



VERDICT AT INQUEST

File No.: 2007:0548:0065

An Inquest was held at the Courthouse, in the municipality of Kamloops in the Province of British Columbia, on the following dates March 22-25, 2010 before Tom Pawlowski, Presiding Coroner, into the death of TUCKER Francis Eric 65 Male into the death of and the following findings were made:

Date and Time of Death: August 12, 2007; early afternoon Place of Death: Hillside at 32km Tulameen FSR British Columbia

Medical Cause of Death

- (1) Immediate Cause of Death: a) Subarachnoid hemorrhage to brainstem b) Blunt trauma injury to head c) Due to a roll-over of a grapple skidder working on steep slopes (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 25 day of March AD, 2010.

Tom Pawlowski Presiding Coroner's Printed Name

[Signature] Presiding Coroner's Signature



# VERDICT AT INQUEST

## FINDINGS AND RECOMMENDATIONS AS A RESULT OF THE INQUEST INTO THE DEATH OF

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TUCKER

SURNAME

Francis Eric

GIVEN NAMES

### **PARTIES INVOLVED IN THE INQUEST:**

Presiding Coroner: Tom Pawlowski

Inquest Counsel: John Orr

Court Reporting/Recording Agency: Verbatim Words West Ltd

Participants/Counsel: Workers' Compensation Board/R. Mark Powers and James McJannet  
Ministry of Forests and Range, BC Timber Sales/ Bobby M. S. Bandechha

The Sheriff took charge of the jury and recorded 20 exhibits. Seven witnesses were duly sworn in and testified.

### **PRESIDING CORONER'S SUMMARY:**

*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 summary is presented to assist the reader to more fully understand the Verdict and Recommendations of the jury. It is not intended to be considered evidence nor is it intended in any way to replace the jury's verdict.*

On the afternoon of August 12, 2007, Francis Eric Tucker was operating a rubber tired grapple skidder on a hillside at a logging operation near Merritt, when the skidder became destabilized and rolled over multiple times, coming to rest at the base of the slope. Mr. Tucker sustained fatal injuries.

Mr. Tucker was the owner of a small logging company that subcontracted its services to major forest licensees and, on occasion, bid on timber sales through the British Columbia Timber Sales (BCTS) program. The incident took place at a cutblock that was part of BCTS Licence A75710.

Documentation included in the timber sale bid package, and entered as evidence at the inquest, showed that the block where the incident occurred, consisted of an area designated for cable yarding and another area designated for conventional mechanical ground based harvest. The BCTS Harvest Plan Map indicated that the cable harvest area had an average slope of 51%, with a range of 30% to 68%, while the conventional mechanical ground based area had an average slope of 43%, with a range of 32% to 65%.

Evidence introduced at the inquest indicated that section 26.16(3)(a) of the Occupational Health and Safety Regulation, which was in effect at the time of the incident, stated that a rubber tired skidder must not be operated on a slope which exceeds 35%.

The inquest heard conflicting evidence as to where the rollover actually initiated and whether it occurred on a less steep section of the hillside, described by the witnesses as a plateau with slopes less than 30%, or on a much steeper section immediately below it. All evidence, however, indicated that the skidder continued to roll down the slope, which exceeded 50%.

The jury heard that the post-mortem examination revealed evidence of external and internal injuries. The pathologist testified that the immediate cause of death was subarachnoid hemorrhage, affecting the right cerebral hemisphere and the brainstem, resulting from blunt trauma injury to the head. Toxicological examination detected no evidence of alcohol, prescribed medications or illicit drugs.



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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: BC Timber Sales, Ministry of Forests and Range

1. We recommend that BC Timber Sales develop a training program for its field officers in order to enable the officers, who monitor logging operations under a Timber Sale licence, to recognize conditions and safety hazards associated with operation of mobile equipment on steep slopes and develop a protocol for reporting such safety issues to WorkSafeBC.

*Coroner's Comments: The jury heard that a letter sent to BCTS licensees on March 17, 2006, by BCTS Director of Operations, stated that in the future, BCTS staff conducting timber sale licence field monitoring will observe licensee safety programs more closely. This communication also indicated that as required by the Occupational Health and Safety Regulation, BCTS will advise the licensees of any observable safety issues and may also advise WorkSafeBC of any obvious deficiencies or unsafe practices that BCTS staff encounter in the field. Evidence introduced at the inquest indicated that environmental management and wildlife concerns were the primary objectives behind the site visits conducted by BCTS staff at the cutblock where the incident took place; safety issues related to the operation of skidding equipment on, or above, steep slopes was not addressed. There was no evidence that the field officer recognized the steep slope hazards existing at this cutblock or fully appreciated the risk they posed to the skidder operator.*

2. We recommend that BC Timber Sales require, in the terms of reference or instructions to consultants who develop harvest plans, that steep slope hazards and the safety of workers be considered in the planning and development of cutblocks, to ensure that there is a clear understanding that safety has priority over economic and environmental considerations.

*Coroner's Comments: The jury heard that BCTS contracts external consultants to produce cutblock layouts in the field and prepare harvest plans, which are subsequently provided to Timber Sale licensees, as part of the licence documentation. The evidence indicated that BCTS places an expectation on the consultants to produce plans that make sense economically and minimize the impact on the environment. The evidence suggested that there was no similar emphasis placed on safety or ensuring that safety is given priority in the planning process by forestry professionals contracted by BCTS.*



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3. We recommend that BC Timber Sales make a Harvest Safety Plan a requirement of the Timber Sale bid process.

Coroner's Comments: The jury heard that BCTS licence bid packages already contain references to certain safety-related requirements. For example, the licensees must meet the current certification requirements of the BC Forest Safety Council SAFE Companies Program and they must have in place a safety program that meets the requirements legislated under the Workers Compensation Act and its regulations. Currently, however, it is not required that the bidders submit a site-specific Harvest Safety Plan for consideration in the tender process.

4. We recommend that BC Timber Sales consider moving the Safety Section of BCTS check-box forms to the beginning of the forms.

Coroner's Comments: The jury heard that BCTS utilizes a series of standardized Timber Sale Licence & Permit Operations Report forms (Pre-work Report, Inspection Report) that assist the staff in monitoring compliance with terms of licences and permits. The forms contain checklists addressing compliance with various legislative requirements and contractual conditions. Timber Sale Licence Safety Requirements is in fact a separate checklist category, but it is relegated to a position almost at the end of the forms. Placing the Safety Requirements section at the front of the forms would underscore the importance and priority of worker safety.

To: BC Timber Sales, Ministry of Forest and Range
and
WorkSafeBC

5. We recommend that BC Timber Sales (BCTS) and WorkSafeBC enter into an Agreement, acceptable to both organizations, setting out a process through which BCTS staff could notify WorkSafeBC that a Timber Sale licence has been awarded, to ensure WorkSafeBC is aware of harvesting operations under a Timber Sale licence.

Coroner's Comments: The jury heard that the Occupational Health and Safety Regulation requires employers to notify WorkSafeBC of certain work projects that are about to take place during a specified period. A Notice of Project is required for most forestry operations. It allows WorkSafeBC to arrange for inspection of high risk workplaces such as the steep slope operation involved in this incident. The evidence adduced at the inquest indicated that a Notice of Project was not filed in relation to this particular operation, effectively precluding any inspections of this remote worksite by WorkSafeBC. Although BC Timber Sales documentation reminds the licensees that a Notice of Project is required by WorkSafeBC, there is currently no mechanism for ensuring that

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*the Notice is in fact submitted. Notification of WorkSafeBC by BCTS that a Timber Sale licence has been awarded would help ensure compliance with the Regulation and consequently, promote safety.*

To: WorkSafeBC

6. We recommend that WorkSafeBC take steps to ensure that the online Notice of Project form utility allow for a copy to a third party and print process.

*Coroner's Comments: The jury heard that a Notice of Project can be submitted to WorkSafeBC electronically using an online form available on the WorkSafeBC website. Witness testimony suggested that the online utility could be improved by way of allowing copies of the form to be generated and sent to additional recipients at the time that the Notice is submitted to WorkSafeBC. This option would allow a copy to be sent to BC Timber Sales, contract managers, forest licensees, or retained for the records of the party submitting the Notice. This would facilitate the monitoring of compliance with the Notice of Project requirement.*

7. We recommend that WorkSafeBC commission a study to review the efficacy of the use of operator restraint devices, such as three-point and five-point harnesses, air bags and other protective devices designed to lessen the chance of injury and increase the survivability of the operators of logging equipment, and include in the study the feasibility of built-in inclinometer gauge with audible and visual alerts.

*Coroner's Comments: The jury heard that the seatbelt worn by Mr. Tucker had a knot tied in the webbing, presumably to prevent the automatic ratcheting of the mechanism. The evidence suggested that skidder operators may not always utilize the restraint devices as many current designs restrict mobility required by the operators of skidders and other logging equipment. Some witnesses were asked whether air bags, similar to side-curtain air bags utilized in passenger vehicles, could find application in logging equipment, but evidence on the subject was not available, suggesting that this could be an area in need of further research. Inclinometers are instruments used to measure slope angles.*

To: BC Forest Safety Council

8. We recommend that BC Forest Safety Council continue to work towards and expedite the development and adoption of an Industry Recommended Practice (IRP) for steep slope logging applications.

*Coroner's Comments: The jury heard that the BC Forest Safety Council is working towards the development of industry standards and best practices for the forest industry. An Industry Recommended Practice (IRP) is a*

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*compilation of best practices and guidelines that define the minimum standards for safe operation. The jury heard that harvesting activities are likely to continue moving into steeper ground. An IRP addressing steep slope logging operations would provide planners, managers and operators with relevant advice in the challenging area of steep slope logging.*

9. We recommend that the Industry Recommended Practice (IRP) for steep slope logging applications takes into consideration hazardous buffer zones, detailed safety mapping and flagging of hazardous areas.

*Coroner's Comments: The jury heard that the cutblock where the incident occurred consisted of a flatter area at the top and a steep slope below it. The cutblock design allowed the skidding equipment to access terrain where a tip-over above a steep slope resulted in serious consequences. The evidence suggested that steep slope hazards could be addressed early in the planning stages through engineering design standards that take safety into consideration and make use of machine safety buffer zones and hazard mapping.*

10. We recommend that BCFSC issue a safety alert to remind operators of the risk of storing unsecured items within the cab of their mobile equipment.

*Coroner's Comments: The jury heard that Mr. Tucker's skidder rolled several times and that his death was the result of trauma sustained in the incident. Multiple internal and external injuries were documented at autopsy. The evidence indicated that a fire extinguisher, which had been secured with a clamp inside the cab of the skidder, came loose during the rollover. The pathologist testified that in this case, none of the injuries could be positively linked to the extinguisher bouncing around the cab. This possibility, however, could not be ruled out entirely and it led to another testimony, which suggested that equipment operators may not always be aware of the hazard posed by unsecured items, such as lunchboxes or Thermoses, often found in the cabs of mobile equipment.*

11. We recommend that SAFE Companies be required, in their audit process, to provide copies of their Notices of Project submitted to WorkSafeBC in the preceding 12 months.

*Coroner's Comments: The jury heard that a Notice of Project, which must be submitted to WorkSafeBC in relation to most forestry operations, was not filed in this case. The evidence suggested that Notices are not always submitted by employers as required by the Occupational Health and Safety Regulation. BC Forest Safety Council's SAFE Companies program establishes health and safety standards that forestry companies need to meet in order to obtain SAFE certification. One of the elements of SAFE Companies program is an audit process. SAFE Companies certification is required for all companies working on Timber Sale Licences.*

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12. We recommend that the current mandatory training course for SAFE Company certification include steep slope hazards training, including training in the use of an inclinometer.

*Coroner's Comments: The jury heard that the SAFE Companies certification program involves mandatory training courses designed to assist small and independent employers and individual owner operators in developing and maintaining occupational health and safety programs. Currently, the program does not offer courses dealing specifically with steep slope hazards. The jury also heard that harvesting activities are likely to continue moving into steeper ground, making recognition of steep slope hazards an element that forestry companies will have to contend with.*

13. We recommend that BC Forest Safety Council consider instituting a standardized logging machinery training program and develop a certification process.

*Coroner's Comments: The jury heard that all manual tree fallers in forestry operations must be trained and certified through a process administered by the BC Forest Safety Council. There is no similar certification program for logging equipment operators.*

To: BC Forest Safety Council

and

Association of BC Forest Professionals

14. We recommend that the Council work with Association of BC Forest Professionals towards developing a standard for hazard mapping in steep slope logging operations, with the end objective of arriving at a product that is easily read by forest workers and supervisors.

*Coroner's Comments: The jury heard that the format of maps normally utilized in the course of planning and conducting logging operations may not be optimized for communicating information relevant to worker safety such as steep slope hazards. For example, smaller map scales that may be suitable for conveying information related to silviculture systems or timber cruise detail may not properly depict terrain detail relevant to mobile equipment operators.*