their estimates of speed. I am not satisfied that Mr. Hrycay's assessment of speed and assumptions related thereto demonstrated that he was partial to one side or the other. Rather, I am satisfied that based on his analysis, he concluded, properly in my view, that the witnesses were somewhat inaccurate when providing estimates of speed at the time of impact.

[132] I am not satisfied that Mr. Hrycay's opinion was impacted by his firm's earlier involvement, nor am I satisfied that Mr. Hrycay's testimony indicated partiality towards Highland Transport. Based on the foregoing, including Mr. Hrycay's testimony, I have concluded that Highland Transport has met its burden at this gatekeeping stage. As such, I exercise my discretion to admit Mr. Hrycay's opinion evidence. I will deal with the weight to be attributed to his opinion when I analyze the totality of the evidence presented.

[133] I turn now to deal with Highland Transport's objection regarding Mr. Leggett's opinion and, in particular, Mr. Leggett's use of Ms. Davidson's work product. Based on the nature of the objection and the totality of the evidence presented, I do not agree that Mr. Leggett's use of certain photographs and measurements was impermissible. In the circumstances presented here and based on the totality of the photographs and post-accident evidence presented (including the measurements referenced in Mr. Leggett's report), I am satisfied that there are strong circumstantial guarantees of trustworthiness in the underlying work product that renders it unnecessary to require independent proof. As such, I am satisfied that I can safely rely on Mr. Leggett's report and testimony. Whether I accept the opinion, and the weight I assign to it, are separate matters and I deal with them below.

[134] I briefly summarize my conclusions regarding the objections taken to the experts. With respect to Mr. Hrycay, I am admitting his report. I am satisfied that Highland Transport has met its burden regarding admissibility; specifically, with respect to the challenge to his partiality. Similarly, with respect to Mr. Leggett's opinion evidence, I am not satisfied that he impermissibly relied on factual assumptions not established on the evidence. I have assessed and relied on the experts' opinions accordingly.

IX. LIABILITY ANALYSIS

[135] In a case such as this, where a collision occurs between two tractor-trailers driving towards one another along a highway at night and during the winter, the court must consider all of the circumstances confronting both drivers. Having considered all of the circumstances in this case, including the expert evidence tendered, I have concluded that Taiko Carriers was negligent and 100 per cent at fault for the accident. Based on the positions taken by the parties, I have not found Mr. Biermann to have been contributorily negligent. In order to explain my reasons for arriving at this conclusion, I have considered the agreed upon circumstances, the testimony of Mr. Biermann and Mr. Petrar, the opinion evidence of Mr. Leggett and Mr. Hrycay, the position of the parties, and the relevant statutory provisions and case authorities.

[136] I am not satisfied that Taiko Carriers has proven on a balance of probabilities that Mr. Biermann (Highland Transport) was negligent in driving the Highland Transport tractor-trailer across the centreline in the manner described by Mr. Leggett (in a jack-knife position).

[137] As I review the totality of the evidence, I am troubled by three factors underlying Mr. Leggett's opinion: the reliance on the Highland trailer photograph; the reliance on the scattered cargo to confirm his theory; and inconsistency with the findings I have made regarding the position of Mr. Biermann's tractor-trailer.

[138] It is these factors that lead me to reject his theory of liability.

[139] With respect to the reliance on the photograph, I agree with Highland Transport that Mr. Leggett's theory of liability is overly simplistic. Mr. Leggett placed significant reliance on a photograph said to depict damage that was consistent with his opinion regarding the 40-degree angle, stating in his report, "There would have been a large angle between the Highland trailer and the [Taiko] tractor at impact, evidenced by the damage profile of the Highland trailer. This damage profile was established based on the Highland trailer measurements and using photo reconstruction."

[140] In his report, Mr. Hrycay criticized Mr. Leggett's characterization of the damage to the Highland trailer. Mr. Hrycay wrote "Figure 2 shows the angled tear (approximately 40 degrees) on the Highland trailer. This tear was jagged and irregular, and ultimately the result of the failure of individual components under various loads experienced during the collision. It does not mean that the vehicles were at 40 degrees to each other; the Taiko tractor did not act as a knife cutting through a homogenous object."

[141] I agree with Mr. Hrycay's critique. In my view, this is an example of Mr. Leggett attempting to apply "an overly precise analysis on imprecise evidence." I am not satisfied that the photograph and measurements relating thereto support Mr. Leggett's assertion that the point of first impact constituted 40 degrees. In his cross-examination, he agreed that the underpinning of his theory rested on a determination that that the vehicles were at 40 degrees at the point of impact and that could only occur with the Highland tractor-trailer in a jack-knife position. I agree with Highland Transport's submission that the starting point for the jack-knife theory rests on an assumption that has not been established on the evidence.

[142] In his responding report, Mr. Leggett attempted to address Mr. Hrycay's critique of Mr. Leggett's opinion. In so doing, Mr. Leggett attempted to explain how it was that the Highland unit was in a jack-knife position in the first place. Mr. Leggett wrote:

... the Highland trailer jackknife may have been a result of disproportionate braking performed by Mr. Biermann in response to the downhill grade and/or

curve in the accident area. If Mr. Biermann indeed believed that the Taiko unit was departing the eastbound lanes, it is also possible that Mr. Biermann misinterpreted the lateral position of the Taiko unit approaching the point of impact, and responded with a braking and/or swerving manoeuvre that sent the Highland unit into a jackknife.

[Underlining added.]

[143] After describing the obscured centreline, Mr. Leggett speculated further:

... If Mr. Biermann misjudged the centreline position, he may have observed the Taiko unit merging into the #1 eastbound lane (in the centre of the highway) and have mistakenly believed it was crossing the centreline. An emergency response on the part of Mr. Biermann may have resulted in the jackknife of the Highland unit.

[Underlining added.]

[144] Importantly, Mr. Biermann testified that he did not engage in any of the driving manoeuvres postulated by Mr. Leggett. Critically, Mr. Leggett's theory is inconsistent with Mr. Biermann's description of the accident in two respects (no jack-knife and no action taken to cause a jack-knife). Again, I have approached Mr. Biermann's evidence with some caution. However, he has never resiled from his testimony that his tractor-trailer was not in a jack-knife position. Rather, he maintained that his trailer was directly behind him and "where it should have been." He stated the Taiko Carriers unit crossed the centreline and that he was unable to do anything but hold on. Mr. Biermann also rejected the notion that he had engaged in any of the driving manoeuvres (including the different forms of braking and/or steering) described in Mr. Leggett's hypothesis. His evidence regarding the braking was particularly compelling. He appeared genuinely surprised, during his cross-examination, with the suggestion that he would have used his trailer brakes in the circumstances presented. He based this response in part on his many years of driving a truck. Mr. Hrycay also testified that such a manoeuvre was not the sort of driving behavior he would expect to see from an experienced truck driver.

[145] I am satisfied that Mr. Leggett's opinion draws too much significance from a single photograph (even taking into account the measurements and analysis of the photograph). I note in his first report that Mr. Leggett makes reference to a "sideswipe" collision and then explains why it was that this was not a sideswipe

collision, but rather a t-bone collision. I found this comparison to be unhelpful and contrary to the theories presented at trial. In any event, Mr. Leggett's opinion is inconsistent with the findings I have made regarding the position of the Highland tractor-trailer before the collision. Finally, Mr. Leggett attempts to confirm his theory by reference to the observations made of the boxes scattered by the roadway. In particular, his evidence focused on the damage to one of the boxes. Again, I am not satisfied that I can safely draw the inference Mr. Leggett seeks with respect to the state of the box at the time it was photographed. This is because both experts acknowledge the scene had been disturbed before captured by photographs and measurements. I do not draw the same inference as Mr. Leggett from the condition of the cargo.

[146] Apt here are the words of Fleming J. in *Huang v. Canadian National Railway Company*, 2018 BCSC 1235 at para. 211, where she stated:

Ultimately I am left with some concerns about Dr. Potma's opinion evidence regarding the circumstances of the Collision, partly because she imposed an overly precise analysis on imprecise evidence. Although she was critical of Mr. Ising's failure to engage in many of the usual aspects of a collision reconstruction, I found his approach more realistic given the limits of the available evidence. In addition to accepting his criticisms of Dr. Potma's simulation results which informed her conclusion about Ms. Huang's speed at the moment of impact, as I have already indicated, aspects of her opinion are undermined by her reliance on "physical evidence" that has not been proven.

[Emphasis added.]

[147] Mr. Hrycay explained his methodology in this case. Both engineers described a difficult accident scene and the limitations on the use of the usual software to reconstruct the accident. Both engineers explained their methodology. I am simply not satisfied that Mr. Leggett's reliance on the 40 degree angle is consistent with the totality of the evidence presented to the court. Rather, Mr. Hrycay explained his use of traditional reconstruction methods and then subsequent confirmation, using computer modelling techniques.

[148] With respect to the speed of the vehicles, Mr. Petrar estimated that the Taiko Carriers unit was traveling at a faster speed than that used by Mr. Hrycay.

Mr. Biermann estimated his vehicle at a lower speed than that used by Mr. Hrycay.

Mr. Hrycay explained the basis for using the speeds ultimately selected. I am satisfied with the explanation provided.

[149] I accept that both engineers were required to make certain assumptions in reaching their respective theories. I have found that Mr. Leggett's theory, as explained by him, was flawed because it drove an analysis with a starting point that was inconsistent with the evidence tendered during the trial and with the findings of fact I make. His theory commenced with his focus on the photograph depicting damage to the Highland trailer. His photo-reconstruction analysis seemed to drive the analysis thereafter – that is, that the angle at the first point of impact between the tractor-trailers was forty degrees. Despite counsel for Taiko Carriers' thoughtful and comprehensive submissions, on the evidence presented here, I am not satisfied that the analysis withstands scrutiny. The analysis also requires the court to reject two features of Mr. Biermann's testimony (location of the Highland trailer at impact and whether Mr. Biermann's engaged in certain driving manoeuvres immediately prior to impact).

[150] As stated above, I have accepted Mr. Biermann's testimony regarding the position of his tractor-trailer prior to impact. I also accept his testimony that he did not engage in the braking or steering described by Mr. Leggett, so as to cause the jack-knife in the first place.

[151] I am satisfied that Highland Transport has proven on a balance of probabilities that the accident was caused by the negligence of the Taiko Carriers' driver, in that he crossed the centreline and impacted the Highland Transport unit. In addition to the uncontested facts listed at the outset of these reasons, I make the following findings of fact:

- a) Mr. Biermann, a professional truck driver with over 45 years of experience including extensive winter driving experience, was operating a tractor he had been driving for nine months before the accident. He was pulling a loaded 53-foot trailer. He was driving the Highway #1 route (Calgary to

Vancouver and vice versa); a route he had been traveling about every second night for three months preceding the accident.

- b) When he left Calgary, it was winter weather conditions with intermittent snow. He was “driving accordingly” based on the road conditions.
- c) Mr. Biermann drove through the last snow shed, looked in his rear mirror and observed his trailer directly behind him “where it [was] supposed to be.”
- d) Very shortly after his exit from the snow shed, Mr. Biermann saw the Taiko Carriers unit coming towards him. He had time to utter a profanity and hang on.
- e) The Taiko Carriers unit was at least three feet across the centreline at the time of first impact between the tractor-trailers.
- f) Mr. Biermann did not take any evasive maneuvers either immediately prior to or at the time of impact because he did not have time to do so. I accept that all he could do was “hold on until it was over.”
- g) The Highland Transport unit was not in a jack-knife position, partial or otherwise, at the time of impact.
- h) Mr. Biermann did not engage in the braking or steering manoeuvres described by Mr. Leggett in his second report.
- i) Mr. Biermann did not hear his tractor-trailer cross the rumble strip in the 1000 metres before the accident.
- j) Mr. Petrar was traveling behind the Taiko Carriers unit for twenty to thirty minutes before the accident.
- k) Mr. Petrar observed the Taiko Carriers unit passing vehicles in the same direction of travel in the time leading up to the accident, including passing his own vehicle and one other.
- l) Mr. Petrar did not observe the accident but came upon it as the vehicles were reaching their final resting positions. Mr. Petrar observed [what was

later determined to be the Highland trailer] rotating in front of Mr. Petrar's truck.

- m) Mr. Petrar observed the cargo from the Highland trailer spilling out over the highway and striking his vehicle.

[152] For the reasons stated earlier, I have not accepted Mr. Leggett's theory that Mr. Biermann's truck was in a jack-knife position, partially or otherwise, at the time of impact. I am satisfied, based on the evidence I do accept, that Mr. Hrycay's opinion is consistent with the factual matrix as I have found it. I do not agree that Mr. Hrycay's use of .10 as the coefficient of friction undermined his opinion regarding the vehicles at first impact.

[153] As such, I accept Mr. Hrycay's opinion as follows:

- a) The Taiko tractor-trailer collided with the westbound Highland tractor-trailer, with the first contact being the left front of the Taiko tractor and the left side of the Highland trailer, in an angled impact. At this moment, the Taiko front end of the Taiko tractor had crossed the centreline, was on an angle and was in the westbound lane, while the Highland tractor-trailer maintained a position in the westbound lane.
- b) Impact forces caused extensive damage, including tearing apart of the Highland trailer into three sections. Maximum engagement occurred when the front of the Taiko tractor engaged the front of the Highland trailer tandem axle, causing it to tear from the trailer and for the trailer to be torn into two major sections.

[154] Based on the admissions of fact, the testimony of Mr. Biermann, the observations of Mr. Petrar as he approached the accident scene and thereafter, and the opinion of Mr. Hrycay, I am satisfied on a balance of probabilities that the impact occurred while the Highland tractor-trailer was in the westbound lane and the Taiko tractor-trailer had encroached into the westbound lane. In other words, the Taiko tractor-trailer had crossed the centreline. In the circumstances presented, the driver

of the Taiko tractor-trailer was negligent and 100 percent at fault for this tragic occurrence.

X. CONCLUSION AND ORDERS

[155] Based on the foregoing and my findings of fact, Highland Transport has proven on a balance of probabilities that Taiko Carriers was negligent in the manner in which the driver drove the tractor-trailer over the centreline and struck the Highland Transport unit. I find that Taiko Carriers was one hundred percent responsible for the accident. As a result of my conclusion, I make the following orders:

- a) In Vancouver Action Nos. S120654 and S168255, Highland Transport and Absolute Waste Solutions Inc. the action against Taiko Carriers is granted on the basis that the accident was caused solely as a result of the negligence of Taiko Carriers; and
- b) In Vancouver Action No. 120529, Taiko Carriers' action against Highland Transport and the other named defendants is dismissed.

[156] If the parties are unable to agree on costs, they may speak to the issue.

[157] At this time, I wish to thank counsel for their helpful comprehensive written submissions provided prior to the commencement of the closing arguments.

“Winteringham J.”