Ministry of Public Safety and Solicitor General
Coroners Service
Province of British Columbia

File Number: 2018-5020-0050

VERDICT AT CORONERS INQUEST

FINDINGS AND RECOMMENDATIONS AS A RESULT OF THE CORONER'S INQUEST PURSUANT TO SECTION 38 OF THE CORONERS ACT, [SBC 2007] C 15, INTO THE DEATH OF

Faulkner	**Linden Lyle**
SURNAME	GIVEN NAMES

An Inquest was held at Cranbrook Law Courts, in the municipality of Cranbrook

in the Province of British Columbia, on the following dates: October 16 – 20, 2023

before: Margaret Janzen, Presiding Coroner.

into the death of Faulkner (Last Name) Linden (First Name) Lyle (Middle Name) 33 (Age) [X] Male [ ] Female

The following findings were made:

Date and Time of Death: August 28, 2018 (Date) 06:50 (time)

Place of Death: 49.5 km Bull River Forest Service Road (Location) Sparwood, BC (Municipality/Province)

Medical Cause of Death:

(1) Immediate Cause of Death: a) Positional & Compression Asphyxia

Due to or as a consequence of

Antecedent Cause if any: b) Motor Vehicle Incident

Due to or as a consequence of

Giving rise to the immediate cause (a) above, stating underlying cause last. c)

(2) Other Significant Conditions Contributing to Death:

Classification of Death: [X] Accidental [ ] Homicide [ ] Natural [ ] Suicide [ ] Undetermined

The above verdict certified by the Jury on the 20th day of October AD, 2023

M. JANZEN
Presiding Coroner's Printed Name

M. Janz
Presiding Coroner's Signature

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PARTIES INVOLVED IN THE INQUEST:

Presiding Coroner:	Margaret Janzen
Inquest Counsel:	John McNamee
Court Reporting/Recording Agency:	Verbatim Words West Ltd.
Participants/Counsel:	Ben Parkin and Johanna Goosen, counsel for WorkSafeBC

The Sheriff took charge of the jury and recorded 18 exhibits. 17 witnesses were duly sworn and testified.

PRESIDING CORONER'S COMMENTS:

The following is a brief summary of the circumstances of the death as set out in the evidence presented to the jury at the inquest. This is to assist in understanding, but does not replace, the jury verdict and recommendations. This summary is not evidence.

Linden Lyle Faulkner was a 33-year-old male who was described by a family member as an outdoorsman and a gentle giant loved by all. A colleague reported that he was a very competent logging truck driver.

Mr. Faulkner had recently leased a logging truck and trailer and hoped to own his own truck in the future. The truck tractor that he had leased was a 1993 Western Star with a 1965 Page & Page log trailer. The truck tractor was equipped with a self-loader, essentially a small crane that allowed him to load logs onto the trailer without the need for a separate loader. There was an additional component called a jeep which attached to the truck tractor between it and the trailer. The jeep added another two axles which allowed for additional weight distribution and attached to the truck tractor by means of a fifth wheel. This configuration allowed for hauling full length logs.

The logs were held on the trailer by metal uprights attached to a metal component known as a bunk. There was one bunk on the jeep and one at the rear of the trailer over the rear two axles. The bunks were mounted to another component called a bolster by a swivel point. The bolsters were attached to four mounting blocks by four bolts, two on each side under the metal uprights. The mounting blocks were welded to the frame of the trailer. Collectively, this is called a bunk assembly.

A previous user of the truck had added load cell beams to the rear bunk assembly by means of the four bolts attaching the bolster to the mounting blocks. The load cell beams calculated the weight of the load and displayed that information in the cab of the truck tractor, but when Mr. Faulkner leased it, the component that displayed the weight in the cab was absent.

At the time of this incident all logging trucks and trailers were required to undergo a biannual Commercial Vehicle Inspection by a journeyman mechanic at a designated facility. Those that passed inspection were issued a decal with a number that identified them as such. Witnesses stated that Mr. Faulker had spent quite a bit of time in the weeks leading up to the initial inspection making repairs to the truck tractor and trailer as they had not been in use for some years.

A witness reported that Mr. Faulkner told another person that he had discovered that there was a gap between the right load cell beam and the mounting block on the right front side. He was reported to have said that he would fill the gap with silicone and paint it so that the mechanic who conducted the mandatory Commercial Vehicle Inspection would not see it.

On July 10, 2018, Mr. Faulkner took the truck tractor and trailer for the mandatory inspection. The mechanic found a few issues, but these were rectified the same day, and decals were placed on both the truck tractor and the trailer to identify that they had passed. Mr. Faulkner then licensed the truck tractor and trailer and began hauling logs from a landing up the Bull River Forest Service Road.

At approximately 0400 hours on August 28, 2018, Mr. Faulkner went to the landing and loaded his trailer with logs. He began driving down the logging road, calling out his kilometres (kilometre marks) on the radio as he went. Calling out kilometres was mandated by the logging companies and is a longstanding safety procedure to prevent collisions on forest service roads. Other forestry workers were also on the road calling out their kilometres as they went. At some point the other workers realized that Mr. Faulkner was not calling out his kilometres anymore.

Just before 0700 hours an excavator operator driving up the road in a pickup truck came upon Mr. Faulkner's truck at approximately the 49.5-kilometre mark, lying on its left side in the left ditch. The rear axles of the logging trailer were upright on the travel surface of the road, but its bunk assembly, the truck tractor, and the jeep had tipped over and the load of logs was spilled onto the roadway and into the ditch.

The worker exited his pickup truck and went to the cab of the truck tractor to assist Mr. Faulkner. He could not get into the cab or get a response from Mr. Faulkner, so he retrieved an axe from his pickup truck. He was able to open the passenger door and prop it open with the axe.

He still could not get into the cab because he could see that Mr. Faulkner was lying directly below him against the driver's door with the truck batteries, which had previously been located under the passenger seat, and the passenger seat cushions lying on top of him. The worker managed to pry the windshield out of the truck and felt for a pulse but could not detect one. He radioed to his colleagues that there was an accident and they needed to get first aid.

One of the logging truck drivers coming down the road behind Mr. Faulkner had more advanced first aid training and after speaking on the radio to the worker on scene, radioed to a loader operator at another Licensee who had a satellite phone to send for a Search and Rescue helicopter.

This driver arrived on scene and went to Mr. Faulkner's aid. He could see that Mr. Faulkner was wedged tightly in between the driver's seat and the driver's door with his head pushed down by the roof of the cab. His shoulders were pushed forward and inward, his neck was bent towards his chest, and his face and lips were cyanotic. He felt for a pulse and tried to elicit a pain response from Mr. Faulkner, but he never showed any vital signs.

The workers found the master switch for the truck tractor's electrical system and shut it off since power was still running to the batteries. They removed the passenger seat cushion and one battery from Mr. Faulkner. The other battery was suspended above him by its cable. When Search and Rescue arrived, a medic confirmed that Mr. Faulkner was deceased and that resuscitation efforts were futile.

Representatives from the RCMP, the Commercial Vehicle Safety Enforcement Program (CVSE), and WorkSafeBC all attended the scene. The first workers on scene and the various representatives noticed that what appeared to be a broken bolster bolt was lying on the travel portion of the roadway right before the incident scene. The break did not appear to be new. The entire rear bunk assembly above the load cell beams had come off from the rear trailer axles and was lying on the side of the roadway with the spilled logs. Preliminary examination revealed that all four rear bolster bolts had broken off, their ends remaining in the mounting blocks. There was significant corrosion on the right two bolts, while the left two bolts appeared to be freshly broken.

There was no indication that Mr. Faulkner had been travelling at an excessive speed at the time of the incident or that the condition of the roadway was a factor. The incident occurred on a portion of the roadway where it took an approximately ninety degree turn to the right, which would have caused the load to shift to the left.

A Traffic Analyst from the RCMP was contacted but was not asked to attend as because of the circumstances, it did not appear that their expertise would add significantly to the investigation. A journeyman mechanic from CVSE was not available to attend but one of their inspectors did attend.

The WorkSafeBC representative took charge of the scene, and it was secured over night until another investigator from the Fatal and Serious Investigations group could attend. When Mr. Faulkner was removed from the cab it was noted that he had not been wearing his seatbelt.

The next morning an extensive investigation, including documentation and collection of evidence, was undertaken. The second WorkSafeBC Investigator had previously been employed by the RCMP as a Traffic Analyst. All four bolster bolts were recovered from the scene. When this was completed, the truck tractor, trailer, and parts located at the scene were towed to a CVSE qualified inspection facility which had never serviced the units before for inspection.

The pathologist who conducted a postmortem examination testified that she had determined that Mr. Faulkner's cause of death was positional and compression asphyxia. A forensic toxicologist also testified that he had conducted an analysis which revealed no relevant substances.

The post-incident inspection revealed several defects which would have put the truck tractor out of service. The seatbelt was found to be in working order. The metal box that had previously housed the batteries which had been under the passenger seat showed no sign that the batteries had been secured in any way. There was, however, no evidence that a mechanical failure of the truck tractor contributed to the incident.

The four bolster bolts from the rear bunk assembly and related parts were taken to a materials engineer for forensic examination. The materials engineer testified at the inquest and confirmed his report issued following the examination which revealed, among other things, that the right front bolster bolt had been broken for years or possibly decades and that the right rear bolster bolt had approximately 20% of its material still holding. The two left bolts were found to be newly broken.

The bolts were all Grade Eight bolts, the expected standard for that usage. Metallurgical testing revealed that all the bolts met the SAE requirements for Grade Eight bolts. A rubbery surface was detected around the right front mounting block. It was tested and found to be silicone sealant.

The expected sequence of events would be that when Mr. Faulkner made the right turn after the bridge, the load shifted to the left causing the right rear bolt to finally fail. The left bolts were unable to hold the entire load, so they then failed, causing the bunk assembly to shift to the left off the trailer. The front bunk did not fail, and the shifting load rolled the jeep and the truck tractor over into the left ditch.

The engineer also testified that non-destructive, portable ultrasonic testing was used in other applications and would reveal even small cracks in a bolt. Only certified inspectors with appropriate equipment could conduct such testing and he did not think that this would be a practical method of testing bolts for a heavy equipment shop. Regular removal for examination would weaken the bolts over time. Replacement at set intervals would be an alternative method of ensuring structural bolts and related components were sound.

The mechanic who had examined the truck tractor and trailer on July 10, 2018, testified at the inquest and reported that he had visually and mechanically inspected the truck tractor and the trailer in accordance with the list provided to him by the Commercial Vehicle Inspection Program (CVIP) administered by the CVSE.

In particular, he observed the bolster bolts and tapped them all with a hammer. This was how he had been taught to test their tightness. A loose bolt would move if struck. A loose bolt would make a duller sound when struck, whereas a tight bolt would make a pinging sound. A loose bolt might have a washer ring, a mark made when the washer moved. He thought that perhaps a seized bolt would make a similar sound to a tight bolt.

He did not recall observing anything unusual regarding the truck batteries under the passenger seat. He had recorded that the seatbelt was functional at that time. He also testified that the previous mechanical history of the vehicles he inspected for the CVIP would not be known to him unless they had been inspected at the facility where he worked. At the time of the incident, he would be paid for 1.5 hours work to examine the truck tractor and another 1.5 hours to examine the trailer.

The mechanic who examined the truck tractor following the incident also testified. He confirmed that the methods used by the mechanic who examined the units on July 10, 2018, were accepted industry practice. While the CVIP did not set out a set time mechanics would be expected to charge for an inspection, a shop which charged more would find it hard to compete with other shops. He was unaware of bolts being replaced on a routine basis; he believed they would only be replaced if they failed. He stated that logging roads are hard on equipment.

A senior staff member with CVSE, a journeyman mechanic who regularly conducted post-incident inspections, also testified. He said that a requirement for the vehicles to be washed prior to inspection by CVIP mechanics would assist them to detect defects.

The CVSE inspector who attended the scene also testified. He reported that of the vehicles he inspected at roadside or weigh scale inspections, approximately 42% had defects that put them in the 'Out of Service' category. He also reported that logging trucks and trailers, by the nature of the conditions in which they were driven, often had mud, snow, and ice packed onto them which made a thorough examination problematic.

Two witnesses from the BC Forest Safety Council testified. They reported that they issued alerts and notices to the Forestry industry on various issues, including transportation and safety issues. Previous incidents of bolster bolts breaking had been reported to them around 2013 and an alert had been issued to their members at that time. Most of the largest logging licensees would receive the alerts as members, and many of the smaller employers as well. Alerts and notifications did not get sent to CVIP licensed facilities.

The BC Forest Safety Council also initiated and ran a safe logging truck driver program which was available to drivers who had their Class 1 license. Logging truck drivers had to have additional, special skills over and above the Class 1 skills required for all heavy truck drivers, and attracting drivers to those positions could be difficult. WorkSafeBC and CVSE both had vehicle inspection lists for drivers which the Council provided to them in their safe driving course.

Members could also notify them of 'close calls' to assist in industry-wide education. Seat belt usage was addressed in their safe driving course. Previous alerts would not necessarily be brought to the attention of new drivers. There was no evidence that Mr. Faulkner had taken the safe drivers course through the Forest Safety Council.

WorkSafeBC issued regulatory orders under the Worker Compensation Act to the Licensee. The person who was the supervisor for the site at the time of the incident testified that the orders were complied with upon receipt.

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Pursuant to Section 38 of the Coroners Act, the following recommendations are forwarded to the Chief Coroner of the Province of British Columbia for distribution to the appropriate agency:

JURY RECOMMENDATIONS:

To: Commercial Vehicle Safety Enforcement (CVSE)

1. Coordinate between agencies (CVSE, WorkSafeBC, BC Forest Safety Council) for one universal inspection checklist for logging truck operators.

   Presiding Coroner Comment: *Evidence was provided to the jury that multiple agencies have similar information pertaining to checklists.*

2. Ensure that a qualified Post Crash Analyst attends serious incidents to create a data set for tracking incident trends for future safety, including mechanical failure, road conditions, etc.

   Presiding Coroner Comment: *Evidence was presented that the CVSE employee that attended the incident was not qualified to conduct a post crash analysis because a qualified individual was not available. In addition, there was evidence that there is incomplete collection of information on incidents by CVSE.*

3. Require Commercial Vehicle Inspection Program (CVIP) inspectors to electronically record all defects and repairs listed and that form should be available electronically to all Inspection Facilities.

   Presiding Coroner Comment: *A Commercial Vehicle Inspection Program (CVIP) inspector's handwritten checklist indicated issues that were not included on the electronic Commercial Vehicle Inspection Report. Witnesses also indicated that it would be helpful for CVIP inspectors to have information on other inspection results for a vehicle and trailer.*

4. Conduct a post incident commercial vehicle inspection after serious incidents and the report be entered into the CVSE database.

   Presiding Coroner Comment: *Evidence was presented that a post incident inspection form was not submitted to CVSE. Witnesses indicated that having more data available on incidents would provide details on trends and recurring issues.*

5. Review post-incident inspection reports against previous inspections, and any questions arising should be followed up with CVIP inspectors who completed previous inspections.

   Presiding Coroner Comment: *This recommendation could provide ongoing training for CVIP inspectors.*

6. Create a program to ensure critical components/key load bearing bolts are analyzed for an appropriate lifespan for replacement to maintain integrity and safety of the equipment.

   Presiding Coroner Comment: *Evidence was presented that broken bolts were a contributing factor to the incident and potentially other incidents in the province. Some witness testimony indicated replacement of critical components would be ideal.*

7. Review the protocol for remunerating CVIP inspectors to avoid them being rushed during an inspection that may require more time to be thorough.

   Presiding Coroner Comment: *Witness testimony indicated that CVIP inspectors were provided with a flat rate for inspections. There was concern that vehicles which were older or required more attention may require more time.*

8. Consider establishing a requirement that vehicles and trailers that are arriving to a shop for the bi-annual inspection should be in a reasonably clean condition.

   Presiding Coroner Comment: *Witness testimony indicated that it would be easier for CVIP inspectors to do their job and find defects if the vehicle arrived in a reasonably clean condition.*

9. Consider a more robust continuing education and communication program for CVIP inspectors.

   Presiding Coroner Comment: *Testimony from CVIP inspectors was that no additional training was required after initial qualification. The jury heard that there are alerts and communication through the electronic portal, but more communication may be beneficial.*

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To: WorkSafeBC

10. Consider an industry standard to ensure operators who are working alone have a means of satellite communication.

    Presiding Coroner Comment: *A witness testified that an operator had a satellite phone on site, but it was there at that worker's discretion.*

11. Continue to promote continuous improvement for safe work culture in forestry workplaces, for example seatbelt use in the field, through the development of materials (videos, statistics etc.) for use at employer monthly safety meetings.

    Presiding Coroner Comment: *Witnesses indicated a culture of some workers not wearing seatbelts in the bush but that it is also extremely hard to police. The jury recognized this challenge and encouraged WorkSafe to continue in their endeavor to change the culture.*

To: BC Forest Safety Council

12. Work with CVSE to distribute information and alerts to inspection facilities and individual Commercial Vehicle Inspection Program inspectors.

    Presiding Coroner Comment: *Witness testimony indicated that more people receiving these alerts would be beneficial for safety.*