



Figure 1: Burman photo of police camp 1878 at Stringybark Creek. This photo is a re-enactment by police a few days after the shootings. The man to the right depicts Sgt Kennedy riding into camp from the north along the bridle track. McIntyre is depicted as the man sitting at left on the log. Crouched behind the log, a man assumes the role of Ned Kelly. The camera is looking SSW with the track extending from the right of the photo behind the tree (coded PC1) heading south to the centre left of the photo (the same alignment as SBC Rd today). The Kelly Gang crept along the creek to the left of the photo from the south and appeared from this direction when they bailed up McIntyre & Lonigan. (Refer to Figure 2 Page 2 of the Tree Report for more details of what can be seen in this photo)

The Stringybark Creek Police Camp Site

THE LOCATION OF THE 1878 POLICE CAMP AT STRINGYBARK CREEK,
ARCHERTON, VICTORIA

BY

ADRIAN YOUNGER, TONY KING, JIM FOGARTY & NOELEEN LLOYD

SEPTEMBER 2019

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BACKGROUND by Adrian Younger & Tony King, Sept 2019.

After finding what we believe to be the Kennedy Tree (*refer to Kennedy report*), we thought finding the Police camp site where Lonigan and Scanlan were killed was a real possibility. Using the evidence provided in various reports and telegrams at the time of the event meant we could map out various locations and compare them with the 1878 Burman photograph. With the Kennedy tree still surviving it was possible other trees may have survived that can be seen in the 1878 police camp photo.

We surmised that the orientation of the police camp photo would be in the same direction or similar to the Kennedy tree photo. With this information and the fact that we did not think Sgt. Kennedy would run far when being chased if he was wounded and in pain, we walked the area looking at anything that might fit in the Burman photo such as trees, lay of the land, direction etc. We discovered a tree that matched the tree on the right of the Burman photo and proceeded to follow up on this site. We nicknamed this tree the 'Teapot Tree' (*coded PC1 in Tree Report*) because of its unusual shape to its upper branch. Another large tree slightly left of centre in the Burman photo appeared to be a forked tree and we noticed one existing in our new site that was a possible match. (*coded PC2 in Tree Report*).

Through Noeleen Lloyd we invited Jim Fogarty on board to provide some horticultural insight and to report on the plant life & trees near the Kennedy tree. Jim quickly became very interested in the other trees of interest we had discovered. Analysing the Burman photo Jim soon discovered two other trees in the background of the photo that matched our site (*coded PC3 & PC4 in Tree Report*).

With this new information at hand we realised we had located the Police Camp and the Kennedy tree and connected both sites. Over a period of four months we collected detailed data to document our findings. This has been a huge adventure for the three of us and a very time consuming one, but we realise the historical importance of what we have discovered. It gives us great pleasure to reveal these sites so that history can be preserved.

ORIENTATION

The orientation of the Burman photo tells us that Burman's back would have been to the sun. We know that one of the police camp photos is numbered '**No.1**' so we can assume that Burman photographed the police camp site first and then the Kennedy tree. The authors of this report conclude that the Burman photo was taken in the morning looking SSW with the sun in a north east sky.

The authors agree with Bill Denheld's corrections to McIntyre's map of the campsite layout allowing for the north-south log to be two logs running NE to SW. The map with corrections fits the site located in this report.

In McIntyre's manuscript (Section 2 page 19) he describes looking at Lonigan's body and the shadows cast over it "*They were all inside the tent and I standing outside looking down the creek. Lonigan's body was visible from where I stood and I tried to keep myself from looking at it, lest it should unnerve me, but my eyes wandered back in spite of myself. The pallor of death had spread over his countenance, and the setting sun, the last I ever would see I fully believed, had cast long shadows of the forest trees over his body.*" This helps us orient the camp site with the sun setting to the west and the trees casting shadows across to the east over the body of Lonigan.

IS THERE A HILL IN THE BACKGROUND OF THE BURMAN PHOTO?

Previous reports detailing possible locations of the police campsite have been based on the assumption that there is a significant hill in the background right of the Burman photo. It is our belief that this assumption is incorrect and has misled previous attempts to locate the police campsite. We do note that there is an acclivity to the south of tree coded PC4, between PC4 and the existing toilet block in the carpark. This can be seen in the Burman photo where the post and rail fence can be seen. *Refer to attached Tree Report page 2 for evidence of what can be seen in the background of the Burman photo.*

THE SPRING

The authors acknowledge conjecture as to whether the spring referred to by Ned in the Jerilderie letter refers to Stringybark Creek. If we assume he does in fact refer to a spring, then this fits the area *"I stopped at the logs and Dan went back to the spring for fear the troopers would come in that way but I soon heard them coming up the creek"*. This tells us that the spring is not in the direction that the troopers came from. The fact that Dan went BACK to the spring means it was most likely behind them from the direction of approach from the police. We know they came up the creek (south) on the bridle track so this would indicate that the spring is further south of the police camp site. Which it is.

Again, in the Jerilderie letter, the Kelly Gang first approached the spring *"We approached the spring as close as we could get to the camp as the intervening space being clear ground and no battery..."*. From the spring slightly elevated it would be a clear view to the camp across about 200m, this giving them no battery of cover. They would have clearly seen Lonigan bring the horses down to the tent area.

Adrian Younger & Tony King located a spring 14/09/2019 at Grid 28495/18770 altitude 790m. This is in the vicinity of the current car park on the western side of SBC road. The point of the spring that Ned describes they would have observed the police camp would have been further north at grid 28508/18893 altitude 792m. This is in the vicinity of the current toilet at the car park. This view of approx. 200m to the police camp gives them the observation to see Lonigan move the horses DOWN to the tent. There would have been a clear view of the (shingle) hut to see that it was of no threat.

THE HUT

The hut on the surveyor's map 1884 and from Ned's description is most likely the shingle hut that would have been 135m approx. to the south of the police camp and would likely have been observed by the Kelly gang and cleared on the approach to the police camp. This explains why it was not a threat to them during the bail up. *"Who is in the tent?"* not who is in the tent **and hut?**

In the Jerilderie letter, Ned states *"I went to our camp and told my brother and his two mates me and my brother went and found their camp at the shingle hut about a mile from my brothers house.."*

From an article in the Supplement to the Bendigo Advertiser dated May 10th, 1884 (Sat 10 May 1884 - Bendigo Advertiser (Vic.: 1855 - 1918) Page 1 – "A RIDE TO THE "KELLY CAMP.") *"After passing "Round Camp Hill" we ride over a rough and broken country until we reached Stringybark Creek. On the north bank of this creek is a rude bark hut with an apology for a vegetable garden in front of it. At the rear of this hut the police under command of Sergeant Kennedy pitched their tent.. We were pointed out by our guide where Scanlan was shot, and the direction in which M'Intyre made his escape, and at a little distance the very tree at which poor' Kennedy was shot. A cross on one side of this tree, and a large 'K' on the other side serve as rude memorials of the tragic encounter."*

This article describes a group of people going to see the site in which the killings occurred. It describes the direction they go and an old hut with a crude vegetable garden. They then go on to

the site behind the hut as described. This would indicate that if they approached from the south and went past the hut to behind it then the site must be north of the hut. If the hut is there, then it is likely to be the hut shown in the 1884 survey map and not the hut remains at the police camp site. This all fits our site and rules out all of the other sites thought to be the camp site as they are all south of the hut site and not to the north.

In August 2019, the authors of this report found many pieces of stone in the area depicted to be in the vicinity of the hut marked on the 1884 Survey Map. The coordinates for this location are 28542-18953. This is approx. 25m (ranging to 45m) to the north of the existing north boundary fence of the historic reserve.

The GOLD DIGGINGS

The 1884 Survey Map shows the gold workings extending to the north of the hut. In McIntyre's Manuscript (Section 1 Page 12) he states "After we had dinner we packed up and started in a north-easterly direction until we came to Hollands Creek which we crossed and got into a blazed line of trees which took us to the old diggings at the Burnt- hut on the Stringybark Creek."

Hut with "Old Goldworkings" labelled to the north



Figure 2: A Survey Map from 1884 shows a hut marked with "Old Goldworkings" labelled toward the northern section of Stringybark Creek. The authors of this report conclude that the location of the police camp was to the north of this hut. Map credit: Mansfield Historical Society

A SECOND HUT

It is possible, that the two vertical burnt posts showing in the Burman photo are remains of a burnt hut that is mentioned in reports. It is also possible that McIntyre utilised this space to set up a cooking fire that is mentioned in reports (separate to the large fire). The authors note that a ground sheet can be seen laid out in the foreground between the two burnt posts. It is possible this is where McIntyre made his bread dough and prepared tea.

The Argus at KellyGang 4/11/1878 notes *“Between their tent and the creek and a little to the left were two fallen trees, one lying over the other at right angles. In the angle facing the tent McIntyre, on Saturday afternoon, kindled a large fire to make the night cheerful. After he had prepared tea at a small fire at a stump of a tree nearer the tent, he was standing in front of the large fire whilst Lonigan stood in the opposite angle of the fallen trees”*

THE CAMPSITE

In McIntyre's manuscript (Section 1 page 16) he details the campsite being in *“a clear place near an old burnt hut”*.....*“the entrance to the tent was facing east and also the creek which was 70 yards distant”*.....*“On your right or the south side of the clearing the ground was free of timber and being of a swampy nature there was a luxuriant growth of rushes and other coarse herbage. These together with a slight declivity in the formation in that direction afforded good cover to within 20 yards of our tent for any party wishing to attack our camp, and it was from this position we were attacked.”*



Figure 3: The first photo Burman took of the police campsite 1878.
Note “No.1” labelled at top left of photo. Orientation is to SW.

The Argus, Saturday, August 7th, 1880 at the preliminary

examination of Edward Kelly in Beechworth reported McIntyre as saying *“We camped at Stringy Bark creek, about 20 miles from Mansfield. All four of us travelled on horseback and were armed. At Stringy Bark Creek the country is thickly timbered, but we camped on a clearing. The photograph produced shows a portion of the ground. There had been a hut on the clearing, but only remains of it were left standing. A number of logs were lying about. The opening was about an acre or two in area; we camped immediately behind the old hut, erecting a tent there.”*

In early 1879 the Proprietor of the Mansfield Guardian –G Wilson Hall wrote where the police had camped at Stringybark Ck. *“The spot where they established their halt, was a small clearing on a rise alongside of the creek near the ruins of two small huts, one of which was burnt down and had been the temporary residence of three prospectors, Reynolds, Blomfield and Lynch who worked the creek for a short time with indifferent success.”*

The site we (*the authors*) conclude as being the correct site of the police camp is on a clearing on a rise to the north of the current historic reserve, between the east side of SBC Rd and the creek. The location is to the north of the hut marked on the 1884 survey. The ground is relatively flat, has a declivity to the creek toward the SE, is large enough to be *“an acre or two”* in area and is the most suitable location along the west bank of Stringybark Creek to set up camp where the ground is not sodden. The location comfortably fits the description of being 70 yards from the creek. The orientation, environment and vegetation all match that of the Burman photos.

THE LOCATION OF THE POLICE CAMPSITE

The authors have located the site of the police camp to be just to the north side of trees coded PC1 & PC2 as located and marked up on page 4 & 13 of the attached Tree Report.

- The police campsite is approx. 183m SSE of the Kennedy Tree (200 yards)
- The police campsite is approx. 135m north of the hut marked on the 1884 Survey (*refer P2 of Tree report*)
- The police campsite is approx. 160m north of the northern boundary fence of the historic reserve
- The location of the tree coded PC1 is the tree showing at the right of the Burman photo and is located at **Grid 28519-19058**. (*refer to Tree report P7 for PC1 tree details*)
- The police camp (location of Burman photo) is located at **Grid 28541/19088**



Figure 4: Map showing approx. location of Police Camp & Kennedy Tree as identified by Younger, King & Fogarty. Note the orientation of the 1878 Burman photo to SSW. Map credit: Google Maps, marked up by Younger, King, Fogarty & Lloyd.

FINDING THE BODIES OF LONIGAN & SCANLAN; WHERE DID KENNEDY & SCANLAN ENTER THE CAMP SITE?

We know that Kennedy & Scanlan had been riding north from the campsite and then as the sun was getting low, they rode into the campsite from the north when they were bailed up. In McIntyre's manuscript (Section 3 Page 34) he describes the first search for bodies at around 2am *"Starting from the tent I took a turn to the left between the stump and the log as shown in the accompanying engraving and then proceeding in the direction of the creek, outside the clearing where they had been searching. I showed them the body of Lonigan"....."Then walking down the creek a little distance and close to the bridle track I pointed to the body of Scanlan."*

It makes sense that Kennedy & Scanlan approached from the north along the bridle track. The same track that McIntyre would flee on, and the same track that Kennedy would run.

THE LINK BETWEEN THE POLICE CAMP AND THE KENNEDY TREE:

HOW FAR DID KENNEDY RUN? *(also refer to Kennedy Report by same authors)*

Reports from the search party stated that there were bullet marks on trees in the direction that Kennedy and McIntyre both fled. This indicates they ran north along the bridle track.

"The unfortunate sergeant had evidently attempted to escape from his murderers by the same track as that taken by Constable McIntyre when he jumped upon Kennedy's horse and rode off, as bullet marks were visible on some of the trees in the line of the track." (Source: The Argus Friday November 1st 1878- 'The Police Murders. Finding Of Sergeant Kennedy's Body.')

It was reported that Kennedy's body *"was found on McIntyre's return tracks."* (The Argus at KellyGang (3), 1/11/1878). The Telegram from Mr. Pewtress Oct 31st 1878 2.50pm describes the location of Kennedy's body *"He appears to have been shot whilst running away in the direction taken by Constable McIntyre."*

In the Argus, Monday, August 9th 1880 at the preliminary examination of Edward Kelly in Beechworth, McIntyre gave evidence that *"I made away in a northerly direction 200 or 300 yards, and being then out of sight of the camp, turned westerly towards the telegraph line between Benalla and Mansfield."*

The Herald Friday November 1st 1878, details of the 'Magisterial Inquiry On Sergeant Kennedy' are reported including the following deposition from Henry Glendinner Sparrow, the man who found the body of Sgt. Kennedy: *"I was one of a search party which left Mansfield on Wednesday night. We stopped at Monks Saw Mill that night. At five o'clock yesterday morning we left Monks, and proceeded to the site where the police had camped in the Stringy Bark Creek. Searching by the way we reached the camp about eight o'clock. We then proceeded in a N.W-direction from the camp. I came upon the body of the man now in the morgue at about a quarter of a mile from the camp. He was dead, and was lying on his back with a police cloak----"*

It is the conclusion of the authors of this report that Sergeant Kennedy did not run far during the shootout owing to:

- Kennedy being injured
- Kennedy had been out riding all day and would have had stiff and tired legs
- Kennedy would have been wearing riding boots that are not conducive to running through the bush or through mud and water. In McIntyre's manuscript (Section 2 Page 24) he reminisces *"I thought several times of making a bolt for it, trusting to fate and hoping to meet the men down the creek, but I was wearing a pair of trooper's riding boots ill adapted for running, and seeing how Lonigan was shot, I thought I would not be able to get far away until I would be knocked over..."*

Owing to the above, the authors conclude it unlikely that Kennedy would have attempted to cross Stringybark Creek to the east side. In other directions the shrubbery can be thick and difficult to penetrate. It is more likely that he would have followed the path taken by McIntyre, north along the bridle track, a route known by Kennedy as it was the route he rode into the camp. This was the familiar, safest and easiest path for Kennedy to run.

- The distance from the police camp to the Kennedy Tree (*refer to Kennedy report, tree code K1*) is approximately 183m (200 yards) in an NNW direction.
- Kennedy's dismount location to Ned Kelly was approximately 18m (20 yards)
- Kennedy's dismount location to K1 tree is approximately 165m
- The distance from the Kennedy Tree (K1) to the hut on Bullock Ck is approximately 1442m.

Evidence outlined in the Kennedy Tree report points out that the blaze on the left side (south facing) of the Kennedy Tree in the Burman photo is weathered and therefore pre-dates the shooting of Kennedy. This explains the tree located as one of the blazed marker trees alongside the track that is now Stringybark Creek Rd. Remember in McIntyre's Manuscript (Section 1 Page 12) he states *"After we had dinner we packed up and started in a north-easterly direction until we came to Hollands Creek which we crossed **and got into a blazed line of trees** which took us to the old diggings at the Burnt- hut on the Stringy-bark Creek."*

Further, the evidence points out that the Kelly gang pursued Kennedy whilst possibly spread out over both sides of the bridle track which helps to explain how Kennedy was exposed to the shot that felled him. In McIntyre's manuscript (Section 3 Page 38) McIntyre refers to comments Kelly made in his autobiography (Jerilderie Letter). McIntyre reports *"The ruffians still kept firing on him, and as they had spread out Kennedy in order to avoid a shot which was being fired at him by Dan Kelly exposed himself on the other side of the tree to Ned and was shot by him under the right arm, he fell. Kelly said he did not notice that he had dropped his revolver, and the reason he got so far away was that he, Kelly, stopped to get Scanlan's rifle, and when he had availed himself of it he did not know how to use it."*

THE POLICE SEARCH PARTY

The authors conclude that the police search party sent to retrieve the bodies of the policemen, approached from the south along the track defined by blazed trees. On the day of finding Kennedy's body, before reaching the hut shown on the 1884 survey map, the search party halted and formed a base for the search, which would be in the vicinity of the current historic reserve site.

This may explain several things:

- Variable distances quoted during the search and finding of Kennedy's body may also refer to distance from this search base site and not the site of the shootings
- The viable explanation as to the location of the historic reserve and to previous confusion as to it being the site of the shootings

The Argus at KellyGang 1/11/1878 (3) details events of the search party the day that Kennedy's body was found. The article reports *"An early start was made this morning at half-past 5, the party being provided with provisions for the day. They headed for the vicinity of the scene of the late encounter, when the party formed themselves into an extended line, and scoured the country **until they reached the place** where the murders had been committed. After consultation, it was decided to scout for a mile in the direction of McIntyre's escape tracks. Half a mile had scarcely been searched, when a 'cooey' from Mr Sparrow brought the party together, and it was then found that the body of the unfortunate Sergeant Kennedy had been discovered. This was about 8 o'clock."* The next paragraph goes on... *"The body was found on McIntyre's return tracks."* (The Argus at KellyGang (3), 1/11/1878)

The authors request this site to be formally recognised so it can be preserved and protected for future generations, allowing family descendants and the public to visit and reflect on the tragic events of this day in Australia's history. Importantly, formal identification will provide a definitive location and closure to the descendants of the policemen involved, to remember and honour their beloved family members.

We welcome and value any questions, feedback or response that you may have regarding this site.

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----- ENDS -----

THE AUTHORS:

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.

ATTACHMENTS: Tree Report & Spreadsheet containing field data collected of trees surveyed for this report.

THANKYOU: *We would like to thank our partners and families whilst we have been distracted and absent on field trips throughout the process of this research. 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.*

CREDITS & REFERENCES:

- Google Earth & Google Maps for plan views and street views
- The Argus at KellyGang 1/11/1878 (3)
- The Argus at KellyGang 4/11/1878
- T.N. McIntyre Manuscript; A true Narrative of the Kelly Gang. Victoria Police Museum, Section 1-7
- Ned Kelly: The Jerilderie letter
- Telegram from Sub-inspector Pewtress Oct 31st, 1878
- Supplement to The Bendigo Advertiser Sat 10 May 1884- Bendigo Advertiser (Vic.: 1855 - 1918) Page 1 – “A RIDE TO THE "KELLY CAMP.""
- The Argus, Monday, August 9th 1880 at the preliminary examination of Edward Kelly in Beechworth
- The Argus, Saturday, August 7th 1880 at the preliminary examination of Edward Kelly in Beechworth
- 1884 survey map of the Stringybark Creek area, Mansfield Historical Society
- The Herald Friday November 1st 1878, 'Magisterial Inquiry On Sergeant Kennedy'
- The Argus Friday November 1st 1878-'The Police Murders. Finding Of Sergeant Kennedy's Body



Figure 1: Photo by Younger, King, Fogarty & Lloyd Aug 2019 of Police Camp Location, Stringybark Creek.

Finding the 'Police Camp'

TREE REPORT

STRINGYBARK CREEK, ARCHERTON, VICTORIA.

A HORTICULTURAL ANALYSIS OF TREES, VEGETATION & TOPOGRAPHY
TO BE READ IN CONJUNCTION WITH THE REPORT BY
YOUNGER, KING, FOGARTY & LLOYD.

REFER ATTACHED SPREADSHEET CONTAINING FIELD TREE DATA

SEPTEMBER 2019

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TREE REPORT- FINDING THE POLICE CAMP AT SBC

INTRODUCTION

Following is a summary of the horticultural analysis of aged *Eucalyptus viminalis* trees along the section of Stringybark Creek Road to the north of the existing toilet block and historic reserve. As this report and the report prepared by Younger, King, Fogarty & Lloyd supports, this is the area where the police camp and shootings at Stringybark Creek occurred in 1878. The site fits the description as being in an area 1 or maybe 2 acres in area. All trees identified as exhibiting qualities of old age, and with a trunk diameter greater than 100cm, were recorded and coded from PC1-PC7 for the sake of recording field data. In addition, some trees, related to the position that Kennedy & Scanlan rode into the camp from the north, are coded K10, K10a, K10b. The significant trees in the 1878 Burman photo that can be identified as existing in 2019, are 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 = project team

ABOUT THE TREES

TREE NAME: *Eucalyptus viminalis* subspecies *viminalis*

COMMON NAME: Manna Gum

LOCATION: Stringybark Creek

ALTITUDE: approx. 784m 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

WHAT CAN BE SEEN IN THE BACKGROUND OF THE 1878 BURMAN PHOTO?

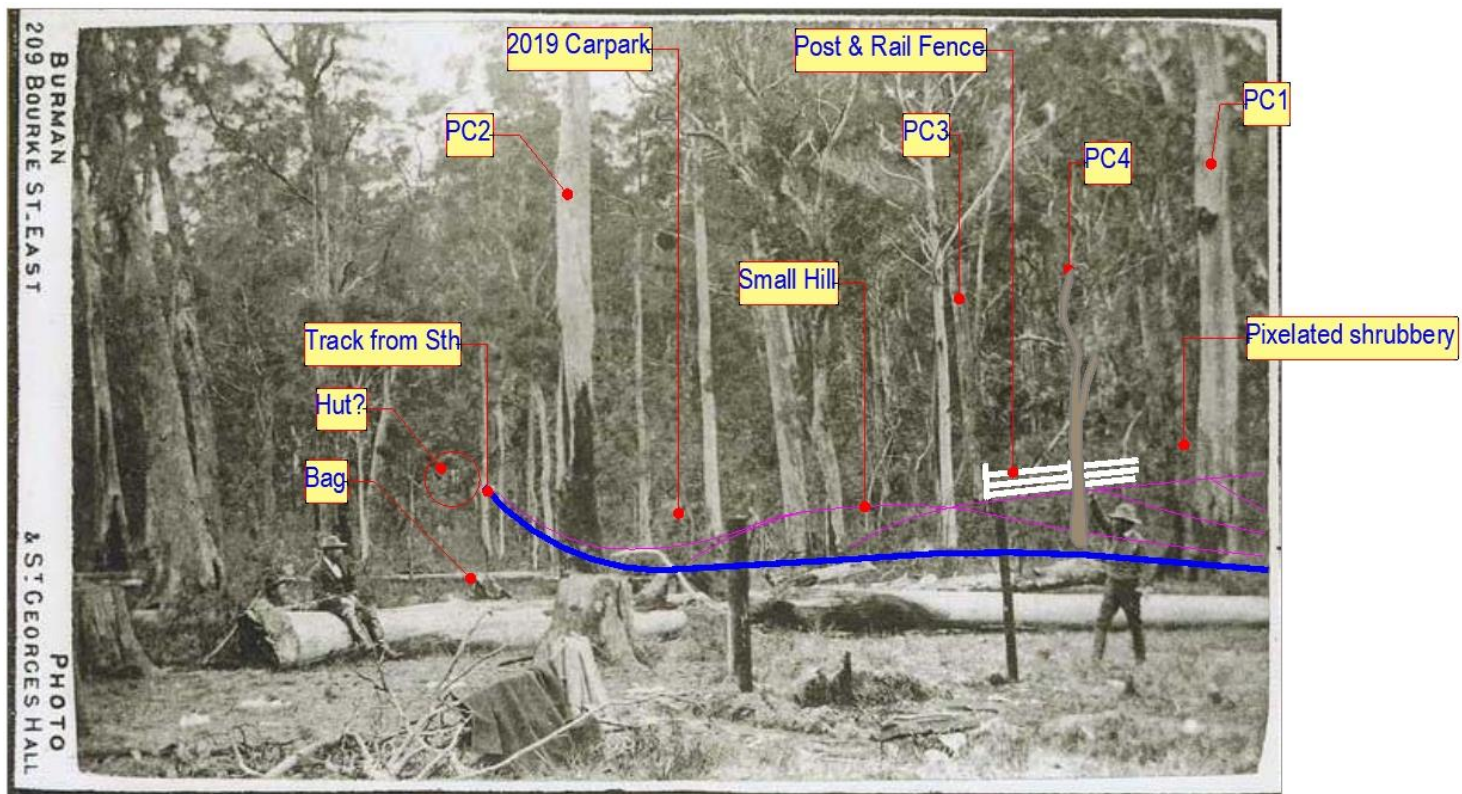
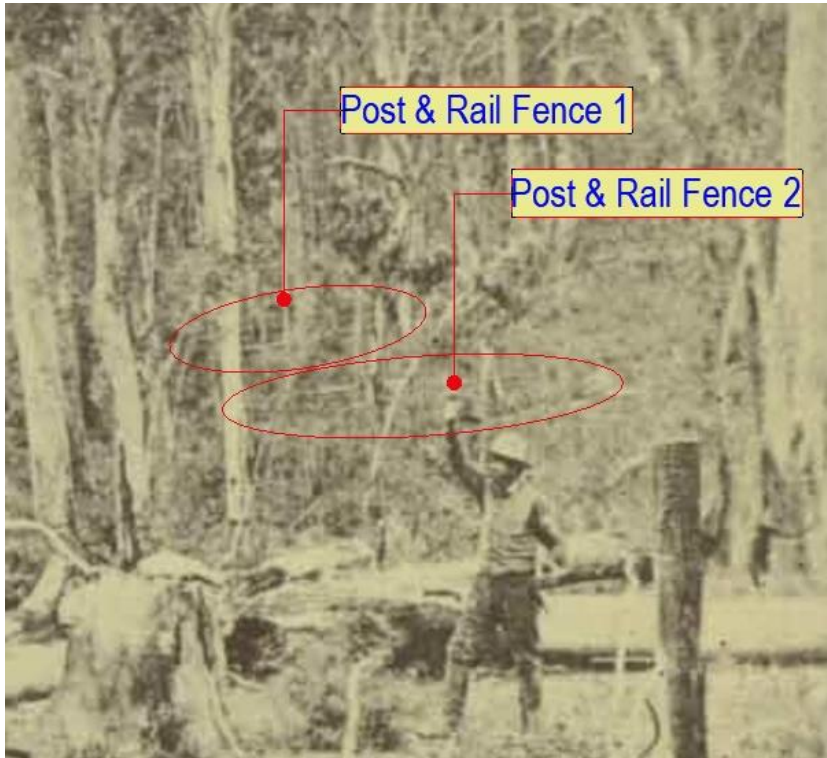


Figure 2: 1878 Burman photo looking SSW showing significant trees and features that help define background topography

- **Pixelated shrubbery-** *Cassinia aculeata* that grows commonly in the area as an understory shrub to 4-5m high shows as a pixelated buffer in this photo creating the illusion of a greater background slope. In fact the area to the back far right of the photo is relatively level with an acclivity increasing into a small hill as you head south along the track (now Stringybark Creek Rd) which then slopes back down to the area where the car park and toilet block are now situated.
- **Small Hill-** as described above there is a small hill on the west side of SBC Rd. that can be clearly identified today which helps to locate the position of the post and rail fence. The acclivity rises approximately 2-3m above the ground level of the police camp site.
- **Post & Rail Fence-** a post and rail fence can be seen that helps determine the ground line at the bottom of the fence. The location of the post and rail fence would place it on the west side of the track from the hut mentioned in reports. In Figure 3 you can clearly see 2 post and rail fences
- **Track from the South-** there is noticeable glimpses of open sunlit areas that appear to define a track, possibly 'white hill' in the background. Compare this to a google earth view of a similar view and there is a noticeable comparison of topography in both views. (Refer to blue line in Figure 2, and Google Earth view in Figure 4)
- **Hut-** there is an object showing in the 1878 Burman photo sitting in an approximate position where the 1884 Survey identifies a hut being located. In Aug 2019, with Tony King & Adrian Younger, we located several pieces of stone in this location, within the range 25-45m to the north of the historic reserve boundary fence on the east side of SBC Rd. and approximately 135m south of the police camp site. (refer to Figure 2)
- **2019 Carpark-** for sake of bearings and to understand topography, I have marked approximately the position of the 2019 carpark and toilet block located on the west side of SBC Rd. (refer to Figure 2)
- **Bag-** evidence of a bag or pack (can clearly see folds of fabric) that has been placed on the ground as the men entered from the south (background of pic) to take the photo.

- **PC1-** identified as a significant tree that shows in 1878 Burman photo and can be seen in 2019. (refer to Figure 2& 6)
- **PC2-** identified as a significant tree that shows in 1878 Burman photo and can be seen in 2019. (refer to Figure 2& 7)
- **PC3-** identified as significant tree that shows in 1878 Burman photo and can be seen in 2019. (refer to Figure 2& 8)



- **PC4-** identified as a significant tree that shows in 1878 Burman photo and can be seen in 2019. Note the base of this tree extends to the ground and is partly hidden by pixelated shrubbery mentioned above that creates the illusion of a hill. (refer to Figure 2,9& 10)
- Although not seen in the photos, *Gahnia sieberiana* (Red-fruit Saw-sedge) grows along the creek and can be seen SE of the camp site fitting with the description of the direction that the Kelly Gang appeared when they bailed up the police.

Figure 3: The 1st Burman photo clearly shows 2 post and rail fences in the background on top of a small hill. This is the hill on the west side of Stringybark Creek Rd immediately to the north of the existing toilets.

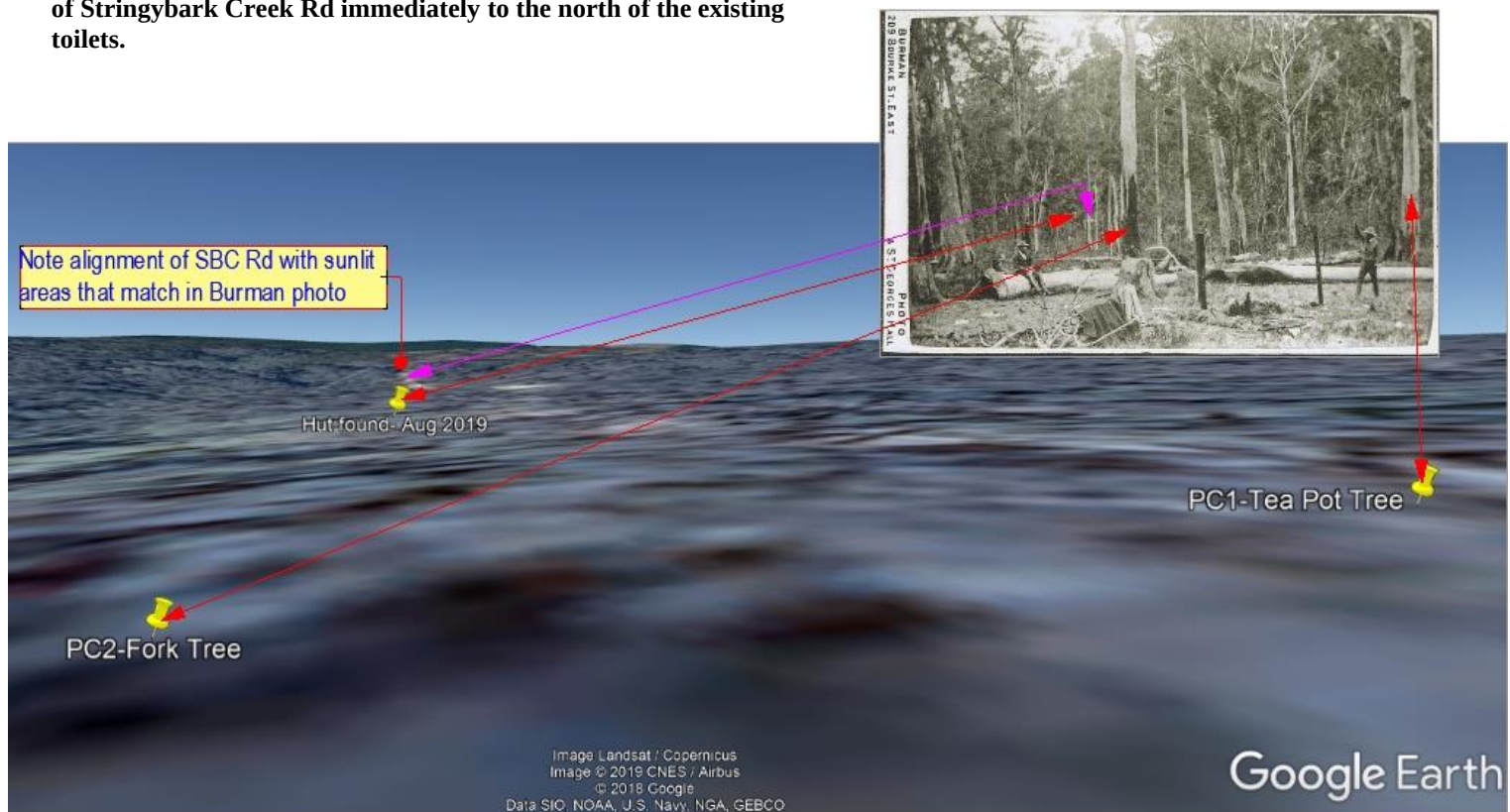


Figure 4: Google Earth ground view showing topography of SBC Rd that matches the Burman photo. Both looking SSW.

ESTIMATING AGE OF TREES IN 1878 BURMAN PHOTO & COLLECTING DATA IN 2019

On July 16th & Aug 24th, 2019, the project team collected the following data with the aim of calculating the age of the significant trees in the Burman photo taken in 1878 of the police camp site at Stringybark Creek. The significant trees are ones that based on this report, still exist in 2019. All existing trees in the area along Stringybark Creek Road to the north of the existing historic reserve, that looked significantly old and had trunk diameter greater than 100cm were surveyed and identified for this report on 16/7/19 & 24/08/19.

Refer to Figure 5 & Spreadsheet. (Note that all trees were surveyed from the toilet block North along SBC Road to the Tolmie Rd including many significant trees relating to the Kennedy shooting- The Kennedy tree report is separate to this report)

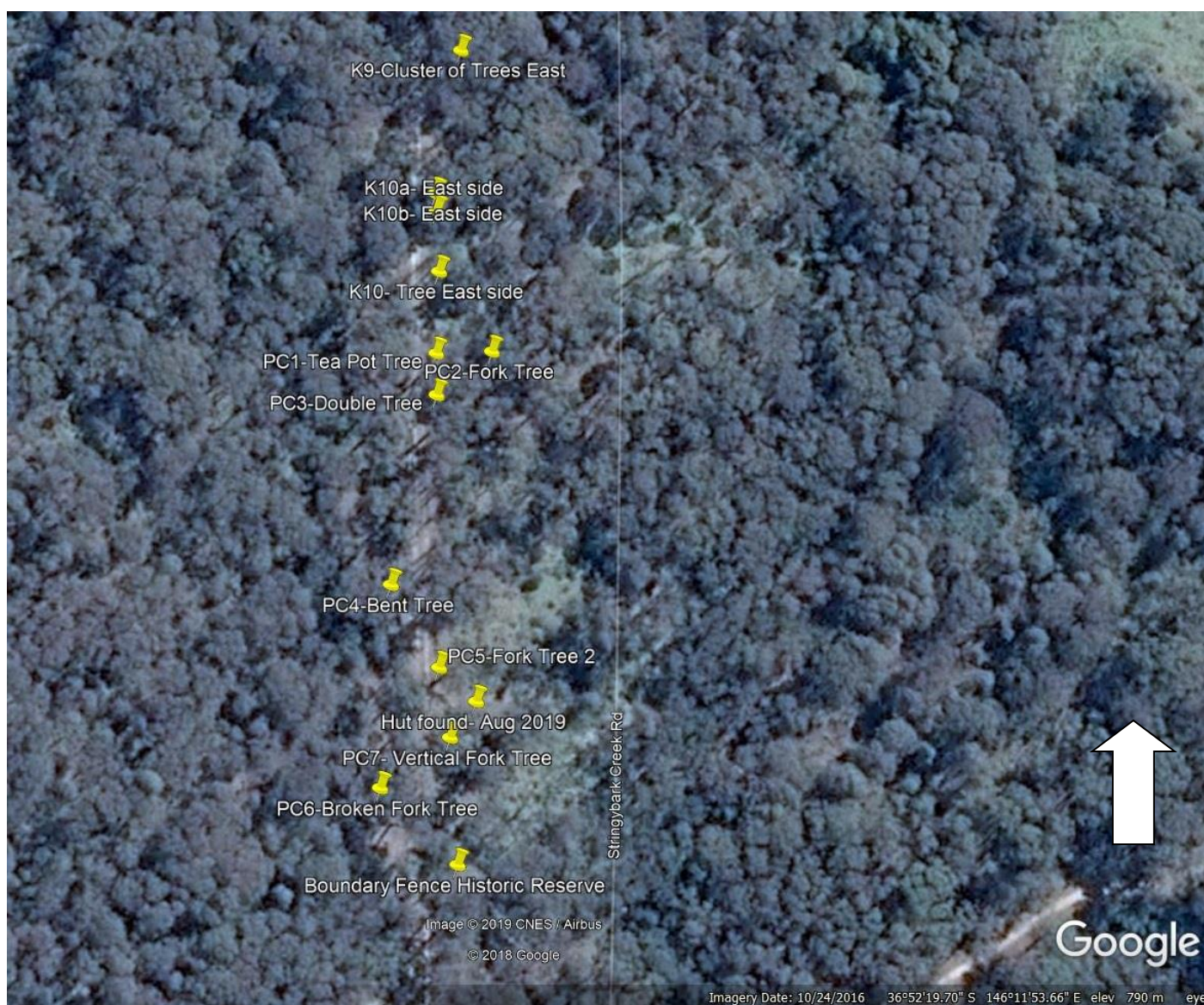


Figure 5: Google Earth plan view showing location of significant trees along SBC Rd. The toilets and historic reserve are to the south (note pin marking north boundary of historic reserve). The police camp is located between PC1 & PC2. The creek is to the east of the campsite and can be seen by the darker shade of trees. To the SE of the campsite is a declivity down to the gold diggings and creek from where the Kelly gang approached. Arrow aligns north.

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 trees would not exceed this sample. However, as the subject trees are older and have 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 larger diameter should be collected i.e. greater than 100cm diam. 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 diam 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 e.g. 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 trees 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 TREES IN BURMAN PHOTO THAT CAN BE SEEN IN 2019

Using calculations outlined above and in the data spreadsheet attached, the age of the significant trees in the Burman photo that exist in 2019 can be estimated as follows:

(Refer also to attached spreadsheet):

PC1- 'Tea Pot Tree' seen at far right of Burman photo

- **Estimated Date of Origin** = 1766
- **Age at time of Burman Photo 1878** = 111
- **Age today as of 2019** = 252
- **Notes:** The 'Tea Pot Tree' has a distinct twist in the upper left branch leading from the main trunk hence the nickname 'tea pot tree.' The growth of this branch is highly unusual and not something common that would be seen in other trees. This is a feature specific to this tree. There is a distinct dark coloured branch node below the tea pot branch on the main trunk. Both these features can be seen clearly in the 1878 Burman photo. PC1 sits adjacent to Stringybark Creek Rd and would have sat adjacent to the bridle track in 1878. *Refer to Figure 2 & 12, and attached spreadsheet for field data*



Figure 6: PC1 photographed Aug 2019 by YKFL looking south.

PC2: Fork Tree showing in centre of Burman photo

- **Estimated Date of Origin = 1807**
- **Age at time of Burman Photo 1878 = 70**
- **Age today as of 2019 = 211**
- **Notes:** PC2 is a forked tree with a distinct sock of bark at the base with a forked trunk extending as two dominant leaders vertically. The orientation of the fork aligns with the tree in Burman photo (approx. Nth to Sth) so that the 2 trunks sit with one behind the other. The location of PC2 within the police camp site fits with both the Burman photo and the location seen in 2019. *Refer to Figure 2 and attached spreadsheet for field data*



Figure 7: PC2 photographed Aug 2019 by YKFL looking south.

PC3: Double tree showing in background of Burman photo

- **Estimated Date of Origin** = 1801
- **Age at time of Burman Photo 1878** = 76
- **Age today as of 2019** = 217
- **Notes:** PC3 sits just on the east side of SBC Rd and when siting the Burman photo at the actual site in 2019, aligns with the forked tree that can be seen to the left side of the post and rail fence in the back right of the Burman photo. The Burman photo shows a clear forked habit of the trunks with the alignment of the trunks and direction of camera being such that in the Burman photo the lower part of the trunks appear as one. *Refer to Figure 2 and attached spreadsheet for field data*



Figure 8: PC3 photographed Aug 2019 by YKFL looking south. Note Tony King for scale.

PC4: Starburst Tree on West side SBC Rd

- **Estimated Date of Origin** = 1779
- **Age at time of Burman Photo 1878** = 98
- **Age today as of 2019** = 239
- **Notes:** The canopy of this tree bends back toward the west and opens up creating a starburst effect that can be seen clearly in the Burman photo showing as a mass of smaller branches with the distinct angle of branch twisting back onto itself to the right of the Burman photo just to the left of PC1. The trunk of PC4 extends all the way down to ground level (not on a hill) and in the Burman photo the lower part of the main trunk is obscured by pixelated shrubbery. The shape of PC4 is unique in that *Eucalyptus viminalis* commonly have a tall straight trunk. The trunk of PC4 must have been damaged in its formative years possibly by strong winds. There is a lower branch under the main twist of two branches heading to the west that can be clearly seen in the Burman photo. Refer to Figure 2 and attached spreadsheet for field data



Figure 9: PC4 in back right of Burman photo 1878



Figure 10: PC4 photographed Aug 2019 by YKFL

K10, K10a, K10b

- **Estimated Date of Origin** = 1861 to 1866
- **Age at time of Burman Photo 1878** = 11 to 16 years old
- **Age today as of 2019** = 152 to 157 years old
- **Notes:** Based on the location and age of these trees, it is likely they existed at the time that Kennedy & Scanlan rode from the north back into the police camp at the moment they were fired upon. K10 is located closest to the north side of police camp site. *Refer to Figure 5 and attached spreadsheet for field data*



Figure 11: K10, pic YKFL Aug 2019. Note Tony King & Adrian Younger for scale.

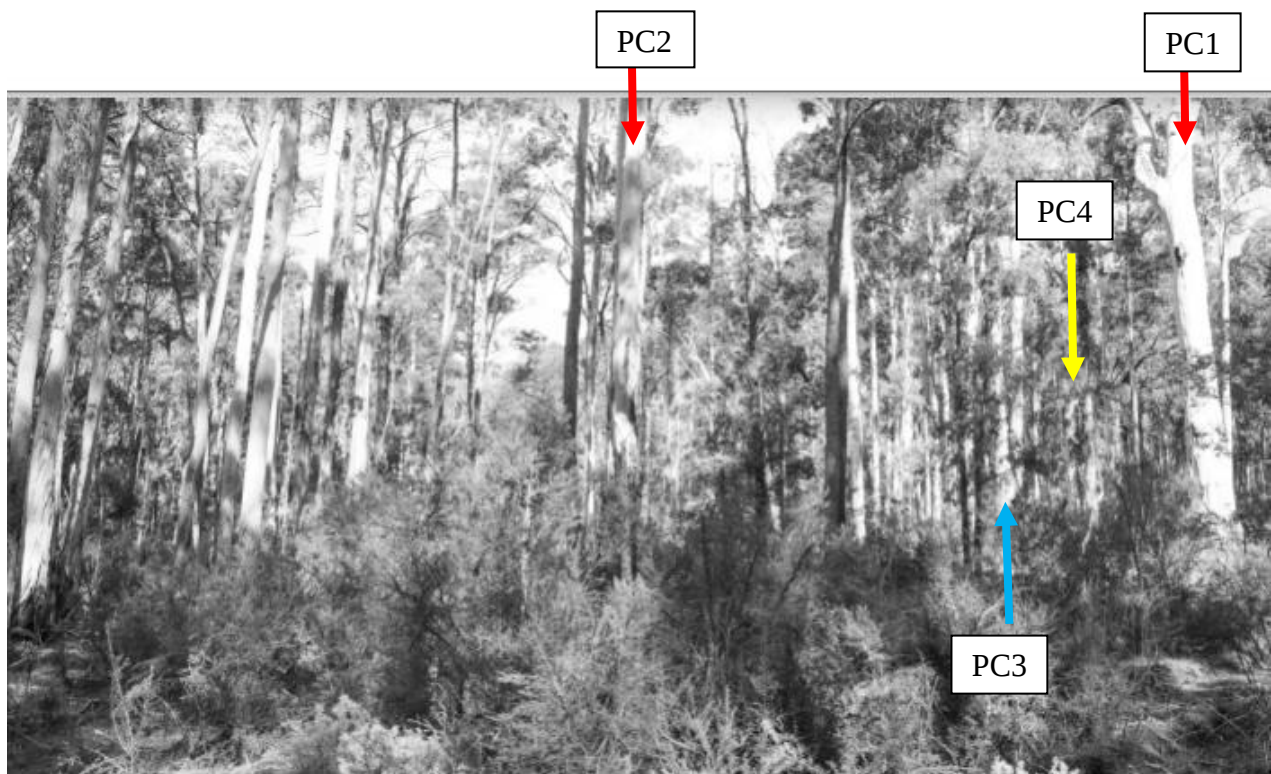


Figure 12: Comparison between 1878 Burman photo (top) and 2019 photo (below). Both photos are oriented in an SSW direction looking back along Stringybark Creek Rd with the north boundary fence of the current historic reserve approx. 160m to the south. PC1 can be clearly seen to the right of both photos. PC2 aligns roughly with the centre of both photos (refer to red arrows). The starburst canopy of PC4 (yellow) can be seen in both photos although it is partly obscured in the 2019 photo (can be seen on site). The forked trunk of PC3 can be seen in both photos (blue arrow) and on site.

PROXIMITY TO KENNEDY TREE:

K1 is located approximately 183m in an NNW direction from the police camp site along SBC Rd which was a bridle track in 1878. The police camp site is located between PC1 & PC2.
(refer to Kennedy tree report)

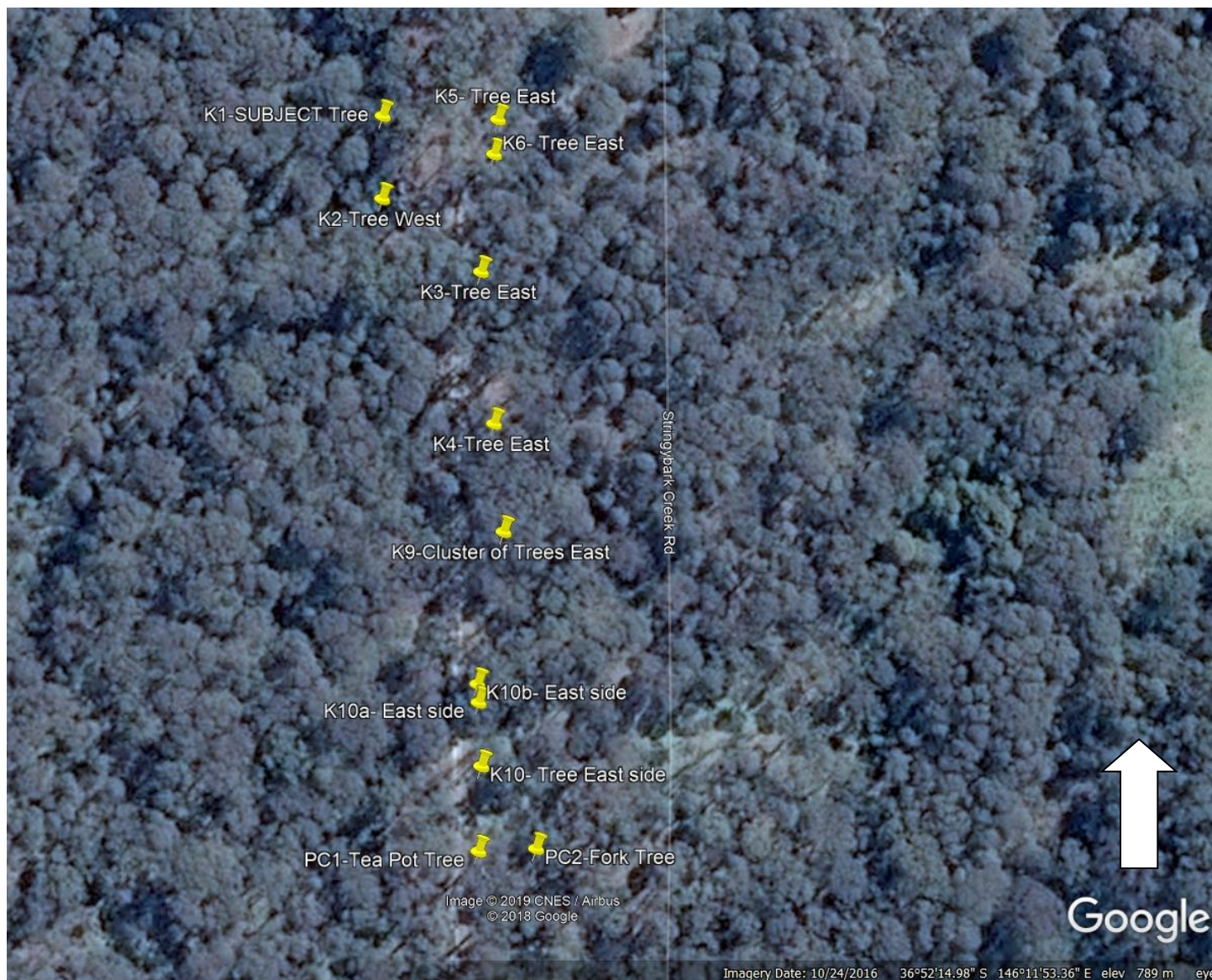


Figure 13: Google Earth map showing location of police camp relative to Kennedy tree (K1). White arrow depicts north. The police camp is located between PC1 & PC2. The distance from the police camp to K1 is approximately 183m.

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----- ENDS -----

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

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CURRENT YEAR

2019

TREE STUDY AT STRINGBARK CREEK

Note: new data required after 2019
for circium

CODE

Location	Date Measured	Circ at 1400mm High	Diam (C/pi)	Radius (D/2)	Bark Width	R-bark (0.5cm)	Growth Ring		Av Ring Growth	Years		Av Date of Origin	Age
							Count	Distance Measured		Width	Age sub Total		
		cm	cm	cm	cm	cm			cm				1878
		cm	cm	cm	cm	cm							Burman Pic
													2019 Today

Kelly Tree

<i>Eucalyptus viminalis</i>	Stringybark Creek	14/09/2019	632	201.17	100.59	3.00	97.59						
ESTIMATED AGE													
Based on Average	Average of samples						0	0	0.36		271.07	1747.93	Younger Range
Based on Sample 3	Younger Growth						64	30.5	0.48		203.30	1815.70	Not viable
Based on Sample 2	Older Growth						89	16	0.18		542.14	1476.86	Not viable
Based on Sample 3 & 2	First 34cm radius / 0.48 =								0.48	70.83	424.09	1594.91	Older Range
	Balance radius =								0.18	353.25			

K9

<i>Eucalyptus viminalis</i>	Stringybark Creek	24/08/2019		0.00	0.00	0.00							
Cluster of Trees													
ESTIMATED AGE													
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 =								0.48	0.00	0.00	0.00	Older Range
	Balance radius =								0.18	0.00			

K10

<i>Eucalyptus viminalis</i>	Stringybark Creek	24/08/2019	331	105.36	52.68	2.00	50.68						
EAST Side TREE													
ESTIMATED AGE													
Based on Average	Average of samples						0	0	0.36		140.78	1878.22	Younger Range
Based on Sample 3	Younger Growth						64	30.5	0.48		105.58	1913.42	Not viable
Based on Sample 2	Older Growth						89	16	0.18		281.56	1737.44	Not viable
Based on Sample 3 & 2	First 34cm radius / 0.48 =								0.48	70.83	163.50	1855.50	Older Range
	Balance radius =								0.18	92.67			

K10a

<i>Eucalyptus viminalis</i>	Stringybark Creek	24/08/2019	338.2	107.65	53.83	3.00	50.83						
EAST Side TREE													
ESTIMATED AGE													
Based on Average	Average of samples						0	0	0.36		141.18	1877.82	Younger Range
Based on Sample 3	Younger Growth						64	30.5	0.48		105.89	1913.11	Not viable
Based on Sample 2	Older Growth						0	0	0.18		282.37	1736.63	Not viable
Based on Sample 3 & 2	First 34cm radius / 0.48 =								0.48	70.83	164.31	1854.69	Older Range
	Balance radius =								0.18	93.48			

K10b

<i>Eucalyptus viminalis</i>	Stringybark Creek	24/08/2019	333.5	106.16	53.08	1.00	52.08						
EAST Side TREE													
ESTIMATED AGE													
Based on Average	Average of samples						0	0	0.36		144.66	1874.34	Younger Range
Based on Sample 3	Younger Growth						64	30.5	0.48		108.50	1910.50	Not viable
Based on Sample 2	Older Growth						0	0	0.18		289.32	1729.68	Not viable
Based on Sample 3 & 2	First 34cm radius / 0.48 =								0.48	70.83	171.27	1847.73	Older Range
	Balance radius =								0.18	100.43			

POLICE CAMP														1878	Burman	Today
Note: new data required after 2019 for circum														Pic		
CODE	Location	Date Measured	Circ at 140mm	High	Diam (C/p)	Radius (D/2)	Bark Width	R-bark (0.5cm)	Growth Ring Count	Distance Measured	Av Ring Growth	Age sub Total	Estimated Age	Estimated Date of Origin	Av Date of Origin	Age
PC1	TEA POT TREE															
	<i>Eucalyptus viminalis</i> Grid 28519/19058	Stringybark Creek Lat 36°52'18.67"S Long 146°11'53.10"E	16/07/19 & 24/08/19		486	154.70	77.35	2.50	74.85						1766.16	111.84
	ESTIMATED AGE								0	0	0.36		207.91	1811.09		252.84
	Based on Average	Average of samples							64	30.5	0.48		155.94	1863.06	Younger Range	
	Based on Sample 3	Younger Growth							89	16	0.18		415.83	1603.17	Not viable	
	Based on Sample 2	Older Growth									0.48	70.83	297.77	1721.23	Older Range	
PC2	FORK TREE															
	<i>Eucalyptus viminalis</i>	Stringybark Creek Lat 36°52'18.67"S Long 146°11'53.10"E	16/07/19 & 24/08/19 East of Tea Pot tree 16.15m	Measured just below fork	417.5	132.89	66.45	1.50	64.95						1807.42	70.58
	ESTIMATED AGE								0	0	0.36		180.41	1838.59	Younger Range	211.58
	Based on Average	Average of samples							64	30.5	0.48		135.31	1883.69	Not viable	
	Based on Sample 3	Younger Growth							89	16	0.18		360.82	1658.18	Not viable	
	Based on Sample 2	Older Growth									0.48	70.83	242.76	1776.24	Older Range	
PC3	Double TREE East side															
	<i>Eucalyptus viminalis</i>	Stringybark Creek	24/08/2019		429.5	136.71	68.36	2.00	66.36						1801.54	76.46
	ESTIMATED AGE								0	0	0.36		184.32	1834.68	Younger Range	217.46
	Based on Average	Average of samples							64	30.5	0.48		138.24	1880.76	Not viable	
	Based on Sample 3	Younger Growth							89	16	0.18		368.65	1650.35	Not viable	
	Based on Sample 2	Older Growth									0.48	70.83	250.59	1768.41	Older Range	
PC4	Starburst TREE West side															
	<i>Eucalyptus viminalis</i>	Stringybark Creek	24/08/2019		471.5	150.08	75.04	3.50	71.54						1779.94	98.06
	ESTIMATED AGE								0	0	0.36		198.73	1820.27	Younger Range	239.06
	Based on Average	Average of samples							64	30.5	0.48		149.04	1860.96	Not viable	
	Based on Sample 3	Younger Growth							89	16	0.18		397.45	1621.55	Not viable	
	Based on Sample 2	Older Growth									0.48	70.83	279.40	1739.60	Older Range	

