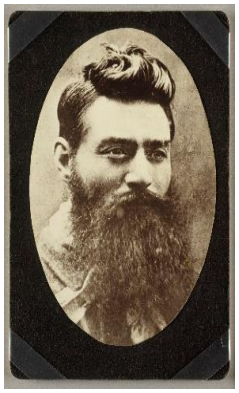

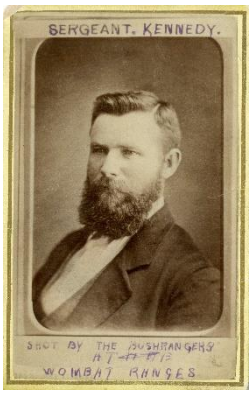

THE KENNEDY TREE -STRINGYBARK CREEK-

INTRODUCTION

In October 1878, after laying exposed to the elements for five days, the body of Victorian Police Sergeant Michael Kennedy was discovered. He was found lying alongside a large Eucalypt tree, having died on 26 October after being shot by members of what would later, become known as the 'Kelly Gang'.

After 141 years, the exact location, and original tree has been the subject of much debate and emotion. There are conflicting and often confusing reports from Historians and authors, independent researchers, documentary makers and keen history lovers. This has left descendants, stakeholders and the Australian public with an unclear picture of the exact location of the site, and left questioning whether the tree remains standing.

This report will provide new evidence that Adrian Younger, Tony King, Jim Fogarty & Noeleen Lloyd (*the authors*), believe will positively identify the site of Sergeant Kennedy's death. It is their intent to act in an open and transparent manner, making available their evidence so that it may be scrutinised. They believe, that once examined, the evidence will stand alone, and once and for all provide an answer to a much debated and sought-after location.

The authors recognise that there has been significant time and resources invested in locating this historically significant site. They have considered all research and reports that have been completed, and respectfully acknowledge this work. Despite the site being photographed four days after the discovery of the Sergeant's body, the exact location has been lost, and much debated.

First and foremost, this research will allow descendants of Sergeant Kennedy, members of the Victoria Police and all relevant stakeholders, the opportunity to finally and correctly mark the spot where he fell. Secondly, it will allow this historically important site to be documented correctly and respectfully.

PURPOSE

- To identify the tree under which the 36-year-old Sergeant Michael Kennedy was shot and killed on 26 October 1878.
- To provide evidence that supports the claim the authors have identified the true and correct location of what is called the 'Kennedy Tree'.
- That the tree be formerly investigated by Heritage Victoria, and formally recognised as the 'Kennedy Tree'.
- To provide the families of Michael Kennedy with definitive evidence and a location in which to remember and commemorate their ancestor.

BACKGROUND

In the early hours of the 31 October 1878, five Victoria Police Officers and sixteen volunteers set out from Edward Monk's Wombat Creek saw-mill south-east of Tolmie, to make the trek to Stringybark Creek. The purpose of the party was the continued search, and recovery of the body of Sergeant Michael Kennedy who was still missing and presumed dead, or perhaps taken hostage. After two previously unsuccessful search parties, this would be the third attempt to locate and recover the Sergeant's body within a five-day period.

The party arrived at Stringybark Creek at 7.30am, after spending the previous night camped at Monk's sawmill. The authors conclude that the party then formed up in extended line, with a police member on each side and moved forward in a northerly direction until they reached the police camp site. After a short discussion the search party decided to continue for another half a mile in a northerly or NW direction. Shortly after the recommencement of the search, a member of the party called out that they had made a discovery. Henry Sparrow, an overseer at Mount Battery Station, had located the body of the deceased Sergeant, covered by a cloak, lying next to a large tree (*on the edge of the bridle track 183 metres from the police camp site-authors' note*). Reports that followed this discovery would later indicate that the body was

found close to 8.00 am.[1]

After five days of exposure to the elements, the Sergeant's body was described to be partially decomposed and scarcely recognisable. His head and feet were then covered with corn sacks and his body strapped to a horse for the return trip to Mansfield. The following day Sergeant Michael Kennedy was laid to rest in the Mansfield Cemetery.

The large tree where his body was located was blazed with an axe some time before the killings occurred. This would have been done to mark a trail such as the bridle track so that people following it would know where they were going and not get lost. The blaze would have been approximately two feet square or 600mm by 600mm in today's measurement.

Two days after the funeral, a party of four once again returned to the crime scene. The party included Melbourne photographer Frederick Charles Burman, for the purpose of collecting photographic evidence. The first two photos were taken at the police camp site. The party then continued north along the bridle track to take a further two photographs where the Sergeant was found. On approach from the south, the blaze on the 'Kennedy Tree' would have been effortlessly spotted by the men and is easily identified in the two Burman photographs taken at this site. It is widely accepted that the tree pictured in the Burman photos is the exact tree where Sergeant Kennedy fell. It is the authors' intention to draw particular attention to the blaze on the left side of the tree in these photographs that clearly shows right angles where bark has been purposefully removed for what can only be determined as being for navigation purposes. This is the widely accepted purpose of a tree blaze and was a popular method of marking trails and locations in this time period.

It is the authors' belief that the Kennedy Tree was once again possibly marked/blazed around the 1930's by a local man, or saw-miller, to protect it from being felled and used for timber. In similar fashion, this marking/blazing was said to have also occurred on what is now referred to the 'Kelly Tree' near the alleged Police Camp at the picnic area. As decades passed, the tree's location has been lost, and those who knew of its location are long deceased. Eventually, the establishment of the Ryan's Creek catchment area in the early 1950's, and subsequent removal of farming within the Stringybark Creek area has protected this area from any significant human intervention.

PREVIOUS REPORTS AND RESEARCH – CONFLICTING EVIDENCE

Some official and newspaper reports after the search stated that Sergeant Kennedy's body was found North-East of the camp, and on the Eastern-side of Stringybark Creek.[1] Comparatively, many authors over the years have stated that the body was found to the west and over German's Creek. In his telegram to the Commissioner of Police, dated 31 October 1878, Sub Inspector Henry Pewtress states … 'At eight a.m. the body of Kennedy was found about half a mile north-east of the camp by one of the volunteers named Henry Sparrow, an overseer at the Mount Battery Station.' [2] A report completed by Mounted Constable Thomas Orr, initially refers to finding the body towards the east, however for reasons, unknown, the report was changed to the west. The word 'easterly' has been crossed out and replaced with 'westerly.'[3]

In comparison, the report provided by Constable Thomas McIntyre, who was not present with the third search party, stated that Sergeant Kennedy's body was found on the opposite side of the creek as to Constable Michael Scanlan's body.[4] If this is the case, based on both the NEW identified tree site and Mr. Denheld's proposed site, it is not unreasonable to conclude that the police camp was on the east-side of the creek as well-known Kelly historian Ian Jones had always maintained. The point of raising the topic of the heavily debated location of the police camp is not to attempt to solve this mystery here, but rather to point out that the discovery of the 'Kennedy Tree' will have a dramatic effect on how we will now view and interpret previous evidence and reports regarding the location of the police camp.

Over time, many researchers, both amateur and professional, have attempted to pinpoint the exact location of the 'Kennedy Tree' and have found it both difficult and time consuming. The collaboration known as CSI@SBC[5] have compiled an extensive report and have theorised on an approximate location estimating it to be somewhere north-east and near Ryan's Creek. Amateur Kelly historian Mr. Bill Denheld[6] agrees with CSI@SBC on the idea that the tree may have been in this location, however, he promotes his theory of the tree being located on the western side of Stringybark Creek.

CURRENT SITE

The Department of Environment, Land, Water & Planning (DELWP) Mansfield, advises that the current marked site of the Kennedy Tree was selected based on an approximated distance Sergeant Kennedy allegedly ran, and was positioned at the most likely location.[7] However this is not stated on signage, and leads the public to mistakenly believe that they are visiting the actual site where Sergeant Kennedy was killed.

NEW EVIDENCE

It is reasonable to suggest that the Sergeant followed in a similar direction which Constable McIntyre, mounted on Sergeant Kennedy's horse had fled - down the creek to the north. His path would have been parallel to the creek on his right and the edge of the bridle track to his left. It would not have made sense for a man who is running for his life, to slow himself by running through creek beds or dense bush. Therefore, the crossing of creeks is considered unlikely for the sake of this report.

Continuing close, yet slightly off the bridle track would have provided Sergeant Kennedy with cover as he fled from Ned Kelly's pursuit, while providing him a route to follow, and at the same time avoiding dense scrub. This theory is supported by the discovery of bullet marks on trees in this general direction, as reported by those who searched the area. It is also the direction from which he had just rode in; it was the least threatening path. Ned Kelly continued to pursue and exchange fire with Sergeant Kennedy for about 200 yards. Some reports have stated 400 to 800 yards. This larger distance may have been from where the search party commenced their search and this could well have been in the vicinity of the current Kelly Tree, which may have led to it being assumed to be the police camp rather than the police search headquarters. At this point Ned Kelly wounded, and then killed Sergeant Kennedy under a large tree, as pictured in the Burman photos. The tree we propose in this report, fits this version of events, including average distances. Given its location on the west-side of Stringybark Creek, the location of the police camp is likely to be located on this side[8]. (*Ref Diagram 1*). It is believed that the inconsistency in the original reports that alludes to the location in which Sergeant Kennedy's body was discovered may lie in the fact that the search party was reported as heading east at the time the body was found. This was incorrect.

During a research trip[9], Adrian Younger & Tony King discovered a tree on the western side of Stringybark Creek – one that stood out almost immediately, as if very much unchanged by its long life in the area. This discovery, along with other supporting evidence led us to believe that it could possibly be the 'Kennedy Tree'. We then committed to further research on the tree, the area and the recorded events that transpired in October 1878.

When considering the age of the tree it is not at all unreasonable to suggest that the tree is easily over two centuries old given its immense vertical size and girth. We had to work out a way to estimate the age of the tree in Mr. Burman's photo and we needed to collect data of the tree that stands today. Through Noeleen Lloyd we invited Jim Fogarty on board to provide horticultural insight, to report on the plant life & trees near the Kennedy tree and to assist us with estimating the age of the Kennedy Tree. (*refer to attached Tree Report*)

SUPPORTING EVIDENCE

Please refer to Diagram 2 *(& attached Tree Report for more information)*

- Although an obvious first point, the tree is in the Stringybark Creek area.
- The tree is located 200 yards (183m) from the police camp site.
- The tree is in the direction of north (or NNW) from the police camp site.
- The tree is located within an area where older trees grow and not in an area with younger or alternate species.
- The size and age of this tree would fit that of the tree in the Burman photos.
- The characteristics of this tree when compared to Burman's crime scene photographs are undeniable.
- Based on the shadows cast in the Burman's photograph it can be concluded that the photo was taken facing a westerly direction. The tree is orientated in the same direction.
- There is a small burl at the correct height when taking reasonable tree growth in consideration.
- The hollow section on the left side.
- The curvature on the right side.
- A 'cow's hoof' shape of the base of the tree at the bottom on the right side.

- There is a scar at a height on the left that would match the blaze that was on the tree where Sergeant Kennedy's body was found.
- There are two types of blisters in the mid center.
- Many other shapes and similarities at the bottom of the tree.
- Using a metal detector, small readings of metal coming from within the tree. This may account for the fact that it was shot. This will need further investigation.
- The texture and bark coloring fits in an overlay of the old and new photos.
- For visual comparison please refer to the attached Tree Report and field data collected at the end of this report.
- The tree has an insulator mounted approximately 7 meters up the trunk designed to carry a telephone line to the households that were in this area. We have dated this insulator back to the 1920's to 1930's. This indicates that the tree was of reasonable height 90 to 100 years ago. This insulator would have been the reason the tree was not cut down – it was carrying a vital telephone line. We can be thankful for this piece of modern technology.

The likelihood of the tree in the Burman photo and this tree having the same characteristics and similarities without them being one and the same is therefore unlikely.

IN CONCLUSION

It is the opinion of Adrian Younger, Tony King, Jim Fogarty & Noeleen Lloyd, that this is the tree pictured in Burman's crime scene photograph. It is respectfully requested that a formal investigation around the site of this tree be opened. This area must be preserved and protected for future generations to come.

Most importantly, support in the formal identification of this site will provide a definitive location and closure to the Kennedy family to remember and honour their beloved family member.

It is the authors' belief that this tree should be preserved so that family and the public may visit and reflect on the tragic events of this day in Australia's history. A well-respected police officer in his community, whose life was extinguished far too soon, deserves to have the place he died correctly identified and respectfully marked.

Given that scarring has now taken hold on this tree it may now have a limited life expectancy. Therefore, time is important in this matter.

In addition, the authors conclude this location may now assist in identifying the historically significant police camp location, which would identify the site where Mounted Constables Michael Scanlan and Thomas Lonigan were killed.

The authors welcome and value any questions, feedback or response that you may have regarding the site. We look forward to discussing this report with you at your convenience.

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Photo 1: (from left) Doc Wellwood owner of the Tolmie Tavern receives a copy of the Kennedy Tree Report from Adrian Younger, Tony King, Noeleen Lloyd & Jim Fogarty, Oct 26th 2019

---------- ENDS ----------

THE AUTHORS

As long-time amateur historians, and keen researchers of the Kelly story, the authors have for many years believed that the current site of the Kennedy tree was incorrect. During a number of discussions in relation to the currently marked site, along with numerous visits to the area, a decision was made to search in earnest for what they believed to be the correct location.

Adrian Younger is a sixth generation north east Victorian, born and raised in Greta. He has closely followed the Kelly story and is a keen local historian well known for his knowledge of both local and Kelly history. He has been visiting and camping at Stringybark Creek from his family farm in Greta since he was a teenager. His love of bush craft and history has seen him spend hours both solo and with groups walking through various trails and bush areas. His many years spent in the Army Reserve have provided him with knowledge, skills and experience that informs his research in the field. He is well versed in areas of geography and bush craft. Adrian continues to work within the community and is on a number of local Committees including the Greta Hansonville Hall, Greta Cemetery Trust and the Greta Sporting Complex. He continues his interest in military history, in particular the Australian Light Horse and is Vice President of the 8/13th Victorian Mounted Rifles Association.

Tony King has lived in the North East of Victoria for ten years. A keen local history student and follower of the Kelly story he has brought with him a passion and dedication for ensuring that the story is told with truth and compassion. Growing up on a farm in South Australia, he brings his extensive knowledge of the bush to his research in the field. Tony's natural talent at art and sketching has been invaluable in recreating imagery to assist with field research. Tony is committed to ensuring that the story is told with honesty and integrity. Since moving to the North East, Tony has enthusiastically supported the local Greta community. Tony is a member of the Greta Hansonville Hall Committee and works tirelessly to ensure that the local history and heritage is maintained.

Jim Fogarty (Horticultural Consultant). After completing school, Jim joined the Army Reserve as an infantryman with the 5/6 RVR, qualifying with crossed rifles, before enrolling full time at Burnley Horticultural College in Melbourne. In 1998, Jim travelled with Ian Jones visiting many of the Kelly sites, some not accessible to the public. An avid reader of Australian history, this ignited a great interest in the Kelly story. Jim is an AILA registered Landscape Architect and has won many international awards for garden design most notable being a Gold Medal at the RHS Chelsea Flower Show, London in 2011. Jim has worked in various aspects of garden media over a long career including writing for Burkes Backyard Magazine and the Melbourne Age newspaper. Jim is a Life Member of the Horticultural Media Association Australia and is the great great great grandson of Ewan Tolmie.

Noeleen Lloyd grew up in the bush spending the first part of her life in the station country of north east South Australia before returning to Greta with her family - where the Lloyds have resided for almost 160 years. Noeleen is the great granddaughter of Thomas Lloyd Junior, often regarded as the 5th member of the Kelly Gang. She is also the great grand-niece of Kelly Gang member Steve Hart. Noeleen is a local historian and founding member of the Greta Heritage Group and is well known for her knowledge and interest in the Kelly story. She also has a keen interest in the local ANZAC history, having co - coordinated the local award-winning Centenary of ANZAC Project along with fellow team member Adrian Younger and other community members. Noeleen is currently researching the Irish Famine Orphan History as two of her great great grandmothers arrived as part of the Earl Grey Scheme- including Steve Hart's mother. Noeleen is the Secretary of both the Greta Hansonville Hall Committee and Greta Cemetery Trust and works tirelessly in ensuring history and heritage are preserved and recorded correctly.

Thankyou

The authors wish to thank everyone who assisted in their research on this project. We are sincerely grateful to those before us who have given their time to research the Stringybark Creek area over the years.

The land now known as Stringybark Creek was the ancestral home of the Taungurung People, long before European settlement and must be remembered with respect.

The original pioneers, along with their descendants and families, of the Tolmie-Toombullup areas who remain the custodians of the Stringybark Creek Precinct deserve special mention.

We thank our partners and families whilst we have been distracted and absent on field trips throughout the process of this research.

Finally, and most importantly, we wish to acknowledge the descendants of the four Victoria Police Force members whose lives were forever changed by the events of 26 October 1878.

Diagram 1 -1884 survey map of the Stringybark Creek area

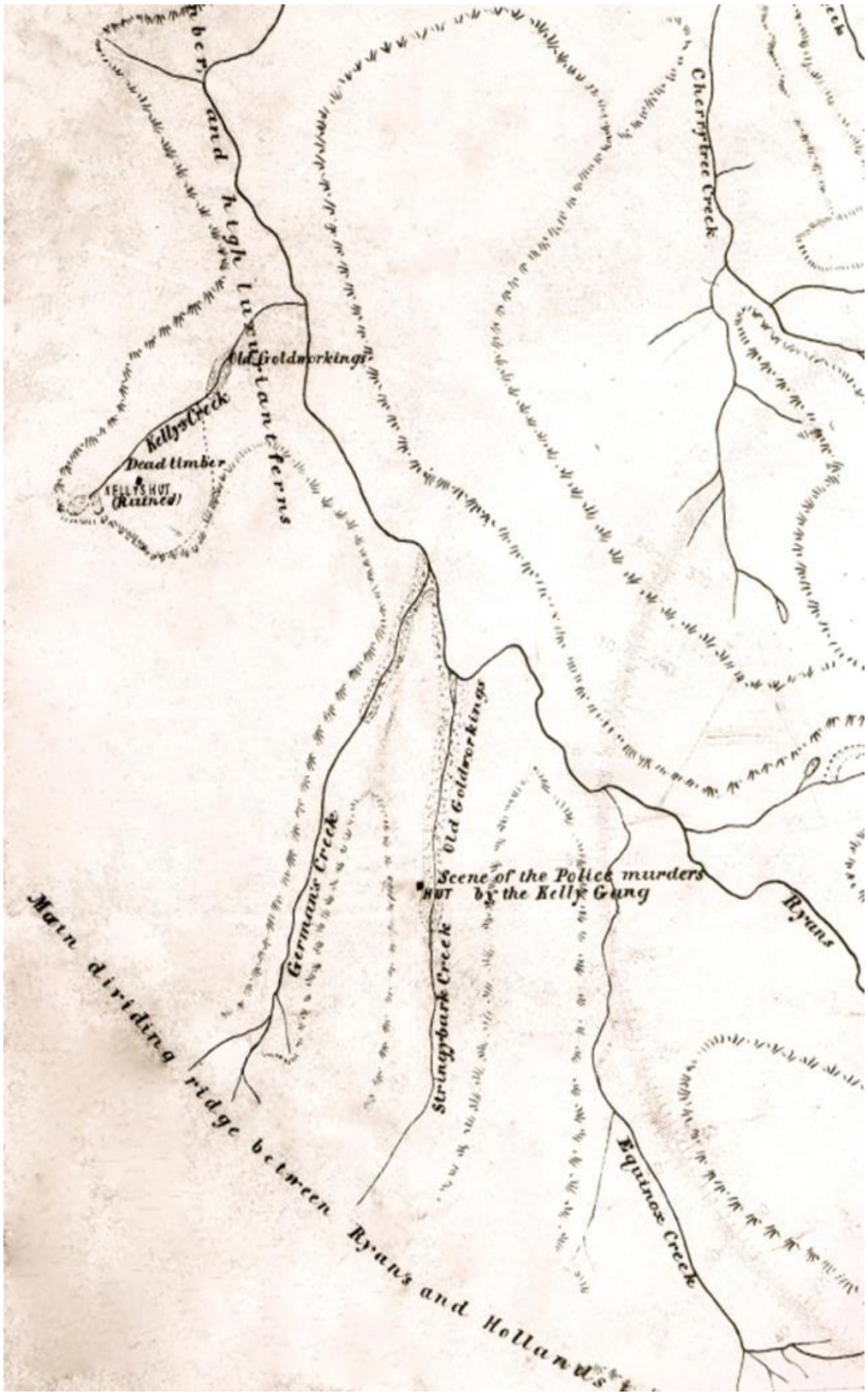
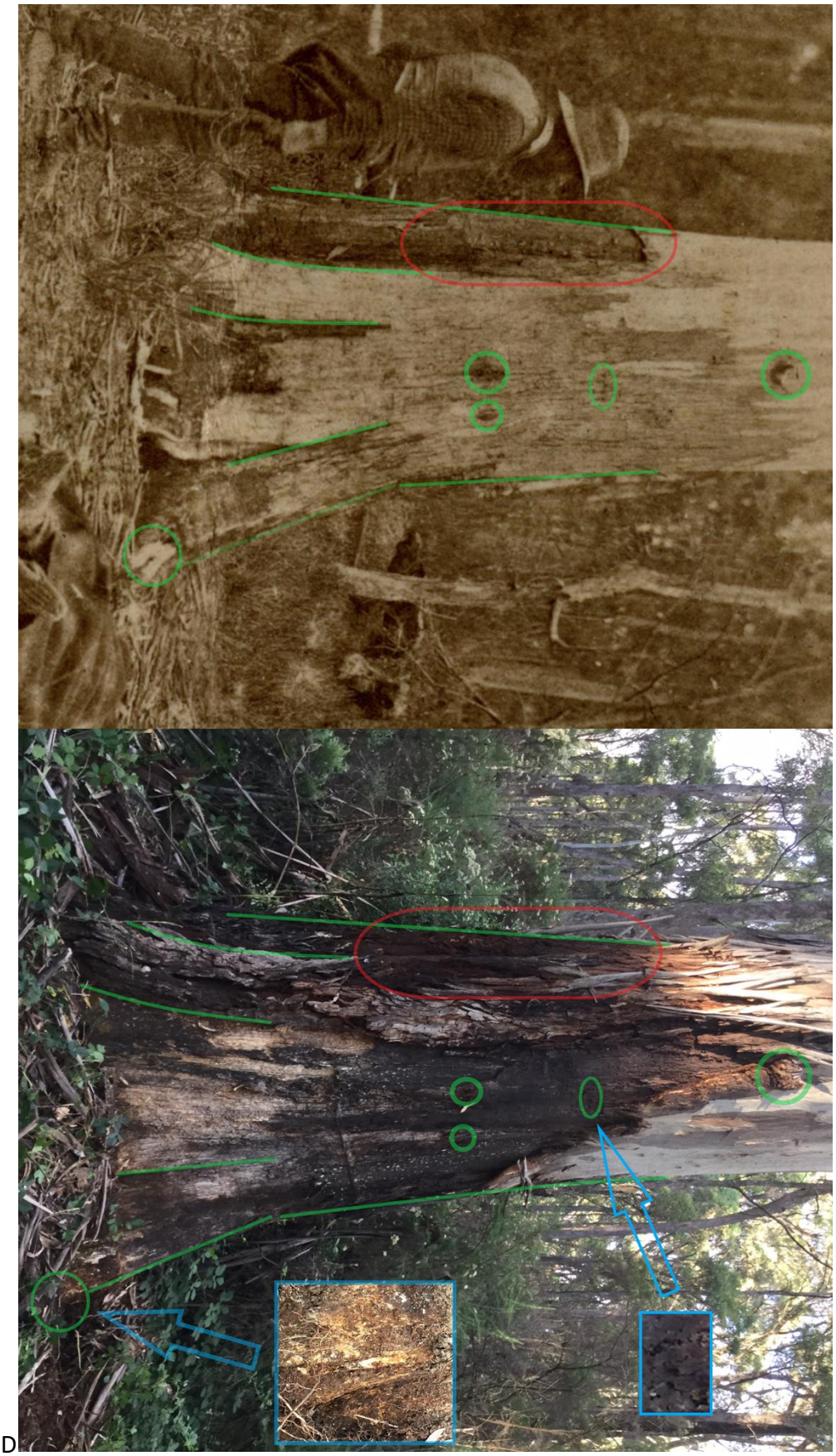


Diagram 2 – Comparison of Burman Photo and new site



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[1] Age (Melbourne, Vic.: 1854 - 1954), Friday 1 November 1878, page 3
[2] ibid
[3] PROV, VPRS 4969, Unit 1, Item 24
[4] McIntyre, Thomas Newman *Reminisces of a Victorian Mounted Constable A Narrative of the Kelly Gang and Other Bushrangers.* Undated http://www.policemuseum.vic.gov.au/collection/overview
[5] Briggs, Linton., Dean Gary., Gill, Kelvyn., & Standing Glenn. CSI@S.B.C update July 2017, Kelvyn G Gill, Melbourne, 2017
[6] Ironicon.com.au. (2019). Ned Kelly Australian IRONICON - Links to the world's best Kelly Gang websites.
[7] Discussion with Ms C Spencer, Department of Environment, Land, Water & Planning (DELWP), December 2018.
[8] Map McMenomy Keith. *Ned Kelly. The Authentic Illustrated Story*. Currey, O'Neil Ross, Melbourne. 1984
[9] One of many trips taken by the authors over a number of years

References

SOURCES

Jones, Ian. *Ned Kelly*. 1st ed. Hachette Livre, Sydney. 2008.

Kenneally, James Jerome. *The complete inner history of the Kelly Gang and their pursuers*. Kelly Gang Pub. Co., Victoria.1980.

McMenomy, Keith. *Ned Kelly. The Authentic Illustrated Story*. Currey, O'Neil Ross, Melbourne. 1984

Briggs, Linton, Dean Gary., Gill, Kelvyn, & Standing Glenn. *CSI@S.B.C update July 2017*, Kelvyn G Gill, Melbourne, 2017

WEBSITES

Google Maps. (2019). *Google Maps*. [online] Available at: https://maps.google.com/ [Accessed January- May 2019].

Ironicon.com.au. (2019). *Ned Kelly Australian IRONICON - Links to the worlds best Kelly Gang websites*. [online] Available at: http://www.ironicon.com.au/ [Accessed January – May 2019]

State Library Victoria. (2019). *State Library Victoria*. [online] Available at: https://www.slv.vic.gov.au/ [Accessed January-May 2019].

TROVE various news paper articles referering to the deaths and search for the policemnen retrieved from www.trove.nla.gov.au/newspaper [Accessed January - May 2019].

Victoriancollections.net.au. (2019). *Victorian Collections*. [online] Available at: https://victoriancollections.net.au/ [Accessed January - May 2019].

Mansfield Historical Society: 1884 survey map of the Stringybark Creek area

Figure 1: Photo recreation by Younger, King, Fogarty & Lloyd July 2019

Finding the 'Kennedy Tree'

A **TREE REPORT** AT STRINGYBARK CREEK, ARCHERTON, VICTORIA.

A HORTICULTURAL ANALYSIS OF TREES

TO BE READ IN CONJUNCTION WITH THE REPORT BY ADRIAN YOUNGER
TONY KING, JIM FOGARTY & NOELEEN LLOYD.

REFER ATTACHED SPREADSHEET CONTAINING FIELD TREE DATA

SEPTEMBER 2019

Revised: **3 December 2019**

TREE REPORT- FINDING THE KENNEDY TREE

This tree report is to be read in conjunction with the report prepared by Younger, King, Fogarty & Lloyd.

INTRODUCTION

Following is a summary of the horticultural analysis of aged *Eucalyptus viminalis* trees along the northern section of Stringybark Creek Road. The area is reported to be in the vicinity of the path that Kennedy took when following McIntyre's route. All trees identified as exhibiting qualities of old age, and with a trunk diameter greater than 100cm, were recorded and coded from K1-K12 for the sake of recording field data (*refer Figure 7*). The tree in the 1878 Burman photo is identified as the same genus and species of tree, *Eucalyptus viminalis*. *Refer to attached data spreadsheet.*

Abbreviations used: Adrian Younger AY, Tony King TK, Jim Fogarty JF, Noeleen Lloyd NL (YKFL for team)

TREE NAME: *Eucalyptus viminalis* subspecies *viminalis*

COMMON NAME: Manna Gum

LOCATION: Stringybark Creek

ALTITUDE: approx. 788m above Sea Level

RAINFALL: approx. 1200mm per annum

DESCRIPTION: Grows variable height from 30m upward to 90m in ideal forest conditions but smaller in exposed windy or coastal locations. Trunks are generally tall and straight with the canopy opening up at the top of trees. Occurs mostly in wetter or seasonally well-watered areas in SA, Vic, Tasmania & NSW, particularly in mountain valleys.

Bark: Trees can express variable attributes of bark ranging from rough bark extending right up the trunk, to very little rough bark stocking at the base (2-6m) of the tree. Generally, bark extends part way up the tree from the base opening to exposed white-grey and smooth bark which peels off in the warmer months leaving 'ribbons' hanging in branches and leaving much debris around the base of the tree.

ID: Buds are in clusters of 3

ECOLOGICAL VEGETATION CLASS: EVC 18 Riparian Forest Southern Fall Bioregion
A tall forest along riverbanks and associated alluvial terraces with occasional occurrences in the heads of gullies leading into creeks and rivers. The soil is fertile alluvium, regularly inundated and permanently moist. Dominated by tall eucalypts to 30m tall, but also has an open to sparse secondary tree layer of wattles and scattered dense patches of shrubs, ferns, grasses and herbs.
Source: Department of Sustainability & Environment

AGE OF TREE IN 1878 BURMAN PHOTO

On July 16th & Aug 24th, 2019, we collected the following data with the aim of calculating the diameter of the tree in the Burman photo taken in 1878.

- A tracing of the Burman photo by Tony King was used to recreate the scene depicting 2 standing men with the subject tree between the men.
- Scaled cut-outs of the 2 standing men were created by Tony King and positioned so that they appeared in a similar position to that depicted in the Burman photo. The scale of the cut-outs was based on the left standing man being 182cm tall (6 feet tall) including hat.
- Relative levels were taken using a surveyor's level including level where man at left is positioned, level at front base of tree, and level of camera position
- The distance was measured between left standing man and tree= 160cm

Room for Error: *this assumes that the height of the left standing man =182cm including hat. Note that minor change in height of man makes very little adjustment to age of tree calculation*

Figure 2: Transparent image of Burman Photo with K1 tree. Pic: Younger, King, Fogarty & Lloyd 2019.

Figure 3: Original photo of Kennedy Tree taken by Burman 1878

Figure 4: Recreation of the Burman photo July 2019 by Younger, King, Fogarty & Lloyd.

RECREATING THE BURMAN PHOTO USING BUILDING INFORMATION (BIM) MODELLING

1. The above data was imported into a 3D model using Archicad Architectural software (BIM modelling) to recreate the scene including relevant site levels. *Refer figure 5*
2. An image of the Burman photo was overlaid and incorporated into the Elevation of the recreated 3D model in Archicad. This enabled both standing men to be positioned horizontally and vertically. Left standing man was scaled at 1820mm high. *Refer figure 6*
3. Using Archicad, a line was drawn in elevation view 1400mm above the tree ground line to create the Diameter at Breast Height Line (DBH). *Refer figure 6*
4. A 3D tree trunk was created and widened to the point that intersected the outside edge of tree on left and right sides in elevation at the 1400mm DBHL (horizontal line). *Refer figure 6*
5. The distance between the left intersection point and right intersection point determines an estimated tree diameter in the Burman photo of 75.5cm (*note that Archicad can take a dimension precisely but a pixelated photo can impact dimension by mm with little impact on overall result*)

Room for Error: *Note that the diam from the side view (unseen) of the Burman tree could vary from the diam of the face of the tree showing in the Burman photo.*

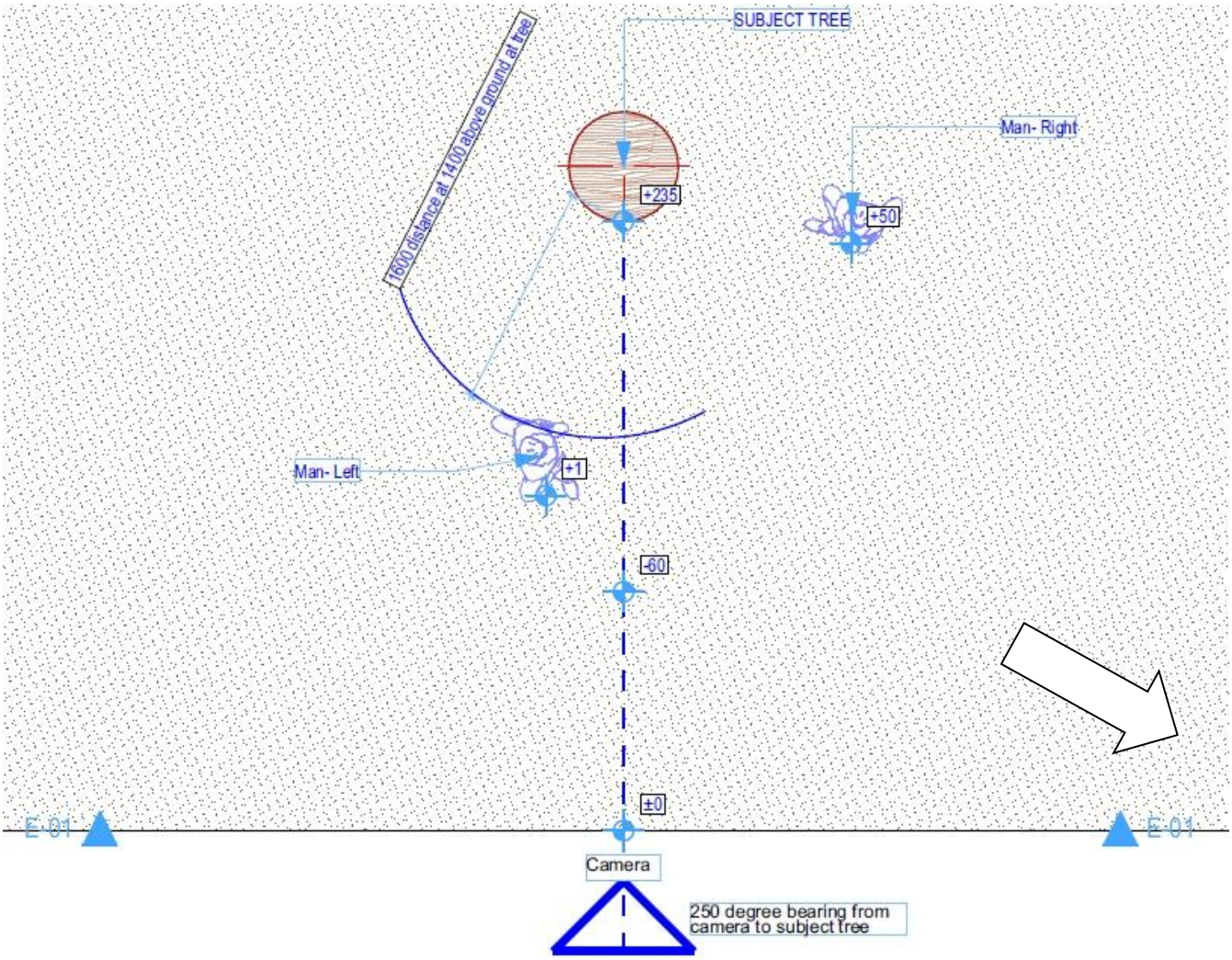

Figure 5- Plan view recreation of Burman photo using Archicad. White arrow depicts North.

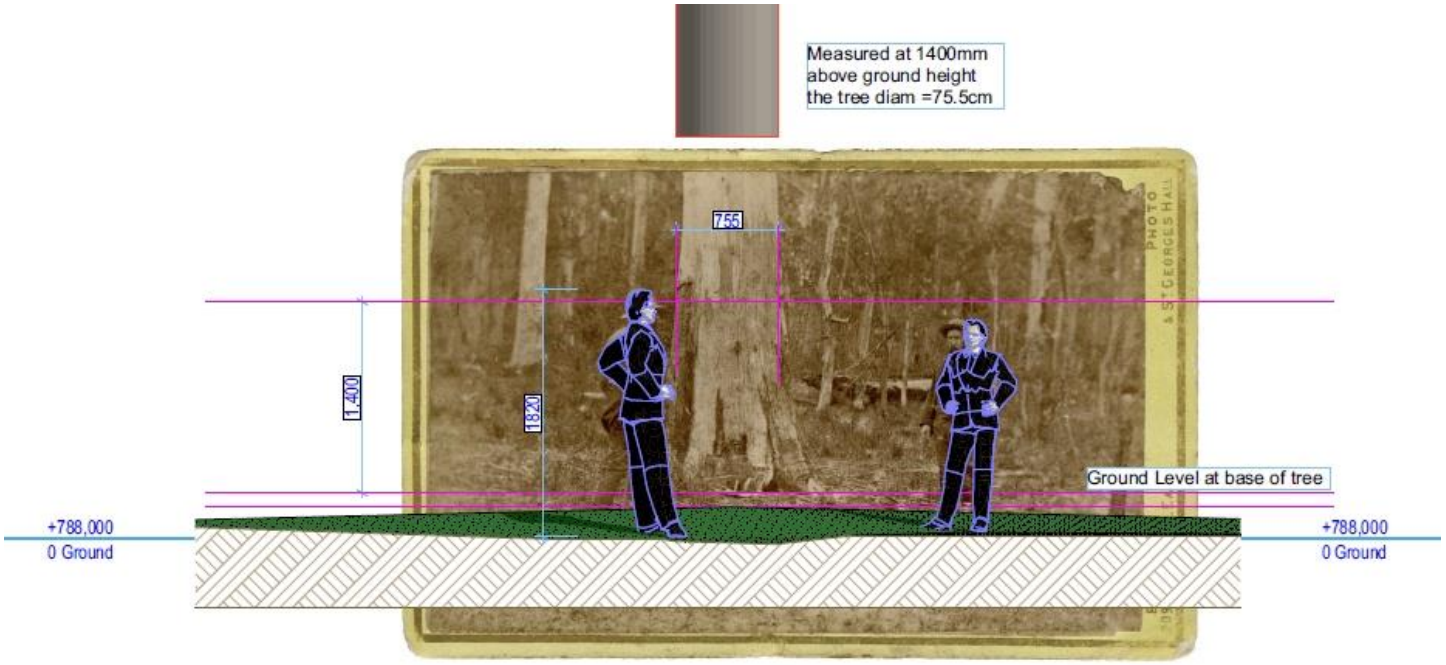

Figure 6: Elevation of Burman Photo using Archicad to determine diameter of tree at 1400mm above ground level (DBH)

DETERMINING AGE OF THE TREES AT STRINGYBARK CREEK

There are 3 commonly known methods for calculating tree age:

1. Count rings= not possible as this would require killing the tree, but also trees of this type and age tend to have rotted cores. Not recommended and not permitted.
2. Core sample= best for diam less than 40cm. Problematic as on large trees it is very difficult owing to core of tree not necessarily being centre of tree but also high risk of damage to tree. This method is not effective on a tree diam greater than 40cm. Also, the inner core is likely to be rotted in older trees. Not recommended.
3. Sample average growth ring width from the same tree species in a similar area and environment. This is the only way to estimate tree age without killing or damaging the subject trees.

SAMPLES- Used to collect Average Ring Growth

SAMPLE 1

A sample tree approximately 3km from the subject site was found lying across Madhouse road to the North. 3 cross sections were cut 4900mm above estimated ground level and 3 samples were counted (*Refer to attached spreadsheet)*:

- 51 growth rings were counted over a distance of 22cm
- The diam of sample =68cm, Radius =34cm (there was no bark)
- Average Growth Width =0.43cm
- Age of tree approx. 79 years
- It is noted that this sample is based on a tree much younger than the subject tree.
- Noted that these samples were not taken at 1400mm above ground height.

Conclusion: it would be fair to calculate that average growth ring width of the subject tree would not exceed this sample. However, as the subject tree is older and has a much larger diameter, it would be accurate to assume that with age, the average growth ring width would decline resulting in a much smaller average growth ring width in older growth years. Average growth ring width is larger in younger trees as they grow exponentially greater diam girth in their formative years (e.g. less than 80 years) than in later years (more than 80 years). *For more information on growth rate vs age refer to https://fennerschool-associated.anu.edu.au/mensuration/BrackandWood1998/T_GROWTH.HTM*
Action: A sample with a diam closer to the subject tree needs to be collected i.e. Greater than 100cm diam and as close to 140cm diam as possible. To ensure accuracy it was decided to obtain a sample from Sample 1 Tree taken at 1400mm above ground level (*see Sample 3*).

SAMPLE 2
A sample from the outer radius of a large stump was taken approximately 1.2km south from the subject location. The diameter of the stump was 121cm. (*Refer to attached spreadsheet)*:

- 89 growth rings were counted over a distance of 16cm
- The diam of sample =121cm, Radius =60.5cm (0.8cm bark)
- Average Growth Width =0.18cm
- Age of tree approx. 332 years (**Age not viable*)

Conclusion: Owing to the size and age of this tree, it would be fair to estimate that the tree in its younger years exhibited a greater rate of average growth resulting in the age of this tree being younger than the estimated 332 years. It would be incorrect to assume this rate of growth for the entire life span of a tree.
Action: To determine a more accurate growth rate for ageing a tree greater than 70cm diameter, it would be correct to combine the growth rate of a younger tree up to 34cm radius recorded, with the older growth greater than 34cm radius being calculated on the growth rate exhibited by the older growth rate of Sample 2.

SAMPLE 3
A sample was cut from the same tree as Sample 1 but this time at 1400mm above ground level. Average Ring Growth was calculated to be 0.48cm per year. (*Refer to attached spreadsheet)*:

Conclusion: To accommodate variations in ring growth rates based on tree size and age, the estimation of date of origin of trees should accommodate a combination of all 3 different ring growth rates

FORMULA: *d=c/pi, d/2(-bark width) = r, r/Av Ring Growth Rate= Estimated Age*

4 CALCULATION METHODS USED TO DETERMINE AGE OF TREES

1. Calculate date of origin based on an average rate of growth from the 3 samples recorded
2. Calculate based on Sample 3 which determines a younger rate of growth and a younger date of origin- *not viable for older trees greater than 100cm Diam*
3. Calculate based on Sample 2 which determines an older rate of growth and provides an older limit as to the possible age of the tree- *Better for older trees greater than 100cm Diam but not viable as it doesn't take into account younger years of growth and records trees as being much older than they really are*
4. Calculate a combination of sample 2 & 3, allowing for sample 3 to be used to a max of 34cm radius growth, with extra radius being calculated using ring growth from older growth from Sample 2 to get a more accurate result eg. younger growth rate + older growth rate.

USING AVERAGES OF RESULTS TO PINPOINT A DATE OF ORIGIN FOR TREES

- For trees over 100cm Diam, an average of Method 1 and Method 4 was used to calculate a more accurate Date of Origin (method 2 & 3 resulted in extremes and therefore not viable)
- For the Burman Tree, being less than 100cm Diam, an average of Method 1, 2 & 4 was used to calculate a Date of Origin (method 3 excluded as applicable to trees greater than 100cm diameter)

AGE OF TREE IN BURMAN PHOTO

Using estimated diam. of tree in Burman photo as outlined above, the age of the tree in the Burman photo can be estimated as follows: (*Refer to attached spreadsheet)*:

- Diameter measured using Archicad = 75.5cm
- Radius = Diam/2 = 37.75cm, less bark =36.75cm

1. Average based on all samples results in a date of origin= 1776
2. Based on Sample 3 (younger growth) result is date of origin= 1801
3. Based on Combination of Sample 3 & 2 result is date of origin= 1792

**Excluded Sample 2 as it is not viable for a tree less than 100cm Diam*

USING AVERAGE DATE OF ORIGIN TO GET A MORE ACCURATE RESULT

The average of the 3 Date of Origins calculated above provides a more accurate date of origin

Conclusion: Using the above calculations it is estimated that the Burman tree originated in 1790, making it 88 years old at the time of the Burman photo, and 229 years old as of 2019.

FINDING THE KENNEDY TREE- DOES IT STILL EXIST?

Figure 7: Google Earth view showing locations of potential trees exhibiting old age (trunks greater than 100cm Diam) in the area where Kennedy is reported to have followed McIntyre's path. The existing toilet block is approx. 320m south of K4. Arrow depicts north. All locations are approximate only.

COLLECTING DATA FROM TREES IN 2019

All existing trees in the area along Stringybark Creek Road where Kennedy is reported to have followed the path taken by McIntyre that looked significantly old and had trunk diameter greater than 100cm were surveyed and identified for this report on 16/719 & 24/08/19. *Refer to Figure 7 & Spreadsheet. (Note that all trees were surveyed from the toilet block North along SBC Road- full report to be released separately)*

RESULT= 2 TREES come close to matching the date of origin of the Burman Tree

K12: Aged at 81 years at time of Burman photo but shows no signs of physical characteristics of Burman tree such as blaze marks. Also, K11 is big and close to K12 and there is no evidence of K11 existing in Burman photo e.g. no physical presence or shadows. *Refer Figure 8.*

K1: Aged 84 years at time of the Burman photo makes it the closest match in age to the Burman Tree (*Burman tree aged 88 years at time of photo*). *Refer Figure 9.*

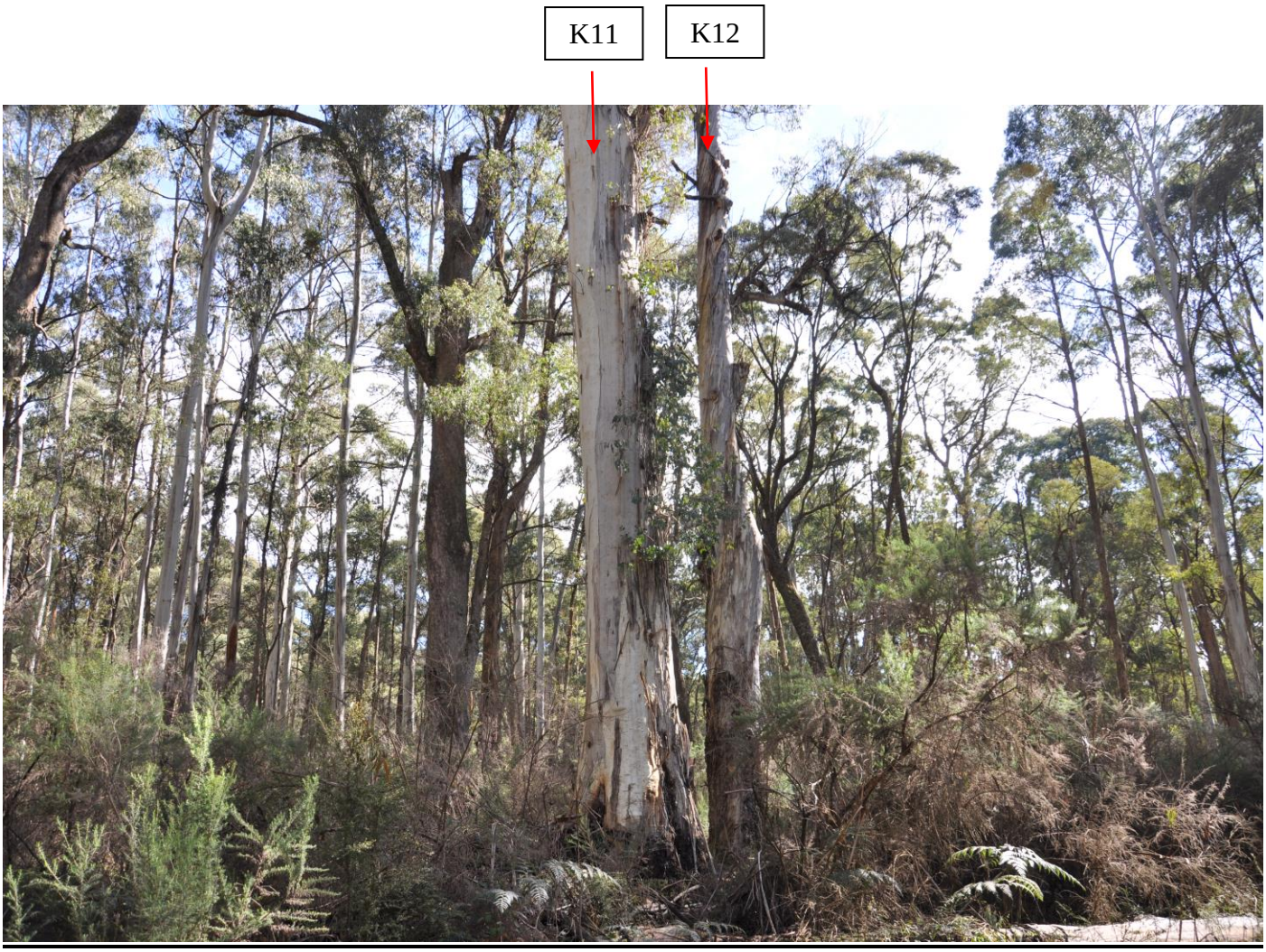

Figure 8: K11 & K12 are close together. There is no sign of K11 in the Burman photo. K12 does not show any physical characteristics of the Burman tree such as blaze scars. Pic YKFL, Aug 2019.

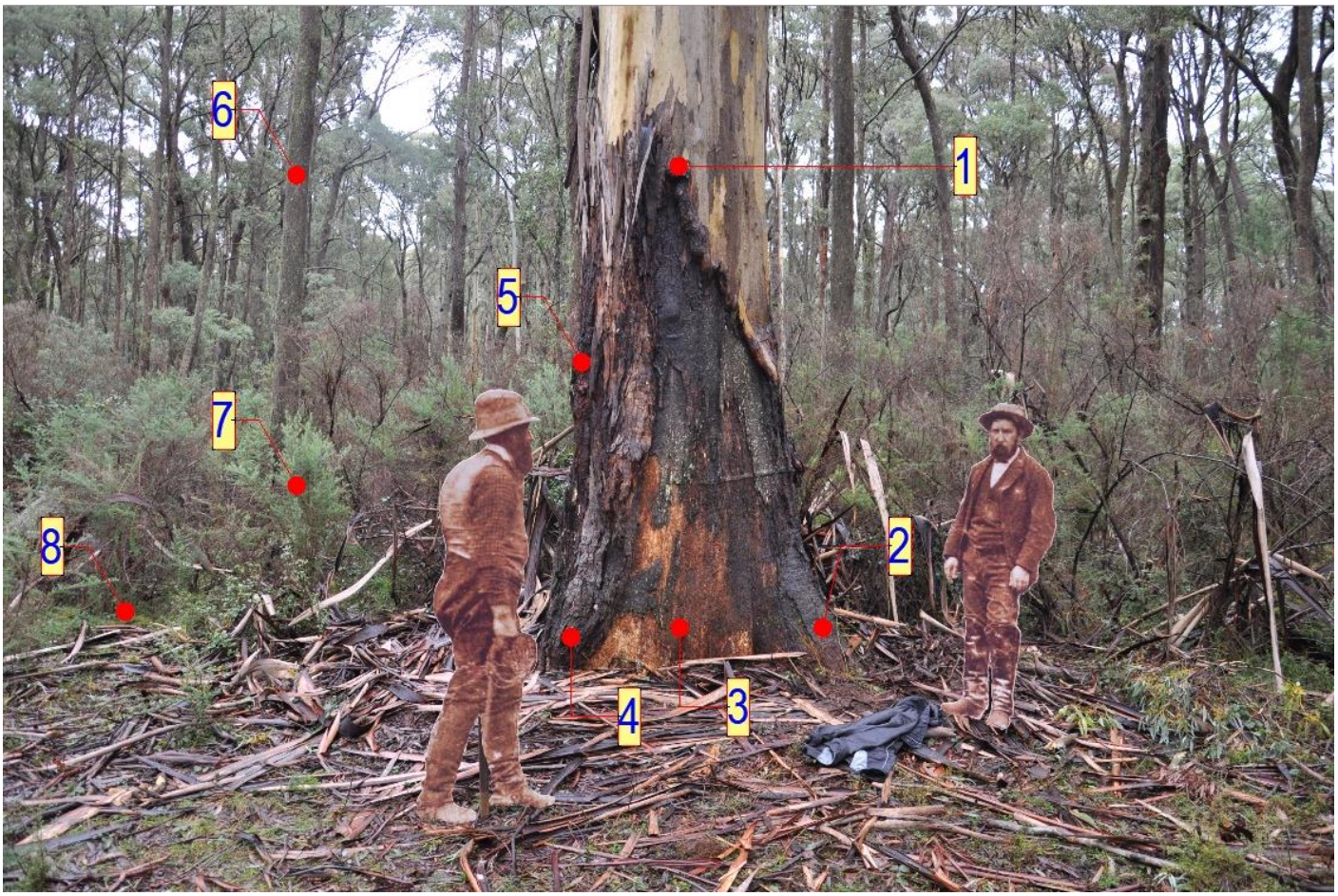

Figure 9: K1 with points of interest that align with the Burman tree.
Photo taken July 2019 by Younger, King, Fogarty & Lloyd

POINTS OF HORTICULTURAL INTEREST (*same type of tree in both images*):

1. Upper node of tree in subject tree appears similar height to node showing in Burman photo
2. Shape of buttress of tree on lower right side with similar indent on left side of this buttress. Buttress has a claw shaped foot.
3. Evident rot on face of tree that extends up to node in point 1 which can be seen in formative years in Burman photo showing as smaller dark patch of rot in original photo
4. Shape of buttress of tree on lower left side
5. Ridge of tree on left side is evident in both photos. There is an apparent blaze to the left side of the tree in both photos. K1 also has blaze scars on the right which don't show in the Burman photo (N & NW side). The left blaze faces south and is dark and appears weathered which predates it from the shootings. It is our belief that this blaze is one of the blaze marks that defines the track from south to north which is now Stringybark Creek Rd. *Refer to Figure 11 & 12*
6. Background trees appear to lean toward same direction which assists with orientation.
7. *Cassinia aculeata* can be seen at current site and appears to show in background of Burman photo
8. there is a defined topographic ridgeline running horizontally across the ground behind the K1 tree in Figure 9 and also seen in Burman photo.
9. *Lepidosperma laterale* (short spiky green tuft) seen growing in front of K1 and also seen in Burman photo around base of tree. *Refer to Figure 10.*

Figure 10- *Lepidosperma laterale* (short spiky green tuft) seen growing in front of K1 (also seen in Burman photo) Bottom pic by Younger, King, Fogarty, Lloyd, Aug 2019.

Figure 11: Adrian Younger points to an evident blaze scar on the south facing trunk of K1. The 1878 Burman photo also shows a blaze on the left (south) side of the trunk. It is our belief that this is one of the south blazes that marked the track toward the north that the police party followed. This places the Burman tree alongside the bridle track that is now Stringybark Creek Rd. Pic by YKFL Aug 2019.

Figure 12: Evident blaze scars on the north facing trunk of K1. These blaze marks do not show in the 1878 Burman photo and could possibly be later blaze marks locating the tree where Sgt. Kennedy was found. Pic by Younger, King, Fogarty & Lloyd, Aug 2019.

LOCATION OF K1

K1: The 'Kennedy Tree' is located on the western side of Stringybark Creek Rd at **Grid 28495/19265** (*Refer to figure 7 for map)*

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---------- ENDS ----------

ATTACHMENT: Spreadsheet containing field data collected of trees surveyed for this report.

CURRENT YEAR

2019

TREE STUDY AT STRINGYBARK CREEK

Note new data required after 2019 for circum

CODE		Location	Date Measured	Circ at 1400mm High (cm)	Diam (C/pi) (cm)	Radius (D/2) (cm)	Bark Width (cm)	R-bark (0.5cm) (cm)	Growth Ring Count	Growth Ring Count Distance Measured	Av Ring Growth Width (cm)	Age sub Total	Estimated Age (Years)	Estimated Date of Origin	Av Date of Origin	1878 Burman Pic Age	2019 Today Age
Burman	**BURMAN TREE**	Stringybark Creek	Photographed Oct 1878	*Not Known*	75.5	37.75	1.00	36.75									
	Eucalyptus viminalis						*less bark in pic*										
		based on height of left standing man in Burman pic being 182cm incl hat															
	ESTIMATED AGE														1789.75	88.25	229.25
	Based on Average	*Average of samples*							0	0	0.36		102.08	1775.92	*Older Range*		
	Based on Sample 3	*Younger Growth*							64	30.5	0.48		76.56	1801.44	*Younger Range*		
	Based on Sample 2	*Older Growth*		*Tree is younger in age so older growth rate not included*					89	16	0.18		204.17	1673.83	*Not included as this tree is younger at time of pic*		
	Based on Sample 3 & 2	First 34cm radius / 0.48 =		Based on sample 1	younger growth		*up to radius*	34	*combined*		0.48	70.83	86.11	1791.89	*Viable*	86.11	227.11
		Balance radius =		Based on sample 2	older growth		*balance radius*	2.75			0.18	15.28					
K1	**SUBJECT TREE**																
	Eucalyptus viminalis	Stringybark Creek Grid 28495/19265	16/07/19 & 24/08/19	445	141.65	70.82	2.50	68.32									
	ESTIMATED AGE														1793.35	84.65	225.65
	Based on Average	*Average of samples*							0	0	0.36		189.79	1829.21	*Younger Range*		
	Based on Sample 3	*Younger Growth*							64	30.5	0.48		142.34	1876.66	*Not viable*		
	Based on Sample 2	*Older Growth*							89	16	0.18		379.58	1639.42	*Not viable*		
	Based on Sample 3 & 2	First 34cm radius / 0.48 =		Based on sample 1	younger growth		*half Radius*	34	*combined*		0.48	70.83	261.52	1757.48	*Older Range*		
		Balance radius =		Based on sample 2	older growth		*balance radius*	34.32			0.18	190.69					
K2	**West Side TREE**																
	Eucalyptus viminalis	Stringybark Creek	24/08/2019	591	188.12	94.06	3.50	90.56									
	ESTIMATED AGE														1700.69	177.31	318.31
	Based on Average	*Average of samples*							0	0	0.36		251.56	1767.44	*Younger Range*		
	Based on Sample 3	*Younger Growth*							64	30.5	0.48		188.67	1830.33	*Not viable*		
	Based on Sample 2	*Older Growth*							89	16	0.18		503.11	1515.89	*Not viable*		
	Based on Sample 3 & 2	First 34cm radius / 0.48 =		Based on sample 1	younger growth		*half Radius*	34	*combined*		0.48	70.83	385.06	1633.94	*Older Range*		
		Balance radius =		Based on sample 2	older growth		*balance radius*	56.56			0.18	314.22					
K3	**East Side TREE**																
	Eucalyptus viminalis	Stringybark Creek *Just Sth side of tourist track*	24/08/2019	386.5	123.03	61.51	1.00	60.51									
	ESTIMATED AGE														1825.89	52.11	193.11
	Based on Average	*Average of samples*							0	0	0.36		168.09	1850.91	*Younger Range*		
	Based on Sample 3	*Younger Growth*							64	30.5	0.48		126.07	1892.93	*Not viable*		
	Based on Sample 2	*Older Growth*							89	16	0.18		336.18	1682.82	*Not viable*		
	Based on Sample 3 & 2	First 34cm radius / 0.48 =		Based on sample 1	younger growth		*half Radius*	34	*combined*		0.48	70.83	218.13	1800.87	*Older Range*		
		Balance radius =		Based on sample 2	older growth		*balance radius*	26.51			0.18	147.30					
K4	**East Side TREE**																
	Eucalyptus viminalis	Stringybark Creek	24/08/2019	419	133.37	66.69	2.50	64.19									
	ESTIMATED AGE														1810.59	67.41	208.41
	Based on Average	*Average of samples*							0	0	0.36		178.29	1840.71	*Younger Range*		
	Based on Sample 3	*Younger Growth*							64	30.5	0.48		133.72	1885.28	*Not viable*		
	Based on Sample 2	*Older Growth*							89	16	0.18		356.59	1662.41	*Not viable*		
	Based on Sample 3 & 2	First 34cm radius / 0.48 =		Based on sample 1	younger growth		*half Radius*	34	*combined*		0.48	70.83	238.53	1780.47	*Older Range*		
		Balance radius =		Based on sample 2	older growth		*balance radius*	30.19			0.18	167.70					

range

compare

K5	**East Side TREE**																	
	Eucalyptus viminalis	Stringybark Creek	24/08/2019	414.5	131.94	65.97	2.50	63.47										
	ESTIMATED AGE															1813.57	64.43	205.43
	Based on Average	*Average of samples*							0	0	0.36			176.30	1842.70	*Younger Range*		
	Based on Sample 3	*Younger Growth*							64	30.5	0.48			132.23	1886.77	*Not viable*		
	Based on Sample 2	*Older Growth*							89	16	0.18			352.61	1666.39	*Not viable*		
	Based on Sample 3 & 2	First 34cm radius / 0.48 =		Based on sample 1	younger growth		*half Radius*	34		*combined*		0.48	70.83	234.55	1784.45	*Older Range*		
		Balance radius =		Based on sample 2	older growth		*balance radius*	29.47				0.18	163.72					
K6	**East Side TREE**																	
	Eucalyptus viminalis	Stringybark Creek	24/08/2019	359.5	114.43	57.22	2.00	55.22										
	ESTIMATED AGE															1847.96	30.04	171.04
	Based on Average	*Average of samples*							0	0	0.36			153.38	1865.62	*Younger Range*		
	Based on Sample 3	*Younger Growth*							64	30.5	0.48			115.03	1903.97	*Not viable*		
	Based on Sample 2	*Older Growth*							89	16	0.18			306.76	1712.24	*Not viable*		
	Based on Sample 3 & 2	First 34cm radius / 0.48 =		Based on sample 1	younger growth		*half Radius*	34		*combined*		0.48	70.83	188.70	1830.30	*Older Range*		
		Balance radius =		Based on sample 2	older growth		*balance radius*	21.22				0.18	117.87					
K7	**West Side TREE**																	
	Eucalyptus viminalis	Stringybark Creek	24/08/2019	0	0.00	0.00	0.00	0.00										
				HOLLOW- ABOUT TO COLLAPSE- DID NOT RECORD														
	ESTIMATED AGE															0.00	0.00	0.00
	Based on Average	*Average of samples*							0	0	0.36			0.00	0.00	*Younger Range*		
	Based on Sample 3	*Younger Growth*							64	30.5	0.48			0.00	0.00	*Not viable*		
	Based on Sample 2	*Older Growth*							89	16	0.18			0.00	0.00	*Not viable*		
	Based on Sample 3 & 2	First 34cm radius / 0.48 =		Based on sample 1	younger growth		*half Radius*	34		*combined*		0.48	0.00	0.00	0.00	*Older Range*		
		Balance radius =		Based on sample 2	older growth		*balance radius*	-34.00				0.18	0.00					
K8	**West Side TREE**																	
	Eucalyptus viminalis	Stringybark Creek	24/08/2019	654	208.17	104.09	3.50	100.59										
	ESTIMATED AGE															1658.91	219.09	360.09
	Based on Average	*Average of samples*							0	0	0.36			279.41	1739.59	*Younger Range*		
	Based on Sample 3	*Younger Growth*							64	30.5	0.48			209.56	1809.44	*Not viable*		
	Based on Sample 2	*Older Growth*							89	16	0.18			558.82	1460.18	*Not viable*		
	Based on Sample 3 & 2	First 34cm radius / 0.48 =		Based on sample 1	younger growth		*half Radius*	34		*combined*		0.48	70.83	440.76	1578.24	*Older Range*		
		Balance radius =		Based on sample 2	older growth		*balance radius*	66.59				0.18	369.93					
K11	**West Side TREE**																	
	Eucalyptus viminalis	Stringybark Creek	24/08/2019	510	162.34	81.17	2.50	78.67										
	ESTIMATED AGE															1750.24	127.76	268.76
	Based on Average	*Average of samples*							0	0	0.36			218.52	1800.48	*Younger Range*		
	Based on Sample 3	*Younger Growth*							64	30.5	0.48			163.89	1855.11	*Not viable*		
	Based on Sample 2	*Older Growth*							89	16	0.18			437.05	1581.95	*Not viable*		
	Based on Sample 3 & 2	First 34cm radius / 0.48 =		Based on sample 1	younger growth		*half Radius*	34		*combined*		0.48	70.83	318.99	1700.01	*Older Range*		
		Balance radius =		Based on sample 2	older growth		*balance radius*	44.67				0.18	248.16					
K12	**ANGLED TREE**																	
	Eucalyptus viminalis	Stringybark Creek	24/08/2019	440	140.06	70.03	2.50	67.53										
	ESTIMATED AGE															1796.66	81.34	222.34
	Based on Average	*Average of samples*							0	0	0.36			187.58	1831.42	*Younger Range*		
	Based on Sample 3	*Younger Growth*							64	30.5	0.48			140.68	1878.32	*Not viable*		
	Based on Sample 2	*Older Growth*							89	16	0.18			375.16	1643.84	*Not viable*		
	Based on Sample 3 & 2	First 34cm radius / 0.48 =		Based on sample 1	younger growth		*half Radius*	34		*combined*		0.48	70.83	257.10	1761.90	*Older Range*		
		Balance radius =		Based on sample 2	older growth		*balance radius*	33.53				0.18	186.27					

SAMPLES RECORDED

SAMPLES RECORDED				cm	cm	cm	cm		Growth Ring Count	cm		Years		
	Location	Date Measured	Circ at 1400mm High	Diam (C/pi)	Radius (D/2)	Bark Width	R-bark (0.5cm)	Growth Ring Count	Distance Measured	Av Ring Growth Width	Age sub Total	Estimated Age	Estimated Date of Origin	
SAMPLE 1	Madhouse Rd Toombullup	16/07/2019		68	34.00	0.00	34.00	51	22	0.43		79.07	1939.93	*Viable*
Eucalyptus viminalis	lying across road	*Altitude 748m*	Cut 4900mm above Ground			No bark				*Sample 3 is a better sample as it was taken at 140cm above ground*				
Young	Grid 33015/22619		AY, TK, JF, NL											
SAMPLE 2	1.2km Sth on Stringybark Rd	19/07/2019		121	60.50	0.80	59.70	89	16	0.18		331.67	1687.33	*Older tree needs to include younger growth*
Eucalyptus viminalis	taken from a stump	*Altitude 842m*						*Need to combine with younger ring growth for more accurate age- Taken from outside radius - inner radius was rotten*						
Old	Grid 28458/17923		Adrian Younger											
SAMPLE 3 (Same tree as 1)	1.2km Sth on Stringybark Rd	27/07/2019		66.5	33.25	0.80	32.45	64	30.5	0.48		67.60	1951.40	*Viable*
Eucalyptus viminalis	lying across road	*Altitude 748m*	Cut 1400mm above ground											
Young	Grid 33015/22619		Adrian Younger & Tony King											

Growth Ring Average

Average of Samples
0.36