IN THE CORONERS COURT
OF VICTORIA
AT MELBOURNE

**COR 2018 001357**

**FINDING INTO DEATH WITHOUT INQUEST**

*Form 38 Rule 63(2)*

*Section 67 of the **Coroners Act 2008***

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| Findings of: | Coroner Leveasque Peterson |
| Deceased: | Jack Brownlee |
| Date of birth: | 31 October 1996 |
| Date of death: | 22 March 2018 |
| Cause of death: | 1(a): Complications of injuries sustained when a trench wall collapsed. |
| Place of death: | Royal Melbourne Hospital, 300 Grattan Street, Parkville, Victoria, 3052 |

## INTRODUCTION

1. On 22 March 2018, Jack Brownlee (Jack), was 21 years old when he died as a result of injuries sustained in a workplace accident. Jack is survived by his parents, Janine and David Brownlee.

## THE CORONIAL INVESTIGATION

2. Jack's death was reported to the coroner as it fell within the definition of a reportable death in the *Coroners Act 2008* (**the Act**). Reportable deaths include deaths that are unexpected, unnatural or violent or result from accident or injury.

3. The role of a Coroner is to independently investigate reportable deaths to establish, if possible, identity, medical cause of death, and surrounding circumstances. Surrounding circumstances are limited to events which are sufficiently proximate and causally related to the death.

4. Under the Act, Coroners also have the important functions of helping to prevent deaths and promoting public health and safety and the administration of justice through the making of comments or recommendations in appropriate cases about any matter connected to the death under investigation.

5. Victoria Police assigned an officer to be the Coronial Investigator for the investigation of Jack's death. The Coronial Investigator conducted inquiries on my behalf, including taking statements from witnesses – including co-workers, emergency responders, family, the forensic pathologist, clinicians and investigating officers – and submitted a coronial brief of evidence. This brief of evidence was subsequently supplemented with further evidence. The further evidence included statements from emergency services personnel and expert witnesses, obtained directly by the Court.

6. Section 7 of the Act provides that a coroner should liaise with other investigative authorities, official bodies or statutory officers to avoid unnecessary duplication of inquiries and investigations and to expedite the investigation of deaths. In relation to this case, WorkSafe Victoria (**WorkSafe**) conducted an investigation and provided a copy of the hand-up brief (**the WorkSafe brief**) prepared in contemplation of criminal proceedings.

7. The Office of Public Prosecutions commenced proceedings in the County Court of Victoria against Pipecon Pty Ltd (**Pipecon**) for breaches of the *Occupational Health and Safety Act 2004* (**the OHS Act**).

8. This finding draws on the totality of the coronial investigation into the death of Jack Brownlee including evidence collected for the criminal proceedings and further evidence contained in the coronial brief. Whilst I have reviewed all the material, I will only refer to that which is directly relevant to my findings or necessary for narrative clarity. In the coronial jurisdiction, facts must be established on the balance of probabilities.[1]

## MATTERS IN RELATION TO WHICH A FINDING MUST, IF POSSIBLE, BE MADE

### Circumstances in which the death occurred

9. Pipecon is a civil construction company. In January 2018, Pipecon entered into a contract to construct a main trunk sewer system for a housing development in Delacombe, known as Winterfield Estate.

10. Jack had been employed by Pipecon as a labourer since January 2018.

11. Work commenced at the Winterfield estate site in February 2018.

12. The proposed works that Jack and other employees were to undertake involved trenching, pipe laying, manhole installation and associated preparatory works. It was high risk work in that it involved employees working in and around excavated trenches.

13. On 21 March 2018, Jack arrived at work at approximately 7 am. He was told he would be working at a part of the site known as manhole 8. Charles Howkins (Charlie), joined Jack at this section of the site. Charlie had been employed by Pipecon as a labourer and pipe layer since January 2014.

14. The excavator operator was performing work as required between manhole 8 and another site at the top end of the project. At around 10.00 am all the crew that had been working at the top end site took a break. Jack and Charlie, who were roughly half a kilometre away, did not join the others for the morning break. This was not unusual.

15. At approximately 11 am, a subcontractor arrived at manhole 8 and saw that the trench where Jack and Charlie had been working had collapsed. Both Charlie and Jack were buried in soil.

[1] Subject to the principles enunciated in Briginshaw v Briginshaw (1938) 60 CLR 336. The effect of this and similar authorities is that coroners should not make adverse findings against, or comments about, individuals unless the evidence provides a comfortable level of satisfaction as to those matters taking into account the consequences of such findings or comments.

Jack was conscious and able to call out for help, as his head and an arm were above the soil. Charlie was not however visibly moving nor responsive.

16. Workers immediately attended to attempt to assist Jack and Charlie, using their hands and a shovel to move the soil. An excavator was also called for, to assist to remove the collapsed soil around the two men.

17. Emergency services from Victoria Police, the Country Fire Authority (CFA, now FRV), and the Metropolitan Fire Brigade (also now FRV) attended the scene and commenced a rescue of the two men. WorkSafe also attended the scene.

18. Charlie died at the scene as a result of head injuries sustained in the trench collapse.

19. Jack was eventually dug out of the trench, alive. He had suffered significant crush injuries and was transported by helicopter to the Royal Melbourne Hospital.

20. Tragically, Jack suffered metabolic derangement and multiple organ failure in hospital, and died from his injuries on 22 March 2018.

**Identity of the deceased**

21. On 22 March 2018, Jack Brownlee, born 31 October 1996, was visually identified by his father, David Brownlee.

22. Identity is not in dispute and requires no further investigation.

**Medical cause of death**

23. Adjunct professor and Forensic Pathologist Dr Sarah Parsons from the Victorian Institute of Forensic Medicine (**VIFM**) conducted an autopsy on 27 March 2018 and provided a written report of her findings dated 7 May 2018[2].

24. The post-mortem examination revealed acute compartment syndrome in Jack's arms and legs, together with several other injuries including a subarachnoid haemorrhage, cerebral ischemia, and bilateral plural effusions.

25. Acute compartment syndrome can lead to metabolic derangement and death.

[2] Report of Dr Sarah Parsons, dated 7 May 2018, Coronial Brief, Vol 1, pp. 114-130.

26. Toxicological analysis identified the presence of midazolam, morphine and ketamine that were provided as part of resuscitative efforts and did not contribute to Jack's death.

27. Dr Parsons provided an opinion that the medical cause of death was *1(a) Complications of injuries sustained when a trench wall collapsed.*

28. I accept Dr Parsons' opinion of the cause of death.

## THE CRIMINAL PROSECUTION

29. Following the incident, WorkSafe commenced a comprehensive investigation which involved investigators conducting site visits, reviewing company documentation, taking statements, securing footage of the rescue operation and photographs of the rescue and recovery site, and obtaining relevant expert reports.

30. After reviewing the evidence collected during the course of its investigation, WorkSafe issued charges against Pipecon for breaches of the OHS Act.

31. The Coronial investigation was suspended while the criminal proceedings took place.

32. On 19 October 2021, in the County Court of Victoria, Pipecon pleaded guilty to a single charge of failing to provide a safe workplace for employees, including Jack and Charlie. The plea hearing examined the circumstances of the trench collapse in detail.

33. On 12 November 2021, the company was convicted for a single breach of the OHS Act and fined[3].

34. I have reviewed the prosecution summary and the sentencing remarks in that case. I am satisfied that the conduct of Pipecon, and the circumstances leading to the trench collapse were comprehensively investigated and adequately addressed in the criminal proceedings. It was therefore unnecessary to duplicate those inquiries in the Coronial investigation.

## FAMILY CONCERNS

35. After the prosecution was finalised, the coronial investigation recommenced. David and Janine[4] had been in contact with the Court and communicated a number of outstanding questions and concerns they held with respect to Jack's death.

[3] DPP v Pipecon [2021] VCC 1808.
[4] These concerns were submitted by the Brownlee family and Dr Lana Cormie, partner of Charles Howkins

36. The matters raised can be briefly summarised as follows:

a) The positioning of Jack and Charlie prior to the trench collapse, had not been adequately clarified in previous investigations and legal proceedings.

b) There was no forensic psychologist appointed to consider who was responsible for the poor safety culture at the workplace.

c) Some of the Pipecon employees had not been interviewed or given the opportunity to make a statement.

d) The rescue may have caused an exacerbation of Jack's injuries due to the use of the excavator.

e) The WorkSafe investigation and resultant criminal proceedings were inadequate.

37. In particular, the Brownlee family was concerned that the use of the excavator in Jack's rescue may have been a contributing factor in his death. David and Janine wanted to know whether Jack's injuries may have been exacerbated by the pressure that resulted from the use of the Pipecon excavator in the rescue.

38. The Brownlee family, together with Dr Cormie, urged the court to obtain further evidence and expert reports.

39. In considering the numerous issues raised by Dr Cormie and the Brownlee family, it must be borne in mind that it is not the purpose of this jurisdiction to establish blame, liability or guilt arising from the acts or omissions of any single individual or entity.

40. In some instances, there was insufficient evidence to draw answers for Dr Cormie and the Brownlee family. In relation to other aspects of the concerns, the matters were simply too remote to be considered proximate or causally related to the cause of death.

**ADDITIONAL EVIDENCE**

41. As noted above, my role is not to cast blame or determine criminal or civil liability. However, it was appropriate to direct some further investigation and obtain select supplementary evidence that was focussed on the rescue and recovery effort.

42. Statements were obtained from the following organisations:

a) CFA;

b) Emergency Services Telecommunications Authority;

c) Victoria Police;

d) Fire Rescue Victoria;

e) Emergency Management Victoria; and

f) Ambulance Victoria.

43. Jon Haynes, a paramedic with Ambulance Victoria, provided a statement[5] that was largely drawn from the Patient Care Record as his statement was not requested until four years after the incident.

44. Mr Haynes worked from the Sebastapol branch of Ambulance Victoria. He arrived at the scene of the collapse at 11.24 am together with graduate paramedic Tony Colson. Mr Haynes and Mr Colson were the first ambulance crew to arrive on site.

45. Upon arrival at the scene, Mr Haynes observed that Victoria Police personnel were already present. Mr Haynes observed a member of the construction crew attempting to dig soil away by hand from the site of the collapse. Mr Haynes also observed Charlie lying to one side of the trench, while Jack was trapped in the soil to his shoulders.

46. Mr Haynes considered that Charlie appeared more vulnerable, as Jack was conscious and talking. He commenced an examination of Charlie. Mr Haynes reported that Charlie was unresponsive, he had no pulse, he was not breathing, and his pupils were fixed and dilated. Mr Haynes assessed that there was nothing further that could be done for Charlie, and he moved on to assessing Jack.

47. Mr Haynes then spent the next few hours with Jack, providing physical and emotional support to Jack while rescuers attempted to free him. He remained in constant communication with Jack asking him how he was feeling and whether the excavation was causing him concern or increased discomfort. At times, Mr Haynes recalled, the excavator was redirected and manual digging resumed close to Jack. Mr Haynes also recalled asking Jack about his recollection of events. Significantly, Jack told Mr Haynes that he was fully able to recall the incident. Jack

[5] Statement of John Haynes, dated 13 July 2022, Coronial Brief, Vol 2, pp.26-48.

told him several times that he and Charlie had been standing on the edge of the trench when it gave way.

48. Nathan Baker is an Advanced Life Support Paramedic employed by Ambulance Victoria, working from the Ballarat branch. On 21 March 2018, Mr Baker commenced duties as the In Field Manager for the day. As such, when Mr Baker was dispatched to the trench collapse, he assumed the role of Health Commander at the scene.

49. Mr Baker relied upon the Health Commander report[6] from the day to provide his statement to the Court. The report noted as follows:

    a) *Very difficult and dynamic scene, many dangers and potential safety concerns. Majority of the scene time had 1x team member from BNSW (1x advanced life support paramedic, 2 x team members from Z250 (2 x MICA paramedics) and CSO361 ( 1 x MICA paramedic) down the excavation undertaking patient management at the same time as the large excavator (as well as CFA members with shovels) slowly, methodically and carefully worked to release the patient from the entrapment.* [7]

50. These statements, and others obtained by the Court, suggested the rescue operation was performed carefully and thoughtfully, ensuring that emergency services personnel were working as safely as practicable in the dire circumstances. However given the unresolved concerns about the role of the excavator throughout the rescue, I determined to commission experts to provide a review of the evidence and report on their findings.

51. The Court obtained three expert reports. The findings of each of the experts are dealt with below.

**EXPERT FINDINGS**

52. Expert reports were obtained from medical, geotechnical and rescue experts. Dr David Eddey (a medical expert), Mr Patrick Wong (a geotechnical expert) and Mr Mark Dobson (a rescue expert) were commissioned by the Court to assist with the investigation. The CFA also provided an additional expert geotechnical report from Mr Alex Rodriguez.

**Expert Geotechnical Evidence**

[6] Health Commander Report dated 20 March 2018, Coronial Brief, Vol 2, pp. 18-24.
[7] Statement of Nathan Baker, dated 20 July 2022, Coronial Brief, Vol 2, p. 16.

***Mr Patrick Wong***

53. Patrick Wong is a Senior Principal at PKW Geosolutions Pty Ltd. He is a qualified engineer with over forty years' experience in geotechnical engineering.

54. Mr Wong provided two geotechnical reports dated 16 October 2023[8] and 19 January 2024[9].

55. Based on the information and photographs contained in the brief, Mr Wong made a number of calculations of the earth pressure induced by the excavator used during Jack's extrication.

56. In his first report Mr Wong considered that the use of the excavator would have caused a relatively small increase in soil pressure (2.5 kPa). He observed a pressure of 2.5 kPa is equivalent to the water pressure on a person at 25 cm water depth, and this pressure is very small when compared to divers who routinely dive to significantly greater depths without difficulties.

57. Mr Wong was asked to provide a supplementary report to clarify certain aspects of his original report. After reviewing additional material Mr Wong recalculated the earth pressure resulting from the use of the excavator.

58. In his supplementary report Mr Wong concluded that the additional analyses using revised geometry of the collapsed trench resulted in a small increase in pressure from his original calculations. However, the revised calculations did not alter Mr Wong's conclusion that the absolute increase of pressure was relatively small.

*59.* Mr Wong also concluded the excavator would have only caused relatively low-level ground vibrations during excavation, adding the only time excavators cause ground vibrations is when they are travelling at highspeed and then undertake a turn whereby the excavator tracks slew which causes high friction on the ground. This scenario could be excluded based on the evidence to hand describing the rescue.

***Mr Alejandro, (Alex), Rodriguez***

*60.* Alex Rodrigeuz is a director at Structural Melbourne. He is a qualified engineer with over fifteen years of experience in design, construction and forensic investigation. Mr Rodriguez has regularly provided advice in relation to earthworks, trenchworks and excavation.

[8] Report of Patrick Wong, dated 16 October 2023, Coronial Brief, Vol 3, pp.14-78.
[9] Supplementary report of Patrick Wong, dated 19 January 2024, Coronial Brief, Vol 3, pp. 79-139.

61. Mr Rodriguez provided a geotechnical report to the Court dated 12 October 2023[10]. This report was commissioned by the CFA.

*62.* Mr Rodriguez provided a description of the geology of the trench collapse, noting the soil was a sandy clay. Mr Rodriguez considered the soil composition, the layout of the trench and the excavator specifications. He then calculated the lateral earth load noting that this would lessen as soil was removed from the site.

*63.* Mr Rodriguez concluded that the weight of the excavator did not add to the crushing forces on Jack. His conclusion was based on the fact that the distance of the excavator was too great for vibration from the excavator motor to increase the crushing pressure on Jack. Mr Rodriguez noted the action of the excavator bucket would have a slight effect on lateral soil pressure however, the additional load from the bucket action would have been quickly offset by the reduction in soil weight.

*64.* Mr Rodriguez concluded that: the weight of the excavator would not have added to the crush force on Jack, the vibrations may have contributed, albeit insignificantly; and the effect of use of the excavator so as to minimise its forces was likely not significant.

**Expert Rescue Evidence**

65. Mark Dobson is a Senior District Officer employed by the Department of Police, Fire and Emergency Management (Tasmania), with almost 34 years' experience as a career Fire Officer.

66. Prior to joining the Tasmanian Fire Service, Mr Dobson had experience in construction including earthworks and civil construction. Mr Dobson also holds a Graduate Certificate of Applied Management (Policing and Emergency Services) and an Associate Diploma of Applied Science (Fire Technology). In 1997 Mr Dobson completed a course in Trench Rescue and he has also acquired qualifications in Confined Space Rescue, Urban Search and Rescue and Task Force Leadership.

67. Mr Dobson provided a report dated 5 February 2024[11]. Mr Dobson observed any rescue from a collapsed trench is an inherently dangerous task for emergency responders.

[10] Report of Alejandro Rodriguez, dated 12 October 2023, Coronial Brief, Vol 3, pp.144-160.
[11] Report of Mark Dobson, dated 5 February 2024, Coronial Brief, Vol 3, pp.179-188.

68. Mr Dobson concluded:

a) The nature of the excavations at the site of the trench collapse, poor ground conditions, and the presence of intersecting trenches, would have prevented the effective use of any form shoring system to assist in Jack's rescue;

b) The decision to use the on-site excavator, to assist in removing a large amount of earth and soil near where Jack was trapped, was the correct one;

c) Anyone who undertook training to achieve competency in undertaking trench rescue would consider the use of an excavator as a legitimate method of removing large amounts of earth and soil to assist in the rescue of the victim; and

d) The excavator was used effectively, and as safely as possible in this situation, to remove large amounts of earth and soil to not only expedite Jack's extrication but to also create a safe working environment for rescue personnel.

***Expert Medical Evidence***

69. Dr David Eddey has over thirty-two years' experience in the practice of specialist emergency medicine in Australia and overseas.

70. Dr Eddey was asked to provide a medical explanation of the injuries and consequent sequelae sustained by Jack. He provided a statement dated 23 February 2023 as well as a supplementary statement dated 6 February 2024.

71. Dr Eddey concluded that that the pressures applied to Jack at and immediately after the collapse were sufficient to cause the fatal crush injury Jack sustained. He described the underlying pathophysiology of a crush injury, noting that at the time of release from entrapment, a person who appeared to be in a stable condition (as was the case with Jack), can suddenly deteriorate. Tissue damage due to pressure is a function of pressure and time.

72. Dr Eddey explained that in the setting of a trench collapse, injury may result from either severe direct trauma or entrapment with widespread generalised pressure. The time taken for a pressure injury to develop is likely to be in the order of hours however this is variable. The ability to survive such an injury would be dependent on a number of factors including the extent of the initial crush, the severity of its sequelae, and the characteristics of the individual.

**CONCLUSION**

73. There is no evidence to suggest that either the choice to use the excavator or the operation of the excavator caused or contributed to Jack's death. I am satisfied that Jack died as a result of the injuries he sustained in the trench collapse.

74. There is no evidence to suggest that an alternative rescue approach was preferable, possible or warranted.

75. There is clear evidence that the Pipecon's unsafe work practices caused Jack's death and that his death was preventable had the necessary steps been taken as particularised and set out in the criminal proceedings.

76. There were no other matters of significant factual dispute in the circumstances proximate to Jack's death that required forensic examination by a public hearing in open court given the content of the criminal proceedings.

77. In the circumstances I am also not satisfied there are any recommendations that I can make that would contribute to the prevention of similar deaths.

**FINDINGS**

78. Pursuant to section 67(1) of the Act I make the following findings:

    a) the identity of the deceased was Jack Brownlee, born 31 October 1996;

    b) the death occurred on 22 March 2018 at Royal Melbourne Hospital, 300 Grattan Street, Parkville, Victoria, 3052, from complications of injuries sustained when a trench wall collapsed; and

    c) the death occurred in the circumstances described above.

79. Based on the evidence of Jon Haynes, I find, on the balance of probabilities, that Jack and Charlie were not in the trench at the time of the collapse, rather they were on the edge of the trench.

80. I am satisfied that Pipecon failed to ensure a safe workplace on 21 March 2018, and as a result Jack lost his life.

81. I am satisfied that Jack's death was preventable.

## COMMENTS

82. Pursuant to section 67(3) of the Act, I make the following comments connected with this death.

> This case serves as a reminder of the hazardous nature of trenching works and the critical need for employers to ensure continued compliance with their statutory duties under the law to eliminate or minimise risk to worker health and safety.

83. I convey my sincere condolences to Jack's family for their loss.

84. Pursuant to section 73(1B) of the Act, I order that this finding be published on the Coroners Court of Victoria website in accordance with the rules.

85. I direct that a copy of this finding be provided to the following:

David & Janine Brownlee, Senior Next of Kin

Sergeant Robert Pama, Coroner's Investigator

Pipecon Pty Ltd

Emergency Services Telecommunications Authority

Fire Rescue Victoria

United Firefighters Union

Chief Commissioner, Victoria Police

WorkSafe Victoria

Ambulance Victoria

Patrick Wong

Alejandro Rodriguez

Mark Dobson

Dr David Eddy

Signature:


Coroner Leveasque Peterson

Date: 13 February 2025

NOTE: Under section 83 of the ***Coroners Act 2008*** ('the Act'), a person with sufficient interest in an investigation may appeal to the Trial Division of the Supreme Court against the findings of a coroner in respect of a death after an investigation. An appeal must be made within 6 months after the day on which the determination is made, unless the Supreme Court grants leave to appeal out of time under section 86 of the Act.