SUPREME COURT OF QUEENSLAND

CITATION:	*Tyndall v Kestrel Coal Pty Ltd (No 3)* [2021] QSC 119
PARTIES:	**JAMIE LEE TYNDALL** (plaintiff) **v** **KESTREL COAL PTY LTD** (defendant)
FILE NO/S:	SC No 646 of 2019
DIVISION:	Trial Division
PROCEEDING:	Trial
ORIGINATING COURT:	Supreme Court at Rockhampton
DELIVERED ON:	27 May 2021
DELIVERED AT:	Rockhampton
HEARING DATE:	14, 15,16, 22, 23 April 2021
JUDGE:	Crow J
ORDER:	**1. The parties are directed to bring a minute of orders in favour of the plaintiff reflecting the Court's judgment by 4:00pm 1 June 2021.** **2. The proceeding is listed at 9:00am 2 June 2021 for the making of formal orders reflecting the agreed position or, in default of agreement, for the resolution of any remaining disputes.** **3. The parties will be heard as to the orders which should be made as to costs at the hearing referred to in order 2.**
CATCHWORDS:	TORTS – NEGLIGENCE – STANDARD OF CARE, SCOPE OF DUTY AND SUBSEQUENT BREACH – CIVIL LIABILITY LEGISLATION – RISK OF HARM: FORESEEABLE AND NOT INSIGNIFICANT – where the plaintiff was employed by the defendant – where the defendant owed the plaintiff a duty of care – where the plaintiff operated machinery in the course of their employment – where the plaintiff suffers from vibration induced white finger syndrome – whether the injury, being vibration induced white finger syndrome, was foreseeable, not insignificant, and reasonable to take precautions against, pursuant to s 305B of the *Workers' Compensation and Rehabilitation Act 2003* (Qld) – whether the defendant breached their duty of care TORTS – NEGLIGENCE – DAMAGE AND CAUSATION

– CAUSATION – UNDER CIVIL LIABILITY LEGISLATION – GENERALLY – where the plaintiff was employed by the defendant – where the defendant owed the plaintiff a duty of care – where the plaintiff operated large machinery in the course of their employment – where the plaintiff suffers from vibration induced white finger syndrome – where the defendant alleges that the plaintiff's previous employment and medical history are the causes of his injury – whether the defendant's breach of duty was a necessary condition of the injury under s 305D of the *Workers' Compensation and Rehabilitation Act 2003* (Qld)

DAMAGES – GENERALLY – MITIGATION OF DAMAGES – GENERALLY – where the plaintiff suffered an injury in the course of employment – where the plaintiff claims damages for personal injury arising from employment - where the defendant employer offered alternative roles to the plaintiff – where the where the plaintiff did not re-commence work in alternative roles nor look for alternative work – whether the plaintiff, by their failure to re-commence or look for alternative work, failed to mitigate their loss

DAMAGES – ASSESSMENT OF DAMAGES IN TORT – PERSONAL INJURY – METHOD OF ASSESSMENT GENERALLY – where the plaintiff suffered an injury in the course of employment – where the plaintiff claims damages for personal injury arising from employment – where damages are assessed under the *Workers' Compensation and Rehabilitation Act 2003* (Qld)

Workers' Compensation and Rehabilitation Act 2003 (Qld), s 305B, s 305D, s 305E

Brown v Holzberger & AAI Limited [2017] 2 Qd R 639; [2017] QSC 54, cited
Corporation of the Synod of the Diocese of Brisbane v Greenway [2018] 1 Qd R 344; [2017] QCA 103, cited
Dasreef Pty Ltd v Hawchar (2011) 243 CLR 588; [2011] HCA 21, applied
Davie v Magistrates of Edinburgh [1953] SC 34 at 3940, cited
Graham v Baker (1961) 106 CLR 340; [1961] HCA 48, cited
Hopkins v WorkCover Queensland [2004] QCA 155
Martin v Andrews & Anor [2016] QSC 20, cited
McLean v Tedman & Brambles Holdings Ltd (1984) 155 CLR 306; [1984] HCA 60, cited
Medlin v State Government Insurance Commission (1995) 182 CLR 1; [1995] HCA 5, cited
Paul v Rendell (1981) 55 ALJR 371
Souz v CC Pty Ltd [2018] QSC 36, cited
Strong v Woolworths (2012) 246 CLR 182; [2012] HCA 5, cited

Tyndall v Kestrel Coal Pty Ltd (No 2) [2021] QSC 114, cited
Westpac Banking Corporation v Jamieson [2016] 1 Qd R 495; [2015] QCA 50, applied

COUNSEL: R M Treston QC, with J M Sorbello, for the plaintiff
S J Deaves for the defendant

SOLICITORS: Morton & Morton Solicitors for the plaintiff
Hall & Wilcox for the defendant

Introduction

[1] Mr Tyndall is currently 50 years of age having been born on 25 February 1971. Mr Tyndall had, prior to 2016, a long history of manual employment.

[2] Mr Tyndall completed his schooling until halfway through grade 10 when he left and commenced employment as a deckhand on a fishing trawler owned by his brother. Mr Tyndall spent approximately 10 years working as a deckhand and described his duties as processing the catch, cleaning the boat and equipment, mending the nets and cooking.

[3] After 10 years as a deckhand, Mr Tyndall obtained his coxswain's ticket and was able to "skipper" a trawler. In the following 10 years between ages approximately 24 and 34, Mr Tyndall worked as a skipper on a fishing trawler. Mr Tyndall described his duties as a skipper as keeping the crew safe, avoiding collisions, and catching seafood. Mr Tyndall said after 10 years as skipper he was "over it". Mr Tyndall had spent long periods of his life at sea, was missing his family, and in circumstances where the catches were decreasing such that the money was "not so good".[1]

[4] Mr Tyndall then pursued work in the mining industry. His first employment in the industry was with Eagle Engineering as a trade assistant. Eagle Engineering is a large firm based in Gladstone, which then employed seventy boilermakers and five or six trade assistants. Mr Tyndall was employed as a trade assistant to the boilermakers for nearly three years. Mr Tyndall described his duties as a trade assistant performing shut down work on drag lines and other equipment in the mining industry as essentially "keeping the boilermaker[s] happy".[2] As a trade assistant, Mr Tyndall would move equipment for the boilermakers, obtain their gear, obtain water, set up tarps, get discs, replace the wires in the welders and perform grinding duties.[3]

[5] After three years at Eagle Engineering, Mr Tyndall obtained employment at ABM Contractors as a mine labourer, working in secondary roof support at Kestrel Mine. Mr Tyndall described the arduous manual duties required of a manual labourer including the operation of a "gopher" and an "air track" in detail; suffice to say the duties were heavy manual duties.[4]

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1 T1-31.
2 T1-33.
3 T1-33.
4 T1-34.

[6] On 13 September 2011 Mr Tyndall obtained employment as an operator/maintainer at the Kestrel Mine in the employ of the defendant.[5] Mr Tyndall described that when employed by Kestrel he was allocated to "C Crew", a development crew of nine persons. A development crew cuts the headings for the roads with a continuous miner, developing the underground mine area ahead of the longwall. The nine people who made up C Crew were: a continuous miner operator, four bolter operators, a shuttle car driver, a fitter, an electrician, and an "outbye" worker. Mr Tyndall described the process of the continuous miner as a mining machine with a rotating drum which performed cuts in the coal of half a metre to a metre, with the coal being collected by the continuous miner and being relayed through the middle of the continuous miner onto the shuttle car. After the shuttle car filled up with coal, it would then drive to the conveyor belt, empty the coal onto the conveyor belt and then return to the continuous miner.

[7] The task of the operator of the continuous miner was to drive the continuous miner. The four bolters would work on the two bolting rigs on either side of the continuous miner performing roof and rib (wall) support. That is, by drilling holes into the underground strata and inserting roof and rib bolts into the strata to secure the miner. The fitter and the electrician made sure that the mechanical and electrical systems of all equipment was operating properly. According to Mr Tyndall, the outbye worker drove the loader and performed miscellaneous tasks such as road work, emptying rubbish bins, salting the roads (to reduce dust) and obtaining equipment, such as chemical pods and bolt cassettes, for the continuous miner.[6] Mr Tyndall explained that he liked working outbye (driving the loader) as it was a "dry job", he considered he was good at it, he could work unsupervised, and he found it was less mundane than the bolting work.[7]

[8] Mr Tyndall described that prior to February 2016, jobs were allocated by the deputy at the commencement of the shift at the toolbox talk; usually the deputy would ask who wants to do which job. Although he often wanted to work outbye as the loader driver, Mr Tyndall explained that he was "not rude"[8] and would "not hog the job from the crew", however Mr Tyndall said most of the crew did not want to work in the outbye and therefore for the majority of the time he worked underground, he worked as the loader driver.

[9] However, things changed in February 2016 when Kestrel Coal altered the procedure by which employees where allocated to outbye.[9] An internal memorandum from Greg Merrick, developmental superintendent at Kestrel Coal Mine, records that due to recent incidents and damage to the loaders, a decision had been made to restrict the number of persons operating the loaders. Relevantly, in C crew 404 panel, only Mr Tyndall and Shane Houchen were authorised to drive loaders. Mr Tyndall said he had never seen the memo but rather recalls one day his deputy writing up on the whiteboard at the pre-start meeting that only he and Mr Houchen were authorised to drive the loaders.[10]

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5 Exhibit 1, document 4.
6 T1-41.
7 T1-39.
8 T1-39.
9 Exhibit 1, document 3.
10 T1-40.

[10] Mr Tyndall explained that Mr Houchen was a very experienced miner with 20 years or more experience, and whilst Mr Tyndall only had 3 years' experience, he had spent a great deal of time operating loaders and was proficient at their operation.[11]

[11] Prior to 1 February 2016, Mr Tyndall could not provide precise evidence as to how often he operated the loader. In the six months prior to the memo, that is 1 August 2015 to 1 February 2016, Mr Tyndall's evidence was that he drove a loader for "the majority of the time".[12]

[12] Mr Tyndall explained that his roster was a 5/4 roster. That is, with five days of work (referred to as a "tour") and then four days off. However, within the tour there was a rotation day, called a "pyjama day", so that Mr Tyndall would work, for example, three day-shifts, have a pyjama day, then perform two night-shifts and have four days off, before returning to work to perform two day-shifts, then a pyjama day, followed by three night-shifts and a further four days off work.

[13] Mr Tyndall's recollection was of each of the tours in the three to five months prior to 1 February 2016, that is from 1 September 2015 to 1 February 2016, he worked three to four shifts allocated as a loader driver. As the shifts were 12.5 hour shifts, Mr Tyndall explained that he would normally have a pre-start meeting for the first half an hour or so and then allocated as a loader driver and typically would spend the next 30 to 40 minutes driving the loader down into the mine to the correct panel where he would perform the work that he described.[13]

[14] Mr Tyndall's evidence was that when working as a loader driver, he would typically work 7 to 9 hours operating the loader. The two brands of loaders driven by Mr Tyndall were "Eimco" loaders and "Jug O Naut" loaders. Mr Tyndall's evidence is that there was no difference in the performance of the loaders and in particular with respect to their effects upon the driver. Although Mr Tyndall was trained to work as a loader operator, he received no training with respect to vibration injuries nor the amount of time he was permitted to work as a loader driver, nor any need to take breaks from loader driving, nor any need to rotate duties.

The Loaders

[15] Exhibit 1, document 13 is a 56-page document constituting a training module developed by Kestrel Mine which includes standard operating procedure (SOP) for manual handling and vibration. That training standard contains considerable information on hand/arm vibration syndrome, its cause, the need for monitoring of such symptoms, the need for rotation and breaks and the controls available to avoid the suffering of hand/arm vibration injuries. I accept Mr Tyndall's evidence that he did not receive any training with respect of vibration injuries, let alone the detailed training contained in Exhibit 1, document 13.

[16] Mr Tyndall explained his body positions when using a loader. Mr Tyndall's evidence was that he placed his right arm on the armrest as shown in the photograph Exhibit 2 and used his right arm to operate the lever for the hooks.[14] The loaders are

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11 T2-9; T1-40.
12 T1-40.
13 Above at [7].
14 T2-3.

designed with quick detachment systems to enable different tools to be utilised by the loader so as to allow the loader to perform several tasks. It is a feature of underground mine loaders, presumably because they needed to be frequently operating in straight lines, alternating between forward and reverse, that the driver's seat is side on, that is at 90 degrees to the direction of travel of the loader. The loader is steered by a steering wheel which contains a solid steel wheel, upon which there is a spinner knob, again made of solid steel or hard Teflon.

[17] Mr Tyndall explained that the loaders have solid tyres and no suspension other than suspension contained in the operator's seat.[15] Mr Tyndall explained that driving conditions underground were often poor with limited visibility as a result of the dusty conditions, poor lighting, and often obstruction from the material being hauled by the loader itself.

[18] Mr Tyndall described that the loaders were "bouncy"[16] and that he, although restrained by a lap seat belt, had been thrown around so much that on four occasions that he recalled he hit his head on the steel canopy to the loader.[17] In view of the fact that the loaders had little suspension and that the operator was frequently thrown around, Mr Tyndall said that it was important that the operator gripped the steering wheel spinner knob or the wheel very tightly and that was his practice.[18]

[19] Mr Tyndall gave evidence that as soon as the engine of the loader was started and the engine was placed in idle, the loader would vibrate. Mr Tyndall had difficulty articulating with precision the sense of the vibration, but said it was like a constant buzz and like being on a turbo charged ride-on mower or like holding the handles of push mower.[19] The "buzz" went throughout his body and hand and that whilst holding tightly onto the steering wheel, every bump went "through" him.[20] The best description Mr Tyndall could give of the effect of holding onto the steering wheel with his left hand was that made it feel like his hand was being "caned".

[20] Mr Tyndall was asked to further explain this, as Ms Treston QC claimed to have never been caned.[21] Mr Tyndall's evidence was that it felt similar to slamming your hand hard on a desk. Mr Tyndall's evidence was that from the time he was designated as loader driver, from 1 February 2016, he worked "almost always as a loader driver" and worked usually seven, eight, or nine hours each shift as the loader driver.

Symptoms

[21] It is common ground that Mr Tyndall attended upon Sue Hollyman, a registered nurse, at the Rio Tinto medical centre on 14 March 2016 complaining of pain in his left ring finger.[22] Mr Tyndall's evidence is that he had had the pain and discolouration in his left ring finger for a couple of days before he went to see Nurse Hollyman. Nurse Hollyman's notes record that Mr Tyndall said it had been "sore a

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15 T2-6.
16 T2-6.
17 T2-8.
18 T2-8.
19 T2-5 to T2-6.
20 T2-6.
21 T2-6.
22 Exhibit 16.

while". Mr Tyndall explained that he had been moving concrete and he thought he had suffered an injury when a wire had entered his left ring finger. Nurse Hollyman's advice to Mr Tyndall was to go and see his doctor. Mr Tyndall worked one further shift in order to meet his obligations to his employer and then on his mid-tour spare day or pyjama day, he attended at the Emerald Hospital.

[22] Mr Tyndall explained his work with the wire, and that perhaps precipitated the treatment administered to him, which was to receive a tetanus injection. Mr Tyndall's recollection is that he went back to work and worked two more shifts, however his time sheets suggest he worked more than two shifts. Mr Tyndall's evidence was that from the time of noticing the symptoms, they became worse and the discolouration became worse. He developed a blister on his finger which remained for a couple of days. He felt weakness in his wrist and the skin started peeling off his finger. The finger became hypersensitive. Mr Tyndall explained that if the finger was placed on hot or cold it caused extreme pain and if he bumped it, he would suffer from pain that would "take your breath away".[23]

[23] Despite Mr Tyndall's evidence that he had only felt symptoms for a couple of days before attending the Emerald Hospital on 16 March 2016, the Emerald Hospital notes recorded that Mr Tyndall had been suffering the pain for some eight to nine days.

[24] Mr Tyndall made a good impression as a witness. His manner was to answer questions slowly and carefully. Mr Tyndall made admissions against his own interests, in particular, he admitted that the symptoms in his left hand were now mild as long as he didn't use his left hand. I accept Mr Tyndall was an honest witness. I have some concern about the accuracy of Mr Tyndall's evidence given these events occurred between September 2015 and March 2016.

Time Spent on Loader

[25] When cross-examined on the time spent in the loader, Mr Tyndall conceded[24] that he could not recall accurately what vehicle he drove on what shift between September 2015 and 2016 but did state that even if he was allocated a task, the task "can change during the day". Mr Tyndall repeated that he could not dispute what was in the documents and said "we'll go with what – we'll go with what you're saying, as in its written".[25] The very fair concession by Mr Tyndall is another example of his candour.

[26] Kestrel tendered as business records documents titled "Kestrel Development Team Results" from the months from September 2015 to April 2016.[26] The defendant, upon their reading of the team results, records, the below split between total shifts and shifts spent on the loader:[27]

Month	Total shifts	Shifts as loader driver
September 2015	15	3

23 T2-19.
24 T2-34 to T2-35.
25 T2-35.
26 Exhibit 13 and Exhibit 14.
27 Exhibit 47, paragraph 13.

October 2015	14	5
November 2015	14	9
December 2015	1 – annual leave	
January 2016	12	4
February 2016	8	4
March 2016	5	2

[27] The above summary of shifts worked as a loader driver is important to the defendant's case upon causation and was probably[28] an assumed fact for the basis of the defendant's expert witnesses. The above summary records only those shifts where Mr Tyndall was listed on the team results sheets as the outbye worker as days which Mr Tyndall worked on a loader. However, as explained below, this was not necessarily the case.

[28] It is plain when Mr Tyndall was listed as an outbye worker and on a production day, that he drove a loader between seven and nine hours on each shift. However, what is not plain but was ultimately borne out by the evidence was that on many occasions Mr Tyndall, despite not being listed on outbye and/or it being a non-production day, Mr Tyndall still operated the loader.

[29] The defendant called two Emergency Response Zone (ERZ) Controllers, Mr Rooney and Mr Ede, to explain the team results sheets[29] and how they may be interpreted. Further to the oral evidence given, Exhibit 17 is a written statement of Mr Ede taken on 7 October 2020.

[30] The evidence of Mr Rooney and Mr Ede was to the effect that on non-production days and it was likely that Mr Tyndall was driving a loader.

[31] While rather obvious, it is worth noting that a "production" day is where the continuous miner is mining coal; the crew would have the responsibilities as outlined at [7]. Conversely, a "non-production" day is when the continuous miner is not mining coal. On non-production days the loaders (often more than used on a production day) would be deployed for road works, flitting the miner, or moving equipment, or the longwall. On non-production days it would be more likely that members of the crew, despite being assigned one role (according to the team sheets), would also be doing another. Further, and in respect of Mr Tyndall, if more than one loader was available it was to be expected that Mr Tyndall or Mr Hucheon would likely be driving the loader.

[32] In light of the evidence of Mr Rooney and Mr Ede, a further analysis of Exhibits 13 and 14, highlight, in my view, that it was more probable than not that Mr Tyndall was operating the loader on the following shifts:

- 1, 3, 9, 10, 11, 13, 22 September 2015 (7/15)
- 7, 8, 10, 11, 16, 17, 20, 26, 27, 28, 29 October 2015 (11/14)
- 4, 5, 6, 7, 8, 16, 17, 23, 24, 25 November 2015 (10/14)

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28 I say probably because, as discussed below, there is difficulty in identifying the assumptions of fact made by the medical experts.

29 Exhibit 13 and Exhibit 14.

- Nil in December 2015 (0/1)
- 1, 2, 3, 18, 19, 20, 21, 27, 28, 30, 31 January 2016 (11/12)
- 5, 6, 7, 8, 9, 15, 17, 18 February 2016 (8/8)
- 4, 5, 6, 7, 8, 9 March 2016 (6)

[33] It is to be noted on 14 March 2016 when Mr Tyndall attended upon Nurse Hollyman, he did not work on a loader at all as there were three coal mine workers located at the outbye including Mr Hucheon. Mr Tyndall was allocated as a bolter.

[34] What is perhaps more troubling is that even after injury had been noted, Mr Tyndall was re-deployed and worked further on a loader on diverse dates between 15 March and 27 March 2016 and on diverse dates between 1 April and 13 April 2016. That is, after Mr Tyndall had attended upon Nurse Hollyman and reported his injury, he spent 13 of the last 15 shifts operating a loader and only two shifts (23 March 2016 and 12 April 2016) were not spent on loaders.

[35] A careful and correct analysis of the defendant's business records shows that Mr Tyndall had understated the amount of time he had in fact spent working on loaders. In terms of accuracy I prefer the business records as opposed to Mr Tyndall's memory and find that Mr Tyndall worked on loaders on the dates set out in paragraphs [32] and [33]. However, I accept Mr Tyndall's evidence in respect of, on the days that he was working on the loaders, the time spent working in the loaders, that is, between seven and nine hours.[30]

[36] As to his onset of symptoms, I do not accept Mr Tyndall's evidence that he had only been suffering the symptoms for the two days prior to attendance upon the nursing station in the course of his employment. Rather, I again rely on the contemporaneous records of the Emerald Hospital which records the pain coming on over the last eight to nine days to conclude that, on the balance of probability, Mr Tyndall suffered the onset of symptoms in his left hand in his tour of 4 March 2016 to 9 March 2016 and that he continued to suffer from the symptoms on his return to work on 14 March 2016 and thereafter.

Liability – Foreseeability and Breach of Duty

[37] It is uncontroversial that Kestrel as the employer owed Mr Tyndall as an employee a duty to take reasonable care to ensure that Mr Tyndall was not injured in the course of his employment.

[38] In the present case, the risk of developing hand/arm vibration syndrome in the form of white finger syndrome was not only reasonably foreseeable but actually foreseen by the defendant. This is made plain by various documents in Exhibit 1, namely:

- Document 1, Report of VIPAC Engineers & Scientists.
- Document 10, Rio Tinto - level 1 risk assessment guidelines.
- Documents 11, 12, 13, being the defendant's manual handling and vibration standard operating procedures (SOP).

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30 At [30].

[39] The defendant admits breach of duty of care in respect of the plaintiff's operation of Jug O Naut loaders but disputes[31] a breach of duty in respect of the Eimco loaders.[32]

[40] As to the breach of the duty of care, although the VIPAC study makes an assessment specifically of Jug O Naut loaders LD017 and LD019 and Mr Tyndall was driving both Jug O Nauts and Eimcos, I accept Mr Tyndall's evidence that the effects upon his body of driving the machines were the same.[33] I accept therefore that both types of loaders driven by Mr Tyndall had a vibration level rating which posed a high risk,[34] such that a reasonable employer would comply with the recommendations of the VIPAC study and limit an employee's operation of a loader to a period of less than two hours in each ten hour shift for both types of loaders.[35] Relevantly, the VIPAC report states:[36]

> "The two Jug O Naut's have health limit hours of 2 hours, this signifies that based on the measurement levels and conditions, operators are likely to experience health risks for long-term exposure. It is recommended that administrative controls are enforced to ensure operators do not operate these vehicles for long term daily. Alternatively, additional measurements could be conducted to determine average levels over time."

[41] The VIPAC vibration study in relation to Jug O Nauts LD019 and LD017 record that the whole-body vibration measurements were "above industry average levels".[37]

[42] Accepting as I do Mr Tyndall's evidence that he utilised the loaders between 7 and 9 hours per shift, I conclude Kestrel has breached its duty of care to Mr Tyndall.

[43] I am conscious that there are limits to the utility of the VIPAC study and in particular, the VIPAC study proceeds on an assessment of whole-body vibration by measuring vibration levels upon the seat of the particular piece of plant which is measured. In respect of hand/arm vibration (HAV) the testing was undertaking in respect of specific tools as set out in Appendix A. The VIPAC study *recommends* quarterly whole-body vibration measurements on a sample of vehicles to capture measurement data.[38] The defendant has not produced any evidence to suggest that such measurements were taken quarterly or at all other than the survey conducted as stated in the VIPAC study.

[44] Presumably the defendant, who is required to establish, maintain and enforce a safe system of work,[39] did not further assess any Eimco loaders as it presumed Eimco loaders as being the same as Jug O Naut loaders in terms of vibration. In any event, the only evidence before the court on the topic is that of Mr Tyndall, who gave evidence that the vibrational effects (on the operator) of the loaders is the same.

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31 Paragraph 7B(c) of Second Further Amended Defence; Exhibit 50, paragraphs 2 and 3.
32 Paragraph 1 of Defendant's written submissions.
33 T2-3, Lines 1 to 25.
34 Exhibit 1, document 1, page 12.
35 Exhibit 1, document 1, page 12.
36 Exhibit 1, document 1, page 13.
37 Exhibit 1, document 1, page 13.
38 Exhibit 1, document 1, page 15.
39 *McLean v Tedman & Brambles Holdings Ltd* (1984) 155 CLR 306.

[45] The defendant did not suggest to Mr Tyndall that there was any difference in the vibration characteristics of the Eimco loaders and the Jug O Naut loaders, and nor did Kestrel's experienced employees, Mr Ede or Mr Rooney, suggest that was the case. Mr Alexandrou, author of the VIPAC study, was called to prove the VIPAC study.[40] I obtained little assistance from Mr Alexandrou's evidence, as in preparing the VIPAC report there was no attempt to measure the vibration upon the operator's hand which gripped the steering wheel or Teflon ball of the loader.

[46] As discussed below at [92], Dr Cohen's opinion was that such a gripping would have an amplifying effect on vibration. As discussed at [112], paragraph 4.3 of AS ISO5349.1 2013, the Australian Standard for mechanical vibration,[41] also states "It should also be noted that the coupling can effect considerably the vibration magnitudes measured."

[47] Similarly, paragraph 4.2.3 of the same Standard requires the vibration measurements to be made on the vibrating surface "as close as possible to the centre of the gripping zone of the machine, tool, or work piece."[42] Neither party called an expert who had carried out the tests to measure the vibration felt by the operator of an Eimco loader. The only evidence as to the vibration characteristics of the loaders driven by Mr Tyndall comes from Mr Tyndall and I accept his evidence that there was not any difference between the Jug O Naut loaders and the Eimco loaders.

[48] An objection was made on behalf of the defendant against the admission of Sandvik Operator Manual for LS190.[43] The defence was in the odd position where it had disclosed a document (presumably as relevant) for a Sandvik loader in circumstances where the plaintiff's case was framed only in respect of Eimco and Jug O Naut loaders. On the last day of trial, the defence, cognisant of their duty to the court, had undertaken research and informed the court that the company Sandvik had purchased Eimco "at some point".[44] However, the submissions that the manual was not relevant was still maintained.[45] In response the plaintiff submits that:[46]

> "12. The submissions also overlook that irrespective of whether or not the manual is indeed for a different loader used by the defendant (which is not accepted), the manual provides that a loader has a vibration dose value [VDV] of between 17 - 37hz consistent with that observed by Mr Alexandrou in respect of the Jug O Naut."
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> (Citations omitted.)

[49] Chapter 2.7 of the Sandvik manual is entitled "Operational Safety Considerations"[47] and more specifically paragraph 2.7.4 concerns the vibration emission level. Paragraph 2.7.4 in states, *inter alia*:

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40 T4-36; Exhibit 1, document 1.
41 Exhibit 29.
42 Exhibit 29.
43 Exhibit 1, document 9.
44 T5-74, line 18.
45 Exhibit 50, paragraph 11.
46 Exhibit 51, paragraph 12.
47 Exhibit 1, document 9.

> "To be accurate, an estimation of the level of exposure to vibration experienced during a given period of work should also take into account the times that a vehicle is standing by and when it is running but not doing work. This may significantly reduce the exposure level over the total working period. Typical results of tests for loader type vehicles undertaken indicate an average vibration dose value [VDV] of between 17-37hz".

[50] This submission on behalf of the plaintiff is based upon consistency of the VDV of between 17 and 37hz is made on the basis of the VDV measurements contained in Table 5.2 of the VIPAC study.[48] That table records that Jug O Naut LD019 had a VDV of 30.1 and Jug O Naut LD017 has a VDV of 32.8, placing both machines in the high-risk category for vibration level rating. There are a number of difficulties, however, with this comparison.

[51] The first is that the VDV in Table 5.2 undertakes the measurements consistent with AS 2670.1 and that is, it measures VDV in $m/s^{1.75}$ which is an exposure limit value calculated on the basis of a 10 hour shift and not a 12 or 12.5 hour shift. Further, measuring a VDV in $m/s^{1.75}$ is not the same as measuring one in Hertz. I do not therefore consider it safe to accept the submission that the Sandvik loader has a vibration dose value consistent with that assessed by Mr Alexandrou in respect of the Jug O Nauts.

[52] However, what is plain from the Sandvik manual in paragraph 2.7.4 is that vibration is recognised as a source of injury to an operator who operates a Sandvik loader. The manual which has been disclosed is dated 16 March 2011. Numerous photographs within the manual show that it is a vehicle which is the same in its characteristics and function to other underground loaders such as Jug O Nauts and Eimcos. Given the date of the manual and that Sandvik had purchased Eimco, all that I am able to draw from the manual[49] is an inference that the latter model loader, branded as a Sandvik loader, poses a risk to the safety of an operator and that the manufacturer of this latter model Sandvik loaders recommend that "an estimation of the level of exposure to vibration experienced during the given period of work be undertaken which takes into account times when the vehicle is standing by and when it was running but not doing work." There is no suggestion that any such estimation or testing occurred.

[53] Another feature of the evidence is that the defendant had, at some point in time, custody of operator's machine logs which would have identified with precision which machines Mr Tyndall operated on which days during the relevant period. These documents were not discovered by the defendant.

[54] In summary, conscious of their obligation to provide a safe system of work to its employees, the defendant did appropriately engage VIPAC to perform an assessment on two loaders only and found them both to fall in the high risk category for vibration. The same experts recommended further testing which did not occur. One manual, the Sandvik manual discovered by the defendant, suggests that estimates be made in respect of vibration levels and that has not occurred. The

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48 Exhibit 1, document 1.

49 Exhibit 1, document 9.

defendant had documents in its possession showing which loaders Mr Tyndall had operated on which days but has not produced those documents.

[55] Had testing been undertaken by the defendant in respect of its loaders as recommended by VIPAC, or estimations been done of the vibration levels as recommended by Sandvik, then precise information may have been available as to vibration levels experienced by loader operators. That has not, however, occurred. Both Australian Standards,[50] refer to the benefit of operator assessment of the vibration magnitude and comfort of the rider as providing a reliable method of detecting a risk from vibrational injury.

[56] In the present case, in respect to the Eimco loaders, I accept the evidence of Mr Tyndall as to the vibration levels and its characteristics. I conclude that the Eimco loaders were sufficiently similar to the Jug O Naut loaders in terms of vibration characteristics and that the Eimco loaders ought to be treated the same as the Jug O Naut loaders in respect of the assessment of liability.

[57] In terms of the pleaded breaches of duty, I am satisfied that Mr Tyndall has proved that Kestrel has breached its duty of care to him in terms of paragraphs 14(e), (h) and (i) of the Further Amended Statement of Claim, which are as follows:

> "14. The Injury was caused by the defendant's breaches of its obligations and duties pleaded at paragraphs 3, 4 and 5, as the defendant failed to provide a safe and health work environment in that it failed to:
>
> …
>
> (e) warn the plaintiff of the possibility of injury to him in carrying out his employment and instruct him in carrying out his employment and instruct him in carrying out his employment and instruct him in methods of work to avoid the possibility of such injury;
>
> …
>
> (h) implement a system of work that did expose the plaintiff to vibrational forces beyond that which is safe;
>
> (i) failed to implement the recommendations of the [VIPCAC] Report and required the plaintiff to operate Loaders for periods well in excess of that considered to be reasonable in the [VIPAC] Report."

Causation

[58] The principle dispute[51] in respect of the issue of liability is causation. In respect of causation, s 305D and 305E of the *Workers' Compensation and Rehabilitation Act 2003* (Qld) provides:

> **"305D General principles**

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50 Exhibit 29 and 30.

51 T5-57, line 40 to T5-58 line 2.

(1) A decision that a breach of duty caused particular injury comprises the following elements—

(a) the breach of duty was a necessary condition of the occurrence of the injury (***factual causation***);

(b) it is appropriate for the scope of the liability of the person in breach to extend to the injury so caused (***scope of liability***).

(2) In deciding in an exceptional case, in accordance with established principles, whether a breach of duty—being a breach of duty that is established but which can not be established as satisfying subsection (1)(a)—should be accepted as satisfying subsection (1)(a), the court is to consider (among other relevant things) whether or not and why responsibility for the injury should be imposed on the party in breach.

(3) If it is relevant to deciding factual causation to decide what the worker who sustained an injury would have done if the person who was in breach of the duty had not been so in breach—

(a) the matter is to be decided subjectively in the light of all relevant circumstances, subject to paragraph (b); and

(b) any statement made by the worker after suffering the injury about what he or she would have done is inadmissible except to the extent (if any) that the statement is against his or her interest.

(4) For the purpose of deciding the scope of liability, the court is to consider (among other relevant things) whether or not and why responsibility for the injury should be imposed on the party who was in breach of the duty.

305E Onus of proof

In deciding liability for a breach of a duty, the worker always bears the onus of proving, on the balance of probabilities, any fact relevant to the issue of causation."

[59] The requirement for a plaintiff to prove on the balance of probability factual causation requires a plaintiff to prove that "a breach of duty caused particular injury as the breach of duty was a necessary condition to the occurrence of the injury." It has been accepted that factual causation is a restatement of the "but for" test for causation at common law.[52]

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52 *Strong v Woolworths* (2012) 246 CLR 182 at 193-194 [25]-[27]; *Corporation of the Synod of the Diocese of Brisbane v Greenway* [2018] 1 Qd R 344.

[60] The plaintiff's case is that the particular injury that he suffers from is white finger syndrome and was caused, in breach of their duty of care, by the defendant requiring him to drive the loader for extended periods of time between 1 September 2015 and 1 May 2016.

[61] The defendant denies the causation pleaded by Mr Tyndall,[53] and pleads in their Third Further Amended Defence ("TFAD"):

> "15 The Defendant denies the allegations contained in paragraphs 13, 14, 15A and 15B of the Amended Statement of Claim and believes the allegations to be untrue because:-
>
> (a) of the matters pleaded in paragraphs 7, 9, 10, 12, 13 and 14 above; and
>
> (b) the operation of the Loader by the Plaintiff between 1 September 2015 and 1 May 2016 was not a necessary condition of the occurrence of the pleaded injury;
>
> (c) the pleaded injury was caused by a number of factors including:-
>
> (i) the Plaintiff's prolonged heavy smoking habit;
>
> (ii) the Plaintiff's pre-existing condition of lichen sclerosis;
>
> (iii) the Plaintiff's pre-existing history of anxiety;
>
> (iv) the Plaintiff's exposure to heavy manual handling duties in the fishing industry, boilermaking and underground mining prior to 1 September 2015; and
>
> (v) the Plaintiff's exposure to vibration in the course of his duties in the fishing industry, boilermaking and underground mining prior to 1 September 2015.
>
> (vi) the Plaintiff's pre-existing Buerger's Disease."

[62] Paragraph 15(a) refers to matters pled by the defendant in paragraph 7, 9, 10, 12, 13 and 14. It is necessary to set those paragraphs, they are as follows:

> "7 The Defendant denies the allegations contained in paragraph 8(b) of the Amended Statement of Claim and believes the allegations to be untrue because, in fact, the report:
>
> (a) identifies a daily exposure limit value and a daily exposure action value with respect to whole body vibration for various items of plant at Kestrel Coal mine including two Jug O Naut loaders with the alphanumeric codes LD017 and LD019 respectively;

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53 At paragraph 13 of the Further Amended Statement of Claim.

(b) nominates a daily exposure limit value of 1.5 hours and a daily exposure action value of 5 minutes with respect to whole body vibration for LD017;

(c) nominates a daily exposure limit value of 2 hours and daily exposure action value of 5 minutes with respect to whole body vibration for LD019;

(d) states that the daily exposure limit value is a health risk indicator that should not be exceeded for average exposures;

(e) states that the daily exposure action value is an indicator that actions should be taken to reduce vibration exposure risks; and

(f) recommends that administrative controls are enforced to ensure that operators do not operate the two Jug O Naut loaders for long term daily or that additional measurements be conducted to determine average levels over time.

…

9 With respect to the allegations contained in paragraphs 10(c) and 10(d) of the Amended Statement of Claim, the Defendant:

(a) admits that between 1 September 2015 and 1 May 2016 loader operators performed other tasks, including grading roads and shifting bins used in the mine, when they were not required for mining duties;

(b) otherwise does not admit the allegations; and

(c) is unable to admit the allegations because:

(i) the pleading is vague and lacking in particulars; and

(ii) having made reasonable enquiries in the time available prior to pleading, the Defendant remains uncertain as to the truth or otherwise of the allegations.

10 The Defendant denies the allegations contained in paragraphs 10(e) and 10(f) of the Amended Statement of Claim and believes the allegations to be untrue because:

(a) in fact, on the shifts when the Plaintiff was designated as a loader operator between 1 September 2015 and 1 May 2016, he operated an Eimco loader at least as often as he operated the Loader; and

(b) in fact, on the shifts when the Plaintiff was designated as a loader operator between 1 September 2015 and 1 May 2016, he performed tasks other than operating the Loader.

…

12 The Defendant denies the allegations contained in paragraphs 11(c) and 11(d) of the Amended Statement of Claim and believes the allegations to be untrue because:

(a) in fact, the Plaintiff only worked one shift in December 2015, namely 31 December 2015 and performed no loader duties that shift; and

(b) in fact, the Plaintiff only worked 12 shifts in January 2016 and operated a loader between 4 and 6 of those shifts.

13 The Defendant denies the allegations contained in paragraph 12 of the Amended Statement of Claim and believes the allegations to be untrue because:

(a) in fact, from 1 February 2016, the Plaintiff operated an Eimco loader at least as often as he operated the Loader;

(b) in fact, from 1 February 2016, Shane Houchen was often designated the role of loader operator;

(c) in fact, the Plaintiff only worked 8 shifts in February 2016 and operated a loader on no more than 4 of those shifts;

(d) in fact, the Plaintiff only worked 14 shifts in March 2016 and operated a loader on no more than 8 of those shifts; and

(e) in fact, the Plaintiff only worked 14 shifts in April 2016.

14 The Defendant denies the allegations contained in paragraph 12A of the Further Amended Statement of Claim and believes the allegations to be untrue because:

(a) of the matters pleaded in paragraphs 7, 9, 10, 12 and 13 above."

[63] As to paragraph 7 of the TFAD, it is to be recalled that the VIPAC study[54] was based upon whole body vibration measurements conducted upon the Jug O Naut loaders LD017 and LD019. However, as discussed above, VIPAC also recommended testing of other loaders utilised in the mine, and there is no evidence to suggest that did occur, and Mr Tyndall's evidence (based on his use of both types of loaders), which I accept, is that the vibration levels upon Jug O Naut loaders that he drove were similar to the vibration levels experienced by him in the Eimco loaders.

[64] By paragraph 9(a) Kestrel had admitted that loader operators included the tasks of grading roads and shifting bins with loaders when not required for mining duties. That is consistent with Mr Tyndall's evidence.

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54 Exhibit 1, document 1.

[65] Kestrel's allegation at paragraph 10 is consistent with Mr Tyndall's evidence that he operated both the Eimco loader and the Jug O Naut loaders. As to which loaders were operated on which day, that information is contained in the pre-start forms completed by Mr Tyndall and provided to his supervisor as each shift. The pre-start forms have not been disclosed to identify which loader Mr Tyndall drove on any particular shift. Given that I accept Mr Tyndall's evidence that the levels of vibration endured by him were similar on either type of loader, then in my view, it does not make any difference which loader Mr Tyndall was requested to drive.

[66] Therefore, the matter pleaded by the defendant in 10(b) of the TFAD is consistent with Mr Tyndall's evidence that during a 12.5 hour shift he would regularly perform between seven and nine hours loader driving and therefore would undertake other duties for 2.5 to 4.5 hours during a shifts (given that Mr Tyndall was provided with two half hour breaks during his 12.5 hour shift).

[67] As to paragraphs 12 and 13, although I accept Kestrel's records are proof that Mr Tyndall did not perform loader duties on all of the shifts that he was rostered on between January 2016 and April 2016. That being said, I find that in respect of each of the shifts in that period that Mr Tyndall worked on the loaders, Kestrel was in breach of its duty to Mr Tyndall as it required or allowed Mr Tyndall to operate the loader for more than 2 hours in each of those shifts.

[68] At Paragraph 15(b), Kestrel expressly pleads that Mr Tyndall has not satisfied the "but for"[55] test and by paragraph 15(c) of the TFAD Kestrel raises a positive case that the white finger syndrome suffered by Mr Tyndall was caused by the five matters contained therein. The correct conclusion upon the cause of the white finger syndrome requires an analysis of the medical evidence.

Dr Quinn

[69] Expert medical opinion, like any other expert opinion, must, to be admissible, be premised upon identified facts or assumptions that are in fact proved in evidence.[56]

[70] Dr Anthony Young of Shelley Beach Medical Clinic has for a long time been the treating general practitioner for Mr Tyndall. Dr Young referred Mr Tyndall to Dr Quinn, vascular and endovascular surgeon, for an opinion in April 2016. Dr Quinn's opinions are set out in his numerous reports.[57] In his report of 20 July 2016, Dr Quinn stated:

> "…Jamie's symptoms have born themselves out over the last couple of months and it has taken a little while to identify just how severe his symptoms are. Due to his anxiety, introverted personality and extreme fear of public speaking, it has taken multiple visits to fully express the s[e]verity of the pain and discomfort he is experiencing and the impactnthat [sic] this is having on his ability to work. This has resulted in taking some time to clarify just how significantly affected by this problem Jamie is, however it has become clear to me that he is not suitable for return to manual work at this time…I think it is unlikely there is going to be significant improvement over time."

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55 *Workers' Compensation and Rehabilitation Act* 2003 (Qld) s 305B.
56 See *Dasreef Pty Ltd v Hawchar* (2011) 243 CLR 588.
57 Exhibit 1, Documents 15 to 26.

[71] Dr Quinn, in response to a request from Ms Moravcova, officer of WorkCover Queensland, said in his letter of 20 July 2016:[58]

> "Jamie has some difficulty expressing/explaining his symptoms/problems in a short period of time due to his anxiety. It has taken multiple appointments to fully explain his symptoms to me and for me to completely grasp their implications. Jamie has also been very keen to return to work and played down the severity of some of his troubles. I do not think that his symptoms have worsened in the last four months, but I feel that my appreciation of them, and my ability to understand the Implications [sic] on his ability to work manually, has improved. Thus my description of his restrictions has been refined significantly."

[72] I accept the insightful comments of Dr Quinn regarding Mr Tyndall's general anxiety as they accord with my own observations of Mr Tyndall whilst in and out of the witness box. Whilst in the witness box during the multiple openings of court and adjournments during his evidence, Mr Tyndall had the unusual practice of not looking at the bench, nor directly ahead of himself, nor to the bar, but facing himself to the side of the court. In giving his evidence it was clear that Mr Tyndall was extremely nervous and in spite of a fair, non-forceful and appropriate cross-examination, Mr Tyndall had difficulty disagreeing with much that was put to him. After his evidence and whilst sitting at the public gallery of the court, Mr Tyndall often stared to his right – that is, at a blank wall, and at other times often stared at the floor.

[73] Given Mr Tyndall's extreme fear of public speaking and that he has great difficulty expressing himself in a short period of time due to his anxiety, caution must be exercised in accepting the accuracy of what Mr Tyndall has told medical practitioners and therefore the accuracy of the opinions based on that information which may not be accurate.

[74] The first example of this is in Dr Quinn's report of 27 April 2016.[59] In that report Dr Quinn records that Mr Tyndall has been "experiencing pain and tenderness" only in his left fourth finger for the last 5 weeks. That is not accurate because 6 weeks earlier (14 March 2016),[60] Mr Tyndall had attended upon Nurse Hollyman at Kestrel complaining of pain over the last few days and had attended at the Emerald Hospital complaining of pain over the last 8 to 9 days.

[75] Dr Quinn noted the significant past history of smoking and examined Mr Tyndall and diagnosed "a thrombosed digital artery associated with his manual work". Dr Quinn prescribed medication and requested repeat CT angiogram and a plain film checked x-ray. Dr Quinn, despite considering Mr Tyndall not fit for work, was at that time, optimistic that with conservative measures that things were "likely to improve".[61]

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58 Exhibit 1, Document 22.
59 Exhibit 1, document 15.
60 Exhibit 16.
61 Exhibit 1, document 15.

[76] In his report of 26 May 2016,[62] Dr Quinn noted that the CT angiogram failed to identify any obvious embolic source in Mr Tyndall's proximal vessel. Dr Quinn then requested a Holter monitor and echocardiogram to exclude a cardiac source for the thrombosed left fourth finger artery. In his report of 26 May 2016 Dr Quinn commented "[a]t this stage I feel the most likely source of his trouble is work-related injury from his heavy manual work."[63]

[77] On 1 June 2016, Dr Quinn performed a left arm and hand angiogram on Mr Tyndall, which revealed:[64]

> "radial and ulnar arteries occluded withsome [sic] collateralisation present…the palmar arch filled poorly and by collaterals…the 4th common palmar digital artery was occluded…The fourth propper [sic] palmar digital arteries filled slowly...There was poor opacification of the arterial supply to the tip of the 4th finger."

[78] After the angiogram, Mr Tyndall underwent other investigations, namely a vasculitis and thrombophilia screen, a formal thoracic duplex ultrasound scan and an echocardiogram, all reported as unremarkable. Following all of this testing Dr Quinn concluded:[65]

> "At the end of the day, I think Jamie's problem is 'vibration-induced white finger' syndrome. Jamie's palmar and digital artery occlusions are related to his longstanding use of vibration-inducing tools and repeated minor trauma to the vessels in his hand."

[79] In his report of 22 June 2016 Dr Quinn recorded:[66]

> "I had a long discussion with Jamie about his condition and the implications for him today. His problem has arisen through his chronic exposure to heavy vibrational forces on his bilateral hands. This has caused repeated micro-trauma to his digital and palmar vessels which has ultimately ended in occlusions. Unfortunately, these vessels are too small to unblock and Jamie's management is really conservative from this point. My advice to Jamie has been that he needs to avoid vibrational forces at all costs to prevent worsening of his situation."

[80] In his report of 20 July 2016, Dr Quinn states:[67]

> "I have diagnosed Jamie as having vibrational induced white finger syndrome that has caused digital arterial occlusion predominantly affecting his left forefinger.
>
> …
>
> Vibrational induced white finger syndrome is a rare entity. It is however clearly defined. Vibrational induced white finger syndrome

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62 Exhibit 1, document 16.
63 Exhibit 1, document 16.
64 Exhibit 1, document 17.
65 Exhibit 1, document 18.
66 Exhibit 1, document 19.
67 Exhibit 1, document 21.

> is recognised as digital arterial damage from repeated micro trauma associated with heavy manual work particularly involving repeated and chronic exposure to vibration."

[81] After setting out the numerous diagnostic tests that had been undertaken, Dr Quinn continued:[68]

> "The only investigation that has revealed a significant abnormality has been the digital subtraction angiography of the left hand which confirmed and defined multiple small vessel occlusions in Jamie's left hand. All of his other investigations have been unremarkable. This finding in conjunction with the history of prolonged heavy manual work with exposure to repeated vibration is consistent with a diagnosis of vibrational induced chronic small vessel occlusive injury."

[82] Dr Quinn also expressed opined that Mr Tyndall could not return to "any sort of heavy or light manual work at this stage"[69] and that "I do not think that that his condition is likely to significantly improve." Dr Quinn added "Jamie's condition has developed over years and is the result of chronic exposure to vibration forces affecting his hand."

Dr Cohen

[83] In his report of 25 July 2017,[70] Dr Cohen opined that it was the exposure to the Jug O Naut loader over the last three months prior to the onset of clinical symptoms working eight hours a day that was "the main driver for his vibration injury of the small vessels in his hands." In the same report, Dr Cohen describes Mr Tyndall accurately as a 46-year-old male with a long history of manual employment.

[84] Dr Cohen expressed the same opinion in his report of 28 August 2017.[71]

[85] In his report of 22 February 2020,[72] Dr Cohen was asked to express an opinion, specifically bearing in mind the difference between whole body vibration, which is defined as low frequency vibration, with frequencies of up to 80 hertz, and hand/arm vibration which is high frequency vibration with frequency of 1,000 hertz. As Dr Cohen observed:

> "There are a number of papers looking at the effect of the magnitude and frequency of vibration injury transmitted to the hands. Frequencies from 125Hz to 315Hz cause the greatest reduction in blood flow.
>
> Arguing about the number of hours spent on the loader I think is irrelevant. For six months he had spent significant amount of time on a loader each day, predominantly using his left hand with his right hand supported on an armrest. After six months of doing this on a daily basis, he developed the symptoms.

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68 Exhibit 1, document 21.
69 Exhibit 1, document 21.
70 Exhibit 1, document 29.
71 Exhibit 1, document 30.
72 Exhibit 1, document 31.

…

Mr Tyndall was asymptomatic prior to spending six months performing this duty. On the balance of probabilities, you would have to suspect the increased vibration that was transmitted by the loader has injured his blood vessels and caused them to occlude.

…The repetitive exposure to vibration on an essentially daily basis for six months has resulted in damage to the blood vessels, causing occlusion which is demonstrated on the angiogram in July 2017.

…The vibration forces are transmitted through the gear stick on the loader, through the steering mechanism, which is absorbed by the client's left hand.

I understand, from an engineering point of view, there is a difference between whole body exposure and vibrations exposed directly to the left hand, but at the end of the day this is a 49 year old gentleman who was asymptomatic prior to performing this duty. Whether we split the vibration up into whole body vibration or exposure to the hand, I think it is irrelevant. The mechanism of action has been established over six months of repetitive use and repeated damage to the blood vessels, which has caused the occlusion and his symptoms."

(Emphasis added.)

[86] In response to a supplementary report of Dr Foster, vascular surgeon, dated 27 November 2020 that Mr Tyndall's injuries were "consistent with Buerger's disease and unrelated to vibration",[73] Dr Cohen said:[74]

"Buerger's disease is always a possibility in younger patients who are smoking with distal arterial occlusion. At the time of the incident Mr Tyndall was 37 years of age, having worked for Rio Tinto for 5 years… Buerger's Disease is difficult to diagnose and significantly more common in the feet. With only 5% of patients experiencing limited Buerger's Disease in the hands. Of the patients with Buerger's Disease, 85% will experience Buerger's Disease in 3 or more limbs, with only 15% localised to 2 limbs only. In a young 37 year age gentleman, isolated upper limb Buerger's Disease is an extremely uncommon presentation.

…

When you put this all together, Mr Tyndall is working in an environment where he had significant exposure to micro trauma to the hands over his working life. This micro trauma caused occlusion to both his left and right hand[s] but became more symptomatic in his left hand. The angiogram performed by Dr Simon Quinn, demonstrated no proximal atherosclerotic lesions but did demonstrate occlusions of the ulna and radial artery with no corkscrew collaterals. I understand that corkscrew collaterals are not

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73 Exhibit 43, page 5.

74 Exhibit 1, document 34.

> pathognomonic of Buerger's Disease. However, occlusions of his upper limb vessels only in a patient who has been exposed to an environment which causes trauma to the vessels in his upper limb only, the most likely outcome is Mr Tyndall experienced micro trauma induced occlusion of his upper limb vessels."

[87] Following further MRIs, angiograms, and duplex ultrasounds, Dr Cohen opined in that:[75] "'[t]here was no evidence of Buerger's Disease on these and he has a good flow to the vessels in his foot."

[88] Dr Cohen, again in response to another supplementary report of Dr Foster,[76] said:[77]

> "I reviewed Dr Foster's supplementary report of 31 March 2021.
>
> I again reviewed the duplex ultrasound and MRI and they demonstrate no significant pathology of the lower legs. There is adequate flow that can be seen on MR angiogram into the foot. That demonstrates no radiological evidence of buerger's disease."

[89] In his cross-examination, Dr Cohen was open to consider alternative causes for Mr Tyndall's condition, including manual blunt force trauma.[78] Dr Cohen considered the possibility that the white finger syndrome had been caused in Mr Tyndall's prior manual occupations, but said that was "unlikely".[79] Dr Cohen then went to so say: "[t]he more common we see is in patients who come in who have constant repetitive vibration in their hands which damage the vessel. Intermittent vibration, high or low frequency, doesn't seem to do that sort of damage."[80]

[90] During cross-examination, Dr Cohen conceded that prolonged drilling over a long period of time could contribute to damage.[81] When cross-examined about the contents of the VPAC study, Dr Cohen responded:[82]

> "[i[f that's the – the summary of the paper. I guess clinically we don't ask people about hertz. We - we just ask about their occupation and their exposure to it, but I un - I take your point."

[91] When asked whether, had Mr Tyndall not worked on the loaders and only undertook other duties at the mine, Mr Tyndall would have developed symptoms in his left hand, Dr Quinn said that "it depends on when those other occlusions occurred" and if the occlusions did occur from blunt force trauma then it would be likely that both the radial and ulnar arteries would have to be blocked, but in any event "it's hard to say."[83]

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75 Exhibit 1, document 35.
76 Exhibit 45.
77 Exhibit 1, document 36.
78 T3-7, line 10.
79 T3-8, lines 25-30.
80 T3-8, lines 25-30.
81 T3-9, line 3.
82 T3-12, lines 9-11.
83 T3-12, line 15-20.

[92] During re-examination, Dr Cohen explained the basis for his opinion that it was irrelevant to consider the difference between whole body vibration and hand-arm vibration:[84]

> "Because I think you can measure whole-body vibration on some of [indistinct] and the reality is that he has had his hand on the machine but it has transmitted through that point. And essentially what that gives you is repetitive trauma for eight or nine hours a day, and that's the mechanism of the action which causes hand vibration. It damages the intima of the walls. And if that's the process which damages it. So that's why I think it's irrelevant. I think it's the exposure – the overall exposure to these vibrations. And when you've got one hand on a wheel, you actually get – *it's like an amplifying effect through the hand and that's usually where we see it.*"
>
> (Emphasis added.)

[93] After Mr Tyndall's description of a sensation of holding the Teflon ball of the steering wheel, Dr Cohen said "That's what I mean by the amplification effect, *but that's what happens in these machines and that's what I see clinically*" (Emphasis added).[85]

[94] As to the doctor's assumptions, Dr Cohen clarified that he assumed for the vast majority of Mr Tyndall's shifts that his primary job was upon the loaders as an important factual basis for upon which his opinions rested.[86] As discussed above, Dr Cohen's opinion is based on the facts as I find them to be, upon to Mr Tyndall's operation of the loaders[87].

Dr Foster

[95] As set out above, Dr Cohen's report is well-reasoned, it is based upon an accurate appreciation of the facts, Dr Cohen has made concessions and fairly considered the questions put to him by cross-examining counsel. The vascular surgeon called in the defence case, Dr Foster, had a very different approach. Dr Foster's report of 18 June 2020 records:[88]

> "The activities of Mr Tyndall's occupation do involve a degree of vibration and constant pressure on the palm in particular the region of the hook of the hamate bone which is well described as a cause of hand and finger ischemia
>
> …
>
> Left hand, white finger syndrome is a symptom and sign rather than a medical condition…It is an indicator of an underlying arterial occlusion from whatever cause. As described above, the causes are many.

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84 T3-15, line 25-35.
85 T3-15, lines 41-43.
86 T3-12, line 26.
87 Above at [32] - [33].
88 Exhibit 41, pages 18 and 19.

> …
>
> The operation of the loaders does require the constant holding with a firm grip of the metal steering wheel or the spinner knob. According to Mr Tyndall's description there is a tendency to be thrown about the loader cabin when he is moving along the underground roadways. The repetitive nature of moving about and holding on sufficient to cause an arterial occlusion.
>
> …
>
> In my opinion, there is no certainty that the vibration was the major component in the causation of the condition. My personal opinion is that discussion on the vibration is irrelevant.
>
> *There is sufficient repetitive micro trauma involved with the operation of the loaders to precipitate the condition, with or without vibration*."
>
> (Emphasis added.)

[96] Dr Foster quantified a 15% whole person impairment,[89] and said that due to an asymptomatic pre-existing condition without definitive diagnosis[90] he would "equate the extent referable to the pre-existing condition as 20% of [Mr Tyndall's] Whole Person Impairment of 15%."[91] Dr Foster opined that the injury was caused due to "compression between the steering wheel or the Teflon ball attached to the wheel and the underlying point of the hook of the hamate bone" rather than vibration.[92] This opinion of Dr Foster seems to accept that Mr Tyndall's grasping of the steering wheel, which was vibrating, caused "repetitive micro trauma" to Mr Tyndall's left hand, yet Dr Foster says vibration is "irrelevant". It is difficult to accept that the "repetitive micro trauma" is not caused by the act of grasping the steering wheel with the left hand and the action of the steering wheel in vibrating.

[97] Despite Dr Foster's first report running to some 26 pages (excluding annexures), Dr Foster's "personal opinion" that vibration from the loader is irrelevant, but that "repetitive micro trauma" from the use of the loader was what precipitated the condition was not explained. Furthermore, it was contrary to the research conducted in the VPAC report[93] and Kestrel's safe work procedures which plainly recognised the cause and effect between vibration and ischemic hand and arm injuries.

[98] In his report of 24 September 2020,[94] Dr Foster said:

> "…given there is more proximal disease in the left arm, it is unlikely that his underlying arterial problem can be explained purely by vibrational injury."

[99] Dr Foster's report of 27 November 2020, stated:[95]

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89 Exhibit 41, page 22.
90 Exhibit 41, page 21.
91 Exhibit 41, page 22.
92 Exhibit 41, page 26.
93 Exhibit 1, document 1.
94 Exhibit 42.
95 Exhibit 43.

> "Ulna artery occlusion has been described as a consequence of work related trauma and, in my opinion, represents an aggravation of a pre-existing condition.
>
> The work aggravation has ceased and collateral blood flow to both hands is evident…
>
> The scattered nature of the arterial disease in the left forearm, right and left hands is, with his smoking history is consistent with Buerger's disease and unrelated to vibration."

[100] To that report, Dr Foster attached a research paper abstract titled "[a] curious case of finger pain".[96] The abstract details a medical case involving a 65-year-old male with a history of smoking who had suffered from symptoms for over 30 years (since his early 30s), before rather broadly stating in respect of Beurger's disease, that "[i]t occurs most commonly in men, with the age of onset in the 40s; is strongly associated with smoking; and is often progressive." A "research paper" based on a study of one person is, in my view, not a sound basis on which to support an opinion.

[101] In his report of 27 November 2020,[97] Dr Foster appears to diagnose Mr Tyndall's condition as Buerger's disease, which is unrelated to any work, yet accepts there is a work aggravation without defining the nature of the work aggravation.

[102] Dr Foster was asked what tests may confirm his diagnosis of Buerger's disease. In his report of 1 March 2021,[98] Dr Foster called for (as the most simple test) an arterial duplex scan of the upper and lower limbs before concluding "[a] normal result does not rule out Buerger's Disease; however an abnormal result would be confirmatory and rule out vibration induced arterial damage."[99] Dr Foster also recommended a catheter angiography but warned that it was quite invasive and similar information could be obtained in other ways (e.g. arterial duplex).

[103] The arterial duplex scan returned a normal result in respect of the lower limbs. Accordingly, the further testing did not support a diagnosis of Buerger's disease, nor did it rule it out. Dr Foster then said:[100] "[g]iven Mr Tyndall's age, past history of cigarette and marijuana smoking, the most likely diagnosis is thromboangiitis obliterans, Buerger's Disease."

[104] In his final report, Dr Foster stated:[101]

> "The acute precipitating event in Mr Tyndall's left ring finger was related to an occluding process specifically in the branches of his left ulna artery supplying blood to the radial side of his ring finger. Given that occurred at work, I consider he has suffered from an aggravation of a pre-existing condition."

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96 Exhibit 43, page 13.
97 Exhibit 43.
98 Exhibit 44.
99 Exhibit 44, page 4.
100 Exhibit 45.
101 Exhibit 45.

[105] There is some difficulty in accepting the opinion expressed by Dr Foster in his series of reports,[102] as there does not appear to be much consistency and there is less detailed reasoning.

[106] In his initial report of 18 June 2020, Dr Foster diagnosed Mr Tyndall with an ischemic disease, which was "fully consistent" with Mr Tyndall's history.[103] In his report of 31 March 2021,[104] Dr Foster diagnosed Mr Tyndall with Beurger's disease based on Mr Tyndall's age and smoking history (both tobacco and marijuana).

[107] Dr Foster's diagnosis has altered from an ischemic disease caused by factors including Mr Tyndall's work to Buerger's disease unrelated to work, however the basis of the diagnosis (that is the age and smoking history) has not altered.

[108] Importantly, in his report of 18 June 2020,[105] Dr Foster called for investigations of right arm circulation or lower limb circuitry status to "fully rule out underlying medical conditions such as thrombo-angiitus obliterans (Buerger's disease)."[106]As stated above, that has occurred. Yet, despite there being no abnormal results for the lower limb circuitry tests, Dr Foster has altered his opinion from an ischemic injury that was work related or at least an aggravated that had occurred at work, to Buerger's Disease, but with an undefined work-related aggravation to the pre-existing condition of Buerger's Disease. When asked to explain his alteration of opinion, Dr Foster refused to acknowledge that he had altered his opinion.[107]

[109] Dr Foster's evidence in respect of the important issues, such as diagnosis, and effect of occupational exposure as opposed to any pre-existing condition, are in the nature of an *ipse dixit*. Lord Cooper, the Lord President, said in *Davie v Magistrates of Edinburgh*,[108] cited with approval by Heydon J in *Dasreef Pty Ltd v Hawchar*:[109]

> "… [T]he bare ipse dixit of a scientist, however eminent, upon the issue in controversy, will normally carry little weight, for it cannot be tested by cross-examination nor independently appraised, and the parties have invoked the decision of a judicial tribunal and not an oracular pronouncement by an expert."

[110] There was some attempt to address the lack of reasoning of Dr Foster contained in a file note of 12 February 2021. The file note commences:[110]

> "As the Plaintiff presents with vascular damage in his left and right **upper** limbs at a number of levels, disease is far and away the most likely explanation for his problems."
>
> (Original emphasis.)

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102 Exhibit 41-45.
103 Exhibit 41, page 15.
104 Exhibit 45.
105 Exhibit 41.
106 Exhibit 45, page 25.
107 T5-71.
108 [1953] SC 34 at 3940.
109 (2011) 243 CLR 588 at 624. As explained by Heydon J at 624-625 it is not a matter of weight but rather a matter of admissibility.
110 Exhibit 46.

[111] Although this sentence contains reasoning, it is superficial and not responsive to the facts and circumstances in Mr Tyndall's case. Whilst Mr Tyndall does present with vascular damage, at a number of levels, to his left and right upper limbs, the symptoms in Mr Tyndall's left upper limb are severe at times, yet absent in the right upper limb. Further, although Mr Tyndall's left hand is subject to a great deal more vibration than his right upper limb, Mr Tyndall's right upper limb was also subject to vibration forces in the form of whole-body vibration in the course of driving the loader. The difference of course is the left hand was subject to far more intense vibration as it was used to clasp onto the steering wheel.

[112] Common sense supports the conclusion that the more severe symptoms in Mr Tyndall's left hand, were caused by his tight gripping of the vibrating steering wheel of the loader. This conclusion is supported by Australian Standard AS ISO 5349.1-2013 which states,[111] in respect of the measurement and evaluation of human exposure to hand transmitted vibration:[112]

> "**4.3 Coupling of the hand to the vibration source**
>
> Although characterization [sic] of the vibration exposure currently uses the acceleration of the surface in contact with the hand as the primary quantity, it is reasonable to assume that the biological effects depend to a large extent on the coupling of the hand to the vibration source. It should also be noted that the coupling can affect considerably the vibration magnitude as measured."

[113] The Australian Standard then goes on to recommend that the force between the hand and the gripping zone should be measured and recorded. Accordingly, insofar as the above sentence from Dr Foster's file note of 12 February 2020 does include reasoning, I reject that reasoning.

[114] The same file note records,[113] "[f]urther, it is clear from the imaging that the Plaintiff has developed damage at different parts of his upper limbs at different times." This is not at all explained. Furthermore, assuming that it is correct, that is adopting an *ipse dixit,* given that Mr Tyndall has been exposed to occupational vibration for at least the three years preceding his injury, and, as Dr Cohen conceded, possibly longer, it is difficult to understand why the development of damage in different parts at different times in any way supports Dr Foster's opinion.

[115] Dr Foster continues: "[i]f his injuries were due to occupational exposure to vibration, one would expect the majority if not all the damage would have occurred at or about the same time." This *ipse dixit* is not only not explained but does not make sense. As set out in the Australian Standard on mechanical vibration (ISO 5349.1 – 2013),[114] there are at least four factors which influence the impact on a human exposed to hand transmitted vibration injury during working conditions are the:[115]

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111 Exhibit 29.
112 Exhibit 29.
113 Exhibit 46.
114 Exhibit 29.
115 Exhibit 29, paragraph 4.1.

(a) frequency with respect to the vibration;

(b) magnitude of the vibration;

(c) duration of exposure per working day; and

(d) cumulative exposure to date.

[116] The Australian Standard on Human Exposure to Whole Body Vibration (AS 2670.1 – 2001), highlights that a "dose-effect" relationship is generally assumed in determining pathological detriment caused by whole-body vibration (although there is no "quantitative relationship available").[116]

[117] In considering the impact of occupational vibration, Dr Foster said:[117]

> "To the extent that occupational vibration may have contributed to the development of ischemia in 2016 in the Plaintiff's left middle and ring finger, that condition has now resolved because blood flow has returned to the digits via collateral pathways. The plaintiff is, therefore, no longer suffering from the effects of that injury and his ongoing problems relate to the multilevel vascular disease in both of his upper limbs."

[118] The above excerpt shows that Dr Foster does provide some reasoning as to opinion that the pre-existing condition, presumably the work-related condition, has now resolved. I interpret Dr Foster's opinion to be

(a) that there was some small work injury caused to Mr Tyndall's left upper limb, caused by Mr Tyndall gripping forcefully with his left hand upon the steering wheel or steering knob and not by vibration per se; and

(b) that injury was minor, and blood flow has returned to the affected digits by collateral pathways.

[119] It would appear Dr Foster then reasons that the ongoing problems that Mr Tyndall suffers in his left hand were caused by a pre-existing condition of multilevel vascular disease in both upper limbs.

[120] The difficulty with the acceptance of this reasoning is that it does not explain why Mr Tyndall is significantly symptomatic in his left hand but not in his right hand in circumstances where the facts show that Mr Tyndall's left hand was subjected to severe vibration whereas the right hand was subject to a much lesser level of vibration. It is possible that this may simply be a coincidence but begs the question as to why this bilateral pre-existing multilevel vascular disease manifests itself only with ongoing symptoms in the left upper limb, the very same limb which was subjected to severe vibrational forces over a period from late 2015 to March 2016.

[121] The many factors against the acceptance of Dr Foster's opinion include:

(a) The facts, as I found and analysed above;

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116 Exhibit 30, paragraph 7.1.
117 Exhibit 46.

(b) The wisdom of the Australian Standards, in particular paragraph 4.1 of the Australian Standard on mechanical vibration;[118]

(c) The findings and recommendations of the VPAC report;[119] and

(d) the defendant's own standard operating procedure with respect to vibration,[120] which records that vibration may cause disorders of circulation particularly with the hands and fingers including whole body vibration and that "[e]xposure to vibration is quantified in terms of acceleration of a surface, for example, the hand…".[121]

[122] I cannot accept Dr Foster's opinion as I consider it to be insufficiently reasoned and not in accordance with the evidence, nor the research, nor the approach set out in the Australian Standards.[122] I prefer the logic of Dr Cohen's opinion that as exposure of Mr Tyndall increased to vibration (that is, from late 2015 to the increase in early 2016) that is the likely cause of the injury to Mr Tyndall's left upper limb. In particular, Dr Cohen's opinion aligns with paragraph 4.1 of Australian Standard on mechanical vibration, insofar as during the period of late 2015 but in particular February 2016 one of the factors which is known to influence the effects of human exposure to hand transmitted vibration and working conditions increased, that is, condition (d) the cumulative exposure to date.[123]

[123] As set out in paragraphs [32] to [33] above, Mr Tyndall drove loaders nearly every day of his employment in 2016 prior to suffering his injury.

[124] An important issue between the parties is the determination of whether Mr Tyndall suffered from pre-existing Buerger's Disease. The treating vascular surgeon, Dr Quinn, did not make a diagnosis of Buerger's Disease. Both Dr Cohen[124] and Dr Foster[125] acknowledged that Mr Tyndall's condition had been "investigated very thoroughly by Dr Simon Quinn, in conjunction with Dr Andrea Riha, who was a vascular physician. So they did a number of investigations, including a lot of antibiotic tests which pick up the common sorts of causes of this sort of condition."[126]

[125] The lack of pathology in the legs was explained by Dr Cohen with a statistical probability of pathology in the legs together with Mr Tyndall's age and history led Dr Cohen to form the opinion that Mr Tyndall did not suffer from pre-existing Buerger's Disease. As set out in [86] Dr Cohen had stated that Mr Tyndall was aged 37 years at onset, but had previously recorded [85] Mr Tyndall aged 49. The chronological error in [86] does not cause me to doubt Dr Cohen's opinion as he had previously correctly stated Mr Tyndall's age.

[126] Ms Treston QC sought Dr Foster's assistance as to the causation of Mr Tyndall's injuries on the factual premise that there was not any underlying Buerger's Disease,

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118 Exhibit 29.
119 Exhibit 1, document 1.
120 Exhibit 1, document 11.
121 Exhibit 1, document 11, page 241.
122 Exhibits 29 and 30.
123 Exhibit 29.
124 Exhibit 1, document 29, page 367.
125 T5-67, line 38-41.
126 T5-67, line 38-41.

however, Dr Foster refused to make that assumption, stating:[127] "[i]f I might be so bold as to suggest that if his Honour accepted there was no pre-existing Beurger's Disease or condition in his other arteries, he would be incorrect."

[127] As I accept the opinion of Dr Cohen, I find that Mr Tyndall did not suffer from pre-existing Buerger's Disease or another condition in his arteries.

Dr Vecchio

[128] Dr Vecchio, a rheumatologist, was called in the defendant's case. Dr Vecchio's opinion that Mr Tyndall had suffered from Buerger's Disease was based upon assessment of radiology and the acceptance of the opinion of Dr Foster.[128] Dr Vecchio gave his evidence in a careful and considered manner, however, as I do not accept Dr Foster's opinion, I cannot accept Dr Vecchio's opinion. Furthermore, Dr Vecchio's opinion was also reliant on the "expertise of the radiologist" and not Dr Vecchio's own expertise.[129]

Dr Cameron Mackay

[129] Dr Cameron Mackay, hand surgeon, said in his report of 1 November 2016:[130]

> "14. This is indeed a complex situation and Dr Quinn has done an excellent job of excluding many potential diagnoses. The workup has been thorough and provides a good foundation for clinical opinion. There are however a number of areas of concern which make the case less than straightforward. *While the presence of vibration during the course of his work is likely a significant contributing factor to the injury*, there are potential other contributing or predisposing factors to be considered. Not least of which is his heavy smoking and clinical anxiety. Other potential predisposing factors to microvascular disorders such as this have not been investigated such as autoimmune disease. These are however potentially relevant in the discussion regarding causation as it stands.
>
> 15. Once again whilst *it is very reasonable to say that work is a significant contributing factor*, I would also say there are several other factors at play. It is and will be impossible to tell which is the main inciting factor but it may be that the vibration itself in a work activity were an aggravator of underlying pathology. With this comment however, I must stress that in the context of this clinical episode the relationship to work is established, however brief that exposure may be."
>
> (Emphasis added.)

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127 T5-73, line 3-5.
128 T5-57, line 28-35.
129 T5-57, line 32.
130 Exhibit 35.

[130] Dr Mackay then went on to diagnose vibration induced white finger (hand-arm vibration syndrome). The issue of autoimmune disease was thoroughly investigated and has been shown not to be a cause of the condition. In his report of 3 March 2020, Dr Mackay opined:[131]

> "4. In my opinion the most likely scenario is the plaintiff has an underlying constitutional predisposition to Raynaud's phenomenon, which may also be aggravated by his heavy smoking and his clinical anxiety. There is however a temporal relationship with a work activity known to aggravate this condition and in that setting, he suffered a work related aggravation of an underlying condition."

[131] In a later file note, dated 10 February 2021,[132] Dr Mackay altered his opinion. He appears to have accepted Dr Foster's opinion of an injury being caused by an underlying disease. Dr Mackay also stated that his reference to the presence of vibration injury in the course of his work was a reference to hand-held vibrating tools and not to loaders.

[132] Once more, a difficulty with the alteration of Dr Mackay's opinion is that it is seemingly based on the opinion of Dr Foster (which I do not accept). The file note further states, that Dr Mackay's former opinion (of some sort of vibration-induced injury) was based on the use of hand-held vibrating tools,[133] not from driving a loader and that Mr Tyndall had not described that mechanism to Dr Mackay. Insofar as it seems that Dr Mackay's initial report was based on incorrect information, there ought to be no criticism of Dr Mackay, as this is more than likely an example of the phenomenon experienced by Dr Quinn, that is that Mr Tyndall is a person who suffers from extreme anxiety and has difficulty communicating.

[133] Dr Mackay does not explain why the vibrational forces from the hand-held tools would (as was his former opinion) cause a vibration-induced injury, but the vibrational forces from the loader would not, despite other evidence, such as the VIPAC report suggesting that it could.[134] Further, Dr Mackay did not, despite his diagnosis of a degenerative, underlying disease, address why Mr Tyndall was only symptomatic in the left hand.

[134] As discussed in my prior judgment,[135] there are difficulties in Dr Mackay's evidence, which I consider are manifest. Whilst in his report of 1 November 2016, Dr Mackay did diagnose vibration-induced white finger syndrome, and that "work is a significant contributing factor", Dr Mackay did not state one single word about the work that Mr Tyndall was undertaking causing the injury. The same may be said about Dr Mackay's other reports, Exhibits 36 and 38. It was not until the file note of 10 February 2021[136] that it was made plain that Dr Mackay had based his opinion on the use of handheld vibrating tools as set out in *Tyndall v Kestrel Coal Pty Ltd (No 2)*.[137] Dr Mackay sets out no assumptions at all as to the type of vibrations felt

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131 Exhibit 36.
132 Exhibit 37.
133 Such as those listed in the appendix to Exhibit 37.
134 Exhibit 1, document 1.
135 *Tyndall v Kestrel Coal Pty Ltd (No 2)* [2021] QSC 114.
136 Exhibit 37.
137 [2021] QSC 114.

by Mr Tyndall in operating the loaders in the file note of 10 February 2021.[138] Accordingly, it is plain that Dr Mackay has based his original opinion and his altered opinion upon an incorrect assumption of the facts.

[135] As set out in *Tyndall v Kestrel Coal Pty Ltd (No 2)*,[139] although senior counsel for the plaintiff pressed Dr Mackay twice to provide an opinion based upon the correct facts, Dr Mackay's answer was somewhat cryptic in accepting the operation of driving the loaders for an extended period of time was "reasonable" before adding:[140]

> "…and I think it's my opinion that trauma to the left hand, more likely blunt force trauma in the left hand, caused an acute episode in 2016."

[136] Dr Mackay said that the blunt force trauma that he was talking about was "smacking on the steering wheel knob of the vehicle while he was driving", however there was no evidence to support that occurred at all.[141] In the end, Dr Mackay has proffered an opinion that is not at all based upon the correct facts.

[137] Importantly, in re-examination, Dr Mackay sought to summarise his opinion and said:[142]

> "…[S]o I'm just trying to make it clear that my opinion is that he has underlying asymptomatic bilateral pre-existing disease due to other factors. He then manifested an acute episode on the left, I agree, probably due to impact on that – on something *or vibration on something*, but that acute episode doesn't explain the whole range of symptoms and signs that he's got. It certainly doesn't explain, from what I've seen, that he was spending eight or nine hours a day with his right hand on an arm rest, doesn't make any sense."
>
> (Emphasis added.)

[138] As to the likelihood of the cause being between an impact "on something or vibration on something" Dr Mackay did, on re-examination, state on the analysis originally performed by the defendant of minimal use of the loader that on those premised facts:[143]

> Dr Mackay: "…It would likely go towards a more acute trauma rather than a chronic exposure….
>
> Mr Deaves: "And when you say an "acute trauma", you mean an isolated incident? Is that what you mean?"
>
> Dr Mackay: "Correct. Yes."

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138 Exhibit 37.
139 [2021] QSC 114.
140 T5-34, lines 5-7.
141 The suggestion of "smacking on the steering wheel" was not put to Mr Tyndall. Exhibit 1, document 15, a report of Dr Quinn dated 27 April 2016, does record that Mr Tyndall used "his hands to hammer at things in the workplace", however this was not put to Mr Tyndall. Further, as Mr Tyndall's dominant hand is his right hand, it would stand to reason that any problems caused by hammering would result in more severe symptoms in Mr Tyndall's dominant, right hand.
142 T5-42, lines 15-23.
143 T5-43, line 10-22.

Mr Deaves: "And is that in the nature of blunt force trauma that you've described?"

Dr Mackay: "Yes, that's correct."

[139] I therefore analyse Dr Mackay's opinion as being that the injury sustained on Mr Tyndall's left hand is an injury which has been sustained upon an underlying asymptomatic bilateral disease but caused by acute blunt force trauma or by vibration on something.

[140] Dr Mackay proffers an opinion that the cause is the blunt force trauma on the basis of the factual assumption of limited use of the loader.[144] As stated above, I reject that factual basis as presenting the true facts. Rather the true facts are of extensive use of the loader as set out in paragraph [32]-[34] above.

[141] As Dr Mackay has accepted vibration as a potential cause of the left-hand injury and based on the facts as I find them (being an absence of blunt force trauma and Mr Tyndall being subjected to severe vibration in his left hand while operating the loaders), I consider the reasoning exposed in Dr Mackay's opinion supports a conclusion that vibration caused by driving the loaders is the most likely cause of Mr Tyndall's left hand injury.

Dr Robert Ivers

[142] Dr Robert Ivers, orthopaedic surgeon, diagnosed Mr Tyndall as suffering vibration induced white finger syndrome.[145] Dr Ivers' opinion was not challenged.

Conclusion on Medical Evidence

[143] In *Souz v CC Pty Ltd* [2018] QSC 36, McMeekin J said:[146]

> "[95] I do not, of course, seek a level of scientific certainty here. Senior counsel for the plaintiff cited the remarks of Lee J in *Gaudry v Pacific Coal Pty Ltd*:
>
> > It is also timely to re-state the principle that it is not the function of a court of law to resolve questions of medical or indeed any other science. In this regard, I can do no more than refer to a passage in the judgment of Connolly J in *Obstoj v Van Der Loos* with which I respectfully agree. His Honour said:
> >
> > '…it should be emphasised that it is no function of a court of law to resolve questions of medical, or indeed any other science. The present state of medical art and understanding is of great assistance to a court in attempting to resolve a question such as the central issue in this action but, at the end of the day, many other factors enter into it.

144 T5-42, line 10-23.
145 Exhibit 18.
146 *Souz v CC Pty Ltd* [2018] QSC 36 at [95]-[96].

…

The function of a court of law in a situation such as this is to determine whether, for whatever reason, it is more probable than not that there is a causal relationship between the accident and the plaintiff's post-accident condition.'

[96] This, I think, is orthodox principle. More recently the High Court in *Tabet v Gett* confirmed the principle. Alan Wilson J neatly summarised the effect of that case, for my purposes, in *Cowen v Bunnings Group Ltd*:

> '[21] More recently the High Court again both explained this approach to causation, and confirmed its continuing validity, in *Tabet v Gett*. Kiefel J (with whom Hayne, Crennan and Bell JJ agreed) said that the purpose of proof at law, unlike science or philosophy, is to apportion legal responsibility — and that requires the courts, by a judgment, to "*reduce to legal certainty questions to which no other conclusive answer can be given*"'.
>
> [22] Earlier, Kiefel J had spoken of the way the courts undertake this exercise. The common law, her Honour said, requires proof by the person seeking compensation that the negligent act or omission caused the loss or injury constituting the damage; but all that is necessary for that purpose is for the plaintiff to show that, according to the course of common experience, the more probable inference arising from the evidence is that the defendant's negligence caused the injury or harm. '*More probable'* means, she said, no more than that upon a balance of probabilities such an inference might reasonably be considered to have some greater degree of likelihood. But it does not, as Kiefel J emphasised, require certainty.'

(Footnotes omitted. Original emphasis.)

[144] Accepting as I do the evidence of Dr Cohen and Dr Quinn, I find that Mr Tyndall has suffered from vibration induced white finger syndrome and that the injury was caused by prolonged operation of the loaders in the Kestrel Mine from September 2015 to March 2016. I further find that had Kestrel not been in breach of its duty of care to Mr Tyndall and had ensured that the recommendations of the VIPAC report or its own safe work procedures being undertaken with limitations placed upon the hours of operation of loaders and with rotation of duties it is more likely than not that Mr Tyndall would not have suffered from the injury.

[145] I am satisfied in terms of section 305D(1)(b) and (4) of the WCRA that it is appropriate for the scope of liability of Kestrel to extend to the injury so caused.

[146] As to "whether or not and why responsibility for the injury should be imposed upon Kestrel", I respectfully adopt the approach of Applegarth J in *Westpac Banking Corporation v Jamieson* [2016] 1 Qd R 495,[147] and come to the same conclusion as his Honour, that is:[148]

> "[118] In circumstances in which the bank assumed a duty to act with reasonable care so as to limit the Jamiesons loss to this set amount, it seems appropriate that it should be held legally responsible for a loss which its breach directly caused...There is no principle, and nothing in the justice or equity of the particular case, as to why responsibility for the harm which the bank's breaches caused should not be imposed on it."

[147] In my view the same conclusion ought to be reached in respect of Kestrel.

[148] I find that Mr Tyndall was not suffering from Buerger's disease when he suffered his vibrational induced white finger syndrome and is not currently suffering from Buerger's disease. I find that Mr Tyndall was a heavy smoker during his adult life and accept that this placed and continues to place Mr Tyndall at risk of suffering from an ischemic disease but did not cause Mr Tyndall's current condition.

[149] I conclude that Kestrel is in breach of its duty of care to Mr Tyndall and that its breach of duty of care has caused Mr Tyndall to suffer from vibration induced white finger syndrome.

Quantum

[150] The parties have reached agreement on several issues of quantum, including general damages.[149]

[151] The parties agree that general damages ought to be assessed at $11,990 based on an injury scale value of 8. Mr Tyndall's evidence, which I accept, is to the effect that if he does not use his left hand it causes him no pain. Mr Tyndall has not attended upon any medical practitioner or taken any painkillers for more than 2 years. Mr Tyndall does not intend to get any further medical treatment and the medical evidence is that there is no treatment available to cure Mr Tyndall's condition. There is accordingly no evidence of any future medical expense.

[152] The quantum issue between the parties is the proper quantification of economic loss.

[153] On behalf of the plaintiff, it is submitted that past economic loss ought to be quantified by reference to Mr Tyndall's salary at the time of cessation of employment to present with no discounts, quantifying a loss at $586,794.41.[150] The defendant submits there ought to be significant discount such that past economic loss ought to be quantified at $175,270.[151]

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147 At 535 [106].
148 *Westpac Banking Corporation v Jameson* [2016] 1 Qd R 495 at 537 [118].
149 Exhibit 22.
150 Exhibit 49, paragraph 154.
151 Exhibit 47, paragraph 74.

[154] In respect of future economic loss, the plaintiff submits there is a full loss through to age 70 properly quantifiable at approximately $1.2 million[152] whereas the defendant submits there ought to be an award at about 20% of that sum, $245,000.[153]

[155] As set out above, Mr Tyndall is a 50-year-old man with limited education who has "zero" computer skills.[154] Mr Tyndall is shy and anxious and admits to not being very good with pressure.[155] In addition to his anxiety, Mr Tyndall has, for many years, suffered from depression which makes him antisocial[156] and accordingly has never had a job in retail.[157]

[156] As discussed above, his anxiety makes it difficult for him to express himself in a short period of time.[158] Prior to April 2016, and despite a positive drug screen (that is, had drugs in his system) on 14 April 2016, Mr Tyndall had a long history of employment and was held in high regard. Mr Tyndall's performance reviews[159] record Mr Tyndall's supervisor's opinion of him that he was "an excellent team player", "a very co-operative & supportive member of the crew", who was "always willing & ready to complete any given task" and an employee who they were "more than pleased [with] the energy & enthusiasm [he] brought to the team".

[157] Mr Ede, whose evidence I accept, was Mr Tyndall's supervisor in early 2016 and said of Mr Tyndall that "he has a good work ethic and is not a whinger. Jamie likes to get stuff done and would always offer a hand to anyone."[160]

[158] Perhaps the high regard which Mr Tyndall was held in by his employer is demonstrated best with reference to the evidence of Mr Merrick, the developmental superintendent at Kestrel Mine. Mr Tyndall had failed a drug test on 14 April 2016 and, consequently, could not return to work. Mr Merrick made several telephone calls attempting to get Mr Tyndall back to work. At the time, Mr Merrick did not even know Mr Tyndall had suffered from an injury to his hand and as far as Mr Merrick was concerned as soon as Mr Tyndall obtained a clear drug test he would have been re-employed.[161]

[159] Mr Merrick had a number of conversations with Mr Tyndall about returning to work and in at least in one of the conversations, I accept Mr Merrick's evidence that Mr Tyndall said he had failed another drug test.[162] It was during one of the several telephone calls that Mr Tyndall told Mr Merrick that he could not return to work as "his finger's fucked".[163] As there were several telephone calls and Mr Merrick did not keep notes, Mr Merrick is unable to say in which of the telephone calls Mr Tyndall disclosed to Mr Merrick that he had an injury to his finger.

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152 Exhibit 49, paragraph 166.
153 Exhibit 49, paragraph 74.
154 T2-24, line 24.
155 T2-24, line 16.
156 T2-24, lines 25-30.
157 T2-24, line 33.
158 Exhibit 1, document 22.
159 Exhibit 1, document 6, 7, 8.
160 Exhibit 17, paragraph 31.
161 T3-31.
162 T3-31, line 20.
163 T3-31, line 30.

[160] In one of the several conversations with Mr Merrick, Mr Tyndall informed him that he would not be returning to work as his "solicitor told me not to".[164]

[161] This alarming statement by Mr Tyndall to Mr Merrick, coupled with Mr Tyndall's refusal, according to Kestrel, to come back to work on suitable duties, forms the basis of the defendant's argument that Mr Tyndall has failed to mitigate his loss.

[162] To that end, the plaintiff tendered Kestrel's "Health and Wellness Rehabilitation" records for Mr Tyndall.[165] These records show that Mr Tyndall kept Kestrel, through the site nurse and rehabilitation employee, Nurse Hollyman, fully apprised of the condition and treatment being undertaken by Mr Tyndall in respect of his injury. The records include numerous occasions when Mr Tyndall proactively contacted Nurse Hollyman to keep her informed of his situation and to seek suitable duties to allow him to return to work as early as 6 May 2016. This contact shows that Mr Tyndall made considerable efforts to return to work on suitable duties, however, the entire process took several months and did not result in a successful return to work.

[163] The attempts to have Mr Tyndall return to work were considerable on behalf of Mr Tyndall, Nurse Hollyman, representatives of WorkCover, and Mr Tyndall's general practitioner, Dr Young. The records note, on 6 December 2016:[166]

> "Meagan from WorkCover has contacted me to advise that she has engaged in conversations on two occasions with Dr Young (Jamie's GP), to discuss RTW and the answer she received is no RTW."

[164] The final entry on 22 December 2016 records:[167]

> "Jamie phoned me this afternoon at 1622 to ask if Greg Merrick had sent a copy of the jobs he has available for him when he gets to site. I advised that we have the WCC and when he gets to site we do an SDP and if his GP wants a copy of the SDP we can send it to him. He said "Oh all right Sue". I reminded him that he was required to do his medical before he can come to site and the medical needs to be done in Emerald. He said he knew. I went on to speak with him and he terminated the call. I don't think he was being rude. I think he was in a hurry and didn't hear that I wanted to speak further."

[165] Exhibit 32 is a suitable duties rehabilitation plan formulated by Nurse Hollyman and supervisor Mr Merrick, with the support of Dr Young whose medical certificate is attached. In response to this plan, Morton and Morton, acting for the plaintiff sent a letter to Kestrel, advising that Mr Tyndall was unable to return to work on the basis that:[168]

> "1. As a consequence of our client's injury he has received medical advice not to return to heavy manual labour;

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164 T3-32.
165 Exhibit 16.
166 Exhibit 16.
167 Exhibit 16.
168 Exhibit 9.

2. While you have indicated that suitable duties are available, you have not advised what those suitable duties are;

3. Our client has no experience or aptitude in clerical or computer work;

4. It is impractical for our client to travel from Hervey Bay to Emerald to work Monday to Friday and indeed such arrangement simply increases the risk to our client.

Accordingly it seems to us that our client's employment should be mutually terminated …"

[166] The response of Kestrel was swift and decisive and is shown in the letter of 16 February 2017,[169] it was agreed to a mutual termination of Mr Tyndall's employment "due to Mr Tyndall's current medical condition." In Exhibit 10, although noted that suitable duties were available "nonetheless I confirm that the company agrees to Mr Tyndall's request to mutually terminate his employment with the company…"

[167] In terms of Exhibit 32, the tasks which were set for one week only were said to be office-based tasks. No further information was provided as to what office-based tasks were required.

[168] The defendant is not entitled to argue that a plaintiff has failed to mitigate his damages unless the defendant expressly pleads failure to mitigate and particularises the basis of the failure to mitigate the loss. In paragraph 17(e) of the second further amended defence, the defendant has specifically pleaded that "The plaintiff has failed to mitigate his loss by resigning his employment with the defendant on 10 February 2017 when the defendant remained willing to offer him employment performing suitable duties that the plaintiff was capable of performing."

[169] As set out above, and bearing in mind the defendant holds the onus of proof in respect of failure to mitigate loss, I conclude that the defendant has failed to show that the plaintiff has failed to mitigate his loss by resigning his employment with the defendant on 10 February 2017. The termination was mutual and appropriate. The alternative duties offered were not appropriate in that, although they were light, the duties were not specified other than being described as office duties. Mr Tyndall had never performed office duties and was computer illiterate. The offer to Mr Tyndall was to attend from Monday to Friday at Kestrel Coal in order to undertake office duties, which whilst physically suitable as certified by Dr Young, were in fact totally unsuitable to Mr Tyndall.

[170] Mr Tyndall was an anxious and depressed man with no skill or ability to perform office duties. Furthermore, the employment offer from Monday to Friday was impractical in that he would have been required to live at Emerald permanently in order to undertake his duties given that in order to return to his home he would have needed to complete his work on Friday, remain in Emerald Friday night, drive from Emerald to Hervey Bay (a distance of approximately 640 kms) on Saturday to spend one night at home before returning to the mine the next morning. That is impractical.

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169 Exhibit 10.

[171] In Exhibit 47, the defendant's written submission, the defendant points to Mr Tyndall's evidence at T2-53 line 41 to T2-54 line 1 where Mr Tyndall accepted that he was quite capable of light work and had not made any attempt to find light work since February 2017. Without specifying this as a failure to mitigate in any of its several defences, it is argued that this also represents a failure to mitigate. I accept that this type of evidence is capable of finding a basis for a failure to mitigate, and thus a reduction in damages,[170] however I reject that Mr Tyndall's failure to attempt to find light work represents a failure to mitigate damages, which ought to reduce the quantification of past economic loss. It is, however, a matter relevant to the assessment of loss of economic capacity.

[172] In *Graham v Baker* (1961) 106 CLR 340, Kitto J said:

> "…an injured plaintiff recovers not merely because his earning capacity has been diminished but because the diminution of his earning capacity is or may be productive of financial loss."

[173] Kitto J said cited with approval and applied by the High Court in *Medlin v State Government Insurance Commission* (1995) 182 CLR 1 at 11, where Deane, Dawson, Toohey and Gaudren JJ wrote

> "A plaintiff is not precluded from recovering damages for loss of earning capacity merely by reason of the fact that he or she voluntarily left employment which was unsuitable or in which he or she was unhappy."

[174] In *Martin v Andrews & Anor* [2016] QSC 20, McMeekin J accurately and succinctly summarised the principles as follows:[171]

> "[96] What then are the principles that apply to the assessment? In *Thomas v O'Shea* (1989) ATR 80-251 at p 68,701 Malcolm CJ and Wallace J held (with Kennedy J agreeing):
>
> > 'The question remaining is what was the appellant's residual earning capacity, if any. This was clearly a case where, as the learned trial Judge found, the appellant had lost the earning capacity he had before the accident. The legal onus of proof of loss of earning capacity rests, of course, on the plaintiff, but once the plaintiff has proved that he has lost his pre-accident earning capacity *and has been unable to find alternative employment, or that his condition has prevented him finding alternative employment*, an evidentiary burden is cast on the defendant to show what alternative employment opportunities were open, including the state of the labour market and the likely earnings: *Arthur Robinson (Grafton) Pty Ltd v Carter* (1968) 122 CLR 649 at p 657 per Barwick CJ; *Van Velzen v Wagener* (1975) 10 SASR 549 at p 550 per Bray CJ; and *Linsell v Robson* [1976] 1 NSWLR 789 at pp 253–254 per Hutley JA; and at pp 254–255 per Glass JA. In

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170 *Schmidt v Woolworths* [2009] QSC 106 at 47-48.

171 *Martin v Andrews & Anor* [2016] QSC 20 at [96]-[98].

> *Baird v Roberts* [1977] 2 NSWLR 389 it was held that a defendant who seeks to show that the plaintiff can still do "light work" or follow a "sedentary" occupation must adduce evidence that the plaintiff is able to do such work and to obtain it and what the earnings from it would be. The Full Court in Victoria has taken the same approach: *Vandeloo v Waltons Ltd* [1976] VR 77.'

[97] To the extent that O'Shea supports the proposition that in the absence of the sort of evidence there discussed a defendant will be unable to have damages assessed on the basis that the plaintiff has a residual earning capacity, it has been expressly disapproved in Queensland: see *Bugge v REB Engineering Pty Ltd* per Chesterman J (as his Honour then was) approved in *Anodising & Aluminium Finishers v Coleman*. Those cases show *that there is no 'mechanistic approach'* such that a failure to lead evidence of the kind discussed in O'Shea has the effect that the defendant is precluded from arguing for some residual capacity. Rather the residual capacity must be assessed on the evidence, taken as a whole.

[98] But where the defendant does not seek to demonstrate the potential alternative employment opportunities open to an injured plaintiff, and what income those opportunities might bring, there seems little justification for significantly discounting the award on the basis of what the plaintiff ought to have done or ought to have achieved. *If the defendant's real point is that the plaintiff has not done all that he reasonably could to mitigate his loss then it is clear where the onus lies*. In my view the defendant did not discharge that onus. There was no evidence that anyone would be prepared to employ Mr Martin as an electrician with the limitations that Ms Coles spoke of. There was no attempt made to show what alternative employment opportunities were open, assuming the loss of the pre-existing earning capacity and those continuing limitations identified by Ms Coles, and the likely earnings that might result from the exercise of that limited capacity."

(Emphasis added.)

[175] In this case, I reach the same conclusion as McMeekin J did in *Martin v Andrews & Anor*,[172] namely that the defendant Kestrel has not discharged its onus as there is no evidence that anyone would be prepared to employ Mr Tyndall in any light capacity. Whilst there was an attempt through Ms Zeman, occupational therapist, to show that alternative employment opportunities were open, there was no evidence capable of discharging the defendant's onus as to the relative likelihood of Mr Tyndall obtaining any light work, as analysed below.

Past economic loss

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172 *Martin v Andrews & Anor* [2016] QSC 20 at [98].

[176] Subject to three matters raised in Kestrel's case, I consider that the schedule of past economic calculations annexed to Exhibit 49 the plaintiff's submissions represents an accurate calculation of Mr Tyndall's past economic loss. The schedule of past economic loss multiplies comparable wages from 13 April 2016 until the conclusion of the trial 23 April 2021, to a total of some $593,571.81 then deducts Mr Tyndall's actual earnings from his attempt to work as a fisherman of $6,777 to arrive at a loss of $586,794. Mr Tyndall's attempt to return to work as a fisherman predictably failed.

[177] Three matters are pressed by the defendant to reduce the quantum of past economic loss. The first is Mr Tyndall's drug test failure on 14 April 2016. As Mr Tyndall was unable to secure a clear drug test on 29 June 2016, I accept there ought to be no award for past economic loss from 15 April 2016 to 29 June 2016. The second matter is Mr Tyndall's drink driving conviction of August 2020 in which he was disqualified from obtaining or holding a driver's licence for approximately 8 months. I accept the drink driving conviction would have presented a short-term obstacle to Mr Tyndall returning to work had he not been injured.

[178] As the issue of drink driving was not raised upon the pleadings, no consideration was given in the plaintiff's case to the multiple alternative transport options available to Mr Tyndall that would allow him to access his employment while he was disqualified from holding a licence. What is plain however is that Mr Tyndall was a skilled and popular member of his crew and I consider it, in the absence of evidence, highly likely that he would have been able to obtain alternative transport arrangements within a short period of time, which I quantify as two weeks. The effect of this finding is that in the initial period of 46 weeks from 13 April 2016 to 3 March 2017, some 11 weeks ought to be deducted at the rate of $2,228.15 per week (a reduction of $24,509.65) and two weeks ought to be deducted from the 31 week period from 9 March 2020 to 12 October 2020 at the rate of $2,311.06 per week ($4,622.12) which provides for a reduction from the quantified total of $586,794.01 by $29,131.77 to calculate a reduced sum for past economic loss to 23 April 2021 at $557,663.04. A further five weeks loss from 23 April 2021 to the date of judgment (27 May 2021) adds a further $11, 930, for a total past economic loss of $569, 593.04.

[179] The third matter is Mr Tyndall's failure to apply for or attempt suitable light employment. As discussed below, I consider it appropriate to discount past economic loss by 15% to reflect the small chance that had Mr Tyndall sought suitable employment he would have found it. I quantify past economic loss at $484, 154.08 (85% of $569, 593.04).

Interest on Past Economic Loss

[180] It is agreed that interest on past economic loss is to be calculated after deducting both nett weekly benefits received from WorkCover and Centrelink benefits. The sum is $16, 149 ($484, 154.08 - $50,237.74 - $62,673.88 x 0.87% x 5 years).

Past superannuation loss

[181] Past loss of superannuation entitlements ought to be allowed at a rate of 9.5% in accordance of Exhibit 22 after the deduction of the nett weekly WorkCover

benefits. This quantifies past loss of superannuation at $41, 222.05 ($484, 154.08 - $50,237.74 x 9.5%).

Future economic loss

[182] There are several matters which impact upon the proper quantification of damages for loss of economic capacity. Apart from residual income earning ability, the defendant's written submissions set out four matters which ought to be taken into account in order to justify "a discount above the usual vicissitudes".[173]

[183] One matter relied upon in the defence case is the failed drug screen. Whilst Mr Tyndall has admitted to use of cannabis for some time[174] there is no evidence other than at the time of the cessation of his employment on 14 April 2017 (and the subsequent positive drug test reported to Mr Merrick) that Mr Tyndall's consumption of cannabis had ever effected his economic capacity. Given the high regard in which Mr Tyndall was held at Kestrel Mine, I do not place any weight upon the positive drug tests as a discounting feature.

[184] As to the defendant's argument with respect to different pathologies in the plaintiff's upper limbs, I do not accept, as stated above, in respect to the left arm that it was not causally related to the defendant's negligence. Even if I had accepted the defendant's arguments, Dr Foster conceded that it cannot be determined when Mr Tyndall would have developed ischemic issues in either hand.[175] Mr Tyndall was, however, a heavy smoker and I do accept that there ought to be some allowance made to reflect the possibility of smoking related illnesses interfering with Mr Tyndall's economic capacity in the next 17 years through to age 67.

[185] The other two matters relied upon by Kestrel are the difficulties that Mr Tyndall felt working away from his family and to some extent his anxiety in "experiencing butterflies in his stomach at the thought of work".[176] Whilst it is true that Mr Tyndall had left the fishing industry in order to be closer to his family, the five on/ four off lifestyle roster that he worked in fact provided him with a significant amount of time with his family. I accept Mr Tyndall's evidence that he very much enjoyed his work. I accept Mr Tyndall's evidence that he had intended to work in the mine to normal retirement age.

[186] As Mr Tyndall is currently 50 years of age, the normal retirement is 67. I consider it appropriate to assess the loss on the probability that Mr Tyndall would have continued working as a miner until age 67.

[187] The most difficult matter in the assessment of vicissitudes is an assessment of Mr Tyndall's residual earning capacity. I prefer the evidence of Ms Zeman to that of Ms Aitken in the assessment that Mr Tyndall is capable of both light and sedentary employment. Ms Aitken opined that Mr Tyndall was only fit for sedentary employment. The evidence of Doctors Quinn, Cohen and Foster supports a finding that Mr Tyndall could perform light work. As stated above Mr Tyndall has frankly conceded that he is "quite capable of light work".[177] The difficulty in making the

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173 Exhibit 47.
174 T2-40, lines 5-7.
175 T5-72, lines 15-20.
176 Exhibit 31.
177 T2-54, line 41.

assessment flows from the fact that Mr Tyndall has made no attempt at all to find any light or sedentary work.

[188] In a report of 18 June 2020, the occupational therapist Ms Zeman opined that Mr Tyndall had capacity to work as a packer, a light delivery driver, a sales assistant, and a road traffic controller.[178] As I accept Mr Tyndall's evidence that he cannot use his left hand for any significant activity, I find that Mr Tyndall is unsuited to work as a packer or a road traffic controller. With respect to employment as a road traffic controller, as pointed out by Ms Aitken, road traffic controllers are required to perform manual work in moving and installing signage, including moving and installing weights including sandbags. This is beyond Mr Tyndall's capacity and I consider it unreasonable for Mr Tyndall to attempt to perform manual handling duties required of a road traffic controller with only his right arm.

[189] I accept Ms Zeman's evidence that Mr Tyndall has physical capacity to work as a sales assistant however the practical ability of Mr Tyndall as a quiet, reserved, anxious man (with no previous experience) to work as a sales assistant is remote. In respect to labour market research conducted by Ms Zeman, only one sales type role in Hervey Bay was included and that is set out in Exhibit 27. In that advertisement for one job available on 1 July 2020, the applicant it would appear would need to be a person with a certain skill set. According to the advertisement, the candidate must have customer skills and engage with customers "with a smile, a wave or a hello" and that the candidate must "maintain store presentation through effective merchandising, inventory management and stock control. It doesn't end there. We'll put your maths to the test as you take on POS transactions and cash reconciliations ending each shift accurately and safely."

[190] As it made plain by the evidence, Mr Tyndall does not have customer service skills, as he has a quiet and reserved disposition it is unlikely he will be the type of retail team member who will approach customers "with a smile, a wave or a hello", he has no computer skills in order to perform POS transactions, cash reconciliations and he cannot perform inventory management and stock control duties with his injured left hand.

[191] As to the occupation of light delivery driver, as set out in Exhibit 26, Mr Tyndall does have the physical capacity to carry out that occupation.

[192] Exhibit 26, the report of 18 June 2020 includes labour market research in respect of light delivery jobs in Margate in Brisbane. That is not where Mr Tyndall lives.

[193] Exhibit 27 records further labour market research undertaken in July 2020 which shows there were nil advertised positions on the Seek website for a packer or road traffic controller at Hervey Bay, however there were "28 listed jobs as delivery driver on the Seek website on 16 July 2020 in the surrounding areas of Harvey [sic] Bay".

[194] In respect of delivery driver jobs, the only sample that was provided was contained in Exhibit 27 and relates to the delivery of small local phone books. That is said to be a temp position, from which I infer it is work that will be available for a short

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178 Exhibit 26.

time. The earnings from such "self-employment" was not disclosed, however the benefit, according to the advertisement, was that the lucky recipient would earn easy "$$$$$ from walking!!"

[195] The evidence brought in the defence case is hardly conducive to a finding that Mr Tyndall enjoys a significant residual income earning ability. In respect of Mr Tyndall's residual income earning ability, I accept that Mr Tyndall does not fall into the classification of being commercially unemployable and retains an ability to engage in light work. As demonstrated in the schedule of past economic loss attached to Exhibit 49, the plaintiff's submissions, had Mr Tyndall not been injured, he would currently be earning nett $2,386 per week.

[196] The double art of prophesying[179] in attempting to fairly quantify loss is made even more difficult in this case as Mr Tyndall frankly concedes he has not attempted to look for appropriate light work. Of the many methodologies which may be logically deployed in order to quantify the effect upon economic capacity, two of the more common methods identified in *Hopkins v WorkCover Queensland*,[180] to take a general discount taking into account residual income earning capacity as occurred in *Hopkins* with a discount of 33%. Alternatively, to make a finding as to the residual income earning ability and deduct that from the proven economic capacity and allow that to retirement with a smaller level of discounts for vicissitudes excluding the residual income earning ability.

[197] Utilising the latter method and acting appropriately conservatively in view of Mr Tyndall's evidence that he has not attempted to find light work, I consider that Mr Tyndall has a residual income earning capacity of $750 per week. That sum is deducted from his capacity at $2,386 per week, the loss is $1,636 per week. If allowed for 17 years (603 multiplier) and less a contingencies discount of 15% quantifies loss of economic capacity at $838,532 ($2,386 - $750 = $1,636 x 603 less 15%). The contingencies discount ought to be higher than the usual 5% or 10% as Mr Tyndall was prone to ischemic disease as a result of his smoking, suffering anxiety and depression.

[198] The alternative adopted methodology adopted in Hopkins suggests a discount slightly higher than Hopkins in the vicinity of 35% for all contingencies, which would quantify economic loss at $935,193 ($2386 x 603 less 35%). Utilising these methodologies as a guide, I conclude it is appropriate that Mr Tyndall's loss of economic capacity be quantified at a loss of $875,000, the approximate midpoint of those two calculations.

[199] The other heads of damages are agreed.

[200] I do not consider it appropriate to allow interest on past loss of superannuation benefits as the superannuation allowances are based on a rolled-up percentage taking into account the current statutory rate.

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179 *Paul v Rendell* (1981) 55 ALJR 371 per Lord Diplock as applied by McMeekin J in *Brown v Holzberger & AAI Limited* [2017] 2 Qd R 639.

180 *Hopkins v WorkCover Queensland* [2004] QCA 155.

[201] Subject to further submissions being received from counsel as to the quantification of damages, consistent with these reasons, I assess Mr Tyndall's damages as follows:

Pain and suffering – ISV 8	$11,990.00
Past economic loss	$484,154.08
Interest on past economic loss	$16,149
Loss of superannuation benefits (past) 9.5% (agreed rate)	$41, 222.05
Future economic loss	$875,000.00
Loss of superannuation benefits (future) @ 11.41% (agreed)	$99,838.00
Medical expenses	$4,421.00
Expenses paid by WorkCover	$11,625.43
Travel expenses	$697.18
Interest on out of pocket expenses ($1251.75 + $697.18) x 0.87% x 5 years	$85.00
Fox v Wood	$21,530.46
Subtotal	**$1, 556, 712.20**
Less WorkCover refund	**$83,393.63**
TOTAL	**$1, 483, 318.57**